SESSIONAL PAPERS

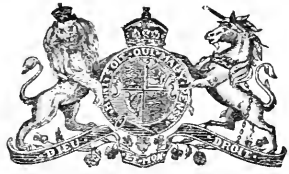
VOLUME 6

SECOND SESSION OF THE TENTH PARLIAMENT

OF THE

DOMINION OF CANADA

SESSION 1906



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OF THE

SESSIONAL PAPERS

OF THE

PARLIAMENT OF CANADA

SECOND SESSION, TENTH PARLIAMENT, 1906.

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REPORT

OF THE

MINISTER OF AGRICULTURE

FOR THE

DOMINION OF CANADA

FOR THE

YEAR ENDED OCTOBER 31

1905

PRINTED BY ORDER OF PARLIAMENT

OTTAWA
PRINTED BY S. E. DAWSON, PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1906

[No. 15—1906.]

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MINISTER'S REPORT :—

REPORT

OF THE

MINISTER OF AGRICULTURE

1905

To His Excellency the Right Honourable Sir ALBERT HENRY GEORGE, EARL GREY, *Viscount Howick, Baron Grey of Howick, in the County of Northumberland, in the Peerage of the United Kingdom, and a Baronet; Knight Grand Cross of the Most Distinguished Order of Saint Michael and Saint George, &c., &c., Governor General of Canada.*

MAY IT PLEASE YOUR EXCELLENCY—

I have the honour to submit to Your Excellency the annual report of the Department of Agriculture, for the year ended October 31, 1905.

1.—GENERAL REMARKS.

A synopsis of the operations of the department, which have been efficiently carried out, is laid before Your Excellency.

The legislation affecting the department during the last session of Parliament consisted of:—

Chapter 5, 4-5 Edward VII., intituled 'An Act respecting the Census and Statistics.'

Chapter 6, 4-5 Edward VII., intituled 'An Act to amend the Census and Statistics Act.'

Chapter 21, 4-5 Edward VII., intituled 'An Act to amend the Act respecting the Incorporation of Live Stock Record Associations.'

Chapter 41, 4-5 Edward VII., intituled 'An Act to amend the Act respecting the Inspection and Sale of Seeds.'

Chapter 44, 4-5 Edward VII., intituled 'An Act to amend the Act respecting the Packing and Sale of Staple Commodities.'

Chapter 45, 4-5 Edward VII., intituled 'An Act respecting the Administration of an Act respecting the Packing and Sale of certain Staple Commodities.'

Chapter 46, 4-5 Edward VII., intituled 'An Act respecting the Superintendent of Insurance and the Director General of Public Health.'

By Order in Council of December 6, 1904, in virtue of the provisions of Section 29 of 'The Animal Contagious Diseases Act, 1903,' regulations relating to Hog Cholera and Swine Plague were made and established. Vide *Canada Gazette,* vol. xxxviii., page 1421.

By Order in Council of December 23, 1904, in virtue of the provisions of Section 29 of the Act 3 Edward VII., Chapter 11, regulations relating to Actinomycosis were made and established. Vide *Canada Gazette,* vol. xxxviii., page 1421.

By Order in Council of December 23, 1904, in virtue of the provisions of Section 29 of 'The Animal Contagious Diseases Act, 1903,' regulations respecting Tuberculosis were made and established. Vide *Canada Gazette,* vol. xxxviii., page 1422.

By Order in Council of March 25, 1905, in virtue of the provisions of Section 29 of the Act respecting infectious or contagious diseases affecting animals, the regulations established by Order in Council of September 19, 1904, relating to a disease in animals known as glanders, were rescinded and new regulations substituted in lieu thereof. Vide *Canada Gazette,* vol. xxxviii., page 2117.

By Order in Council of March 31, 1905, in virtue of the provisions of Section 29 of the Act respecting infectious or contagious diseases affecting animals, Sections 35 to 52, inclusive (relating to Sheep Scab), of the general Order in Council of May 12, 1888, were rescinded and new regulations substituted therefor. Vide *Canada Gazette,* vol. 38, page 2116.

By Order in Council of April 12, 1905, in virtue of the provisions of the Act respecting infectious or contagious diseases affecting animals, it was ordered:—

That Section 4 of the regulations relating to animals quarantine established by the Order in Council of March 30, 1904, be amended by striking out the word 'Sidley' in the ninth line and inserting the word 'Osoyoos' in lieu thereof.

That the following section to be designated as section 4*a* be added to the regulations:—

'The Minister of Agriculture is hereby empowered to cancel as quarantine and inspection stations any of the places above named and to select such other sites in exchange for or in addition to the above as he may from time to time deem expedient.'

That the words 'other than horses' be inserted after the word 'animals' in the first line of section 5*a*. Vide *Canada Gazette,* vol. xxxviii., page 2241.

Canada's participation in International Exhibitions during the past few years has been of marked benefit in attracting the attention of both agricultural and industrial classes to the Dominion, and in this way has materially assisted immigration.

A full report of the work done in connection with the Louisiana Purchase Exposition held in St. Louis, U.S.A., from April 30 to November 30, 1904, to which reference was made in my report of last year, will be found as an appendix hereto attached.

The Exhibition Branch of my department arranged for the installation of the Experimental Farm exhibit at the Dominion Exhibition held at New Westminster, B.C., from September 27 to October 7, 1905. The exhibit consisted of the products of the western Experimental Farm. The leading feature of the exhibit was the endless variety of fruits from the Experimental Farm at Agassiz, B.C. This part of the exhibit did much to bring to the attention of visitors to the exhibition the great possibilities of British Columbia as a fruit growing country.

Since presenting my last annual report my exhibition commissioner and his staff have not been idle. It having been decided that Canada should participate in the Universal and International Exhibition which opened in Liége, Belgium, last April, and also in the Western Pennsylvania Exhibition held in Pittsburg during the months of August and September last, every effort was made to get together attractive exhibits. These efforts were most successful and the various exhibits prepared reflected credit on those to whom the work was entrusted.

The Pittsburg Exhibition attracted visitors from Ohio, Western Virginia, Maryland and Pennsylvania. This territory is considered one of the best fields in the United States for promoting immigration to Canada. Our exhibits consisted of specimens of agriculture, fruits, maple sugar, honey, cheese and food products generally. The size, prominent location and excellent arrangement of our exhibit gave it the first place among the attractions of the exhibition, and was widely advertised by the management as one of the leading features of their exhibition.

In addition to our own staff, immigration officers from the Department of the Interior were in attendance, and I am pleased to state that as a direct result of our work there, we can show where many persons have already gone to the Northwest, and that the coming spring will see a considerable influx into Canada from this territory.

Our participation in the Liége Exhibition has been most successful. We occupied a building of our own, and it is no exaggeration to state that the Canadian Palace, as it was called, received more visitors than any other section of the entire exhibition.

Our exhibits consisted of comprehensive collections of agriculture, horticulture, forestry, fish and game, mines and mining and manufactured articles. In all these departments the greatest interest was aroused, and the advertisement which resulted from the several displays was not confined alone to the visitors to the exhibition, but practically to the whole continent of Europe. Never before has a knowledge of the immense resources of Canada been disseminated among a larger number of people in the same space of time.

Descriptive literature about Canada was prepared in different languages and distributed judiciously among the visitors to the exposition.

A complete staff of immigration officers and assistants were constantly engaged in giving information to those wishing to find a home in Canada.

A complete report on this exhibition is in course of preparation, and will appear in my annual report for next year.

Until the year 1900 there was no Dominion legislation providing for the incorporation of Live Stock Record Associations. For some years previous the Holstein Friesian Association of Canada had agitated for incorporation under Dominion Act, and during the session of 1900 the Act respecting the Incorporation of Live Stock Associations (Vict. 63-64, chap. 35) was assented to.

This Act provides for the incorporation of not more than one association for each distinct breed of horses, cattle, sheep and swine, and under its provisions the following Record Associations have been granted Dominion incorporation :—

The Holstein Friesian Association of Canada.
The Dominion Shorthorn Breeders' Association.
The Clydesdale Horse Association of Canada.
The Canadian Hackney Horse Society.
The Shire Horse Association of Canada.
The Canadian Hereford Breeders' Association.
The Canadian Ayrshire Breeders' Association.
The Canadian Jersey Cattle Club.
The North American Galloway Association.
The Dominion Swine Breeders' Association.

Prior and subsequently to the passing of the Act, a number of lesser record associations for the various breeders were formed in the outlying provinces. This multiplication of records was fast becoming a source of confusion, preventing harmony among the breeders from the different sections of the Dominion, and creating a hindrance to interprovincial trade in pure bred live stock.

At the first annual convention of the Canadian National Live Stock Association, convened at Ottawa, in March of 1904, by the Dominion Live Stock Commissioner, under my direction, the unanimous wishes of the pure bred stock breeders of the Dominion were voiced in the following resolutions :—

(*a.*) That Canadian records of pure bred stock be made national in character and scope.

(*b.*) That there should not be more than one record for each breed in Canada.

(*c.*) That the records should be kept under the respective breed associations, provision being made to give proportionate representation to the breeders of each province, and that the administration of the records be conducted through the Department of Agriculture at Ottawa.

(*d.*) That the Dominion Minister of Agriculture be requested to assume the administration of the National Live Stock Records, under the Act in that behalf.

(*e.*) That the Dominion Government be respectfully requested to provide for the affixing of a proper seal to pedigree certificates, signifying their endorsation of registration.

(*f.*) That the Dominion Minister of Agriculture be urged to make provision in the estimates for a sufficient sum to provide for the administration of the national records of live stock, and representation at the meetings of breed societies from the outlying provinces of Canada.

In order to meet the wishes of this representative body, the Live Stock Commissioner, by my direction, negotiated with the individual breed societies at their annual meetings in February, of 1905, with a view to having them enter the national scheme At these several meetings it was resolved by the Canadian Ayrshire Breeders, the Clydesdale Horse Association, the Shire Horse Association of Canada, the Canadian Hereford Breeders, the Dominion Swine Breeders Association, the Dominion Shorthorn Breeders Association, the Canadian Hackney Horse Society, the Canadian Jersey Cattle Club, and the Galloway Breeders, that they at once proceed to nationalize their associations and records, and that the head offices be removed to Ottawa. Committees were named from each of these associations with power to complete arrangements.

In April of this year (1905) a joint meeting of the committees from these various associations was called at Ottawa, during the time of the second annual convention of the Canadian National Live Stock Association, when an agreement between the associations and the Department of Agriculture was submitted, and approved of and signed by the members of the committees on behalf of their respective associations.

This agreement provides that the several record associations shall continue to manage their own affairs and records, and handle their own funds under the provisions of the Act; that the office of the Registrar shall be at Ottawa, and all certificates shall be issued therefrom; that under the direction of the Minister of Agriculture, an officer set apart for the purpose shall inspect and approve all certificates, and shall thereupon affix the seal supplied by the department; that the Department of Agriculture shall supply an office heated and lighted for the use of the Registrars and other persons similarly employed, and all official stationery and blank forms, together with the regular postal messenger service.

At this joint meeting the committees from the several associations were formed into a National Record Board, with an executive Record Committee comprising one member each to represent light horses, heavy horses, beef cattle, dairy cattle, sheep and swine. The Record Board to be made up in future of committees chosen by each incorporated association at the close of their annual meeting each year; said board to deal with questions in which the societies are jointly interested. The Record Committee of this board, acting under the control of and with the approval of the National Record Board to have the powers of a managing director.

It was further decided at this meeting to appoint an accountant or chief clerk, whose duties would be to receive all moneys paid in connection with the records, and deposit them in a local bank to the credit of the several associations to which they respectively belonged; to supervise the work of the several registrars; and generally to represent and act for the executive committee of the board at Ottawa. This appointment was subsequently made.

To give effect to the plan adopted at the meeting, it was found necessary to amend the Act Respecting the Incorporation of Live Stock Record Associations, by passing the Act 4-5, Edward VII., Chapter 21. Section 5 of this Act provides for 'The exercise in conjunction with any other association or associations incorporated under this Act, of any of its powers or functions through a common officer or officers to be appointed by such associations,' Section 14 provides that the Minister of Agriculture may, through an officer of his department, approve, under the hand of that officer and the seal of his department, the certificates of registration issued by the national associations.

Arrangements have been made with the governments of New Brunswick, Nova Scotia, Quebec and the Northwest Territories, whereby the unincorporated records conducted in these provinces were closed to registration on the first day of May of this year and their records and books of registration transferred to the Dominion Department of Agriculture. These records have been merged with the National Records at Ottawa, all animals eligible for registration in the corresponding nationalized book being transferred thereto free of charge to their owners.

The several record associations named herein now conduct their business and issue certificates of registration from Ottawa, each certificate being inspected and approved by an officer appointed by the Minister before having the seal affixed thereto.

Arrangements are being completed whereby the French-Canadian Horse Breeders' Association of Canada, the French-Canadian Cattle Breeders' Association of Canada, the Canadian-Belgian Draft Horse Breeders' Association, the Canadian Guernsey Cattle Breeders' Association, and the Canadian Aberdeen Angus Association, will be incorporated under the Act in that behalf when the certificates of registration for each of these breeds will be issued from a head office at Ottawa under government endorsation, as in the case of the other records.

In my endeavour to improve the Canadian tobacco industry, I came to the conclusion that in order to materially do so it was absolutely necessary to engage an expert from outside the Dominion to instruct the growers in the best methods of cultivating and marketing this product. After much inquiry the services of Mr. Felix Charlan, an officer under the government of France, were obtained through the kindness and assistance of that government. In order that his services might be of benefit this year it was necessary that he should come to Canada at once so that he might see some of the tobacco crop prior to its being harvested, and also to observe the methods of harvesting and curing now practiced in the Dominion. Mr. Charlan has lately arrived in Canada and his services will be utilized during the coming winter. In my report for next year I shall be able to give a full account of the results of his labours.

II.—ARTS AND AGRICULTURE.

DAIRY COMMISSIONER'S BRANCH.

The work assigned to the Dairy Commissioner is carried on under four heads or divisions, viz., the 'Dairy,' 'Fruit,' 'Extension of Markets' and the 'Cold Storage' divisions. There are 'chiefs' at the head of the Fruit and Extension of Markets divisions who report to the Dairy Commissioner, and the Dairy and the Cold Storage divisions come directly under the Commissioner.

The Dairy Commissioner visited the markets of Great Britain and also some of the dairying districts of the continent of Europe during the past summer. The information thus obtained, concerning the requirements and tendencies of the trade in dairy produce, fruit, &c., will be valuable to the producers of these products, as will also be the knowledge gained concerning the manufacture of butter and cheese in those districts which now have the reputation of setting the world's standards of quality for these products. The cordial reception extended to Mr. Ruddick as a representative of the Dominion Department of Agriculture, and the prominence given to his visit by the English press are evidences of the important place which Canadian produce occupies in the old country markets.

PUBLICATIONS.

The following bulletins have been issued by the Dairy Commissioner's branch during the year. Copies will be sent to all who apply for them:—

No. 1.—List of Some British Importers of Farm Products.
No. 2.—Care of Milk for Cheese Factories.
No. 3.—Milk for Creameries.
No. 4.—A Report on Some Phases of Dairying in Denmark.
No. 5.—Improvement of Dairy Herds.
No. 6.—Chemical Investigations Relating to Dairying Undertaken in 1904.
No. 7.—List of Exporters of Some Canadian Products.

Further reference to the work of this branch will be clearer if made under the four heads or divisions.

DAIRY DIVISION.

PRODUCTION OF CHEESE AND BUTTER.

The past season was one of the most successful in the history of the Canadian dairy industry. Conditions were favourable for the production of a large quantity of milk, and high prices prevailed all summer for both butter and cheese. The quantity of cheese exported up to June 30, 1905, shows a slight falling off as compared with the previous twelve months, but the decrease is accounted for by the increase in the quantity of butter for the same period. The indications are that when the returns are complete for the season of 1905, the production of cheese will be found to be equal to that of 1904, while the increase in the quantity of butter manufactured will be something like twenty per cent over last year.

CANADIAN BUTTER AND CHEESE IN THE MARKETS OF GREAT BRITAIN.

Canadian cheese continues to hold the premier place in the markets of Great Britain. A comparatively small quantity is received from New Zealand and the United States. The consumption of cheese in England is showing some increase, owing to the better condition of Canadian cheese on arrival during the summer months. Canadian butter has made great progress in the estimation of the British importers and dealers during the past season, and a relatively higher price has been received for it than ever before. The outlook for the Canadian butter trade is exceedingly bright at present.

IMPROVED FACILITIES FOR THE HANDLING OF PERISHABLE PRODUCTS AT BRITISH PORTS.

The provision trades associations, the dock companies and other authorities at the various ports in Great Britain are moving in the direction of providing better facilities for receiving butter, cheese and other perishable products as discharged from the cold storage and cool air compartments of the steamships. Excellent arrangements have been carried out during the past year at the port of London, by means of which Canadian butter, cheese and bacon are now discharged from the steamers direct into warehouses having suitable temperatures for each product. Large sums of money have been spent in equipping these warehouses with the very best appliances for handling the goods in the most expeditious and careful manner. Movements are on foot at other ports to secure similar facilities. The improvements mentioned are already credited with having considerably increased the consumption of and improved the demand for Canadian produce during the past season.

DOMINION OF CANADA—Exports of Dairy Products—Home Production.

BUTTER.

Year.	Quantity.	Value.	To Great Britain.	To United States.	To France	To Germany.	Other Foreign Countries.	B. N. A. Provinces.	British Indies.
	Lbs.	$	$	$	$	$	$	$	$
1869	10,649,733	1,698,042	534,707	1,015,702	.....	1,496	14,870	95,777	26,986
1880	18,535,362	3,058,069	2,756,064	111,158	.....	.....	24,710	163,290	2,647
1890	1,951,585	340,131	184,105	5,059	.....	.....	29,342	119,989	1,636
1891	3,768,101	602,175	440,060	10,054	.....	20,447	24,021	101,649	5,944
1892	5,736,696	1,056,058	877,455	6,038	.....	5,160	27,207	133,770	6,428
1893	7,036,013	1,296,814	1,118,614	7,539	.....	1,175	35,042	127,412	7,032
1894	5,534,621	1,095,588	936,422	6,048	1,125	.....	25,560	109,263	14,170
1895	3,650,258	697,476	536,797	5,365	.....	267	35,028	108,439	11,580
1896	5,889,241	1,052,089	893,053	2,729	.....	9,370	34,299	105,472	7,166
1897	11,453,351	2,089,173	1,912,389	6,233	.....	8,513	33,490	115,754	12,794
1898	11,253,787	2,046,686	1,915,550	3,738	.....	17,574	31,619	51,045	27,160
1899	20,139,195	3,700,873	3,526,007	3,984	.....	12,384	41,810	74,813	41,875
1900	25,259,737	5,122,156	4,947,000	5,044	.....	7,210	43,176	66,069	53,657
1901	16,335,528	3,295,663	3,142,353	5,839	.....	.....	39,675	44,986	62,810
1902	27,855,978	5,660,541	5,459,300	41,149	.....	101	36,109	47,066	71,816
1903	34,128,944	6,954,618	6,554,014	10,225	.....	13	198,381	69,017	112,968
1904	24,568,001	4,724,155	4,400,774	6,497	14	25,644	75,014	88,422	127,790
1905	31,764,303	5,930,379	5,568,999	70,580	14,440	.....	113,650	82,387	80,323

CHEESE.

Year.	Quantity.	Value.	To Great Britain.	To United States.	To France	To Germany.	Other Foreign Countries.	B. N. A. Provinces.	British Indies.
	Lbs.	$	$	$	$	$	$	$	$
1868.....	6,141,570	620,543	548,574	68,784	.....	.....	891	1,594	340
1880.....	40,368,678	3,893,366	3,772,769	114,507	.....	.....	170	5,710	210
1890.....	94,260,187	9,372,212	9,349,731	6,425	.....	370	2,154	12,777	755
1891.....	106,202,140	9,508,800	9,481,373	13,485	.....	.....	1,954	9,104	3,884
1892.....	118,270,052	11,652,412	11,593,690	39,558	2	.....	2,124	12,942	4,091
1893.....	133,946,365	13,407,470	13,360,237	23,578	.....	.....	2,689	18,679	2,297
1894.....	154,977,480	15,488,191	15,439,198	9,552	.....	173	3,036	21,948	14,284
1895.....	146,094,650	14,253,092	14,220,505	5,058	.....	16	5,463	9,785	12,175
1896.....	164,689,123	13,956,571	13,924,672	10,359	299	.....	4,861	7,509	8,871
1897.....	164,220,699	14,676,239	14,645,850	4,486	94	24	5,365	11,954	8,457
1898.....	196,703,323	17,572,763	17,522,681	14,604	.....	1,428	6,889	12,784	14,377
1899.....	189,827,839	16,776,765	16,718,418	17,739	.....	.....	11,701	13,293	15,614
1900.....	185,984,430	19,856,324	19,812,670	4,836	.....	.....	8,774	16,651	13,393
1901.....	195,926,397	20,696,951	20,609,361	37,601	465	12	15,375	16,603	17,534
1902.....	200,946,401	19,686,281	19,620,239	12,038	.....	1,179	14,133	20,100	18,602
1903.....	229,099,925	24,712,943	24,620,004	7,779	.....	170	18,942	21,334	44,714
1904.....	233,980,716	24,184,566	24,099,004	5,386	44	.....	23,810	21,754	34,568
1905.....	215,733,259	20,300,509	20,174,211	14,182	700	364	39,696	35,171	36,176

COOL CHEESE CURING ROOMS.

The cool cheese curing rooms at Woodstock, Brockville, Cowansville and St. Hyacinthe were again operated by the department. It was considered advisable to continue this work for the sake of having a considerable quantity of cheese properly cool-cured placed on the market. Cheese coming from these rooms in fairly large quantities attract much more attention than would scattered lots from various factories. The curing rooms have now been in operation since the season of 1902, and during that period a total of 151,826 boxes of cheese have been cured at these establishments. The merchants in Great Britain are beginning to appreciate the improvement in the quality of the cool-cured cheese, and some of the largest dealers have attributed the good demand, at higher prices, which has prevailed during the past season, to the general tendency to employ lower temperatures in the handling of cheese during summer months.

The following letters, addressed to Hodgson Bros., Montreal, from Messrs. Wall & Co., Manchester, one of the largest dealers in Canadian cheese, need no comment:

'13 GREENWOOD ST.,

'MANCHESTER, October 24, 1905.

'MESSRS. HODGSON BROS.,

'Montreal.

'DEAR SIRS.—On going through cheese marked "Hollybush 20 30," with one of our most prominent customers this morning, we were much struck with the lots marked No. 23 and 26. On examining these we found that the difference between these two lots and the others appears to arise from the fact that they have been cured in a cool

room. The No. 27 also have been treated in the same way, but are much riper. Altogether these three lots of cheese stand out from the others such a long way that we thought it worth while writing you about them, and if you can impress upon makers to have all their cheese done in this way you will confer an enormous benefit on the trade. Cheese like these are a treat to handle, and it is astonishing that the old system should be continued in the face of such marked improvement.

'Yours faithfully,

'(Sgd.) WALL & CO. (MANCHESTER) LTD.'

'13 GREENWOOD ST.,

'MANCHESTER, October 26, 1905.

'MESSERS. HODGSON BROS.,
'Montreal.

'DEAR SIRS,—Further to our letter of Tuesday regarding cheese cured in a government cooling room. We have weighed these for average, and find that they gain in weight over box weights, and we think this is as it ought to be. The customer who buys them is delighted when he gets full weight, because in ordinary Canadian cheese he does not, after he has made allowance for the cloths. We are so impressed with the value and the out-turn of these cheese that we want you to do all you can to have all cheese cured in the same way. The trade would be so much more pleasant, and we believe the consumption of cheese would be increased by goods of this kind.

'Yours faithfully,

'(Sgd.) WALL & CO. (MANCHESTER) LTD.'

I am informed that a great many cheese factories, especially in Ontario, have already improved their curing rooms as a result of the illustration afforded by the operation of the government cool curing rooms.

GOVERNMENT CREAMERIES IN ALBERTA AND SASKATCHEWAN.

Creameries were operated by the Department of Agriculture, under the direct supervision of the Dairy Commissioner, during the season of 1905, at the following places in Alberta: Calgary, Olds, Tindastoll, Red Deer, Blackfalds, Lacombe, Wetaskiwin, Beaver Hills, Evarts, Earlville, Clover Bar and Innisfail.

Those operated in Saskatchewan are at: Churchbridge, Tantallon, South Qu'Appelle and Moosomin.

The output of the 'government' creameries in Alberta for the first five months of this season shows an increase of 78 per cent over the output for the corresponding months of 1904. The butter has been easily disposed of at good prices. A largely increased quantity has been shipped this year to the Orient and to the Yukon Territory. The consumption of butter in the local, British Columbian and Northern markets appears to be growing faster than the production, and the outlook for dairying in this part of the Dominion, as in other parts, is full of promise for the future.

SHIPMENTS OF BUTTER TO THE ORIENT.

The shipments of butter from the government creameries to Japan again show considerable increase, and there are indications that this market will provide an outlet for a considerable quantity of Northwest butter in the future. The trade is in its infancy, but it is growing steadily. The consumption of butter in Japan has in the past been confined largely to European residents, but the Japanese are now cultivating a taste for this article of diet and there is likely to be an increased demand in the future. The Dairy Commissioner has been instructed to foster the trade with Japan as much as possible, with a view of providing a satisfactory outlet in the future for the product of the creameries of the Northwest and British Columbia.

NOVA SCOTIA CREAMERIES.

The dairy station at Nappan has been closed. The creamery at Mabou was not in operation last season, although the promoters of this establishment hope to have it going again when the conditions are more favourable. The creamery at Scotsburn is still operated by the department.

IMPROVEMENT OF DAIRY HERDS.

A further effort has been made during the year to awaken an interest in this important matter. Individual tests of 1,352 cows in 118 herds at 7 cheese factories located in dairying centres, were conducted for thirty-day periods during the past summer. It is hoped that this preliminary work, which shows the great difference there is in the productiveness of cows of the same breed under exactly similar treatment, will result in sufficient interest being aroused to induce dairy farmers to organize for the purpose of keeping yearly records of the individual cows in their herds. There is no line of effort in connection with the whole dairy industry that offers a better field for increasing the profits from dairy farming. Bulletin No. 5 of the Dairy Commissioner's Branch, on 'The Improvement of Dairy Herds,' deals with this question, and is available for distribution. It gives a number of interesting comparative records of herds and individual cows.

OFFICIAL REFEREE OF BUTTER AND CHEESE AT MONTREAL.

Cheese and butter are frequently purchased in the country, subject to inspection at Montreal. If on inspection the purchaser finds the quality is not up to grade upon the basis of which the price was fixed, the usual course is to 'cut' the price agreed upon, and the assumption is that the so-called cut corresponds with the seriousness of the defect or defects in the quality. In order to secure an independent judgment in such cases, the official referee may be called in by either the buyer or salesman. After examination the referee makes his report in triplicate, gives one copy to the buyer, sends another to the salesman and retains the third for future reference. Naturally the referee is called in to examine only those lots that are considered by the purchaser to be under grade. The following summary of the official referee's examinations from May 1 to November 8, 1905, shows that the referee's judgment sometimes reverses that of the buyer.

	First Grade.		Second Grade.		Third Grade.		Total, All Grades.	
	Pkgs.	Lots.	Pkgs.	Lots.	Pkgs.	Lots.	Pkgs.	Lots.
Butter	440	11	14,487	354	2,020	64	16,947	429
Cheese	2,415	43	73,806	1,383	17,480	405	93,701	1,831

DAIRY CLASSES IN BRITISH COLUMBIA.

A member of the Dairy Commissioner's staff visited British Columbia during the year and conducted classes in buttermaking and allied subjects at different dairying centres. Demonstrations in buttermaking were also given at the Dominion Exhibition held at New Westminster.

COLD STORAGE DIVISION.

COLD STORAGE AND COOLED AIR ON STEAMSHIPS.

No further subsidies have been paid the steamship companies for the fitting up of steamers with cold storage or 'cooled air' space. The various steamships of the lines trading from Montreal to British ports are now provided with all of this class of accommodation that is required, and in placing new steamers on the various routes, the owners have availed themselves of the latest improvements in marine refrigeration. The cooled air service for the carriage of cheese continues to grow in favour.

The following statement gives the number of cold storage and cooled air steamers that sailed from Montreal for British ports during the season of 1905, with the combined space in cubic feet for each class of storage:—

Sailed to.	Steamers.	Cold Storage.	Cooled Air.
		Cu. Ft.	Cu. Ft.
Liverpool	10	208,117	94,710
London	14	216,358	442,670
Glasgow	9	144,708	18,000
Bristol	6	265,271	18,291
Manchester	2	16,000	.....
Total	41	850,454	573,671
Total in 1904	39	748,709	412,480
Increase	2	101,745	161,191

As these steamers will easily average 5 trips each during the season, the total available space for the season amounted to at least 4,252,270 cubic feet of cold storage and 2,868,335 cubic feet of cooled air. A number of the cold storage steamers have no cooled air space, but the available space of both kinds is sufficient to accommodate all the traffic.

THERMOGRAPHS.

Thermographs belonging to the Department of Agriculture were placed by the inspectors of the Extension of Markets Division, in chambers carrying perishable products, as follows:—

Products.	Cold Storage.	Cooled Air.	Ordinary Storage.
Butter	167	.....	1
Cheese	1	14	4
Apples	14	4	22
Fruit (soft)	9	.....	.....
Meats	1	9	.....
Apples and meats	2	.....	4
Cheese and meats	3	11	.....
Fruit and meat	3	.....	.....
Cheese and apples	.....	4	2
Lard	.....	.....	1
	201	42	34

The total number of thermographs placed was 277, or 51 more than during any previous season. The thermograph records are removed from the instruments by the cargo inspectors employed by the department at the various ports in Great Britain, and at once returned to Ottawa. Photographic copies are then made, and supplied on request to the interested steamship agents or shippers, and a copy of every record is posted on the Board of Trade at Montreal.

ICED CARS FOR BUTTER.

Arrangements were again made with the various railway companies to run a regular service of iced refrigerator cars for the carriage of butter only, from May 8 to October 21, on 53 different routes to Montreal. The department guaranteed two-thirds of the earnings of a minimum car (20,000 pounds) plus $4 a car for icing. When the earnings exceeded the guarantee there was no charge against the department. If the traffic on any route exceeded one carload, the whole service on that route was held to be self-sustaining, and no claim could be made on the Department, even if the earnings of the extra cars did not reach the amount of the guarantee.

Although four new routes were established and the service was begun a week earlier and continued a week later than in previous years, the subsidies claimed under the guarantee are smaller than in 1904, owing to the increase in the traffic.

EXPERIMENTS IN COLD STORAGE CONSTRUCTION.

A series of experiments planned to secure some positive data concerning the relative value of different materials and different combinations of the same material for insulating purposes, was carried out during the past summer. The results are now being compiled for the Dairy Commissioner's report. The information will be valuable for creamery owners who have cold storage chambers to build, and for cheese factory owners desiring to provide cool curing rooms.

COLD STORAGE AT CREAMERIES.

There is constant improvement being made in the cold storage facilities at the creameries throughout the country. Buttermakers and creamery managers are beginning to realize more fully the importance of a low temperature for the keeping of butter. The Department of Agriculture continued the plan of paying a bonus of $100 to every creamery owner who constructed a cold storage according to plans and specifications furnished and who complied with certain other conditions regarding the temperature to be maintained and the quantity of butter to be manufactured. Fifty-three applications for the bonus have been received by the department during the past year.

FRUIT DIVISION.

ADMINISTRATION OF THE FRUIT MARKS ACT.

During the shipping season, from August to March, the staff of the Fruit Division is largely engaged in the enforcement of the Fruit Marks Act. The good effect of the work of the fruit inspectors is becoming very evident in the improvement in packing and grading, which is the characteristic of this year's apple trade. The large dealers have expressed their satisfaction with the working of the Act, and have come to look upon it as one of the safeguards of the trade. The only serious criticism of the Act is that it does not supply a definition for No. 2 fruit. Both dealers and growers have expressed their desire for this legal definition, but so far they have not been able to agree upon what would constitute No. 2 fruit.

From May till August the fruit inspectors visited the large producing and distributing centres for small fruits to the very great improvement in the grading and packing of these fruits for the domestic markets.

INSPECTIONS UNDER THE FRUIT MARKS ACT.

The following statistics for the year will indicate the scope of the inspection work:—

Total number of inspections	1,641
Total number of packages examined	10,798
Number of packages in lots inspected	212,348
Number of packers whose fruit was examined	811

Only 4 packers violated section 7 (over-facing) twice.

Only 11 packers violated section 6 (over-grading) more than twice.

The foregoing figures show that there has been no attempt to undertake the inspection of all fruit. There is no reason why local authorities, dealers or consumers should not prosecute in cases of violation of any of the provisions of the Act.

FRUIT MEETINGS.

During the late winter and spring months the inspectors were engaged at orchard meetings, discussing all branches of practical fruit growing, but paying special attention to the work that bore more particularly upon the enforcement of the Fruit Marks Act. Ten of these meetings were held in British Columbia, seventy-five in Ontario, forty-five in Quebec, ten in New Brunswick, sixteen in Nova Scotia and twenty-one in Prince Edward Island.

INSPECTORS' CORRESPONDENCE.

As a means of education the inspectors have carried on a very large correspondence with fruit growers whose packing and grading was susceptible of improvement.

POWER SPRAYING DEMONSTRATIONS.

These were conducted in the Annapolis valley, Nova Scotia, and were eminently successful. Unsprayed orchards in the neighbourhood have yielded a very large percentage of unmarketable apples. I am informed that every orchard sprayed by the Fruit Division, upon which we have a report, shows a most gratifying percentage of perfectly clean and sound fruit.

The demonstrations in Ontario were discontinued this year inasmuch as the provincial government undertook the work at three or four points in apple sections.

BULLETINS.

Bulletins are published from time to time dealing with special phases of the fruit growing industry.

NAMING VARIETIES.

One of the evils of the apple trade is the confusing number of varieties, and the consequent misnaming of many of them. From the fact that section 4 of the Fruit Marks Act makes it obligatory that the proper name of the variety should be indelibly marked upon the package, the Fruit Division is ready to offer every facility for naming doubtful varieties.

PACKING DEMONSTRATIONS.

Packing demonstrations were held at the Fruit, Flower and Honey Show, Toronto, as well as at many of the principal local fairs in 1904. In addition to the regular staff in connection with this work, Mr. B. T. Boies, an expert from the Coldstream ranch, Vernon, B.C., was engaged to attend meetings during the months of September and October, 1905, giving special attention to box packing for apples and pears, as well as peaches and plums in districts growing these fruits. Mr. Boies visited Prince Edward Island, Nova Scotia, New Brunswick, Quebec and Ontario.

EXPERIMENTAL SHIPMENTS.

The fruit growers of St. Catharines asked the co-operation of the Fruit Division in a series of experimental shipments of fruit to Winnipeg in iced and ventilated cars. The fruit of each car was inspected at the shipping point by a fruit inspector, and the condition of the fruit was reported by another inspector on the arrival of the car in Winnipeg. To make a still more thorough investigation an inspector accompanied one car throughout the whole journey. A most important feature of these shipments was the records of the thermographs installed by the Markets Division.

FRUIT CROP REPORTS.

The fruit crop reports were continued this year on the same lines as last year, but with a very largely increased number of correspondents. This added materially to their value and rendered them a safer basis upon which all parties interested might act. In addition to the information upon the fruit crop the Fruit Division received a vast amount of information upon the ravages of insect and fungous pests, and was able in almost every case to suggest a remedy.

PACKAGES.

Pursuant to the amendments to the Act 'respecting the packing and sale of certain staple commodities,' passed at the last session of parliament, sections 4 and 5 of this Act, which define the size of apple barrels and boxes, berry boxes and fruit baskets, were transferred to the Department of Agriculture for administration. These sections, as amended, are herewith given for general information:—

AN ACT RESPECTING THE PACKING AND SALE OF CERTAIN STAPLE COMMODITIES.

Sec. 4. All apples packed in Canada for export for sale by the barrel in closed barrels shall be packed in good and strong barrels of seasoned wood, having dimensions not less than the following, namely: twenty-six inches and one-fourth between the heads, inside measure, and a head diameter of seventeen inches, and a middle diameter of eighteen inches and one-half, representing as nearly as possible ninety-six quarts.

2. When apples, pears or quinces are sold by the barrel, as a measure of capacity, such barrel shall not be of lesser dimensions than those specified in this section.

3. Every person who offers or exposes for sale, or who packs for exportation, apples, pears or quinces by the barrel, otherwise than in accordance with the foregoing provisions of this section, shall be liable, on summary conviction, to a penalty of twenty-five cents for each barrel of apples, pears or quinces so offered or exposed for sale or packed.

4 (*a*). When apples are packed in Canada for export for sale by the box they shall be packed in good and strong boxes of seasoned wood, the inside dimensions of which shall not be less than ten inches in depth, eleven inches in width, and twenty inches in length, representing as nearly as possible two thousand two hundred cubic inches.

2. Every person who, for export, offers or exposes for sale, or packs, apples by the box otherwise than in accordance with the foregoing provisions of this section shall be

liable, on summary conviction, to a penalty of twenty-five cents for each box of apples so offered or exposed for sale or packed.

4 (*b.*) When apples are packed in boxes or barrels having trays or fillers wherein it is intended to have a separate compartment for each apple, then the provisions of sections 4 and 4 (*a*) shall not apply.

Sections 4 (*a*) and 4 (*b*) of this Act shall come into force on the first day of June, one thousand nine hundred and six.

5. Every box of berries or currants offered for sale, and every berry box manufactured and offered for sale, in Canada shall be plainly marked on the side of the box, in black letters at least half an inch square, with the word 'short,' unless it contains when level-full as nearly exactly as practicable—

(*a.*) at least four-fifths of a quart, or

(*b.*) two-fifths of a quart.

2. Every basket of fruit offered for sale in Canada, unless stamped on the side plainly in black letters at least three-quarters of an inch deep and wide, with the word 'quart' in full, preceded with the minimum number of quarts, omitting fractions, which the basket will hold when level-full, shall contain, when level-full, one or other of the following quantities:—

(*a.*) fifteen quarts or more;

(*b.*) eleven quarts, and be five and three-quarter inches deep, perpendicularly, inside measurement, as nearly exactly as practicable;

(*c.*) six and two-thirds quarts, and be four and five-eighths inches deep, perpendicularly, inside measurement, as nearly exactly as practicable; or

(*d.*) two and two-fifths quarts, as nearly exactly as practicable.

3. Every person who neglects to comply with any provision of this section, and any person who sells or offers for sale any fruit or berry boxes in contravention of this section, shall be liable, on summary conviction, to a fine of not less than twenty-five cents for each basket or box so sold or offered for sale.

4. This section shall come into effect on the first day of February, one thousand nine hundred and two.

THE EXTENSION OF MARKETS DIVISION.

During the year under review the work of the Extension of Markets Division has been continued along the lines indicated in last year's report.

HAY FOR SOUTH AFRICA.

In the month of March an order was obtained from the Imperial War Office for fourteen hundred tons of Canadian hay to be shipped to Durban, Natal. The hay was forwarded, per steamers of the Canada-South Africa line, in three shipments—the first from St. John, N.B., on April 22, and the second and third from Montreal on May 23

and June 1, respectively. There was joint inspection at the port of shipment by an officer of my department and an officer representing the War Office. The three shipments were landed at Durban in good condition and the quality of the hay has given entire satisfaction.

TRADE INQUIRIES FROM EUROPE.

Owing to the participation of my department, during the past summer, in the Universal Exposition of Liege, Belgium, numerous letters have been received by the Extension of Markets Division from firms in Belgium, Germany and other continental countries, who are desirous of establishing business relations with Canadian shippers of farm and food products. In every case these inquiries have been placed before Canadian firms concerned, and it is hoped that business satisfactory to both parties will result.

INSPECTORS AT CANADIAN PORTS.

Four cargo inspectors were again employed, for the season of navigation, at the port of Montreal, and they furnished detailed reports of the shipments of cheese, butter, eggs, bacon, fruit, poultry, &c., forwarded in 322 sailings of steamers, as follows:—

From Montreal to:

Liverpool	83	sailings.
London	87	"
Glasgow	64	"
Bristol	27	"
Manchester	22	"
Leith & Aberdeen	13	"
Cardiff	1	"
Dublin and Belfast	17	"
South African ports	8	"
Total	322	"

During the winter season of 1904-5 one cargo inspector was stationed at the port of St. John, N.B.; and from September 1 to the end of February an inspector was employed at Halifax to report on the condition, loading, &c., of Nova Scotia apples shipped from that port.

INSPECTORS AT PORTS IN GREAT BRITAIN.

As formerly, cargo inspectors, appointed by the department, were stationed throughout the year at Liverpool, Manchester, London, Bristol and Glasgow. These inspectors reported on every cargo of perishable produce received at the above named ports from Canada, thus keeping my department fully advised regarding the manner in which our cheese, butter, eggs, fruit, &c., were handled in the unloading of the steamers, the condition of these products when landed on the docks and the time that elapsed before they were removed from the docks by the consignees.

DELAY IN TAKING DELIVERY OF CANADIAN BUTTER.

Soon after the butter shipping season commenced our inspectors again reported that, at the ports of Liverpool and Glasgow, consignments of Canadian butter were frequently allowed to lie on the docks for periods ranging from 24 to 72 hours. The situation was more serious at Liverpool than at Glasgow and strong representations were therefore made to the Mersey Docks and Harbour Board (which controls the docks at Liverpool), the Liverpool Provision Trade Association and the individual importers. Statements were compiled showing the landing and delivery dates of each shipment of Canadian butter discharged at Liverpool and copies furnished to the above mentioned bodies and to the Montreal Produce Merchants Association as well. The members of the latter association were also requested to urge upon their consignees the importance of having their consignments of butter placed in cold storage with the least possible delay, once it was discharged from the steamship refrigerator chambers.

All the Canadian butter landed at Liverpool last season was not treated in this careless manner, the major portion of each shipment having been removed with commendable despatch. But the proportion that was usually allowed to remain on the quays was sufficiently large, if damaged, to affect the general reputation of Canadian butter in the Liverpool market.

In some instances these delayed deliveries were caused by the negligence of the shipper in not forwarding his shipping documents soon enough, so that the papers did not reach the consignee until after the ship carrying the butter had arrived and discharged her perishable cargo.

During the latter part of the season the removal of our butter at Liverpool was attended to with greater promptness, and I feel confident that the importers now recognize the justice of our complaint and that they themselves will press for proper cold storage accommodation on the docks, so that butter delayed there may be held at a low temperature.

At the port of London the facilities for the handling, storage and delivery of our butter are well nigh perfect, as it goes directly from the ship's refrigerators into a cold storage warehouse on the dock. Good facilities and despatch are also afforded at Avonmouth, the port of Bristol.

INSPECTION OF REFRIGERATOR CARS.

The refrigerator car service for butter was in operation from May 8 until October 21. During that period two travelling inspectors were employed to report the conditions under which butter and cheese were hauled from the factories to the railway stations, the temperature of the butter when loaded into the cars, and the condition of the cars as regards icing and cleanliness. During the season these inspectors recorded the temperatures of 1,535 packages of butter.

Two inspectors were also stationed at Montreal. They examined the iced cars containing butter and cheese as they arrived and reported on the condition and tem-

perature of the contents, as well as the condition of the cars and the quantity of ice remaining in the bunkers. The same packages of butter that had been tested at the shipping point were again tested at Montreal, in order to ascertain if the contents had become warmer or cooler during the journey. If the tests showed that the temperature of the butter had risen in transit it indicated that the service was inefficient and the matter was at once brought to the attention of the proper railway official. During the season these inspectors inspected 1,159 cars containing the following produce: 425,737 pkgs. butter, weighing 26,968,056 lbs.; 8,658 boxes cheese, weighing 600,834 lbs.; 428 cases eggs, weighing 29,250 lbs.; 188 cases meats, weighing 40,770 lbs.; 508 pkgs. lard, weighing 13,540 lbs.; 10 brls. apples, weighing 1,685 lbs. The inspectors also examined and tested the temperatures of 4,441 pkgs. of butter.

THERMOGRAPHS IN RAILWAY CARS.

From August 22 to October 18, two carloads of mixed fruits, such as peaches, plums, grapes, early apples, pears, tomatoes, &c., were forwarded each week from St. Catharines to Winnipeg and, at the request of the shippers, I instructed the Markets Division to arrange for the placing of one or more thermographs in each car so that records might be obtained of the temperature in each during transit. Thermographs were accordingly placed in eight refrigerator cars with ice, in two refrigerator cars with no ice, but with open hatches for the purpose of ventilation and in one ventilated produce car. As far as the thermograhps were concerned the experiment was completely successful, the chart from each instrument showing a legible record. This is the first time that thermographs of the ordinary type have been successfully used in railway cars during transportation.

EXPORTS OF CANADIAN FARM AND FOOD PRODUCTS.

The following comparative statement shows the value of the principal farm and food products exported from Canada (*a.*) to all countries, and (*b.*) to the United Kingdom in 1905, also the total value of imports of similar products into the United Kingdom in 1904:—

Value of some Canadian Farm Products exported in the year ended June 30, 1905.	To all Countries.	To Great Britain.	Value of Products of the same sort imported into the United Kingdom from all countries in the year ended December 31, 1904.	
	Dollars.	Dollars.		Dollars.
Butter	5,930,379	5,568,999	Butter	102,770,189
Cheese	20,300,500	20,174,211	Cheese	28,439,681
Eggs	712,866	660,610	Eggs	32,755,460
Poultry—dressed or undressed	108,333	71,868	Poultry	5,300,505
Bacon	12,194,458	12,180,817	Bacon	62,449,758
Hams	321,501	307,155	Hams	15,110,995
Pork	188,194	45,841	Pork	8,139,729
Wheat	12,386,743	9,474,870	Wheat	166,763,225
Flour	5,877,607	2,424,116	Flour	35,325,187
Oats	862,040	563,866	Oats	18,133,784
Oatmeal	641,233	587,964	Oatmeal	2,222,085
Pease	718,421	310,397	Pease	3,733,206
Barley	514,852	402,493	Barley	34,853,120
Hay	1,261,210	799,227	Hay	2,130,451
Cattle	11,338,431	11,047,092	Cattle	47,383,989
Sheep and lambs	1,400,710	708,298	Sheep	2,880,989
Apples—green or ripe	2,627,467	2,513,599	Apples—green or ripe	10,309,031
Total	77,384,945	67,841,423	Total	578,701,384

BRANCH OF THE SEED COMMISSIONER.

Prior to January 1, 1905, the work that is now carried on under the direction of the Seed Commissioner formed a division of the work of the larger organization that was under the supervision of Dr. Jas. W. Robertson, late Commissioner of Agriculture and Dairying. The operations of the seed branch have continued during the past year, mainly along two lines, (*a.*) that looking to progress in field agriculture through giving encouragement, in various ways, to the growing and selecting of seed of field crops, and (*b.*) that making for permanent improvement in the quality of the various kinds of seeds that enter into commerce.

When we consider that more than twenty millions acres of land are devoted to field crops in Canada, some idea may be formed of the enormous amount of seed required to sow this area. If, by the use of the better seed grain an increase of one bushel per acre could be made in the average yield for all Canada, the total increase in grain alone would amount to over twelve and a half million bushels.

ENCOURAGEMENT TO SEED GROWING.

Scientific observation has shown that there are in operation practically the same laws in plant growth and development as those which have been turned to good account in the improvement of live stock. Probably as much can be done by practical methods of selection to improve cultivated crops, as has been accomplished by selection on the part of live stock breeders. In the improvement of sugar beet, French and German seed growers studied the individuality of the plants, and were able after some years, to produce species which doubled the yield of sugar per acre.

Believing that an application of the same principles which proved to be effective in improving the sugar beet, the cotton plant, Indian corn and several other crops that are extensively grown, could also be adopted to advantage in the production of cereal grains, a plan was undertaken five years ago by the late Commissioner of Agriculture and Dairying in a way to demonstrate the benefits that accrue from care in the production and selection of seed wheat and oats. This educational policy has since been gradually extended and is still being pursued with singular success.

With a view to render more efficient service in the matter of seed improvement, and especially to those farmers who make seed growing a special industry in their farming operations, I authorized the appointment of five well trained men who are competent to give practical instruction in the principles of growing and selecting seeds and to inspect seeds that are offered in the trade. With this addition to the staff of the Seed Branch, I have been able to arrange so that one instructor may reside in and give his whole attention to meeting the needs of farmers in each of five districts, which, for the convenience of this work has, in the meantime, been arranged as follows: (1) Maritime provinces; (2) province of Quebec; (3) province of Ontario; (4) provinces of Manitoba and Saskatchewan, and (5) provinces of Alberta and British Columbia.

As instructors in seed growing they spend the greater part of the summer months travelling through farming districts, thus coming in direct contact with farmers, and discussing with them the principles of growing and selecting seeds, in the fields where the work is being carried on. In this way they are able to give the farmer a more definite plan to follow. They thus acquire a knowledge of the difficulties of the farmer and give him such information as may enable him to overcome them. The results thus far have been exceedingly encouraging and would indicate that, from persistent efforts to educate grain growers along these lines, we may reasonably hope for a very material increase in the yield, and improvement in the quality of field crops. There is already a large number of farmers who make a business of growing high-class seed grain in quantity. In order to provide so that selected seed may be recognized from ordinary grain, and also that farmers, who give special attention to the growing and selecting of seeds, might advance their interests by united effort, it was thought well to assist them to organize themselves into an association.

CANADIAN SEED GROWERS' ASSOCIATION.

With a view to secure greater uniformity in the methods of growing and selecting seeds and the more general recognition of the value of selected seed grain and other

seeds, as well as to having records kept of the history of selected seed, my department assisted in organizing the Canadian Seed Growers' Association which was finally accomplished in June, 1904. The Seed Commissioner was appointed secretary and was entrusted with the management of the work of this association during the first year. This enabled my department to place the association on a good working basis before the responsibility for its management was taken over by the association as an organization quite distinct from the Seed Branch. The work of the association was finally handed over at the time of their annual meeting which was held in Ottawa, June 27, 28 and 29 last. To enable the officers of the association to carry on efficient work, I have provided them with suitable office accommodation for their secretary, and given them a grant sufficient to meet their needs. This arrangement provides so that the Seed Branch may continue with the educational work and co-operate with the association without taking part in such business of the association as may seem to be conducted primarily to further the interests of its members.

GRASS AND CLOVER SEEDS.

The production of clover seed has grown to be an important industry. The census report for 1901 shows that out of a total of 138,495 bushels of clover seed produced in Canada, 133,744 bushels were produced in the province of Ontario. In the average of years, perhaps one-half of the total quantity produced is exported to foreign countries, Europe being our most important market for clover seed. The Toronto market virtually controls the world's prices for seed of alsike clover.

The growing of clover seed is a special industry that has proved to be a profitable one to the farmers of Ontario. The reason that clover seed is not more generally grown in most of the other provinces may be attributed to the fact that, in order to carry on the work successfully, a special machine is needed for threshing and hulling the seed, and on account of the comparatively high cost of such a machine, they are not used to any extent except in districts where a large acreage of clover is grown for seed. It has been fully demonstrated that a very high quality of red clover and alsike seed can be produced to advantage in all of the eastern provinces and in some of the districts in the western provinces.

Considerable injury has been done to the clover seed crop in the province of Ontario by the clover seed midge. This insect pest has been less prevalent this year, however, than during the season of 1904. Farmers are evidently becoming better acquainted with its habits and are adjusting their clover crops in a way to combat it most effectively.

Of the grass seeds sown in Canada, timothy seed in particular is produced to a considerable extent in all of the provinces. This seed is quite extensively grown in the Georgian Bay district and in the Ottawa and St. Lawrence valleys. It is said that the best quality of timothy seed produced in the world is obtained from these two districts.

One of the principal drawbacks to the seed growing industry in Canada is the prevalence of noxious weeds which seem to have spread from farm to farm and from

province to province with alarming rapidity during the last decade. This condition of affairs has been constantly before me, and has been many times brought to my attention by farmers and their associations in all parts of Canada. The problem of dealing effectively with this growing evil is a most difficult one. It was felt that the trade in agricultural seeds—particularly that of grasses and clovers—was very largely responsible for the spread of noxious weeds, and the investigation work that has been conducted during the last four years clearly proves this contention to be correct. Believing that the true basis for the permanent improvement of these conditions was in educating seed growers to the importance of growing pure seed and in demonstrating to purchasers of seed that clean seed is always the cheapest, I authorized the Seed Commissioner to make ample provision for having this educational work carried out in the most effective manner.

During the early spring, arrangements were made to hold four series of farmers meetings throughout the districts where grass and clover seeds are most largely grown in the provinces of Ontario and Quebec. In carrying out this work the Seed Commissioner secured the co-operation of the Provincial Departments of Agriculture through their Farmers' Institute systems. All of the meetings were held between June 8 and 26, and in the fields of grasses and clovers that were being grown for seed. Farmers were invited to bring specimens of weeds with them for identification. Each delegation was made up of one practical farmer who had had long experience in seed growing, one expert on weed and insect pests and, at most of the meetings seedsmen were present and invited to address the farmers from their standpoint. On account of the meetings being held in the fields and at the time of the year when weed growth and insect pests were most in evidence, the information given was exceedingly practical throughout and very interesting and instructive to the farmers who attended. I hope to have this educational work continued. The subjects discussed at the meetings were taken up in the following order:—

(*a*) The best methods of producing pure, strong seeds of clover, timothy and alsike, with special reference to the preparation of seed bed and quality of seed used.

(*b*) Some of the weeds commonly found in grass and clover fields, and the practical means of eradicating them.

(*c*) The marketing of pure commercial seeds.

(*d*) How to avoid the clover seed midge.

(*e*) Object of the Bill (No. 7) respecting the Inspection and Sale of Seeds.

SEED FAIRS.

Assistance has been given again this year with the holding of fifteen seed fairs, most of which were organized three years ago in the eastern provinces. They are held during the winter and early spring months and arranged in series so that the deputation of judges and lecturers supplied by my department may attend a number of them without unnecessary delays. The providing of a short course of demonstration lectures was an additional feature, arranged for a number of them during the past season, and proved to be of special interest to farmers. The advantages to farmers in having these seed fairs held annually has been fully demonstrated, and

I have been pleased to have the Seed Branch render the agricultural societies, under whose auspices they are usually held, assistance to make them useful from an educational standpoint. In giving this assistance, however, and in organizing seed fairs in localities where they have not been held, regulations to govern exhibits of seed that may be competing for prizes are recommended so that all of the seed fairs may be conducted according to uniform regulations. In localities where they have been held for three or four years there has been a notable improvement in the quality of the seed grain and other seeds exhibited and offered for sale.

Arrangements have been made for the organization of a large number of seed fairs in the grain growing districts of the west. The extension of this work in the western provinces seems to be meeting with much favour. These fairs will provide for an exhibition of seed grain after the work of harvesting the crop is completed. The officers of western agricultural societies have, for several years, felt the need of providing for such an exhibition at an opportune time in as much as their summer shows are held before the grain crop is ripened and the exhibits of grain at these shows have, as a rule, been very small.

In addition to giving assistance with the cost of advertising and providing expert judges and demonstration lecturers to attend seed fairs in the western provinces, I have authorized the Seed Commissioner to submit a plan to the agricultural societies according to which they may be given assistance with the awarding of prizes for fields of standing grain to be judged directly before the crop is harvested and from the standpoint of utility for seed purposes. I am hopeful that this plan will be generally adopted throughout the west as a means whereby the agricultural societies may give further encouragement to farmers who give special attention to the growing of high class field crops of varieties possessing the greatest commercial value, and who exercise care in preventing the introduction and spread of noxious weeds over their farms.

SEED LABORATORY.

The Seed Laboratory was established three years ago, primarily for the purpose of conducting the work of investigation into the condition of the trade in agricultural seeds. This work has been carried on with unusual vigour and the results of the work have been given the greatest possible publicity through the agricultural press, circulars to farmers' institute lecturers, and in bulletins and reports. The Seed Laboratory has since been fitted up with the very latest improved apparatus for testing the purity and vitality of seeds of all kinds and, perhaps because of being able to render prompt and efficient service, a large number of samples of seeds have been received for analysis from farmers and seed merchants who desire definite information regarding their purity and germination qualities. Many inquiries were received from seed merchants as to privileges that might be given them in the matter of having this work done and in April, I authorized the issue of a circular letter to seed merchants in Canada stating that they might have their seed tested in the Seed Laboratory free of charge. A large number of seedsmen and seed vendors took advantage of this offer. The work was done for them and reports rendered as promptly as pos-

sible. An addition of two assistants was made to the staff in order to add to the promptness and efficiency of the work. In this connection it is gratifying to note that, as the importance and value of the work of seed testing become better known by the people, more general use is made of the service offered. The importance of the work was very clearly demonstrated to the farmers through the dissemination of information as to the results of investigation work. This seemed to be a revelation to farmers in all parts of Canada inasmuch as it was shown that the trade in grass and clover seeds was a fruitful medium for the introduction and spread of extremely noxious weeds.

The interest that was noted last year on the part of farmers to use a better class of seeds is strongly in evidence again this year; seedsmen report that there has been an increasing demand for high grade seed. There are, however, some farmers, more especially those on rented farms and those who live remote from the leading trade centres, who have not come fully to appreciate the far-reaching evils that follow the use of inferior seed. The samples obtained by direct purchase from seed vendors in all parts of Canada for investigation work, show that in a few of the districts that have not, perhaps, had the full benefit of the educational propaganda that has been carried on during the last three years, a limited quantity of very low class seed is still in demand.

During the year ending October 31, 1347 samples of seed have been tested for purity and vitality; 730 of these were obtained and analysed for the purpose of investigation. 617 samples were tested for either purity or vitality, or for both, and reported upon to farmers and seed merchants. Compared with last year there has been a marked improvement in the quality, especially in respect to weed seeds, of the seeds tested for both farmers and seed merchants. In the districts where grass and clover seeds are most largely produced a much greater interest seems to be taken in the work of seed testing, and it is from these districts that the greatest number of samples are received from farmers.

The work of conducting germination tests of samples of seed corn and root crop seed shows a decided increase over the previous years. The increase in the number of samples of these two kinds of seeds that were received from farmers for germination test is probably due to the partial failure with corn, and root crops, which was in many instances attributed to nonvital seeds. Much of the seed corn sold to farmers last spring had been seriously injured by frost and damp and a great deal of it would not germinate more than fifty per cent. With root crop seeds it is well known that in some years considerable quantities of imported stocks are held over from year to year and there is evidence that old and non-vital seed has occasionally been mixed with the fresh article. On the average, however, it may correctly be said that the root crop and garden vegetables seeds retailed to farmers by Canadian seed merchants of good standing, show a reasonably good per cent of vital seeds. Comparatively few samples of root crop seeds have been found to be extremely low in vitality.

SEED CONTROL ACT, 1905.

I wish to gratefully acknowledge the support I received in Parliament in my endeavour to perfect and pass an Act respecting the inspection and sale of seeds. This Act came into force on the first of September. The main provisions of the Act demand that seed merchants place the names of certain noxious weeds, plainly written, on a label and attach it to the bag or bin when the seeds of such weeds are present in the seed offered for sale.

Section 4.—Provides a standard of quality in respect to both purity and vitality of timothy, alsike and red clover seeds that are represented to be of first quality.

Section 6.—Provides a minimum standard of purity below which timothy, alsike, and red clover seeds cannot be sold for seeding in Canada. This standard is based on the proportion of seeds of weeds named in the Act to the pure seeds of the kind sold or offered for sale.

Sellers of seeds are justly protected against negligent or evilly disposed seed purchasers. In case of dispute between purchaser and seller, prosecution can be made only when a representative sample of the seed in question has been submitted and tested by an official seed analyst, and such sample must be taken and inclosed in a sealed package, either in the presence of the seller, or in the presence of two non-interested witnesses within seven days after the sale of the seeds.

The effect of this Act thus far, has been largely confined to the districts where grass and clover seeds are grown. Farmers who have clean seed are this year getting from fifty cents to one dollar per bushel more for it than are the farmers who have allowed their fields to become polluted with pestiferous weeds. In general, farmers have been more careful during the past season than during previous years in not harvesting for seed purposes crops of clover from fields that are seriously polluted with noxious weeds. It was learned, too, that considerable attention was given to weeding the fields before the clover seed crop was cut. Seedsmen are adjusting and making further additions to their seed cleaning machinery. It has been stated by several of them that with the apparatus they now have, noxious weed seeds can be practically all cleaned from the seeds produced by farmers. The chief drawback to this work is that the process of special cleaning is necessarily slow and has, hitherto, been considered impracticable in the larger seed houses.

REFERENCE COLLECTIONS OF SEED.

In order to assist seed merchants in their endeavour to carry on their work intelligently the Seed Branch undertook to supply them, at a nominal cost, with collections containing 100 species of weed seeds and other economic seeds. With the use of these specimens of seeds for reference, seed vendors are able to identify the impurities in the seeds they sell. There has been a growing demand this year for these collections.

In connection with the special campaign carried on by the Seed Branch, much information has been obtained that would indicate that farmers in most districts are not familiar with many of the common weeds in the immediate locality where they live. When new and seriously noxious weeds are introduced into their locality they usually become well established before they are recognized as a dangerous pest. Farmers have not had the means at their immediate disposal to identify them and to study their habits of growth and methods of combatting them. It has been felt that this lack of knowledge of the weeds themselves has, to a certain extent, hampered other general educational work along similar lines, and in order to overcome this difficulty, I have authorized the preparation of a bulletin to treat specially with weeds, and in which fifty of the worst Canadian weeds and their seeds will be illustrated in their natural colour. The text that will accompany these illustrations is being prepared with the object of giving information to farmers regarding the habits of these weeds and the best methods of combatting and exterminating them. My department has felt the need for such a publication for several years, and although the expense that will have to be incurred in connection with the preparation and printing of coloured illustrations may be too great to justify me in distributing them free of charge, I have directed that the matter contained therein be prepared in a complete and comprehensive manner.

Bulletin No. S. 1., of the Seed Branch series, contains a reprint of the Seed Control Act, together with general explanations and instructions, and the rules and methods for taking samples of seeds and testing them for purity and vitality. Fifty thousand of these bulletins were printed and have been generally distributed among farmers and seed merchants in all the provinces.

THE LIVE STOCK BRANCH.

An outline of the work accomplished by the Live Stock Branch during the year ended October 31, 1905, is given by provinces, as follows :

British Columbia.

In the spring of 1905 two members of the staff were sent to British Columbia to assist the provincial Department of Agriculture in institute work. The districts visited were those considered most in need of help. The subjects taken up were chiefly relative to fruit growing, road-making and animal husbandry. A large number of meetings were held, and as a rule well attended. Keen interest was shown in the addresses which invariably elicited lively discussions.

In these districts beef raising is the general industry with here and there a dairy farm. Hogs and sheep are also raised on a limited scale chiefly for local consumption. In the Nicola Lake district especially, the cattle raisers have made good progress and judging from their herds they have high ideals regarding the beef type. The cattle raised are chiefly Shorthorn grades and Hereford grades, brought up to the present

standard by the use of pure bred sires, but here, as well as in some other districts visited, there are evidences of faulty methods in breeding and feeding. Many of the ranchers keep sires too long in their herds, resulting in much inbreeding and breeding from immature females. Cross-breeding is also resorted to where it would have been better to have adhered to one breed. The faulty methods in feeding are confined chiefly to a lack of provision for sufficient winter supplies of fodder. The delegates dwelt especially on the importance of remedying these evils.

The sheep as a rule are of very indifferent quality and in only a few cases are breeders improving or increasing their stock, although many districts are admirably adapted to the industry.

Here and there the farmers are raising improved classes of horses. The brisk demand that exists, especially at the coast, would seem to warrant an increased attention to this branch of stock-raising.

In September, Mr. F. M. Logan was sent to British Columbia for the purpose of acquiring an insight into conditions affecting live stock in the province. Mr. Logan is acting in conjunction with the provincial Department of Agriculture.

At the instance of this branch, Mr. Geo. H. Greig, a member of this staff resident in Winnipeg, induced Manitoba breeders to exhibit at the Dominion exhibiton held at New Westminster. The breeders responded by sending six carloads of their animals, which made a marked impression on the live stock exhibit at the fair.

Northwest Territories.

Acting in conjunction with the Department of Agriculture of the Northwest Territories, a vigorous policy of agricultural education has been followed in assisting the territorial farmers' institutes, live stock and fair associations.

Representatives of the division assisted in farmers' institute work, the holding of live stock judging classes, fat stock shows, a bull sale and spring stallion shows at Calgary and Regina, and stock and poultry judging at the fairs during the summer and fall.

The series of institute meetings during the winter and spring extended over a wide range of country, touching the chief agricultural settlements of the Territories. At the meetings live stock judging was a prominent feature. Live animals and poultry were used for demonstration purposes, and those in conjunction with score cards distributed throughout the audiences did much to fix in the minds of hearers the desirable and undesirable types. A similar series of meetings was conducted by a member of the branch in July at points not touched during the earlier campaign.

At poultry shows held at Edmonton and at Lethbridge the awards were placed by a member of the staff who also delivered public addresses on poultry raising, fattening and marketing.

A fat stock show was held at Regina, a fat stock show and bull sale at Calgary, and a spring horse show at each of these places. The fat stock shows were of four

days' duration and were conducted along the same lines as the winter fairs held at Guelph, Ont., and Amherst, N.S. All the judging was done by representatives of the branch. At all these shows live stock judging schools were a feature.

At the Calgary sale, which was the fifth annual, 340 pure-bred animals were disposed of, netting $23,557. The animals were Shorthorns, Herefords, Galloways and Aberdeen Angus. Since the inauguration of these sales, 1,185 animals have been sold for over $105,000. A marked improvement in the quality of the cattle stock of the Territories has been the result of this exchange of pure bred sires, and the educational work done at the gatherings.

The horse shows were decidedly successful; the quality of the exhibits indicate that the horse stock of the Territories is of a fairly high quality. A number of the stallions compared favourably with the best shown at any other fair in Canada. This was particularly true in the draught section at Calgary.

Substatial assistance was given the fair association in the summer and fall exhibitions by the division furnishing expert judges where requested.

Manitoba.

During the year, Mr. Geo. H. Greig, of Winnipeg, the representative of this branch in Manitoba, conducted live stock conventions and judging schools throughout the province.

During the winter live stock conventions were held at Winnipeg, Neepawa and Brandon. The Winnipeg convention occupied a full week and included the annual meetings of all live stock associations and the dairy associations of Manitoba. There were also held special meetings of the Shorthorn Breeders of Manitoba and the Aberdeen-Angus breeders of Western Canada for the purpose of assisting in the nationalization of the live stock records.

The convention at Neepawa was held in connection with a winter fat stock show, held under the auspices of the Northwestern Agriculture and Arts Association. At Brandon the convention was conducted in co-operation with the Western Agricultural and Arts Association. Stock judging was made a prominent feature at all of these meetings. Representative animals of the various classes and breeds of live stock were secured from breeders and owners for demonstration purposes.

At Winnipeg a new feature was introduced for the first time. This consisted of a practical demonstration in meat cutting and was conducted under the supervision of Prof. Boss, of the Minnesota Agricultural College.

It is gratifying to know that live stock judging has become so widely appreciated that the Department of Agriculture in Manitoba and the western provinces have during the year introduced it very generally into their farmers' institute work. The men available for carrying on this work are found among those who have received their training at the stock judging schools conducted by this branch.

A provincial auction sale was organized for the distribution of surplus stock. The sale was held at Winnipeg, May 31, in the pavilion of the Canadian Pacific railway. The animals disposed of included 5 Aberdeen-Angus, which sold at an average price of $66 per head; 5 Herefords at an average of $74. 46 Shorthorns at an average of $90. In connection with this sale a competitive exhibit of the animals was held and proved a most interesting feature.

Early in May the remount officers of the British army who were on their way west were interviewed regarding the prospects of Manitoba supplying remounts for the British army. The attention of the directors of the Horse Breeders' Association was drawn to this matter and through them a number of horses were collected for inspection, but owing to the active local demand sufficient animals to make a shipment were not available and so far no business has been done. The Dominion Exhibition being held at New Westminster, B.C., the stock breeders of the province were induced to contribute, and as a result six car loads were sent, consisting of various classes of horses, Shorthorn, Hereford and Holstein cattle; Yorkshire, Tamworth and Berkshire hogs. The total amount won in prize money was $1,544.

Ontario.

In the province of Ontario the system of farmers' institutes, the improvement of fairs and co-operative auction sales of improved stock are so well established under the provincial Department of Agriculture that but little assistance is required from this branch. In New Ontario only was new work undertaken. At North Bay a sale of pure-bred stock was held in April, this branch co-operating with the North Bay Board of Trade and town council and the District of Nipissing Agricultural Society. At this sale twenty pure-bred Shorthorns, including fourteen bulls and six heifers, also twenty pure-bred Yorkshire swine were sold. The males were distributed chiefly among the farmers' clubs of the district. All the animals were carefully selected by a representative of the branch, and sold at an average price of $70 per head for the cattle and $9 per head for the swine. Preparation is being made to assist in the holding of a similar sale at North Bay during the coming spring.

A corps of institute lecturers was placed at the disposal of the Ontario Superintendent of Institutes and assisted at the regular series of meetings.

Fair improvement work has been continued at a circuit of exhibitions in the eastern portion of the province; representatives of the branch attended these fairs and conducted judging competitions in the various classes of live stock, in some cases judging all the animals shown. Instructive addresses were delivered by our men at all of these competitions.

The Guelph and Ottawa winter fairs were assisted as in previous years to develop their educational features as much as possible, speakers and judges being supplied and addresses delivered on the desirable and undesirable points of the animals under consideration.

This year as last, instruction by means of illustration plots has been carried on at Richmond and Whitby exhibitions, a representative of the branch assisting the boards with the laying out and cultivation of same.

Quebec

During January and February, a series of fifty-eight one-day meetings was conducted in the province. Each of these consisted of an afternoon and evening session. The same organization found satisfactory during 1904 was continued, viz.:—the division of the province into three French and one English section. The three French sections comprised as nearly as possible all of the French speaking counties, and the division was made according to climatic conditions; the English section covered the districts where English communities were found. Fourteen representatives were sent out, and these were divided into four delegations; three delegations made up of speakers for the purely French divisions and one delegation of two men for the English division. Before commencing this work the representatives met at Ottawa to receive instruction. The attendance at these meetings varied from 25 to 525.

Concurrent with these regular institute meetings a stock judging school was held at five points in the province. For this purpose a car load of typical animals of various breeds was taken to the meetings including light and heavy horses, dairy and beef cattle, long woolled and short woolled sheep, bacon hogs and utility poultry. At each point a two-days' judging school was held, three sessions per day. Ste. Therese, Cowansville, St. Hyacinthe, Three Rivers and Quebec were the points fixed upon for this school, and a delegation of experts accompanied the car, the audiences being addressed in both French and English. Score cards, supplied by the branch and printed in both languages, were distributed, and the meetings conducted as regular stock instruction classes. The keenest interest was manifested; the attendance ranged from 150 to 700 persons.

Expert judges were sent to five points in the province in September and October, viz.:—Sherbrooke, Waterloo, Ayers' Flats, Shawville and Brome. In judging the live stock classes our judges followed their usual custom of delivering addresses at the ring side giving reasons for the placing of the awards.

At the Sherbrooke and Brome exhibitions judging competitions were conducted. At Brome dairy cattle were used for this purpose, but at the former place, beef cattle, dairy cattle, sheep and swine were utilized, addresses being delivered on each class.

At Brome, as in 1904, instruction by means of illustration plots was carried on. A portion of the exhibition grounds was set apart for this purpose and was divided into three ranges, these being again subdivided into plots 12 x 15 feet. This ground was carefully prepared and crops suitable to the locality sown. Grasses, clovers, corn, millets and roots were grown, some of the varieties being but little known in the district. Placards were placed on each plot giving all necessary information as to the crop thereon. The crops on all the plots were exceedingly good and much interest was taken by the exhibition visitors.

NEW BRUNSWICK.

At different periods representatives of the branch have been sent to New Brunswick to assist the provincial Department of Agriculture in farmers' institute work. During October and November of this year, three delegates have conducted a series of one hundred and twenty meetings. The attendance at these averaged 48, and our men report that their audiences seemed deeply interested in the various subjects under discussion.

In January, assistance was rendered the Farmers' and Dairymens' Association of the province at their annual convention.

A stock judging school was conducted at five points in the province in June, viz.: Andover, Woodstock, Lower Jemseg, Petitcodiac and Chatham. At these places a carload of improved stock was used for demonstration purposes. The school was well attended at each point and keen interest taken in both the addresses and the scoring of the animals.

Expert judges were furnished for the exhibitions at Fredericton and Sussex. All the live stock classes were judged and the judges where possible, delivered addresses in the ring, giving reasons for their decisions.

NOVA SCOTIA.

In the province of Nova Scotia the work of this branch has been of a somewhat varied character, special attention being paid to the further development of the maritime winter fair, while the annual auction sale of pure bred live stock, the farmers' institute work and the improvement of fairs by the expert judge system at the provincial exhibition have received due attention.

The annual maritime winter fair was held December 12 to 15, 1904, at Amherst. It was a pronounced success from every standpoint, the quality of the exhibits being of a much higher order than in previous years. During the fair evening sessions were addressed by the judges and other expert agriculturists, the attendance at these daily meetings averaging from twelve to fifteen hundred.

For the approaching fair in December of this year, Mr. E. B. Elderkin, the representative of the branch in the maritime provinces, is carrying on a vigorous system of preparation, and all indications point to a very successful outcome.

The second annual auction sale of pure bred live stock was held at Amherst on February 3. At this sale 16 animals were sold, comprising 6 Shorthorn males, 7 Shorthorn females, and 3 Ayrshire males. Of these the Shorthorns averaged $60 per head, and the Ayrshires $34 per head. The stock ranged from fair to good quality. The offering of animals was much smaller than had been intended owing to the impassable condition of the railways and roads; for the same reason the attendance was below what it should have been. These conditions, coupled with an impending feed famine in the province, are in large measure responsible for the comparatively low prices.

During June and July a series of farmers' institute meetings were held throughout the province at 53 points. For each of these meetings delegates were supplied. In many of the districts visited, agriculture was found to be in a very backward condition. While much of the land is rough and unfit for cultivation, the conditions are favourable for sheep raising, and instruction was given relating to this industry. As a rule the cattle and hogs raised are indifferent to poor in quality, and the delegates endeavoured to impart such information as would improve the various defects. In a few cases open air meetings were held, and at these live animals were used for demonstration purposes. The meetings were invariably well attended, but the open air demonstrations were found to increase the interest very materially.

Expert judges were supplied by the branch to the provincial exhibition at Halifax. As on previous occasions the judging was supplemented by addresses at the ring side, the judges giving reasons for the placing of the awards, which met with very general satisfaction. The interest in this educational work was sustained during the exhibition by evening sessions held in a pavilion provided by the exhibition association. At these live stock and kindred subjects were discussed by the judges and other agriculturists. This is the third occasion on which the judging at Halifax has been done by experts supplied by this branch, and the quality of the animals offered at the exhibition of 1905 would tend to show that the work is bearing fruit.

PRINCE EDWARD ISLAND.

With the co-operation of this branch the Department of Agriculture for Prince Edward Island has been able to carry out a progressive scheme of educational work along agricultural lines. In addition to the work undertaken in previous years, several new features have been introduced, among these being the organization of a regular institute staff; the institution of semi-annual farmers' conventions, the formation of live stock judging schools, and the collection of live stock statistics.

During June and July a series of farmers' institute meetings was held. The province was divided into two districts, and a representative of this branch accompanied each delegation. Thirty one-day meetings were held, an afternoon and evening session constituting the work each day.

Many of the afternoon sessions were conducted as stock judging schools, live animals being used for the purpose and score cards provided by this branch being distributed among the audience.

This stock judging work has been so well received by the island people that preparations are under way to hold a regular judging school at Charlottetown in December of this year, immediately following the maritime winter fair at Amherst.

As a result of the teachings of this series of institutes a number of farmers have introduced a system of rotation of crops; the keeping of milk records for individual cows; and experimental work in crop growing on the co-operative plan. Statistics as to milk production in the province have been secured, and the figures show the yield per cow to be much lower than it should be ; a strong effort is being made by our

delegates to awaken the farmers to the necessity of keeping these milk records in order that they may intelligently weed out the inferior specimens.

The attendance was very good throughout, averaging about 75 per meeting.

Along the line of live stock improvement a better system of introducing improved blood had been instituted.

In April the annual farmers' convention was held at Charlottetown. Through the interest created by the work of the representatives of this branch, it was then decided to make this convention semi-annual instead of annual, and in accordance a convention is being arranged for December of this year.

Expert judges were supplied to the provincial exhibition held at Charlottetown. All the live stock classes were judged as usual, and as usual the addresses of the judges at the ring side on the placing of the awards was made a feature. Here as at Halifax evening sessions were held and at all these meetings much interest was shown, and lively discussions followed each address.

CANADIAN NATIONAL LIVE STOCK RECORDS.

An important work accomplished during the year was the nationalizing of the Canadian live stock records. Hitherto numerous records had been kept in the various provinces, varied to some extent in standard and in their method of administration, involving increasing confusion. At a national convention of live stock breeders held in 1904 a resolution was passed favouring the nationalization of all records for pure bred stock kept in Canada, and asking the department to take the necessary steps to bring it about. Between that time and the second annual convention, held in Ottawa in April, 1905, most of the record associations had agreed to nationalize. At this latter meeting representatives from the different provinces and record associations were met by the Hon. Minister and Deputy Minister of Agriculture for Canada and an agreement made, forming a basis upon which the nationalized records shall be conducted. Agreements, varying slightly to suit conditions were drafted; these were signed by the Hon. Minister of Agriculture on the one side, and the various incorporated live stock record associations, representatives of provinces, and parties controlling records in Canada on the other.

These agreements provided that all nationalized records be removed to Ottawa, where they would still be conducted independent of the Dominion Department of Agriculture by a record association for each breed; that the record certificates before being issued be submitted to an officer of the Department of Agriculture who shall affix the seal of the department to each certificate found correct. At the session of parliament for this year an Act to amend the Act Respecting the Incorporation of Live Stock Record Associations became law, and since that time all pedigree certificates issued by the national records have been uniform in style and have borne the seal of the Department of Agriculture. The following is a list of the breeds of stock that have, thus far, agreed to nationalize their records: Shorthorn, Hereford, Aberdeen Angus, Galloway, Jersey, Guernsey, French-Canadian and Ayrshire cattle; Clydesdale,

Shire, Belgian Draft, French-Canadian and Hackney horses, and the various breeds of sheep and swine.

EXTENSION OF TRADE IN LIVE STOCK.

During the year consignments of live stock were purchased and shipped to the Director of Agriculture for the Orange River Colony, South Africa, and to the Board of Agriculture, British Guiana, South America.

POULTRY DIVISION.

How the work is conducted.—The work of the division is carried on through poultry illustration stations, of which there have been three classes, fatting, rearing and breeding.

Eleven fatting stations were operated in 1904. Good thrifty cockerels were bought from the farmers, fed in crates until fat, dressed and marketed.

At the two rearing stations eggs from good Barred Rock hens are bought. The best of the cockerels and pullets reared are sold for breeding, the remainder fattened and sold dressed.

The five breeding stations are operated the year round. One hundred laying hens are kept, eggs and breeding stock are sold, and seasonable illustration work is carried on.

Present equipment.—In January, 1905, the 11 fatting stations were discontinued; the equipment was allowed to remain for the present in order that the manager might carry on the work either for himself or co-operatively. Every encouragement was given farmers in the locality to fatten their own birds. Fattening crates were loaned them and instruction given, as well as help in marketing their produce.

Seven stations are operated by the division this year, two rearing and five breeding. Two incubators are kept at the rearing stations and brooders and colony houses to accommodate the chickens incubated. The equipment of a breeding station consists of a poultry house suitable to accommodate 100 breeding hens, an incubator and plucking room, a rough fatting shed where the feeding crates are situated, two to four incubators, and a number of brooders and colony houses for rearing operations.

The year's work.—The work carried on at the stations is illustrative along commercial lines. Successful experiments are carried to the farmer and he is shown how best to apply them to his own conditions. The demand for pure-bred eggs for hatching could not be supplied. A large number of cockerels and pullets have been sold from the various stations and the average farm flock in the districts is thereby being improved. Special attention is directed to a number of features in connection with the year's work.

Utility fowl.—A good year-round producer might be called a utility bird—one that will lay eggs when prices are high: and eggs that will produce chicks of a good con-

stitution. It is such a type of farmer's fowl that the poultry division is endeavouring to produce. Each year only the most promising pullets are retained for the breeding pens, and in order to improve the laying qualities of the flock trap nests are used.

Trap nests enable breeders to keep individual records of the hens. There are a number of effective trap nests so simple in construction that any one can make them. A full description of the two styles used by the division is given in Bulletin No. 7. An instance of the interesting facts brought out by the trap nest is seen in the case of one pen of Barred Rock pullets at one station. The eggs for the month of January are given in the following table:—

EGG RECORD, DOMINION POULTRY STATION, BOWMANVILLE.

Pen No. 4—Barred Rocks—January, 1905.

Date.	Hen Number.											
	1	2	3	4	5	6	7	8	9	10	11	12
1		1	1		1	1		1				1
2		1	1		1	1		1	1			1
3				1	5					1		
4	1	1	1		1		1	1	1			1
5			1			1		1				1
6		1	1		1	1				1		
7				1	1	1		1				1
8		1	1		1							
9					1	1			1	1		1
10		1	1		1	1		1	1			
11			1	1			1					1
12		1		1	1	1		1			1	
13			1		1	1						1
14		1	1		1			1	1			1
15			1		1				1	1		
16		1	1		1			1	1			1
17		1		1	1	1						
18			1					1	1			
19	1	1	1		1	1		1				1
20			1		1			1				1
21		1	1	1	1	1		1				
22		1				1	1	1	1	1	1	1
23			1		1							
24		1			1	1		1				1
25			1		1							
26		1			1			1		1		1
27				1	1							
28			1			1			1			1
29		1		1	1							
30		1			1				1			
31			1		1			1				1
Totals....	2	17	20	8	27	15	3	18	11	5	2	17

It will be seen that two of these pullets laid only two eggs each while another laid 27 during the month. Half the birds in this pen averaged about five each, the other half, 19. Throughout the year the comparative difference of individuals was almost as well marked. It is an important fact that birds that laid well in the winter also did well during the summer. The pullet that laid 27 eggs in January had 25 to

her credit in June, and by the middle of October she had laid since January 1, 182 eggs.

A further record was kept to see how the eggs of these best-laying pullets would hatch, and if the chicks would have sufficient vitality. They proved from 20 per cent to 25 per cent more fertile than eggs from poor layers, and the mortality was about 40 per cent less.

Free Range for Chicks.—At several of the stations the colony houses were so arranged that after the chicks were a month old they were practically allowed free range. The colony houses were placed in an orchard and the chicks had the shade of the trees and the run of the orchard as well as of an additional pasture field. These chicks made rapid progress at an apparently smaller cost than those which were confined.

Crate-fed Chickens.—The greater demand and increased price for fatted chickens is very encouraging. The demand is not being supplied; much more poultry could have been sold from the stations than was produced. All poultry should be fattened before it is put on the market. To show that it pays to fatten cockerels, take the case of 12 birds fed at one station in October, 1904. Before going into the crates the cockerels weighed 41 lb. At eight cents per lb. they were worth $3.28. In 14 days they consumed—

Oatmeal, 56 lbs. at 1½ cents	84 cents.
Skim-milk, 80 lbs.	16 "
Grit, 5 lbs.	5 "
	$1 05

Making a total cost of $4.33. The dressed weight was 50 lb. and sold at 14 cents per lb., or $7; a gain of $2.67, equal to 61 per cent on the investment.

The Broiler Trade.—All poultry keepers can not produce broilers, but for those who can the trade is very inviting. Produce men will give from 20 cents to 40 cents per lb. live weight for plump young chickens weighing from 1½ to 3 lb. per pair, from March to the middle of May, the higher price for the earlier birds.

White Diarrhoea.—A disease known as 'white diarrhoea' was prevalent among incubator chicks last spring, especially throughout Ontario, to such an extent that it became alarming, and an investigation was instituted, to find if possible a cause and remedy. A number of the largest poultry plants in Ontario, a few in New York State, and two in Quebec were visited. In many places the disease had made its appearance for the first time, at several it had been noticed the previous year, and a few cases of it had been seen for several years, though not to an alarming extent. The chicks were attacked the first ten or twelve days after hatching; in some instances the disease was present before the chicks left the incubator. Non-absorption of the yolk usually accompanied the complaint. Several plants were visited where the death rate was from 75 to 100 per cent, and 50 per cent was quite common. The investigation

is incomplete, but the bulk of the data points to lack of ventilation in the incubator room, and high relative humidity as two of the probable factors. It was noticed that where only a small number of incubators were used in one room, the chicks were comparatively free. The investigation will be continued next spring. In the meantime it would not be amiss if those who operate incubators would see that the rooms in which they are kept have sufficient ventilation.

Selling Poultry and Poultry Products.—To sell well, poultry must be uniform, in good condition, and well dressed. Fatted poultry is worth from 25 per cent to 40 per cent more than that which is lean. The demand is so good this year that most of the poultry will find a market in Canada. There is no danger of overstocking the market if the product has the two essentials, excellence and uniformity. The egg trade is also encouraging from the producer's standpoint; the better the condition in which they reach the market, the higher the price. The best markets will pay from 2 cents to 5 cents a dozen more if the eggs are graded as to size and colour.

Bulletins.—Three bulletins have been issued: No. 7, 'Profitable Poultry Farming,' deals with Incubation, The Brooder, The Chicken Trade, Selection of Suitable Breed, Crate-Fattening Chickens, Preparing Chickens for Market, Marketing Chickens, Some Station Work in 1904, The Egg Trade, The Flock, Feeds for Poultry, and Trap Nests. No. 8, 'The Farmer's Poultry House,' describes the need of comfortable houses, the proper location, the essentials of a good house, and gives plans and descriptions of seven houses now in use at practical poultry plants. No. 9, 'Diseases and Parasites of Poultry,' gives description and treatment of thirteen common diseases, lice, mites and intestinal worms. The demand for the bulletin has been much larger than was anticipated and it has been found necessary to print a second edition. These can be obtained on application.

Poultry exhibits made at the fairs.—An exhibit illustrating the work of the division was made at a number of the fall exhibitions.

The exhibit showed styles of poultry houses, colony houses and brooders, typical cockerels in feeding crates, shaping board, cases of dressed chickens, trap nests, assorted and unassorted eggs, plans of poultry houses, samples of various poultry and chick foods, bulletins, &c. Much interest was taken in the exhibit and many complimentary remarks regarding its value and the work of the division were heard.

Poultry circles have accomplished wonderful results in some places; there is room for good work to be done by them in Canada.

EXPERIMENTAL FARMS BRANCH.

Much practical help is rendered to the farmers of Canada by the experimental farms. The literature published by the officers of the farms consists of annual reports of the various branches of the work in progress under the different climatic conditions prevailing in the many settled districts of the Dominion, and of special bulletins on important topics. These give helpful information and are of the greatest assistance

to all those engaged in agricultural work. The publications of the farms are sent free to every farmer who asks for them, and about 60,000 are now regularly supplied through the permanent mailing list at the central farm at Ottawa. The correspondence of the officers of the central and branch farms with those seeking information in every line of farming, is very large, and constantly increasing. Convincing testimony as to the value of the information furnished is given by farmers in every section of the country, many of whom attribute much of their success to the practical character of the information thus supplied to them.

In arranging the experimental work carried on at all the farms, special attention is paid to such aspects of farm industry as are likely to have the most practical bearing on the profits of the farmer. The examples given in improved methods of cultivating the soil, in the selecting of choice varieties of grain and other important farm crops combining a high degree of productiveness with earliness and good quality, and placing samples of these at his disposal, are all very helpful. The proper rotation of crops, so as to lessen the exhaustion of the soil, the renewal of its fertility by the use of natural and artificial manures, and the ploughing under of clovers and other leguminous crops, are subjects to which much attention is given. The demonstrations made with dairy and beef herds of cattle as to the most profitable methods of feeding, and the results of tests in the management of swine and sheep, feeding different sorts of food, looking to the economic production of pork and mutton, have also proved exceedingly useful; and by thus combining example with precept a widespread stimulus to production has been given in these important branches of farming.

THE PRODUCTION OF HARDY FRUITS FOR THE CANADIAN NORTHWEST.

Fruit is a healthful addition to the diet, and the farmer who can command a supply for himself and his family has gained a point of great advantage. Hitherto the success attending the efforts to grow apples in the western prairie country has been very limited; but of late experiments made in the cross-breeding of hardier sorts have given excellent results. The hardiness of some of the new varieties, which are quite large enough for domestic use, and are of good quality, is being thoroughly tested at many points at different altitudes in the Northwest, and the reports received concerning them are most encouraging. There is now very little doubt that within a few years a number of useful sorts will be available which will be quite hardy in all the settled parts of the Northwest country.

Efforts are also being made to stimulate the growing of small fruits, especially currants, gooseberries and raspberries, many of which are quite hardy through all the settled districts of the prairie country.

THE BREEDING AND SELECTION OF CEREALS.

While it is important that every branch of farm work be made the subject of investigation and experiment, the production of cereals, on which so much of our national prosperity is based, receives deservedly a large share of attention. By urging the use of clean and pure seed, and clean cultivation, much good is being done; while by producing earlier maturing varieties, associated with productiveness and high quality, the

area of wheat growing in Canada is being extended and the quality and quantity of our cereal products advanced. By judicious crossing and selection of improved forms, much further progress may yet be made : indeed the possibilities in the way of improvement in this direction seem to be unlimited.

VISITS OF FARM OFFICERS TO DIFFERENT LOCALITIES.

Visits have been paid by the Director and some of the chief officers from time to time to various parts of the Dominion with the object of ascertaining what progress is being made, and what branches of farming are likely to be most profitable in such places. Information is also gained as to how farm work can be most successfully conducted under the special conditions prevailing in the different sections visited. This work has aided in making the efforts of farmers more generally effective.

DISTRIBUTION OF GRAIN FOR THE IMPROVEMENT OF SEED.

Under my instruction this useful branch of the work has been continued; and the benefits it confers have been widely appreciated. The sample bags sent out have contained five pounds each in the case of wheat and barley, and four pounds in that of oats, sufficient in each instance for the sowing of one-twentieth of an acre. The samples of pease, Indian corn and potatoes have weighed three pounds each. They are all forwarded through the mail free. In consequence of the large demand, it has been found necessary to limit each applicant to one sample each season. Hence, it takes many years before the enterprising farmer can test all the varieties likely to be useful to him, and with the great influx of new settlers into different parts of the country, it is likely that there will be a steady increase in the demand for seuh material.

During the past year more than 40,000 farmers have thus been supplied with samples of the best strains of seed of the most important crops, the seed in each case being thoroughly cleaned and of the best quality obtainable. By the careful cultivation of these samples, any farmer can, in the course of two or three years, produce seed sufficient for a large area of land without cost to himself beyond that of his own labour.

AGRICULTURE AND LIVE STOCK DIVISION.

FIELD WORK.

The work in this division during the past year has been along the lines of (*a.*) methods of soil cultivation, (*b.*) values of different crops as grain or forage producers, and (*c.*) the study of rotations as means of improving soils.

Soil cultivation.—The aim in the work carried on in soil cultivation is to study the best methods of increasing the humus content of the soil and the retention of that humus where it will be most readily available to growing crops.

Crop values.—A comparison is being made of different varieties of corn for siloing purposes, of different varieties and kinds of roots for cattle feeding purposes, and of different kinds of grasses and legumes for hay making purposes. The comparative cost of production of these different crops is also being studied.

Rotations.—The value of rotation in soil improvement is very generally accepted, but comparatively little is known as to the best rotations to follow under different conditions. To gain some information on this point a number of different rotations are being given a fairly thorough test as to their effects upon different soils. Some 43 lots varying in area from 1 acre to 14 acres and making up 12 different rotations are being studied. The different rotations each include practically all kinds of soil.

ANIMAL HUSBANDRY.

Practically all classes of domestic animals are bred. The feeding and breeding operations include horses, dairy cattle, beef cattle, sheep and swine.

Horses.—The breeding operations with horses are very limited, but considerable work has been done in studying feeding problems in connection with this class of live stock during the past few years. The chief lines of work have been (1) the determination of the values of different kinds of hay as horse forage; (2) the study of different kinds of grain feeds for horses, and (3) an examination into the economy of feeding roots or other succulent feeds as a part of the ration for (*a*) working horses, (*b*) idle horses.

Dairy Cattle.—Quite extensive operations in breeding and feeding dairy cattle are carried on. Four herds of different breeds are under observation and experimentation. They are Ayrshires, Canadians, Guernseys and Shorthorns, with a number of grades of each breed.

They are being studied as to (1) comparative economy of production of (*a*) milk, (*b*) butter fat, (2) vigour, and length of useful period of life, and (3) comparative values as consumers of rough forage.

A study is also being made of the comparative value of pure-bred and grade herds (1) where value of milk and its products alone is considered, and (2) where value of offspring, whether pure bred or grade, at average market prices for each sort is included.

The question of the advisability of farmers keeping dual purpose cows is being studied, but results as yet are very indefinite. Where grade cattle are kept our findings seem to point to purely dairy strains as being the more profitable, but where pure-breds of each class are compared there does not seem to be very much difference since generally speaking, pure-breds of the Shorthorn milking strains sell for higher prices than pure-breds of most of the purely dairy breeds.

Experiments in feeding are being carried on continually and much valuable information as to the value of different feeds for milk production is being gained and distributed throughout the country. Methods of feeding are also being studied and much information gained.

Steers.—A considerable number of steers is fed each year. The lines of work pursued being (1) influence of age on cost of production, (2) influence of various rations on cost of production, (3) influence of method of feeding on cost of production,

and (4) influence of rate of feeding on cost of production. Results published from year to year have excited much interest. A new line of work is being incepted, viz.: the study of quality of stocker fed on quality of meat produced and on profit of feeding operations.

Swine.—Much work in the study of the economical production of bacon pigs is constantly under way. A bulletin dealing with this problem has just been published. Feeding operations during the past years have been fairly successful.

Sheep.—Two breeds are kept, Shropshires and Leicesters. They have done very well this year. Some experimental feeding has been conducted and will be found reported upon in the Experimental Farms Report for 1905.

HORTICULTURAL DIVISION.

The past season was a favourable one for nearly all kinds of fruits and vegetables in the horticultural division, and good crops were obtained, the apple crop being the largest in the history of the orchard.

Much useful information has been gained during the past eighteen years from the testing of the different varieties. Many have been discarded which did not prove of sufficient merit to continue growing, or were too tender to withstand the winters. Full descriptions have been made and careful records kept of both the good and poor varieties so that the history of them can be readily referred to in the future. The collection of promising seedling apples of Canadian origin was still further increased this year. This collection contains the best of the unnamed seedlings which are sent in for examination. A number of the seedlings raised from seed of some of the best varieties which have fruited at the experimental farm fruited for the first time this year, and among them are some of considerable promise.

Plums.—The European or domestic plum does not succeed in the colder parts of Ontario and in many parts of the province of Quebec, hence special attention has been given to the testing of the hardiest varieties of that class, and to the improvement of the native and American species which succeed over a large area. Some very good seedlings have fruited this year. What is desired is a plum with a thinner and tenderer skin than most of those now on the market, and an improvement in quality. It is believed that some of the experimental farm seedlings are better than many of the named varieties now on the market. The stones of these seedlings have been planted in the hope of raising other seedlings which will be still better.

Grapes.—During the past eighteen years nearly 200 varieties of grapes have been tested, and it is now possible to recommend with confidence a number of varieties which are almost sure to ripen every year where the climate is somewhat the same as that at Ottawa. This year, which was a moderately favourable one, 90 varieties ripened in the open air at the Experimental Farm. Different methods of training the vines have been tried, and the system now adopted is considered very satisfactory for districts where the vines have to be covered with soil in winter. In this system there

are two horizontal arms springing from a crown near the ground. These arms are renewed every year or every two years, and being easily bent are readily covered with soil, which has been found to be the best means of protecting the vines during the winter.

Currants.—The currant has not received as much attention as it deserves in America, but at the Central Experimental Farm this fruit has been given a thorough test as it is of great value in the colder parts of Canada where the large fruits do not succeed very well. Among the most promising of these are a number of black currant seedlings originated by Dr. Wm. Saunders The best of these are superior to the older varieties and as they become better known will, no doubt, supersede the older kinds.

Individuality of fruits.—The yield from each individual fruit tree is kept separate at the experimental farm, and it has been found that some trees of the same age and of the same variety and under apparently about the same conditions have yielded much better than others, thus showing a marked individuality in respect to their productiveness. If this individuality is preserved in trees grafted from the productive trees and from the unproductive, it will show the importance of propagating from the most productive trees. Trees were grafted both this year and last from trees varying thus in productiveness for the purpose of demonstrating whether this individuality is maintained or not.

In addition to the experiments with fruits already referred to, experiments with other fruits, such as pears, cherries, raspberries, gooseberries and strawberries were continued this year.

Experiments in spraying have been among the most important lines of work carried on by the horticultural division during the past fifteen years This year a power sprayer was bought, the operation of which has furnished useful information in regard to the economy of utilizing greater power than can be obtained with the ordinary hand pump.

Potatoes.—The potato is one of the most important food crops in Canada, and for this reason it has been given especial attention among vegetables. This year a bulletin was published on 'The Potato and its Culture' by the horticulturist, in which were given the results of experiments for the past eighteen years, with recommendations for the best methods of culture. It is hoped that this bulletin will have some influence in improving the potato crop in Canada. The blight and rot cause more or less injury to the potato crop every year, but during the past few years the loss has been much greater than usual. Careful experiments conducted at the Central Experimental Farm and elsewhere have clearly proven that the disease can be controlled by thorough spraying with Bordeaux mixture, but it is difficult to get farmers to spray. For some years it has been noticed and recorded that certain varieties were freer from blight than others. These are now being more carefully tested with the object of finding, if possible, a variety which by careful selection will withstand the blight so as to avoid the necessity of spraying.

Tobacco.—Experiments with tobacco were carried on again this year as usual, especial attention having been given to the relative state of maturity of the different kinds when harvested.

Forest Belts.—The forest belts continue to furnish useful information on the relative rate of growth of the different kinds of timber trees.

Arboretum and Botanic Garden.—The fine collection of trees, shrubs, and herbaceous perennials in the arboretum and botanic garden is attracting more attention every year. This year it looked particularly well as it was a very favourable season for growth. Each year additional information is gained on the many species and varieties in the collection, and this is given to the public as soon as it is practicable to do so.

ENTOMOLOGICAL AND BOTANICAL DIVISION.

Farmers and fruit growers in Canada are appreciating more and more every year the value of knowledge of injurious insects and other plant pests. The Government entomologists at the central experimental farm have continued their investigations of the life-histories and habits of all kinds of insects reported to them, or found to be injuring crops. Insect enemies of household goods have also been studied and much valuable information has been sent out from the division, by which considerable loss has been prevented. The marked increase in the correspondence of the division of entomology and botany shows that farmers are recognizing that they can obtain prompt and practical assistance, and are making use of the advantages offered by this and other divisions of the central experimental farm.

The duty of the officers of this division are to study as thoroughly as possible all insects and plants which are likely to cause loss to farmers and others, with a view to finding out as speedily as possible the most rational and economic way of dealing with these. The work is carried on actively both in the field where many experiments are tried, and in the office and museum. In the field the various insecticides and fungicides are tested as well as the machinery necessary for the work. Any one wishing to examine this machinery or to see how it is used is welcomed, and every pains taken to assist those who wish to learn. The collections in the museum are of great interest to visitors who frequently recognize an enemy by examining the cases, which they may have had difficulty in describing to the officers when seeking advice. These collections have been materially increased and improved during the past year, and very large additions have also been made to the collections of botanical specimens in the herbarium, and of weed seeds.

Many thousand specimens of insects and plants have been named by the entomologist and botanist which have been sent in by scientific students, farmers, horticulturists and others. The now extensive collections of the division have been considerably enriched from these correspondents, who have gladly presented to the museum all specimens asked for.

As in the past I have been able to meet the wishes of many farmers by sending the entomologist and botanist to deliver addresses before farmers institutes, and at

other meetings, where a large number can at one time learn what is being done to lessen losses to their crops, and where much useful information has been disseminated.

Insect Enemies.—The season of 1905, I am glad to say, has not been marked by the occurrence of any serious outbreak by insect pests, but the entomologist reports that there has been an exceptionally large number of inquiries about different kinds of injurious insects, and that in all cases he has been able to give advice by which loss might be lessened.

Cereal Crops.—The only injuries of importance which have been done by insects during the past year were by the Hessian Fly in Prince Edward Island, Manitoba and eastern Assiniboia. The Joint Worm appears to be increasing somewhat in Prince Edward Island. The Wheat Midge, which did considerable harm in British Columbia last year, extended its area somewhat in 1905. It also occurred in Prince Edward Island and possibly in Ontario. Steps have been taken to make the best remedies known as widely as possible. The corn crop was somewhat attacked by insects, but nowhere to any serious degree. The cold, dry spring in central Ontario retarded germination, and some loss occurred from the ravages of the Seed-corn Maggot. The Stem-borer did some harm in western Ontario.

Rusts.—These parasitic fungi which did so much harm last year to the wheat crops in the prairie provinces were this year hardly noticeable except in one or two restricted localities, and no appreciable loss was sustained on the general crop of the west.

ROOT CROPS AND VEGETABLES.

Cutworms as usual did some harm in all parts of the Dominion but were easily controlled by the poisoned bran remedy which has been so highly recommended by the entomologist. The most striking outbreak was by the larvæ of a species of noctuid moth, known to science as *Barathra occidentata,* but which has not as yet received any popular name owing to its great rarity in collections. Caterpillars of this moth were injuriously abundant in many places over a wide area. Complaints and specimens came from as far east as Nova Scotia and as far west as Nepigon, north of Lake Superior. The injuries in gardens at Ottawa, where the species was thoroughly studied, were considerable and a great many different kinds of plants were attacked. This insect illustrates the advantage of studying all kinds of insects whether scarce or not. As soon as it appeared it was recognized by the experts in the division, and steps were taken at once to check its ravages and at the same time to fill in some important missing links in its life history.

The Sugar-beet Webworm appeared in large numbers at Magrath, Alta., and caused in some fields a loss of between 8 and 10 tons of roots to the acre.

The Turnip Aphis was not as injurious as usual but still was the cause of considerable loss to cauliflowers and turnips in almost all provinces of the Dominion.

The Red Turnip Beetle, which is sometimes the cause of minor losses on cruciferous crops in the west, was this year sent in as a destructive pest for the interior of British Columbia and from the Yukon Territory.

FRUIT CROPS.

The San Jose Scale.—This destructive enemy of the fruit-grower still exists, and from lack of drastic and universal treatment by fruit-growers, has done much harm in the infested district in Ontario. Careful orchardists have, however, shown that the lime and sulphur wash, if properly applied, will allow them to grow paying crops in infested orchards and maintain their trees in a vigorous condition.

The Woolly Aphis of the Apple.—This although much dreaded by fruit growers on account of its ravages to the south of us and in other parts of the world, has not been the cause of much loss in Canadian orchards. During the past season, however, it has been present to a remarkable degree and there has been much inquiry concerning it. The native and introduced hawthorns seem to have been much more attacked than the apple. A similar species on the alders does not attack fruit trees as many suppose, and there is no danger from this insect.

FOREST AND SHADE TREES.

The *White-marked Tussock-moth.*—Public attention has been drawn to this insect which for many years has been destroying the beauty of the shade trees in some of our large cities. The civic authorities are now bestirring themselves and it is hoped that before long this trouble will disappear.

The Cottony Maple Scale has been abundant and very objectionable on the shade trees in London, Ont., and in some other western towns.

The Spruce Gall-Louse has been remarkably abundant this year and many inquiries have been received as to its habits.

The Larch Sawfly, which many years ago destroyed the whole tamarack forests of the northeastern parts of the Dominion, again this year appeared in noticeable numbers.

The Larch Case-bearer, a European insect which has never previously been detected in Canada, was this year found in some numbers on the European larch trees and native tamaracks at the central experimental farm.

With regard to all of the above injuries, advice and assistance has been given promptly. Many other insects of more or less importance have been studied and accurate records kept.

There has also recently been issued from the division a bulletin in which all the well-known insects injurious to grain and fodder crops, roots and vegetables, are treated concisely, and the best remedies given. As this bulletin is very fully illustrated, I trust that it will be of considerable use to those engaged in cultivating the soil in all parts of Canada.

CHEMISTRY DIVISION.

In the work of the past year there has been, as formerly, much done of immediate and direct help to the individual farmer, and also a considerable amount of research that will be of assistance in the various specialized branches of Canadian agriculture. As far as practicable, examination is made of soils, well waters, cattle feeds, insecticides, &c., &c., that may be sent in by farmers. In the neighbourhood of 500 such samples have been examined this year. This branch of work, in addition to the information given by correspondence in response to inquiries on farming matters, and more particularly relating to chemistry of agriculture, has proven of great and increasing value to the practical farmer. The rational treatment of soils with a view to the economic maintenance and increase of their fertility, the use of fertilizers, the relative values of fodders and feeding stuffs are among some of the more important matters treated of daily by letter. It is by such means that the farmer is educated in his work and afforded help that he could not otherwise obtain.

Of the researches instituted or continued during the year, mention may be made of several of the more important as follows:—

The Winter Care of Manure.—This series of experiments was planned to ascertain the losses of plant food that may take place from December to April, when piled in large and small heaps respectively. It is expected that the results will be of considerable help in the better care and application of this important source of fertility.

The Management of Orchard Soils with a View to Increasing their Fertility and the control of their Moisture Content.—This work was begun several years ago and includes a study of the effect of various leguminous plants grown as cover crops, and an inquiry into the soil moisture remained and lost under different systems of cultivation. It has been shown that by keeping a dry earth mulch until the tree has made its annual growth, say, July 1, followed by a leguminous crop to be turned under early the following spring, the tree may be furnished with all the moisture necessary for its growth and the filling out of the fruit, and the soil considerably enriched in humus and nitrogen.

The Loss of Nitrogen due to Fallowing.—Analyses have been made of a number of cultivated and virgin soils from the Northwest with a view to determine the exhaustion of plant food by fallowing and the continued cropping with grain. The results indicate a very considerable loss of organic (vegetable) matter and its concomitant, nitrogen, when this practice extends over a period, say, of 25 years. This investigation (which is still in progress) is one of great importance, for it points very emphatically towards the necessity of some change in the methods of the wheat growers if the fertility of the soil is to be maintained—the adoption of a rotation that will occasionally add humus and nitrogen to the soil. The amount of nitrogen lost by fallowing appears to be greater than that withdrawn by the crop of wheat.

Enrichment of Soils by Clover.—This series of experiments, begun in 1902 and continued yearly since that date, has given valuable and interesting data. The plan

consists in growing clover in pots and plots containing soil uniform throughout and of which the nitrogen content had been determined. At the close of each season the clover was taken up, weighed, cut finely, and returned to its respective pot or plot, as the case might be. In the following spring the soil is again analysed and the increase in nitrogen content ascertained. An average of the several experiments to date shows an enrichment in nitrogen of approximately 80 pounds per annum, per acre, in the first 8 inches of soil.

Reclamation of Swamp or Peaty Lands.—A prelimiary series of experiments to learn the special requirements of such soils was commenced this year. Various combinations of phosphoric acid, potash and lime were employed as fertilizers, and oats the crop used to ascertain their effect. The first season's results go to show that potash was the element that gave the largest return, though improved yields also followed the application of basic slag—an alkaline form of phosphoric acid.

Inoculation for the Growth of Legumes.—Further trials with clover and alfalfa have been made, using cultures kindly furnished by the Bureau of Plant Industry, Washington, D.C., and the Bacteriological Department of the Ontario Agricultural College, Guelph. Increased yields were obtained from certain of the inoculated plots. In the majority of the trials, however, the character of the soil and its drainage appeared to be more potent factors than the 'Nitroculture.' From an examination of the roots from the untreated and inoculated seed no material difference either in quantity or size of the nodules was observable. This points to an abundance of the nitrogen-fixing bacteria in the soil of the Experimental Farm, Ottawa.

Fodders and Feeding Stuffs.—The feeding value of a large number of concentrated feeding stuffs upon the Canadian market has been determined. These include the so-called stock foods and various milling and manufactory by-products. The relative nutritive value of the various farm roots has also been under investigation. There is an ever increasing demand from dairymen and stock feeders for information relating to feeds and fodders generally, and consequently the results obtained in the Experimental Farm Laboratory are of wide interest and value.

Investigations Relating to Dairying.—Certain important researches undertaken in connection with the dairying industry have occupied our attention. These include the examination of milk preserved by hydrogen peroxide as received from Denmark, the analysis of a milk powder prepared from whey, an inquiry into the volatile acid content of two-year-old cheese, and several other matters of more or less interest. The report of these investigations is published in Bulletin No. 6, Dairy Series, May, 1905.

Grades of Wheat.—In conjunction with the Cereal Division an investigation to determine the value of the various grades of wheat (Manitoba Inspection Division) was undertaken in the early months of the present year. The results are presented, together with those from the Cereal Division, in Bulletin No. 50 of the Experimental Farms Series.

CEREAL DIVISION.

Owing to the rapid influx of settlers into the great prairies of Manitoba, Saskatchewan and Alberta, and the constant demand for information in regard to the various problems connected with the cultivation of cereals in those districts, it has been deemed advisable for the present to pay special attention in this Division to the needs of these newer provinces, without losing sight, however, of the requirements of those sections of Canada which have been settled for a longer time.

New Varieties of Wheat.—Much attention is being given to the production of new varieties of wheat of high quality suitable to the needs of those sections of our country where the summer is of comparatively short duration and also to the production of such sorts as are required to meet unusual conditions in other districts. Considerable success has already been attained in these lines of work. Many thousand new sorts, chiefly single plants of each, were raised at the Central Farm this year, from among which the most promising kinds were retained for further trial. About a hundred carefully selected strains from the best of the older varieties were also grown. Some of these were rejected on account of weakness of straw, liability to rust, or for other defects, and the remainder will be propagated for test on a larger scale. Among them are some very promising sorts, including some new strains of Red Fife which, being of assured purity and ripening somewhat earlier than the parent variety, are of particular interest.

Other Cereals.—Many new cross-bred sorts of oats, barley and peas were grown at the Central Farm, though not in such large numbers as in the case of wheat. Only a small proportion of these will be retained for further trial, as it is not thought desirable to add to the number of varieties now in general cultivation, except when new sorts of distinct merit are produced.

Test Plots.—The usual comparative tests were carried on for the determination of the relative earliness, productiveness and other qualities of the leading varieties of the different cereals. The rather heavy rain-storms which occurred during the ripening season made the observations on the relative strength of straw particularly interesting. Nearly all varieties gave large returns, and the grain was of good quality.

The uniform test-plots of mangels, carrots, turnips, sugar beets and fodder corn gave very satisfactory results, the abundant rainfall throughout the growing season being favourable to the growth of these crops.

Western Wheat.—The cerealist, in charge of this division, was directed to visit some of the most important sections of Manitoba and Saskatchewan at harvest time to study the effects of soil and climate on the wheat kernel, and also to ascertain what varieties of wheat are to be found mixed with Red Fife, and to what extent these appear to lower the value of the wheat crop in general. Nearly a dozen easily distinguishable sorts were observed, and though the proportions in which some of them are present are small, others were found in very significant amounts. Most of these varieties are inferior to true Red Fife for the production of very strong flour, and their

presence lowers the actual value of the grain, even though the sale price may not be immediately lessened. Unfortunately some of these undesirable sorts have hard red kernels which easily pass for Red Fife.

These facts, as well as the presence in many wheat fields, of wild oats and other dangerous weeds, serve to emphasize the importance of careful methods of soil cultivation and the sowing of clean seed, true to name.

Grades of Wheat.—During the winter months an exhaustive study of the milling and chemical value of the grades of wheat in the Manitoba Inspection Division was made by the cereal and chemical divisions jointly, with a view to ascertaining how far the relative selling prices of the different grades might be considered as an expression of their true value. Much important information was gained by this work, and it was clearly demonstrated that some of the lower grades of wheat which are usually regarded as unfit for flour making (and which sell at relatively low prices in consequence) will produce a considerable amount of flour of good quality, from which excellent bread can be made. So long, however, as the demand of the public is for flour capable of producing extremely high, light loaves of almost white colour, it may be difficult or impossible for millers to grind the lower grades of wheat at a profit. The results of this investigation were published in Bulletin No. 50 of the Experimental Farm series.

POULTRY DIVISION.

The experimental work conducted during the past year in this Division has been of a nature calculated to be useful to the farming community at large. Among the more important experiments made, or investigations continued may be mentioned the following :—

1. Continuation of inquiry, begun three or four years ago, into the cause or causes of so many weak germs in eggs laid, in early spring, by hens which were kept in warm houses and gently stimulated to lay during the winter season. From time of going into winter quarters until spring these fowls had no opportunity to run outside. Their life and treatment during that period were strikingly artificial.

2. Continued investigation was made into what experimental work had shown to be another serious obstacle in the way of the successful hatching of chickens in early spring, and which is doubtless the result of weak germs, viz., the reason for the death about the eighteenth or nineteenth day, of so many fully developed chickens apparently unable to break their way out of the shell.

So many inquiries have been received in reference to these serious drawbacks to the farmers of early chickens as to lead to the conclusion that they are the cause of much loss in time and young stock to many persons and at a period of the season when both are more valuable than later on.

3. During the year an important line of work was begun and carried on with the view of building up and perpetuating prolific egg laying strains of fowls. By means

of trap nests the best laying fowls were detected and placed, according to varieties, in different pens to be used for breeding stock. From the progeny of these fowls the best layers will again be selected. In this way strains of prolific egg layers are likely to be available in the course of a few years. Past experience has shown that many fowls lay so few eggs as to be non-profitable and it is well that such birds, which are really living at the expense of the good layers, should be discovered and done away with.

4. With the object of building up hardy winter egg laying strains of fowls which will prove themselves to be prolific layers and correct market types as well, a poultry house consisting of two divisions with scratching shed attachment to each of the latter was erected and put into operation during the early part of December last. In this house there is no artificial heat. The windows of the scratching sheds, which face south, were opened during fine days of winter, and the fowls thus had the benefit of sunshine, fresh air and exercise, the latter in scratching for the whole grain which was thrown in the straw on the floor of the sheds.

The poultry house proper has a passage way from which the platform underneath the roosts is cleaned, the eggs collected and the mash and cut bone fed. The nests used are of the trap nest system. In this way it is anticipated to not only successfully carry out the work as outlined, but to find a remedy for the weak germs in early spring eggs. Observation so far carefully made points to fresh air and variety in the winter rations as likely means of overcoming the latter difficulty.

5. An important location of tuberculosis in fowls sent from British Columbia, and black-head in turkeys in a central part of Ontario, were features of the work of the year. In both cases post mortem examinations of diseased specimens, which had been forwarded, were made by Dr. Higgins, of the Veterinary Laboratory.

Other useful work in the comparison of different rations in winter egg producers; effects of various foods on fowls of different ages; experiments in artificial incubation and brooding were carried on and resulted in the obtaining of data which will be found at length in the Departmental Report.

BRANCH FARMS.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES AT NAPPAN, N.S.

Experimental work has been conducted with many different classes of agricultural products during the past year, especially with oats, barley and wheat, to gain information as to their relative productiveness, earliness and quality and to ascertain those most suitable for growing in the Maritime Provinces. Similar tests have also been made with pease, Indian corn, field roots and potatoes, with like objects in view. In this way very useful information has been obtained as to the most profitable varieties of these several farm products to grow in the Maritime Provinces.

The field crops of hay at Nappan have been very good, much above the average Oats, also, have given excellent returns.

Further experiments have been conducted in the feeding of swine to learn which are the cheapest foods to use there for the production of pork.

Tests have also been continued with fruits, both large and small. Many varieties of apples have yielded well; but plums, pears and cherries have given a light crop. Most sorts of small fruits have given good results. Further information has also been gained by the testing of vegetables, as to the varieties best suited to that part of the Dominion.

Many examples of all these products have been brought together and displayed at some of the principal agricultural exhibitions held in Nova Scotia, New Brunswick and Prince Edward Island, where they have been much admired.

EXPERIMENTAL FARM FOR MANITOBA, AT BRANDON.

Further experiments have been undertaken at the Brandon Farm in the feeding of steers, using such kinds of food as are generally available to farmers in Manitoba, to learn which food can be fed to the greatest advantage and produce beef at the least cost. Pure-bred cattle of several breeds are kept here. Male animals are also available for the improvement of stock.

A large number of varieties of cereals, Indian corn, field roots and potatoes have been tested in uniform plots side by side, also grasses, clovers and other useful plants, to find out which sorts are earliest, most productive and best in quality when grown in the climate of Manitoba.

Some useful trials have also been made with poultry, looking to the economical production of eggs as well as of fowl suitable for the table.

The orchards of cross-bred and seedlings apples are making excellent progress and quite a number of good varieties fruited this year. The best of these have been selected for propagation, the inferior sorts being rooted up to make space for new sorts annually produced.

The forest belts, timber plantations, avenues and hedges on this farm continue to attract much attention, and the success attending this branch of the work has awakened a general interest in tree planting in Manitoba.

A considerable distribution of young trees and shrubs is made yearly among the farmers of this province, while a large quantity of tree seeds is also sent out. As a result of this work, dwellings and farm buildings have been afforded shelter and many homes have been made more beautiful and attractive.

Experiments are also being conducted with the native plum, by selecting the many varieties which have been brought together and which have fruited, choosing for propagation only those which have shown superior earliness and excellence.

EXPERIMENTAL FARM FOR THE NORTHWEST TERRITORIES.

The branch Experimental Farm for the Northwest Territories is located at Indian Head, in the new province of Saskatchewan. At the outset this piece of land was bare prairie and in such open localities crops are liable to injury from strong winds, which prevail in some years. By the planting of a large number of trees and shrubs, satisfactory shelter has been obtained and the appearance and surroundings of the farm greatly changed for the better. The shelter afforded by the trees does much to protect the growing crops from injury and thus demonstrates the usefulness of trees for this purpose.

Many individual farmers also have planted considerable numbers of trees, thus following to some extent the example of the Experimental Farm, in which they have been aided by the annual distribution of packages of young trees and tree seeds from the Brandon and Indian Head Farms. From 1,000 to 1,500 pounds of seed of native trees are annually distributed from these two western farms.

Excellent fields of grain have been grown at the Indian Head Farm during the past year. For instance, ten acres of Preston wheat gave a yield of 460 bushels, or 46 bushels per acre. The yields of oats and barley were also very heavy.

The orchards of young fruit trees are fast coming into bearing and attract much attention from visitors. Many varieties of cross-bred apples and plums bore well during the past season.

Many experiments with alfalfa have been conducted during the past year. Plots of half an acre each have been grown side by side to test the relative hardiness and usefulness of seed obtained from different localities. Seed for some of these experiments has been kindly supplied by the Bureau of Plant Industry, United States Department of Agriculture, Washington, D.C., some of it brought from Turkestan as well as from several special localities in the United States, including Utah and Montana. The seed sown on some of these plots has been inoculated with the special bacteria intended to promote the growth of alfalfa, while that sown on other plots alongside has not been inoculated. The results of these and many other experiments will be found in the Annual Report of the Experimental Farms.

The usual uniform tests of all the more important cereals, Indian corn, field roots and potatoes have been continued here and much information gained thereby.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA AT AGASSIZ.

The climate of many parts of British Columbia being well adapted for nearly all the fruits grown in temperate climates, a considerable proportion of the land under cultivation at the Agassiz Farm has been devoted to orchard purposes. A large collection of varieties of all the principal fruits has been brought together from many parts of the world and these are grown side by side. As they bear fruit, their relative quality is ascertained and only those which have superior merit are kept, the others being rooted up and, as far as practicable, new sorts planted in their place. At the recent

Dominion Exhibition at New Westminster a very fine collection of the fruit grown at Agassiz was displayed. This exhibit, which contained many new sorts, was much admired.

Recently a commercial orchard has been started, consisting of ten or twelve trees of each of those varieties which are considered of special value, the idea being to show the relative returns which may be had from cultivating these various sorts.

Experiments have again been conducted with varieties of all the more important farm crops to gain information as to the relative earliness, productiveness and quality of each variety. Samples of those sorts of grain which these tests indicate are likely to be most useful are sent to farmers in that province for trial.

Trials are also made from year to year, at the Agassiz Farm, with different varieties of clovers, grasses and other fodder plants.

Shorthorn cattle, Dorset horned sheep and Yorkshire and Berkshire pigs are kept on this farm, and the animals are all doing well.

The Superintendent of the Agassiz Farm attends meetings of farmers in different parts of the province, especially in those sections of the interior districts where fruit is extensively cultivated. His wide experience enables him to render much assistance to those embarking on this industry, and his efforts in this direction are much appreciated.

GENERAL CROPS.

The Dominion of Canada has again had a bountiful harvest, and in nearly all parts of the country the returns to the farmers have been of a most encouraging character. Successive favourable crops have induced large numbers of people to emigrate to this country, and the area of land under cultivation is rapidly increasing from year to year, and, in turn, the total volume of crops produced is greatly expanding.

ONTARIO.

In this province the hay has been unusually heavy, and the larger part of the crop has been well saved. In certain districts the early cut hay was injured somewhat by rain, but the entire loss from this cause has been comparatively trifling.

Fall wheat has produced an excellent crop, one of the largest for years; while the injury from insect pests has been very slight and comparatively little rust has been reported.

Spring wheat, of which the total area has decreased, has also given more than an average yield, while the quality is good and the kernel plump.

Barley is growing in popularity on account of the excellent results obtained from it for feeding purposes. The acreage devoted to this grain in Ontario is yearly increasing. This crop is well above the average.

The oat crop, which in this province is now the most important of all the cereals, is in advance of last year, when the crop was one of the largest on record. The crop this year is estimated at over 105,000,000 bushels. Most of this has been well saved and is of good quality.

Cold, wet weather prevailed shortly after the corn was planted, which was discouraging; but warm weather in July gave it a great stimulus and it developed rapidly, and by the time it was ready to cut it had made more than the average growth and turned out very satisfactorily.

In some districts, field roots have been injured by the 'turnip aphis' and other insects, which have materially reduced the crop. In other sections these roots have done well and given good returns. The weather has been favourable for growing and harvesting them.

Potatoes have yielded well in most localities and almost up to the time of digging were believed to be nearly free from rot ; but about this time rot set in and prevailed to such an extent as to reduce the value of the crop considerably. On the whole, however, there has been less rot than usual.

Under the stimulus of favourable conditions, most pastures have been good, and the dairy industry has flourished. High prices have stimulated production and the exports both of cheese and butter have been large and the returns very remunerative. Pork production has been well sustained, and the exports heavy.

The yield of apples is considerably less than last year, but as regards size and quality they are above the average. Peaches and pears have both given good crops, while plums and cherries have been below the average. Grapes have yielded largely and ripened well, and all sorts of small fruits have given satisfactory returns.

QUEBEC.

In the westerly counties of the province of Quebec there has been sufficient rainfall, the hay has yielded well and pastures have kept green and fresh and the output of the dairies has been heavy. The eastern counties have, however, suffered considerably from draught and in those districts there has been a lessening of the output of butter and cheese. Stock generally is reported to be in good condition.

Spring wheat has done well and in some districts exceptionally good returns have been obtained.

Oats are generally a very good crop and are said to be fully up to the average of past years.

Barley has succeeded well and given good returns, while the grain is also of good quality.

Corn in some parts has given an unusually good crop, while in other localities it is below the average. Field roots have given very good returns, while pease have yielded exceptionally well.

The apple crop in Quebec has been less than usual: but the high prices obtained have in most districts helped to compensate for the lighter crop.

THE MARITIME PROVINCES.

In Nova Scotia, New Brunswick and Prince Edward Island, notwithstanding that the season opened late and was cold and wet, thus delaying seeding, farm crops have been generally good.

Hay yielded a crop considerably above the average and most of it has been well saved.

Oats, also, have given excellent returns, in most localities much above the average, and the grain is plump and good. Barley has given a fair average yield. The yield of wheat has varied considerably in different districts ; but on the whole the returns are satisfactory.

Indian corn, although somewhat late in starting, had, in midsummer, favourable weather for growth and has given a weight of crop considerably above the average. Potatoes have also given a yield in excess of the average.

Field roots have given a fairly good crop, although not quite so large as was expected. Dry, unfavourable weather prevailed during the last few weeks of their growth, which prevented from reaching their usual size.

The apple crop has been rather light. The fruit, however, is of excellent quality and the high prices prevailing will probably fully make up for the shortage in yield.

MANITOBA.

The results of the harvest in this province have been most gratifying. The growth of the straw has been heavy, which has made threshing expensive; but the yield of grain has been good, the weight of crop in many instances being much heavier than was anticipated. It is expected that the average yield of all sorts of grain will be considerably higher than last year. As wheat maintains a good price, the results must be highly remunerative to those who have grown this cereal on an extensive scale.

The oat crop in many localities has been extraordinary in its weight, while the quality of the grain has been good. Barley, of which a considerable quantity is now grown, has given very satisfactory returns. The weather has been fine for harvesting and threshing; but the crop is so large and heavy that all the threshers available will be kept very busy until near the end of the year.

The stock and dairy interests are making satisfactory progress.

SASKATCHEWAN.

The crops in this province have never been better. The wheat in many localities has given from 30 to 40 bushels per acre on summer fallowed land: and, in some places, more than this.

Under my instructions the director of experimental farms visited Saskatchewan just before and during harvest and travelled over a large area of country favourable for wheat growing. He reported the crops as averaging remarkably well, and the returns since had from the threshers show that the estimates then formed have been substantially realized. A large area of new land has been got ready for crop next season, and with the rapid addition made to the population by the active immigration which has gone on during the past two or three years, will soon result in a great increase in the area of land under grain. The grain this year was practically all cut before frost occurred. There has been some injury from smut; but this is almost inexcusable, as the disease is so readily and cheaply prevented by treating the seed with copper sulphate or bluestone, before sowing. Several small patches of rust were met with; but the proportion of grain so affected was relatively so small as to be scarcely worth mentioning. Pease, Indian corn, field roots and potatoes all gave excellent crops.

ALBERTA.

In Southern Alberta, winter wheat has of late been grown with much success, and in that part of the province this crop is commanding more attention than any other, and at the present it occupies a far larger area than spring wheat. The variety known as Turkey Red is the sort mostly grown. This is a winter wheat of high quality, and in Southern Alberta it has been very productive. The soil and climate here seem well adapted to the growth of winter wheat, and its cultivation is rapidly extending.

All through Northern Alberta winter wheat has also been tested, and the results had during the past season have been quite encouraging. Spring wheat, however, holds its own in this section, and as yet occupies much the largest area. Oats have given remarkable yields of very plump grain. Barley, also has given very satisfactory crops. At Raymond, the centre of the district, occupied by the Mormons, an extensive beet sugar industry has sprung up and large quantities of sugar are being made. It is evident that the soil and climate here will produce sugar beets with an unusually high percentage of sugar.

BRITISH COLUMBIA.

The hay crop, which is one of the most important in this province, has been unusually large, and has been saved in good condition. All sorts of grain have done well. Oats occupy the larger area and have given a heavy yield of excellent grain. Barley and pease, although less grown, have been equally successful. Wheat is not much cultivated in this province; but this year has done very well except in some sections where the 'midge' has affected the crop and considerably reduced the yield. Indian corn and field roots have also done well and produced large weights of fodder.

The fruit crop, which is fast becoming an important one in this province, has, on the whole, been fairly satisfactory. The apple crop has been a medium one. Pears, also, have done well. Plums have produced a fair crop in most localities and in some districts the yield has been heavy. Small fruits of all sorts have given satisfactory returns.

The growing of hops is extending, the crop this year is good and high prices are expected.

The dairying industry is growing; but the production of butter is not yet nearly sufficient to provide for the needs of the home market. The production of eggs and poultry is also steadily increasing.

HEALTH OF ANIMALS BRANCH.

The operations of this branch of my department, which has now been almost entirely reorganized, have during the past year been characterized by great activity.

The live stock interests of the Dominion are constantly and rapidly increasing in importance and, especially in view of the widely varying conditions prevailing in different parts of the country and the consequent difficulties to be overcome, the value of effective machinery for the control and, where possible, the eradication of contagious animal diseases cannot be over-estimated.

Arrangements have been completed for the erection of new quarantine buildings at St. John and Halifax on the convenient sites recently secured at these places.

At Sherbrooke, P. Q., a point selected owing to its importance as a railway centre, a site has been secured for a small quarantine station to be erected during the coming season.

At Bridgeburg, Ontario, where owing to the large export trade in live stock at that point, it has been found necessary to station a permanent inspector, facilities for the examination of stock have been, at my request, furnished by the railway companies interested, although it will probably be necessary, in the near future, to provide facilities for the detention of animals imported subject to quarantine.

A building long required for this purpose has now been completed at Windsor, Ontario, and greatly adds to the safety and efficiency of the service there.

At Willow Creek, Saskatchewan, and at Gateway, Nelson and Midway, B.C., stations similar to those erected last year at other points on the boundary line in Western Canada, have been constructed and are now in operation.

At Sumas and Douglas, B.C., detention corrals have been erected by the railway companies under the supervision of my officers.

Satisfactory arrangements have been made for the veterinary examination of animals, not subject to quarantine, at the various inspection ports, although this is, in some cases, a matter of considerable inconvenience, owing to the isolated nature of the points at which railways cross the boundary.

Owing to a well-founded suspicion that some outbreaks of hog cholera owed their origin to American hogs in course of transit through Western Ontario I deemed it advisable last spring to issue new regulations for the control of this traffic, which is now being conducted on a much more satisfactory basis than formerly.

Owing to an alleged scarcity of material in Canada some of our packers began early in the season to import from United States markets hogs for immediate slaughter. While every possible precaution has been taken to prevent the introduction of disease through this channel, the trade is, undoubtedly, a most dangerous one, and I am seriously considering the advisability of taking steps to prevent its continuation beyond the present season.

I am glad to say that so far as hog cholera in Canada is concerned the efforts of the department to bring about its eradication have met with a very gratifying measure of success, as is evidenced by the fact that the number of outbreaks dealt with during the past year has been only 47 as compared with 151 in 1903-04, 360 in 1902-03, and 313 in 1901-02. It is also worthy of note that the disease has been almost entirely confined to one district, whereas it formerly threatened to seriously hamper, if not destroy, the hog industry of the country as a whole.

By far the most serious matter dealt with during the past year by the officers of this branch, and one which has taxed their energies to the utmost, has been the suppression of glanders.

This disease, one of the most dangerous and insidious maladies affecting any of the domestic animals, has been found to exist to a very serious extent among horses in several widely distant parts of the Dominion. The policy now pursued in connection with this disease, including as it does the payment of compensation to the owners of slaughtered horses, is, however, of such a nature as to offer good grounds for the hope that it will shortly be possible to control its ravages, and so prevent the heavy annual loss arising from this cause.

The order for the compulsory treatment last year of the cattle in the mange infected area in Alberta and Assiniboia, having given great satisfaction and proved highly beneficial to the animals dealt with, I thought it advisable to complete the work thus begun by again enforcing a similar measure. I am pleased to say that the results this season have been even more satisfactory than they were in 1904, as many owners who were at first in doubt as to the advisability of subjecting their animals to the treatment required by the regulations, were this year, after seeing the satisfactory results on stock of others, more than willing to comply with the requirements of the department. In order to show the extensive nature of the operations undertaken by the department in this connection, I need only say that 547,705 head of cattle were treated in accordance with the terms of the order.

The disease referred to in my report of last year as dourine or maladie du coit, which made its appearance last year among the horses of Southern Alberta is, this season, receiving careful attention at the hands of my officers.

A considerable number of affected animals have been destroyed while those suspected of being infected are quarantined until such time as it is possible to decide accurately as to their condition.

In order that this disease, which is nowhere thoroughly understood, and which appears to vary in its manifestations under different climatic conditions, may be care-

fully observed with a view to the ultimate adoption of the most intelligent and economical policy possible, I have established an experiment station at the point where it was originally discovered near Lethbridge. This station is under the care of a qualified comparative pathologist, who is closely watching the affected animals in his care, and at the same time carrying on a series of experiments having for their object the acquiring of a more definite knowledge as to its nature and characteristics than is at present at our command.

As will be seen from the report of the veterinary director general, the investigation into the nature and cause of Pictou cattle disease, which has been carried on during the past two years at Antigonish, N.S., has proved beyond a doubt that this malady, which has long been looked upon and dealt with as if it were of a contagious nature, is in reality due to the ingestion, under certain conditions, of the weed known as Senecio Jacobea, or Ragwort. This conclusion, which I may say, is beyond question, will enable the department to bring to an end the policy of slaughter and compensation which, since 1882 has been followed in dealing with this disease. In this connection, I may add that, with a view to ascertaining whether or not sheep or goats may be used with impunity in eradicating the dangerous and troublesome weed above referred to, a number of these animals are being at present maintained at the station, on which also a further short series of experiments with cattle is being carried on.

I regret that I cannot report any satisfactory progress in the investigation at Winnipeg into the nature of the disease of horses locally known as swamp fever. Some work has been done by the pathologists during the past season, but their efforts have been seriously crippled by lack of material, the malady having largely decreased in prevalence during recent years. This condition of affairs, if continued, will, I need scarcely say be likely to prove even more satisfactory to those interested than the most full and comp'ete information as to the nature of the trouble.

The work of the biological laboratory, established in 1902 in connection with this branch, is steadily increasing. The number of pathological specimens forwarded for examination by our inspectors and others has, during the past year, nearly trebled. The importance of this work cannot be overestimated, as reliable information as to the nature of outbreaks of disease throughout the country is simply invaluable to owners of stock. Satisfactory progress is being made in other lines, such as the preparation of mallein, which in view of our present active policy in connection with glanders, would otherwise have involved a very considerable expenditure. As the institution grows, it is my intention to begin the manufacture of a number of similar preparations now used in connection with the diagnosis or treatment of animal plagues.

Several outbreaks of anthrax have been reported during the year. All cases, however, have been promptly dealt with, with the result that the outbreaks have, in this way, been confined, to the premises where the disease originally made its appearance. I regret to say, however, that in two instances human lives were lost through accidental inoculation before the inspectors had an opportunity of warning the owners as to the dangerous nature of the disease.

Our present policy with regard to tuberculosis appears to be giving satisfaction. It is to be hoped that the investigations now in progress in various countries will shortly result in the development of an intelligent policy of dealing with this serious malady. Meanwhile I do not think that anything would be gained by the adoption of more stringent regulations than those now in force.

A somewhat serious outbreak of sheep scab, which was discovered last winter in Ontario, was promptly dealt with by my officers with most satisfactory results. So far as can at present be ascertained, the disease has been completely stamped out, although as a measure of precaution, the district recently infected is being kept under close observation.

Considerable improvement has been brought about in the methods of handling live stock in transit, although there yet remains much to be done in this direction.

The inspection of live stock for export has been carefully and systematically conducted with a view to the safeguarding of this immense and constantly increasing trade.

In this connection it is gratifying to be able to report that, during the past season, upwards of 50,000 head of cattle were shipped from the Canadian Northwest, this being a marked increase over the numbers sent forward in previous years.

ARCHIVES BRANCH.

Last year I referred to the action taken by the government to centralize the records of the Crown. Before due effect could be given to the decision of Council, it was found to be expedient to construct a fire-proof building for the reception and preservation of documents. A substantial edifice has been erected, and within a few months the archives from several departments will be removed thereto.

In the report of the archives branch for 1904, which has been distributed in both languages, the archivist recommends the preparation of a guide to the sources of Canadian history. Scattered throughout the Dominion there are numerous collections of useful papers to which the attention of students and inquirers should be directed. To transcribe these records for our archives would be the work of years, and to acquire them would be difficult, and often impossible. I believe, however, that the public interest would be served if the papers were examined and summarized. I have, therefore, authorized an investigation to be made in the different provinces, and for a report to be prepared, showing (1) the location and condition of records, (2) the nature of the documents and the period they cover, (3) the terms or conditions under which they may be examined or copied by the public. When the information is complete the matter will be arranged in a convenient form so that there will be no difficulty in locating all the documents of a given period which are known to the archives branch.

The Rev. Father O'Leary, some time professor of history in Laval University, has been engaged for this work in the province of Quebec, and I am pleased to say that his efforts have been very successful during the past four months. His Grace the Arch-

bishop of Quebec has shown his appreciation of the work by issuing a circular to the priests and custodians of records in his diocese, inviting them to give free access to their papers for the purpose we have in hand. The investigation of the archives in the maritime provinces has been entrusted to Dr. James Hannay, the historian, who is particularly qualified to fulfil the task assigned to him. Work in the province of Ontario and the west will be conducted by members of the staff. Dr. Bain, of the Toronto Public Library, Professor Wrong, of Toronto University, and Professor Shortt, of Queen's University have generously offered to assist in the location of documents and in the preparation of the information for publication.

It is believed that this work will give a fair idea of our resources, and in cases where records are exposed to danger, steps may be taken to insure their safety.

The card index of the volumes already in the archives is being carried on as rapidly as possible, and several cases of loose documents have been arranged and classified. In order to meet a demand for information concerning the development of our constitution, a selection has been made from the more important documents from the date of the establishment of the Sovereign Council until the Constitutional Act. The volume will contain authentic copies of the treaties, of the articles of capitulation and the text of the Acts of 1774 and 1791. It is hoped that the volume may be ready for distribution towards the close of the approaching session.

As a result of the research of the late M. Richard, and of investigations since made by the department, there is naturally an accumulation of documents in Europe ready for transcription. The facilities for copying have been increased this year in accordance with the augmentation of the vote of last session. It will be seen from the archivist's report that sufficient work has been outlined in the Public Record Office to occupy the present staff for several years. The earlier records of the Hudson's Bay Company at the head office in Lime street, and the Canadian papers in the General Post Office are being transcribed, and an examination has been made of the Selkirk papers in Scotland. This collection, of over three thousand documents, proves to be of unusual interest and throws new light on affairs between the years 1810 and 1840. The work that is being done is of permanent value, and I have reason to hope that before many years the archives will be widely recognized as an important branch of the public service.

During the past year the department has received the following volumes.

LONDON OFFICE.

Nova Scotia—

Board of Trade, 1774-1790.
Colonial Correspondence, 1775-1801.
Dartmouth Papers, 1776.
Governors and Acting Governors, 1764-1799.
Militia and Naval Correspondence, 1794-1795.
Rolls of naval returns and maps, 1774-1790.

Maps and Plans—

Plan of Quebec.

Admiralty masters logs, 1759.

Miscellaneous papers, 1777-1786.

Survey of lands granted to the loyal disbanded emigrants and civil list of the navy and army, 1785.

Freeling's report from the P.M.G., 1790-1794.

Receiver General's entry book.

Observations on the report of the commissioners committee of inquiry orders, 1737-1771.

Commission book, 1759-1784.

Treasury, 1760-1771.

Instructions to agents.

American letter book, 1773-1783.

Canadian records, loose MSS.

Hudsons Bay Co. memorial book.

Correspondence of Sir John Harvey, 1839-1840.

America and West Indies, 1782-1785.

America and West Indies, various dates.

Cape Breton colonial correspondence, 1790-1801.

Governors and Acting Governors, 1791-1798.

Board of Trade naval returns from Port Sydney, 1785-1806; from Ports Halifax and Cumberland, 1752-1753.

PARIS.

Plan de la concession Begun.

Role des habitants refugées, 1762-1773.

Troupes compagnies détachées, 1658-1736.

Moreau St. Mery, 1697-1790.

Domaine d'Occident, 1736-1748.

Concessions reglements et arrêts.

Ile Royale, 1716-1742.

Louisbourg.

Ordonnance, 1733.

Fois et Hommage, 1723-1726.

Inventaire de l'artillerie, 1565.

Recensement Plaisance, 1671-1711.

" Terreneuve, 1687-1704.

" Port St. Pierre, 1720-1728.

" Miquelon, 1776-1784.

" Isle St. Jean, 1728-1758.

" Mount St. Louis, 1699-1713.

" Havre aux Sauvages, 1719-1728.

Famile emigre, 1790.

Depots des Fortifications des Colonies.

Voyage du Sr. de la Regne, 1752.

III.—PATENTS OF INVENTION.

The following comparative tables show the transactions of the Patent Branch of the Department of Agriculture, from November 1, 1895, to October 31, 1905:—

Years.	Applications for Patents.	Patents and Certificates Granted.			Caveats.	Assignments of Patents.
		Patents.	Certificates.	Total.		
1895.	3,387	3,074	422	3,496	343	1,550
1896.	3,728	3,488	413	3,901	306	1,420
1897.	4,300	4,013	284	4,297	377	1,551
1898.	4,200	3,611	262	3,873	363	1,657
1899.	4,305	3,151	412	3,563	311	1,467
1900.	4,628	4,522	482	5,004	283	1,914
1901.	4,817	4,766	551	5,317	302	2,323
1902.	5,301	4,391	510	4,901	317	2,339
1903.	5,912	5,673	432	6,105	328	2,384
1904.	6,061	6,091	517	6,607	303	2,472
1905.	6,355	6,111	536	6,647	300	2,576

Detailed Statement, Patent Office Fees.

Years.	Patents.	Assign ments.	Caveats.	Copies.	Subscription to 'Patent Record.'	Notices to Apply for Patent.	Sundries	Total.
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
1895. .	78,223 52	3,194 00	1,854 35	761 54	245 98	1,951 30	129 79	86,358 48
1896. .	85,060 61	3,130 56	1,790 65	898 27	420 60	2,245 79	57 04	93,532 52
1897. .	93,298 16	3,250 23	2,108 57	969 33	252 53	2,110 89	128 21	102,117 92
1898. .	91,176 44	3,641 90	1,935 74	706 50	266 44	1,463 10	172 73	99,361 95
1899. .	98,669 92	3,781 71	1,533 25	1,028 80	198 05	1,912 00	137 83	107,261 56
1900. .	104,848 96	4,255 40	1,405 00	932 54	552 71	1,742 70	115 15	113,852 46
1901. .	109,985 59	4,506 07	1,479 25	882 87	592 47	2,484 90	133 22	120,064 37
1902. .	119,766 43	5,079 20	1,565 35	1,112 59	327 95	1,883 00	162 30	129,896 82
1903. .	130,561 00	5,309 00	1,803 00	1,067 82	373 75	1,994 25	254 99	141,363 81
1904. .	134,676 47	5,831 10	1,660 44	1,201 08	391 75	1,827 25	308 01	145,896 10
1905. .	140,588 34	5,842 75	1,650 00	1,566 69	668 80	1,491 50	277 37	152,085 45

The Patent Office fees received during the year ended October 31, show a surplus of $87,911.12 over the working expenses of the office as per subjoined table.

Receipts.	$ cts.	Expenditure.	$ cts.
Cash received	152,085 45	Salaries	44,430 00
Cash refunded	2,744 33	'Patent Record'	17,000 00
			61,430 00
		Receipts over expenditure	87,911 12
Net cash	149,341 12		149,341 12

The following is a table of the countries of residence of the patentees for the years named:—

Countries.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
Canada	707	740	756	710	601	707	744	654	794	837	888
England	179	215	266	261	205	254	256	239	248	310	309
United States	1,980	2,270	2,666	2,312	2,038	3,216	3,423	3,164	4,222	4,417	4,451
France	39	21	24	26	36	40	50	45	57	65	62
Germany	102	117	126	124	112	157	125	100	116	185	171
Other countries	85	122	173	165	159	148	168	189	236	277	230
Total	3,074	3,488	4,013	3,611	3,151	4,522	4,766	4,391	5,673	6,091	6,111

The Canadian patentees were distributed among the provinces of the Dominion as follows:—

Provinces.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
Ontario	451	430	464	383	310	396	407	373	438	477	509
Quebec	177	201	178	171	160	164	185	148	194	171	206
New Brunswick	13	12	20	26	7	14	26	14	18	33	26
Nova Scotia	19	32	22	27	18	21	17	26	22	35	27
Prince Edward Isl'd.	6	2	2	4	8	1	0	1	2	1	1
Manitoba and the N.-W. Territories	18	28	36	45	50	42	52	40	64	61	58
British Columbia	23	35	34	54	48	69	57	52	56	59	61
Total	707	740	756	710	601	707	744	654	794	837	888

Patents issued to residents of Canada, with the ratio of population to each patent granted:—

Provinces.	Patents.	One to every
British Columbia	61	2,929
Ontario	509	4,289
Quebec	206	8,005
Manitoba and North-west Territories	58	8,050
New Brunswick	26	12,736
Nova Scotia	27	17,022
Prince Edward Island	1	103,259
Total	888	

Statement of the number of patents issued under the Act of the session of 1892, 55-56 Vic., chap. 24, on which the fees are paid for periods of six, twelve or eighteen years, at the option of the patentee: and of patents on which certificates of payments of fees were attached after the issue of patents originally granted for periods of six and twelve years.

Years.	Periods for which the Fees were paid on first issue.			Patents on which Certificates were attached after issue.	
	6 years.	12 years.	18 years.	6 years.	12 years.
1895 (12 months ended October 31)	3,049	5	20	.....	.....
1896 " "	3,443	11	34	2	.....
1897 " "	3,981	8	24	15	3
1898 " "	3,586	3	22	176	9
1899 " "	3,125	3	23	291	13
1900 " "	4,489	4	29	366	21
1901 " "	4,719	8	39	408	31
1902 " "	4,362	2	27	412	39
1903 " "	5,630	2	41	405	27
1904 " "	6,059	9	23	493	24
1905 " "	6,079	4	28	505	31

The preceding tables show that there has been an increase in most of the transactions of the Patent Office during the past year. The total revenue for the year ended October 31, 1905, was $152,085.45, exceeding all previous years; resulting in an increase of $6,189.35 over the preceding year, and a surplus of $87,911.12 over the expenditure.

The total number of reports issued by the examiners during the year was 8,671.

Out of the total number of patents granted during the year, there were 4,451 issued to inventors resident in the United States, being nearly 73 per centum of the whole issue.

During the year there were eight patents re-issued.

Patentees who are resident in foreign countries, continue to avail themselves of the privilege granted under section 8 of 'The Patent Act,' by giving notice of intention to apply for patents in Canada. The number of these notices registered during the year was 746, yielding a revenue of $1,491.50.

The 'Canadian Patent Office Record' continues to be published monthly. It contains a transcript, with drawings, of all claims of patents granted, dates of filing, dates of issue, and length of term for which fees have been paid; also names and residences of patentees, as well as containing a list of registered copyrights, trade marks and designs. This publication is of great and increasing value to all who are interested in patents, trade marks, copyrights and designs. It affords convenient and easy reference to the claims of all patents granted in Canada, and thus enables both inventors and the public to see exactly what is patented. This publication is supplied to foreign patent offices, and is also sent without charge to the free libraries in Canada, and in foreign countries, with the object of diffusing in the public interest the information therein contained. The publication is also furnished to the public at $2 per annum, or 20 cents for single monthly numbers.

This branch of my department is indebted to the British, Commonwealth of Australia, United States, French, Mexican and Japanese Patent Offices, for their official reports.

It cannot be too strongly urged, that patentees and their solicitors should not delay until the last day in remitting partial fees of the six and twelve years' terms. If these fees are received after the expiry of either term, the patents will cease and determine, the Commissioner not being vested with the discretionary power, under any circumstances, to revive them. A revival can only be secured by a private Act of Parliament, the obtaining of which entails considerable expense to the patentee. It may further be added that the Committee on Private Bills usually discourages applications of this kind, on the ground that no one should be denied the right of manufacturing, using or vending an invention which has become the property of the public. Exceptional cases may arise, however, in which the patentee or the holder of the patent may be justly entitled to relief from parliament.

It is in the interest of both the applicants and the office that great care should be taken by applicants and their attorneys in the preparation of the papers and drawings which are required by the rules and forms.

Since the Act of 1903, amending the Patent Act, came into force (August 13), a very large number of applications have been received from patentees to have their patents made subject to the conditions of section seven. In dealing with these applications the requirement of the law in regard to manufacture has been kept in mind. The applications which have been granted are those relating to patents for inventions such as the following: An art or process; improvements on a patented invention when both patents are not held by the same person; appliances or apparatus used in connection with railways, telegraph, telephone and lighting systems, and other works usually under the control of public or large private corporations, and which appliances or apparatus cannot be installed or constructed without the consent of such corporations; and certain inventions which are manufactured or constructed only to order, and are not, according to custom, carried in stock.

The total number of patents placed under this section from August 13, 1903, to October 31, 1905, is 5,102.

In dealing with applications for extensions of time to manufacture and import, the law is applied according to its strict and literal meaning, and the applications are granted only when the applicant has clearly established to the satisfaction of the office, by affidavit or solemn declaration, that the failure to manufacture or import is due to no fault of his, but to reasons beyond his control. Although these applications continue to be quite numerous, it is seldom that such a case is made out as warrants the granting of the application.

The clerical work of this branch of my department in the matter of the transaction of its correspondence, is more prompt than at any time in its recent history, and I am further pleased to say that the condition of the Examiners' Divisions has greatly improved.

Impressed with the justice of the plea of the inventors and manufacturers for more prompt services in dealing with applications for patents, I have from time to time augmented this staff by appointing graduates in the various branches of science, with the gratifying result that applications are now considered and dealt with within a month to three months from the date of filing, instead of, as in former years, from six months to eighteen months.

The growth of the business of this office, and the accumulation of its records, called for more filing space, and to this end I have had suitable steel shelving, with drawers, substituted for the wooden cupboards in the record room, thus economizing in space, rendering the room more fire-proof, as well as providing a more sanitary condition than was experienced when the cumbersome cupboards, occupying much space, were in use. The replacing of these wooden cases by steel shelving, has multiplied the filing space about two-thirds.

IV.—COPYRIGHTS, TRADE MARKS, INDUSTRIAL DESIGNS AND TIMBER MARKS.

STATEMENT of fees received by the Copyright and Trade Mark Branch from November 1, 1904, to October 31, 1905.

Months.	Trade Marks.	Copyrights.	Designs.	Timber Marks.	Assignments.	Copies.	Totals.
1904.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
November	1,623 33	86 00	55 00	6 00	18 44	4 50	1,793 27
December	1,338 25	130 00	130 00	4 00	6 00	10 00	1,618 25
1905.							
January	1,976 90	93 10	46 00	2 00	45 00	23 50	2,186 50
February	1,414 85	72 00	80 50	10 00	6 00	12 50	1,595 85
March	2,002 25	108 50	88 00	.....	103 00	18 50	2,320 25
April	2,134 20	98 50	97 00	4 00	45 00	15 50	2,394 20
May	1,851 50	89 50	74 00	6 00	36 00	25 50	2,082 50
June	1,461 40	129 50	60 00	10 00	21 00	28 50	1,710 40
July	1,895 40	91 50	50 00	.....	10 00	21 00	2,073 90
August	1,740 00	107 50	43 00	4 00	11 00	16 00	1,921 50
September	1,975 25	134 50	92 00	2 00	14 00	21 00	2,238 75
October	1,523 90	145 00	60 00	8 00	6 00	28 50	1,771 40
Total	20,937 23	1,285 60	875 50	56 00	327 44	225 00	23,706 77

The following table shows a comparative statement of the business of this branch from 1894 to October 31, 1905, inclusive:—

Year.	Letters Received.	Letters Sent.	Copyrights Registered.	Certificates of Copyrights.	Trade Marks Registered.	Industrial Designs Registered.	Timber Marks Registered.	Assignments Registered.	Fees Received.
									$ cts.
1894	1,882	2,720	546	216	311	39	20	77	9,463 63
1895	2,184	3,279	601	163	374	52	20	70	11,673 26
1896	2,185	3,437	653	212	331	68	14	161	10,579 54
1897	2,606	3,548	756	273	446	75	13	94	14,101 93
1898	2,576	3,453	734	275	423	136	15	114	13,535 17
1899	2,487	2,910	702	237	430	112	5	117	14,161 28
1900	2,679	3,213	893	247	447	126	22	136	14,782 53
1901	2,605	3,211	888	249	521	146	24	183	16,823 26
1902	2,687	3,257	900	196	528	164	26	222	17,703 09
1903	2,687	3,211	900	176	557	88	23	272	18,086 25
1904	2,858	3,293	1,106	228	621	107	25	118	20,647 30
1905	3,367	3,902	1,130	189	661	139	22	154	23,706 77

The particulars of the registrations made by the Trade Mark and Copyright Branch of the Department of Agriculture during the year ended October 31, 1905, are as follows:—

I. Copyrights—		
Full copyrights without certificates	876	
Full copyrights with certificates	189	
Temporary copyrights without certificates	9	
Temporary copyrights with certificates	2	
Interim copyrights without certificates	39	
Interim copyrights with certificates	15	
		1,130
II. Trade marks		661
Renewals of specific trade marks		5
III. Industrial designs		139
Renewals		6
IV. Timber marks		22
V. Assignments		154
Total registrations		2,117

V.—PUBLIC HEALTH AND QUARANTINE.

In addition to the ordinary threatening of epidemic disease from without, this year has been specially marked by the outbreak of Asiatic cholera in Europe, and of yellow fever in the United States.

Strict precautionary measures, ordinary and special, have been necessary for the sanitary protection of the country, and have proved themselves to have been successful, disease having been again and again arrested and stamped out at my quarantines. The effects of this work on the country, leading to the negative result of the absence of epidemic diseases in our homes and families, is but too apt to be overlooked. People are prone to take freedom from disease as a natural condition, and fail to realize to how great an extent they are indebted for this to the protection work done at the coast and frontier outposts, where disease is arrested and not allowed to enter and infect the country. Other vastly less important services—but kept before the public eye by positive, instead of only negative results—are often more thought of than the quiet, steadfast, all-important protective work of the public health service.

The continued public and professional demand for governmental recognition of the importance of preventive medicine, and the expediency of placing this important branch of the public service on the same footing as it stands on in nearly all progressive countries is instanced by the fact that I am again in receipt of a copy of a report and resolution, adopted by the Canadian Medical Association at its annual meeting, in Halifax, in August last, again pressing upon the consideration of the government the expediency of creating a department of public health under one of the existing ministers.

No case of plague having been reported in San Francisco since March 1, 1904, I felt justified in removing the special inspection of vessels from that port on account of that disease. So that since January 1 last these special inspections have not been carried out.

Extra coast and frontier inspections were instituted or continued by me for shorter or longer periods, as seemed to be required, at the following places: Canso, N.S.; Gateway, B.C.; North Portal, Sask, and Owen Sound, Sault Ste. Marie, Bruce Mines, Thessalon and Fort Francis, Ont.

In addition to the officers holding the above-mentioned posts, Dr. James Patterson, of Winnipeg, has continued to act for me in the management and suppression of small-pox in the Northwest Territories. So well has this been done that there is now no case of that disease in the newly created provinces of Alberta and Saskatchewan, nor in the Territories.

Circulars of warning and instruction have been issued from time to time, as the special threatenings of disease on both our coasts and on our frontier seemed to require.

Bubonic plague has occurred during the year in British South Africa, Arabia, Argentina, Australia, Brazil, Chile, China, Egypt, Formosa, Hawaii, India, Japan, Mauritius, Panama, Peru, Philippine Islands, Russia, Siam, Straits Settlements, Turkey and Zanzibar. Its ravages in India have been particularly marked. The total number of deaths in India officially recorded from plague since 1896 was up to the end of December, 1904, three millions one hundred and fifty thousand. Last year the deaths were over a million, being 1,040,429. This year they will be at least as many. These are the official figures, and are admitted to be below the mark on account of concealment on the part of the inhabitants. This disease has presented itself at several ports in Great Britain this year, but with the exception of three cases in Leith, it was confined to the initial imported cases.

Cholera has occurred in Austria, Galicia, China, Germany, India, Japan, Philippine Islands, Russia, Straits Settlements and Turkey.

The sudden outbreak of this disease in Prussia at the beginning of last month, and the presence of sixty or more cases of the disease among Russian emigrants in Hamburg, awaiting transportation to this continent, have given cause not for popular alarm, but for increased watchfulness on the part of my officers who safeguard the Atlantic seaboard.

The invasion of the southern states of the Union south of us by yellow fever, for the first time since sanitary science has established the role played by the *stegomyia* mosquito in the communication and extension of this disease, has furnished an opportunity for combating the threatened epidemic on these new lines. The result has proved that where early notification of new cases can be secured the disease can be readily controlled from spreading. This confirms the knowledge already acquired from the experience of the last few years in Havana.

Small-pox has again prevailed almost world-wide this year. Although the epidemic of this disease in the United States is at an end, local outbreaks in various places close to the international border have required my placing temporary inspecting officers at various times. And it has as usual threatened our Atlantic and Pacific seaboards.

Another international tuberculosis conference has just been held in Paris in the early part of this month. Like the one which was held in London in 1901, it has been noted principally for a sensation which comes from Berlin. The views laid down by Koch at the London conference, that bovine tuberculosis is practically free from danger to man have not been generally sustained. And now the newspaper reports concerning Professor Behring's alleged cure for tuberculosis do not contain anything definite or reliable. It seems probable that Prof. Behring reported to the conference the results of investigations in the immunization of cattle against bovine tuberculosis, with reference, perhaps, to the possible application of the same methods to human tuberculosis. Professor Behring's name carries great scientific weight with it, and we must only await further developments with patience.

Continued good effects have marked, during the year, the treatment of the lepers now carried out at my lazaretto at Tracadie, N.B. The symptoms both general and

local have in many cases been modified and ameliorated. In one case indeed an apparent cure has been effected. Whether it be permanent or only temporary, time alone can show.

The diseases which have been brought to my maritime quarantine stations during the year are : Small-pox, scarlet fever, measles, enteric fever, chicken-pox, diphtheria, mumps and epidemic dysentery.

In not a single instance did any one of these diseases gain an entrance through any of my organized quarantine stations. My frontier inspections were also very efficient in protecting the public health of the country with the least possible interference with travel and traffic.

Progress is being made in the work of completing the equipment of my various maritime stations. At Partridge Island quarantine, St. John, N.B., the additional detention houses for suspects and the winter hospital spoken of in my last annual report have been erected. At Lawlor's Island quarantine, Halifax, N.S., steps have been taken for the erection of a winter hospital.

Details of the year's work at my different stations, at the Tracadie leper lazaretto, in the Northwest Territories, and on the frontier will be found in the annexed reports of my Director-General of Public Health and of my other officers.

VI.—CENSUS AND STATISTICS.

In the last session of Parliament a statute was enacted for organizing under the Minister of Agriculture a permanent office to be called the census and statistics office. It repeals the three Acts of the Revised Statutes of Canada relating to the census and to general and criminal statistics, and makes provision for:—

1. Taking a general census of Canada in the first year of each decade, commencing with 1911.

2. Taking a census of population and agriculture for the provinces of Manitoba, Saskatchewan and Alberta in every tenth year, commencing with 1906.

3. Collecting, abstracting and tabulating from time to time in the intercensal years statistics and information relating to agriculture, commerce, crime, education, manufactures, births, marriages and mortality and other subjects, for publication at the discretion of the Minister of Agriculture.

4. Collecting, abstracting and tabulating statistics of crime in the Dominion, and printing the results in an annual report to Parliament.

5. Abstracting and tabulating in concise form such information on various subjects susceptible of being represented by figures as is contained in departmental or other public reports and documents.

6. Making special investigations under the authority and direction of the Governor in Council, and carrying out such other duties as may be assigned to the office by the Governor in Council.

Besides employing officers and enumerators to take the census of the country at the regular period provided in the Act, the Minister of Agriculture may also employ from time to time such agents or persons as are necessary to collect for the office statistics and information relating to such industries and affairs of the country as he deems useful and in the public interest. But in case a plan exists in any province for collecting agricultural, commercial, criminal, educational, manufacturing, vital and other statistics, the Minister may arrange with the local authorities or officials for the collection and transmission of such information as is required by schedules prepared by the census and statistics office, under his direction and approved by the Governor in Council and in collecting statistics in the manner here provided, the Minister may call upon public officers to furnish copies of such papers, documents and information as lie in their power, with or without compensation as regulated by Order in Council.

The custodians of provincial, municipal or other public records and documents, or of any records or documents of any corporation from which information in respect to the objects of the Act can be obtained, are required to grant access thereto to any officer or agent deputed for that purpose by the Minister for obtaining such information, and a custodian who refuses or neglects to grant such access or otherwise seeks to prevent or obstruct any person employed in the execution of the Act becomes guilty of an indictable offence.

Every person who refuses or neglects to fill up and return a schedule when and as required by a person employed in the execution of the Act, or who makes a wilfully false answer or statement as to any matter specified in the schedule, is liable to a penalty of not more than $100 and not less than $10.

Every person who refuses or neglects to answer any question requisite for obtaining any information in respect to the objects of the Act is liable to a penalty of not more than $50, and not less than $5 for every such refusal or neglect.

Every person who otherwise refuses or neglects to furnish information required of him under the Act, or who gives false information or practises any deception, is liable to a penalty of not more than $100 and not less than $10.

A document or paper purporting to be a form authorized for use in taking the census, or the collection of statistics or other information, or to set forth instructions relating thereto, which is produced by a person employed in the execution of the Act, shall be presumed to be supplied by the proper authority to the person producing it. But every officer or other person employed in the execution of the Act who, in the pretended performance of his duties, obtains or seeks information which he is not authorized to obtain, becomes guilty of an indictable offence.

In the case of an occupant of a house, a sufficient requirement to fill up and sign a schedule having thereon a notice requiring that it be filled up and signed within a

stated time, is the leaving of such schedule by an enumerator at any house or part of a house of which such person is an occupant.

In the case of any person or firm, or of any body corporate or politic, a sufficient requirement to fill up and sign a schedule having thereon a notice requiring it to be filled up and signed within a stated time is the leaving of such schedule at the office or place of business of any person or firm, or of any body corporate or politic, or his or its agent, or the delivery of such schedule by registered letter; and, if so required in the notice, to mail the schedule within a stated time to the census and statistics office; and all the provisions of the Act relating to offences and penalties apply to the provisions of this and the foregoing paragraph.

It is proposed to take a census of population and agriculture for the provinces of Manitoba, Saskatchewan and Alberta in June of next year, by the employment of enumerators in the usual way of taking a census; and an effort will also be made to collect statistics of the manufactures of the Dominion through the agency of the post office. But in the case of manufactures, as well as population and agriculture, the inquiries will be limited to a few principal heads.

CRIMINAL STATISTICS.

Criminal statistics have been compiled for the year ended September 30, 1904. They show that the number of charges for indictable offences in the Dominion was 9,901, and the number of convictions 6,754. In the previous year the charges numbered 9,642 and the convictions 6,541. The increase of charges is 259 or 2·68 per cent, and of convictions 213 or 3·25 per cent. The percentage of convictions to charges in the year was 68·21 per cent, which is higher than in any previous year of the decade, the ratio of 1903 being 67·84; of 1902, 66·22, and of 1901, 68 per cent. The following table gives the number of charges and convictions, together with the per cent ratio of convictions to charges, in the years 1903 and 1904.

Provinces.	1903.			1904.		
	Charges.	Convictions.	Convictions to Charges.	Charges.	Convictions.	Convictions to Charges.
			Per cent.			Per cent.
Prince Edward Island	53	38	71·70	41	28	68·30
Nova Scotia	672	444	66·07	664	434	65·36
New Brunswick	243	155	63·78	213	122	57·28
Quebec	2,086	1,676	80·34	2,139	1,738	81·25
Ontario	4,451	2,884	64·80	4,701	3,034	64·54
Manitoba	476	381	80·04	611	489	80·03
British Columbia	803	516	64·26	529	379	71·64
Territories and Yukon	858	447	52·10	1,003	530	52·84
Totals	9,642	6,541	67·84	9,901	6,754	68·21

The highest ratio of convictions to charges in 1904 was obtained in Quebec and Manitoba, and the lowest in Ontario and the Northwest Territories and Yukon, an evidence in the latter case, however, more probably of readiness to prosecute than of failure of justice.

The number of convictions under the heads of indictable offences and summary convictions in 1904 was 54,946, being 4,543 more than in 1903, and 11,410 more than in 1902. Under the head of indictable offences the increase was 213 over 1903 and 1,094 over 1902, while under the head of summary convictions the increase was 4,330 over 1903 and 10,316 over 1902. There were ten detentions for lunacy, being five less than in the previous year.

Grouped by sexes, the returns show that the convictions of males for indictable offences in 1904 numbered 6,377 or 94·42 per cent, and of females 377 or 5·58 per cent. Compared with the figures of 1903 there was an increase of 242 in males and a decrease of 29 in females. The summary convictions comprised 43,664 males in the total of 48,192 or 90·60 per cent, and 4,528 females or 9·40 per cent. In 1903 the male convictions were 39,511 or 90·08 per cent in a total of 43,862, and the female 4,351 or 9·92 per cent. The indictable and summary convictions of males increased from 45,646 in 1903, to 50,041 or 9·63 per cent in 1904, and of females from 4,757 in 1903, to 4,905 or 3·11 per cent in 1904. These figures are eloquent on the influence of environment.

The next table gives by sexes the number of convictions for indictable offences in the Dominion, according to ages, for the years 1903 and 1904.

Groups of Ages.	1903.		1904.	
	M.	F.	M.	F.
Under 16 years	1,005	33	663	34
16 years to under 21	906	85	1,104	65
21 years to under 40	2,573	181	2,909	164
40 years and over	787	66	866	68
Ages not given	864	41	835	46
Totals	6,135	406	6,377	377

Exclusive of the last group, whose number belongs in some unknown proportions to each of the others, the ratio of convictions for indictable offences of persons under 16 years of age was 15·87 in 1903 and 10·32 in 1904, of persons 16 years to under 21 it was 15·15 in 1903 and 17·31 in 1904, of persons 21 years of age to under 40 it was 42·10 in 1903 and 45·50 in 1904, and of persons 40 years and over it was 13·04 in 1903 and 13·82 in 1904. The only cheerful sign in these comparisons is the lessened ratio in the case of persons under 16 years; but the proportion of convictions of children is still large, and computed on the total population of provinces it is considerably higher in Ontario than elsewhere. Taking the two largest provinces of the Dominion, the

ratio of convictions to population for indictable offences in 1904 was 0·018 in Ontario and 0·007 in Quebec for persons under 16 years, 0·025 in Ontario and 0·023 in Quebec for persons 16 years to under 21, 0·063 in Ontario and 0·055 in Quebec for persons 21 years to under 40, 0·021 in Ontario and 0·016 in Quebec for persons 40 years and over, and 0·011 in Ontario and 0·004 in Quebec for ages not given. But it may be that the returns of convictions are not equally complete for the two provinces.

The next table gives the number of offenders under 21 years of age for Ontario and Quebec and the whole of Canada by classes of crimes for the years 1903 and 1904.

Offences.	Ontario.		Quebec.		Canada.	
	1903.	1904.	1903.	1904.	1903.	1904.
Larceny	759	647	385	359	1,417	1,296
Forgery and offences against currency	8	18	4	1	19	35
Aggravated assault	14	12	5	7	29	32
Assault and obstructing peace officers	11	8	17	33	30	46
Assault and battery	20	24	9	19	37	51
House and shopbreaking	82	88	65	40	190	158
Burglary	8	26	28	7	42	38
Shooting, stabbing and wounding	16	13	2	2	27	24
Other offences	129	104	49	36	238	186

In the offences of larceny and forgery, and offences against currency, aggravated assault, assault and battery, house and shopbreaking, shooting, stabbing and wounding, and other offences committed by persons under 21 years, the province of Ontario is credited with more than one-half the numbers for the Dominion, although its population is only 40 per cent of the whole, while Quebec attains nearly to the same unenviable rank for offences of burglary and assault and obstructing peace officers. The total convictions for persons of all ages in the Dominion for larceny were 3,337 in 1903, and 3,514 in 1904; for forgery and offences against currency there were 120 in 1903, and 152 in 1904; for aggravated assault there were 315 in 1903, and 258 in 1904; for assault and obstructing peace officers there were 446 in 1903, and 427 in 1904; for assault and battery there were 365 in 1903, and 441 in 1904; for house and shop breaking there were 335 in 1903, and 356 in 1904; for burglary there were 117 in 1903, and 94 in 1904; for shooting, stabbing and wounding there were 110 in 1903, and 111 in 1904; and for all other offences there were 1,396 in 1903, and 1,401 in 1904; showing increases in every class of offence except aggravated assault and obstructing peace officers and burglary.

For indictable offences against the person there were in the Dominion 1,612 convictions in 1903, and 1,605 in 1904; for offences against property with violence there

were 544 in 1903, and 552 in 1904; for offences against property without violence there were 3,751 in 1903, and 3,969 in 1904; for malicious offences against property there were 128 in 1903, and 100 in 1904; for forgery and offences against currency there were 120 in 1903, and 152 in 1904; and for all other offences there were 388 in 1903, and 377 in 1904.

The following statement gives statistics of indictable offences for the years 1903 and 1904 in all cases in which conviction was obtained, being in the aggregate 6,541 for 1903, and 6,754 for 1904:—

	1903.	1904.
Convictions—		
First conviction	5,192	5,295
Second conviction	760	843
Reiterated conviction	589	616
Sentences—		
With option of fine	1,263	1,302
Under one year in jail	2,267	2,454
One year and under two	269	367
Two years and under five	435	501
Five years and over	173	156
Life	1	.....
Death	8	14
Reformatory	325	232
Sentence suspended, &c	1,800	1,728
Occupations—		
Agricultural	249	296
Commercial	814	874
Domestic	193	273
Industrial	635	727
Professional	42	44
Labourer	2,472	2,795
Not given	2,136	1,745
Conjugal state—		
Married	1,548	1,679
Single	4,116	4,195
Widowed	104	120
Not given	773	760
Educational status—		
Unable to read or write	683	659
Elementary	4,931	5,122
Superior	142	143
Not given	785	830
Use of liquors—		
Moderate	3,838	4,085
Immoderate	1,922	1,825
Not given	781	844
Residence—		
Cities and towns	4,743	5,042
Rural districts	1,061	1,056
Not given	737	656
Birthplaces—		
England and Wales	377	486
Ireland	167	200
Scotland	128	85
Canada	4,310	4,390
United States	315	358
Other foreign countries	450	479
Other British possessions	23	18
Not given	771	738
Religions—		
Baptist	172	193
Roman Catholic	2,564	2,639
Church of England	985	1,040
Methodist	629	639
Presbyterian	467	523
Protestant	553	601
Other denominations	353	223
Not given	818	896

SUMMARY CONVICTIONS.

There were 48,192 summary convictions in 1904, an increase of 4,330. These offences consist of breaches of the peace, adulteration of food, assaults, infractions of various statutes, such as Fishery Acts, Masters' and Servants' Acts, Railway Acts and municipal and revenue laws, together with such other offences as vagrancy, drunkenness, keeping or frequenting bawdy houses, cruelty to animals, &c.

The following table gives by sexes the number of summary convictions by provinces in the years 1903 and 1904:—

Provinces.	1903.			1904.		
	Male.	Female.	Totals.	Male.	Female.	Totals.
P. E. Island	380	20	400	399	22	421
Nova Scotia	4,225	237	4,462	3,580	239	3,819
New Brunswick	2,134	144	2,278	2,527	97	2,624
Quebec	6,879	1,389	8,268	8,142	1,520	9,662
Ontario	17,492	1,620	19,112	18,346	1,437	19,783
Manitoba	2,505	177	2,682	4,535	355	4,890
British Columbia	2,567	519	3,086	2,265	604	2,869
The Territories	2,495	157	2,652	3,389	192	3,581
Yukon	834	88	922	481	62	543
Totals	39,511	4,351	43,862	43,664	4,528	48,192

Decreases are shown for British Columbia, Nova Scotia and Yukon. For all other provinces and territories there were increases, and the total increase of summary convictions was 4,330, or nearly ten per cent. In Prince Edward Island the increase was 5·25 per cent, in New Brunswick 15·19, in Quebec 16·86, in Ontario 3·51, in Manitoba 82·32, and in the territories 35·03 per cent. The decrease in Nova Scotia was 14·63 per cent, in British Columbia 7·03, and in Yukon 41·10 per cent. In British Columbia there was a decrease of 11·7 per cent for males, but an increase of 16·3 per cent for females; in New Brunswick an increase of 18·4 per cent for males, and a decrease of 32·6 per cent for females, and in Ontario an increase of 4·9 per cent for males, and a decrease of 11·3 per cent for females.

PUBLIC HEALTH.

No. 1.

REPORT OF THE DIRECTOR-GENERAL OF PUBLIC HEALTH.

F. MONTIZAMBERT, I.S.O., M.D.Ed., F.R.C.S.E., D.C.L.

October 31, 1905.

SIR,—I have the honour to submit this my annual report as Director-General of Public Health to October 31, 1905.

This year the usual threatenings of epidemic disease have continued, and in addition there have been special outbreaks of Asiatic cholera in Europe, and of yellow fever in the United States.

Strict measures, ordinary and special, have therefore been required for the sanitary protection of the country.

Frontier inspection for small-pox at threatened ports of the international border, and extra inspections at some of the maritime ports, have been maintained as the conditions to the south of us have seemed to require.

On the Atlantic side the outbreak of Asiatic cholera in Europe, especially in Prussia called for special precautionary inspections.

On the Pacific side careful inspection of all arriving Asiatics has been carried on throughout the year. This includes the testing of the temperature and the examination of the glandular regions. The special inspection of vessels from San Francisco spoken of in my last annual report, was discontinued from January 1 last, no case of plague having been reported in that city since the 1st of the previous March.

Circulars of warning and instruction were issued from time to time to the regular quarantine officers and to the customs officers, who are also ex-officio quarantine officers at all the unorganized maritime and inland quarantine stations.

Dominion Department of Public Health.—The Canadian Medical Association, at its meeting in Halifax, in August last, again expressed the voice of the medical profession of the country in favour of the creation and administration under one of the existing ministers, of a Dominion Department of Public Health. The special committee that had been appointed at the previous annual meeting, held in Vancouver, in 1904, laid before the association its report, as follows, the report being submitted by the convener of the committee:—

'As convener of your sub-committee *in re* the creation of a Department of Public Health as a Dominion measure, I have the honour to report that practically no advance has been made since we first presented your views to the federal government on this important question three years ago. Strong resolutions have been passed by your association containing the views of the profession on this matter, year after year, and they have been duly forwarded to the proper authorities at Ottawa, to say nothing of the personal representations of your sub-committee, conveyed to the government by way of deputation and personal interview. On the last occasion in which I waited upon the honourable the Minister of Agriculture, he pointed out to me that he was familiar with the views of our association, as contained in the several resolutions re-

ferred to above, and that it appeared to him to be unnecessary to call the committee to Ottawa to reiterate what we had so clearly laid before him. He assured me that the whole question had his entire sympathy and that he trusted to see such a scheme as had been outlined to him brought into operation. And he further said that it was his intention to bring the matter again to the attention of the Prime Minister, he hoped, at a date sufficiently early to enable him to give something rather definite for our meeting at Halifax. Your committee feel that they have done what they could to induce the government at Ottawa to create a Department of Public Health, under one of the existing ministers, in order to place this important branch of the public service on the same footing as it stands in nearly all progressive countries. We regret, however, to be obliged to report that so far our efforts have been unavailing, and as we believe that a more powerful and influential committee is needed from this association to more seriously impress the government with the great importance of this question, we respectfully ask to be discharged.'

In presenting this report, Dr. Powell, of Ottawa, the convener, said that in accordance with a resolution passed in London last year, the committee had interviewed the government, and he was sorry to report that it could not give them any assurance that the resolution in the matter could be practically considered. He said there seemed to be a general fear lest such a department should interfere with the autonomy of the provincial boards, but he had pointed out that there was no fear of that, as many matters would come up for consideration that could not be touched by the provincial authorities. He instanced the medical treatment of Indians, which was under the supervision of the Minister of the Interior, and the quarantine department, under the control of Dr. Montizambert. There were such matters besides, as sickness on trails and in camps, which could be dealt with by a federal department, and he did not see that there was the least need that it should in any way interfere with the provincial departments.

Dr. Fagan said he quite agreed with Dr. Powell's remarks, because, as a provincial medical health officer, he had often been faced with the very same difficulties of which he had spoken. Cases were brought to his notice that were not within the range of the provincial department, and when he applied to Ottawa he was told that they could not deal with them there.

The following resolution was then carried unanimously: 'That the Canadian Medical Association regrets that the Canadian government has not seen fit to carry out the resolution of this association in favour of the creation of a federal health department, and be it further resolved, that the association continue to press this matter before the government, and that the special committee in charge of the same be reappointed and requested to continue its efforts to this end, and that copies of this resolution be sent to the Prime Minister, the Minister of Agriculture and the Secretary of State.'

In England the demand for a Ministry of Public Health is being pushed with vigour, and appears to be reaching the sphere of practical politics.

With regard to a health department for India, the *Sanitary Record*, London, October 13, speaks as follows, under the heading of 'A Health Minister for India':—

What is denied to the homeland has been granted to our great dependency in the east. The papers to hand last week contain extensive articles on the new sanitary order which has been issued with the sanction of the Secretary of State for India. By it an Imperial sanitary commissioner is appointed, the first to fill the office being Major J. T. W. Leslie, transferred from the secretaryship of the Indian Medical Service. Among the duties defined for the new officer are that he shall direct and inspire the measures taken for the improvement and reorganization of the existing sanitary machinery, and will also organize research work in connection with health problems. The scheme already sanctioned by the Secretary of State provides for a central laboratory devoted mainly to original research of a general character and to

the manufacture of certain curative *sera*. In each of the larger provinces there will be a provincial laboratory, the primary functions of which will be to conduct diagnosis and special research connected with local conditions. All the laboratories will be under the control of the sanitary commissioner, but the government of India disclaim any intention of relieving local governments of the direct control and responsibility which they have hitherto exercised in sanitary matters or of weakening their authority over provincial sanitary establishments. The sanitary commissioner will not encroach in any respect upon the authority of the local governments over provincial matters, but he will be empowered to consult and confer with them informally upon matters connected with sanitation, and will, in this respect, occupy a position analogous to that of the Director General of Education. The Governor General in Council expresses the hope that by the measures now taken and the further reforms in contemplation there will be effected improvements of the general conditions of life in India, with the willing co-operation of the people themselves. Thus the authorities have recognized the importance of a separate department for sanitary administration, and we trust the time is not far distant when a similar decision will be made at home.

In Pennsylvania Governor Pennypacker has signed the bill passed by the Legislature at its recent session abolishing the State board of health and establishing in its stead a department of health whose head shall be clothed with almost unlimited authority in safeguarding sanitary conditions in the state. The commissioner of health contemplated by the new Act must be a physician of at least ten years' experience, and he is to receive an annual salary of $10,000. He shall be aided by an advisory board of six members appointed by the Governor, four of whom shall be physicians and one a civil engineer, to serve without salary; the state, however, paying their necessary expenses. The state shall be divided into ten health districts, each in charge of a physician of at least five years' experience, who shall receive an annual salary of $2,500.

Deputy Minister by Statute.—Your Director General of Public Health, who is also by Order in Council the sanitary adviser of the Dominion government, and who has had the rank of a deputy minister by Order in Council for some years, was by an Act at the last session of the Dominion parliament, given the rank of a deputy head of a department.

Bubonic plague.—This disease has occurred during the year in Arabia, Argentina, Australia, Brazil, Chili, Egypt, Formosa, Great Britain, Hawaii, India, Japan, Mauritius, Panama, Peru, Philippine Islands, Russia, Siam, Straits Settlements, Turkey and Zanzibar.

In his Treatise on Plague, Dr. Simpson says, 'Few thought it possible, when plague broke out in Bombay in 1896 after an absence of 200 years, that the disease would not be controlled, checked and stamped out in a short time. It was a rude awakening when the deaths began to mount up to a few thousands and to find the old scenes associated with plague epidemics reappear. The closed houses, the deserted streets and nearly half of the population of Bombay fleeing panic stricken from the city, testified to the fact that plague has lost none of its old terrors, and recalled the condition of affairs described in the old epidemics of plague. Later, when, owing to the decline of the epidemic, confidence was restored and the people had in consequence returned, there were congratulations as to the lightness of the attack as compared to the mortality in the great epidemics of the past; yet the next year, and the next, and every year since 1896, the disease has recrudesced in the city of Bombay, and the number of deaths is fast mounting up beyond the mortality of any epidemic of plague in any single city in the past, with the exception of those of Constantinople and Grand Cairo. And still the disease continues. Plague has moreover spread from Bombay to the Bombay Presidency, and from the Bombay Presidency to a larger portion of India. Slow in its progress, it has steadily advanced,

and now the 30,000 deaths from plague which occurred in India in the first year, and which created so much alarm, has reached during the past two years over three-quarters of a million per annum. In 1902 the number of deaths from plague in India was 833,000, and in 1904 it was over a million, being 1,040,429. The total number of deaths in India officially recorded from plague since 1896 was, up to the end of December, 1904, three millions, one hundred and fifty thousand.

Cases of plague were brought to several of the ports of Great Britain during the year. There was a small outbreak at Leith in May last.

On Friday, May 5, a labourer was admitted to the Leith Fever Hospital, said to be suffering from enteric fever. On Sunday, May 7, the symptoms seemed rather to point to typhus fever, and he was treated with abundance of fresh air. On Tuesday, May 9, a swelling was found in the left groin. Some fluid removed from this swelling by aspiration showed on bacteriological examination plague bacilli. This was verified by Dr. Buchanan, of Glasgow, and other observers. On Monday, May 8, a girl of three years of age, the daughter of the labourer above referred to, was also sent into hospital, said to be suffering from enteric fever. This child had sickened on Saturday, May 6. On admission, she had a swelling in the left groin, and other marked symptoms of bubonic plague. On Wednesday, May 10, the mother and another child, a son of six years of age, were admitted, obviously showing plague symptoms. The boy had a swelling on the left side of the neck of long standing, but this swelling had become more acute at the time of admission, and he had other signs of the disease.

No further case of plague has occurred either among the contacts or the general community. The houses of the contacts have been thoroughly disinfected. Notwithstanding the very extensive destruction of rats, no evidence of plague has been found in any of those destroyed. The source of the outbreak, therefore, remains a conjecture.

In South America, since the year 1903, when the bubonic plague first made its appearance on the west coast of South America, it has never entirely disappeared. During this year there seems to have been a recrudescence, particularly in the southern part of Arequipa, Peru. In Lima there were one or more cases discovered daily, Though the type of the epidemic seems to be comparatively mild and not extremely contagious, nevertheless it continues. Should it get a footing in the interior of the country, it would probably be more fatal than on the coast, as the hygienic habits of the population there are worse than those of the coast. The disease has made terrible ravages at Pisagua, Chile, and refugees from that town assert that for some time before their departure the deaths there had ranged from ten to thirty a day, and the authorities were then unable to enforce burials. Bodies were thrown into the streets and spread contagion. But little headway had been made in the fight on the disease, and it seemed as though the entire population of that Chilean port might be exterminated by the plague. Many persons had been shot down by the soldiers on guard while attempting to escape from the stricken city.

In Hong Kong and in British South Africa plague has been present during the year to much the same extent as during the previous year.

In the *Lancet* for June 10, 1905, appears an interesting contribution by Dr. A. M. Elliot, late Special Plague Officer, Bombay government, whose experience includes some 8,000 cases of plague. In a short bacteriological resumé of that disease, he states, as the result of his investigations, that the bacillus is present only in small numbers in the lungs, except, of course, in the pneumonic form. He finds, too, that the bacillus disappears from the buboes as suppuration becomes fully established. These points are of importance as bearing on the relative infectivity of the various types of plague, and support Prof. Simpson's opinion that the bubonic form is but slightly infective. In support of his view that the lymphatic system is always the seat of local reaction from the invading bacillus, Dr. Elliott says that in over 400 necropsies he has invariably found some group of glands infected.

Referring to the transmission of plague to man from domestic animals, Dr. Elliot differs from Prof. Simpson as to the susceptibility of pigeons and fowls, as he has, so far, been unable to effect either experimentally, though his control guinea-pigs have died of plague within the usual period. He gives two instances where he cultivated a bacillus corresponding in every way with that of plague, from cervical buboes in cats which were in association with human cases.

Speculating on the possibility of explaining the recrudescence of plague by a saprophytic existence of the bacillus, Dr. Elliot describes an experiment in which soil from an infected house was kept in a tin-lined box for a month, with precautions against infection. Rats were then introduced, and their food was boiled to prevent infection from that source, but in from three to five weeks all the four rats had died from plague. The experimenter gives this for what it is worth, and it is of interest in that it goes to support the view that infection may be present in the soil, and shows that it may retain its virulence there for seven weeks.

The greater part of the article is devoted to a consideration of the channels of infection, and the writer evidently believes strongly that infection through the skin is relatively very frequent. The greater incidence of inguinal buboes among adult males is attributed to the sitting (or rather squatting) posture of the native, whereby the perineum and neighbouring parts are kept in a dirty state, and the skin on the inner aspect of the thigh is maintained in a sodden condition. Dr. Elliot considers that women and children squat less often, and that the inguinal glands are less frequently affected on that account. Shaving of the pubes and axillæ in many cases affords opportunity for entrance of the bacillus through cuts. The higher percentage of axillary buboes among women is explained by the proximity of the nipple, and the habit of the women of wiping the hands on their clothing in that region. The high proportion of cervical buboes among children is suggested to be due to their putting everything into the mouth and to dentition.

Dr. Elliot believes that infected food is responsible in some cases, and gives post-mortem evidence in favour of this view in cases where the only symptom was a severe diarrhœa. He regards the higher fatality of certain types and of buboes in certain situations as due to the wider mesh of the lymphatic tissue at the point of entrance of the infective material, whereby the bacillus more readily reaches the blood stream and a septicæmic condition results more rapidly.

Dr. Elliot's further contribution on the modes of transmission from man to man may be looked for with interest.

E. H. Hankin writes as follows:—

'Thus, so far from the patient's dejecta being the main source of infection, known facts indicate that only in a small proportion of instances does the microbe in the dejecta pass into the condition in which it produces infection of human beings in Indian plague. Facts are even compatible with the supposition that this practically never occurs apart from certain pneumonic cases. The problem of the means of the spread of plague is by no means solved by a reference to rats. Though in some cases there can be no doubt that they play a part in the spread of the disease, other cases that have been brought forward indicate that the plague can spread and remain attached to a locality apart from this agency.

'Historical evidence teaches us that the most virulent outbreaks recorded have occurred among populations that habitually wear boots and shoes, rather than among populations that go barefooted. This fact militates against the idea that infection is due to the entry of the microbe through fissures in the skin of the feet. Still less probable is it that this is a usual mode of entry of the microbe for rats, which animals, as we may well believe, but rarely cut their feet by treading on stones or thorns, and are by no means so liable to wounds from other causes as they sometimes are to plague. Laboratory experiments show that the plague microbe loses its infectious power by repeated passages through rats by subcutaneous inoculation. Should these

experiments be further substantiated, they would furnish good grounds for doubting whether contagion from rat to rat, or from rat's dejecta to rat, is the usual means of spread of the disease among these rodents, and to a less extent from rats to men. The apparently spontaneous limitation of outbreaks of pneumonic plague caused by direct infection indicates that the plague microbe may undergo a similar diminution of its infective power by repeated passages through human beings.

'Thus it is improbable that the true "nidus" of the plague bacillus is either dirt, or rats, or men; though either of these agents may be concerned in the exportation of the disease from one locality to another, or may be responsible for a few and isolated attacks of the disease, and must, in any event, be regarded as suspect from the practical standpoint.

'The general immunity to infection of attendants in plague hospitals makes it improbable that bugs and mosquitoes cause human infection by biting while their proboscides are still fouled with the blood of septicæmic patients. It is difficult to see why the proboscis of the flea should be more liable to transmit infection in this way, whether we are dealing with fleas that normally bite human beings, or fleas liberated from infected rats.

'Simond has suggested that fleas deposit dejecta at the moment of biting, and that the microbe contained in such dejecta is afterwards accidentally rubbed into the bite, and so causes infection. But if fleas can be dangerous in this way, why should not other biting insects that are present in plague hospitals similarly infect the attendants? Further, it may be doubted whether this theory adequately explains the prolonged incubation period in the locality and persistence of the infection so often observed in outbreaks of plague.

'The only view of the matter that appears to me likely to lead to an explanation of the facts is that the true "nidus" of the plague infection is some species of flea in which the microbe causes a slowly developing infection that at length renders the insect capable of transmitting the disease, and in which insect the virus can retain or regain its virulence.

If Simond's view were true, namely, that the flea merely retains the microbe in its intestine and passes it out with its dejecta, one would expect fleas to be most virulent immediately after, or soon after, ingesting the blood of infected rats. The theory now put forward is that the microbe developes in the flea, and only after a lapse of time is in a position to reach the proboscis in the act of biting. This theory obviously presupposes an interval between the time of reception of the virus by the flea and the development of its capacity to pass this virus on to other animals. As explained above, such an interval is usually observed in outbreaks of plague.

Changes in the habits of fleas as the rat population dies off may explain cases in which rats appear to play different parts in the spread of the disease at different periods of the outbreak.

Differences in the habits of fleas in different localities may be the cause of abnormal outbreaks in which certain susceptible species of animals temporarily or permanently escape. The class of facts here referred to, and which have been described in earlier paragraphs, are impossible to explain on the theory that plague transmission is simply a chance passage of the microbe from infected dejecta to accidental cuts or scratches on the bodies of susceptible animals.'

Dr. Ashburton Thomson, from his observations in the epidemic of 1902 in Sydney, concludes that the flea must be able to communicate the virus 'many hours, and even some days after it has received it.' The facts brought forward in this paper suggest that in India the flea may retain the power of transmitting disease for weeks or even months. Simond has suggested that the retention of the infection by fleas may be the cause of recrudescences of the disease, which, as he shows, usually occur at the interval of a year after the first appearance of the outbreak.

'As evidence that the plague microbe developes within the body of the flea, I can only quote the following observation of my own made during the above-mentioned plague outbreak in Agra. In April, 1901, a rat was brought to me that had been found dead in the grain dealers' quarters in Agra shortly after the first human case of the disease had occurred. No trace of the plague microbe could be found, either by microscopical examination or by culture in any of the tissues of the rat. On the rat, however, I found a living flea. This I caught and placed in a tube of sterile bouillon. The tube was violently shaken. The flea was then taken out and placed in a second tube of bouillon and similarly treated. The process was repeated several times, with the object of removing as far as possible saprophytic bacteria that might be present on the surface of the flea. After the above treatment the flea was dissected, with strict aseptic precautions, under a dissecting microscope. The stomach was taken out and cut in two pieces. One half was placed on agar-agar, and from it a pure culture of plague was obtained (as shown by involution forms on salt agar, &c.). The other half of the stomach was subjected to microscopical examination. The only microbes visible were bacilli with rounded heads identical in appearance with those of plague. These were arranged in clusters of about a dozen individuals each, and appeared to be embedded in the tissues of the stomach wall. No bacilli were observed in the liquid contents of the stomach. The arrangement of the bacilli in clusters obviously suggests that they were engaged in reproduction *in situ*.'

Cholera.—This disease has appeared during the year in Austria, China, Egypt, Germany, India, Japan, Persia, Philippine Islands, Poland, Russia, Straits Settlements and Turkey.

This disease suddenly appeared in Prussia in August last, amongst Russian emigrants in Hamburg awaiting transportation to America. Sixty or more cases marked its first outbreak and were rapidly followed by others, rising by the 11th of this month to 261 cases, with 89 deaths.

Epidemic cholera has been slumbering in Russia for at least a year past, and several cases of suspected cholera have occurred in Moscow among travellers from Poland. It will be remembered that last April the Russian government summoned a large number of medical men to a conference at Moscow. This conference was to have considered the means which were to be taken to check the spread of the epidemic, but owing to political unrest in Russia it achieved little or nothing in this direction.

Whether cholera in Russia is connected with the outbreak which occurred in Persia last October, it would be difficult to say. The recently published report of Major Sykes on the trade of the Kerman consular district incidentally furnishes a graphic account of the circumstances of the cholera epidemic which broke out at Kerman in October last. It was originated by a pilgrim from Meshed, in the north-east of Persia, who was ill and died of cholera a few miles outside the city, to which he was returning. His friends washed his body in the neighbouring stream, and brought all his clothes into Kerman to be sold, a proceeding which was rapidly followed by the appearance of the disease in epidemic form. A complete panic immediately ensued, the first to yield to it being the authorities of the city. The entire Persian official community ran away in a body followed by every one in the place who could get hold of a horse or conveyance to take him away into the country. As a result the surrounding villages immediately became affected by the disease, which was thus rapidly disseminated about the neighbourhood. In the city business was brought to an absolute standstill, the carpet trade, for which it is famous, suffering especially.

The only bright side of the picture, Major Sykes relates, lay in the heroic labours of the doctors of the Church Missionary Society, who stayed to fight the epidemic. Fortunately the cold weather was at hand, and at the end of a couple of months the worst was over. Major Sykes points out the crying necessity of properly trained Persian medical men and the equal need of training the people to follow a few simple hygienic rules.

Epidemiologists have for some time been watching this gradual advance of cholera from the east on one of its periodical incursions into western Europe. The movement began in the latter part of 1899. Eastward the disease advanced from India rapidly, invading China and Japan. From Hong Kong it passed to the Philippines, working havoc in Manila and the provinces despite the best efforts of the medical officers of the Army and Marine Hospital Service. Its progress westward through Arabia and Persia into Russia has been more gradual. Cholera appeared in Mecca in 1902, and thence spread throughout the Mussulman world, being heard of in Egypt, Asia Minor and Persia, finally establishing itself firmly in Teheran. From this point it followed the caravan routes into Anatolia, Transcaucasia and Transcaspia, thence reaching the banks of the Volga. Here it rested for nearly eighteen months, being restrained by some mysterious influence, the nature of which students of epidemics have never yet discovered, and only now has it resumed its march westward. Why should it have remained so long in Russia and then suddenly crossed the frontier? Raftsmen were coming down the Vistula past Thorn and Kulm, and emigrants were leaving Poland and western Russia for Hamburg and Bremen, sailing thence for New York, but the disease remained behind. The Russian health officials did as little to throttle the epidemic then as they are doing now, and the communication between the Volga, where the cholera hibernated, and the Vistula down which it is now journeying into Prussia, was just as free in the summer of 1904 as in that of 1905, but the infection refused to spread. Suddenly it takes a start and Europe awakes to the peril of a cholera invasion. Epidemiologists tell us that the conditions which retard or accelerate the progress of this disease are climatic conditions, but this is only a term to cloak ignorance. Pettenkofer's subsoil water theory is just as satisfactory and no more intelligible. That there is some influence which affects the virulence of the comma bacillus, or which determines a greater or lesser power of resistance in the human subject, must be admitted, but whether this influence is atmospheric or telluric or neither, it still remains a mystery.

Absolute authority has been given to the sanitary authorities in the districts of Kulm, Thorn, Graudenz, Marienwerder, Stuhm, and Schwetz, for the purpose of preventing the introduction and spread of cholera. Two Russian raftsmen died of the disease at Kulm, and as they were engaged in the Vistula river traffic, the source of the infection is assumed to be somewhere up the river in Russian territory. All bathing houses along the river have been closed, and the water supplies from the river for adjacent towns have been sharply shut off. The inhabitants are obliged to import water or to use that taken from the wells.

The cases at Hamburg would seem to have no direct connection with those which have occurred in West Prussia. The first case at Hamburg was in a Russian transmigrant, and its nature was only recognized after post-mortem examination on August 27. Great improvements have been introduced into the water supply and sanitation of Hamburg and Altona since the great outbreak of cholera in 1892, and there seems good reason to hope that the precautions taken will prevent the establishment of an epidemic in that city. Meanwhile, embarkation of Russian transmigrants has been stopped; the United States Board of Emigration has given orders that all steerage passengers from Bremen and Hamburg will be kept under observation for six days before embarkation, and has despatched two medical inspectors to Hamburg.

The history of the present outbreak is typical. It began in Arabia and spread across Syria, Mesopotamia and Persia into Russia; then it went up the Volga into the heart of that empire. Sanitation is little known among the Muscovites and the death rate in their cities is always so high that what would be considered an epidemic in most countries attracts little attention, particularly if the people afflicted are the labouring classes. It was carried into East Prussia, but there it found competent medical barriers and has since been fought intelligently. On September 1 there were forty-three cases in Germany, all in East Prussia save one in Hamburg. The im-

perial government at once ordered all emigrants from the country to be kept under quarantine regulations until it was certain they were healthy, and the United States Marine Hospital Service sent its inspector at Naples to Hamburg and ordered another inspector from Philadelphia to go to his assistance. On September 2, a second case was discovered at Hamburg and nineteen deaths were reported. On September 4 the number of cases had risen to sixty-six, and the deaths to twenty-three, and on September 5 these figures were seventy-seven and twenty-four respectively. The disease was brought into the country by Russian raftsmen who came down the Vistula river, and by a party of eighty emigrants, one of whom was the first man who died in Hamburg. As soon as this fact was known, orders were issued closing all restaurants along the Vistula, except in towns, so that the rivermen can be kept under better supervision, and facilities were provided for treating cholera patients in many parts of the empire.

Circulars of warning referring to the appearance of cholera in Germany were sent to all your Atlantic quarantine officers, and the customs officers at the minor Atlantic seaports.

In Poland during the period from the 5th to the 11th of this month, forty-seven cases of cholera, with twenty-four deaths, were reported.

In the Philippines, Dr. Heiser, chief quarantine officer, reports that while the total number of cases of cholera for the week ending September 23 is slightly in excess of those reported for the preceding week, yet the situation is not considered serious, and there is every reason to believe that the disease will be stamped out very shortly in the city of Manila. One very disquieting feature is the continued presence of cholera on the watershed of the Maraquina Valley, above the intake of the city water supply. Every effort is being made to guard against pollution, three troops of cavalry being engaged on this work. Dr. Heiser states that considerable anxiety was felt during the early part of that week on account of a report from Nueva Caceres that one case of cholera had made its appearance at that place. During the cholera outbreak of 1902 the disease appeared at Nueva Caceres almost simultaneously with its appearance at Manila, and since travel between Manila and Nueva Caceres during the present outbreak was practically impossible, except that which underwent the regular quarantine of five days, it was not likely that the disease could have been carried from Manila. Should this case have been correctly diagnosed, it would appear to afford additional evidence that the disease is endemic in the Philippines. No additional cases have occurred, however, and this fact will appear to throw considerable doubt on the diagnosis. Cholera in the provinces is still confined to about the same limits. The cases at Taytay have markedly increased until they have now reached a total of 56 cases, with 48 deaths. The total number of cases in the city of Manila since the outbreak has been 195, with 168 deaths. The number of cases in the provinces has been 260, with 213 deaths.

Small-pox.—This disease has as usual prevailed extensively this year, appearing in Africa, Argentina, Austria, Belgium, Brazil, British Guiana, Canada, Ceylon, Chile, China, Columbia, Cuba, Denmark, Ecuador, Egypt, France, Formosa, Germany, Gibraltar, Great Britain, Greece, Hawaii, India, Italy, Japan, Mexico, Netherlands, Norway, Panama, Peru, Philippine Islands, Porto Rico, Russia, Spain, Straits Settlements, Switzerland, Sweden, Turkey, Uruguay, United States, Venezuela, and the West Indies.

Although this disease has ceased to exist as an epidemic in the United States, there have been during the year, from time to time, such threatening outbreaks of the disease close to the south of our international frontier, as to require temporary local inspecting officers at various points. Such officers have been on duty for such periods as seemed to be requisite at Canso, N.S., Owen Sound, Thessalon, Bruce Mines, Sault Ste. Marie, and Fort Francis, Ont.; North Portal, Sask., and Gateway, B.C.

Cases of this disease were brought to some of your quarantine stations, and it has in each case been stamped out there.

Few people nowadays are unwise enough to question the protective value of vaccination. An additional proof of its value—if further proof be necessary—is to be found in the report of a small-pox hospital in one of the neighbouring states, from which I quote as follows: 'During the past four years about 1,000 medical students, 60 physicians, 100 nurses, and over 100 servants have been freely exposed to small-pox in the wards of the municipal hospital, the medical students being admitted to study the cases. Of this group, approximately, 1,250 individuals, only one contracted small-pox. This individual, a medical student, descendant from an anti-vaccination family, through purposeful deception, gained access to the small-pox wards, contracted the disease, and was so seriously ill that for a time his life was in extreme jeopardy.'

Further experience seems to confirm the claim for chloroform instead of glycerine for the purification of vaccine put forward by Dr. Alan B. Green, of the English Government Lymph laboratories, London, Eng. The health commission of Chicago reports: Emulsions of vaccine pulp exposed for a time to chloroform vapours after the method devised by Dr. Alan B. Green of London have been found by Dr. J. F. Biehn, director of the Department Laboratory of the Chicago Health Department, uniformly free from all foreign organisms except those causing vaccinia. This vaccine was used by a physician five days after it was removed from the calf. One day was required to prepare it, one day to ship it to Chicago, two days to test it bacteriologically, and one day to send it to the clinician who made the clinical test. Ten days after its receipt the clinician reported that the chloroformed vaccine had given 100 per cent of successful primary vaccinations. The most important advantage of the chloroform process is the rapidity with which vaccine lymph may be purified. Purifying by the action of glycerine requires from forty to sixty days; by chloroform, four hours.

Dr. Green, who devised this method of purifying vaccine pulp as it is collected from the calf, says, in a recent report, that since April, 1903, the date of his preliminary note on this subject, a large number of vaccines have been treated. These lymphs have been freed from their non-spore-bearing extraneous bacteria within a period ranging between one and eight hours after their collection from the calf, and have, subject to the usual tests, been issued for general vaccination purposes about two weeks after collection. Their use, he claims, has resulted in high 'case' and 'insertion' success.

The rapidity with which vaccine lymph can thus be purified obviates the danger of a vaccine famine when a small-pox outbreak creates an unusual demand for vaccination.

Another advantage is that the life of the vaccine—that is, the period during which it remains active—is materially prolonged. Glycerine is intimately mixed with the lymph and continues its sterilizing action until the vaccine becomes inert. The chloroform is withdrawn as soon as the lymph is purified and there is no further sterilization.

A still further advantage of this new process vaccine, and one which will be duly appreciated by practical vaccinators who have to deal with large numbers, is the rapidity with which the chloroform vaccine dries when applied.

Yellow fever.—The most notable event of the year in connection with this disease has been its reappearance in the southern part of the United States. The stress of the epidemic has been most felt in the State of Louisiana and in the city of New Orleans. In that city there have been 3,383 cases and 455 deaths.

The first intimation to the health authorities of yellow fever in New Orleans was had on the afternoon of July 12, when two physicians reported orally to the president of the State Board of Health in his office two cases of illness resembling, in their judgment, yellow fever, one case being reported after death.

The plan of campaign adopted by the Board of Health from the beginning was based on the mosquito conveyance of disease, and the system was improved from day to day as the men employed became more familiar with their duties.

For the first time since yellow fever appeared in New Orleans the noon bulletin of October 28, covering the sixteen hours preceding showed that there were no new cases and no deaths.

The yellow fever epidemic is so nearly at an end that it can safely be said that science has won a distinct victory after one of its greatest battles. The attitude and the effort of the community have been admirable and thoroughly helpful to the enlightened and vigorous course of the officers of the United States Public Health and Marine Hospital Service. Action along the lines pointed out by the mosquito theory of infection has proved to be absolutely effective. This is demonstrated by comparisons with the epidemic of 1878. The two epidemics were discovered late in July, and they ran a very similar course up to three or four days after the beginning of the organized fight this year. Thereafter the cases decreased in 1905 as against a great increase in 1878. In all the south there have been in 1905 less than 9,000 cases and not over 1,000 deaths, while in 1878 in New Orleans alone, with half its present population, there were 4,000 deaths. In 1905 outside New Orleans it has been shown, in town after town, that the epidemic recedes uniformly when there is thorough application of the methods deduced from the mosquito doctrine. Whenever the community has been reluctant to adopt measures demanded by modern knowledge, there the epidemic has been most severe.

Under the heading of the Mosquito as a School Master, *Charities* says:

'One female Stegomyia, with an old oyster can in your back yard, with a little water in it, can hatch out 200,000,000 mosquitoes in one year; clean out your cans, your broken bottles and your tubs.'

This is a sentence from a veritable stump speech before one of the hundred meetings held throughout New Orleans the past month. It shows not only the thoroughness of the campaign against infection, but the picturesque way in which the subject has been driven home in one of the most remarkable educational movements of the decade. Practically an entire city has been converted to the mosquito theory of the transmission of yellow fever. The lecturer's stereopticon has been as mighty in the muster of arms as the bacteriologist's microscope. It has been a story of 'inspection, fumigation and widest education,' to use the words of the *Picayune*, and the list of meetings announced in a single issue, sounding as they do like the marshallings of a political campaign, gives an idea of the vigor with which this gospel of belief and of works has been preached in churches and halls, and synagogues and markets; before Italians and negroes, and women's club and ward organizations.

Professional recognition will come to the Marine Hospital Service and to the local health officers for their technical sanitary work. *Charities* would compliment them further upon the spirit with which they have welcomed and engaged public co-operation.'

The Mosquito Transmission of Yellow Fever.—At the annual meeting of the American Public Health Association, held in Boston, Mass., during last month, a committee consisting of Drs. John Guiteras, Frederick Montizambert, P. H. Bailhache, James Carroll, William Bailey, and Eduardo Licéaga, presented the following preambles and resolutions:—

'*Whereas,* The results obtained during the present epidemic of yellow fever in New Orleans by the methods of mosquito extermination, and by the prevention of the access of the mosquito to the patients, have been far in advance of the results obtained by the older methods; and

'*Whereas,* It has been possible by the new methods to hold in check and gradually to reduce an epidemic that has taken a firm foothold in the midst of the largest non-immune population that was ever exposed to yellow fever; therefore, be it

'*Resolved*, (1) That the association sees in these results a further confirmation of the view that yellow fever is naturally transmitted only by the bite of an infected mosquito. (2) That the association is of opinion that an efficient plan of defence against the propagation of yellow fever at the beginning of an epidemic can be easily established upon the basis of this doctrine. (3) That the successful carrying-out of such plan depends upon a thorough understanding of the mosquito doctrine by the people, and the support that they may give to the prompt and frank reporting and to the proper handling of the first cases, and of all suspicious cases. (4) The association wishes further to congratulate the Public Health and Marine Hospital Service for the brilliant work done by Dr. Joseph H. White and his colleagues in New Orleans, and to urge upon all concerned that the said service be called upon to take charge permanently of maritime quarantine along the Gulf Coast.'

These resolutions were adopted.

Scarlet fever.—In a recent article on this disease the *Journal* of the American Medical Association says:—

The treatment of the eruptive fevers by red light is no new proceeding, as there is some evidence that the Chinese and also some European nations employed it centuries ago. That they applied the treatment in the form now suggested seems doubtful, and there is evidence that they neglected to exclude ordinary light from the sick room, and that the hanging of the room with red draperies, and sometimes wrapping the limbs in red cloths, constituted the red light treatment of early days. Toward the end of the last century the work of Finsen put the matter on a scientific basis, and renewed the interest in this form of treatment. The philosophy of the treatment is based on the well-known fact that the so-called chemical rays in light, the blue, violet and ultra-violet, are capable of setting up inflammation in the healthy skin, and therefore are certain to aggravate the inflammation in a skin already diseased from some other cause. Finsen suggested the use of the red light treatment in small-pox particularly, and the results reported have varied, though they have been most encouraging, when the reporter closely followed Finsen's directions. This method of treatment has also been followed with some success in erysipelas, especially by Krukenberg, who has reported both improvement in the skin condition and rapid decrease in the temperature.

Quite recently Cnopf of Nürnberg has reported some results with the red light treatment of scarlet fever, which are distinctly encouraging. The method of applying the treatment in these cases is important, as all daylight must be permanently excluded until the eruption of the disease has completely disappeared. The windows for their lower two-thirds should be covered with some tissue completely impermeable to light, while the upper one-third should be covered with some ruby red silk. At night the room should be treated as a photographic dark room and only lights with red shades should be allowed. The importance of completely excluding everything but the red rays is demonstrated by some of Cnopf's experiences. He found that even after the scarlatinal rash had apparently disappeared exposure to daylight for two or three minutes sufficed to bring it back. He was compelled, therefore, to make this test in all cases before allowing patients to be subjected to ordinary light. The effect of the red light treatment on scarlet fever is twofold. The fever, which under ordinary treatment usually persists until the rash fades, falls, almost by crisis, and reaches normal in three or four days instead of in seven or eight days, as is the case under ordinary treatment. The skin lesion is also markedly affected, the red colour so characteristic of the disease gradually fading. The complications of the disease are apparently not affected, as in several of Cnopf's cases secondary angina or pneumonia served to cause an increase in the fever as usual.

The question naturally arises whether it is the red light or merely the exclusion of all light which is responsible for the changes noted by Cnopf. The query is an old

one. Years ago it was noted that exclusion of all light from small-pox patients led to less pitting than daylight treatment. Cnopf, however, thinks that the mere exclusion of daylight is not the responsible agent, but that the red rays have an actual curative effect. How this effect is produced he does not pretend to say. However much we may be lacking in explanations of these observations, and however much we may doubt the actual value of the treatment, the success achieved seems to indicate that the method is worthy of more extended trial.

Considerable interest was aroused not long since by Mallory's description of certain protozoön-like bodies which he had observed in the epithelial cells and the lymph spaces of the skin taken from patients who had died of scarlet fever. He had been unable to find these in the living patient. This discovery was hailed as a possible contribution to the etiology of the disease, and a number of investigators have since then busied themselves with the question along the lines indicated by Mallory. Duval obtained similar bodies from the blisters of scarlatina cases, and now C. W. Field (*Journal of Experimental Medicine*, Vol. VII., No. 4), has published the results of his investigations dealing with a similar condition not only in scarlet fever, but also in measles and other skin rashes. Field comes to the conclusion, based on an extensive series of observations, that the bodies described by Mallory are part of the protoplasm of the epithelial cells, which has been so changed in its chemical nature that its staining reaction differs from that of the surrounding protoplasm. The small round extra-cellular bodies found in the living patient may arise from degenerating cells, but this origin the author does not assert without reserve. In sections of control and normal skin, the nuclei of the epithelial cells were often seen to be indented by the cell protoplasm, giving them an appearance similar to those indented by Mallory's bodies. It would seem that if these bodies were protozoa, they would have been found in the sections from both the living and the dead skin of scarlatina and measles patients, as they were present in the blister fluid. Their occasional absence seems more suggestive of a degeneration than of a living organism. This view is also borne out by the fact that in one instance they were not found immediately after death, but were present in another specimen from the same case removed 24 hours later. Another circumstance of interest that apparently supports the idea that bodies found in the blister fluid are the products of degeneration and cytolytic activity, is the fact that these were found in the antitoxin rashes as well as in those of scarlatina and measles. Field's observations demonstrate quite clearly that a great majority of these protozoön-like bodies arise from degenerating cells and the differentiation between one of the latter and a true protozoon by the morphology and the staining reaction alone will remain a difficult matter. Although it would seem from these facts that the bodies described by Mallory may be what Field claims them to be, nevertheless they may be specific accompaniments of these diseases, and even if we cannot ascribe to them any pathogenic characters, it may be yet be possible that their demonstration will prove of some assistance in the diagnosis of these cases.

Beriberi.—The *Medical Record* reports that at a recent medical meeting Dr. Tertius Clarke read a paper on this subject, discussing the various theories concerning its etiology. He said the arsenical theory was based on the similarity of symptoms, and on the finding of arsenic in the hair and toenails of some patients; but the herpes, the pigmentation and the painful feet of arsenical neuritis were not seen in beriberi. In addition to this the neuritis of beriberi was chiefly parenchymatous, while that of arsenic was chiefly interstitial. The rice theory had its main support in the almost complete immunity of Tamils from the disease in a country where beriberi was one of the three chief causes of death. These Tamils subjected their rice before husking to a preliminary boiling, while the other races husked their rice raw, and so it could become contaminated by the poison which was in the husk. This was not the only difference between the Chinese and the Tamils, for the former rarely took hot things with their rice, whereas the Tamils always took a quantity of pungent things

containing essential oils, which it would be reasonable to regard as preventives. The place theory supposed that the virus existed in certain places or gangs, some considering that the organism, others that only the toxin produced by the organism gained entrance to the system. Only conjectures could be made as to how the organism or toxin entered the system. The theory of Hamilton Wright was that beriberi was 'an acute infectious disease having a definite primary lesion' in the stomach and small intestine, and that the casual organisms might be ingested in any food and drink accidentally contaminated and might 'multiply and produce a toxin both in the contents and walls of the affected stomach and in the small intestine.' The chief support of this theory was the finding of gastroduodenitis in all cases in which death had occurred in the early stages of the disease. Bearing on the rice theory, Dr. Clarke related an experience of his own. He was in charge of a hospital and of an Asylum for Decrepit Vagrants in Lower Perak. The hospital had been in use for several years; the asylum, though an old building, had for some time been empty. The hospital and asylum were about three hundred yards apart; the soil, air and water supply were the same. The hospital had cement floors and very well ventilated wards; the asylum had raised wooden floors and very badly ventilated wards. There were about sixty Chinamen in the asylum, and about thirty in the hospital daily. The food in the two institutions was similar in quantity and quality, and was supplied by the same contractor. The conditions at the hospital were, on the whole, far better than they were at the asylum, except for the one fact that the clothing, bedding and utensils at the hospital had been in use for some time, whereas all these things at the asylum were absolutely new. Beriberi cases were admitted into both institutions, but of thirty cases in the hospital between the middle of November, 1903, and the end of the year, six originated in the hospital in men admitted for other diseases, and twenty-nine of the thirty patients died, showing an extraordinary virulence. During the same period at the asylum no beriberi paients died and no new cases occurred among the inmates. After very thorough disinfection of the hospital which included boiling all clothes, perchloriding the bed-boards, floors and walls, and changing the patients around so that the Tamils occupied the Chinese ward and the Chinese the Tamil ward, no more cases arose. No change was made in the diet. No Tamils acquired the disease, though their rice was the same and actually cooked in the same vessel with that for the Chinese. It might be noted, however, that they had hot curry-stuffs and no pork.

Dr. Clarke said it was quite the exception for dressers, or even for ward attendants, who might sleep every night in beriberi wards, to acquire the disease. He had known a Chinaman who had been a ward attendant for nine years (and who must have slept many hundred times in a ward containing thirty or forty beriberi patients) leave in order to go tin mining, and come back into hospital in a few months with beriberi.

The late Dr. Louis Vintras contributed to *The Hospital,* November 26, a paper on beriberi which possesses particular value in view of the reported ravages of the malady in the Japanese army, which is in other respects so well guarded from the attacks of disease. Dr. Vintras had had a long experience in observing the disease while in Brazil and the Guianas, and his conclusions are therefore of interest. His belief was that the malady is neither endemic or epidemic, but is primarily due to privations and faulty nutrition, and that both white and coloured people are equally liable to it. He states, moreover, that as Professor Achermann, the president of the Norwegian Commission on the disease, has recently established, there is no essential difference between Asiatic beriberi and ship beriberi. The difference in the symptoms on which it has been sought to lay so much stress, is a difference due simply to the conditions under which the patients find themselves, and not to any fundamental pathological difference. For the symptoms differ as largely among Asiatics as they do among the members of white crews, nor can it be said that the form it assumes is more severe with the one class of patients than with the other.

The writer pointed out an important pathological feature in connection with the disease, which is that when the damage done to the nerve endings has reached a certain point, though the progress of the disease may be arrested, the affected parts of the nerves do not recover and the paralysis and subsequent deformities are irremediable.

Dr. Vintras summed up as follows: 'Beriberi will appear wherever life is dependent for any length of time on foods, whether animal or vegetable, whose nutritive value has become impaired, more especially when people are at the same time subjected to heavy physical strain, or to long exposure in debilitating climates. Our present knowledge of dietetics is too imperfect for us to formulate the exact relations between the different constituents of our foods and the different tissues of the body. Otherwise, knowing that it is nerves which are primarily affected in beriberi, we should be able to say what is the particular impairment in food generally which is responsible for the causation of this disease.'

Leprosy.—Leprosy existed in Egypt in prehistoric times and extended to another land only when intercourse was established between the two countries. It reached Greece at about 345 B.C., Italy in the first century before Christ, and from the latter country extended to Germany, France and Spain. Crusaders returning from the Orient also brought back the disease in later times and eventually all Europe was infected. Leprosy is known to have existed in Great Britain in the tenth century, and from that country it was carried to Iceland and Greenland. From Germany it extended to the Scandinavian countries, and from the latter to Finland and Russia. It also reached Russia from the south and east, and in the south it was at one time called the Crimean disease. The West Indies and South America probably were infected from Spain, and through these channels the disease was carried to the southern states. The leprosy of the western states seems to have been imported by Norwegian immigrants chiefly. In 1902 the United States leprosy commission found 278 cases in that country. One hundred and eighty-six of these individuals probably contracted the disease in that country, 120 were born in foreign countries and 145 were native born. The disease also extended around the globe in the opposite direction, reaching China, Japan and the East Indian Islands from India. The Sandwich Islands became infected in the nineteenth century.

The contagiousness of the disease appears to have been recognized at a very early period. In 636 A.D., leprosy houses were instituted in Italy and other countries, and the practice of segregating lepers soon became general. The hospitals were called Lazarus houses in middle Europe and St. George houses in Scandinavian countries. Pipin and Charles the Great declared marriage between lepers illegal. The rapid disappearance of leprosy in middle Europe during the sixteenth century is ascribed largely to the segregation of the patients.

In 1872 Hansen announced that small rods, sometimes intracellular and sometimes free, were to be found constantly in teased preparations of leprous tissue. These rods, leprosy bacilli, are now universally recognized as the cause of the disease, and in 1879 they were stained by Neiser and a year later by Hansen. The organism is non-motile, has about the dimensions of the tubercle bacillus, the same staining reactions, and frequently shows a beaded appearance (degeneration forms (?)). It is said to take up dyes more readily than the tubercle bacillus, but the difference is not so great as to be distinctive. It stains by Gram's method.

Success in cultivating the bacillus has been reported a number of times, but the researches of others have failed to confirm these successes. Up to the present time it is probable that the organism has not been made to grow in artificial media. The resemblance of the bacillus to other acid-fast organisms, which are not pathogenic for animals, and the non-susceptibilty of experiment animals to leprosy, are conditions which render very difficult the identification of a culture as that of the leprosy bacillus. Nicolli is said to have produced leprous nodules in monkeys by inoculating them with diseased tissue.

So far as known the organism has no natural existence outside the human body, and it is disseminated only by the secretions of the diseased. It is discharged chiefly through the secretions of the nose and the upper respiratory passages, the surfaces of which are so commonly the seat of leprous ulcers, and also through ulcerating lesions of the skin. Expectorations, sneezing and coughing have approximately the same significance for the dissemination of leprosy bacilli as of tubercle bacilli. Infected droplets of sputum may be emitted by forcible speaking. It is stated that the organisms found in the sputum and nasal secretions appear to be largely degenerated, a condition which may lessen the infectiousness of these substances.

The infectiousness of the leprosy bacillus is of a low character. 'Epidemiologic experience teaches that infection occurs only through intimate and prolonged association with the diseased, in which doubtless uncleanliness plays a very important rôle' (Gotschlich). A leprous husband eventually infects his wife, and the children of lepers commonly develop the disease early in life. The high percentage of leprosy which is noted among the laundresses of infected localities indicates that the disease may also be transmitted by indirect contact. Gotschlich throws some doubt on the importance of dust infection since so many of the bacilli found in sputum appear to be degenerated. Nothing is known of the resistance and viability of the organism outside the body.

On account of the early appearance and almost constant occurrence of leprous lesions in the nasal passages Stricker believes that the latter constitute the chief infection atrium; of this Hansen is not positive. Nasal ulcers may be present in latent or apparently healed cases. Kolle cites a case showing extensive involvement of the spleen and liver in which the intestinal tract was considered the infection atrium. In some instances in which disease is first noted in the feet, the organisms are supposed to gain entrance with infected soil through abrasions in the skin. According to Cornil and Babès, infection may take place through the hair follicles and sebaceous glands. The theory of Jonathan Hutchinson that leprosy may be contracted through eating diseased fish, or that the latter in some way may render the individuals susceptible to infection is not generally accepted. Hereditary acquisition of the disease is of doubtful occurrence, although the bacilli have been found in ova (Babès) and commonly are present in enormous numbers in the testicles. Hansen states, however, that he has never found them in the female generative organs.—*The Journal.*

Because of the failure to cultivate the leprosy bacillus, experimental work with the serum and cells of men and animals, by which the conclusions as to the defensive powers of the body might be drawn, cannot be carried out.

The principles of prophylaxis may be illustrated by citing the practices in Norway. Originally all lepers were confined to institutions. At the present time, however, only indigent lepers and those who can not be suitably cared for at home are required to enter an asylum, where they live under the best hygienic conditions. Other patients are allowed to remain at home, with the understanding that they sleep alone and, if possible, have separate rooms, that their clothing, linen and eating utensils be used by on one else ,and that proper precautions be taken in the washing of linen. Dressings and bandages must be burned. Leprous mothers not to nurse their offspring; kissing to be prohibited; under no circumstances should a leper touch food to be eaten by others. Under these regulations the number of lepers in Norway has decreased from 2,870 in 1856 to 577 in 1900.

In the May number of the St. Thomas *Hospital Gazette,* Dr. G. Armauer Hansen gives an interesting account of leprosy in Norway. It is not known when the disease was introduced into that country. Dr. Hansen thinks it probable that some of the Vikings caught the disease on their cruises to the north of France, England or Scotland. Nothing positive is known about leprosy in Norway before 1277, when King Haakin V. by his will decreed that the St. Catharina Hospital in Bergen should only admit lepers. Later there was a hospital in Tinsberg and one at Hamar, and that, says Dr. Hansen, is all that is known about the disease in Norway till 1840,

when Danielssen and Boeck began their memorable researches. Then it was that, in the words of Virchow, leprosy entered into the number of scientifically studied diseases. By the census of the lepers in Norway, made in 1845, they found that the total number was 1,122, and their investigations led them to the conclusion that leprosy was essentially a hereditary disease, but that it might also arise spontaneously as the result of bad living and a wet climate. In accordance with the pathological concepts of the day, they thought the disease was caused by a dyscrasia—too much albumen in the blood. At their suggestion refuges in which poor lepers could be cared for and treated were established at Bergen, at Molde and at Trondjem ; 'thereby,' says our author, 'were taken the measures which have proved so successful.' Hansen began his studies on leprosy in 1868 under the guidance of Danielssen. In 1871 and 1872 he made researches on the etiology of the disease in rural districts, and in this way he found that many facts as to the spread of the disease could be much better explained by contagion than by hereditary. He was thus led to search for a parasitic agent, with the result that he made his famous discovery. At the same time he revised the statistics of the prevalence of the disease. He found that, whereas the number of lepers in 1856 had been thought to be 2,079, there really were 2,833. Careful inquiries satisfied him that no decrease in the number of lepers had taken place till that time. Since then the records have been accurately kept, and they show that the disease has steadily diminished, a result which in Hansen's opinion can be explained only by the system of isolation, partial as it was, which was adopted. 'It would,' he says, 'be highly remarkable that the improvements in the preparation of fish food should set in exactly at the same time as the isolation of lepers set in.' But it is known with certainty that no such improvement in the way of dealing with fish took place at that time. When Hansen made his researches in the country districts in 1871 and 1872 he found that the peasants still consumed badly cured fish in large quantities while leprosy was already decreasing. He sums up—and he gives his conclusion the emphasis of italics—that *the fish diet theory of leprosy does not hold good for Norway, and probably not for any other locality.* While the fish theory cannot explain the decrease of leprosy in Norway, he is inclined to consider that decrease the best argument so far available in proof of the contagiousness of the disease.

If there be still any who do not admit the contagiousness of leprosy, the case brought forward by Professor Wolff of Strassburg at the International Congress of Dermatology, held last year at Berlin, should prove convincing. The facts are as follows : On November 2, 1903, a man suffering from undoubted leprosy attended Dr. Wolff's skin clinic. After spending five years in Tonquin he had returned to his native place, Urbach. At the end of two months he was admitted to the hospital there. Thence he had been sent on to Strassburg for treatment. In the latter city he remained in hospital till his death, which occurred on July 4, 1904. On February 2, 1902, a nephew of the foregoing presented himself at the clinic. He was a robust young fellow of 19, and had always been quite healthy until recently, when he complained of sharp pains in the back. He had never resided out of Urbach. During the two months' sojourn of the leprous uncle in the house of the young man's parents in that place the lad had often played with him and kissed him. On investigation the lad was found to be suffering from leprosy. This instance of the disease occurring in a leprosy-free area is on a par with the well known Irish case recorded by Dr. Benson.

The subject of leprosy has attracted attention in the United States this year.

On Monday, May 15, there was a conference of representatives of State Boards of Health with the Surgeon-General of the Public Health and Marine Hospital Service, Dr. Wyman. Twenty-seven states were represented.

The first subject discussed was the control of leprosy.

It seems to be the general opinion that the danger from leprosy in that country is increasing. Dr. Geddings, of the Marine Hospital Service, read a report showing

that there are 278 lepers known of in the United States at the present time; 176 males and 102 females. One hundred and forty-five are American born and 129 foreign born. One hundred and eighty-six apparently contracted the disease in that country and 68 abroad. But 72 of the cases are isolated, the others being at large.

The establishment of a National Lepers' Home, for the segregation of all lepers was advocated. Dr. Wyman stated that a bill had been presented to the last Congress for such a home, and another one providing for the study of leprosy in the Island of Molokai, Hawaii, under the supervision of the Public Health Service of the United States.

A bill recently passed by Congress provides that when the Territory of Hawaii shall have ceded to the United States in perpetuity a tract of land one mile square within the leper settlement on the Island of Molokai, a hospital station and laboratory of the United States Public Health and Marine Hospital Service shall be established thereon for the study of the methods of transmission, cause and treatment of leprosy. It further authorizes the Secretary of the Treasury to cause the erection on a site selected of suitable and necessary buildings, and that the surgeon general of the Public Health and Marine Hospital Service, through his accredited agent, may receive patients afflicted with leprosy and committed to his care under the legal authorization of the Territory of Hawaii. These patients are not to exceed forty in number to be under treatment at any one time, and they shall remain under the jurisdiction of the surgeon-general until returned to the proper health authorities of Hawaii.

The surgeon general, with the approval of the Secretary of the Treasury, is authorized also to detail, or to appoint, for the purposes of these investigations, any medical officers, acting assistant surgeons and others who may be necessary for the purpose. The sum of $100,000 is appropriated for the erection of the buildings, and $50,000 for the maintenance and pay of officers and employees for the fiscal year ending June 30, 1906.

At the Tracadie Leper Lazaretto continued good results follow the treatment spoken of in my last annual report. All the patients who take this treatment—chaulmoogra oil and strychine, with creolin outwardly—are improving under it both in health and spirits. The appalling darkness of their former hopeless condition being now lightened and brightened by gleams of hope. One patient, a man of 40, is so apparently cured of all symptoms of the disease that I felt justified at my last inspection of the lazaretto in approving of his going home, on the condition of his reporting himself from time to time for examination by the physician of the institution. He has been in the lazaretto for five years.

Previous to his being thus released all the ulcerations on his body and limbs had completely healed, and repeated microscopic examinations of the mucus from his mouth, throat and nostrils had for some time failed to reveal the presence of the leprosy bacillus.

Whether this apparent cure will prove permanent or not the future, of course, alone can show.

With regard to this question of cures it is well known that spontaneous cures do take place sometimes in leprosy, or rather spontaneous cessations of the disease.

Thus in the history of this lazaretto Dr. Smith reports the following cases: Judith Benoit entered in 1879, discharged in 1889. Augustin Losier, entered in 1879, discharged 1885. Louis Manzeroll, entered in 1882, discharged in 1890. Maurice Benoit (the man spoken of in my last annual report) entered in 1878, discharged in 1889.

Thus the cure in the case of the man discharged this year may also be spontaneous and not due to the chaulmoogra oil. But there can be no question of the benefits of this treatment in any case.

With regard to the theory of a fish diet as a cause of this disease, as held by Jonathan Hutchinson, the experience of our lazaretto is against it. And it may be of

interest to note that all the four discharged patients here mentioned by name are stated to have returned to an almost exclusively fish diet, and all remain free from any return of the disease. It is of course possible, however, that the very fact of their spontaneous cure may imply such an amount of self-immunization as may protect them from further attack.

Tuberculosis.—The chief event during the year in connection with this disease has been the holding of the International Tuberculosis Congress in Paris this month. And the chief event of that congress has been the announcement of Professor Emil Behring that he has succeeded in rendering animals immune, and can probably cure them when the disease has been fully developed. No experiments have yet been made by him on man.

At the closing session of the congress von Behring announced that in the course of the last two years he had established the existence of a curative principle entirely different from the antitoxic principle. It is the essential element, he stated, in the immunizing action of the vaccine with which he has been successfully combating bovine tuberculosis. Four years of experience have demonstrated the efficacy of the bovo-vaccine, and it is being applied now on a large scale in agricultural circles. 'The curative principle,' he continued, depends on the impregnation of the living cells of the organism with a substance derived from the virus of tuberculosis, which I call TC. When the TC has become an integral part of the cells of the organism of the animals treated with it, and has become transformed by these cells, I designate it as TX. In the bacillus of tuberculosis the TX, or rather the TC, pre-exist as an agent endowed with a large number of extraordinary properties. In the bacillus this agent has the function of a formative substance. It has also fermentative and catalytic properties. It can fasten itself by contact on other substances—a phenomenon called 'adsorption'—and has assimilating properties, in short, it represents the 'quasi vital principle' of the bacilli. In cattle, in the process of rendering them immune to tuberculosis, the TC is freed from accidental substances. It exerts a symbiotic action inside the cells of the organism, especially in the cellular elements which are derived from the germinal centres of the lympathic tissue. The presence of the TC is the cause of the supersensitiveness to Koch's tuberculin, on the one hand, and of the protecting reaction against tuberculosis on the other hand. This conception of a cellular immunity is entirely different from the antitoxic humoral immunity.' The *Journal* of October 17, 1903, page 994, presented Behring's announcement in regard to vaccination of cattle against tuberculosis. (See also page 620 of volume xlii.) His experience has convinced him that the technic was inapplicable to man, it being unwise to inject live tubercle bacilli into human beings for therapeutic purposes. He continued, in his congress address: 'The discovery of this curative principle is destined, I believe, to protect human beings threatened with phthisis against the injurious action of tuberculous infection. As I studied it more and more I found that the relations between vaccination and immunity became plain, and that it solved one after another of the puzzling problems in regard to the nature and mode of action of anti-diphtheria serum. After the discovery of the curative principle my efforts were directed to produce it *in vitro* and thus spare the cells of the organism the arduous and sometimes dangerous task of elaborating the TX under the influence of the TC. This I have accomplished, substituting passive immunization for the active immunization of my bovo-vaccine. The TC has to be freed from the substances which interfere with its therapeutic action. There are three groups of such substances in the body of the bacillus. The first is a substance which has a fermentative and catalytic action and is soluble in water. The toxic elements in Koch's tuberculin are derived from this substance. It posseses all the physical, chemical and tinctorial properties of volutin, and I call it TV. A single gram of this substance in the dry form is more powerful than a liter of Koch's tuberculin. The second substance is soluble only in a neutral salt, such as a 10 per cent saline solution. I call this substance TGL, as it is like globulin.

The third group includes various non-toxic substances, soluble only in ether, alchohol, chloroform, &c. After the bacillus has been freed from these three groups of substances it still retains its shape and staining properties, but it can be modified into an amorphous substance which is absorbed by the lympathic cells. The amorphous substance is elaborated and metamorphosed by these cells and they become oxyphile and eosinophile. Parallel with this transformation of the cells under the influence of the amorphous substance, the TC, the organism acquires the condition of immunity. One of the fundamental facts is that while the TC is not capable of reproduction, it yet has the power of inducing the formation of the tubercle. The tubercle thus created never undergoes easeation and never softens. It corresponds exactly to 'Laennec's tuberculous granulation.' In certain conditions the TC may also induce gray or gelatiniform infiltration.' In conclusion, Behring recalled that four years elapsed after his communication in regard to anti-diphtheria serum before the profession at large accepted it. Its acceptance was hastened by Roux's cordial backing, and he hopes that he may be fortunate enough to obtain such a friend for this new remedy, with as much conquering force and the same disinterestedness above all suspicion.

A despatch from Saranac Lake to the New York *Herald* says:

It has been known here for some time that Professor Behring has been working for several years on a consumption cure, and it is believed that his announcement promised to the International Congress on Tuberculosis to-morrow, will be that the 'cure' lies in feeding patients on the milk of immunized cows.

Dr. M. P. Ravenel, of Philadelphia, who visited Professor Behring a year ago and was shown around his farm, is on a visit to this place. Dr. Ravenel is assistant medical director of the Henry Phipps Institute for the Study and Prevention of Tuberculosis, in Philadelphia, and a director in the National Association for the Study and Prevention of Tuberculosis. He was appointed to represent the United States at the International Congress, at which Professor Behring promises to make known his discoveries, but was prevented from going abroad. He said to a reporter for the *Herald* to-night:—

'I do not know positively what Professor Behring's discovery is, but I know along what lines he was working when I visited him last year. Cattle were being vaccinated by an injection into their veins of living tubercle bacilli attenuated by long growth in an artificial culture medium. The idea was that immune bodies pass into the milk of the immunized animals, and the milk from the immunized cows was to be used for consumptive patients.'

Professor Maragliano had previously shown that without doubt the milk of immunized cows does contain immune bodies. In fact Maragliano's method is being tested at the Henry Phipps Institute in Philadelphia. When I visited Professor Behring I found him being assisted in his experiments by Dr. Roemer. I was given some of the milk from the vaccinated cattle and asked if I could detect any preservative in it. I thought that I could, but others said they could not. Professor Behring was using a new preservative called sofon.'

Dr. Ravenel said he wished it distinctly understood that he did not know positively what Professor Behring's cure consisted of, but merely knew along what lines he had been working. Possibly he has made some unannounced discovery within a short time. It is understood here unofficially that Professor Behring contemplated forming a company that would, as a business enterprise, erect a large sanitarium where the patients would be treated with the milk from immunized cows. It is also understood in some quarters that he expended considerable of the fortune he made with his diphtheria serum in searching for a consumption cure.

He was not the discoverer of the diphtheria bacillus. The bacillus was discovered by Dr. Klebs, father of Dr. Arnold C. Klebs, of Chicago, and Dr. Loeffler, but Professor Behring discovered the cure.

Physicians here are not ready to admit that his cure for tuberculosis will prove

a cure in reality. So many remedies have been announced as sure cures and later on have been proven as useless that the physicians here are sceptical. On the question of his right to retain the profits of his discovery there is some division of sentiment. In Germany such a proceeding is thought to be proper, but there is a different feeling here. However, those physicians who think he used the fortune made with his diphtheria serum to find a cure for tuberculosis are inclined to deal leniently with him.'

London medical weeklies do not take kindly to the pronouncement made by Dr. Behring at the recent Tuberculosis Congress in Paris in reference to the discovery of a cure for consumption.

An article in the *British Medical Journal* just out, declares: 'It may be pointed out that as far as the material which Dr. Behring has laid before us is concerned, there is no reasonable justification to anticipate any important progress in the treatment of tuberculosis. Dr. Behring failed to convince the majority of scientists in Europe that he had done a great work when he delivered his address in Cassel, and it is not too much to say that if it were not for his name having become great in connection with the diphtheria antitoxin, this work would not have aroused much notice.'

'It has not been accepted, and therefore one fails to see how this new research which is to a certain extent built up on immunizing experiments, can be ever provisionally accepted. Going a little further into the inquiry, we are given to understand that active immunization, which he believed he had previously produced, could be substituted by a passive immunization, and by means of these anti-bodies a curative process could be achieved. This of course, applies to laboratory animals, such as guinea pigs and rabbits, so that even if Dr. Behring can show later, and others can confirm his work, that true passive immunity can be produced on these animals, it does not by any means follow that the same applies to man.'

The *Lancet* says: 'Dr. Behring is a pathologist of world-wide reputation, with a splendid record of past achievements, and we may hope that his confidence in his own work will again be justified. None the less, we cannot but deprecate the great publicity which has been given to the investigation which at the present time is very far from complete.

'It appears to us that such congresses as that at which the announcement has been made have a designedly public character. Their role is to give opportunities for bringing forward a finished work in relation to the treatment and prevention of tuberculosis, among other diseases, and to educate public opinion in regard to these matters.

'Such assemblies are certainly not intended for the presentation of an incomplete work or the utterance of heterodox views as to the pathology of the disease.

'To bring forward such an investigation and to allow it to be published in lay journals, with all its complex technicalities, is to invite misrepresentation, and Dr. Behring has only himself to thank if he is made to say things which he never intended.

'Another painful aspect of the publicity which has been given to his statement is that it is calculated to raise hopes which, even at best, can only be realized in the distant future.'

At the last session of the Dominion Parliament a resolution was moved in both houses to the effect: That in the opinion of this House the time has arrived when parliament should take some active steps to lessen the wide-spread suffering and the great mortality among the people of Canada, caused by the various forms of tuberculosis.

As a result a joint committee of both houses was formed which presented the following report:—

The Joint Committee of the Senate and House of Commons appointed for the purpose of considering what further steps should be taken and what suggestions can

be made in the direction of the suppression of tuberculosis in Canada, with power to send for persons, papers, and records and to report, have the honour to report as follows:—

1. The Canadian Association for the Prevention of Consumption and other forms of tuberculosis, and various organizations of the same character in Canada, and prominent medical men were invited to make such suggestions as they might deem advisable on the question which was the subject of reference to this committee, and valuable suggestions and a large amount of information have been received, and have been made use of by your committee.

2. Until quite recently tuberculosis was regarded as generally hereditary and incurable, but modern discoveries have established that it is a communicable disease, and to a large extent curable as well as preventable.

3. There is in Canada a permanent corps of consumptive invalids, numbering at least forty thousand persons, of whom eight thousand die annually. In the provinces of Ontario and Quebec it is an ascertained fact that the deaths from tuberculosis alone are more than twenty-five per cent greater than from diphtheria, scarlet fever, typhoid fever, measles and whooping cough combined. Apart from the humanitarian considerations involved in the question, the financial loss alone entailed upon Canada by such an annual mortality is enormous, estimated by competent authorities at over $8,000,000 a year, which makes it imperative for the state to adopt the best possible measures of prevention and cure.

4. The problem of tuberculosis involves a social movement which does not affect one province, but all provinces; one district, but all districts; one class, but all classes in the community, in country as well as in town. It is a movement of so wide a character that, for it to have adequate practical results, the co-operation of the central government is absolutely essential.

5. The principle involving the interference of the Dominion government for the suppression of diseases of this kind was recognized immediately after confederation, and is embodied in the statutes of 1868, 31 Victoria, chapter 63, from which the following is extracted :

(7) Whenever Canada, or any part thereof, appears to be threatened with any epidemic, endemic, contagious or infectious disease, the Governor may, by proclamation, make such regulations as he thinks proper and necessary to prevent the introduction of such disease from beyond the limits, or to prevent its spread within the limits of Canada, and otherwise protect the public health, and he may, from time to time, revoke or amend the same, or make others in their stead in like manner, or may impose penalties, forfeitures and punishments for the breach thereof, and such regulations shall be published at least twice in the *Canada Gazette,* and the production of copies of the *Gazette* containing such proclamation, shall be evidence of the making, date and contents of such regulations.

(9) By such regulations the Governor in Council may appoint for any specified time, one or several 'Central Boards of Health' and may name the members thereof, and also such medical and other officers and servants as he may deem necessary to assist such boards, and the powers and duties of the said boards shall be such as are affixed to them by such regulations, and may be exercised by any number of the members thereof mentioned in the said regulations as constituting the quorum thereof; and the powers and duties of such boards shall cease on the revocation or at the time of the expiration of the regulations aforesaid.

(10) When(and so long as such regulations are in force, it shall be the duty of every municipal corporation or county sessions within Canada to organize a local board of health for the limits of their respective jurisdictions, and such local boards or any three members thereof, shall have power to act under the regulations aforesaid, and the direction of any central board of health, designated in such regulations, and the duties of such local boards of health shall be to enforce generally all sanitary measures required, and to carry out the regulations of the Governor in Council, and such orders

as may be issued by the central boards in pursuance of the provisions of such regulations.

(11) In the case of municipal corporations or county sessions neglecting or refusing to appoint a local board of health as aforesaid, or in the absence of any such authority in any locality, the Governor in Council may nominate persons within the limits of such municipal corporation, county or locality, to constitute such local boards of health.

6. The problem of preventing and curing the disease is exceedingly complex and necessarily entails a very large expenditure. The work may be taken hold of by the Dominion government or by the provincial and municipal authorities with the aid of the Dominion government.

7. In the opinion of your committee the federal government should be prepared to contribute yearly to each province a considerable share of the annual cost of dispensaries, inspection, the erection and maintenance of sanatoria and whatever other agencies may be found necessary to secure the desired end; the province, municipalities, individuals and benevolent associations contributing the balance; the federal government to prescribe the condition upon which the several institutions shall be entitled to their share of the subsidy, and also to have the right of inspection of each institution and of its books at any time, and also power to withhold its contribution in respect of any institution not fulfilling its requirements.

8. Your committee further suggest that unless the Dominion government feels prepared to take hold of the matter itself, a conference should be held at as early a date as possible between the federal and provincial authorities, for the purpose of determining the best action which should be taken in the premises.

9. Your committee suggest that the recommendations embodied in the present report be presented to the government by a joint delegation of both houses; and that their attention be again called to the resolutions passed unanimously by the Senate and by the House of Commons respectively, of which copies are hereunto annexed.

All of which is respectfully submitted.

Much educational work has been done throughout the year in connection with tuberculosis. Sanatoria have done their part, but many many more have been reached and benefited by dispensaries and by day-camps. The day-camp is very largely used in Germany and also in other countries. I visited one at Boston, Mass., with great interest. A small administration building, tents for dining, &c., and a number of easy deck chairs or couches on a sunny knoll with shade trees nearby, made up practically the whole necessary outfit. Here tuberculosis patients were brought in the morning, were kept in the open air all day, well fed at appropriate intervals, taught the use of the paper handkerchief or spit cup, and quietly instructed in rudimentary hygiene as applied to their case by the attending trained nurse and visiting physicians, so as for one thing to thus minimize the objections to their unavoidable return to their homes for the night. In this way between 30 and 40 were being daily benefited at an expense, I was told, not greater than that of the average cost of one bed in a sanatorium.

Anti-typhoid inoculation.—The German commission appointed to consider the use of anti-typhoid inoculation in the army, have presented an important report. They agree with the conclusion come to by British committees of inquiry, that it is impossible to doubt that inoculation can confer a certain measure of protection, but that it is urgently desirable to seek further information based so far as possible upon absolutely trustworthy data, with regard to the degree and duration of the protection conferred.

Japan's best victory.—Japan's work in war sanitation has been unprecedented. Before the Association of Military Surgeons, held at Detroit on the 28th of last month, Major Seaman delivered an address in part as follows:—

'The success of Japan in the recent conflict with Russia was due preëminently to three fundamental causes: First, thorough preparation and organization for war; second, to the simple, non-irritating and easily digested ration of the Japanese troops, and third, to the brilliant part played by the members of the medical profession in the application of practical sanitation, the stamping out of preventable diseases in the army—thereby saving its units for the smashing of the enemy in the field. It must never be forgotten that in every great campaign an army faces two enemies: First, the armed forces of the opposing foe; second, the far greater silent foe, disease. Of these enemies, the history of warfare for centuries has proved that the first kills twenty per cent of the total mortality in the conflict, whilst disease kills eighty per cent.' Major Seaman cited tables of statistics of battle records for two hundred years, showing that there has rarely been a war in which at least four men have not perished of disease, for one from bullets. He continued: 'But the crowning piece of imbecility was reserved for our late war with Spain, where more than ten were needlessly sacrificed to ignorance and incompetence for every one who died on the firing line or from bullets. This, too, in the short campaign of six weeks.'

'All of these statistics were studied with the minutest care and detail by the Japanese. Their authorities recognized that, in order to be victorious over a foe like Russia, this great silent enemy that slaughters 80 out of every 100 that fall, must be overcome. And the medical men of the army did it.' The speaker then showed the actual figures of the killed, wounded and sick in the Japanese army, from February, 1904, to the end of April 1905, which averaged nearly five deaths from bullets for one of disease, or 900 per cent better than the average in history. Major Seaman said: 'This record is unparalled and unapproached, and the medical men of the army achieved it.'

This marvellous result was attained, Major Seaman said by the work of ten years, beginning immediately after the war with China, when Japanese statesmen realized Japan would again have to go to war to preserve her independence as a nation. The great amount of illness likely to appear in the army was taken into consideration and the steps for elimination were taken.

Every hospital throughout Japan, and every base and field hospital in Manchuria has its bacteriological laboratory.

'Too much cannot be said in enthusiastic commendation of this side of the service. No man suffers from temperature but whose blood goes under the microscope. Malaria, is malaria, and typhoid is typhoid in the Japanese army. Diseases are but guessed at, as they were in Cuba, the Philippines and South Africa, where often for a full week the physicians attempted to diagnose cases by sleight of hand and trick of eye. The limits of this paper do not admit of more than the merest reference to the splendid system of sanitation followed in the field. Suffice to say that during the campaign extending over a year and a half, with from 300,000 to 600,000 soldiers undergoing the severest hardships and privations of active service, there are in the Japanese army thirty-six men out of every one hundred who have never reported at sick call; thirty-six men who never saw the inside of a hospital or were sick in quarters, a record absolutely unparalleled. The war has taught many lessons and destroyed many ideals in matters military, as in matters surgical. In surgical technique the Japanese have taught the foreigner comparatively little, but in the field of sanitary science and dietetics they have demonstrated, what has never been done before, that "preventable" diseases are actually preventable. They have preserved their armies for the legitimate purposes for which armies are enlisted; the killing and conquering of the enemy in the field, instead of having four-fifths of its mortality victims to the silent foe.

It is against this dreadful scourge, this needless sacrifice, that the Japanese have made their hardest fight and won their most signal victories—victories that will redound more to their credit than even the expulsion of the Muscovite aggressor.

'A despatch received in London on September 21 from the Tokio correspondent of the London *Standard*, giving the statistics of the war to that date, reports: "Killed, 46,180; died of wounds, 10,970; died from sickness, 15,300." This percentage of death by sickness was barely one-fourth of the total dead, which is a record not paralleled in the annals of war.

Surgeon-General Suzuki, of the Japanese Navy, on the same occasion told of two customs that were introduced into the Japanese navy during the recent war, which were of extreme interest and likely to be far-reaching in their influence, because they are simple and, as a rule, possible. It is no wonder that a distinguished medical authority in the United States navy is reported to have said in comment that the Japanese surgeon-general had made perhaps the most valuable contribution of modern times to naval surgery. The suggestions that were carried into effect under his directions, however, are so obvious that it is rather difficult to understand how they did not occur to martial surgeons before this. Although the suddenness of the attack would often prevent their use in land engagements, naval combatants usually have sufficient warning of a battle to allow at least a brief preparation. Dr. Suzuki considers that much of the Japanese success in the treatment of wounds must be ascribed to the order issued before each engagement, that each member of the crew should take a bath and put on perfectly clean underclothing.

His idea is that gunshot wounds are likely to be contaminated by portions of clothing carried into the wounds. The bullet itself may be considered perfectly sterile because of the high temperature to which it has been exposed, and which has continued during its course through the air, thus making it practically impossible for it to collect any virulent germs from the atmosphere. If then the clothing be reasonably sterile, the hope of a sterile wound resulting is greatly increased. As a matter of fact, very few of the sailors and marines wounded during the Japanese naval battles and sieges suffered from septic complications. Very severe wounds, even those which penetrated joints, healed as kindly, as a rule, as those which might be made by the surgeon's knife, under careful asepsis in an operating room.

This, however, is not the only improvement worthy of note in the medical care of their sailors and marines that the Japanese surgeon-general has introduced. The vision of the men who fire the guns of the warship must necessarily be of the very best if their shots are to count. Before every engagement the surgeons examined the eyes of the gunners. Any of them found with slight impairment of vision were treated, and if the impairment was too grave to yield to immediate treatment they were transferred to another station and their places filled by men whose eyes were perfect. And, too, during engagements, every battery crew was supplied with water in which a one per cent solution of boracic acid had been mixed to wash out their eyes when they become affected by powder smoke or dust.

Formaldehyde disinfection.—Dr. A. G. Young, secretary of the State Board of Health of Maine, having noticed that, by mixing potassium permanganate and formalin, formaldehyde gas was liberated, requested Dr. H. D. Evans, the chemist of the board to ascertain if that chemical reaction could be turned to practical account for disinfection purposes.

After a long series of experiments Dr. Evans has suggested the following method, which is very simple: It consists in placing finely powdered permanganate in a large earthen jar or basin and then in pouring formalin over it, the operator escaping from the room as quickly as he can. Six and a half ounces of permanganate of potash are to be used for every pint of formalin employed. A violent reaction immediately follows the poring of the formalin, and formaldehyde gas is liberated in great quantities. After five minutes, over 81 per cent of the gas is liberated and spread all over the room with great force. This first reaction having taken place, sufficient gas is liberated during the following hours to compensate the leakage from the rooms. After three hours, the microbicide action of this disinfectant is as much done as after 16 hours.

The advantages of this method are obvious. As the author says: 'The chemical reaction furnishes all the heat necessary to vaporize the formalin, doing away with all need of fire. The ordinary house can furnish all material necessary for a generator, while the re-agents can be cheaply purchased at any drug store. The method of operation is so simple that any one can attend to it who can tell the difference between a solid and a liquid, requiring only the the pouring of the measured amount of formalin upon the corresponding quantity of permanganate. Absolutely no care is required after mixing the re-agents, the reaction starting and dying out of itself.' The bacteriological results of the Young and Evans method were tested on a large scale by Dr. Russell, the bacteriologist of the board. In a number of rooms, the capacity of which varied from 525 to 1850 cubic feet, and under various climateric conditions, from January to May, 1904, 1529 cultures of microbes were exposed to disinfection, and all remained sterile but 27.

Wireless telegraphy.—Owing to the very frequent interruptions of the telegraph communication with the St. Lawrence quarantine it is proposed to install the Marconi wireless system in connection with this station. An item was voted for it by parliament at its last session. Almost every year the heavy running ice has crushed or broken the cable. This has meant late telegraphic communication each summer, and serious interference with the requirements of the incoming vessels in the spring, and of the service generally. The wireless system will, of course, obviate all this.

Congresses and meetings.—The Canadian Medical Association held its annual meeting at Halifax, N.S., in August last. Amongst other important matters a resolution was passed again urging the creation of a Dominion Department of Public Health under one of the existing ministers. This resolution I have quoted in an earlier part of this report.

The American Public Health Association has held two meetings since my last report, one in Havana, Cuba, in January last, and one in Boston, Mass., last month. Many interesting and valuable papers were presented and discussed. The next meeting is to be held in the city of Mexico.

Inspection duty.—On May 26 I left to inspect the Grosse Isle quarantine station. There were during my visit there nearly 300 second cabin passengers of the ss. *Kensington* in quarantine of observation for small-pox. On July 13, I had the honour by command, of accompanying His Excellency the Governor-General in his visit to the Grosse Isle station. Leaving Ottawa on August 3, I inspected the frontier inspection work at Owen Sound, Sault Ste. Marie, Bruce Mines, Thessalon and Fort Frances. On August 20 I left for Halifax, attended the meeting of the Canadian Medical Association in that city, and inspected at Halifax, Sydney, Louisbourg and Pictou, N.S., Charlottetown, P.E.I. St. John, Chatham, and the leper lazaretto at Tracadie, N.B. I attended as the representative of the Dominion the annual meeting of the American Public Health Association held in Boston, Mass, September 25-29. On the 10th of this month I left for the Pacific coast, inspected en route the frontier inspection work at North Portal, Sask., and subsequently at Vancouver, Victoria and William Head, B.C.

The quarantine stations, &c., Grosse Isle, Que.—At this station and at its substation of Rimouski, 380 vessels have been inspected during the quarantine year, 351 at Grosse Isle, and 29 at Rimouski; 98,141 persons were inspected.

Twenty-five vessels arrived with infectious disease.

The admissions to the hospital were 351. They included cases of small-pox, scarlet fever, measles, diphtheria, chicken pox and enteric fever.

The deaths in hospital were 4.

The much needed second steamer is now under construction.

The most pressing requirements of the station are the carrying out of the wharf into deep water, and the erection of an administration building at the western end, with in addition a few beds for non-infectious cases.

The question of the replacing of the old wooden detention sheds, which date from 1832 and 1848, by modern brick buildings, is becoming more and more deserving of your consideration, as each year passes by.

Halifax, N.S.—Vessels inspected, 255; persons inspected, 44,458.

Nine vessels arrived with infectious disease.

Four deaths occurred at the station of Lawlor's Island, two from marasmus and one from broncho-pneumonia after measles; and one from enteric fever.

An amount was voted at the last session for the erection of a winter hospital at this station.

A new steamer to replace the worn out *Argus*, and the electric lighting of the station are the two most urgent needs of this service.

St. John, N.B.—Vessels inspected, 179; persons inspected, 22,024.

Seven vessels arrived with infectious disease.

The admissions to hospital were 13. The diseases were scarlet fever, chicken pox, diphtheria and measles.

One death occurred from scarlet fever.

At the request of the Board of Health of St. John, Dr. March disinfected the outward going schooner *Winnie Lawry* from St. Martins, an outport of St. John, for New York. A seamen came by rail and joined the schooner at St. Martins, and then developed small-pox after they had cleared from there. There was no spread of the disease.

The two new detention buildings and the winter hospital are approaching completion.

The completion of the water supply is the most urgently pressing want at this station. A deep water wharf is greatly required, and larger disinfecting appliances.

Sydney, C.B.—Vessels inspected, 77. No quarantinable disease presented itself.

The extension to the wharf is nearing completion.

Artesian boring has been suggested to augment and improve the water supply at this station.

Louisbourg, C.B.—Vessels inspected, 22. No quarantinable disease occurred.

The requirements are as last year approximately the provision of similar accommodation to that at Sydney.

Chatham, N.B.—Vessels inspected, 64; no cases of quarantinable disease.

Charlottetown, P.E.I.—Vessels inspected, 9. No quarantinable disease occurred.

The greater part of the roadway to the station has now been sufficiently widened.

William Head, B.C.—Vessels inspected, 176. The number of Asiatic steerage passengers has fallen very much. The increased tax has checked Chinese immigration, and the war has limited that from Japan. There were 2,336 Chinese steerage passengers inspected and 5,378 Chinese members of crews; 2,484 Japanese steerage passengers, and in crews, 1,278. Other Asiatics, 221.

Five cases of measles and one of epidemic dysentery were admitted to hospital.

Various improvements and additions were made at this station this year. New bath rooms for first class passengers, houses for the electrician and for the guards. A site for the guard house and a right of way outside the boundary fence were acquired. This allows for the guards watching and patrolling outside the quarantine boundary at the neck of the promontary on which the station is placed.

Hence an unsuitable guard can be at once got rid of, as could not be done heretofore when the guards were in contact with suspects under quarantine of observation. And with the patrol outside the fence there is not the same opportunity to elude the guards or attempt bribery. Repairs were effected to the wharf. A new steamer is being built for this station. The present small steamer, the *Earl*, will be useful as a reserve and second steamer. By fitting her up with modern disinfecting appliances, the disinfection of vessels at the wharf could be carried out without the present encroaching upon the floor space of the wharf, and the *Earl* would moreover be available for disinfecting vessels in the offing, and sailing vessels in the Royal Roads.

The storage battery has been increased in its voltage; this battery is connected with the houses and with the range lights. By its use fuel is saved, and the running plant can be shut down earlier in the evenings, and save its starting up again in the winter mornings.

A new sulphur dioxide appliance and a second new steam disinfecting cylinder are most pressing requirements at this station.

Victoria, B.C.—Foreign coasting vessels touching at Victoria, 974. Required inspection, 2. No quarantinable disease occurred.

Vancouver, B.C.—One vessel inspected. There were no cases of infectious disease.

Temporary frontier and coast inspection.—In addition to these regular stations, you have this year given the country the additional protection of extra inspecting officers at the following points where, from time to time, peculiar threatenings of disease, or the reported lack of effective health organizations to the south of them, seemed to make the importation of small-pox most to be feared: in Nova Scotia, Canso; in Ontario, Owen Sound, Sault Ste. Marie, Bruce Mines, Thessalon and Fort Frances; in Saskatchewan, North Portal; in British Columbia, Gateway.

The North-west Territories.—Thirty-two cases of small-pox occurred during the year: 3 at Moosejaw, 1 east of Cardston, 1 at Medicine Hat, 24 at Didsbury, 1 at Wetaskawin and 2 at Olds.

All of these were newly arrived immigrants from the United States, except one a resident of Manitoba, who had been away on a visit.

Except for one case which occurred in September, and came under the supervision of the new province of Saskatchewan, the territories have been free from small-pox for the last five months.

Yukon Territory.—There have not been any cases of the major infectious diseases during the year.

Leper lazaretto, Tracadie, N.B.—There are now at this institution seventeen patients on the books, ten males and seven females. Those actually in the lazaretto are fifteen, eight males and seven females. In addition to the man mentioned in my last annual report as out on leave of absence, I was enabled at my last visit of inspecton to authorize the release of another man for the time being, at any rate who is apparently cured of the disease.

As referred to above under the heading of leprosy the use of chaulmoogra oil continues to give encouraging results.

There were no deaths during the year.

Two new patients, both from neighbouring districts, were admitted.

Public Works Health Act.—Your inspector reports that at all the many camps in the various public works throughout the Dominion, he has found the medical supervision, the hospital accommodation given, the medicines provided, and the sleeping

quarters for the men when housed, together or in tents, to be equal to—if not indeed an improvement upon—the very good conditions reported for the last two years.

I have the honour to be, sir

Your obedient servant,

F. MONTIZAMBERT, I.S.O., M.D.Ed., F.R.C.S.E., D.C.L.,
Director-General of Public Health.

The Honourable
The Minister of Agriculture,
Ottawa.

No. 2.

(G. E. MARTINEAU, M.D.)

GROSSE ISLE, QUEBEC, October 31, 1905.

SIR,—I have the honour to submit this my annual report of the St. Lawrence Quarantine Service to October 31, 1905.

There were 359 vessels examined at this station during the year, being an increase of seven as compared with last year. The number of sailing vessels is decreasing each year. This year there were only twelve.

The total number of persons inspected was 98,141, being an increase of 28,030 as compared with last year.

They were divided among the different classes of passengers, as follows:—

First cabin	3,708
Second cabin	16,068
Steerage	49,811
Cattlemen	1,955
Crews	26,129
Stowaways	470

The number of stowaways while not quite as large as last year, still continues very great, and this year they included a number of foreigners who, with those from Great Britain, were very degenerate specimens of manhood, and the majority would have been deported had they been compelled to pass the inspection of the Immigration Department.

Infectious disease was reported or discovered on the following vessels at different times, named in the order of their first arrival at this station with sickness on board: ss. *Montford, Manxman, Tunisian, Ionian, Dominion, Torr Head, Montreal, Victorian, Lake Champlain, Sarmatian, Bavarian, Kensington, Lake Erie, Canada, Lake Michigan, Sardinian, Ottawa, Mongolian, Virginian, Buenos Ayres, Southwark, Lakonia, Mount Temple, Montezuma* and *Athenia*.

The diseases so reported or discovered were: smallpox, scarlet fever, measles, diphtheria, chickenpox and typhoid fever.

Small-pox.—SS. *Kensington,* Captain Marle, sailed from Liverpool May 4 with 294 second cabin and 806 steerage passengers, 1 cattleman, 1 stowaway and 179 screw, arrived at the station at 5 p.m., May 15, with one case of small-pox among the second cabin passengers.

That case was immediately removed to the small-pox hospital at quarantine.

All the second cabin passengers and 41 members of the crew that were considered as having been exposed to the disease, were landed for quarantine and observation.

Everybody on board having been vaccinated, and that part of the steamer occupied by the patient and the second cabin passengers having been thoroughly disinfected, the vessel was released and proceeded with the rest of the passengers and crew on May 18.

No other cases of small-pox having developed among those detained under observation, they were released and left the station on June 1.

The patient having fully recovered was discharged from the small-pox hospital at quarantine on June 13.

On one occasion only a passenger refused to submit to vaccination, although on numerous other occasions parties, who had refused vaccination by the ship's surgeon, allowed your quarantine officer to do it. Their objection was always the same, 'The manner and methods employed on board.'

The party who refused vaccination arrived here on the ss. *Kensington,* June 18. He was landed for the usual period of observation.

This year has been a very busy one at this station, especially at the hospital where there were 351 persons admitted.

There are actually 20 persons remaining at the hospital.

The number of deaths were four, two from scarlet fever, and two from broncho-pneumonia complication of measles.

Quarantine staff.—Dr. E. Belisle continued during the season the inspection of the weekly mail steamers at the Rimouski sub-station.

Improvements and requirements.—The works for the erection of the building which is to be used as quarters by the employees will be completed very soon, and I beg to hope that it will be ready to be occupied at the reopening of the station next spring.

Although certain amounts have been voted the last session for the wharfs and for the laundrying disinfecting apparatus at this station, these works have not been commenced yet, but I have reason to believe that they will be carried out early next spring.

I have to note with pleasure the fact that the contract to build a suitable steamer for this station has been awarded, and I beg to hope that she will be ready for the reopening of navigation next season.

The chief requirement now is a new building to be erected at the upper division, so as to have an office surgery, a place where to vaccinate passengers, and some rooms where to put passengers suffering from other diseases than contagious ones.

There are still some repairs, &c., absolutely necessary and in the interest of quarantine, the list of which is in the hands of our department.

All of which is respectfully submitted.

I have the honour to be, sir,

Your obedient servant,

G. E. MARTINEAU, M.D.,

Medical Superintendent, St. Lawrence Quarantine Service.

The Honourable

The Minister of Agriculture.

No. 3.

(N. E. Mackay, M.D., M.R.C.S.)

Halifax, N.S., October 31, 1905.

Sir,—I have the honour to submit my annual report for the year ended October 31, 1905.

The quarantine work of this station was uneventful during the year just closed, none of the graver forms of quarantinable disease entered our port and we had only a few cases of the minor diseases to deal with.

Minor diseases were found or occurred on board the following ships :—

SS. *Canada,* December 2, 1904, child convalescent from measles, March 11, 1905, 3 cases of measles, sent family of seven to Infectious Disease Hospital, city.

SS. *Corinthian,* December 11, 1904, child sick with measles ; sent to Infectious Disease Hospital, city.

SS. *Vancouver,* April 2, 3 cases of measles; sent to station.

SS. *Kensington,* April 10, child convelescent from measles.

SS. *Virginian,* April 14, 1 convalescent from measles; 1 convalescent from scarlet fever; wired Dr. March, St. John.

SS. *Carthaginian,* April 24, 1 case of measles. This case was not reported by either the captain or surgeon of the ship. Sent patient to the station where he died from broncho-pneumonia.

SS. *Pallanga,* April 29, 1 case of measles; June 20, 3 cases detained and sent to quarantine, supposed to be suffering from measles.

SS. *Laurentian,* May 6, 1 case of measles sent to the station for treatment.

Brigantine *Boston Marine,* September 26, 1 case of typhoid fever, sent to Infectious Disease Hospital where he died in three days. The patient was in a moribund state when the vessel arrived in port.

In every instance the hospitals and rooms occupied by the sick were disinfected with formalin.

The number of vessels inspected at this station during the year was 255, 22 more than in the preceding year.

The total number of persons examined was 44,458, being 2,257 less than in the past year. They were classified as follows: Cabin, 1,507; intermediate, 7,945; steerage, 25,284 ; crew, 9,348 ; cattlemen, 374.

There were 4 deaths at the station, viz.: 1 from broncho-pneumonia, secondary to measles, 1 from typhoid fever and two from marasmus. The latter were two of the three cases detained, supposed to be suffering from measles.

Masters of vessels reported six deaths on the voyages, form diseases other than quarantinable as follows : ss. *Tunisian,* 1 from apoplexy; ss. *Ionian,* 1 from cerebral hemorrhage; ss. *Sarmation,* 2 washed overboard; ss. *Pallanga,* 1 from fractured skull; ss. *Ulunda,* 1 washed overboard.

Twenty-six stowaways were reported by masters of incoming vessels, and three births.

Inspections are made as promptly as possible, but if we were provided with an inspecting station ashore, having telephonic comunication with Camperdown the service could be much better attended to and it would be more satisfactory to all concerned. The citadel signalling station cannot always be depended upon to report incoming vessels promptly.

We are trying to get rid of night work as much as possible, and with the aid of shipowners and agents we have been fairly successful.

This is the only port, I understand, on the Atlantic coast, at which night inspections are made to any extent in mid-winter. Night work in mid-winter—and we have to do the most of it in mid-winter because of the mail boats—is not by any means a pleasant job. We have sometimes to board ships in the stream at night when the vapour on the water is so dense from frost, that we cannot see fifty feet ahead of us. With such conditions existing we find it difficult to locate ships and dangerous to approach them and board them. In our sister city, St. John, I believe night work is not done. However, notwithstanding all this there would not be so much cause for complaint if our officers were given decent salaries for their services.

We need an inspecting station ashore badly and there is no better place for it in the city than the lumber yard, and now that the government is about taking over this garrison the department could do no better than to secure this place for an inspecting station. This place commands a good view of the entrance of the harbour east and west, and with a small outlay it could be made an ideal dock for our boat in all sorts of weather. As it is now we are tossed about from wharf to wharf with no place wherein to rest.

Our boat is not fit for the work of this station. She is old and out of date. Her boiler is always leaking and needing repairs or her engines are needing fixing. Those entrusted with her repairs either do not know how to do good work or do not want to make a good job for us. She is a bill of expense to us. We need a new and up-to-date boat provided with disinfecting apparatus, and for winter night-work she should have decent sleeping quarters for our men, and the crew should live and feed on board. As it is they have no fit place in our ship wherein to lay their heads at night.

For three months of the year we could not send patients to the station because of ice in the eastern passage. This fact alone proves that Lawlor's island is not a suitable place for a quarantine station, and that it should never have been chosen for such a purpose. The very time we need it most it is inaccessable. For the same reason it is not fit to be used for an inspecting station, and even although we were sure that the channel would always be clear of ice, there are other drawbacks to it being used in this connection. Distance and location are against it. Fog and thick weather, and a narrow channel in dark nights are barriers which cannot easily be overcome. The imperfect signalling of incoming vesels is another, though minor factor to be considered in this matter. Indeed no one familiar with the whole situation would for an instant entertain the idea of making Lawlor's island an inspecting station. With an eye into the future the question that should receive earnest attention is whether to continue it, even as a quarantine station.

The concrete tank is leaking through cracks in its walls. The leakage should be stopped. The water system, other than the tank, is in good working order. The buildings are in fairly good condition and well suited for summer work, but they are not well adapted for our severe winter weather. The bulk of our work is in winter.

We appreciate the action of parliament in voting money for an up-to-date hospital and for an electric lighting plant. We need both badly. The want of a good hospital and matron and keeper is a great drawback to the efficient care of the sick.

Custom house officers should not be allowed to leave vessels subject to quarantine inspection till they are granted free pratique. If this privilege is to be given to them I see no reason why it should not be extended to every citizen of Halifax. These officers can bring disease ashore as well as any other persons. Citizens often wonder why these men should be permitted to treat quarantine regulations with indifference. Such actions on the part of government officials, not having anything to do with quarantine, can only tend to bring the service into discredit. As might be expected these officers not content with going on board themselves often bring their friends

with them. The customs service will not suffer anything, if the quarantine law is enforced as it should be, against its officers.

I have the honour to be, sir,

Your obedient servant,

N. E. MACKAY, M.D., M.R.C.S.,
Quarantine Officer.

The Honourable,
The Minister of Agriculture,
Ottawa.

No. 4.

(J. F. MARCH, M.D.)

ST. JOHN, N.B., October 31, 1905.

SIR,—I have the honour to submit my report for the year ended October 31, 1905.

During this period one hundred and seventy-nine vessels and twenty-two thousand and twenty-four persons were inspected at this station.

The latter are classified as follows:—

Cabin passengers	2,282
Steerage passengers	11,694
Cattlemen	659
Crew	7,247
Stowaways	142
	22,024

Of these I vaccinated two hundred and three on arrival.

Twelve deaths occurred en route on vessels inspected by me. The causes of death were in 4 cases pneumonia; in 2 cases marasmus; and in 6 cases diphtheria, septicaemia, acute meningitis, convulsions, inflammation of brain and nephritis one each.

Quarantinable diseases were found upon or reported by the steamships *Lake Michigan* (twice), *Lake Manitoba* (twice), *Lake Erie, Mount Temple* and *Montrose.*

Nine cases were removed to the quarantine hospital, and seventeen to quarantine of observation.

Four cases were transferred from quarantine of observation to the hospital, bringing the total admission to hospital up to thirteen.

The causes of admission to hospital were in one case scarlatina, in two cases chicken-pox, in two cases pneumonia, in two cases diphtheria, and in six cases measles.

Twelve of the thirteen cases recovered and were discharged. The case of scarlatina developed septic meningitis and died. The body was buried at the station.

None of the graver quarantinable diseases came under my observation during the year.

At the request of the Board of Health of St. John and with your permission, I disinfected the schooner *Winnie Lawry,* on which a case of small-pox had been discovered while this vessel was in Saint Martins, an outport of St. John. The patient, who was removed to the St. John epidemic hospital, had come by rail from one of the northern counties of this province, and had developed small-pox soon after joining his vessel. The vessel having cleared before the character of the disease was known, sailed for New York without having been disinfected, and came into this port, without reporting, for the purpose of securing a cook. Having no authority over her, I immediately reported her presence to the St. John Board of Health. This body promptly quarantined her and while in their custody I disinfected her. There was no spread of the disease.

While on the subject of small-pox, I desire to direct your attention to the unsatisfactory method employed in regard to vaccination by transatlantic steamship companies carrying steerage passengers. Our regulations practically require that all steerage passengers shall be immune to small-pox. A successful vaccination means immunity. In spite of this it is the custom of the steamship companies and their responsible officers to put off the necessary vaccination of their steerage passengers until within one or two days of their arrival here. Then it is rushed through and cards are given to all showing that they are 'vaccinated' or 'protected.' It is impossible for a quarantine officer to determine whether a one or two days' old vaccination is, or may become, a sufficient protection against small-pox, and hence this practice of postponing the vaccination of steerage passengers until the last moment before arrival, is reprehensible and moreover is in effect a flagrant violation of the purpose and intention of our Canadian quarantine regulations. I am assured that you will support your officer in a refusal to accept certificates so improperly issued.

On November 14 last the new hospital building then in course of erection was blown from its foundations and completely wrecked. Rebuilding was begun in March, and is now complete with the exception of the installation of the heating apparatus. The boilers are here, but tenders have not yet been called for for their erection.

The two new detention buildings are practically finished and can be used during the coming winter if it becomes necessary.

The outlook is that we shall have the busiest winter season in the history of the port, and I much regret that the work of connecting the station with the city water service has not been pushed on to completion. There is now no prospect that the water can be turned on at the station this year.

I have the honour to be, sir.

Your obedient servant,

J. E. MARCH, M.D.,
Quarantine Officer.

The Honourable
The Minister of Agriculture.

No. 5.

(HORACE RINDRESS, M.D.)

NORTH SYDNEY, October 31, 1905.

SIR,—I have the honour to submit my report for the year ended October 31, 1905.

The total number of vessels inspected for the year just ended is 77. I am pleased to say that no quarantinable disease was brought to this port during the year. The caretaker's residence and the hospital buildings have been repaired and painted, and are now in very good condition. The hospital grounds have been surrounded by a wire fence. The new wharf, which is nearing completion, will afford very satisfactory accommodation. The water is not good, nor is the supply sufficient for all purposes. I would respectfully suggest the sinking of an artesian well.

I have the honour to be, sir,
Your obedient servant,

HORACE RINDRESS, M.D.,
Quarantine Officer.

The Honourable
The Minister of Agriculture,
Ottawa.

No. 6.

(F. O'NEILL, M.D.)

LOUISBURG, C.B., October 31, 1905.

SIR,—I have the honour to submit herewith my annual report for this quarantine station for the year ended October 31, 1905.

The total number of vessels examined for the year, 22, with 539 men; this is an increase of 5 over last year.

I am pleased to report that no quarantinable disease was brought to this port for the past year.

I would beg to leave to suggest that some provision be made for the purchase of suitable grounds for a station and the erection of a hospital thereon in the near future. Lack of accommodation would greatly handicap work at this station should any contagious or infectious disease arrive here, especially during the winter.

I have the honour to be, sir,
Your obedient servant,

FREEMAN O'NEIL, M.D.,
Quarantine Officer.

To the Honourable
The Minister of Agriculture,
Ottawa.

No. 7.

(PETER CONROY, M.D.)

CHARLOTTETOWN, P.E.I., October 31, 1905.

SIR,—I have the honour to submit my report for the year ended October 31, 1905.

There was no quarantinable disease found on board any vessel arriving at this station during the past year.

The total number of vessels liable to inspection under existing regulations was nine.

The increased accommodation for storing, washing and disinfecting recommended in my last report is now about being provided. The roadway along the shore has also been widened to a sufficient extent over the greater part of its course, but for a distance of about one hundred yards the road, as at present surveyed, runs down on the tide-washed shore, so that passage over it is almost impossible in stormy weather. I would therefore recommend that the road at this point be also moved up on to the dry bank.

All of which is respectfully submitted.

I have the honour to be, sir,
Your obedient servant,

PETER CONROY, M.D.,
Quarantine Officer.

The Honourable
The Minister of Agriculture,
Ottawa.

No. 8.

(J. MACDONALD, M.D.)

CHATHAM, N.B., October 31, 1905.

SIR,—I have the honour to submit my annual report for the year ended October 31.

Sixty-four vessels were inspected at this station during the quarantine year. No disease of an infectious nature was found and all were admitted to pratique after careful inspection.

A small but badly needed wharf or landing was constructed on Middle island during the past summer.

The hospital buildings are in fair condition, but might be improved by the addition of a little paint.

I have the honour to be, sir,
Your most obedient servant,

J. MACDONALD, M.D.,
Quarantine Officer.

The Honourable
The Minister of Agriculture.
Ottawa, Ont.

No. 9.

(A. T. Watt, M.D.)

Victoria, B.C., October 31, 1905.

Sir,—I have the honour to submit this my report on the William Head quarantine station for the year ended October 31, 1905.

The twelve months just ended have been without particular incident. No vessel had to be detained in quarantine owing to the presence of small-pox or other of the graver quarantinable diseases. Five cases of measles and one of dysentery were removed from vessels and treated in hospital here until recovery.

The number of vessels passed was 176. There is a decrease shown as compared to past few years. It is owing in large part to the exemption from inspection made of vessels in coasting trade from San Francisco and ports north thereof. This exemption was made effective on January 1, 1905, and was conceded on account of the improved health conditions in San Francisco and the other ports, no case of plague having been discovered in San Francisco since March 1, 1904, and the outbreaks of small-pox having everywhere subsided. Other factors accounting for the decrease in the arrival of vessels were the continuance of the war between Japan and Russia, causing the retention of the steamers of the Nippon Yusen Kaisha in the transport service, and the fact that the Northern Pacific Steamship Company has not as yet made Victoria a regular port of call with the new steamers which replaced the old fleet formerly coming regularly.

The number of Asiatic steerage passengers has fallen very considerably. The per capita tax of $500 on Chinese has prevented new arrivals entirely, while the war has had the effect of keeping the Japanese from emigrating to any extent. The Chinese now coming are those who have been home on a visit or those destined for other countries, and the same may be said of the Japanese. There were 2,836 Chinese steerage passengers inspected and 5,378 Chinese members of crew. Japanese in steerage were 2,484, and in crew 1,278. Other Asiatics numbered 221. These were subjected to routine disinfection of person and effects at ports of departure and given special examination on arrival here. There were 51 stowaways found and disinfected on board ship.

The conditions in ports with which we are in most constant communication have been much improved so far as the prevalence of epidemic disease is concerned, and to that fact together with lessened chances, with fewer arrivals, of importing disease, must be attributed the immunity from occurrence of disease enjoyed by steamers coming here. Of coures, too, the precautions now taken in the way of examination, vaccination and disinfection of passengers before embarkation must be credited with a share in bringing about this freedom from disease on board ship.

During the past year many improvements were made at the station. New bath rooms for first-class passengers were completed. These are in a brick building finished with hard plaster, impervious and thoroughly sanitary. A house for the electrician and a house for the guards were also built. A site for the guard house as well as a right of way outside of the boundary fence was acquired. This allows of the keeping of the guards outside of quarantine, a matter of importance, as if a man be found unsuitable or unreliable he can be at once discharged. This could not be done when the guards had come in contact with people detained in quarantine. Then with the patrol being outside the fence, there is not the same opportunity for anyone to elude the guard or to attempt bribery.

Extensive repairs were effected to outer end of deep water wharf. The brace piles in fifteen of the bents were renewed and new stringers and planking laid on that portion of the wharf, that is, for about 150 feet. When new stringers and planking are laid on the rest of the wharf and the copper sheathing patched and reinforced where necessary, the wharf will be in thorough repair. All the piling is now good. A shed to put baggage cars under over and a waiting room were erected near the wharf. A covered wagon for conveyance of passengers and their effects from disinfecting buildings to detention quarters was purchased. This is particularly required during rainy weather.

New 'two decker' iron spring beds were put in saloon passenger building and the steerage buildings were fitted with galvanized iron steamer berths. A number of substantial spring cots were also procured. The sleeping accommodation for all classes of passengers is now of the best.

A further number of cells was added to the storage battery, bringing the voltage up to 110, so that it has been possible to have light in the houses after plant has shut down. This has heretofore been at 11 p.m., but since storage battery has been connected with houses, and the range lights as well ,it has been possible to shut down an hour earlier. By running plant to usual time in winter, the storage battery can undoubtedly be relied upon to furnish what lights will be required for the mornings, and thus save starting up the plant again at 6 a.m., as has been the practice. A considerable saving in fuel is thus effected and fully demonstrates the utility of the storage battery under conditions here.

The contract has been let for a new boarding steamer for the station The new vessel is to be of steel, 100 ft. in length, 20 ft. beam, and 12 ft. depth, moulded, and of 300 indicated horse-power. She will be built to Lloyd's rules for 100 A class, so that she will be thoroughly seaworthy and capable of going out in any weather experienced here.

The present quarantine steamer *Earl* was the means recently of saving the government a large amount of money. The C.G.S. *Quadra*, of the lighthouse service, went on the rocks about three miles from the station, and the *Earl* having steam up, as she has always in order to be ready for boarding, went at once to render assistance, and was able to get the *Quadra* afloat. This was just before a heavy gale sprang up which would undoubtedly have caused the *Quadra* to break up had she remained in the position she was in a couple of hours longer. It would probably have cost from $80,000 to $100,000 to have replaced the *Quadra* had she been lost, so that there is something which can be set to the credit side when the expenses of maintaining a quarantine steamer here are considered.

I have the honour to be, sir,

Your obedient servant,

A. T. WATT, M.D.,
Supt. B. C. Quarantines.

The Honourable
The Minister of Agriculture,
Ottawa.

No. 10.

(W. H. K. ANDERSON, B.A., M.B.)

VICTORIA, B.C., October 31, 1905.

SIR,—I have the honour to submit the following report of the laboratory work at William Head station during the quarantine year 1904-05.

The efficacy of several disinfectants submitted by the department has been tested. One case (a Japanese steerage passenger) was proved by bacteriological examination to be non-quarantinable. Various pathogenic cultures have been kept on hand and studied as a routine practice. There has been some addition to the laboratory equipment.

I have the honour to be, sir,

Your obedient servant,

HAROLD ANDERSON,
Medical Assistant.

The Honourable
The Minister of Agriculture,
Ottawa.

No. 11.

(R. L. FRASER, M.D.)

VICTORIA, B.C., October 31, 1905.

SIR,—I beg to submit my report for the year just ended.

Number of foreign coasting vessels touching Victoria, 974; number inspected, 2.

No contagious or quarantinable disease was found on any vessel inspected.

All coasting vessels touching here were exempt from inspection during the entire year.

I have the honour to be, sir,

Your obedient servant,

R. L. FRASER, M.D.,
Quarantine Officer.

The Honourable
The Minister of Agriculture.
Ottawa.

No. 12.

(L. N. MacKechnie, M.D.)

Vancouver, B.C., October 31, 1905.

Sir,—I have the honour to submit this my report for the year just ended.

One vessel has been inspected.

No case of infectious or quarantinable disease came under my inspection during the year.

I have the honour to be, sir,

Your obedient servant,

L. N. MACKECHNIE, M.D.,
Quarantine Officer.

The Honourable
The Minister of Agriculture,
Ottawa.

No. 13.

(J. Patterson, M.D.)

Winnipeg, November 1, 1905.

Sir,—I have the honour to report that during the past year 3 cases of small-pox were detected at Moosejaw; 1 case east of Cardston; 1 case at Medicine Hat; 24 cases at Didsbury; 1 case at Wetaskiwin, and 2 cases at Olds. In all 32 cases.

All of these were newly arrived immigrants from the United States, chiefly from Nebraska, except one, a resident of Manitoba returning from a visit to Vancouver.

Seven of the cases were severe, the others moderate. All were strictly quarantined, and the infection did not spread to any of the older residents of the Territories. All recovered.

The last case occurred in May. In September one case was reported to me from near Moosejaw. I referred the supervision of it to the government of the new province of Saskatchewan. With this last exception the Territories have been absolutely free from the disease during the last five months.

I am, sir,

Your obedient servant,

JAMES PATTERSON, M.D.

The Honourable
The Minister of Agriculture.
Ottawa.

No. 14.

(A. C. SMITH, M.A., M.D., C.M.)

TRACADIE, N.B., October 31, 1905.

SIR,—I have the honour to submit for the information of the department my annual report on the leper hospital at Tracadie, N.B., for the twelve months ending to-day.

Omitting the name of the patient referred to in my last report as being out on leave-of-absence, who remains free from any external symptoms of leprosy, and who is about to be married, there remain to-day on the register of the institution the names of sixteen inmates—nine males and seven females. The ages of these inmates are respectively as follows:—Eleven, sixteen, eighteen, twenty-five (2), twenty-six, thirty, thirty-five, thirty-seven, forty, forty-one, forty-seven, sixty-one (3), sixty-three. One, a man aged forty, and reported last year as being in the first stage of the disease, has recently been cured. Of those remaining, six may be classified as being in the first, seven in the second, and two in the third, the final stage of the malady.

There were no deaths during the year. Two new cases were admitted, one from this parish, the other from one of the surrounding districts. To one of these a child was born in the lazaretto, and a good home immediately found for it.

In my experience with lepers, now extending over many years, I find that their physical condition is good just in proportion to the amount of nourishing diet and medical care bestowed on them. Besides suitable food lepers require warm clothing and plenty of out-door air. During the summer months our patients live much out doors, and, with the exception of the advanced cases, are comparatively free from sickness and suffering. But during the winter, while much confined to the house, they are always sick, always ailing in some way or other. At that time of year they are very liable to enteric and pulmonary affections in addition to the intercurrent ailments, and all by the complication made difficult to treat, and in need of the special skill engendered by special experience. The inmates of the lazaretto, although isolated from the world, enjoy all the comforts obtainable, including the unremitting kindness and attention given them by the religious ladies in charge.

Since the introduction of special treatment by chaulmoogra oil, strychnia, &c. our lepers are much encouraged by the very apparent benefits, even in the cases of those who began the remedies late in the disease. With us marked amelioration has been obtained in every case, and in several cases a cure is, I believe, being effected. On the 28th of last month, the patient referred to above, aged 40 years, and who was admitted in 1900, has been permitted to return to his family on leave of absence. The macular patches on his face and body, ulcerations, and all other symptoms have entirely disappeared. Even when all evidences of the disease have gone it is better to continue the treatment for some time. This man will be an out patent and will continue the use of the remedies.

The treatment of leprosy, the world over, has at last been raised into scientific practice. Dr. Dyer, of New Orleans, states that : 'Leprosy begins with the acceptance in the economy of the bacillus, and if it finds a fit soil in which resistance is below the normal, it spreads, in degree, to one or to every organ in the body. Its colonists are like the people of a sturdy race, finding new fields of entry, and wherever a good location is determined, there they settle, and then next consume in their development the tissues in their vicinity until the germ survives and the tissue

dies. Remedial measures are directed at flooding the field of infection, massing an amount of tissue on which the bacillus cannot feed, but which acts as fuel for the development of normal tissue; this, aided by the natural process of nature, gradually lays siege to the undeveloped foreign tisue until this is carried off or disseminated through the organs of elimination of the human body. 'With added care and treatment, with measures directed at increasing the resistance, this may be raised to a point where the disease can no longer hold its place in the economy and the patient recovers from the disease sufficiently to be free of all evidence during the rest of his life.' These are highly important words.

In view of the fact that in the early history of leprosy in these districts there were four times as many cases as at present, it will be seen that the lazeretto is fulfilling the object for which it was established.

While many precautions are now being taken to stamp out tuberculosis, I fear that not sufficient warning is given to the public against the contagion of leprosy, especially as there are now so very many cases of this disease in the territories belonging to the neighbouring republic. From all quarters of the globe we are constantly hearing of just such cases of contagion as the following:—In 1850, a French Canadian left his home in the Three Rivers District,, Province of Quebec, where he could by no possibility have acquired the disease, and removed to the United States. In 1860 he went to the Hawaiian Islands. Since 1887 his name has been on the list of inmates in the leper hospital on Molokai.

I have the honour to be, sir,
Your obedient servant,

A. C. SMITH.

To the Honourable
The Minister of Agriculture,
Ottawa.

No. 15 .

(CHAS A. L. FISHER, J.P.)

October 31, 1905.

SIR,—I have the honour to submit this my report as Public Works (Health) Inspector, for the twelve months ended October 31, 1905.

During that period I have traversed the territory in the Dominion from the Atlantic to the Pacific coasts, having personally visited and inspected all such works covered by the Public Works (Health) Act, 1899, as have in any way been brought to my notice, some of them having been inspected by me as often as two and three times during the said term.

The year has again been an exceptional one, in the almost general non-appearance of contagious and infectious diseases among the men employed on the various public works of the Dominion coming under my inspection, there being only two outbreaks of small-pox, in two of the railway camps, one patient in each outbreak, and on the prairie, in the far north-west, some cases of typhoid fevor and diarrhœa, owing to impure water being used by some of the men contrary to the instructions of medical officers in charge of camps.

Early last February, there was reported to be a serious outbreak of small-pox at James McDonald's camp, near Hamlet, Ont., on the line of construction of the James Bay Railway, which having come to the knowledge of some reporter, had evidently been enlarged upon, published in the newspapers, and thereby, quite a fright was created in the surrounding villages, but on my going to the camp to investigate, I found two men quarantined (because they had been sleeping together) one of whom had been on a prolonged spree, had not partaken of a square meal for about a month, and in addition had venereal disease. This man came to the camp, stopped using intoxicants, and gorged himself with strong victuals, three times a day, thereby causing an outbreak or eruption on his body, and Wm. A. McLeod, M.D., the resident medical officer at the camp (though satisfied that the eruption was not small-pox), as a precautionary measure, quarantined both men, and they were all right and at work again in about a couple of weeks.

In the beginning of March last, I received from F. Montizambert, I.S.O., M.D., Director General of Public Health, a copy of a very serious complaint, emanating from the far north-west, to the effect that 'at tie and log camps in the neighbourhood of Erwood, Sask., N.W.T., the men employed thereon, were taxed $1 monthly per man, for medical attendance, that such atendance was not being properly given, that sufficient medicine and medical supplies, were not provided, that patients had to be driven over unrepaired roads to hospital, and that such conditions and treatment existed in most railway camps in the west.'

At the same time the Director General informed me, 'that you desired me to proceed there at once, and make a most careful inquiry into the facts and conditions as narrated above, to particularly go up and down among the men whose interest is that we are specially desirous of protecting, find out from them what their grievances and feelings are, and make the fullest possible inquiry in the matter.'

In compliance with your wishes, I proceeded to Erwood, Sask., and the various camps in that neighbourhood, and on my return, reported to the following effect:—

That instead of buying ties and logs from private individuals, as formerly done, the railway construction work in the neighbourhood of, and north-west of Erwood, had been discontinued, and that the construction camps had been turned into tie and log camps by the contractors, but with the same medical supervision as previously set forth in my annual report of October 31, last.

I found these camps to be situated in the Northwest Territories, about sixty miles north-west of Erwood, to be three in number, known as Keith's, MacMillan's and Dunn's, and they are looked after by Dr. Oatway, as medical supervisor, who is well provided with medicines, has temporary hospital acommodation, makes his headquarters and residence at Keith's camp, and visits the other two camps several times weekly.

In cases of serious accidents or disease, requiring long and careful attention to make recovery, patients, after being attended to by the resident medical officer, are sent by a construction engine and caboose, comfortably housed in the latter, to the Swan River Hospital, and the charges for their keep and attendance there, are paid by the contractors.

In conversation with various employees of these camps, I found no complaints about the medical fee charged, the medical supervision, or the hospital accommodation provided.

There are in the same neighbourhood, other large camps known as Moore's, but they are private concerns, do not get out ties or logs for railway construction or contractors, have a large mill, and cut lumber for buildinig purposes. They do not come under the application of the Public Works (Health) Act, 1899, but if they did, from conversation I had with several of their employees I met at Keith's camp, there seems to be no complaint against them.

In another direction of the Northwest Territories, and about fifty miles from Erwood, there are two other contractors' camps getting out ties and logs for rail-

way construction, which are known as MacKenzie's, and Red Deer lumber company's. Both these camps are covered by Dr. Bottomly as medical supervisor, who makes his headquarters and residence at MacKenzie's camp, and visits the other camp about daily, they being only five miles apart.

The doctor is well supplied with medicines, and has temporary hospital accommodation, but patients requiring long and careful attention, are transported to Erwood in comfortable sleighs, and from there by rail to Swan River Hospital, at the expense of the contractors.

In conversation with the men of these camps, I heard no complaints with regard to the charge for medical fees or supervision.

There was, however, about five miles apart from either of the last two mentioned camps, a large lumber camp, which had, I understand, been making a charge on the men for medical services, without having any resident officer, patients (when necessary) being sent to the Swan River Hospital, at the expense of the proprietor of the camp, which was a private concern, did not get out ties or logs for railway contractors or construction, and did not come under the application of the Public Works (Health) Act. This camp was broken up a couple of days previous to my arrival in the neighbourhood, the lumber limits having been sold to the Red Deer lumber company.

This was probably the camp about which the complaint in question was made, but, as it did not come under the application of the above named Act, I would suggest that any complainant in future, be asked to give the exact location of the camp or work, the name of the contractor or company, and such information as would leave no doubt as to what camp or work the complaint covered, then a satisfactory investigation could be made at said camp, without leaving a doubt about other camps or works, as contractors who are carrying out the regulations, are not pleased at having unjust complaints made covering their works.

Railway construction camps in Manitoba have been closed down for some months, but when in operation they have all had sufficient medical supervision.

Early in July last, a complaint reached me against the Atlantic Construction Company, of Shelburne, N.S., to the following effect: That they refused to build hospitals. That in the autumn of last year, their men brought an acute contagious disease with them, and the company refused to provide for them. That the whole community suffered from the plague, as a result of there being on hospitals in which sick men could be placed. That at the end of last year an Italian lay ill in the camp with no one to provide for him, who required operation which could not be done in the camp. That at present there is an old man of sixty years of age, suffering from a broken hip, and has no person to look after him. That west of the Roreway river, no contract has been made with any doctor to attend the labourers.

In compliance with the information received, to the effect that you desired me to make an investigation into the conditions obtaining on the works of the Atlantic Construction Company, with a view to ascertaining if the requirements of the Public Works (Health) Act Regulations had been complied with, I made a special trip to Shelburne, N.S., and the said construction works, and reported thereon, to the following effect:—

The Atlantic Construction Company have the contract for that part of the Halifax and South-western railway not yet completed, and lined out from Liverpool, N.S., to Barrington Passage, N.S., a distance of about seventy-nine miles.

This they have let out in seven sub-contracts, and the whole distance is covered and supervised by eight duly qualified physicans, which would give an average of about ten miles each.

The medical officers are, G. W. Smith, M.D., of Liverpool, N.S., Dr. Lloyd, of Lockeport, N.S., L. O. Fuller, M.D., of Shelburne, N.S., S. W. Burns, M.D., Jas. Morton, M.D., both of Shelburne, J. D. Dunsmore, M.D., of Port Clyde, N.S., Dr. Wilson, of Barrington Head, N.S., and Dr. Banks, of Barrington Passage, N.S.

The number of men employed along the whole work is 840, which would give an average of 120 men under each sub-contractor, so that there is no large body of employees located in any one section.

The company admit that they did not build hospitals, because, owing to the work running through a well settled country, they could, and did nearly always, obtain a suitable building for the purpose.

The company positively deny that their men at any time brought an acute contagious disease with them, and say there were some cases of typhoid among their men, but that they were promptly isolated and taken care of until cured, that they built an hospital specially therefor, which was looked after by Dr. Lloyd, who had male nurses in attendance.

I may here say, that the company produced their books, and showed me where they had paid out for the erection of the hospital, also the receipted bill therefor, and bills for the cost of the nurses at the rate of $1.35 per day and board.

The company claim that the disease did not break out in the camps, but in other quarters, and if there was any plague, they were not responsible.

As to the Italian who required operation, the Company say that the man was sent to the Halifax hospital at their expense, and that he had all necessary care and provision while in camp.

I may here again say that the company showed me receipted bills for this man's care in the Halifax hospital, and also bills for other patients they sent there.

As to the old man of sixty-three years of age, suffering from a broken hip, I obtained the following information: The accident occurred June 23 last, and after work hours, not on the works or any connection therewith, but on the public road, and was caused by the man attempting to get on a farmer's wagon, while the horses were in motion. He was taken to the camp, made as comfortable as possible, the medical officer sent for, and a male nurse placed in charge of the patient there, at the expense of the company, until they had the man removed to more comfortable quarters in Shelburne.

This information I obtained from the sub-contractor of said camp, at a personal interview with him, and this was confirmed on my interviewing the manager of the construction company.

I may here say, that previous to my visit, the company had made arrangements with a Mrs. Bower, of Shelburne (who had ample quarters), to house, board and nurse all patients, but contagious disease ones, sent her by them, and there I personally visited the old man with the broken hip, found him comfortably quartered in a room by himself, and on questioning him, he said he had been kindly treated, was quite satisfied, and was doing all right.

In regard to no contract having been made with any doctor to attend labourers west of the Roreway river, I have to say, that I saw and read over the contracts made with, and signed by the eight medical officers named above, and covering the whole of the construction work between Liverpool and Barrington Passage.

I drove over the line of work, visited the camps and interviewed personally all the sub-contractors, with one exception, and they spoke very favourably of the way the Construction Company cared for their men when sick or disabled by accident, and assured me that they were well cared for and provided with nurses when necessary. In conversation with some of the men employed on the various works and camps, I questioned them as to their treatment, food and lodging, and they seemed to have no complaints.

The medical officers of the works, whom I saw, gave me similar reports as the sub-contractors, and the manager of the company said they were quite willing to do what was necessary under the regulations, in order to protect their men and keep them on the work, and this I know they have done during the past two years in constructing other parts of the same road.

The company have ordered hospital tents for each camp, and when they are up and equipped, taking into consideration the well settled country through which the line runs, the small body of men located in each camp, the number of medical officers employed in covering such a short distance, the recuperating quarters at Shelburne and other camps, and the use of the Royal Victoria Hospital at Halifax, I consider that the regulations under the Public Works (Health) Act, 1899, are being fully carried out as far as necessary by the said Atlantic Construction Company, on the construction work of the Halifax and Southwestern railway.

In regard to the above reported matter, I made special trips for investigation, and am pleased to have been able to report as favourably thereon. These works were all visited again on my annual tour of inspection, and will be found further reported on below, under special headings.

I am pleased to again be able to report that on my regular tour of inspection of the public works of the Dominion for the past year, I found the medical service given, the hospital accommodation provided, and the sleeping quarters or housing of the men, to be equal to the very good condition in this way, reported last year.

The following is a detailed report of the public works I have personally visited and inspected during the past twelve months, as coming under the regulations of the Public Works (Health) Act, 1899 :—

RAILWAYS.

The number of works of this kind have been about the same as during last year, some of the latter having been completed and new ones commenced, but the most important ones have been so rushed that a further greatly increased average has been added to the railway mileage of the Dominion, and a more extended tract of fine wheat-growing lands than ever opened out for settlement.

CANADIAN PACIFIC RAILWAY.

This company has had under construction in the past twelve months, fourteen branches and extensions, in the provinces of Ontario, Manitoba, the Northwest Territories and British Columbia, as against seven in the previous year.

Having visited all the said works in my official capacity, I am pleased to report that at such visits I found good hospital accommodation provided, the men comfortably housed and well fed, the camps in good sanitary condition, and a duly qualified physician as medical supervisor over each section of camps.

With two exceptions, there has been no outbreak of contagious disease, and the general health of the men has been good.

I give below the extent and location, with other particulars, of these fourteen various works. Sudbury—Toronto branch (Sudbury, Ont., to Byng Inlet, Ont., 60 miles). The contractors for this work are Messrs. Foley Bros., Larson and Company, with headquarters at Wahnapitae, Ont., near Sudbury.

About 2,500 men were employed, who were distributed over from twenty-five to thirty camps, and were boarded and housed in tents and other quarters by the contractors.

There had been two outbreaks of small-pox in these camps, one patient in each outbreak, but by prompt and effective measures, the disease was limited to the one patient in each outbreak.

There had been the usual amount of sickness and minor accidents, but the general health of the men had been good .

The camps were well situated and in good sanitary condition, and the buildings commodious and comfortable.

Two very good hospitals are established by the contractors, one located at the Wahnapitae river, four miles south of the main line connection, the other located on the Pickerel river, forty miles from the former, and twenty miles from Byng Inlet, and hospital tents are on hand in the various camps in case of necessity.

F. J. Ewing, M.D., chief medical officer of the Canadian Pacific Railway Company's construction work in Ontario, makes his headquarters on the line, and has two assistants, Dr. Ferguson and Dr. Aineley, also nurses and cooks for the hospitals.

Sudbury—Toronto branch. (Bolton, Ont., to Parry Sound, Ont., 128 miles.) The contractors for this work are Messrs. G. S. Duks & Company, of Toronto, now the Toronto Construction Company, Limited.

About 1,000 men were employed, who were distributed over a number of camps, and boarded and housed by the contractors.

There had been no contagious diseases, and the health of the men had been excellent, the camps were well situated, and in a sanitary condition.

No permanent hospital has been established, as there are several public hospitals within easy access, but the medical officers have temporary hospital accommodation.

The medical officers in charge of the various camps are A. F. Reyner, M.D., of Palgrave, Ont., Dr. Harvie, of Coldwater, Ont., W. H. Wright, M.D., of Tottenham, Ont., Jas. Campbell, M.D., of Tottenham, and Dr. Stone, of Parry Sound, Ont.

Sudbury—Toronto branch. (Coldwater to the Severn river, Ont., about 12 miles.) The contractors for this work are Messrs. Battle, Conlon and Armstrong, of Thorold, Ont.

Only about 100 men were employed, many of them residing in the neighbourhood, there being only one small camp where a few men were housed and fed by the contractors, and the health of all had been good.

Lacombe and Wetaskiwin branches. (50 miles Lacombe extension and 25 miles Wetaskiwin extension). This was the continuation of the work of last year, and was under contract to Messrs. Foley Bros., Larson and Company.

Between 300 and 400 men were employed on these works, housed in tents and boarded by the contractors.

There had been no contagious disease, and the health of the men had been good.

Temporary hospital accommodation was provided, and the general hospital at Calgary was used when necessary for serious cases.

Dr. Ewing was in charge as chief medical officer of Foley Bro.'s work, and had an assistant looking after the men, in the person of Dr. Walker,

Wetaskiwin branch. (A further extension of 25 miles.) This work was under contract to Messrs. Breckenridge & Lund. Only about 100 men were employed, who were housed in tents, and boarded by the contractors.

No contagious disease had occurred, the health of the men was good, and they were medically looked ofter by Dr. Walker, who had temporary hospital accommodation for them when necessary.

Wetaskiwin branch extension. (40 miles to east.) This work was started late this season, and is under contract to J. D. McArthur, of Winnipeg.

About 200 men were employed, who were housed in tents, and boarded by the contractor.

There had been no serious illness among the men, the camps being well located, and kept in good sanitary condition.

Hospital tents were provided, and A. R. Cunningham, M.D., had the medical supervision of the men.

Pheasant Hills branch. (This is a continuation of the work mentioned in my last report, as from Newdorf to Jumping Deer creek.)

Messrs. Foley Bros., Larson & Company were the contractors for the grading, the tracklaying being done by men under the supervision of the Canadian Pacific Railway Company.

About 300 men were employed in all, and distributed over the various camps being housed in tents and boarded by the contractors and the C.P.R. Company.

There had been no outbreak of contagious disease, and the health of the men generally good.

There was a good temporary hospital at Lipton, Assa., on the line, with Dr. Black in charge, assisted by Dr. Adams. This work was just about finished.

Brookdale Branch (extension of 10 miles west) Messrs. Foley Bros., Larson & Co., were the contractors.

About 150 men were employed, housed in tents, and boarded by the contractors.

No outbreak of contagious disease had occured, and the health of the men was good.

Temporary hospital accommodation was provided. Dr. Black was in charge as medical officer, with Dr. Thompson as assistant at Brookdale.

Wolseley-Reston line (Reston, Man., to Wolseley, Assa.) This work was under contract to J. D. McArthur, of Winnipeg, the tracklaying being done by Canadian Pacific Railway operating department, under Mr. J. J. Scully, superintendent, at Brandon.

About 150 men were employed and were housed in tents and house cars, and boarded by the contractor and company.

There had been no contagious disease, and the general health of the men had been good.

Temporary hospital accommodation was provided, the medical charge of the men being under Dr. Chapman, of Reston.

Lauder extension (a short spur from Lauder). This was under contract to P. R. Lamb, of Winnipeg. Only 58 men were employed, all of whom were in general good health.

No regular medical officer was employed.

Moosejaw extension (10 miles northwest). This was under contract to Messrs. Jackson & McMenemy. Only a small body of men were employed, who had been in general good health.

No special medical officer was employed, not being necessary.

Saskatoon extension (30 miles west). This work was under contract to J. D. McArthur, of Winnipeg, and had only just been started.

About 200 men were employed, who were housed in tents and boarded by the contractor.

Hospital tents were provided, and the health of men good.

Drs. McKay & Willoughby were the medical officers in charge of the employees.

Teulon branch (extension of 10 miles). This was also under contract to J. D. McArthur.

Only 50 or 60 men were employed, who were housed in tents, boarded by the contractor, and were in good health.

No special medical officer was necessary.

Yahk branch (from Yahk, B.C., 8·1 miles). Messrs. Breckenridge & Lund were the contractors.

About 200 men were employed, who were housed in tents, and boarded by the contractors.

There had been no contagious disease, the health of the men being excellent.

Two local doctors in the neighbourhood were employed to attend the men .

NICOLA, KAMLOOPS AND SIMILKAMEEN RAILWAY AND COAL COMPANY.

Nicola Valley branch (Spence's Bridge, B.C., to Nicola Mines, about 45 miles). Messrs Loss, Macdonnell & Co., are the contractors for this work.

About 800 men are employed, who are housed in tents, and boarded by the contractors.

The health of the men has been excellent, and no outbreak of contagious disease has developed. The camps are well located and kept in a sanitary condition.

An excellent hospital has been established on the line of construction, about 12 miles from Spence's Bridge, in a spacious and well equipped tent, and two nurses are regularly employed therein.

R. H. Kerr, M.D., is the chief medical officer, and he has another doctor as assistant, both residing on the works, and being well supplied with medicines and other necessaries.

CANADIAN NORTHERN RAILWAY.

This company has had under construction since my last annual report thirteen extensions to their lines in Manitoba and the Northwest Territories, as against eleven in the previous year.

Having personally inspected the works on each of said extensions, I have to report that I found both the company and the contractors carrying out carefully the regulations under the Public Works (Health) Act, 1899, the hospital accommodation provided being up to the requirements, the men furnished with ample wholesome food and well housed, mostly in tents, the camps kept in a good sanitary condition, and having thorough medical supervision by one or more duly qualified physicians, who were under the direct charge of R. Mackenzie, M.D., and C. A. Mackenzie, M.D., both of Winnipeg, as chief medical officers of all construction work of the Canadian Northern Railway Company, and these gentlemen, as well as the chief employees of the company, gave me every assistance in their power towards making the necessary inspections.

There were no infectious or contagious diseases at any of these works, with the exception of a few cases of typhoid fever, and the general health of the men could hardly be better.

The locations, with more detailed particulars of the works, will be found below.

Main line extension (between Humboldt and Edmonton, Alta.). The contractors for the grading are Messrs. J. D. McArthur & Company, of Winnipeg, and the track laying, which was last season in the hands of Messrs. Robinson & Company, is now being done under the supervision of the Canadian Northern railway.

About 2,000 men in all were employed on the work, distributed throughout the several sections and the various camps, comfortably housed in tents and house cars, and well supplied with first-class food by those who boarded them.

There had been no contagious or infectious diseases, with the exception of a few cases of typhoid fever, the general health of the men being excellent and no deaths having occurred from either disease or accident.

Very good temporary hospital quarters were supplied for each section, and hospital tents were on hand for use if necessary.

Eight duly qualified physicians had medical supervision of the various sections, viz.: P. C. Crosby, M.D., in charge of steel gang; D. B. Neeley, M.D., at Humboldt, L. B. Wilmot, M.D., at North Battleford, W. T. Rush, M.D., and Dr. Turner, at Vegneville, E. B. Oliver, M.D., at Lloydminster, Dr. Braithwaite, assisted by Dr. Dunne, at Edmonton.

Prince Albert division (grading, ballasting and tracklaying from Melfort, Sask., to Prince Albert, Sask.) Mr. Neil Keeth was the contractor for the grading and ballasting, and the tracklaying was being done by Messrs. Mackenzie & Mann.

About 300 men were employed, being housed in tents and house cars, and well supplied with good food by the contractors, and the camps and cars kept in a good sanitary condition.

There were no contagious diseases developed, the health of the men being of the best.

Temporary hospital quarters were provided, and in case of necessity, men were sent to the Swan River Hospital, by a construction engine and caboose, at the expense of the contractor.

R. M. Oatway, M.D., was the medical officer resident among the camps, and as the work extended Dr. Reed was employed to assist on the end towards Prince Albert.

Varsoe line, Messrs. Mackenzie & Mann were constructing this work.

About 600 men were employed, who were housed in tents and boarded by contractors.

No outbreaks of contagious disease had occurred, the health of the men being generally good.. Temporary hospital quarters were provided.

W. B. Clark, M.D., was the medical supervisor.

Carman-Somerset extension (from Leary's to Somerset, Man.) This work was under contract to Mr. Strevel.

Only about 100 men were employed, who were lodged in tents and boarded by contractor.

No contagious disease had developed, and the men generally, were in excellent health. Hospital tents were provided, and J. Rochon, M.D., of Somerset, was the medical officer in charge.

Edmonton extension (from Edmonton to about 40 miles northwest). This work was started late in the summer and about 150 men were employed.

There had been no serious disease, the general health of the men being good. Dr. Braithwaite, of Edmonton, assisted by Dr. Dunne, were the medical officers in charge.

Hartney branch (between Hartney and Virden). About 200 men were employed thereon, who were housed in tents and boarded by the contractors.

No contagious or infectious diseases occurred, and the general health of the men was excellent. Dr. Bigelow, of Hartney, assisted by Dr. Montague were the medical supervisors.

Springfield branch (Winnipeg to Bird's Hill). Only about 50 men were employed on this line, who were housed in tents and well looked after by the contractors. There had been no serious illness, and Dr. Davis, of Dugald, Man., was the medical supervisor.

Carberry branch (Carberry to Brandon). Messrs. Cowan, Mackenzie & Mann, were the contractors for this work, but only 50 to 60 men were employed at tracklaying, and they were under the medical charge of Dr. Montague.

Rossburn branch (Clanwilliam extension). This had been under contract to Messrs. McDonald & McWilliam, but only about 50 men were employed at tracklaying, who were also being looked after medically by Dr. Montague.

Hudson's Bay branch (from four miles from Winnipeg to a connection with a completed line). Messrs. Mackenzie, Mann & Co., had this work in hand. About 100 men were employed, who were well cared for, and their medical supervision was in the personal charge of Drs. Mackenzie and Mackenzie.

The Edmonton and Slave Lake railway (short line out of Edmonton). About 100 men were employed who were housed in tents and well cared for by the contractors. Drs. Oliver and Braithwaite, of Edmonton, were the medical officers of the men.

JAMES BAY RAILWAY.

This work is under the control of Messrs. Mackenzie, Mann & Co., and construction is going on under the charter from Parry Sound, Ont., to Toronto, Ont., in several divisions and under several contractors.

Parry Sound branch (from Parry Sound north six miles). Messrs. Johnson & Beveridge had the contract for this work, which is now completed.

There had been no serious disease among the men, and they were under the medical charge of G. N. Davis, M.D., of Parry Sound.

North half main line (from Parry Sound south to Washago, Ont., about 60 miles.)

This work is under contract to Angus Sinclair, C.E., of Parry Sound, who has let it out in sections to seven sub-contractors, as under: From Parry Sound south for seven miles, Messrs. Henderson and Scott are the sub-contractors. Their camps are in good condition, and the health of the men excellent. S. N. Davis, M.D., of Parry Sound, has been medical supervisor of the men in the camps.

From the 7th to the 12th mile inclusive, Messrs. Kennedy and McDonald were the sub-contractors. This work is now completed, but when under construction, Dr. Davis had the medical supervision.

From the 12th to the 18th mile, J. I. Cote was the sub-contractor, with Chas. H. Gilmour, M.D., of Toronto, as chief medical officer, assisted by Dr. Hacking, of Staney Brae, Ont. This is now completed.

From the 18th to the 21st mile, Messrs. Montgomery and Moffat had the sub-contract, with Dr. Hacking as medical officer in charge. This work is completed.

From the 21st to the 31st mile, Messrs. Giroux and Jamieson were the sub-contractors. A good hospital was provided at Foote's bay, with Dr. Hacking as medical officer in charge, under Dr. Gilmour.

From the 31st to the 36th mile, Messrs. Phillips and Jacobs have the sub-contract, with Dr. Burgess, of Bala, Ont., as medical supervisor.

From the 36th to the 48th mile, the work is under sub-contract to Guy Campbell, and Dr. Burgess looks after the care of the men on this section.

From the 48th mile to Washago, the Orillia Construction Company are the sub-contractors, with Wm. A. McLeod, M.D., as the resident physican looking after the men for Dr. Gilmour.

This is the camp known as McDonald's, with headquarters at Hamlet, Ont., at which last February there was a reported outbreak of small-pox, as previously reported above.

There were about 1,500 men in all, employed on these works, all being in general good health, with no outbreak of contagious disease except the one reported from McDonald's camp.

Temporary hospital accommodation was provided for all camps, and Chas. H. Gilmour, M.D., of Toronto, was chief medical officer.

South half of main line (from Toronto to Washago, about 65 miles). This work is under contract to the Northern Construction Company, Limited, with headquarters at Don Lands siding, six miles from Toronto.

There are about seventeen separate camps on this construction, all under the charge of Chas. H. Gilmour, M.D., of Toronto, who has several assistants.

From Toronto to Mount Albert, Malcolm Galbraith, M.D., is the medical assistant in charge of the men.

From Mount Albert to Beaverton, W. J. Boynton, M.D., of Pefferlaw, Ont., looks after the men.

From Beaverton to Brechin, Dr. Galloway, of Beaverton, has charge of the men.

From Brechin to Sparrow Lake, S. J. Staples, M.D., has the medical charge of the men.

Dr. Burgess has charge of the men for four miles out of Bala.

From four miles out of Bala, to within seventeen miles of Parry Sound, Roy Hacking, M.D., has charge of the men.

About 1,000 men in all are employed on this work, who are housed in tents or temporary buildings, and boarded by the contractors.

No outbreak of contagious disease has occurred, and the health of the men has been generally good.

Very good temporary hospital quarters have been provided by Doctor Gilmour at various points along the line of work, viz., At Doncaster, with Dr. Galbraith in charge. At Pefferlaw, with Dr. W. J. Boynton in charge. At Washago, with Dr. S. J. Staples in charge. At Foote's bay, with Dr. R. Hacking in charge.

Any very serious accidents or cases, requiring long and careful attention, would be sent to the Toronto General Hospital, at the charge of the contractors.

Halifax and South Western Railway. The proprietorship of this road is in the hands of Messrs. Mackenzie, Mann & Co., of Toronto, and when completed, will extend from Halifax to Yarmouth, N.S., with branch lines.

Trains are now running from Halifax to Liverpool, N.S., and from Barrington Passage to Yarmouth.

The part now under construction is from Liverpool, N.S., to Barrington Passage, N.S., to connect the two parts now in operation, and covers a distance of about 79 miles. This work is under contract to the Atlantic Construction company, with headquarters at Shelburne, N.S. and they have let out the work to seven sub-contractors, who are pushing it to completion, under the supervision of the Atlantic Construction company.

I have just returned from inspecting these works for the second time, during the past season, and found that the Atlantic Construction Company were fulfilling the requirements of the Public Works (Health) Act, regulations, thereon, as far as necessary.

Having already reported above, on a special visit of inspection to these works, and given all particulars, I need not repeat the same.

QUEBEC AND LAKE ST. JOHN RAILWAY.

This company are constructing a branch of their road from La TuqueJunction, to La Tuque, a distance of 42 miles.

This work is under contract to Mr. Joseph Paquete, who has from 300 to 400 men employed thereon.

There are about 35 camps covering the route, and the men are comfortably housed in temporary cabins or tents, and are well boarded and looked after.

Louis V. Masse, M.D., is the medical officer in charge of the employees, and is resident on the work.

The contractor has erected a comfortable hospital for the use of the men, but up to the present, it has been little used.

There has been no contagious or infectious disease in the camps, and the general health of the men has been excellent. But one accident has occurred, and that not a serious one.

GREAT NORTHERN RAILWAY OF CANADA.

This railway is now under the control of Messrs. Mackenzie, Mann & Co., who were constructing a branch from St. Jacques Junction to St. Jacques village, Que., a distance of seven miles, under the supervision of Mr. A. J. Gorrie, general superintendent of the railway company.

Only about 50 men were employed, and they live in the surrounding neighbourhood.

There had been no unusual sickness, and no complaints. There was, of course, no regular medical officer in charge of the men employed.

OTHER PUBLIC WORKS.

Dock, ice-breakers and dredging (city of Three Rivers).

This work was being carried on by the Dominion government, and is under contract to Mr. Randolph Macdonald.

A comparatively small body of men was employed, most of whom lived in their own houses and the others were well cared for by the contractors.

There is no regular medical supervisor, such not being necessary. The health of the men was good.

Breakwater, Depot Harbour, Ont. (rip-rap foundations and addition to wharf). This work has been carried on by the Dominion government, and is under contract to Messrs. Davis, Haney & Miller.

Few men were employed thereon at the time of my inspection, the present contract nearing completion.

There had been no contagious or infectious disease, and the health of the men kept excellent. The camps were well located, the sleeping quarters comfortable, and the food of the best. C. Davis, M.D., of Depot Harbour, Ont., was the medical officer in charge of the men and camps.

In closing this my annual report for the year ended October 31, 1905, I deem it a pleasure to be again able to draw your attention to the very apparent abatement of contagious and infectious diseases, the excellent condition and general healthfulness of the men, the sanitary state of the camps on said works, and the careful attention given by the contractors and companies in trying to fulfil the requirements of the Public Works (Health) Act regulations.

I have the honour to be, sir,

Your obedient servant,

CHAS. A. L. FISHER,
Public Works (Health) Inspector.

The Honourable
The Minister of Agriculture,
Ottawa.

REPORT OF THE CANADIAN COMMISSION TO THE LOUISIANA PURCHASE EXPOSITION, ST. LOUIS, U.S.A., 1904.

The Louisiana Purchase Exposition, held in the city of St. Louis, in the state of Missouri, U.S.A., during the year 1904, was instituted to commemorate the purchase by the United States government of the territory then known as Louisiana from Napoleon I, of France. The purchase was effected in the year 1803, and embraced all the territory lying to the southward and west of the Mississippi river at that time under the jurisdiction of France.

The Louisiana Purchase Exposition was conceived on a scale of such magnitude that it was found impossible to carry the proposed scheme into effect in time to celebrate the centennial year of the purchase, 1903, so the time was extended to the year following, 1904. The exposition being of a universal character held under the auspices of the United States government, all foreign countries were invited to participate, and the time for holding the exposition was fixed for the period between April 30 to December 1, inclusive.

Canada being at a very important stage of her national development, and having entered upon the highway of an unprecedented prosperity, the opportunity of bringing her natural resources and her broad areas of fertile lands awaiting settlement more conspicuously before the eyes of the world, was not to be lost, and the government of the Dominion among other foreign countries, decided to participate.

The decision having been made, it was determined to make the participation commensurate with the magnitude of the exposition and the excellence of the opportunity. To that end the exhibition branch was instructed to undertake the gathering of suitable exhibits, the selection of desirable sites in the different exhibit palaces, and a location for the Canadian National pavilion.

Having made early application for exhibit spaces, we were able to secure choice locations in each of the exhibit palaces where Canada was to be represented, and also a suitable site for the Canadian pavilion. A description of the different exhibits is given in another part of this report.

In the general plan of the exposition site, a section was set apart for the location of foreign government buildings. This location was, in our opinion, rather remote from the general activity of the exposition, and our object being to attract the largest number of people possible to our building, we prevailed upon the exposition authorities to allow us to occupy a piece of land in that part of the grounds known as the agricultural section. The location secured was a part of the immense flower garden immediately surrounding the agricultural building, and in close proximity to the great floral clock which was one of the great features of the exposition.

The conditions imposed upon us were that we should undertake the full cost of terracing, sodding and maintaining the landscape during the period of the exposition on a scale equal to that carried out by the exposition authorities in the maintenance of the flower garden above mentioned.

That the extra expenditure in thus preparing, beautifying and maintaining the grounds comprising the plot was justified, was amply demonstrated in the crowds of visitors that the situation naturally threw in our way. Immediately to the east of the site was the United States Life Saving exhibit, which attracted great crowds daily. On the west was the Philippine reservation, with the main thoroughfares leading to and from it passing on either side of our plot. Added to this, the fact that

the group of foreign buildings and the forestry, fish and game building were on a straight line to the north, and that all the traffic from these buildings to the Palace of Agriculture had to pass by our door, a pretty clear idea may be formed of the advantages of our situation. It might still further be urged in defence of the expenditure in connection with our pavilion, and the plot of ground occupied, that we had a daily average of visitors much larger than that of any of the state or foreign buildings which cost twice and three times as much as ours in their erection.

The pavilion itself, constructed somewhat after the fashion of a club house, had a frontage of 100 feet x 100 in depth with broad verandahs on front and sides for the accommodation of visitors to eat their luncheon or rest at their pleasure. These verandahs and the freedom given to the visitors upon them, proved a strong factor in gaining for the building the popularity that it enjoyed. The public conveniences, free ice water, easy restful furniture ,and the homelike air about all the parlors, corridors and reception rooms, gained for the Canada pavilion a reputation for hospitality that was not enjoyed to the same degree, by any other official building on the fair grounds. The furnishings of the pavilion and the works of art with which it was decorated, were all Canadian, and all suggestive of Canada's natural wealth, social, educational and commercial progress. If proof were wanting of the popularity of the Canadian pavilion, it was amply furnished throughout the season by the crowds of people who daily thronged its parlors, corridors and reception rooms or crowded upon its verandahs. Further proof was abundant in the voluntary testimony of hundreds upon hundreds of visitors from the city and elsewhere, who said it was talked about as the only absolutely free building on the grounds, where there was no charge for toilet accommodations or ice water, and where visitors were not only allowed to eat their lunches on the verandahs, but were provided with tables to add to their comfort in doing so.

Besides offices for the use of the commission, the Canadian pavilion included a large room in which were hung large maps showing the character of the country, its railways systems, public lands. Immigration officers furnished by the Department of the Interior, were in daily attendance giving information in regard to the free land offered to settlers in the Canadian Northwest, and distributing literature explaining the conditions upon which it might be obtained. Other literature was distributed from the different exhibit spaces, on all of which was printed a notice inviting visitors to call at the Canadian pavilion for information in regard to the 160 acres of free land offered by the Canadian government.

Adjoining the immigration room, in the rear, was an alcove furnished with a series of illuminated paintings showing the progress of the Northwest settler from his entrance upon the unbroken prairies, to his tenth year, as he appeared on his well cultivated farm and surrounded in his home with a handsome growth of trees. This exhibit proved very valuable, not only in showing the yearly progress of the settler in his general improvement, but in showing the growth of trees, a feature which attracted a great deal of attention and provoked considerable inquiry, more especially from those who had experienced the difficulty in growing trees in some sections of the Dakotas and other parts of the west, south of the Canadian line. The cost of these paintings and mounting them in so conspicuous a way in connection with our immigration work, was in my opinion, more than justified in the great attention they received and in the thousands of questions we were called upon to answer concerning the conditions they so strikingly presented in the life and progress of a Canadian Northwest settler.

AGRICULTURE EXHIBIT.

For the agricultural exhibit in the palace of Agriculture, a space of 12,000 square feet was secured. This was fully occupied with a varied exhibit of grains, grasses, tobacco, roots and other natural products, together with a great variety of food products,

natural and manufactured. The central figure was a trophy of attractive design, standing over 60 feet high, in which was artistically worked over three hundred varieties of grain, grasses, fodder, plants, &c., and ornamented on the outer octagonal sides with landscape paintings showing herds of the leading breeds of cattle raised in the Dominion, and decorated inside with paintings of every variety of native and domestic plants known to the Northwest.

The paintings showing the cattle herds were a conspicuous advantage to the exhibit, as they proved a great attraction and were very freely and favourably commented upon by the American press and public. They not only added beauty, said a prominent American, but they gave in a striking way an increased commercial value to the exhibit.

On either side of this central trophy, is a pedestal of honey and maple sugar respectively, and farther to the rear of the space attractive pyramids of grain in glass jars, tobacco and a great variety of food products displayed in various ways. This exhibit for its installation and comprehensive collection was awarded the grand prize, three special prizes, thirteen gold medals, five silver medals and three bronze medals. And for its general character and interpretation, it received many high enconiums from the public. Col. R. M. Green, of California, commissioner in charge of the Sacramento Valley exhibit, said of it: 'It embraces so much, and shows what the country can do in a businesslike way ; it is the most sensible exhibit in the building, and can teach our people some methods of doing business in that line.' Something to this effect has been said by several state commissioners and superintendents of exhibits in the same building.

HORTICULTURE EXHIBIT.

In the Palace of Horticulture, 8,000 square feet was secured and an exhibit designed and installed that has attracted very general attention, and especially of people from the south and western states.

This exhibit was opend for inspection by the public on April 30, with 94 varieties of apples in their natural state taken from cold storage, many other varieties preserved in glass jars with antiseptic fluids, also over 30 varieties of pears, 70 varieties of grapes, many varieties each of plums and peaches, and an almost endless collection of small fruits, comprising strawberries, raspberries, gooseberries, currants, cranberries, and many varieties of vegetables preserved and exhibited in the same way.

At the back of this exhibit was conspicuously displayed a large painting showing an apple inspection scene on the docks at Montreal, which attracted much attention, and provoked many inquiries regarding the Canadian Inspection Act. The arrangement and installation of this exhibit attracted much attention and favourable comment throughout the season, and the varied collection of fruits shown, proved a great surprise to many visitors who had not supposed that Canada was capable of producing such fruits. The exhibit has accomplished much by way of dissipating an impression too commonly held throughout the south and west of the United States, that Canada was a cold country, and laid quite beyond the peach belt. For its quality and number of apples, the Canadian exhibit was not surpassed by any other display in the horticultural building.

Fresh fruits, as their season came in, were sent down from widely separated districts of the Dominion, and their quality and appearance compared favourably with similar varieties produced in other portions of America. This may be said especially of the smaller fruits, grapes and peaches. When the awards were made, the Canadian exhibit came in for a full share of the prizes, taking one grand prize for the large and comprehensive collection of fruits shown, and another grand prize for the installation and artistic make-up of the exhibit.

MINES AND METALLURGY.

In the palace of Mines and Metallurgy 10,000 feet of space was occupied, and the exhibit installed there has on the whole been more surprising to the public than any other display that Canada made at the fair.

In arranging the exhibit great care was taken to have everything easily accessible, the table cases being arranged so that the contents could be seen from all sides.

The collection represented seven carloads of specimens, weighing in the aggregate 150 tons. Large pyramids of nickel, cobalt-nickel-silver and arsenic, asbestos, corundum, mica, iron, graphite and coal were shown. In addition to the pyramids, there were 70 table cases containing minerals showing general distribution. These cases were especially made for this exhibition, and are so constructed that they can be taken apart and packed in boxes 3 feet 8 inches x 2 feet 8 inches x 6½ inches.

The most striking and original feature of the exhibit was the large vault 14 feet x 16 feet containing gold nuggets and gold dust from the Yukon. This vault was composed of minerals from the different provinces, and attracted universal attention and admiration.

A systematic collection of gold dust and nuggets from British Columbia and the Yukon, arranged by Dr. Haanel, Superintendent of Mines, was favourably commented upon. This exhibit consisted of 93 specimens put up in trays, each containing 1 oz. of gold, with label attached showing assay value and location of claim.

Next to the gold exhibit the collection of asbestos from the Thetford and Black Lake mines, province of Quebec, attracted the most interest. The exhibit weighed over 12 tons, and all the mines in the district were represented.

The mica exhibit proved to be of much interest to visitors. This was the largest exhibit of mica ever sent from Canada, one of the crystals, 3 feet 6 inches in diameter, weighed over 700 lbs. Another specimen exhibited was nearly 7 feet in length and 14 inches wide.

The exhibit of cobalt-nickel-arsenic and silver from New Ontario attracted much attention, especially among scientists. This being the first cobalt ore found in paying quantities on this continent, many inquiries were made about the deposit.

All the specimens were labelled with neat cards bearing the Dominion coat-of-arms.

Much information was given as to mode of occurrence, extent of deposit, and other particulars, in answer to inquiries about the following minerals:—

Molybdenite.	Manganese.
Talc.	Tripolite.
Magnesite.	Graphite.
Asbestos.	Building stones.
Mica.	Grindstones.
Nickel and cobalt.	Marble.
Chromite.	Slates.
Zinc.	Barite.
Copper.	Felspar.
Iron.	Scheelite.
Iron pyrites.	Peat.
Silver.	Arsenic.
Gold.	Pitchblende.

The collection was the largest shown by any exhibitor in the mines building.

Panels showing mineral statistics and other information in regard to mining were placed in prominent positions throughout the space.

Over 30,000 pamphlets and reports on mining in the Dominion were distributed.

Many complimentary remarks were made by scientists and others on the general arrangement of the exhibit, one of which we quote. Doctor Day, Chief of the Division of Mining and Mineral Resources of the United States Geological Survey, and Honorary Chief of the Department of Mines and Metallurgy, Louisiana Purchase Exhibition, said:

'This exhibit of minerals is the best that I have ever seen from Canada, and I have attended all the large exhibitions of recent years. Your plan of showing large masses of workable ores impresses the people interested in mining, and is to be highly commended.'

He also stated that the Canadian exhibit was the most representative collection of economic minerals in the mines building.

The exhibit was awarded two grand prizes, twenty-seven gold medals, twenty-seven silver medals and fourteen bronze medals.

FORESTRY, FISH AND GAME.

In the forestry, fish and game building a space of 8,000 feet was secured and occupied by Canada, and our exhibit there was one of unusual attraction. The main figure was a rustic arch or double span bridge unique in its design, and in its construction was worked over 3,000 varieties of wood, all grown in the Dominion. This information was given to the public in a large gold-lettered panel placed on the side of the bridge. On the bridge and under it, was arranged a collection of the finest specimens of all the game to be found in the forest, plains and waters of British America. Conspicuous in the collection were fine specimens of the white polar and grizzly bear; brown and black bear, buffalo, musk ox, mountain goat, moose, elk, wolf, beaver, and every variety of water fowl and fur-bearing animal known to the fowlers and trappers. Of this exhibit it was said by Dr. Hough, of the Smithsonian Institute, at Washington: 'The most attractive exhibit I ever saw at a world's fair,' and by a wealthy and cultured lady from Virginia: 'How exquisitely beautiful.'

In the same building Canada occupied a space of 400 feet containing an artificial pool of flowing water wherein sported a family of live Canadian beaver to the delight of many hundreds of spectators daily.

In addition to the exhibit in the forestry, fish and game building, Canada made a special display of her forest wealth in a building constructed for the purpose in the rear of the Canadian pavilion, covering a floor space 50 x 100 feet. In this building an effort was made to show the immense timber and pulpwood resources of Canada, and the effort was successful in attracting a pretty general interest and a great deal of inquiry. A pyramid of pulpwood (the only exhibit of the kind at the fair), was erected in the centre of this building rising to a height of 25 feet. Set into this pyramid were panels showing the different stages in the manufacture of pulp, first the chips, then the coarse pulp reduced by acids from the chips, and lastly the pulp rolled into sheets. In the general exhibit were sections of the Douglas fir from the Pacific coast, sections of the great oak, elms, pines, cedars, maples, birch, ash, walnut, hickory, basswood and every other variety of timber grown and used for manufacturing purposes in Canada. Besides shown in rough sections, all of these varieties of timber were exhibited in squared sections, in rough lumber, and lumber with surface planed and polished. In addition to this a great variety of worked and bent wood was shown, such as tool handles, sash, doors, and articles in which bent wood is used.

This exhibit, like several of the others, was plentifully supplied with panels giving information regarding the extent of the timber and pulpwood areas of Canada, the annual output of each article, its annual consumption, &c., and came in for a full share of grand prizes and other awards.

GENERAL REMARKS.

It might be mentioned that in the installation of the Canadian exhibits at St. Louis, every advantage was taken of the facilities at Ottawa, where a workshop came in very useful in the preparation of some of the fixtures, stands and wooden structures that were used. This effected a considerable saving in time and money, and gave employment to Canadian skill and labour, and to that extent expended some of the appropriation at home.

To fully appreciate this point, it would be necessary to know something of the labour conditions of St. Louis. We found the regulations among the labour unions there very arbitrary and vexatious. Unlike the union men in Canada, in St. Louis they religiously abstained from working on a Saturday afternoon, but would work all day Sunday at a double day's wages, and demand the same rate for every hour over eight hours a day on all other days. The large contractors had nearly all the skilled and efficient workmen bonused to stay with them, and that left all the lesser contracts dependent upon a class of unskilled and incapable men, who the labour demand enabled to rush in and join the unions and demand the same rate of wages paid to the skilled workmen. This condition of affairs greatly retarded the work of construction and installation besides adding greatly to its cost.

To this condition of affairs there was but one alternative if the work was to proceed, and that was to offer a bonus in increased wages to skilled workmen as the large contractors were doing. To this alternative we were compelled to resort, otherwise we could not have had our installation completed in time for the opening of the fair.

The rate of wages demanded and paid was something, as follows :—For a skilled mechanic or carpenter, 65 cents per hour; ordinary carpenter, 60 cents per hour, just double those rates for Sunday and extra hours on week days. Bonused mechanics got 70 cents and 75 cents per hour, doubling on Sunday and extra hours.

Attractive literature descriptive of Canada and of the different exhibits was distributed from the various spaces occupied, and also from the Canadian pavilion. Over 500,000 pieces were distributed in this way, but so great was the demand that the supply was exhausted more than a month before the close of the exposition. It is worthy to note that students and school teachers were particularly desirous of obtaining any matter descriptive of Canada, and we have information that in more than one case the pamphlets were used as text-books by teachers among the students in the schools.

The newspapers of the country were very liberal and flattering in their comments about Canada and her exhibits. From clippings which we were able to gather we feel justified in saying that Canada received more free newspaper advertising in connection with her exhibits than any other state or country officially represented at the exposition.

In conclusion I beg to acknowledge the courtesies extended by the officials of the exposition and all those with whom we came in contact in an unofficial way during our residence in St. Louis. I also wish to give expression of my thanks to the staff of the Canadian Commission, all of whom performed their respective duties in a most competent manner.

Respectfully submitted,

WM. HUTCHISON,
Commissioner, Exhibition Branch.

St. Louis, Missouri,
November 15, 1904.

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DEPARTMENT OF AGRICULTURE
CANADA

REPORT

OF THE

VETERINARY DIRECTOR GENERAL

J. G. RUTHERFORD, V.S.

1905

PRINTED BY ORDER OF PARLIAMENT

OTTAWA
PRINTED BY S. E. DAWSON, PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1906

[No. 15*a*—1906]

REPORT OF THE VETERINARY DIRECTOR GENERAL

HEALTH OF ANIMALS BRANCH,
OTTAWA, March 31, 1906.

SIR.—I have the honour to present my report as Veterinary Director General for the Dominion covering the period between November 1, 1904, and March 31, 1906.

I am glad to be able to state that this period has witnessed a considerable further advance and improvement in the work of providing for the control of contagious disease among animals.

The task of organizing a thoroughly effective veterinary sanitary service for a country so vast in extent and with so wide a variety of climatic and economic conditions affecting animal life, is however, far from an easy one and while reasonable progress is being made, much remains to be done before our work can be considered to be, even approximately, on a satisfactory basis.

The nature of the duties performed by the officers of this branch is very frequently such as to provoke adverse criticism from those members of the general stock owning, and especially stock dealing public who, from want of thought or of experience regarding the disastrous effects of uncontrolled animal plagues, are inclined to look upon veterinary inspection with an unfriendly eye. It is therefore gratifying to be able to report that it has recently been my pleasant privilege to acknowledge a large number of expressions of grateful appreciation of our services emanating from some of the largest and most important live stock associations in the Dominion, as well as from many of the individuals with whom we have had official relations. This is one of the most encouraging features of the situation, especially when taken in conjunction with the prompt and cheerful responses accorded by parliament to your repeated requests for increased funds to enable you to carry on the work in an effective manner.

These evidences of appreciation not only of the importance of the work of this branch of your department, but of the active and energetic policy for the suppression and control of animal diseases which, with your approval, has now been adopted, have had their due effect in stimulating the staff to renewed exertion, and I am again pleased to be able to report that, with few exceptions, our inspectors have responded manfully to the extra pressure placed upon them and that most of them show, in addition, a marked improvement in method and technique.

The importance to the Dominion of having a thoroughly organized and competent staff of veterinary inspectors, cannot be over-estimated.

The census returns of 1901, give the following figures as to the numbers of live stock in Canada. The value as given here is based on Ontario average prices of 1903, which, of course, include stallions, bulls, &c.

Horses	1,577,493	$261,863,838 00
Cattle	5,576,411	706,419,745 48
Sheep	2,511,239	21,872,891 69
Swine	2,353,838	50,254,441 30
	12,018,981	1,040,410,916 47

These statistics speak for themselves and, in view of the progress made during the last five years in every branch of agriculture, including the live stock industry, there can be do doubt that the figures then given are now largely exceeded. The unprecedented influx of settlers to the western provinces and the large importations of live stock, made by them or for their use, have greatly augmented the numbers of animals in Canada while the brisk demand for all kinds of marketable stock and especially those for breeding purposes has forced what, though perhaps in one sense, artificial, may for lack of a more lucid term, be called the natural increase, far beyond the usual rate.

When it is remembered that all this immensely valuable property is constantly in danger of serious depreciation or even total destruction from one or other of the various plagues to which the domesticated animals are unfortunately subject, it must be admitted that the expenditure of this branch of your department, while for various reasons, considerably larger than formerly, is still trifling in proportion to the interests which it exists to conserve.

An earnest endeavour has been made to keep pace with the rapid development of the country and the large increase in its live stock interests.

A number of new inspectors have been engaged, and, to as great an extent as possible, personally instructed in their various duties. In this connection, I would say that great care is necessary in the selection of these men. The fact of a man being an experienced or skilful practitioner is no guarantee of his suitability for sanitary work. To fill the position acceptably, a veterinary inspector must have certain attributes often lacking in the ordinary veterinarian, and it is no easy matter to find individuals who, while capable professionally, are also possessed of these special qualifications which include, among others, tact, suavity, integrity, and above all else, sound common sense.

For various obvious reasons it is not desirable, except under special circumstances, to employ as inspectors veterinarians engaged in general practice.

The men best suited for the work are recent graduates of good class, having the various qualities mentioned above, not yet narrowed by local practice, sufficiently well equipped as to general education, to be able to comprehend the scientific details of modern sanitary and preventive work, and if possible without encumbrances which may hinder their rapid transfer from place to place as outbreaks of disease or changing conditions in this vast country demand.

Such men are scarce in any country, and in Canada perhaps especially so, for reasons on which I need not here dwell.

When once secured and properly trained, a good veterinary inspector is a valuable asset and should be treated accordingly. He must be paid sufficiently well to induce him to remain in the service, and to improve himself with a view to promotion, and he must be guaranteed permanent employment. In most other countries, notably in the United States, veterinary inspectors are required to pass a qualifying examination before being appointed. After appointment and proof of ability to render satisfactory service, they are permanent employees and cannot be removed except for just cause.

The adoption of some such system in Canada would be a great advantage to the service and, through it, to the large and rapidly growing live stock interests of the country.

As in previous years my own time has been very fully occupied, not only in developing and systematizing the work of the branch, but in looking closely after the numerous details of its actual operation and the expenditure of the comparatively large sums which have been required in carrying out the policy of compensation adopted in 1904.

While endeavouring to spend as much time as possible in Ottawa, I have found it necessary to make a number of rapid trips to various parts of the Dominion where existing conditions rendered my personal attention advisable. Among these may be mentioned three visits to Western Canada, two of which were extended to the Paci-

fic coast, as also a visit to Nova Scotia and New Brunswick. In addition to these lengthy journeys a number of hurried trips were made to various districts in Ontario and Quebec, due to circumstances arising in connection with my official duties. I also visited with your authority, the capitals of the United States and of Mexico for the purpose of discussing with the officials of these countries, occupying positions similar to my own, various matters of mutual interest pertaining to the regulation of international live stock trade. These latter journeys are more fully dealt with in other sections of this report.

Among the important occurrences of the past seventeen months may be mentioned the amendment of the regulations *re* glanders which by Order in Council of March 25th, 1904, were altered so as to provide for payment of compensation to owners for horses showing clinical symptoms of that disease, when slaughtered by order of a properly authorized veterinary inspector.

A somewhat serious outbreak of sheep scab in Western Ontario, which was discovered during the winter of 1904-05, rendered necessary the adoption of active measures for the suppression of that disease and the issuing of entirely new regulations for its control. A full account of this outbreak will be found elsewhere. Meanwhile I am glad to be able to report that our efforts to secure its eradication appear to have been entirely successful.

The prevalence of hog-cholera having been greatly lessened by the active policy followed since 1902, it was decided, with your approval, to relax to some extent the stringency of the restrictions governing the removal of fat hogs from the quarantined area in the counties of Kent, Essex and Lambton, and a departmental order with that object was accordingly issued on May 1. As may be seen from the special report further on, this disease would appear to be, for the present at least, fairly well under control, although there exists a constant risk of its re-introduction from the infected areas in the United States. To guard as far as possible against such contingencies, new regulations governing the transit trade in hogs, as well as their importation for any purpose, have been brought into effect.

In pursuance of the policy adopted in 1904, and in compliance with the expressed wishes of the Western Stock Growers' Association, as well as of many individual owners, it was decided to again enforce the compulsory dipping of cattle in the area quarantined for mange in Alberta and Southwestern Saskatchewan. An order to that effect was, therefore, issued on July 11th, which, together with a full statement of the work performed, will be found in the special report on this disease.

The results of the investigation into the nature and causes of Pictou cattle disease which has, since October, 1903, been in progress at Antigonish, N.S., are of such a nature as to show clearly that this malady is not only non-contagious, but is due to the ingestion of the weed known as Senecio Jacobaea, Ragwort or Stinking Willy. So clearly has this been demonstrated that I felt myself justified in recommending to you the discontinuance of the policy of slaughter and compensation which has been followed by the department since 1882.

I have furnished a brief resume of the work done, while the full reports of Dr. Pethick, the officer charged with the conduct of the experiments, will be found interesting.

I regret to say that the disease of horses known as Maladie du Coit or Dourine, is still giving me much anxiety. As previously reported, its existence in Canada was first brought to my notice in March, 1904, when a number of animals near Lethbridge were reported to be suffering from a peculiar form of venereal disease. Since that time the disease has appeared in several other districts in Alberta, and although much attention had been devoted to the work of control and eradication, and some progress has been made, the conditions prevailing among horses on the range, are such as to render the task of dealing with it in a satisfactory manner one of extreme difficulty. A detailed report of our efforts in this direction is printed herewith.

At St. John, N.B., and at Halifax, N.S., work is now in progress on new quarantine stations, which, when completed, will render the importation of animals via these ports much safer and more convenient than in the past. At other coast points and at many ports of entry along the international boundary between Canada and the United States, conditions as regards live stock inspection have been greatly improved, in some cases by the erection of buildings or yards and in others by the appointment of officers, As will be seen from the detailed account of this branch of the work, our system is still far from perfect, although showing a considerable advance on former conditions.

Some changes have been made in the staff and a number of new inspectors have entered the service.

Dr. George Hilton, formerly of Manitoba, has been appointed chief assistant at Ottawa, where during my absence he has controlled the work of the branch in a very satisfactory and efficient manner.

In Quebec the only new appointment to the salaried staff is that of Dr. Etienne, formerly of St. Hyacinthe, now of Montreal, who has been steadily employed in enforcing the provisions of the Animal Contagious Diseases Act in the rural districts of Quebec.

In Ontario, Dr. Orchard, formerly our officer at Windsor, has been appointed travelling inspector of live stock cars and yards for the province, this work having been divided on Mr. M. Auger's leaving the service. Dr. F. A. Jones has taken over the duties of inspector at Windsor, while Messrs. T. G. Ferris and Thos Yates, have been appointed to enforce the new regulations governing the movement of transit stock. At Sarnia, where the duties are much less onerous, this new work is performed by Dr. Brown, our veterinary inspector, in consideration of an increase in salary.

In Manitoba, Dr. C. D. McGilvray was appointed chief inspector when the control of contagious diseases was transferred by the provincial authorities to this branch in February, 1905. Owing to pressure of work Dr. J. P. Molloy was also added to the salaried staff in September last.

In the Northwest Territories, now comprising the new provinces of Saskatchewan and Alberta, the work of the branch is still being performed under the supervision of the Commissioner of the Royal Northwest Mounted Police, with the assistance of the veterinary surgeons of that force now numbering eighteen, and of Drs. Hargrave, of Medicine Hat, and Warnock, of Pincher Creek, the latter being a new appointment, as well as of several other civilian practitioners who are employed on fees as occasion demands. The large importations of live stock, the extraordinary development of the country coupled with its enormous extent, and the difficulties experienced in dealing with animals under range conditions, make the task of controlling contagious disease in the west one of extreme difficulty. In spite of the best efforts of our officers it is impossible even with our present largely increased staff, to cover the ground in such a way as to visit all suspicious cases reported, as promptly as is desirable. While our present expenditure in the west is undoubtedly very large, I am convinced of the necessity of employing a greater number of salaried inspectors than we now have. For various and obvious reasons, I am not in favour of the appointment as inspectors of veterinarians engaged in private practice, especially in view of the important duties now devolving upon officers engaged in putting into effect the present policy of slaughter and compensation followed in dealing with glanders and maladie du coït.

In British Columbia, Dr. Tolmie continues to perform in an eminently satisfactory manner the duties of chief inspector for the province. Since the date of my last report, several changes have taken place in the personnel of the staff under his control. In May, 1905, Dr. D. Tamblyn took charge of the work at Midway and Grand Forks, formerly performed by Dr. C. M. Henderson, who has left the service of the department. The largely increased international traffic at the first mentioned point, due to the construction of the V. V. & E. railway, rendered necessary the appointment of another inspector, and in August, 1905, Dr. J. W. Frank, was added to the

staff and stationed at Grand Forks. About the same time the transfer of Dr. Hadwen to take charge of the new experiment station at Lethbridge created a vacancy at Nelson which was filled by the appointment of Dr. E. C. Oliver formerly on the veterinary staff of the Royal Northwest Mounted Police, and our inspector at Cardston, Alberta. To check importations via the Okanagan and Similkameen Valleys it was found necessary to station an inspector at Osoyoos and in April, 1905, Dr. D. Coristine, also an ex-veterinarian of the Mounted Police and an experienced inspector was placed there, being at the same time appointed sub-collector of Customs.

At New Westminster, the resignation of Dr. Hart, in December, 1904, rendered another appointment necessary, and an arrangement was effected whereby Dr. J. W. Bland, formerly inspector for the Port of Vancouver, took charge, at an increased salary, of the work in the New Westminster district also.

A serious outbreak of glanders in the city of Vancouver, and a somewhat similar occurrence in the Okanagan Valley necessitated the appointment of several additional inspectors. These were mostly found among the veterinarians practising in the province, the only exceptions being Dr. Jermyn, formerly in the service in this branch in Alberta, who at the date of the outbreak was relieving Dr. Coristine, of Osoyoos, temporarily incapacitated through illness, and Dr. Wm. Lawson, of Dundas, Ontario, who, in December, accompanied Dr. Moore, to Vancouver.

In Yukon Territory the work of inspection is performed by two veterinarians of the Royal Northwest Mounted Police, under the supervision of the assistant commissioner commanding in that district. To guard against the danger of introducing disease from Alaska, authority was granted in November, 1905, to rent a stable at Forty Mile for purposes of quarantine, the non-commissioned officer of police at that point being placed in charge at a small remuneration.

HOG CHOLERA.

It is gratifying to be able to report a further improvement in the condition of affairs as regards the prevalence of hog cholera in the Dominion and especially in the eastern provinces. Strict adherence to a definite policy in dealing with this troublesome malady has enabled us to almost completely stamp it out, so far as outbreaks elsewhere than in the quarantined area are concerned. In the area referred to, which comprises a number of townships in the counties of Essex and Kent, and the Indian reserve known as Walpole Island, in the county of Lambton, the number of outbreaks which have occurred since the date of my last report has been so small, compared with the records of previous years, that there is good ground for the hope that it will be possible to remove, at the close of the present season, even the slight restrictions still maintained against the movement therefrom of hogs for purposes other than immediate slaughter. As the disease has been gradually brought under control the restrictions have, from time to time, been made correspondingly less stringent until at the present time they interfere to a very slight extent with the general trade in hogs, although they still bear somewhat hardly on one or two individuals who are engaged in raising pure bred animals, the only available market for which is, as matters now stand, within the quarantined area.

No change was made in the restrictions from the date of my last report until May, 1905, when the following ministerial order was issued:—

DOMINION OF CANADA,
DEPARTMENT OF AGRICULTURE.

Notice is hereby given that under the provisions of the Animal Contagious Diseases Act, 1903, I do hereby declare that my order of date, March 7th, 1904, and amendments thereto regulating the movement of hogs into or out of the quarantined area comprising certain townships in the counties of Kent and Essex, and the island

known as Walpole Island in the county of Lambton, are hereby rescinded and the following substituted therefor.

'On and after May 15, 1905, the movement of live hogs from the area comprising the townships of Camden, Howard, Harwich, Chatham, Raleigh, Dover East and West, and Tilbury East in the county of Kent, Tilbury West, Tilbury North, Rochester and Maidstone in the county of Essex, and the island known as Walpole island in the county of Lambton, is forbidden, except under the following conditions:—

'1. All shipments of live hogs from the said district must be consigned direct to a slaughter-house or packing-house equipped with the proper facilities for the slaughter and detention of such hogs in a manner satisfactory to the inspectors of this department.

'2. Shippers must notify the nearest inspector not less than forty-eight hours previously of the exact time and place of intended shipment.

'3. Each carload or part thereof of such shipments must be accompanied by a certificate of inspection signed by one of the authorized inspectors of this department, stating that the hogs comprising such carload, or part thereof, are free from disease and in every way fit for immediate slaughter.

'4. All cars used for the conveyance of such shipments must be cleansed and disinfected in a manner satisfactory to the inspectors of this department after being unloaded and before being again used for the conveyance of animals or other articles, and all waybills accompanying such shipments shall have written across the face thereof a notification that the said cars are to be cleansed and disinfected in the manner aforesaid.

'Information regarding inspectors, necessary notifications and other details may be obtained from M. B. Perdue, veterinary inspector, Chatham.

'Owners and shippers of hogs are earnestly requested to assist the officers of this department in the proper enforcement of this order.

'(Signed) SYDNEY FISHER,
Minister of Agriculture.

'OTTAWA, May 1, 1905.'

At the same time authority was given to a number of veterinarians, living in proximity to railway stations within the district described, to inspect and grant certificates for shipments of hogs, when fulfilling the requirements of the order.

Several isolated outbreaks have occurred in places outside of this area, and in these it has been difficult to account for the origin of infection. It is possible, however, that the disease was conveyed by cars previously used for the carriage of American hogs, although every possible precaution was adopted to lessen the danger from this source. What would, in all probability, have proved a most serious outbreak was narrowly averted in November, 1904, when the disease made its appearance in the quarantine station at Point Edward among hogs returning from the St. Louis Exposition. On this occasion 4 valuable animals died while 27 had to be slaughtered in quarantine, and while the loss was heavy, it was trifling in comparison with that which would have probably followed had the animals in question been permitted to proceed direct to the establishments of their owners.

While on the subject of infection from American sources, I may say that the theory advanced last year as to the origin of outbreaks occurring in British Columbia, viz., the infection of the Calgary stock yards by hogs unloaded there when in transit from Minnesota to Seattle, has received striking corroboration. Through Dr. Tolmie, our chief inspector in British Columbia, it has been ascertained that the animals in question were found to be diseased on reaching their destination, thus completing the chain of evidence set forth in my last report.

I regret to say that the disease still lingers in the Pacific province, for while it has apparently been stamped out on Vancouver island it has repeatedly appeared on the

mainland near the coast. These outbreaks, while difficult to trace, are so far as I can judge, due to importations from across the line. One outbreak was dealt with in Yukon Territory, the affected animals having been taken from near Mission Junction, British Columbia.

In April, 1905, a number of Canadian packing houses began the importation of American hogs for slaughter in bond, advancing as a reason for so doing the scarcity and consequent high price of Canadian raw material. This new departure called for prompt action with a view to reducing the risk of introducing infection to the lowest possible point. As most of the purchases were made in Buffalo and Detroit an inspector was stationed at the former place, while at the latter animals were examined by our regular officer at Windsor. Hogs bought in Chicago were inspected at Port Huron before entering Canada. The adoption of this plan obviated the necessity of inspecting at the frontier with the consequent risk of infection through other animals using the yards and chutes on the Canadian side, while it, at the same time, gave our officers a better chance to reject doubtful animals, or those which were or had been in contact with diseased stock. Shipments had to be loaded in clean cars fitted with ten-inch bottom boards, and could be consigned direct only to packing houses and slaughter houses. Arrangements were made for the thorough cleansing and disinfection of all such cars immediately after being unloaded at destination points, and although this precaution involved a great deal of extra correspondence and other work, it was apparently well worth the trouble taken to insure its thorough enforcement. While, as suggested above, this trade may have been responsible for some of the few outbreaks which occurred in unusual places, it is gratifying to be able to report that, so far as destination points are concerned, I am not aware of any cases of hog cholera having been detected either as a result of the importations or otherwise. That the trade was accompanied by serious risk is, however, beyond question, and I was greatly relieved by the decision reached in December, to forbid altogether the importation of American hogs for slaughter. At the same time the period of quarantine was very properly increased from fifteen to thirty days, while further restrictions as to certificates of health were enforced on importers.

In order to lessen the risk by infection through the heavy transit trade in hogs from western points to Buffalo and elsewhere, it was decided early in the season to adopt more stringent regulations for its control, and the following orders were accordingly issued:—

'REGULATIONS REGARDING TRANSPORTATION OF ANIMALS BETWEEN CANADA AND THE UNITED STATES.

'*By Departmental Order in virtue of Order in Council March 30th, 1904.*

'1. All stock cars intended for the conveyance of animals from any point in Canada to the United States, or for transit through United States territory to any other part of Canada, must be thoroughly cleansed and disinfected before such animals are placed therein.

'2. All cars conveying animals into Canada from the United States, whether such animals are intended for points in Canada or for transit to some other part of the United States, must be inspected, and unless found in a clean and sanitary condition, will be returned to the United States.

'3. All empty stock cars, whether of Canadian origin or not, entering Canada from the United States must, if not already showing evidence of having been so treated, be thoroughly cleansed and disinfected to the satisfaction of the inspectors of this department, otherwise they will be returned to the United States.

'4. Stock cars which have conveyed animals from the United States to points in Canada must be thoroughly cleansed and disinfected immediately after being unloaded, and before being returned to the country whence they came.

'5. Animals intended for export to the United States, or for passage in bond through that country for export to other countries, may be inspected at such points and under such conditions as the minister may from time to time order.

'6. After May 31, 1905, all cars conveying swine from the United States into Canada, whether intended for transit to some other part of the United States, or to points in Canada, must be fitted with ten-inch foot boards in a manner satisfactory to the inspectors of this department.

'This regulation shall not apply to swine which have undergone the period of quarantine provided for in section 45 of the order in council of March 30, 1904.

'7. The practice of douching or drenching with water United States hogs, or cars containing United States hogs, while in transit through Canada is strictly prohibited.

'8. United States hogs while in transit through Canada must not be unloaded from cars containing them on any pretext whatever.

'9. Any animal dying from any cause whatever when in transit through Canada from one point in the United States to another point in that country, must not be removed from the car in which it died while in Canadian territory.

'J. G. RUTHERFORD,
'*Veterinary Director General.*'

'Health of Animals Branch,
'Department of Agriculture,
'Ottawa.'

To Whom it may Concern:

'Under the authority of section 57 of the Quarantine Regulations authorized by Order in Council, 30th March, 1904. I hereby give notice that all hogs entering Canada for transit and all cars conveying such hogs must be inspected by the inspectors of this department immediately after entering Canadian Territory. Any cars containing hogs showing evidence of disease and any cars which are dirty or which do not, in the opinion of the inspector, meet in every way the requirements of the regulations of this department are to be immediately returned to the United States.

'All inspections, as provided above, must be made between the hours of 8 a.m. and 4 p.m.

'*GEO. F. O'HALLORAN,*
Deputy Minister.'

'Department of Agriculture,
Ottawa, April 10th, 1905.'

As I was and am convinced that, under ordinary conditions, it is impossible to examine at night in a satisfactory manner, cars of hogs or other stock without much better lighting facilities than are to be found in the average railway yard, the hours of inspection were fixed as above to avoid the necessity of changing them several times in each year as the period of daylight increases or diminishes. The new regulations evoked a good deal of hostile criticism, but as the interests involved were of the first importance it was not deemed advisable to recede from the position taken. An offer made by the Michigan Central Railway Company to supply special lighting facilities was accepted on condition that the arrangement proposed was found to work satisfactorily. After a thorough trial the regulations were amended so as to provide night inspection for any company furnishing satisfactory lighting facilities. In order to meet the requirements of the traffic under these conditions, it was necessary to appoint a second inspector at Windsor, since which time everything appears to have been managed without friction.

The following figures show the progress which has been made in controlling the ravages of hog cholera. It will be noted that there have been during the last seventeen months very few outbreaks in Ontario. The prevalence of the disease in British

Columbia is attributed to an entirely different source of contagion, and should not, therefore, be debited against the work of the department in the older provinces.

November 1st, 1901—October 31st, 1902—

Province.	Outbreaks.
Ontario	313

November 1st, 1902—October 31st, 1903—

Province.	Outbreaks.
Ontario	344
Quebec	10
British Columbia	6
	360

November 1st, 1903—October 31st, 1904—

Province.	Outbreaks.
Ontario	121
Quebec	3
British Columbia	27
	151

November 1st, 1904—October 31st, 1905—

Province.	Outbreaks.
Ontario	46
Quebec	1
British Columbia	4
Yukon	1
	52

November 1st, 1905—March 31st, 1906—

Province.	Outbreaks.
Ontario	4
British Columbia	26
	30

Compensation paid in fiscal year			1901-02	$15,962 97
"	"	"	1902-03	36,029 75
"	"	"	1903-04	21,352 35
"	"	"	1904-05	7,042 73
"	1st half of	"	1905-06	839 34

In considering the reduction in the amount of compensation paid it should not be forgotten that since August, 1904, the rate paid has been two-thirds of the value of the animal whether actually diseased or only in contact, while formerly only one-third was paid for diseased animals, to which class the great majority of those slaughtered belonged. Were it not for this fact the expenditure would be even less than it is.

Hog cholera statistics for the 12 months ended October 31, 1905 :

In Ontario 1,031 hogs, valued at $7,292.98, were destroyed, in the following counties, at a cost of $4,862.24 :—

	No. of Outbreaks.	No. of Hogs Destroyed.
County of Kent—		
Harwich Township	13	349
Howard "	4	95
Tilbury "	1	25
Chatham "	2	28
Dover "	1	40
County of Middlesex—		
Caradoc Township	1	22
County of Essex—		
Rochester Township	7	109
Sandwich "	2	48
Gosfield "	2	81
Maidstone "	4	107
Colchester "	1	2
Anderdon "	1	16
Caldwell "	1	30
County of Wentworth—		
Grimsby Township	2	41
County of Oxford—		
East Zorra Township	1	10
County of Lennox—		
Camden Township	1	1
Pt. Edward—Quarantine	2	27
	46	1,031

In Quebec there was an outbreak (somewhat doubtful) at Port Daniel West, Gaspe, where 2 hogs were destroyed, at a cost of $26.

In British Columbia there were 4 outbreaks, all on Vancouver Island, where 42 animals, valued at $261, were slaughtered at a cost of $174.

In the Yukon there was one outbreak at Dawson, where 35 animals, valued at $525, were destroyed at a cost of $350.

Hog cholera statistics for the 5 months ended March 31, 1906 :

In Ontario 54 hogs, valued at $609, were destroyed in the following counties, at a cost of $405.99 :—

	No. of Outbreaks.	No. of Hogs Destroyed.
Wentworth County, Ancaster Township	1	25
Wellington County, Guelph Township	1	2
Essex County, Gosfield Township	2	27
	4	54

In British Columbia there were 26 outbreaks, 2 on Vancouver Island, and 24 in Chilliwack and New Westminster district, in which 322 hogs, valued at $1,954.80, were slaughtered at a cost of $1,303.12.

The following general regulations for the control of the disease were authorized by Order in Council, 6th December, 1904 :—

'1. Every owner, breeder or importer of, or dealer in, hogs shall, on perceiving the appearance of hog cholera or swine plague amongst the hogs owned by him, or under his special care, give immediate notice to the Minister of Agriculture, and to the nearest veterinary inspector of the Department of Agriculture, of the facts discovered by him as aforesaid.

'2. Every veterinary surgeon practising in Canada shall immediately, on ascertaining or suspecting that a hog is affected with hog cholera or swine plague, give similar notice to the minister and to the nearest veterinary inspector.

'3. In the Northwest Territories, the notice required to be given by the two preceding sections of these regulations shall be deemed sufficient if given to the commissioner, assistant commissioner, or other officer of the Royal Northwest Mounted Police, or to one of the veterinary staff-sergeants of the said force.

'4. Hogs affected with hog cholera or swine plague, or which have been in contact with or close proximity to hogs affected with either of the said diseases, shall, on an order signed by a duly appointed inspector of the Department of Agriculture, be forthwith slaughtered and the carcases disposed of as in such order prescribed.

'5. The Minister of Agriculture is hereby authorized to order compensation to be paid to the owners of such hogs at the rate set forth in sub-section 2 of section 12 of the "Animal Contagious Diseases Act, 1903" as amended by chapter 6 of the statutes of 1904.

'6. Before ordering compensation to be paid to the owners of hogs slaughtered under the provisions of these regulations, the minister shall require the production of a satisfactory report, order for slaughter, certificate of valuation and slaughter, and certificate of cleansing and disinfection.

'7. No hog which has been affected with, or has been exposed to hog cholera or swine plague, shall be permitted to run at large, or to come in contact with any hog which is not so affected.

'8. Any veterinary inspector or other duly authorized person may declare to be an infected place within the meaning of the "Animal Contagious Diseases Act, 1903," any common, field, stable, cowshed, or other place or premises where the infection of hog cholera or swine plague is known or suspected to exist.

'9. No hog shall be removed out of a place declared to be infected on account of hog cholera or swine plague, without a license signed by an inspector or other duly authorized person.

'10. Every yard, stable, hog pen or other place or premises, and every wagon, cart, carriage, or other vehicle, and every utensil or other thing infected with hog cholera or swine plague shall be thoroughly cleansed and disinfected by and at the expense of the owner or occupier in a manner satisfactory to a veterinary inspector or other duly authorized person.

'J. G. RUTHERFORD,
'*Veterinary Director General.*'

'Department of Agriculture, Ottawa.'

TUBERCULOSIS.

No change has so far been made in the policy of the department regarding tuberculosis. Cattle imported from the United States for breeding purposes or milk production, if accompanied by a satisfactory tuberculin test chart, signed by an officer of the United States Bureau of Animal Industry, are placed in quarantine and tested. The same rule is applied to cattle of similar classes imported from Mexico. Cattle of any kind coming from other countries are tested in quarantine. The animals comprising a few herds which are placed entirely under the control and supervision of our officers are tested by and at the expense of the department. Our officers test cattle exported to the United States when intended for breeding purposes or for milk pro-

duction. With these exceptions no testing with tuberculin is now undertaken officially, although it is supplied free to qualified veterinarians when employed by owners of cattle, on condition that the results of all tests made by them are sent in to the department on forms supplied for that purpose.

All reacting animals are permanently ear-marked by cutting a capital T out of the right ear.

In a considerable number of instances advantage has been taken of this offer, as may be seen from the fact that in the seventeen months which have elapsed since the date of my last report 7,721 doses of tuberculin have been issued from the biological laboratory.

It may be said, and with some show of reason, that the policy at present pursued by the department in regard to this insidious and destructive disease, is less active than it should be. While admitting that appearances would so indicate, I would say that my reason for counselling the policy of comparative inertia now being followed is that so far no satisfactory intelligent method of dealing with bovine tuberculosis has been evolved, and that I consider it better to await the results of the investigations now being conducted by scientists in different parts of the world, rather than to inaugurate a campaign along any of the various lines hitherto adopted, none of which have proved successful, and almost all of which have been abandoned after a more or less severe trial of public patience and a corresponding drain on public and private purses.

Since tuberculin was first introduced many communities have passed legislation regarding its use, which, after being enforced for a longer or shorter period, and causing more or less irritation and consequent agitation, has in most cases been repealed, having entirely failed in accomplishing the object desired. It was thought for many years, and by some men who should have known better, that if a herd of cattle was tested, the reactors destroyed and the premises disinfected, the disease was stamped out, the owner being left, thereafter, to follow his own courses. As I have maintained in previous reports, such a theory is absolutely wrong and untenable. Repeated experiments have shown that from 8 to 50 days may elapse after infection before it is possible to obtain from the animal a reaction to tuberculin. This being the case it goes without saying that frequent and repeated tests are necessary before it is safe to pronounce free from tuberculosis any herd which has been once infected. For example, in a herd of 100 cattle 25 are found to react to the first test. In such a case the theory was that the 75 which did not react were perfectly sound and safe. It must be remembered, however, that these 75 cattle have been living, and that in probably very close contact, with the 25 reactors. Under these circumstances it is almost certain that a second test in three months will bring to light a number of cases of tuberculosis which had not developed at the time of the first test to a sufficient extent to produce a reaction. We will say, for the sake of illustration, that these cases are ten in number, and that the remaining 65 still fail to react. Again, however, these 65 animals have been in contact with the 10 now shown to be diseased, and further tests will be required before the herd can be finally declared healthy. The same thing applies in the case of new cattle purchased to fill the places of those slaughtered, or for other reasons. A test prior to purchase while to some extent a safeguard, does not by any means constitute a guarantee of soundness. Even where the sharp practises followed by some sellers have not been brought into play, the newly purchased animal, if coming from an infected herd, must be looked upon with suspicion until its freedom from tuberculosis has been proved by a second test three months after purchase. This being the case it is necessary, in order to prevent the introduction of infection, to isolate carefully all newly purchased cattle during the period of probation. No one is more firmly convinced than myself of the value of tuberculin as a diagnostic agent, but it is subject to the limitation mentioned above, as well as to several others, among which may be mentioned the fraudulent methods adopted by many owners to prevent the occurrence of a typical reaction.

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The old plan of injecting tuberculin a few days before the time fixed for the test, and thus nullifying the work of the inspecting veterinarian was troublesome and in some cases expensive. It has also now largely lost its value as an agency for cheating through the discovery made by Professor Valle, of Alfort, that a reaction is actually obtainable even where tuberculin has been used only a short time previous, provided that taking of temperatures is commenced two hours after injection and continued until the usual time. Its place has, however, been taken by the much more cunning, and not less disreputable, practice of administering one or other of the coal tar antipyretics combined, as a rule, for safety's sake, with other drugs, to such animals as are known to be tuberculous or which begin to show a rise in temperature when undergoing the test. It is scarcely possible to deceive an experienced and wide-awake inspector by this scheme, but comparatively easy to hoodwink the veterinarian who depends largely on his thermometer and pays no attention to the clinical symptoms which invariably accompany and accentuate a marked reaction to tuberculin.

While believing firmly in tuberculin when honestly used as a diagnostic agent and for specific and definite purposes, I maintain that in consideration of the foregoing facts and of the many other difficulties to be encountered, it is better to wait until we are sure of achieving reasonable results and so making some progress in the eradication of tuberculosis, before we decide upon any policy which would involve universal or promiscuous testing. Meanwhile, no effort should be spared to induce owners of cattle to adopt every possible and reasonable means of combating the disease by practical common sense methods.

The Bang system which is followed by Senator Edwards and several of our other large breeders, and which has frequently been fully described in previous reports, has much to recommend it and should be more generally adopted than it is.

Within the reach of every man, however, and at the lowest possible cost, there lies the best and most effective agent yet discovered for the eradication of tuberculosis. Of infinitely greater value than tuberculin and much more easy of administration is a plentiful supply of fresh air. If there is one matter to-day in which veterinarians are behind the age it is that of failing to insist at all times, in season and out of season, on the importance to live stock of thorough and effective stable ventilation. Having before us the object lesson afforded by the medical profession and the marvellous results which its members are achieving by open air treatment, not only helping, but actually curing advanced cases of tuberculosis, to say nothing of checking the disease, as is now daily done, in its early stages, it is nothing short of disgraceful that we are yearly permitting thousands of valuable animals to become infected owing to the unsanitary conditions under which their owners insist on keeping them. Of the truth of this contention, which is, perhaps, at first sight, rather sweeping, there is no lack of proof. In northern countries where cattle are generally closely housed and where a proper system of ventilation is the exception and not the rule, we almost invariably find bovine tuberculosis rampant. In milder climates where animals have free access to fresh air, as for instance among the Hereford cattle in England, it is a rare thing to find a case of that disease. On the ranges tuberculosis is unknown except where it has been introduced by some pampered stable bred individual, and even such a one is more likely to recover than to die, provided the malady is not too far advanced and the first winter can be endured. To put the case plainly, stockmen are breeding tuberculosis a great deal faster through neglect of this important subject of ventilation than it would ever be possible to stamp it out by the promiscuous use of tuberculin and the slaughter of diseased animals.

While holding these views, I am keeping close watch on the work of Von Behring, McFadyean, Thomassen, Marmoreck and others in Europe, and Pearson, of Pennsylvania, who are devoting themselves to the task of finding some new and more effective method of dealing with the disease than has yet been made available. So far, in spite of all reports to the contrary, nothing has been achieved by their researches which would, in my opinion, warrant a change in our present attitude.

Meanwhile I am, with your approval, carrying on two experiments which, though conducted at a very trifling cost, will, I hope, be productive of results of considerable value to the stock-owning public.

The first, which is being managed by Mr. J. H. Grisdale, Agriculturist at the Central Experimental Farm, consists in the housing of a number of healthy cattle under conditions which, while affording absolute protection from draughts, insure at all times a plentiful supply of pure air. The object sought is to determine whether or not the high temperature generally insisted on by dairymen and cattle-feeders has the effect, with which it is usually credited, of maintaining a higher yield of milk in cows and a more rapid laying on of flesh in fattening stock than is the case when warmth is to some extent sacrificed in the interests of ventilation. Owing to the exceptional mildness of the season the conditions have been less favourable to the success of the experiment as a demonstration than would have been the case in a normal Canadian winter. As there is practically no outlay involved in this test, I hope that it will be possible to continue it for several successive years, as the point at issue is one of vital importance to the dairymen and feeders of the northern zone.

The second experiment now in progress consists in the application of the principles of the open air treatment to a number of cattle known to be affected with tuberculosis, although not in an advanced stage, with a view to ascertaining to what extent it may be possible to cure the malady, or, at least, to check its progress. The opportunity to initiate this experiment at a slight expense was furnished by the reaction to tuberculin of a considerable number of the cattle kept on the Experimental Farm at Nappan, Nova Scotia, when tested in October last. As these animals, being the property of a public institution, would, under ordinary circumstances, have been destroyed, I thought the opportunity for acquiring knowledge in this way too valuable to be neglected, and they were, therefore, at my request, and with your full approval, transferred to this branch by the Director of Experimental Farms. All those showing evidence of breaking down were killed, 40 head in all being retained for experimental purposes. Of these, 28 have reacted to tuberculin, while the remaining 12 are to all appearance free from disease. All, however, are being kept together, it being desired, among other things, to obtain information as to the probability of infection by contact under open air conditions. The animals have passed the winter in a yard at Nappan, their only protection from wind and weather being a shed open at all times. They do not appear to have suffered from exposure, the only death reported having occurred within a few hours of dehorning, an operation which was considered advisable in order to prevent the animals injuring and annoying each other.

It is my intention, as soon as I can secure suitable premises, to bring these animals to the vicinity of Ottawa, where the opportunities for close observation will be much greater and the results generally more satisfactory.

The highest medical authorities are now-a-days advising, and with the very best results, our modern hothouse humanity to get 'closer to nature' in every possible way. The advantages of adopting a similar policy in the handling and housing of domestic animals are too apparent to admit of discussion. Nature has furnished our animal friends with every conceivable requisite for protection against ordinary climatic conditions, and most of the diseases and disabilities to which they are subject have been caused by, and owe their continuance to the irrational, artificial conditions imposed upon them by well meaning, but ignorant, or rather unthinking owners and attendants.

Tuberculosis Statistics for the twelve months ended October 31 1905.

Eight hundred and ninety cattle were tested for export, 48 of which reacted, 8 were classed as suspicious, and 834 successfully withstood the test.

One hundred and sixty-seven cattle were tested, on being imported into Canada, 8 of which reacted and 159 proved healthy.

Eight hundred and twenty cattle were tested by private practitioners with tuberculin supplied by this department, 103 of which reacted, 17 were classed as suspicious and 700 proved to be healthy.

Tuberculosis Statistics for the five months ended March 31, 1906.

Six hundred and twenty-two cattle were tested for export, 20 of which reacted, and 15 were classed as suspicious, 587 thus successfully withstanding the test.

Ten cattle were tested on being imported into Canada, of which 1 only reacted, the other 9 proving healthy.

Four hundred and twenty cattle were tested throughout the Dominion by private practitioners, with tuberculin supplied by the department, 38 of which reacted, 15 were classed as suspicious, and 367 proved healthy.

With regard to this general testing, it must be borne in mind that, in many cases, the existence of tuberculosis is suspected in a herd before tuberculin is applied for, and the proportion of reactors cannot be cited as those obtained from indiscriminate testing.

All reactors were permanently ear-marked by a veterinary inspector.

GLANDERS.

I regret to report that this disease, one of the most dangerous and insidious maladies affecting any of the domestic animals, still exists to a very serious extent among horses in several widely distant parts of the Dominion.

Previous to 1902 it was not dealt with by this department, except in the Northwest Territories and in one or two isolated instances elsewhere, its control being left to the various provinces, several of which had legislation on the subject of a more or less effective character, while others gave it no attention whatever.

In the year named, however, on ascertaining that it was threatening to become epizootic in some parts of Ontario and Quebec, it was resolved to bring it under the operation of the Animal Contagious Diseases Act. This was accordingly done, an exception being made in the case of Manitoba, where the legislation was of such a nature as to permit of its being dealt with in a fairly effective manner by the provincial authorities, acting through their own inspectors.

Since the discovery of mallein in 1890 a complete change, due to the information acquired through its use, has taken place in the views held by modern veterinarians regarding glanders. It is now definitely known that many horses are affected while, for the time being, presenting no apparent symptoms, the disease being confined to the internal organs of which the lungs are most generally involved. This being so, it goes without saying, that the method formerly followed in dealing with glanders and still in vogue in some countries, namely, the slaughter of horses showing clinical symptoms only, is entirely inadequate. Experience has shown that where one or more clinical cases are found in a stable, it is almost a certainty that some of the animals which have been directly or indirectly in contact with them are also affected. Of these many, sooner or later, develop clinical symptoms, and so become active centres of infection, while there is good ground for the belief that the disease can be communicated by animals showing no external evidence of its existence. It follows, therefore, that any system which neglects these contact cases is defective, and certain to result in spreading the disease, especially in view of the perhaps natural tendency

shown by owners to dispose, as soon as possible, of any animals left in their possession after the destruction of those visibly affected.

Where no compensation is paid for horses slaughtered, the inspector dealing with an outbreak of glanders finds himself in a very difficult position. Owners possessed of any intelligence seldom object to the slaughter of animals evidently diseased, but are naturally opposed to the killing of those which, while reacting to mallein, remain in good condition and are, so far as they can see, perfectly healthy. The tendency therefore is to refrain from testing contact horses on the theory that 'ignorance is bliss,' for if tested and found to react they must be dealt with as diseased, while if presumed to be healthy they may be left free from restrictions. The results of such an ostrich-like policy are, however, bound to be eventually disastrous as may be seen from the following figures taken from the returns of the Board of Agriculture which show the number of horses slaughtered for glanders in Great Britain under this system from 1898 to 1904 inclusive.

1898	1,385
1899	1,472
1900	1,858
1901	2,370
1902	2,073
1903	2,499
1904	2,628

The steady progress made by the disease under a similar policy as evidenced by the experience of Manitoba and other infected districts, furnishes additional convincing proof of the folly of ignoring the constant and very real danger connected with the contact horse even when he is absolutely free from visible symptoms of glanders.

It is known that a proportion of such horses as react to mallein when first tested, subsequently cease to show even that evidence of disease having, to all appearance, overcome the infection. Beginning in 1902, it was decided in default of compensation, to institute a system of carefully testing all contact horses and subsequently retesting such as reacted with a view to releasing those ceasing to react at the second or third test and destroying those in which the reaction persisted.

In my reports for the years 1903 and 1904, may be seen a complete record of the work done in carrying out this policy of retesting which taxed the energies of our officers to the utmost. The results achieved, while showing a great improvement on the old methods, were in no degree commensurate with the risk and labour inseparable from such a policy especially in the newer and more sparsely settled portions of the Dominion.

After a trial extending as above indicated over two years this system was found to be unworkable and far from satisfactory, inasmuch as it was shown to be practically impossible to keep reacting horses under such close observation as might offer comparative freedom from the risk of spreading infection. Among groups of reactors held for further tests, one or more are likely to develop clinical symptoms, thus becoming virulent centres of infection not only endangering the other reactors with which they are in actual contact, they being in no way immune from reinfection, but through the various indirect channels with which horsemen are familiar, threatening the health of other animals not actually housed with them. More recently, frequent proofs have been furnished that many of even the so-called ceased reactors, can be by no means looked upon as permanently cured. Several serious outbreaks can be traced directly to such horses, and making due allowance for the possibility of reinfection from outside sources, I may say that I am in possession of what I consider to be indisputable evidence in confirmation of the view that these animals are exceedingly dangerous. The risk attending their release is greatly increased by the tendency almost invariably shown by owners to dispose of them at the first available opportunity, when falling

into the hands of unsuspecting persons, they frequently introduce the disease among their new stable companions.

The policy of retesting reactors having thus been fairly tried and found wanting while that of slaughtering clinical cases and ignoring contact horses had proved worse than useless, there remained the alternatives of leaving the disease alone to spread as opportunity offered, or of applying the only practical and, at the same time the only scientific remedy, namely the destruction of all horses giving a typical mallein reaction whether presenting any external manifestations of glanders or not.

Having decided on the latter course, you obtained from parliament during the session of 1904, the necessary authority by an amendment to the Animal Contagious Diseases Act, and at the same time, secured the increased appropriation required for purposes of compensation. This was fixed by the Act at two-thirds of the actual value of the animal in a state of health, such value being limited in the case of ordinary horses to $150, and in the case of pure-bred horses to $300.

On the principle that a horse showing clinical symptoms of glanders is not only absolutely valueless, but is a constant source of danger to all other horses as well as to its owner, his family and any other human beings who may directly or indirectly be exposed to the contagion, it was at first decided to pay no compensation for cases of this class. The order in council of September 19, 1904, which brought the new policy into force therefore contained a provision to that effect. It was soon apparent, however, that in order to secure early information as to the existence of glanders and to enable our inspectors to carry out the law without undue and dangerous friction, it would be necessary to amend the regulations so as to permit of the payment of compensation for all animals slaughtered in accordance with the Act.

This was accordingly done, and on March 25, 1905, the following regulations were put in force:—

'REGULATIONS RELATING TO GLANDERS.

'By Order in Council dated 25th March, 1905, in virtue of "The Animal Contagious Diseases Act, 1903."

'1. No animal which is affected with or has been exposed to glanders shall be permitted to run at large or to come in contact with any animal which is not so affected.

'2. Any veterinary inspector may declare to be an infected place within the meaning of the 'Animal Contagious Diseases Act, 1903,' any steamship, or steam or other vessel, or any place or premises where the contagion of glanders is known or suspected to exist.

'3. No horse, mule or ass shall be removed out of an infected place without a license signed by an inspector.

'4. Veterinary inspectors are hereby authorized to inspect and to subject to the mallein test any horses, mules or asses affected with glanders or suspected of being so affected or which have been in contact with animals so affected or suspected of being so affected, or which have been in any way whatsoever exposed to the contagion or infection of the disease of glanders, and for the purpose of making such inspection or test to order any such animals to be collected, detained or isolated.

'5. Horses, mules or asses affected with glanders, whether such animals show clinical symptoms of the disease, or re-act to the mallein test without showing such symptoms, shall, on an order signed by a duly appointed inspector of the Department of Agriculture, be forthwith slaughtered and the carcases disposed of as in such order prescribed, compensation to be paid to the owners of such animals if and when the Act so provides.

'6. In the event of the owner objecting to the slaughter of animals which re-act to mallein, but show no clinical symptoms of glanders, the inspector may order such animals to be kept in close quarantine and re-tested, such re-tests however in no case

to exceed two in number and to be completed within four months of the first test, provided, however, that owners deciding to have their animals quarantined rather than slaughtered shall forfeit all right to compensation.

'7. Horses, mules or asses re-acting to the third test with mallein shall be forthwith slaughtered on an order signed by an inspector and the carcases disposed of as ordered.

'8. Inspectors are hereby authorized to permit owners of horses, mules or asses which give no re-action to the third test with mallein and which have at no time shown any clinical symptoms of glanders, to retain and use such animals subject to the conditions contained in the license signed by the inspector.

'9. Before an order is made for the payment of compensation in any of the cases aforesaid, there must be produced to the Minister of Agriculture a satisfactory report, order for slaughter, certificate of valuation and slaughter, and certificate of cleansing and disinfection, all signed by an inspector.

'10. The certificate of an inspector to the effect that an animal has re-acted to the mallein test or has shown clinical symptoms of glanders, shall, for the purpose of the said Act and of this order be *prima facie* evidence in all courts of justice and elsewhere of the matter certified.

'11. Every yard, stable, outhouse or other place or premises, and every wagon, cart, carriage, car or other vehicle and every utensil or other thing infected with glanders shall be thoroughly cleansed and disinfected by and at the expense of the owner or occupier, in a manner satisfactory to a veterinary inspector.

'J. G. RUTHERFORD,
'*Veterinary Director General.*

'Department of Agriculture,
'Ottawa.'

Since the policy of compensation was adopted many outbreaks have been reported and dealt with by our inspectors. Some of these occurred in parts of the Dominion where, so far as the department was concerned, the existence of the disease had not previously been suspected.

There is no doubt that, so long as a policy of slaughter without compensation was in force, the tendency of owners, and even of some veterinarians, was to conceal the existence of glanders and to dispose of the suspected animals as quickly as possible.

On the other hand, it can be readily understood that the adoption of a policy of paying for slaughtered animals has encouraged owners and veterinarians to report much more freely the existence of the disease. A serious outbreak in the Saguenay district had never been reported, although the disease had been raging for a number of years, while no one ever suspected the existence of glanders to any serious extent in British Columbia, although, as our figures show, a considerable number of diseased horses have been destroyed in that province during the year just past.

Again, the true state of affairs in Manitoba, as brought to light by our inspectors in that province since the work was taken over by this department from the provincial authorities in February, 1905, came as a very great surprise. For twenty years the Disease of Animals Act of Manitoba was indubitably the best in the Dominion, and the work of dealing with glanders was supposed to have been carried on in an intelligent and systematic manner. It was not, however, the policy of the provincial authorities to destroy re-actors, clinical cases only being killed, while in some cases contact horses were tested and kept under supervision, and in others they were allowed to go without further attempt at control.

The results of pursuing such a policy are very evident, as will be seen by a reference to the figures accompanying this report.

So far as it is possible to judge at this comparatively early date after its adoption, the new policy is likely to prove successful in securing the object sought, namely, the complete eradication of glanders. In those districts where the disease has been

prevalent and where people have for many years been heavy losers from its effects, the new regulations are giving great satisfaction, and intelligent horse-owners freely express their approval of the change.

In other parts of the country where glanders has but recently appeared, it is sometimes claimed that there is no crying necessity for such stringent measures. The argument is advanced that the disease has existed in Canada and in other countries for many years without becoming epizootic or causing a loss of horseflesh as great as that resulting from the present operations of our inspectors. As can easily be shown, however, this contention is not well founded. The statistics of European countries, where these are reliable, show conclusively that glanders, under modern conditions, when dealt with by the defective methods generally in use, is exceedingly difficult to control. The figures already quoted from the returns of the Board of Agriculture of Great Britain indicate the futility of half measures. A strong effort is now being made to induce the British authorities to introduce the policy now followed in Canada as is evidenced by the following extract from a review of the report of the Board of Agriculture which appeared in the London *Lancet* on July 5, 1905:—

'Glanders is admittedly on the increase, and it is time that some radical measures were taken to control the disease. In 1894 there were only 502 outbreaks reported, but in 1904 these had increased to 1,529, and 2,658 horses were killed as glandered. More power ought certainly to be given to the veterinary inspectors to test the in-contact horse with mallein, as by this agent an almost infallible diagnosis can be made within twenty-four, or at most forty-eight hours. The expense, although great the first year, would not be excessive if allowed to spread over a period of years; and where a preventable disease, which also causes the deaths of numbers of human beings each year is concerned, the cost ought certainly not to be considered too seriously as the reason why it should not be taken thoroughly in hand.'

If it is possible for glanders to extend its ravages to such a degree in a country like England, it is not difficult to understand why I have deemed it necessary to advise the adoption of the policy now in operation in Canada, where the geographical and economic conditions are so much more favourable to the spread of the disease and so much less favourable to the systematic supervision of suspected cases.

In localities where the nature of the disease has not been recognized, and where no intelligent efforts have been directed towards its control, the results have invariably been disastrous.

As an instance of this, I would again refer to the experience of the Saguenay Lumber Company, the secretary of which reports a loss by death in less than four years of upwards of fifty head of valuable horses, all of which, according to him, died of glanders. Not only did these horses die, but the whole district in which they were kept has become infected to such an extent as to render it almost an impossibility to stamp out the disease without destroying an overwhelming majority of the horses therein.

There are several points in connection with the spread of glanders which must be considered in dealing with the statements made by opponents of our present policy. One of these, and perhaps the most important, is the great change which has taken place of recent years in regard to the transportation of horses from place to place. Granting that in communities, and especially farming communities where new horses, with the exception perhaps of valuable breeding stock, are but seldom introduced, immunity from glanders may be long enjoyed. I would remind you that the violent fluctuations in the value of horseflesh which have characterized the last twelve years have led to the movement of large numbers of these animals from various parts of this continent to other places, and that, by this means the disease has obtained a foothold in many districts where it was formerly unknown.

I am satisfied that never before have conditions been so favourable for the spread of glanders as they are now, when it is possible to transport horses for thousands of miles with comparative ease and at a small fraction of the cost formerly necessary.

Among the most dangerous and persistent agents in the dissemination of glanders and other diseases are the range horses, which during the last ten years have been shipped from the western States in large numbers to supply the temporary shortages arising from the unfortunate cessation of breeding which resulted from the depression of prices in the early nineties.

The mortality from the disease on the range itself is not very great, the conditions being favourable to its maintaining a latent form, but it soon develops when the infected animals are broken, stabled and put to work, as has been demonstrated again and again; a chain of outbreaks having frequently followed exactly the route taken by one of the numerous itinerant bands of bronchos imported for the purpose of being peddled to farmers.

While inspection at the boundary is enforced, it is, in many cases, impossible to detect the existence of glanders without the aid of mallein. Although involving considerable inconvenience to importers, it would almost appear necessary to make provision for the testing of all horses introduced from the other side.

In many states of the Union no serious attempt is made by the authorities to deal in an effective way with outbreaks of glanders, and as a result a good deal of private testing is carried on, the reactors being subsequently disposed of as soon as possible. As such horses are sold at a sacrifice, they are as a rule quickly picked up, and there is no doubt that some of them are brought into Canada either by persons ignorant as to their true condition or unscrupulous enough to run the risk of having them pass inspection at the boundary before the disease has developed sufficiently to admit of its existence being detected by ordinary methods.

The dissemination of glanders in modern times is, beyond question, largely assisted through the agency of these private mallein tests conducted by unscrupulous horse owners and veterinarians.

Leading authorities in London, the great hot-bed of glanders in Britain, attribute largely to this cause the rapid spread of the disease and the occurrence of outbreaks in the most unexpected places. The practice was rapidly coming into vogue in Canada, and is yet, I fear, practised to some extent, although reputable veterinarians have ceased to indulge in private testing since the 'A.C.D.' Act was amended in 1903, requiring them to report all cases of contagious disease coming under their observation.

The promptitude now shown by the department in sending inspectors to investigate all reported outbreaks has also done much to prevent private testing and attempts at the treatment of suspicious cases.

While realizing to the full the serious nature of our present operations, and the large expenditures necessary to carry them on, I cannot conscientiously, as a responsible official, recommend any change in the present system. To revert to the former condition of affairs would simply be to court disaster. It is true that the expenditure this year has been very large, exceeding altogether, for reasons explained above, the sum which I had considered would be sufficient, but I feel certain that the amount of money necessary will become less yearly, and that we will finally, if the work is honestly and faithfully carried out, be able to congratulate ourselves and the country on the practical eradication of what is now one of the most serious causes of loss to the Canadian owner of horse flesh.

Compared with the amounts spent by other countries in stamping out diseases of animals, our expenditure is very moderate. Great Britain paid in compensation for cattle slaughtered for rinderpest, between 1865 and 1868, over $5,500,000; while the cost of eradicating pleuro-pneumonia involved an outlany in compensation alone of nearly two million dollars. To stamp out the recent outbreak of foot and mouth diseases in New England, cost the United States Government, $1,500,000, and this expenditure though large, was doubtless true economy in view of the recent statement of the President of the British Board of Agriculture that that disease had, since 1890, cost the farmers of Britain over $12,000,000.

In this connection I would refer you to the ratio of decrease in the amounts expended for compensation in connection with hog cholera, since the adoption of the energetic policy which has been pursued by the department since 1902.

Paid in fiscal year	1901-02	$15,962	97
" "	1902-03	36,029	75
" "	1903-04	21,352	35
" "	1904-05	7,042	73
1st half of "	1905-06	839	34

These results have been achieved in spite of many complaints made by owners and dealers in hogs, who considered our policy unnecessarily severe, while many people also thought that the expenditure incurred was unjustifiable. The results, however, are such as to show that we were right, and I am confident that similar benefit will follow the consistent carrying out of the present regulations *re* glanders. No great victory of any kind has ever been won by following a half hearted policy. This is especially true of campaigns against contagious disease, whether of man or animals, as has already been demonstrated times without number.

The following notice has been widely distributed throughout the Dominion, for the purpose of disseminating information regarding the disease and warning farmers and other horse owners as to the danger of infection and instructing them as to the best methods of dealing with horses and stables in the event of an outbreak taking place on or in proximity to their premises.

NOTICE—GLANDERS.

'In districts where the existence of glanders is suspected, and especially in neighbourhoods where actual outbreaks have occurred, the adoption of the following precautions by owners of horses and others interested will do much to prevent the spread of the disease and the establishment of fresh centres of infection.

'1. Horses or mules having a nasal discharge or other suspicious symptoms should not be admitted to livery or feed stables or yards, blacksmith shops, church or school sheds, railway stock yards, private stables or other places where they are likely to come into direct or *indirect* contact with animals of the equine species.

'2. All stables, yards or sheds used for the accommodation of horses or mules should be regularly and frequently cleansed and disinfected in the manner prescribed below.

'3. After cleansing the premises thoroughly and burning all debris, the interior should be well gone over with hot steam or boiling water, adding to the latter at least one quart of crude carbolic acid to each five gallons, after which the entire surface should be thickly coated with a hot solution of fresh lime wash, to which crude carbolic acid has been added in the above mentioned proportion.

'Outbuildings, fences and tying posts with which infected animals have been in contact should also, when possible, be thoroughly treated in a similar manner.

'All ordinary harness and stable utensils, which have been in contact with infected animals or infected premises, should be thoroughly soaked in a hot solution of crude carbolic acid of a strength of one part to twenty.

'Materials which might be injured by the above treatment, such as valuable harness, robes, cushions, &c., which have been in contact with infection, should be placed in an air-tight room and fumigated with formaldehyde, after which they should be thoroughly cleansed.

'4. In stables where outbreaks have occurred or where diseased animals have inadvertently or otherwise been stabled, even temporarily, the cleansing and disinfection should be especially thorough, and in such cases it is safest to remove and burn feed boxes and mangers when of wood; iron articles can be rendered harmless by passing them through fire or by immersing them for some time in boiling water. All litter from suspected animals should be burned or carefully fenced until used.

'5. Farmers and others should, whenever possible, avoid admitting strange horses or mules to the premises occupied by their own animals especially of the same species. It is a good plan to reserve an isolated building for outside horses or mules, but where this is impossible they may be accommodated in cow stables, cattle not being subject to glanders infection. Such horses and mules should be watered from special pails, which, together with all other stable utensils used on or about them, should be carefully cleansed and disinfected before being used for other animals. Stalls occupied by strange horses or mules should be well cleansed and disinfected and, if at all possible, left unoccupied for some time.

'6. Where new horses or mules are purchased in or from districts where glanders exists, they should, unless carefully tested with mallein prior to purchase, be stabled apart and closely watched for some time before being brought in contact with other animals of the equine species.

'7. It must be borne in mind that while nasal discharge, or ulceration, enlarged glands, the presence of 'farcy buds, unaccountable swelling of the limbs and general unthriftiness often characterize cases of glanders, the disease exists in many animals without, for the time being, any external manifestation whatever, the only means of detection in such cases being the mallein test, and that these occult or latent cases are in some respects the most dangerous because unsuspected. Our experience shows that it is possible for animals of this class to convey infection to others without themselves developing acute symptoms. It is therefore plain that great caution should be exercised in the purchase or handling of strange horses or mules, especially in those districts where the disease has become established.

'8. The carcasses of animals dying from or slaughtered as being affected with glanders should, when possible, be burned, or, failing this, buried at least six feet beneath the surface.

'9. Owners of premises where outbreaks have been dealt with should bear in mind that inspectors cannot recommend release from quarantine unless disinfection has been carried out in a satisfactory manner, and that compensation for animals slaughtered cannot be paid until a certificate of cleansing and disinfection has been received by the Minister of Agriculture.

'10. Horse owners should have no hesitation in reporting to this department, or to its inspectors, the existence of actual or suspected cases of glanders. The disease has been spreading rapidly of late years, and it is a matter of public interest that every fresh centre of infection should be discovered and dealt with as promptly as possible.

'J. G. RUTHERFORD,
'*Veterinary Director General.*

'Department of Agriculture, Ottawa, March, 1906.'

GLANDERS STATISTICS FOR THE 12 MONTHS ENDED 31ST OCTOBER, 1905.

Dominion.

During the year 2,113 horses were slaughtered, as hereunder shown.

2,113	259	killed on inspection.	Valued at $221,777.50, at a cost of $147,851.43.
	1,583	" 1st test.	
	145	" 2nd "	
	71	" 3rd "	
	23	" 4th "	
	9	" 5th "	
	8	" 6th "	
	3	" 7th "	
	12	" previous ceased reactors.	

Nine hundred and thirty-two showed clinical symptoms.

SESSIONAL PAPER No. 15a

Four thousand eight hundred and ninety-nine horses were tested with mallein, of which 1,854 reacted and were destroyed.

Of the 1,854 reactors, 673 showed clinical symptoms of glanders at or during the test.

One hundred and seventy-three horses ceased to react.

One hundred and eight horses are being held for retest.

Quebec.

319	65	killed on inspection.	Valued at $34,636.50, at a cost of $23,091.06.
	220	" at 1st test.	
	16	" 2nd "	
	5	" 3rd "	
	8	" 4th "	
	3	" 5th "	
	2	" previous ceased reactors.	

One hundred and eighty-seven showed clinical symptoms.

Four hundred and eleven horses were tested with mallein, of which 254 reacted and were destroyed.

Of the 254 reactors, 122 showed clinical symptoms of glanders at, or during, the test.

In Quebec there were 16 ceased reactors of which—

5 ceased at the 2nd test.
3 " 3rd "
5 " 4th "
2 " 5th "
1 " 7th "

Sixty-one horses are still under control for retest.

Of the 319 horses slaughtered in Quebec—

319	23	were in Drummond and Arthabaska.
	11	" Richmond and Wolfe.
	24	" Pontiac.
	49	" Wright.
	8	" Vaudreuil.
	15	" Lotbiniere.
	5	" Bagot.
	7	" St. Hyacinthe.
	3	" Dorchester.
	8	" Argenteuil.
	2	" Laprairie and Napierville.
	11	" Yamaska.
	11	" Montreal City.
	7	" Richelieu.
	17	" Nicolet.
	1	" Missisquoi.
	7	" Chambly and Vercheres.
	1	" Champlain.
	1	" Sherbrooke.
	1	" Bellechasse.
	5	" Beauce.
	3	" Megantic.
	84	" Chicoutimi and Saguenay.
	5	" Three Rivers and St. Maurice.
	3	" Labelle.

Ontario.

84	7	killed on inspection.	Valued at $8,509, at a cost of $5,672.50.
	55	" at 1st test.	
	3	" 2nd "	
	4	" 3rd "	
	5	" 4th "	
	1	" 5th "	
	2	" 7th "	
	7	" previous ceased reactors.	

Forty showed clinical symptoms.

One hundred and eighty-one were tested with mallein, of which 77 reacted and were destroyed.

Of the 77 reactors, 33 showed clinical symptoms of glanders at, or during, the test.

Twelve horses ceased to react in Ontario, of which

2	ceased at	the 3rd test.
8	"	4th "
1	"	7th "
1	"	8th "

No horses are held for retest.

Of the 84 horses slanghtered in Ontario—

84	24	were in the county of	Carleton.
	1	" "	Halton.
	6	" "	Renfrew.
	9	" "	Russell.
	1	" "	Muskoka.
	14	" "	Wellington.
	2	" "	Essex.
	4	" "	Grey.
	2	" "	Toronto.
	2	" "	Huron.
	4	" "	Middlesex.
	6	" "	Nipissing.
	1	" "	Waterloo.
	1	" "	Oxford.
	2	" "	Addington.
	2	" "	Lennox.
	3	" "	Hastings.

Manitoba.

661	70	killed on inspection.	Valued at $79,165, at cost of $52,776.67.
	571	" at 1st test.	
	20	" 2nd "	

Two hundred and fifty-two showed clinical symptoms.

One thousand one hundred and fourteen horses were tested with mallein, of which 591 reacted and were destroyed.

Of the 591 reactors, 182 showed clinical symptoms of glanders at, or during, the test.

Of the 661 horses slaughtered in Manitoba—

147 were in the district of Marquette.
64 " " Brandon.
132 " " Lisgar.
101 " " Macdonald.
114 " " Provencher.
82 " " Selkirk.
21 " " Winnipeg.

Eight horses ceased to react in Manitoba all at the 2nd test.
Two horses are being held for retest.

Northwest Territories.

942 { 113 killed on inspection.
642 " at 1st test.
102 " 2nd "
61 " 3rd "
10 " 4th "
5 " 5th "
7 " 6th "
2 " previous ceased reactors. } Valued at $88,962, at a cost of $59,308.

Four hundred and thirty-eight showed clinical symptoms.
Two thousand seven hundred and fourteen horses were tested with mallein, of which 829 reacted and were destroyed.
Of the 829 reactors, 325 showed clinical symptoms of glanders at, or during, the test.
In the Northwest there were 132 ceased reactors of which—

132 { 69 ceased at the 2nd test.
40 " 3rd "
18 " 4th "
5 " 6th "

Seventeen horses are still under control for retest.
Of the 942 horses slaughtered—

942 { 633 were in the Regina and Moosejaw districts and south and east thereof.
127 " Prince Albert and Battleford districts.
57 " Maple Creek and Medicine Hat districts.
64 " Calgary district.
29 " Macleod and Lethbridge districts.
32 " Fort Saskatchewan district.

British Columbia.

98 { 3 killed on inspection.
91 " at 1st test.
4 " 2nd " } Valued at $9,455, at a cost of $6,303.20.

Thirty-four showed clinical symptoms.
One hundred and sixty-four horses were tested with mallein, of which 95 reacted and were destroyed.
Of the 95 reactors, 31 showed clinical symptoms of glanders at or during the test.
Of the 98 horses slaughtered—

98 { 46 were at the Pacific Coast.
5 " Eastern British Columbia.
47 " in the Okanagan Valley.

Three horses ceased to react in British Columbia all at the 2nd test.
Twenty-eight horses are being held for retest.

Yukon.

9	1	killed on inspection.	Valued at $1,050, at a cost of $700.
	4	" at 1st test.	
	1	" 3rd "	
	1	" 6th "	
	1	" 7th "	
	1	" previous ceased reactor.	

One showed clinical symptoms.

Fifteen horses were tested, of which 8 reacted and were destroyed, none showing clinical symptoms of glanders.

Of the 9 horses killed—

9 { 6 were killed in and around Dawson.
{ 3 " at Forty Mile, Y.T.

Two horses ceased to react at the 2nd test.

No horses are being held for retest.

GLANDERS STATISTICS FOR THE PERIOD BETWEEN NOVEMBER 1, 1905, AND MARCH 31, 1906.

13,807	102	killed on inspection.	Valued at $162,070, at a cost of $108,045.76.
	1,029	" at 1st test	
	231	" 2nd "	
	21	" 3rd "	
	1	" 7th "	
	1	" 9th "	
	2	" previous ceased reactors.	

Five hundred and sixty-one showed clinical symptoms of glanders.

Three thousand nine hundred and fifty-seven were tested with mallein, of which 1,285 reacted and were destroyed.

Of the 1,285 re-actors, 459 showed clinical symptoms of glanders at or during the test.

Two hundred and fourteen horses are now under control for retest.

One horse ceased to react.

Quebec.

141	11	killed on inspection.	Valued at $16,930, at a cost of $11,286.45.
	117	" at 1st test.	
	12	" 2nd "	
	1	" 3rd "	

Forty-six showed clinical symptoms.

Three hundred and twenty-three horses were tested with mallein, of which 130 reacted and were destroyed.

Of the 130 reactors, 35 showed clinical symptoms of glanders at or during the test.

Five horses are being held under control for retest.

One horse ceased to react at 3rd test.

Of the 141 horses slaughtered in Quebec—

141	10	were in Nicolet.
	1	" Richelieu.
	10	" Megantic.
	33	" Saguenay and Chicoutimi.
	4	" Labelle.
	16	" Yamaska.
	15	" Pontiac.
	9	" Montreal.
	8	" Dorchester.
	4	" Quebec.
	4	" Vaudreuil.
	7	" Montmagny.
	2	" Wright.
	1	" Three Rivers.
	8	" Drummond.
	5	" L'Islet.
	4	' Arthabasca.

ERRATUM.

Page 28: Under heading 'Glanders Statistics for the Period Between November 1, 1905, and March 31, 1906," for 13,807 read 1,387.

114	23	were in Ottawa.
	1	" Northumberland.
	2	" Toronto.
	44	" Rainy River.
	41	" Perth.
	3	" Addington.

Manitoba.

210	20	killed on inspection.	Valued at $24,415 at a cost of $16,276.60.
	187	" at 1st test.	
	1	" 2nd "	
	2	" 3rd "	

One hundred and thirteen showed clinical symptoms of glanders.

Yukon.

9 { 1 killed on inspection.
4 " at 1st test.
1 " 3rd "
1 " 6th "
1 " 7th "
1 " previous ceased reactor. } Valued at $1,050, at a cost of $700.

One showed clinical symptoms.

Fifteen horses were tested, of which 8 reacted and were destroyed, none showing clinical symptoms of glanders.

Of the 9 horses killed—

9 { 6 were killed in and around Dawson.
3 " at Forty Mile, Y.T.

Two horses ceased to react at the 2nd test.

No horses are being held for retest.

Quebec.

141 { 11 killed on inspection.
117 " at 1st test.
12 " 2nd "
1 " 3rd " } Valued at $16,930, at a cost of $11,286.45.

Forty-six showed clinical symptoms.

Three hundred and twenty-three horses were tested with mallein, of which 130 reacted and were destroyed.

Of the 130 reactors, 35 showed clinical symptoms of glanders at or during the test.

Five horses are being held under control for retest.

One horse ceased to react at 3rd test.

Of the 141 horses slaughtered in Quebec—

141	10	were in Nicolet.
	1	" Richelieu.
	10	" Megantic.
	33	" Saguenay and Chicoutimi.
	4	" Labelle.
	16	" Yamaska.
	15	" Pontiac.
	9	" Montreal.
	8	" Dorchester.
	4	" Quebec.
	4	" Vaudreuil.
	7	" Montmagny.
	2	" Wright.
	1	" Three Rivers.
	8	" Drummond.
	5	" L'Islet.
	4	" Arthabasca.

Ontario.

114	2	killed on inspection.	Valued at $15,300 at a cost of $10,206.64.
	54	" at 1st test.	
	53	" 2nd "	
	3	" 3rd "	
	1	" 7th "	
	1	" 9th "	

Forty showed clinical symptoms.

Two hundred and nine were tested with mallein, of which one hundred and twelve reacted and were destroyed.

Of the 112 reactors, 38 showed clinical symptoms of glanders at or during the test.

Four horses are being held under control for retest.

Of the 114 horses slaughtered in Ontario—

114	23	were in Ottawa.
	1	" Northumberland.
	2	" Toronto.
	44	" Rainy River.
	41	" Perth.
	3	" Addington.

Manitoba.

210	20	killed on inspection.	Valued at $24,415 at a cost of $16,276.60.
	187	" at 1st test.	
	1	" 2nd "	
	2	" 3rd "	

One hundred and thirteen showed clinical symptoms of glanders.

Six hundred and thirty-three were tested with mallein, of which 190 reacted and were destroyed.

Of the 190 reactors, 82 showed clinical symptoms of glanders at or during the test.

Seven horses are being held for retest.

Of the 210 horses slaughtered in Manitoba—

210	39	were in the district of	Macdonald.
	30	" "	Marquette.
	20	" "	Selkirk.
	55	" "	Provencher.
	7	" "	Lisgar.
	10	" "	Brandon.
	19	" "	Souris.
	8	" "	Dauphin.
	3	" "	Winnipeg.
	19	" "	Portage la Prairie.

Saskatchewan.

230	43	killed on inspection.	Valued at $27,360, at a cost of $18,239.68.
	176	" at 1st test.	
	9	" 2nd "	
	2	" previous ceased reactors.	

One hundred and thirteen clinical symptoms of glanders.

Seven hundred and eighty-eight horses were tested with mallein, of which 187 reacted and were destroyed.

Of the 187 reactors, 70 showed clinical symptoms of glanders at or during the test.

Fifty horses are being held for retest.

Of the 230 horses slaughtered in Saskatchewan—

230	35	were in Prince Albert	district.
	19	" Battleford	"
	50	" Regina	"
	35	" Moosejaw	"
	28	" Estevan	"
	40	" Yorkton	"
	17	" Wood Mountain	"
	6	" Maple Creek	"

Alberta.

68	17	killed on inspection.	Valued at $7,460, at a cost of $4,973.27.
	48	" at 1st test.	
	3	" 2nd "	

Forty-one showed clinical symptoms of glanders.

One hundred and seventy-one horses were tested with mallein, of which 51 reacted and were destroyed.

Of the 51 reactors, 24 showed clinical symptoms of glanders at or during the test.

Five horses are being held for retest.

Of the sixty-eight horses slaughtered in Alberta—

68 { 6 were in the Medicine Hat district.
24 " Macleod and Lethbridge district.
19 " Calgary district.
12 " Edmonton "
7 " Red Deer "

British Columbia.

623 { 8 killed on inspection.
447 " at 1st test.
153 " 2nd "
15 " 3rd " } Valued at $70,595, at a cost of $47,063.12.

Two hundred and eighteen showed clinical symptoms of glanders.

Eighteen hundred and thirty-three horses were tested with mallein, of which 615 reacted and were destroyed.

Of the 615 reactors, 210 showed clinical symptoms of glanders at or during the test.

One hundred and forty-three horses being held under control for retest.

Of the 623 horses slaughtered in British Columbia,

623 { 192 were at the Pacific coast.
46 were in eastern British Columbia.
385 were in the Okanagan valley.

Yukon.

One horse killed on inspection in the Dawson district; no compensation paid.

PICTOU CATTLE DISEASE.

I am glad to be able to report that the results of the investigation into the nature and causes of Pictou cattle disease, which was begun at Antigonish in October, 1903, have been sufficiently definite to warrant me in recommending the removal of this malady from the list of those coming under the operation of the Animal Contagious Diseases Act. For upwards of twenty years it has been the policy of the department to order the slaughter of affected animals and to pay compensation for them, as also to insist on the disinfection of the buildings in which they had been kept. During the whole of this time, and in fact for many years previous, the more intelligent residents of the district in which the disease prevails have been of the opinion that it is not only non-contagious, but that its prevalence is due to or connected in some way with the weed known as Senecio Jacobæa or ragwort, locally known as 'Stinking Willie.' Evidence existed to show that the disease was unknown until the weed in question was accidentally introduced with ballast brought from Scotland to the town of Pictou some fifty years ago. Once established the plant spread gradually through the surrounding country, extending, however, owing to the prevailing winds, the seed being light and easily carried by their agency, to a much further distance eastward than westward of its original starting point. Shortly afterwards the disease made its appearance, and although some years elapsed before any suspicion as to the weed being its cause was aroused, it was at last noted as a peculiar coincidence that only the cattle kept in the weedy area were affected. As

time passed it was further observed that the mere presence of the plant in a district was not apparently sufficient to produce the affection, but that it was only after it had obtained a firm foothold in the pastures and meadows that the disease began to make its appearance.

About the year 1882, an attempt at investigation was made and some experiments were undertaken with a view to ascertaining whether or not there was any foundation for the popular belief as to the connection between the weed and the disease, which by this time, had been recognized as a peculiar and almost specific cirrhosis of the liver. Unfortunately, however, these experiments were unsuccessful in throwing any new light on the subject, with the result that Pictou cattle disease was declared to be contagious, and the policy of slaughter and compensation above referred to brought into force. From time to time in after years the subject was investigated by Dr. William Osler, Dr. Adami, the late Dr. Wyatt Johnston and other skilled pathologists, but invariably with negative results so far at least as concerned the establishment of any definite and intelligent theory as to its true nature and causes.

During the whole of this time close observers in the affected district were becoming each year more strongly convinced that ragwort and that alone was responsible. Many of these men, although receiving little encouragement to do so, took steps to eradicate the plant from their farms and to induce their neighbours to do likewise, with the result that their animals remained unaffected, while those kept on weedy farms sickened and died. These conditions were especially noticeable when, in addition to keeping the weed down in the pastures, care was taken to remove it from the hay fed during the winter. It was also observed that in years when scarcity of hay necessitated wintering cattle on straw, animals so treated seemed to be immune. In the light of our recent experiments it seems almost incredible that these and similar facts did not sooner force a full recognition of the true situation, which would have undoubtedly been the means of inaugurating a campaign of extermination against the weed at a time when such a task would have been much less difficult than now.

For some years Dr. Gilruth, chief veterinarian and bacteriologist to the government of New Zealand, devoted considerable attention to a peculiar hepatic cirrhosis known in that colony as Winton disease, and from which, up to 1901 and these in one locality only, horses had appeared to suffer to a greater extent than either cattle or sheep. Dr. Gilruth initiated some experiments and finally reached the conclusion, without doubt well justified, that the trouble was entirely due to the ingestion of ragwort. His experiments, while convincing, were not, owing to apparently unavoidable circumstances, conclusive, although strengthened by corroborative evidence from Cape Colony, where a like disease has been traced by Mr. W. H. Chase, government veterinarian, to the agency of another plant of the same species Senecio Burchelli.

For the above and other apparent reasons, such as the different climatic, economic and dietetic conditions and the lack of absolute proof of the identity of Pictou cattle disease with the hepatic cirrhosis of the Antipodes, his decision could not, with propriety, have been accepted by this department as the basis for a complete change of policy even had it been made public before the inauguration of our own experimental work at Antigonish in 1903.

The latter has been very interesting and its results are convincingly corroborative of the views of those who have consistently held to the ragwort theory.

My last report contained a full account of what had been done during the year preceding October 31, 1904, together with our findings up to that date, but in order to make the case perfectly clear, I think it best to recapitulate the main points before proceeding to deal with the intervening period.

In October, 1903, I, with your approval, leased, for experimental purposes, a farm of 200 acres at Cloverville, county of Antigonish, Nova Scotia. This farm is, of course, situated within the ragwort area, but is further well known as one on which the disease in former years frequently made its appearance. Thirty-four cattle were purchased, four of which had been raised on the premises, the remainder being secured

from districts in which there is no ragwort. Sixteen head, including the four natives, were placed in an old stable on the premises, in which, at different times, thirty-six cattle had died from hepatic cirrhosis. They were fed entirely on food imported from Quebec. Four were given a liberal allowance of sound hay with a full grain ration, four a liberal allowance of hay with a smaller grain ration, four a liberal allowance of hay without grain, and four a limited allowance of hay only.

The other eighteen head were placed in an entirely new stable erected at a considerable distance from the old buildings. Sixteen of these were divided into quartettes and fed in exactly the same way as above mentioned, except that the hay given to them, being secured in the neighbourhood, contained a considerable quantity of ragwort.

The remaining two cattle were housed together in a separate compartment of the new stable, one being fed on chopped ragwort and the other on oat straw, a small ration of bran being given to each.

The progress of the experiments up till October 31st, 1904, was described in my report of that date, but in view of the remarkable results obtained, and of all the circumstances in connection with the case, I have thought it best to make the present statement complete in itself.

Leaving out details which are fully dealt with in the exhaustive reports furnished by Dr. Pethick, which are printed herewith, I may state that all the 16 cattle kept in the old and supposedly infected stable, and fed on imported hay, which was, of course, free from ragwort, remained perfectly healthy for the entire period of 23 months, during which the experiments were in progress, although in the summer of 1905, eight of these cattle were kept in a weed infested pasture in which 14 animals had died of hepatic cirrhosis in the short space of five months. Several of these animals had also been placed from time to time in close and continued contact with diseased animals, with a view to ascertaining whether or not the disease was transmissible in this way.

During the summer of 1905, also, ten of these animals were inoculated in various ways, either with blood or abdominal ascitic fluid taken from an animal affected with Pictou cattle disease, to such an extent that Dr. Higgins, our pathologist, reported the cirrhotic lesions of the liver to be more extensive than in any of the others which he had examined. In spite of these severe tests, the animals continued to thrive, and when I last saw them in September, 1905, were in excellent condition, those which had been fed grain presenting a remarkably fine appearance. Thirteen of these cattle were slaughtered between October 10th and November 1st, under the careful inspection of Dr. Pethick, as well as of several experienced butchers, all organs being found healthy and the flesh of superior quality. Specimens from the different organs were also forwarded to the laboratory here, and pronounced by our pathologist to be absolutely free from disease. The other three animals, being pregnant cows, were allowed to live, and, according to latest reports, are in excellent condition, and in full flow of milk, after having given birth to healthy calves.

Of the 16 animals which were kept in the new stable and fed upon local hay which contained a considerable quantity of ragwort, 15 died of Pictou cattle disease between July 19th, 1904, and August 21st, 1905. I may add that to prevent the possibility of doubt as to the cause of death in these animals specimens from the internal organs of each were forwarded to Dr. Higgins, who verified the diagnosis in every case. The sixteenth animal, No. 12 of Dr. Pethick's report, was slaughtered on October 13th, 1905, and although to all external appearances healthy, the pathological examination of the organs showed a slight affection of the liver, and the presence of several characteristic ulcers on the lining of the true stomach.

Of the two other animals mentioned above, one of which was fed on chopped ragwort, and the other on oat straw, each receiving a small allowance of bran, the former died of acute hepatic cirrhosis on July 22nd, 1904, while the latter remained healthy during the entire test, and, when slaughtered on October 24th, 1905, was found to be absolutely free from the slightest appearance of disease.

A calf six months old, born on the premises, was fed twice daily upon a mixture of one part of ragwort before flowering, and twenty parts of clean hay, reinforced by a daily ration of two pounds of fresh oats. This experiment, which was undertaken for the purpose of ascertaining if the weed would produce the disease at this stage of its growth, began on December 1st, 1904. The calf died on May 26th, 1905, post mortem and pathological examinations revealing an advanced stage of hepatic cirrhosis. The contact and inoculation experiments which are described in full detail in Dr. Pethick's report were absolutely without result, it being evidently practically impossible to transmit the disease from one animal to another.

In view of the results of these practical experiments, which have been carried on with the greatest possible care and exactitude, there need, I think, be no longer any doubt as to the cause of Pictou cattle disease, and I have, therefore, already recommended that it be removed at once from the list of affections dealt with under the Animal Contagious Diseases Act.

While subsidiary experiments conducted by Dr. Pethick show that some benefit undoubtedly results, especially in incipient cases, from the strychnine and iron treatment described by him in a previous report, measures of this kind are of little real value. The efforts of the local authorities and the stock owners in the affected district should at once be directed towards the eradication of the plant, which is undoubtedly the cause of the whole trouble.

Owing to the topographical and other conditions existing in the district, it will be quite impossible to get rid of the weed by cultivation, although, on arable land, much can of course be achieved by this means. There is, however, much rough and partially wooded country, most of which is badly infested with ragwort, to eradicate which by any ordinary methods will be practically impossible.

It has long been noted by intelligent residents that sheep seem to be able to eat the weed with impunity, although some hold that after a considerable period injurious effects are produced, which, if the diet is continued, eventually cause death. It is also held that, even where the plant does not prove fatal, the mutton is rendered unmarketable by a yellow staining, which after a time becomes distinctly noticeable.

As to one fact there is, however, no doubt, viz., that the keeping of sheep on land infested with ragwort is one of the most certain means of bringing about its complete eradication in a short time. This being the case, and in view of all the circumstances, I decided to inaugurate a series of experiments for the purpose of ascertaining whether or not sheep could profitably be utilized for this purpose. I therefore, early in 1905, authorized Dr. Pethick to purchase four sheep, which were kept during the summer on four acres of very weedy pasture, with the result as shown by the accompanying picture, of completely destroying the ragwort which formerly grew in profusion. So far, these animals have shown no symptoms of disease. Several other sheep were purchased a little later for the purpose of ascertaining at what stage, if any, the tissues began to exhibit the yellow stain to which reference has already been made. These animals have been slaughtered at intervals, and the flesh carefully examined, but no abnormal apppearance has been so far observed.

The lease of the premises being for three years, I determined, with your permission, upon the conclusion of the experiments with cattle, to purchase a number of sheep, with a view to securing definite information on the points mentioned above. If it can be shown that sheep eat ragwort with impunity, and that no deleterious effects are produced upon the mutton, it goes without saying that they will constitute by far the most practical and profitable agency which can be used by the residents of the affected district in ridding their farms of this dangerous pest. The country in which the weed is found is one exceedingly well adapted for sheep culture, and I am convinced that the introduction to the district of this branch of husbandry at the present time, when both wool and mutton are increasing, and likely to increase in price, will prove highly profitable.

As stated above, there is much rough pasture, while the arable land has, in many cases, been seriously impoverished by the crude methods of cultivation in vogue, and would be at once enriched and improved by the keeping thereon of a reasonable number of sheep. I therefore authorized the purchase, in November last, of forty sheep, which were divided into two lots, one score being fed during the winter on weedy hay, while the others were fed upon hay grown in the district but from which all ragwort had been carefully removed.

Eight goats were also purchased, four being placed with each lot of sheep. These animals have all wintered well, and it is my intention, as soon as pasture becomes available, to subdivide them again, keeping ten sheep and two goats of each lot on clean pasture, and a similar number on pasture badly infested with ragwort. By this means it ought to be possible to ascertain with a reasonable degree of certainty what are the actual effects of ragwort upon sheep, as well as to a certain extent also upon goats.

It might perhaps be advisable to continue this experiment even longer than is proposed, but I am in hope that by the close of the present season we will be in a position to give definite and reliable advice as to the utilization of these animals in stamping out ragwort, and with it the long dreaded Pictou cattle disease.

Concurrently with the above an experiment is being carried on with the view of fixing even more certainly upon ragwort the responsibility of causing hepatic cirrhosis. Three healthy young cows have been since November 1, 1905, fed on locally grown hay from which all weed has been removed, while three others are fed on similar fodder containing the ordinary quantity of ragwort usually produced in the meadows of the neighbourhood.

In January last also a disabled mare of little value was purchased, and is being fed twice a day on hay containing a large quantity of ragwort chopped fine and carefully mixed. This experiment is controlled by feeding a horse kept at the station on hay from which the weed has been entirely removed.

Pictou Cattle Disease Statistics for the 12 months ended 31st October, 1905.

Ninety-four animals valued at $2,085 were slaughtered at a cost of $1,390.

Pictou Cattle Disease Statistics for the 5 months ended 31st March, 1906.

Forty-seven animals valued at $1,143 were slaughtered, at a cost of $762.

MANGE IN CATTLE.

It gives me much pleasure to be able to report a great improvement in the situation so far as concerns this troublesome malady which has existed among our range cattle to a greater or less extent for the past sixteen years. Shortly after my accession to office in 1902, I made it a point to be present at the annual meeting of the Western Stock-Growers' Association, which was that year, held at Macleod. After a full discussion it was decided to leave the matter of treatment in the hands of the cattle owners with the understanding that the services of our inspectors would be available in the event of it becoming necessary to deal with the animals of negligent or obdurate individuals. It appeared for a time that this method would be productive of good results, but the extreme prevalence of the disease during the winter 1903-04, together with other untoward circumstances showed the necessity for some sterner and more effective policy than had yet been inaugurated. Realizing the importance of securing the support and co-operation of the cattle owners, I held during the spring of 1904, a series of meetings at the principal centres within the infected area. At these meetings the whole subject was discussed in detail, with the result that it was finally decided to introduce a policy of compulsory and systematic dipping which should

extend to all cattle owned within the somewhat extensive district where the disease was known to exist. The order thus suggested was issued on August 9, 1904, and called for the treatment according to certain specified conditions of all cattle within a definite area between 1st September and 31st October of that year. About the same time a comprehensive bulletin containing much information regarding mange and its treatment together with plans and specifications for the construction of dipping vats was prepared and distributed. The results were very gratifying. Dipping plants were constructed in almost every locality some being provided by individual owners while others were started by groups of small ranchers who combined their forces for that purpose. In four months the number of these establishments increased from two, and these both out of repair, to 196, which, almost without exception, were found to work smoothly as well as effectively. As a matter of fact upwards of 400,000 cattle were subjected to treatment during the time that the order was in force. The great majority of the owners were only too glad to comply with its provisions, although a number failed to do so with the result that their cattle and premises were placed under strict quarantine until the advent of Spring, when only, it became possible to subject them to treatment. The benefits of the new policy were soon fully apparent in the freedom from mange and generally improved condition of the cattle.

The following extract from the last annual report of the Western Stock-Growers' Association, which was unanimously adopted at the annual meeting of that body held at Medicine Hat on May 11th, 1905, speaks for itself:

'At the last annual meeting the principal topic of discussion was the measures that were necessary to be taken to prevent the further spread of cattle mange. It had come to be recognized that the existence of this contagious disease amongst the cattle throughout a widespread area was a potent fact that could not be disregarded any longer. Dr. Rutherford, on behalf of the Dominion Department of Agriculture, had made a few weeks previous to our last annual meeting a tour of the range country through which a series of meetings was held, his object being partly, no doubt, to educate those interested as to the serious nature of the conditions, and partly to obtain at first hand the ideas of the ranchmen themselves. The consequence was that at the annual meeting itself all were in a position to discuss the matter intelligently. The upshot of the discussion was, as most of you are aware, that the association recommended to the government that the compulsory dipping of all cattle within the affected area should be insisted upon. In due course an Order in Council was issued providing for this. The responsibilities thus thrown upon the stock-growers were heavy. Tanks had to be built, heating apparatus installed, sulphur purchased, extra men employed, and valuable time interfered with, while the organization necessary in connection required much consideration. Difficulties, in fact were many and delays numerous, but in spite of it all dipping was fairly general. There were a few isolated instances where no attempt was made to thoroughly carry out the regulations. As to the results there can be no two answers. It was an unqualified success. Mange has practically disappeared in those districts where the dipping was given a thorough trial. So satisfactory did the Executive Committee consider the results, that at a meeting held on 9th March last, the following memorial was addressed to the Dominion Government:

'That this meeting of the Executive Committee of the Western Stock-Growers' Association desire to put on record their satisfaction at the undoubted success resulting from the mange dipping operations of last fall, and to heartily endorse the action of Dr. Rutherford, who was instrumental in having the dipping regulations put in force. This committee is of the opinion that it is highly desirable and necessary that universal dipping should be again obligatory throughout the same district during the coming season.

'The whole country is now well equipped with dipping tanks, there being no less than 196 in existence, and future dipping operations should be simple compared with last year, when everything had to be bought and tested, and when all were unfamiliar with the proposition.'

Steps were at once taken to meet the wishes of the owners, and the following order on lines similar to that of the previous year and differing from it only in regard to certain comparatively unimportant details was issued on July 10, 1905:—

Department of Agriculture. Health of Animals Branch.

MANGE.

By Orders in Council dated July 10, 1905, and June 27, 1904.

'Whereas the disease of mange exists among cattle throughout those portions of the territories of Assiniboia and Alberta which may be described as bounded by the international boundary, the Rocky Mountains and a line drawn as follows:—

'A line from the Rocky Mountains along the southeastern boundary of the Stoney Indian reserve, then along the northeastern boundary of the said reserve to the main line of the Canadian Pacific railway, thence easterly along the said line of railway to the line between ranges 5 and 6, west of the 5th meridian, thence north along that line to the line between townships 28 and 29, thence east along that line to the line of the Calgary and Edmonton railway, thence north along the Calgary and Edmonton railway to the line between townships 30 and 31, thence east along that line to the line between ranges 26 and 27 west of the 4th principal meridian, thence north along that line to the line between townships 34 and 35, thence east along that line to the Red Deer river, thence north along the Red Deer river to the line between townships 38 and 39, thence east along that line to the 4th principal meridian, thence south along the 4th principal meridian to the Red Deer river, thence along the Red Deer and Saskatchewan rivers to the line between ranges 7 and 8 west of the 3rd meridian, thence south along that line to the international boundary line.

'And whereas it is of the greatest importance to the interests of stock owners and to the preservation of a profitable market for western cattle that the policy adopted last year (1904) with a view to the eradication of the disease in question should be continued.

'That after careful inquiry and due consideration it has been decided that the period between August 15 and October 31 is the most suitable and convenient for treatment with the above object.

'Therefore the Governor General in Council, in virtue of the provisions of section 29, chap. 11, 3 Edward VII., intituled "An Act respecting Infectious or Contagious Diseases affecting Animals," is pleased to order that the above described tract of land shall be, and the same is hereby declared an infected place, and that all persons owning or being in charge of cattle within the above described tract must, during the said period, dip or otherwise treat such cattle in a manner satisfactory to the officers of the Department of Agriculture, provision being made that where it can be clearly shown to the satisfaction of the said officers that cattle, kept under fence in any well defined area or district within the said tract, are not affected with, and have not been in any way exposed to, the contagion of mange, or have been, during the present season, treated in a satisfactory manner and subsequently kept isolated from all other cattle, the veterinary director general may, on the facts being reported to him, exempt such area or district from such compulsory treatment, but this provision shall in no case apply to cattle kept on the open range, or on unfenced land.

'Satisfactory treatment shall consist of immersion for not less than two minutes in a solution of lime and sulphur of a strength of not less than 10 pounds of lime and 24 pounds of sulphur to 100 gallons of water prepared according to the directions of the officers of the Department of Agriculture.

'When approved by the inspector in charge of the district in which the cattle to be dealt with are kept, persons owning or controlling herds of not more than thirty head may be permitted to treat their animals by hand, in which case the following preparation shall be used:—

'Sulphur	2 pounds
Oil of tar	8 ounces
Raw linseed oil	1 gallon

'In either case the fluid shall be applied at a temperature of not less than 105° nor more than 110° Fahrenheit, and the treatment shall be repeated after an interval of not less than ten nor more than fifteen days.

'In the event of any owner failing to treat or to make satisfactory preparation for the treatment of his cattle on or before October 15, the provisions of the Order in Council dated June 27, 1904, regarding compulsory treatment as quoted below, shall be enforced.

'The Governor General in Council is further pleased to order that no cattle shall be removed or be allowed to move out of the hereinbefore described tract unless they are accompanied by the certificate of an inspector of the Department of Agriculture stating that they have been examined by him and found free from contagion of mange. Any such cattle, however, shall, if deemed advisable by the inspector, be detained, dipped, sprayed or otherwise treated in such manner as the veterinary director general may, from time to time, prescribe.

'No railway company shall accept or load any shipment of cattle at any point within the said tract except for immediate slaughter as hereinafter provided unless such shipment is accompanied by the certificate of an inspector.

'At points where cattle originating in the said district are unloaded they shall be placed in special yards, and such yards shall be used for no other purpose, and shall be cleansed and disinfected when so ordered by an inspector.

'All cars and other vehicles used for the carriage of such cattle shall be cleansed and disinfected to the satisfaction of an inspector as soon as possible after being unloaded and before being used for any other shipment.

'All way bills and bills of lading accompanying shipments of cattle originating within the said tract shall have plainly written or stamped across the face thereof a notification that the said cars are to be cleansed and disinfected immediately after being unloaded.

'Cattle affected with, or which have been exposed to the contagion of mange, may be shippped for immediate slaughter to points within the above described tract under the following condition:—

'(1) Unless loaded through special yards and chutes reserved exclusively for such shipments, all yards and chutes used by them shall be declared infected places, and shall not be again used for the shipment of healthy stock until cleansed and disinfected to the satisfaction of the inspector; they shall not be allowed to come in contact with other animals; they shall be consigned direct only to such slaughter houses within the hereinbefore described tract as are provided with private yards and chutes; shall not be unloaded at any point en route and shall under no pretext whatever be removed alive from the slaughter house or the yards and premises immediately connected therewith.

'(2) Cars conveying such cattle shall be cleansed and disinfected to the satisfaction of an inspector immediately after being unloaded.

'That the transit of cattle through the said tract is permitted subject to the following regulations:—

'(1) Cattle for transit by rail through the said tract from one part of Canada to another shall, at points where unloading is necessary, be placed in yards reserved for their exclusive use, and shall not be permitted to come in contact with cattle which have originated within the said tract.

'(2) Cattle imported from the United States into the said tract destined for points in Canada outside thereof may, under compliance with the quarantine regulations, and with the provisions of the next preceding section hereof, be permitted to

pass without unnecessary delay through the said tract direct to their destination without further restriction.

'Every veterinary inspector, and every person duly authorized by a veterinary inspector, shall have full power to order animals affected or suspected of being affected with mange to be collected for inspection, and, when necessary, to be detained, isolated or treated in accordance with the instructions of the veterinary director general.

'The expenses of and incidental to such collection, isolation and treatment shall be borne by the owners of the animals, and if advanced by the inspector or other authorized person shall, until paid, be a charge upon the said animals, without prejudice however to the recovery of any penalty for the infringement of these regulations.

'If such expenses are not paid within twenty days of the time when they have been incurred, the inspector or other duly authorized person may proceed to sell the said animals by public auction after giving to the owner ten days' notice in writing of such intention to sell, which notice may be effectually given, where the owner is known, by delivering the same to him personally or by sending it by mail addressed to him at his last known place of residence. Where the owner is unknown, such notice may be effectually given by publication in one issue of a newspaper published or circulating in the district where such animals are detained. The proceeds of such sale shall be applied first in payment of the reasonable expenses of the collection, isolation, treatment, giving of notice and conduct of sale, and the balance, if any, shall be paid to the owner of said animals on demand. Any balance not so paid shall be remitted to the minister, and if not claimed within twelve months from the date of sale shall be paid to the credit of the Receiver General.

'The amount charged for the treatment of stray cattle, or of cattle whose owners neglect or refuse to comply with the above orders, so far as they refer to treatment, shall in no case exceed twenty-five cents per animal for each dipping or application, provided that where it is necessary to collect such animals and to hold them for the second dipping or application, an additional sum of one dollar per animal may be collected.

'The department assumes no responsibility for injury or loss to cattle incurred through compliance with the provisions of these orders as regards treatment.

'All persons engaged in breeding, exporting, dealing in, driving or shipping cattle, and all transportation companies, are requested to co-operate with this department in enforcing the above provisions.

'Outbreaks occurring outside of the area defined above will be dealt with under the general order in council dated June 27, 1904.

'J. G. RUTHERFORD,
'*Veterinary Director General.*

'Health of Animals Branch,
'Department of Agriculture,
'Ottawa, July 11, 1905.'

The same system was followed in its enforcement, the territory being divided into thirteen districts, each in charge of a qualified veterinary inspector having under his supervision a sufficient number of deputies to permit of the work of treatment being closely watched and so kept up to the standards provided for by the order.

For reasons explained fully in my last report the use of a standard lime and sulphur dip was again made compulsory, the only exception to this rule being at the vat of Mr. John Lineham who obtained special authority to use crude petroleum from one of the new Alberta wells. Mr. Lineham was very anxious to have an opportunity of testing the efficacy of this oil as a cure for mange owing to the fact that certain crude oils from the Beaumont fields in Texas are being used with good effect in the treatment of mange as well as in the destruction of ticks. The oil dipping was in this instance permitted on condition that the owners assumed all risk of injury or death to the animals dipped, a very necessary precaution in view of the untoward results following the use of some kinds of crude oil in experiments conducted by the American

authorities. As an additional precaution and with the purpose of securing reliable information for our future guidance, a qualified veterinary inspector was detailed to watch the dipping at Mr. Lineham's vat. His report states that, while the oil was not in any way injurious to the cattle it failed to cure several out of a number of affected animals which were subjected to this treatment. This is regrettable as the use of oil is much less troublesome and laborious than that of the lime and sulphur preparation.

One application of the Beaumont oil above-mentioned at an ordinary temperature is generally efficacious; on the other hand the lime and sulphur dip has not only to be maintained at a high temperature, but, in order to effect a certain cure, should be applied a second time after an interval of ten or twelve days. The latter limitation is a very serious one as may be readily seen when the difficulty and inconvenience of holding large herds for the second dipping are taken into consideration. While in Texas recently, I made full inquiry as to the special oil above referred to, and am now arranging to bring in a limited quantity for experimental purposes, although I fear that the combined burdens of freight and duty will render it too expensive for ordinary use.

The order of 1905 was enforced even more thoroughly and generally than that of 1904, and its results have been, in a corresponding degree, more satisfactory.

Five hundred and forty-seven thousand seven hundred and five cattle were submitted to treatment, 422,805 having been dipped a second time. In a country of such extent, however, the difficulties connected with the enforcement of an order for universal and compulsory treatment are almost insuperable and therefore, with the object of avoiding, if possible, the necessity of repeating it this year, I retained the services of a number of experienced cattle men, who have, during the past winter, been riding the range for the purpose of detecting any incipient cases of mange and arranging with owners for their immediate isolation and treatment. These men furnish regular reports which indicate that, while the disease is not yet entirely stamped out, the results of our efforts during the past two seasons are highly satisfactory and that by the exercise of close and careful attention it will be possible in the near future to effect its complete eradication.

I am satisfied that with the experience which they have now gained of the benefits resulting from intelligent and systematic methods of treatment, owners will never again permit their cattle to suffer from mange as they have done in the past, especially as by the erection of dipping plants they have now at hand the means of dealing with the disease in an economical and effective manner. Many ranchers who were at first strongly opposed to dipping are now among its most enthusiastic advocates having found that it adds greatly to the thrift of stock, even when free from mange, by ridding them of lice and other injurious parasites. A remark frequently heard nowadays in the range country is that "A good vat is better than a big hay stack,' and numbers of cattle men have assured me personally that they will dip their stock at least once a year whether the department orders them to do so or not.

Another great advantage resulting from the present policy is that whereas it was formerly a matter of great difficulty to secure information as to the existence of mange in a district or the ownership of affected cattle, it is now the business of every man who has gone to the trouble and expense of treatment, to see that diseased animals are properly and promptly dealt with. This very natural tendency towards self protection is rapidly developing into a general public sentiment of the greatest value to our officers in enabling them to get early information as to the whereabouts of infected or suspected animals, as also in enforcing quarantine when such action is found necessary.

I cannot leave this subject without a reference to the very unfair manner in which the British agricultural press has attempted, during the recent controversy on the removal of the restrictions against Canadian cattle, to create a prejudice regarding our stock because of the existence in this one district of a simple, and under ordinary conditions, easily treated skin affection. Psoroptic mange of cattle is well known in

Great Britain and any one posing as an authority on live stock matters who refers to it as a malady likely to inflict serious loss or injury on the cattle industry of that country is deficient in ordinary intelligence or, what is more likely in this particular instance, common honesty. It is a disease which yields readily to simple treatment, being in fact very much more easily cured than the troublesome ringworm with which British and especially Irish cattle are so often affected. On ordinary farms and among domestic cattle properly handled its appearance causes to the intelligent owner neither alarm nor loss, though it may induce in him, as in the affected animal, a slight, temporary sensation of annoyance. If the conditions in Alberta were similar to those in Britain or in our older provinces the existence of cattle mange would be of very little importance either to the owners or to the authorities, but among thousands of semi-wild cattle ranging without restriction over hundreds of miles of open country and depending for their sustenance during the whole year on grass alone, it is an entirely different matter, and one which can only be dealt with by special measures. Opponents of Canadian cattle in Britain, both in the press and on the platform, have quoted the figures given in my last year's report of the number of cattle treated as if they referred to animals actually affected, although the facts are so apparent that a wayfaring man, though a fool, should be able to comprehend them. As a matter of fact not more than five per cent of those treated were showing any evidence of disease, the dipping being made compulsory and universal as a general preventive measure, having in view the possibility of future infection through unrestricted contact on the open range. Again much was made of the statement that a number of animals were dipped a second time. Although the accompanying text of the report showed that this also was universal, and that at the date of writing only a certain number had undergone the second treatment, it was sought to convey the impression that these animals were so dealt with because badly affected when in all likelihood the most astute British protectionist would have been unable to find a single acarus in the lot.

Every possible precaution is taken to prevent the shipment of any animal in the slightest degree affected. Cattle intended for export are submitted to a rigid veterinary inspection on leaving the district, are again carefully examined at Winnipeg, and finally pass through the hands of our experienced and reliable staff of export inspectors before they are permitted to leave the Dominion.

Cattle Mange Statistics for the 12 months ended 31st October, 1905.

In the Northwest 99 bands of cattle were quarantined, involving the control of 16,266 cattle.

In Ontario 180 were quarantined at Prescott, several being detected as mangy.

In Quebec 1 animal was detected and 9 quarantined in consequence.

Mange Dipping, 1905.

District No.	1st Dip.	2nd Dip.
1	67,517	35,208
2	53,372	52,890
3	7,814	3,179
4	14,744	6,160
5	56,354	41,834
6	31,519	18,801
7	52,829	47,921
8	29,411	24,575
10	66,083	65,354
11	57,403	41,341
12	54,878	50,753
13	21,916	20,582
14	33,865	14,207
	547,705	422,805

Cattle Mange Statistics for the 5 months ended 31st March, 1906.

In the Northwest 53 bands of cattle were quarantined, involving the control of 21,069 cattle.

MALADIE DU COIT.

It is somewhat difficult to make a definite report with regard to this disease, as owing to its exceedingly insidious nature and the difficulty of diagnosis in the earlier stages, it is possible for it to exist undetected for a considerable time in districts where its presence is altogether unsuspected.

As stated in my last report, the presence of maladie du coît in Canada was first discovered in March, 1904, when Inspector Burnett, chief veterinary officer of the Royal Northwest Mounted Police, reported its existence in a stallion and several mares, the property of Mr. W. T. McCaugherty, residing near Lethbridge.

In the course of the investigation, which was immediately thereafter inaugurated, I decided, in order to eliminate any doubt as to the nature of the disease, to ask Dr. Salmon, then Chief of the Bureau of Animal Industry at Washington, to be good enough to instruct one of his inspectors familiar with maladie du coît to visit Lethbridge for the purpose of examining the suspected animals. In response to this request, Dr. Salmon dispatched to the scene Dr. E. T. Davison, of Rushville, Nebraska, an experienced inspector, to whom had been entrusted the work of dealing with maladie du coît, in South Dakota and other western states. Dr. Davison had no hesitation in confirming my diagnosis of maladie du coît and so reported to Dr. Salmon under date May 14, 1904.

The identity of the disease having been thus established, it remained for the department to decide upon the adoption of a definite policy, having in view its early and effective eradication.

Maladie du coît, or dourine, is a remarkable disease, inasmuch as while it has been the subject of research and investigation for upwards of a century, scientists have not yet been able to agree as to its true nature or the best means of dealing with it.

As an indigenous disease in Asia and northern Africa, it appears, in these countries, to run a definite course, which as a rule terminates fatally after the lapse of a period of from three months to three years.

In Europe, however, and also in America, its behaviour is much more uncertain and irregular, a feature which, while perhaps not without its advantages in individual cases, tends to complicate and render more difficult the task of dealing with it in a prompt and effective manner.

Owing to the fact that at the time the existence of the disease was discovered in Alberta, there was no provision for the payment of compensation to owners whose horses might have been slaughtered, I thought it best to establish a quarantine station in which the suspected animals might be detained under observation, with a view to the destruction of those which might prove to be undoubtedly affected. This was accordingly done, and in this station were placed the diseased animals discovered in the first instance, together with a number of others picked up during the summer of 1904 by inspectors specially engaged for that purpose. A few small lots were also quarantined on the premises of their owners.

On making a second inspection of the suspected animals in the early fall, I was surprised to find that the disease had not developed to any serious extent, even among some of the cases which were most clearly marked in the previous spring. Being anxious to give the suspects the benefit of any possible doubt, and being also desirous of acquiring as much information as possible as to the behaviour of the disease in what was to it an entirely new habitat, I decided, instead of slaughtering any of these

cases, to keep them under observation for a further period, and arrangements were therefore made to continue the quarantine throughout the winter.

In May, 1905, I again visited Lethbridge, accompanied on this occasion by Dr. Burnett, chief veterinary officer of the Royal Northwest Mounted Police. Dr. Hargrave, of Medicine Hat, Dr. Warnock, of Pincher Creek, Dr. Higgins, our pathologist, as well as several other inspectors of the department.

On making an examination, it was found that in a considerable number of the quarantined mares the disease had made marked progress, while in others but little change from the conditions shown on previous occasions was noticeable, although the number of those unquestionably free from disease was very small indeed. Several of those in which the symptoms were well marked were slaughtered, the post mortem examination held in each case showing clearly that the animals were undoubtedly affected with maladie du coït.

Proceeding cautiously, and making a careful autopsy on each animal as it was killed, some 116 head were destroyed. A considerable number, however, in which the symptoms were not sufficiently well defined to justify me in ordering their slaughter, were quarantined, some at the station and others on the premises of their various owners. Three of our inspectors, namely, Burnett, Hargrave and Warnock, each of whom had had special opportunities to familiarize himself with the disease, were authorized, under the new regulations issued in July, a copy of which is printed herewith, to order the slaughter of any clearly marked cases which might be brought under their observation.

During the summer a number of outbreaks were dealt with by these gentlemen in various parts of Southern Alberta.

In September I again visited the quarantine station, and after examining a number of animals there, decided to slaughter all except a very few, which after having been retained under observation for upwards of twelve months appeared, so far as I could judge, to be quite healthy.

At this time also, in addition to the officers already mentioned, I authorized Dr. Gallivan, of Lethbridge, to order the slaughter of affected animals, and to deal generally with any outbreaks of the disease which might be reported to him. At the same time, in consideration of the fact that, as stated above, the knowledge of this disease possessed by the veterinary profession, even among those who have had most experience with it, is very far from complete, I, with the approval of the minister, arranged for the utilization of the existing quarantine station at Lethbridge for experimental work. A house and stable were erected in close proximity to the corrals, and within the fenced inclosure of 1,800 acres which had been provided the previous year, and Dr. Hadwen, our inspector at Nelson, B.C., a gentleman who has given considerable attention to pathological research work, was placed in charge, a number of condemned animals being left at his disposal.

A bulletin furnishing a description of the symptoms has been widely distributed among farmers and horse-breeders in the West and elsewhere, with the view of enabling them to more readily recognize the disease should it make its appearance among their animals.

So far the information at present in the possession of the department would indicate that the disease is with one exception, viz., at Rush Lake, Saskatchewan, confined to Southern Alberta, where it unfortunately exists in several different localities. Of the various outbreaks discovered, some are traceable without much difficulty to animals infected while running on the range near Lethbridge, where the disease, as already stated, was first recognized in Canada. The actual starting point of the infection in this case has never been discovered, although there can be no reasonable doubt that it originated among animals imported from some of the infected districts in the North-Western United States. Of the other outbreaks, one is traceable to horses brought from Utah, another to an importation from Oregon, while in a third case strong suspicion attaches to a band of mares purchased in Montana.

It is only fair to say that the United States authorities as well as those of several of the individual states, have reported after investigation, that they have been unable to find the disease in any of the districts where the suspected animals originated. The evidence in our possession, however, has an entirely contrary bearing on the case, and when one remembers the remarkably insidious nature of the disease, and the fact which is undeniable, that it has existed to a greater, or less, extent on the open range, in several of the Western States for an indefinite period, the reasonable inference is that the presence of maladie du coït in Alberta is due to infected mares or stallions imported by persons, let us hope, ignorant of the terrible scourge which they were introducing among Canadian horses.

As already indicated, it is almost impossible for even an experienced and skilful veterinarian to diagnose maladie du coït with any certainty during its earlier stages and when, in addition, it is remembered that individual cases, especially mares, remain infected for years, while showing practically no visible evidence of disease, it is not surprising that among the many thousands of horses brought across the line since the rush of settlement began, there should have been some bearing the germs of this loathsome malady.

The difficulty of diagnosis remarked upon and regretted by those familiar with maladie du coït in every country where its presence has been noted, is accentuated in America by two peculiar and so far, unexplained circumstances. One of these is the fact that the Trypanosoma Rougeti, or as it is sometimes styled Equiperdum, which has been detected in the blood and other fluids of affected animals in Asia, in Africa, and latterly, though with less regularity, in Europe, has never, so far as I am aware, been recognized on this continent. The constancy of this organism, easily demonstrated by Lingard in India, and by Buffard and Schneider in Algeria, in both of which countries the disease is thought to be, and probably is, indigenous, was until last year, questioned by leading investigators in Europe, notably by Marek, Kern and Hutyra, in Hungary. Early in 1905, however, Buffard and Schneider were able to demonstrate its presence in French cases, and about the same time it was also recognized by Marek, thus corroborating the work of Nocard and Leclainche, who had previously identified the organism.

Owing to the interest attaching to this phase of the question, I have thought it well to publish herewith a translation of the report of Messrs. Buffard and Schneider, which appeared in the annals of the Pasteur Institute for November, 1905. The other peculiarity observed in this country is the apparent mildness of the infection in many cases. In Asia and in Africa, maladie du coït or dourine, as it is there generally termed, seems, from all accounts, to run a definite course, the symptoms throughout being fairly well marked and the termination almost invariably fatal within a period of three years at most.

In America, on the other hand, the infection is frequently much less virulent, many cases, especially in mares, being so slightly marked as to attract little or no attention, while some apparently tend towards recovery. Whether or not such cases would eventually regain the normal condition, and especially, whether they would become non-infective, our experience in Canada has hitherto been too short to permit of my offering any opinion.

Available reports regarding maladie du coït in Southern Europe indicate that this tendency to mildness of attack and generally impaired malignity is also observable there, although perhaps to a less degree than in America.

When in considering these facts we remember that the apparently specific trypanosoma, constant and easily isolated in those tropical countries where maladie du coït has its natural habitat, is exceedingly difficult of detection in Europe, and so far has been found not at all in America, it surely affords some ground for the hope hinted at in my report for 1904, that in our Northern and notably healthy climate the disease may prove to be actually less destructive than we at present fear.

SESSIONAL PAPER No. 15a

The experiments already referred to are being conducted in the hope of obtaining a more thorough knowledge than we at present possess regarding this and various other matters pertaining to the disease.

A number of mares of the doubtful class mentioned above are being held under close observation. Breeding experiments with stallions both healthy and diseased will be systematically carried on, and the various results carefully noted. It is also my intention to remove the ovaries from several of the experimental mares, it having been found that stallions castrated in the early stages occasionally recover and become useful work horses. Whether or not similar beneficial results will follow the corresponding operation in the female remains to be seen.

In addition to these practical experiments, Dr. Higgins here, and Dr. Hadwen at Lethbridge, are engaged in a close study of the pathological conditions presented by the diseased animals.

In order to give the former an opportunity of working to advantage, I last fall brought to the biological laboratory three infected mares. Of these one succumbed to the disease in December, but the others, although they were among those examined and pronounced diseased by Dr. Davison two years ago, are still alive, one being apparently but little the worse, although the other is evidently breaking down.

Despite all that I have said, it would, in view of the history of this scourge in other countries, be unwise to relax in the slightest degree our efforts to effect its eradication, especially as it is at present, so far as known, confined to a comparatively limited area.

The task, however, is a delicate and difficult one owing to the uncertainty attending diagnosis and the loose conditions which characterize breeding operations on the western ranges.

The expenditure to date in compensation for horses slaughtered, while undoubtedly considerable, is a mere trifle in comparison with the appalling losses sustained in countries where maladie du coit has been permitted to spread unchecked.

The following are the figures:—

	Killed.	Value.	Compensation.
1904-05	292	$24,045 00	$16,029 94
1905-06	120	10,210 00	6,806 48
Total	412	$34,255 00	$22,836 42

November 1, 1904, to October 31, 1905.

Post Office.	Outbreaks.	Slaughtered.	Suspected.
Seven Persons	7	8	17
Macleod	1	1	..
High River	3	37	4
Spring Point	2	2	6
Little Plume	10	36	33
Medicine Hat	31	51	92
Gleichen	1	1	..
Irvine	1	1	..
Coleridge	1	1	..
Woolchester	3	2	4
Eagle Butte	4	1	6
Lethbridge	4	1	3
Cardston	4	34	2
Quarantine grounds, Lethbridge	..	116	..
	72	292	207

November 1, 1905—March 31, 1906.

District.	Outbreaks.	Slaughtered.	Suspected.
Little Plume	2	7	5
Seven Persons	2	5	2
Cardston	3	4	8
Medicine Hat	5	18	2
Taylorville	1	15	4
Brunton	1	2	..
Lethbridge	3	4	15
Rush Lake	1	7	..
Nanton	1	1	..
Calgary	1	1	..
Macleod	2	2	1
Stirling	3	8	35
Spring Point	1	1	6
Millarville	1	1	..
High River	3	35	3
Willow Creek	1	6	..
Tabor	1	2	3
Raymond	1	1	..
Peigan Creek	..	..	1
Okotoks	..	..	6
Magrath	..	..	19
Lineham	..	..	2
	33	120	112

The following amended regulations were authorized by Order in Council dated the 22nd day of July, 1905, in virtue of 'The Animal Contagious Diseases Act 1903':—

'1. No animal which is affected, or suspected of being affected, with Maladie du Coit shall be permitted to run at large or to come in contact with any animal which is not so affected, and no such animal shall, in any case, be used for breeding purposes.

'2. Any Veterinary Inspector may declare to be an infected place within the meaning of "The Animal Contagious Diseases Act, 1903," any common, field, stable or other place or premises where animals are found which are affected or suspected of being affected with Maladie du Coit.

'3. No animal shall be removed out of an infected place without a license signed by an Inspector.

'4. The Veterinary Director General may, from time to time, order the slaughter, castration, or other disposition of animals affected with Maladie du Coit.

'5. Every Veterinary Inspector shall have full power to order animals affected, or suspected of being affected with Maladie du Coit to be collected for inspection, and, when necessary, to be detained and isolated or otherwise dealt with in accordance with the instructions of the Veterinary Director General, and no indemnity shall be allowed to the owner in case of damage arising out of or resulting from such actions, except as hereinafter provided.

'6. The expenses of and incidental to the collection, isolation, seizure, castration or otherwise dealing with horses for the purposes of these Regulations shall be borne by the owners of the animals.

'7. No entire horse or ridgling more than one year old shall be permitted to run at large on unfenced lands in the Province of Alberta or in that portion of the Province of Saskatchewan lying west of the third principal Meridian.

'8. Any entire horse or ridgling more than one year old found running at large within the area defined above may be seized and held on the order of any duly authorized Veterinary Inspector of the Department of Agriculture, who shall forthwith whenever possible notify the owner of the said horse of such seizure, and the said horse, if not claimed within thirty days of such seizure, may be castrated, and no indemnity shall be allowed to the owner in case of damage arising out of or resulting from said castration, seizure or detention.

'9. Animals affected with Maladie du Coit may, on an order signed by a duly appointed Veterinary Inspector acting under special instructions from the Veterinary Director General, be forthwith slaughtered, and the carcasses disposed of as in such order provided, and compensation may be paid to the owners of such animals if and when the Act so provides.

'10. Before an order is made for the payment of compensation in any of the cases aforesaid there must be produced to the Minister of Agriculture a satisfactory report, order for slaughter and certificate of valuation and slaughter, all signed by an Inspector.

'J. G. RUTHERFORD,
Veterinary Director General.

'Health of Animals Branch,
'Department of Agriculture,
'Ottawa.'

THE IDENTITY OF DOURINE.

Buffard and Schneider.

Even until recently some doubt appeared to exist regarding the presence of a specific trypanosome in the dourine of Europe. We have successively seen Thanhoffer, Lidemann and Marek in Hungary, and Tchernogorow in Russia declare that they have not been able to reveal the presence of trypanosomata in subjects infected with authentic dourine. Prof. Marek was even led by his negative evidences to admit the existence of two dourines, one due to a trypanosome being seen in Algiers, the other, of which the causal agent was still to be determined, constituting the European affection. A certain tendency to consider this double theory plausible has since been manifested in some scientific circles, and in some medical literature.

We have, from the first, held firmly that the Algerian trypanosomiasis was actually the true dourine or 'mal du coït' that which was studied by Signol, Saint Cyr, Trasbot, Laquerriere, Blaise, Nocard, Rouget, ourselves, and, as supporting our conclusions, Nocard, Martinet and Bremond, who carried on an experimental dourine farm after examining some animals which served as our proofs that dourine was of trypanosomian origin. In all that concerned the possibility of a dourine or of a European pseudo-dourine, we maintained the greatest reserve, having regard to the difficulty of the bacteriological diagnosis of dourine on the one hand, and to the small number of inoculations or their entire absence in the apparently negative cases. The facts have since, as it appears to us, solved the question both in France and Hungary. In France dourine makes its appearance nearly every year upon the Spanish frontier, in the Department of the Lower Pyrenees. The mares of the districts near the frontier are sent during the summer into pastures common to France and Spain, where they are served by stallions which are often affected with dourine. Many owners, however, act as do the Arabs, that is to say, that they first have a mare served by a jackass, then if she does not hold they send her to a stallion. The jackasses perform service on both sides of the frontier and most frequently infect the mares, which in their turn, infect the stallions of the national breeding studs, or those owned by private parties. Nay more, through purchases made in Spain, mares probably infected are frequently

introduced into France ; the enzootic outbreak of 1903, was thus caused by Spanish mares brought into France.

In 1886, 34 mares and 4 stallions died in the canton of Accous; in 1890 some cases were observed in the valley of Aspe; in 1898 the stallion Kars of the national stud at Pau infected 37 mares. In 1903 many mares had, in fact, already succumbed to mal du coït when the sanitary service was advised of the situation; it was only possible to find two private stallions affected which succumbed shortly afterwards. In 1904 the national stallion 'Lusignan,' was sent for observation to the veterinary school at Toulouse on suspicion of dourine, because of symptoms which he presented, and which consisted principally of an extensive odema of the sheath and scrotum. Latterly he presented on the sides, on the neck and on the croup rounded protuberances having the character of hematomes which appeared and disappeared at irregular intervals. Some lameness of the hind limbs supervened accompanied by paralysis of the crural muscles and loss of power in the hind quarters. This stallion finally recovered. Different inoculations with fresh blood were in very large doses administered to dogs and rabbits, but gave no result. Microscopic examination of the blood was constantly negative. This stallion having served 37 mares, Professor Leclainche willingly invited us to examine them at certain places where they were collected. Four mares were declared dourine suspects. The symptoms which they presented were vague enough, but the stallion which had served them presented such evident signs of dourine that less could not be done than to put them under the supervision of the sanitary service. Blood taken from the tip of the ear and from the vagina of two of these mares showed after long and minute examination some very sparse trypanosomes. A dog and a rabbit received respectively the first 50 c.c., the second 20 c.c., of blood from the jugular of another of these suspected mares. The rabbit died some days afterwards from septicaemia. On the dog, which was carefully watched every day, there appeared on the seventh day, at the point of inoculation, a swelling about the size of a hazel nut in the sero-sanguinous fluid of which we found trypanosomes in sufficient numbers which we submitted to the confirmatory examination of Messrs. Leclainche and Laveran. To this swelling, supervening at the point of inoculation, the symptoms of dourine in the dog were confined.

Let us add that three of the mares declared suspected by the sanitary commission died after having presented the typical symptoms of dourine. A private stallion was also castrated for dourine in the same district as that in which the affected mares lived. We desire above all to deduct from this enzootic, interesting on more than one account, the difficulty of bacteriological diagnosis and the positive discovery of the Trypanosoma Rougeti in the dourine of France.

In Hungary, after having failed for a long time in his search for the trypanosome, Prof. Marek has finally found it in the blood of a stallion affected with dourine and has willingly announced to the International Congress of Veterinary Medicine at Buda Pesth, that he would withdraw the reservations which he has expressed on the subject of a specific trypanosome in Hungarian dourine.

We will not close this note without tendering our hearty thanks to Prof. Leclainche for the great obligation he has rendered us in facilitating our researches and in permitting us to demonstrate the single nature of dourine.

MANGE IN HORSES.

I am glad to be able to report that, in consequence of the stringent measures adopted for its suppression, mange in horses has entirely disappeared from many districts where it formerly prevailed to a greater or less extent. In the eastern provinces and in Manitoba, the work of our inspectors has of course been much simplified by the comparative ease with which the disease can be treated among domesticated animals. On the western ranges the dipping plants, established in conformity with the provisions of the compulsory cattle dipping orders, have been largely instrumental

in bringing about its eradication. The lime and sulphur mixture used in dipping cattle is equally effective in curing that variety of scabies which affects horses and the numerous conveniently situated vats were consequently utilized in its treatment with most gratifying results. Isolated cases are still found here and there, but they are few in number and being, as a rule, detected early and dealt with promptly, the disease has but little opportunity to spread. The majority of owners are now much more fully alive than formerly to the importance of keeping a close watch on their horses with the view of detecting in the early stages this and other diseases to which they may be exposed. They have learned that breeding or buying horses to let them die of disease is not a paying proposition and that the old slip-shod range methods are not conducive to money making under present conditions. In some cases the educative process has been rather costly, but if the lesson is once thoroughly learned that on the range, as elsewhere, it pays to treat horses well and to look after them properly our western horse breeding industry will in future be much more prosperous and profitable that it has been in the past.

Statistics for period between November 1, 1905, and March 31, 1906.

	Outbreaks.	Animals Affected.
Northwest Territories	121	423
Ontario	29	40
Quebec	170	248
Manitoba	12	47
New Brunswick	8	8
Yukon	3	16
British Columbia	1	1
	344	783

SHEEP SCAB.

With the exception of one outbreak in Southern Alberta, and another in British Columbia, both due to imported sheep, and a few isolated cases in Ontario and Quebec, all of which had been promptly and, so far as it was possible to judge, effectively dealt with, the Dominion had been for some years practically free from sheep scab. Most of the outbreaks in Ontario had been brought to the notice of the department through the agency of the veterinary inspector, who, since 1902, has been entrusted with the supervision of the animals passing through the markets at Toronto, so that no particular surprise was felt when, in November, 1904, that officer reported the existence of the disease in a consignment of sheep from Chatsworth, Ont. The matter was at once taken up, one of our inspectors being instructed to proceed to Chatsworth immediately and investigate the circumstances, with a view to taking such steps as might prove necessary to keep the disease under control. Before his report came to hand, however, a letter was received from the Chief of the Bureau of Animal Industry at Washington, stating that a consignment of Canadian sheep originating in Thamesville, Ont., and which arrived in Buffalo, N.Y., on November 26, were affected with scab. Investigation failed to locate the origin of the disease in this instance, although the fact that a number of the farmers from whom the sheep in question were purchased had sold out their entire stocks was rather suspicious.

Under date of December 21st, Dr. Salmon again reported the discovery at Buffalo of two consignments of scabby sheep among the bonded Canadian animals intended for exportation to Europe. These shipments, which also came from western Ontario, were very naturally objected to by the American authorities, who intimated that they were seriously considering the necessity of requiring Canadian sheep intended for

immediate slaughter, or for export, to be inspected and certified to in the same manner as sheep for breeding, grazing or feeding purposes. Realizing to the full the seriousness of the situation, I sent as many of our qualified inspectors as could be spared into the districts from which the infected animals had come, with instructions to make a thorough and careful examination of all sheep wherever found. At the same time I asked Dr. Salmon to suspend judgment until such time as it was possible to ascertain the actual conditions. The results of our investigation were somewhat discouraging, showing, as they did, that sheep scab existed in a very large number of flocks chiefly in the county of Middlesex, although outbreaks were also discovered in the counties of Lambton, Huron, Kent, Wentworth, Lincoln, Perth, Grey, Frontenac, Lennox, York, Haldimand and Norfolk, in Ontario, as also in the county of Berthier, in Quebec. The majority of these outbreaks were traced to a common origin in a herd of breeding sheep, the disease having been conveyed through the agency of individual animals sold for use in other flocks.

In every case where the existence of disease was discovered the affected animals were placed under strict quarantine; while, after the discovery of the infective centre above referred to, a number of flocks were placed under restrictions because of suspicion attaching to animals recently purchased by their owners, although showing no actual evidence of disease.

To remove any doubt as to the powers of inspectors and for purposes of general information, it was thought best to amend and bring up to date the regulations relative to sheep scab made under the authority of the Animal Contagious Diseases Act. This was accordingly done and the regulations in question, amended as follows, were distributed widely throughout the country:—

REGULATIONS RELATING TO SHEEP SCAB.

'By Order in Council dated 31st March, 1905, in virtue of "The Animal Contagious Diseases Act, 1903."

'1. No sheep which is affected with or has been exposed to sheep scab shall be permitted to run at large or to come in contact with any animal which is not so affected.

'2. Every person having in his possession or keeping a sheep affected with scab shall forthwith cause such animal to be treated in a manner satisfactory to the nearest veterinary inspector.

'3. Any veterinary inspector may declare to be an infected place within the meaning of "The Animal Contagious Diseases Act, 1903," any place or premises, or any steamship or steam or other vessels, or any railway car or other vehicle, where the contagion of scab is known or suspected to exist.

'4. Every veterinary inspector shall have full power to order sheep affected or suspected of being affected with scab to be collected for inspection and, when necessary, to be detained, isolated or treated in accordance with the instructions of the veterinary director general.

'5. The expense of and incidental to such collection, isolation and treatment shall be borne by the owners of the sheep and, if advanced by the inspector, shall, until paid, be a charge upon the said sheep, without prejudice, however, to the recovery of any penalty for the infringement of these regulations or of "The Animal Contagious Diseases Act."

'6. Inspectors are hereby authorized to order the slaughter of any sheep found to be affected with sheep scab, or suspected of being so affected, subject to compensation if and when the Act so provides, and to order the disposition of the carcases of such animals.

'7. Before an order is made for the payment of compensation in any of the cases aforesaid, there must be produced to the Minister a satisfactory report, order for slaughter, certificate of valuation and slaughter, and certificate of cleansing and disinfection, all signed by the inspector.

'8. No sheep, or any part thereof, shall be removed out of an infected place without a license signed by an inspector.

'9. Every yard, stable, or outhouse or other place or premises, and every wagon, cart, carriage, car or other vehicle and every vessel and every utensil or other thing infected with scab shall be thoroughly cleansed and disinfected by and at the expense of the owner or occupier in a manner satisfactory to a veterinary inspector.

'J. G. RUTHERFORD,
'*Veterinary Director General.*

'Health of Animals Branch,
'Department of Agriculture,
'Ottawa.'

As a further precautionary measure against the spread of the disease, and with the special object of preventing the shipment of affected sheep for exportation, the following order was issued:—

DEPARTMENT OF AGRICULTURE.
OTTAWA, March 23, 1905.

'NOTICE is hereby given that, under the provisions of the "Animal Contagious Diseases Act, 1903," I do hereby declare that a contagious disease of animals, known as sheep scab, exists in the townships of North Dorchester, London, McGillivray, East Williams and Ekfrid, in the county of Middlesex; Warwick, Brook and Dawn, in the county of Lambton; Zone, Camden and Chatham in the county of Kent, in the province of Ontario, in this Dominion, and that hereafter all persons are strictly forbidden to move any live sheep whatever out of the said townships, except as hereinafter provided.

'The shipment of sheep from the said townships is hereby authorized under the following conditions:—

'1. The shipment from the said townships of live sheep intended for export from Canada may be permitted, provided that each carload, or part thereof, is accompanied by a certificate of inspection, signed by one of the regularly appointed inspectors of this department, stating that the sheep comprising such carload or part thereof, are free from disease and in every way fit for immediate slaughter. Such sheep must also be described in the way bill accompanying them as being for immediate slaughter and for no other purpose.

'2. The shipment of sheep from the said townships for other purposes, to points within the Dominion of Canada, may be permitted, provided that each shipment is accompanied by a certificate of inspection signed by one of the regularly appointed inspectors of this department, stating that the sheep comprising the same are free from disease, and have not been in contact with affected animals.

'3. Shippers must notify the nearest inspector, not less than twenty-four hours previously, of the exact time and place of the intended shipment.

'GEO. F. O'HALLORAN.
'*Deputy Minister.*'

At the same time the official veterinary surgeons residing within a radius of five miles of any township in which an authentic case of sheep scab had occurred were notified to refrain from issuing the usual health certificates for sheep about to be exported to the United States.

It was, of course, impossible to do much in the way of treatment until later in the season, but with the advent of warmer weather all the affected flocks, as well as a considerable number of those held on suspicion, were subjected to repeated and systematic dipping. The mixture used for this purpose was the standard lime and sulphur dip which has for the past two seasons been employed with marked success in

dealing with mange, until recently, so prevalent among our western range cattle. With one or two somewhat notable exceptions, owners and breeders of sheep, realizing the extent to which their own interests were involved, worked harmoniously with our inspectors and assisted them in every possible way, both in locating infected animals and in enforcing the regulations.

Some little difficulty was experienced in inducing the United States authorities to admit sheep from districts in which outbreaks of the disease had taken place, but this was finally overcome through the issuing of special certificates for such shipments by the regular salaried inspectors dealing with the disease.

I am very glad to be able to report that the various measures outlined above proved eminently successful, and that the disease has apparently been mastered in each of the various localities where its existence was brought to light. Repeated and careful inspections of the flocks formerly infected have failed to discover the existence of the disease, except in one isolated instance where a small flock of sheep in Kent county was found to be still affected. These animals have been properly dealt with and, although still kept under supervision, are, I think entirely free from disease.

Quite recently our inspector on Toronto market reported finding some suspicious cases among sheep sent there for sale. As a result of the investigation which followed another small flock in the vicinity of Toronto has been placed under quarantine, although in this case only on suspicion.

With these exceptions the country appears to be free from scab, a fact which, in view of the alarming conditions existing a year ago, is certainly very gratifying. In dealing with sheep scab, however, as with many other contagious diseases, eternal vigilance is the price of safety, and our self-congratulation should, in this instance especially, be very moderate, in view of the possibility, illustrated by this outbreak, of the disease existing wide-spread throughout closely peopled communities among sheep owned by intelligent and experienced breeders, and under the constant observation of scores of veterinary surgeons.

As already stated elsewhere, precautions have been taken to prevent the possibility of infected sheep from Ontario reaching American markets in future, by making provision for their inspection before leaving the country.

The provisions of the following order are now strictly enforced :—

'In virtue of the authority given me by the provisions of Sections 58 and 73 of the Order in Council of the 30th March, 1904, containing regulations relating to Animals Quarantine,, I do hereby give notice that, on and after this date, all sheep consigned from points in the Province of Ontario to Buffalo markets, whether intended for export to Europe or not, must be inspected at Bridgeburg by a regularly appointed veterinary inspector of this department, and must not be permitted to leave Canada unless accompanied by a certificate of the said inspector to the effect that they are free from contagious and infectious disease, and otherwise fit for export.

'Sheep consigned from Ontario to points in the United States other than Buffalo, must be inspected and certified in a similar manner by a regularly appointed veterinary inspector at the place of crossing the International boundary, except when shipped via Montreal, in which case they shall be inspected at that place.

'This order shall not apply to sheep for breeding, grazing or feeding, which are accompanied by a certificate signed by a Canadian official veterinarian stating that no contagious disease affecting sheep has existed in the district in which the animals have been kept for six months preceding the date of exportation, or to sheep which are accompanied by a certificate signed by a regularly appointed veterinary inspector of this department stating that they have been twice dipped in lime and sulphur dip of a strength equal to that required by the United States regulations.'

'A. L. JARVIS,
'*Acting Deputy Minister of Agriculture.*

'OTTAWA, September 26, 1905.'

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Sheep Scab Statistics for the Twelve Months ended October 31, 1905.

In Ontario 446 animals were found to be affected with Sheep Scab, involving the quarantine of 1,565 sheep on 94 premises, distributed as follows :—

County.	No Affected.	No. Quarantined.
Lambton	128	203
Kent	46	163
Middlesex	99	621
Frontenac	72	99
Wentworth	3	8
Toronto	8	100
Lincoln	12	12
Huron	10	10
Norfolk	20	81
Perth	3	13
Lennox	6	58
Grey	38	40
Haldimand	1	98
Simcoe	..	9
Nipissing	..	50
	446	1,565

Quebec.

One hundred and forty-five sheep in the vicinity of La Baie du Febvre were quarantined on suspicion and subsequently released.

Forty-two animals, eight of which were affected, were quarantined at St. Norbert.

Sheep Scab Statistics for the 5 months ended March 31, 1906.

In Ontario seventeen animals were found to be affected, involving the quarantine of 255 sheep, distributed as follows:—

County.	No. Affected.	No. Quarantined.
Kent	4	11
Middlesex	7	43
Toronto city	6	6
North York	..	195
	17	255

ANTHRAX.

Outbreaks of anthrax have occurred in several different localities. When reported to the department or to our inspectors direct, these have been promptly dealt with although in some cases delay has occurred through mistakes in diagnosis on the part of owners and attending veterinarians. In several instances human beings became infected through handling the carcasses of dead animals and at least two deaths occurred. In this connection, I would again take occasion to impress upon all and sundry the paramount importance of caution in dealing with the carcasses of animals which die suddenly or from unexplained or indefinite causes. It is by no means an uncommon occurrence for butchers to become infected through skinning animals which have died from anthrax, while veterinarians occasionally contract the disease in treating affected animals or in making post-mortem examinations. In this connection I would call attention to the circular reproduced on page 57, which gives full instructions as to forwarding specimens to the biological laboratory for examination in cases where there is difficulty in forming an opinion as to the nature of any out-

break of disease. Owing to the suddenness of its manifestations and the rapidity with which fatal results usually supervene, cases of anthrax are comparatively seldom seen by our inspectors until after death has occurred. Treatment of diseased animals is seldom possible and even less frequently advisable, although in some forms of the disease recovery occasionally takes place. In dealing with this disease therefore, our officers generally confine their efforts to securing the proper and early disposal of all carcasses and debris and the disinfection of stables and other premises which may have become infected. Preventive inoculation is frequently effective in stopping the spread of anthrax but, for obvious reasons, our officers do not themselves inoculate contact animals. Owners are, however, urged to adopt this precaution and in order to facilitate their efforts anthrax vaccine is supplied by the department at two-thirds of the usual retail cost.

The following outbreaks were reported and dealt with between November 1, 1904, and March 31, 1906:—

	Outbreaks.	Animals died.
Ontario	4	7
Quebec	1	17
Nova Scotia	3	3
British Columbia	2	7
	10	34

BLACK QUARTER.

Black quarter has, as usual, prevailed to some extent in different parts of the Dominion. As this disease is not dealt with under the Animal Contagious Diseases Act, it is not possible to furnish statistics as to the number of outbreaks or of animals affected.

The practice of preventive inoculation is being very generally adopted.

During the seventeen months ended March 31, 1905, 2,290 doses of blacklegine, and 31 outfits for injecting same, were sent out from headquarters, and one outfit and 350 doses were sold at Medicine Hat by Dr. Hargrave.

The total sold was therefore 2,740 doses of blacklegine and 32 outfits.

It must not be forgotten that vaccine is also sold by many druggists throughout the Dominion, so that the figures quoted above do not by any means indicate the number of animals treated.

ACTINOMYCOSIS.

Occasional reports reach the department as to the existence of actinomycosis in various districts of the Dominion. It does not, however, appear to prevail to any serious extent, although in some localities the herbage is evidently infested with the fungus which gives rise to the disease.

It is not now dealt with by the department, except in so far as the exportation of infected animals is forbidden.

A few animals were rejected on this account during the past season.

SWAMP FEVER.

As will be seen from the report of Dr. Torrance, no new light has been obtained as to the nature and causes of this disease. Fortunately, it has greatly decreased in prevalence, this fact being, in my opinion, due to the improved drainage of the districts in which it was formerly most common.

Much confusion still appears to exist among horse owners and even veterinary surgeons, as to the identity of this disease. Many outbreaks of influenza among horses are credited to swamp fever with the natural consequence that it is generally believed to prevail to a much greater extent than is actually the case. There is absolutely no reason for confounding the two diseases, if the following three main points of difference are borne in mind:—

In genuine swamp fever the appetite continues good, even voracious, until within a few hours of death, which generally occurs from two to four months after the animal first becomes affected.

In typhoid influenza the appetite, as a rule, fails almost entirely after the third day, only returning with the advent of convalescence, ten or fifteen days later. In fatal cases death usually occurs from ten to twenty days after the first seizure, although as complications often appear, no hard and fast rule can be laid down.

Swamp fever, properly so called, is, in my experience, fatal in at least ninety-nine per cent of the cases dealt with, while under skilful veterinary care and with favourable conditions twenty per cent would be a large mortality in typhoid influenza.

There are, of course, many other distinctions palpable to the properly trained veterinarian, but the three mentioned above should, if carefully borne in mind, enable any intelligent horseman to differentiate between the two diseases.

RABIES.

An outbreak of rabies was reported from North Portal, Assa., in March, 1905, the disease having evidently been introduced from North Dakota, where it has been known to exist for some years. As a general rule, it is well to accept with caution reports as to the existence of rabies, but in the present instance there appears to be no room for doubt that two animals were actually affected, although the nature of the disease was not verified. The animals suspected, as well as a number of stray dogs, were killed, while all others owned in the vicinity were ordered to be muzzled.

No further case occurred in this district until July, when an outbreak of disease among dogs, which was supposed to be rabies, was discovered at Oxbow. In this instance, one dog was killed by our inspector, and eleven others were destroyed by their owners. A departmental order was issued, and forwarded to the commissioner of the R.N.W.M. Police at Regina, to whose discretion the matter of putting it into force was left. He, however, considered it unnecessary to do so.

Since that time, several reports have been received from the same neighbourhood, and a number of premises are now in quarantine. The persistence of these peculiar outbreaks is certainly very suspicious, and I think there can be little doubt that they are really due to rabies. Though fortunately little harm has been done thus far, this condition of affairs is most undesirable. Instructions have been issued to secure, and forward for examination, pathological specimens from suspected cases, so that we may be enabled to reach a decision as to the true nature of the affection.

Some alarm was caused in London, Ont., by the reported appearance of rabies in June last. In this case, a small dog bit a child, but as both dog and child were immediately taken to New York, the department was deprived of any opportunity of verifying the diagnosis.

With a view to forestalling any possible outbreak, and at the same time allaying public excitement, two of our veterinary inspectors were instructed to co-operate with the city authorities, and the local Board of Health. A large number of dogs were examined, several of which, for one reason or another, had bitten human beings, and were quarantined for some considerable time. No actual case of rabies was found, which is somewhat remarkable in view of the published report that the first dog mentioned was pronounced at the Pasteur Institute at New York to be undoubtedly affected with that disease.

The most striking feature of the investigation conducted by the officers of this department at London was the information obtained as to the large number of human beings bitten by dogs within a very short space of time. Many of our Canadian cities and towns are simply over-run with useless mongrels, which as matters now stand are an almost intolerable nuisance, and which, in case of an outbreak of rabies, would prove a most serious menace to public health. In view of this possibility, I think steps should be taken to impress upon municipal authorities the advisability of increasing to a considerable extent the taxation on dogs.

As no regulations relating to rabies were in existence the following were established by Order in Council dated August 10, 1905:—

'By Order in Council dated 10th August, 1905, in virtue of "The Animal Contagious Diseases Act, 1903."

'1. No dog or other animal which is affected with or has been exposed to the infection of rabies, shall be permitted to run at large, or to come in contact with other animals.

'2. Any veterinary inspector may declare to be an infected place within the meaning of "The Animal Contagious Diseases Act, 1903," any place or premises where the infection of rabies is known or suspected to exist.

'3. Veterinary inspectors are hereby authorized to order the slaughter of any dog or other animal affected with rabies, or suspected of being so affected, and to order the disposition of the carcase of such animal.

'4. Veterinary inspectors are hereby authorized to order dogs or other animals which have been exposed to the infection of rabies, to be detained, isolated or muzzled.

'5. No dog or other animal, nor any part thereof, shall be removed out of an infected place without a license signed by an inspector.

'6. Every yard, stable, or outhouse, or other place or premises, and every wagon, cart, carriage, car or other vehicle, and every vessel and every utensil or other thing infected or suspected of being infected with rabies, shall be thoroughly cleansed and disinfected by and at the expense of the owner or occupier in a manner satisfactory to a veterinary inspector.

'7. On receiving the report of an inspector to the effect that rabies is known or suspected to exist in any locality, the Minister of Agriculture may order that all dogs, or other animals, within such an area as he may determine or describe, shall be detained, isolated or muzzled during such period as he may see fit.

J. G. RUTHERFORD,
Veterinary Director General.

'HEALTH OF ANIMALS BRANCH,
'DEPARTMENT OF AGRICULTURE,
'OTTAWA.'

BIOLOGICAL LABORATORY.

The work performed at the Biological Laboratory has been of an eminently satisfactory nature. The large quantities of mallein required in the active campaign now being waged against glanders would have entailed a very considerable expenditure had it been necessary to secure this preparation from outside sources. Dr. Higgins has, however, been able to supply all demands, and I have good ground for hope that this institution will shortly be in a position to furnish some at least of the other preparations which we are now compelled to purchase elsewhere. Since the date of my last report two additions have been made to the purely pathological staff of the branch in the persons of Dr. A. Watson, who was engaged as assistant to Dr. Higgins in April, 1905, and Dr. S. Hadwen, formerly inspector at Nelson, B.C., who was

in September last placed in charge of the experiment station established at Lethbridge for the purpose of conducting an investigation into the disease known as maladie du coït. A large number of pathological specimens have been examined during the period covered by this report, with great benefit to our inspectors and others by enabling them to decide as to the exact nature of outbreaks of disease and to deal with them accordingly.

Two small buildings have been erected at the laboratory for the accommodation of experimental animals. These supply a long felt want, but I would again urge upon you the advisability of providing a well equipped, sanitary stable in which it would be possible to carry on research work under safe and scientific conditions.

The report of Dr. Higgins will be found both interesting and instructive.

The following circular has been sent to all veterinary practitioners and others to whom it is likely to be of use:—

Dominion of Canada,
Department of Agriculture,
Health of Animals Branch.

INSTRUCTIONS FOR SENDING SPECIMENS FOR MICROSCOPIC EXAMINATION.

In forwarding specimens of diseased tissues or organs for diagnostic purposes the following suggestions should be noted and carefully carried out in order to insure their arrival at the laboratory in good condition.

Specimens for Pathological Examination.

Unless a specimen is so remarkable and characteristic that it should be preserved as an exhibition or museum specimen, it is unnecessary to send large portions. Small portions about an inch cube well selected from different regions are sufficient. They should be taken in such a manner as to exhibit the normal tissue passing into the diseased tissue. Together with the material which shows actual lesions, portions of an inch cube should be taken from the lung, heart, liver, spleen and kidney. In many instances the microscopical lesions in apparently healthy organs give the clue to the affection from which the animal suffered. These small portions should be placed in a wide mouthed bottle or jar, with at least five times their volume of alcohol, or better still a 4 per cent solution of formaldehyde.

Specimens from different animals should be placed in separate containers.

Large specimens may be packed in ice or frozen.

Hog Cholera.

Where this disease is suspected, in addition to the material above designated, a portion of the intestine is necessary, consisting of the last portion of the small intestine and the first portion of the large intestine, including the ileo-cæcal valve.

Specimens for Bacteriological Examination.

Bacteriological specimens are easily contaminated by the many putrefactive organisms which exist in the air and soil and, with few exceptions, must be taken by some one thoroughly trained in bacteriological methods.

Anthrax.—A few drops of blood from an animal suspected of having died of this disease, placed on a clean piece of note paper, allowed to dry in the air, folded, placed in an envelope and forwarded to the laboratory provides sufficient material for diagnostic purposes.

Specimens for examination should be accompanied by a letter giving complete information concerning the case in question, with its history, clinical symptoms, &c.

Specimens must be labelled in order that they may be identified. The name and address of the owner of the animal and the name and address of the sender of the material are necessary in order that records may be kept and reports promptly forwarded to the proper parties.

Specimens not exceeding five pounds in weight after being securely packed, to prevent breakage of the containers or leakage (see section 106 and section 107, page xx, Canada Postal Guide), should be sent by mail.

Specimens exceeding five pounds in weight should be sent by express.

Specimens should be addressed,
BIOLOGICAL LABORATORY,
Ottawa, Canada.

J. G. RUTHERFORD,
Veterinary Director General.

EXPORT INSPECTIONS.

The work of inspecting cattle and sheep for export to Britain has been, as hitherto, carefully conducted at Montreal, St. John and Halifax. During the past season a number of cattle were shipped from Western Ontario *via* Buffalo, direct to United States seaports, and these, in accordance with section 58, which was added to the regulations two years ago, were inspected at Bridgeburg before being permitted to cross the boundary. In order to guard against the possibility of any cattle affected with mange in the first stages being passed by our inspectors at the time of shipment from the quarantined area in Alberta and Saskatchewan, arrangements were made for a second veterinary examination of all export cattle on arrival at Winnipeg. This precaution, in conjunction with the final inspection before leaving Canada, makes it almost impossible for any animal, no matter how slightly affected, to escape detection. As a number of cattle are shipped from the range country to British Columbia for immediate slaughter, I deemed it advisable to make arrangements for the cleansing and disinfection, after being unloaded, of all cars used for their transportation. At points where we have resident inspectors this work is supervised by them, while at other points it is looked after by specially appointed lay officers, a number of whom are provincial constables. It is a serious question as to whether or not a more stringent policy should be adopted with regard to the inspection and certification of horses shipped from Southern Alberta and other places where contagious disease is known to prevail. At the present time all horses exported from a considerable area in Alberta are subject to inspection for mange, and any animals showing clinical symptoms of this and other more serious diseases are, therefore, likely to be detected by our officers. I am not sure, however, that this inspection is a sufficient safeguard, and am carefully considering the feasibility of making it considerably more rigid.

Owing to the detection by United States officers on the Buffalo market of some cases of scab among sheep shipped from Western Ontario, it was decided, after taking all possible steps to trace and stamp out the disease, to station an inspector at Bridgeburg with the object of preventing the recurrence of incidents of this nature. The services of Dr. Philps being no longer required in the area under restrictions for hog-cholera, he was transferred to Bridgeburg and arrangements were made with the railway authorities for the erection of suitable yards for the detention and examination of all Canadian sheep crossing the boundary at that point. His services are also utilized for the inspection of export cattle there entering the United States in bond for shipment to Europe. After his arrival in Bridgeburg, until the trade was brought to an end he also inspected, before shipment, the hogs purchased in Buffalo on account of Canadian packers.

Arrangements have likewise been made for the inspection of Canadian sheep entering the United States at other points. This trade is of considerable importance

to Canadian sheep raisers and the slight inconvenience caused to shippers by the inspection is of little moment in comparison with the loss which would follow exclusion from the American markets.

TABLE showing animals inspected for export at the following ports for the twelve months ended October 31, 1905.

——	Horses.	Cattle.	Sheep.	Swine.
	No.	No.	No.	No.
Montreal to Great Britain	432	120,550	33,064	150
Inspected at Montreal for shipment to Great Britain via Boston and Portland	.....	33,542	27,873	.....
St. John, N.B., to Great Britain	68	30,627	16,304	.....
Halifax "	.....	600	.....	.....
Charlottetown "	.....	18	2,049	.....
Montreal to France	.....	978	.....	.....
Montreal to South Africa	.....	105	274	.....
St. John, N.B., to South Africa	145	276	.....	.....
Charlottetown to West Indies	.....	16	.....	.....
Halifax to West Indies	5	.....	67	.....
Halifax to Bermuda	65	20	898	14
Halifax to Newfoundland	3	24	13	13
Charlottetown to Newfoundland	23	1,261	2,345	.....
Halifax to Jamaica	10	23	278	.....
Halifax to Trinidad	.....	.....	27	4
Halifax to Barbados	10	5	12	.....
Vancouver to Japan	.....	25	.....	.....
Bridgeburg to United States	.....	.....	47,707	.....
Cornwall	.....	.....	690	.....
Total	761	188,070	131,600	181

Total animals exported from above ports, 320,612.

Of the above 37 horses, 26,685 cattle and 7,627 sheep were from the United States and Mexico.

ANIMALS inspected for Export from November 1, 1905, to March 31, 1906.

——	Horses.	Cattle.	Sheep.	Swine.
	No.	No.	No.	No.
Montreal to Great Britain	247	14,970	920	.....
Inspected at Montreal for shipment to Great Britain via Boston and Portland	.....	10,469	11,137	.....
St. John, N.B., to Great Britain	65	25,472	1,811	.....
Halifax "	.....	1,042	.....	.....
Bridgeburg "	.....	257	973	.....
Toronto "	.....	144	.....	.....
St. John, N.B., to South Africa	.....	450	.....	.....
Charlottetown to West Indies	14	4	.....	.....
Charlottetown to Newfoundland	2	145	422	.....
Halifax to Newfoundland	1	.....	6	.....
Sydney, N.S., to St. Pierre and Miquelon	.....	22	62	34
Halifax to Bermuda	8	7	189	4
Halifax to Jamaica	.....	.....	80	.....
Halifax to France	.....	150	.....	.....
Bridgeburg to United States	.....	.....	55,888	.....
Windsor "	.....	.....	354	.....
Montreal "	.....	.....	384	.....
Prescott "	.....	.....	574	.....
Total	337	53,132	73,100	38

Total animals exported from above ports, 126,607.

Of the above, 12,288 cattle were from the United States.

EXPORT animals rejected at following ports in twelve months ending October 31, 1905.

——	Horses.	Cattle.	Sheep.
	No.	No.	No.
Montreal	17	219	117
St. John		21	14
Total	17	240	131

Of the above, sixty-eight cattle at Montreal and two at St. John were rejected for actinomycosis, and forty-three at Montreal for mange.

Of the horses, eight were rejected on account of strangles, and nine for influenza.

The rest of the animals rejected were suffering from lameness, or injuries received during transportation and showed no indication of contagious or infectious disease.

EXPORT animals rejected at the following ports between November 1, 1905, and March 31, 1906.

——	Cattle.	Sheep.
	No.	No.
Montreal	38	31
St. John	3	
Total	41	31

Of the above nineteen cattle at Montreal and three at St. John were rejected for actinomycosis. The rest of the animals rejected were suffering from lameness, or injuries received during transportation, and showed no indication of contagious or infectious disease.

IMPORTATIONS.

From November 1, 1904, to October 31, 1905, permits were issued as follows:—

From.	Horses.	Cattle.	Sheep.	Swine.
	No.	No.	No.	No.
Mexico	50	700		
Great Britain		85	378	142

During the past five months, November 1 to March 31, permits were issued to import the following stock:—

From Mexico, 1,000 cattle ; from Great Britain, 92 cattle, 15 sheep.

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IMPORT Inspections from Europe from November 1, 1904, to October 31, 1905.

Ports.	Horses.	Cattle.	Sheep.	Swine.	Goats.
	No.	No.	No.	No.	No.
Lévis Quarantine Station	33	52	342	74	17
Montreal	694				
St. John, N.B.	41	26			
Halifax	33				
Total	801	78	342	74	17

IMPORT Inspections from Europe from November 1, 1905, to March 31, 1906.

Ports.	Horses.	Cattle.
	No.	No.
Quebec	3	3
Montreal	43	
St. John, N.B.	243	10
Total	289	13

IMPORT Inspections from United States from November 1, 1904, to October 31, 1905.

Port.	Horses.	Cattle.	Sheep.	Swine.	Goats.	Mules.
Halifax, N.S.	9					
St. John, N.B.		10	1	5	2	
St. Johns, P.Q.		2				
Sherbrooke, P.Q.		24	1	179	4	
Cornwall, Ont.		1				
Niagara Falls, Ont.	27	18	34	17		
Sarnia, Ont.	247	76	221	1,222		
Bridgeburg, Ont.	67			42,047		
Sault Ste. Marie, Ont.		9				
Windsor, Ont.	101	57	21	17	1	44
Port Arthur, Ont.		8				
Winnipeg, Man.	3,520	2,530	98			331
Emerson, Man.	2,311	1,317				
Gretna, Man.	70					
Killarney, Man.	456	299	61			10
Morden, Man.	52	14				
Crystal City, Man.	216	227	1			
Mowbray	361	427	11			4
Deloraine, Man.	303	214				8
Melita, Man.	180	60				8
North Portal, Sask.	6,434	6,365	92	48		311
Wood Mountain, Sask.	1,182	241				1
Maple Creek, Sask.	442	3,333	3,070			
Medicine Hat, Alta.	45					
Pendant d'Oreille	656	913				
Coutts, Alta.	2,584	3,940	4,473			6
Cardston and Twin Lakes	1,425	995	1,425			9
Gateway and Rykerts, B.C.	1,346	420				9
Nelson and Rossland, B.C.	949	1,468	3,907	327		31
Grand Forks and Midway	272	190	3,024	308		2
Osoyoos	138	88	149	8		
New Westminster	326	375	2,493	4		8
Vancouver	85	1	25,893			
Victoria	82	12	24,947		7	20
	23,886	23,634	69,922	44,182	14	802

IMPORT Inspection from the United States from November 1, 1905, to March 31, 1906.

Port.	Horses.	Cattle.	Sheep.	Swine.	Mules.	Goats.	Buffalo.
St. John, N.B.		2					
St. Johns, P.Q.		1	1				
Sherbrooke, P.Q.		3		1			
Niagara Falls	59	6	4		8		
Sarnia	68	68	704	134			2
Bridgeburg		2	39	21,745			
Sault Ste. Marie		4					
Windsor	28	53		6,705			
Rainy River		2					
Winnipeg	2,420	1,402	10		105		
Emerson	780	198	4	5			
Killarney	203	142	6		16		
Morden	10						
Crystal City	148	34			3		
Mowbray	172	173					
Deloraine	174	107			3		
Melita	55	7					
North Portal	5,587	1,433			367		
Wood Mountain	37	1	7				
Maple Creek	265	291					
Pendant d'Oreille	873	85					
Coutts	1,722	281	22	1	5	5	
Twin Lakes	400						
Gateway and Rykerts	75	171			1	106	
Nelson, Rossland and Waneta	295	184	694	16	8		
Grand Forks	28	37		28			
Midway	21	69		6			
Osoyoos	29			6			
New Westminster	228	108			4		
Vancouver	14	1	11,130				
Victoria	18	3	8,771		42		
White Horse, Y.T.	35						
	13,744	4,868	21,392	28,647	562	111	2

IMPORT Inspections from Mexico from November 1, 1904, to October 31, 1905.

Port.	Horses.	Cattle.
North Portal	74	632

IMPORT Inspections from Mexico from November 1, 1905, to March 31, 1906.

Nil.

IMPORTATIONS FROM MEXICO.

As will be noted, the importations of animals from Mexico show another well-marked decrease from those of last year, which in turn were much smaller than in the two preceding seasons. I do not think that this falling off is to be regretted. The importation to such a country as Canada of foreign cattle for grazing purposes is in any case somewhat of an anomaly, showing as it does that there is considerable room for improvement in our present methods of conducting the live stock industry.

When, furthermore, as in this instance, the cattle are of markedly inferior quality and come from a country where absolutely no sanitary precautions are taken and which must always remain the subject of grave doubt as to its freedom from one of

the most dangerous and contagious maladies affecting the bovine species, the cessation of the trade can hardly be considered a misfortune.

As has been stated in previous reports, tick fever prevails to a greater or less extent throughout the Republic of Mexico, with the reputed exception only of the State of Chihuahua. Since the inception of the trade in 1902, I have never felt that it was quite safe, as while there is absolutely no fear of tick fever becoming permanent in this northern climate, there is always the risk of its being introduced early in the summer when it might do tremendous damage before the advent of cold weather. Careful inquiry into all the conditions surrounding the trade brought out the fact that the state of Chihuahua, from which most of the earlier and all the recent smaller shipments come, was apparently quite free from the disease. This condition, taken in conjunction with the fact that early in 1903 the introduction of a number of tick infested cattle from the state of Coahuila was narrowly averted, led me to recommend that no stock from Mexico should be admitted to Canada except by permit to be issued only in the case of shipments from Chihuahua. The governor of the state, Don Luis Terrazas himself, one of the largest, if not actually the largest, cattle owner in the world, undertook in 1903 to prevent the introduction within its boundaries of cattle from any of the infected states with which it is surrounded on practically all sides. Under these conditions and still further safeguarded by the United States inspection at El Paso and a close examination by our own officers at the Canadian boundary, the trade has been permitted to continue without so far at least, any untoward results. Knowing something, from previous residence in that country, of the conditions actually existing in Mexico, I was never quite satisfied as to the efficiency of the quarantine said to be maintained by Chihuahua against the neighbouring states. State rights, even in Mexico, have their limitations and as the trade bids fair to persist and might at any time assume as it did before, large proportions, I deemed it advisable to open up communication with the federal authorities of the republic with a view to securing from them some guarantee as to the health of Chihuahua and its protection from infection by the cattle of adjoining states. During the past winter therefore I visited Mexico, and with your approval, discussed the whole question with Dr. Liceaga, president of the Superior Council of Health, to whom I was finally referred by the vice-president, Senor Ramon Corral. I found, as I had anticipated, that the republic was practically without any veterinary sanitary service and that little or nothing was known regarding the prevalence of animal plagues or modern methods for their control. The question of jurisdiction as between the federal and state authorities in matters of animal health was also, so far as I could learn, quite unsettled, and I might almost say unconsidered. Altogether the results of my inquiries were disappointing and I left Mexico convinced that so far as importations of live stock from that country are concerned, our safety from disease will depend at least for the present, entirely upon the precautions which we may ourselves adopt for its exclusion. I would add, however, that Dr. Liceaga, who was most courteous and listened with great attention to my explanation of the situation, undertook to lay the matter before the President himself with the view of securing the passage of regulations preventing the introduction to Chihuahua of cattle from the surrounding states. This would undoubtedly be a great safeguard and one which, if properly enforced, might warrant the continuance of the trade. If it is not secured before the beginning of next season I would advise the exclusion of Mexican cattle altogether as the risk of infection being introduced to Chihuahua undoubtedly exists. The powers of the state authorities to control the movement of cattle into or out of other states being more than doubtful from a constitutional point of view, I do not think it advisable for this department to rest upon their assurance of safety.

QUARANTINE STATIONS.

Some progress has been made in improving quarantine facilities at coast points, as well as along the International boundary line. During a visit to Halifax in

August last, I selected a suitable site on the new quarantine ground acquired in 1904. A commodious building has since been erected and is now almost ready for occupation. This new station is conveniently situated on the Cotton Factory siding within the city of Halifax, and possesses the great advantage over the premises previously used that animals can be conveyed to it by rail direct from the deep water terminus without risk of infection. The number of animals imported via Halifax is never large, and I have no doubt that the present building, if properly maintained, will serve the uses of the department for many years.

At St. John, N.B., two stables are in course of erection, the plans being similar to that adopted at Halifax. This station also possesses the advantage of being easily reached by rail, and as it is much more largely used than that at Halifax, its comfort and convenience will be appreciated by importers to a correspondingly greater extent.

At Charlottetown, where imported stock is seldom landed, it has not been found necessary to establish a permanent quarantine station, although an inspector is employed at that point.

Our most important quarantine station is undoubtedly that at Point Lévis as it is there that the majority of animals imported from Europe enter Canada during the season of summer navigation. This station, which has been in existence since 1876, is situated within the yard of Fort No. 3 at Point Lévis, and while the buildings are inexpensive it is well planned and has long been ably conducted by Dr. Couture and a staff of permanent employees under his control. It furnishes accommodation for nearly 500 cattle and about 300 sheep, and is laid out so as to permit of the absolute isolation of the stock of each importer. Its situation is excellent and it would be an ideal quarantine station were it not for the fact that under existing conditions animals, after landing, must be driven for a considerable distance over the public highway before reaching their quarters. Owing to the peculiar topographical conditions it has until recently been practically impossible to remedy this state of affairs.

Latterly the construtions of the Lévis Electric Railway has suggested the possibility of conveying the animals direct from the wharf to the station by means of electric traction.

The adoption of this plan would render the establishment one of the safest and most perfect quarantine stations in the world, and would greatly lessen the risk of conveying infection to animals in the neighbourhood.

At Victoria, B.C., a lease has been secured of a small property at a point near the outer wharf, on which are situated some old buildings used in former years by the department for quarantine purposes. These are being put in repair and slightly altered so as to furnish accommodation for any animals arriving from the United States, which it may be found necessary to place in quarantine.

At Vancouver no station has as yet been erected owing to the uncertainty of local railway construction and the location of new stock yards at that point. As soon as these matters are settled it is the intention to construct at Vancouver a station similar to those which have been erected along the International boundary line in British Columbia and the Northwest.

A good deal of attention has been devoted to the improvement of the quarantine service along the boundary between Canada and the United States.

In eastern Canada, the number of animals imported from the United States is very small and it has not, therefore, been thought necessary or advisable to go to any great expense in the construction of quarantine stations, which, under existing regulations, are, with the single exception of that at Sarnia, used only for the accommodation of swine imported for breeding purposes. Range horses imported from west of the Mississippi river, and of the eastern boundary of the state of Minnesota, are admitted at Sarnia, while swine must enter at quarantine stations; all other animals can enter at inspection ports east of Rainy river without being subjected to quarantine.

In addition to Halifax, St. John, Charlottetown and Quebec, at which, of course, animals from the United States will be received when necessary, the quarantine stations in eastern Canada are Sherbrooke and St. Johns, Que., Niagara Falls, Windsor and Sarnia, in Ontario. At Windsor and Niagara Falls small buildings have been erected by the department. At Sherbrooke a site has been secured on which it is proposed to build a small stable; while at St. Johns the number of animals brought in is so limited that it has scarcely been considered advisable to make permanent provision for their accommodation.

Bridgeburg is now an important point, an inspector being permanently stationed there, and while at the present time the yards of the various railway companies are being used for inspection purposes, I am of opinion that it will be necessary in the near future to erect a small but complete quarantine station.

It is my intention to equip the station at Sarnia with strong corrals, squeezers, &c., suitable for handling the western horses which occasionally enter there.

In addition to those at Emerson, Wood Mountain, Pendant d'Oreille, Coutts and Twin Lakes, which were completed last year, quarantine stations have been erected at Willow Creek, Sask., and at Gateway, Nelson and Midway, B.C., while inspectors are also stationed at Grand Forks and Osoyoos. Quarantine corrals have been erected by the railway companies at Sumas and Douglas, animals being inspected there before crossing the boundary, it being the intention, as above stated, to provide, in the near future, a quarantine station at Vancouver which will serve not only for animals brought in at these points, but for such as may arrive by boat.

It will probably be necessary in the near future to construct quarantine stations at Princeton and Grand Forks, while provision will have to be made for animals entering at Kingsgate over the new Canadian Pacific railway line from Spokane.

CAR INSPECTION.

The very evident benefit resulting from the strict enforcement of the various regulations requiring the cleansing and disinfection of railway stock cars after conveying animals from infected districts, is the best possible proof that our efforts in this direction although irksome to railway companies, and at times to shippers, are entirely justifiable and in the best interests of all concerned.

At the various points to which hogs were shipped from the United States or from the quarantined area in western Ontario, inspectors have seen that the cars conveying them were, immediately on being unloaded, properly cleansed and disinfected in accordance with the regulations. The same rule is followed in the case of cars conveying cattle and horses from the mange infected area in Alberta and Saskatchewan. Special attention, as elsewhere indicated, is now paid to the cars used in the heavy transit trade in hogs across the western peninsula of Ontario.

Under modern transportation conditions, stock cars form one of the most certain and convenient channels for the carriage of infection from place to place and it is, therefore, impossible to be too particular in seeing that those in regard to which suspicion may reasonably be entertained are so treated as to render them innocuous.

STOCK YARDS.

Stock yard facilities throughout the Dominion have, I am glad to say, been greatly increased and improved since the date of my last report. The important terminal yards of the Canadian Pacific Railway Company at Hochelaga which had, for some time, been in an unsatisfactory condition, have now been rendered much more comfortable and sanitary. New and commodious yards have been erected at North

Bay. I understand that it is the intention to furnish facilities at White River for the feeding and watering of export cattle en route from the west. The new yards there will take the place of those hitherto used for that purpose at Schreiber and it is to be hoped that the company will adopt in their construction a plan similar to that in use at Winnipeg which greatly facilitates the rapid loading and unloading of animals. At various more or less important points along this and other railways, new yards have been erected and old ones have been repaired and cleansed in accordance with the regulations. There is still, in some quarters, considerable room for improvement, but on the whole the attitude of the transportation companies in regard to this and other matters connected with the work of the branch leaves little to be desired. Satisfactory progress is being made, and, this being the case, I do not think it is advisable to rush the companies into expenditures, without being certain that the outlay is justifiable and likely to give them a reasonable return.

MEAT INSPECTION.

In my last report I suggested the advisability of taking steps to inaugurate, for the benefit of some of our younger inspectors, a special course in meat inspection, to be carried on by Dr. Higgins in connection with the Biological Library. The export trade in dead meat, already begun on a small scale is certain to increase largely in the near future, in which event it will be absolutely necessary for us to supply certificates satisfactory to the authorities of importing countries. There are at present, so far as I am aware, no trained meat inspectors in the Dominion, although the requirements of municipal and health acts in various provinces would indicate a reasonably active demand for the services of experts of this class. A thorough training in meat inspection should be part of the curriculum of every veterinary college, but so far the subject appears to have been conspicuous by its absence at all Canadian institutions of that kind.

MISCELLANEOUS.

During the period which has elapsed since my last report I have attended and addressed a number of public gatherings among others the meetings of the various associations of breeders which were held in Winnipeg in February, 1905, the annual meeting of the Western Stock Growers' Association which took place at Medicine Hat in May, and several others of minor importance. In April I officiated as judge of horses at the Canadian Horse Show in Toronto, while in September I performed a similar service at the Dominion Exhibition in New Westminster, B.C.

In May last I visited Washington and Oregon for the purpose of consulting with the state veterinarians regarding the health of the animals under their care, this being a matter of great importance to us on account of the large importations to Canada now constantly in progress. In June a visit to Washington, D.C., was made during which I discussed informally with Dr. Salmon, then chief of the Bureau of Animal Industry, several official matters of material interest.

In August I had the privilege of attending the annual meeting of the American Veterinary Medical Association which was held at Cleveland, Ohio. At this meeting, which was largely attended, many subjects of great importance were taken up and discussed. Among excellent papers, the most noteworthy was perhaps that of Dr. Leonard Pearson, of Pennsylvania, who gave an interesting resume of his experimental work in connection with immunization against bovine tuberculosis.

I also attended during the year two meetings of the Ontario Veterinary Association, one of which was held in Toronto in December, and the other at London in July. This body has recently begun to show greatly increased vitality which is certain to result in much benefit to its members and, through them, to the live stock interests of the province.

I am pleased to report that some progress has apparently been made in the direction of elevating the standard of veterinary education in Canada. In June last year I had the pleasure of an interview with Hon. Nelson Monteith, Minister of Agriculture for Ontario, in the course of which the whole subject was freely discussed. As a result of this interview a meeting of the Organization Committee of the Ontario Veterinary Association was held in Toronto on November 10, when I, with the full concurrence and approval of the other members present, was accorded the privilege of drafting and subsequently presenting to Mr. Monteith a memorandum pointing out the importance to stock owners of the maintenance of a reasonable standard of veterinary education, and asking the government of the province to take over and conduct the Ontario Veterinary College, as also to pass such legislation as might be necessary in the premises. Mr. Monteith, who received the members of the committee in the most courteous manner, promised to give the proposition his most favourable consideration.

In January I met, by request, Mr. J. W. Flavelle, chairman of the Ontario University Commission, Mr. Colquhoun, the secretary, and Mr. C. C. James, Deputy Minister of Agriculture for the province, and discussed the subject with these gentlemen in all its bearings.

Later the commission embodied in its report a recommendation that the Ontario Veterinary College be taken over and carried on by the Ontario Department of Agriculture on lines similar to those on which the Agricultural College at Guelph is conducted. It is understood that negotiations with this end in view are now in progress. Should these be successful the future of veterinary education in Canada, which has for some time been very doubtful will be assured.

In a country with an enormous and ever increasing live stock industry, it is of the last importance that a high standard of veterinary education should be maintained.

The record of Ontario as a province in educational matters is such that if the plan now under consideration is carried out there need be no fear as to the future of comparative medicine in Canada.

In January also I visited the Agricultural College at Urbana, Illinois, where I had the privilege of an interesting and instructive interview with Dr. McIntosh, the veterinary professor there, who is one of the highest authorities on hog cholera on the American continent.

In the following month I visited the Louisiana University where, through the courtesy of Dr. W. H. Dalrymple, veterinary professor, and W. K. Dodson, A.B.S.B., botanist and bacteriologist, I absorbed much practical information on tick fever, a matter which has for long been made a special subject of study by these gentlemen.

Subsequently, as reported elsewhere, I visited Mexico on official business.

While in El Paso on the return journey, I had the privilege of meeting Dr. Bray, United States bureau inspector at that point, through whose capable hands Mexican cattle en route to Canada have to pass. From Dr. Bray I received much detail information as to the conditions surrounding this somewhat risky traffic.

At Houston and Galveston I made it my business to collect data in regard to the use of Beaumont oil for dipping purposes but, owing to pressure of work, I was unable to devote to this task as much time as I should have liked. I regret to have to say that, so far as I can see at present, the expense will be too great to permit of the use of Beaumont oil in western Canada.

Printed herewith are the reports of the various officers of this branch throughout the Dominion. Among them are several of special note, such as that of Dr. Pethick on Pictou cattle disease, that of Dr. Torrance on swamp fever, those of Dr. McGilvray and Commissioner Perry on conditions in the west, and those of Drs. Burnett, Hargrave and Warnock on maladie du coït; as also two interesting reports from the latter gentleman which deal respectively with poisoning by water hemlock, and a peculiar bone disease noticed among cattle in the Porcupine Hills.

Owing to the change in the departmental year the reports, with the exception of my own, deal separately with: first, the period between November 1, 1904, and October 31, 1905, and second, that between November 1, 1905, and March 31, 1906.

I have the honour to be, sir,
Your obedient servant,
J. G. RUTHERFORD,
Veterinary Director General.

The Honourable
The Minister of Agriculture,
Ottawa.

G. HILTON, V.S.

OTTAWA, October 31, 1905.

SIR,—I have the honour to submit the following report for the year ending October 31, 1905.

My duties with your branch of the Department of Agriculture commenced on May 25, 1905, with headquarters at Portage la Prairie, Manitoba.

Immediately after my engagement, following your instructions, I visited the maladie du coït infected district in Alberta for the purpose of familiarizing myself with the outbreak and nature of the disease, also the measures you were adopting for its control and eradication.

I then proceeded by your direction to trace two mares which had been shipped from an infected ranch in Alberta to the province of Manitoba. This proved troublesome and entailed a great deal of travelling, as the animals had been resold after their arrival in this province. They were finally located, one in the Swan River district; the other a few miles from Grand View, and fortunately upon examination, both mares proved to have escaped infection. Returning to Portage la Prairie in response to your previous instructions, I visited the quarantine station at Emerson, and also the inspection ports along the Manitoba boundary. Full reports of these visits were submitted to you upon their completion. In the month of July, I was transferred to Ottawa, and since my arrival here, as you are aware, my work has been confined to your office with one exception, when in August you instructed me to proceed to Merrickville to investigate a suspected outbreak of anthrax, which proved to be a disease of a non-contagious nature, and consequently no action was taken.

I have the honour to be, sir,
Your obedient servant,
GEORGE HILTON.

To the Veterinary Director General,
Ottawa.

C. H. HIGGINS, D.V.S.

OTTAWA, October 31, 1905.

SIR,—I have the honour to transmit this, my seventh annual report as an officer of the Department of Agriculture, my fourth as its pathologist, covering the period from November 1, 1904, to October 31, 1905.

The work of the biological laboratory during the past year has shown a marked increase over that of any previous year and from this increase it is evident that the services rendered by this institution are appreciated.

The material received for examination shows a total of 264 series, there being but 93 series during the year previous. The great variety of subjects dealt with is supplying the laboratory with material for investigation and demonstration purposes which will prove of inestimable value. In addition there is the data and material obtained by myself in Alberta from 116 autopsies on horses affected with maladie du coît.

The detailing by you of E. A. Watson, V.S., to the laboratory last April has relieved me of some of the routine work, although the increase in the amount of mallein used has made a steadily increasing demand upon my time in its preparation.

The completed laboratory building now provides certain facilities for accomplishing our work not accorded at the writing of my last report. The increase, however, in the amount of mallein which it has been necessary to prepare, and the desirability of preparing all the tuberculin required, call for an increase in equipment that the supply may at all times equal the demand. This increase in equipment can be made by the construction of an incubator room and preparation room in the basement of the building. Such a change would remove the preparation of these two products from the other work of the laboratory and would remove some of the difficulties which at present exist in this important work. At present the small incubator space available prevents the manufacture of tuberculin in sufficient quantities to meet the constantly growing demand and it does not seem to me that it would be advisable to add more small incubators, in view of the fact that small incubators cannot be kept at the desired temperature economically

The many details demanded of the routine fully occupy our time and original work is accomplished only in spare moments, which does not allow of the careful painstaking effort demanded in accurate investigation. It has been impossible to undertake extensive original investigations during the year, but I anticipate that as Dr. Watson becomes more familiar with the routine of the laboratory it will not be necessary to overlook this important field.

The construction last spring of a building for housing the small animals has proven very serviceable and the stable now under construction which will provide accommodation for four experimental horses is a valuable addition to our equipment.

Without further preliminary remarks, I will proceed to consider some of the more important subjects dealt with during the past year.

GLANDERS.

There has been some little time spent on the subject of glanders during the past year. This has consisted in the inoculation of small animals with material from horses reacting to the mallein test, some of which had ceased to present the typical rise in temperature or local swelling on the injection of an appropriate dose of mallein. The result of this inoculation work appeared in full in your report and needs, therefore, no further mention in this connection. The heads of the horses above referred to were received at the laboratory, and on the septa nasi of some of these, scars, the result of old ulcers, were found. On some of the septa no lesions visible to the naked eye were detected. These septa are preserved and I anticipate that it will be possible in the near future to make a minute study to determine whether there are other lesions than the scars above referred to.

There has also been quite an amount of routine work with glanders in the preparation of mallein. This work has necessitated the inoculation of quite a large number of animals in preparing the germ for culture purposes and in testing the finished product.

MALLEIN.

As already stated, the production of mallein has necessitated considerable work with the bacillus mallei, the causative agent of glanders. There have been sent from the laboratory on order from your office, 7,819 doses of mallein against 3,153 of the year preceding. The entire amount was prepared and tested at this laboratory. The

cost of preparation was practically that of the year preceding, namely, eleven cents per dose. In this estimate the amount now on hand, about 1,600 doses, is included. The preparation of mallein is very interesting work from the fact that forms are found in the old cultures from which the product is prepared that are never seen in old cultures on solid media. I present herewith photographs illustrating the forms found in fresh cultures, the appearance of the bacillus in pus, and the involution forms found in old cultures.

A monthly statement of the mallein sent out from the laboratory is given below.

	1903-04.	1904-05.
November	291	500
December	40	295
January	135	365
February	155	432
March	203	400
April	184	500
May	412	625
June	422	1,055
July	75	580
August	560	861
September	305	1,163
October	371	1,043
Total	3,153	7,819

TUBERCULOSIS.

During the past year a large number of specimens, consisting of tissues and sputum have been received at the laboratory for examination to determine whether or not evidences of tuberculosis were present. From some of this material it has been possible to isolate cultures. These cultures are kept growing in order that material may be at hand when it is possible to undertake investigations in this interesting field.

TUBERCULIN.

There have been sent from the laboratory, 3,145 doses of tuberculin, against 2,649 of the year preceding, on order from your office to veterinary inspectors and others. As was the case during the previous year, small amounts have been prepared with a view of ultimately producing all that may be required by the department. I believe that this can be undertaken profitably just as soon as we have sufficient incubating space for growing the cultures.

I append hereto a detailed statement of the amount of tuberculin sent out each month during the last two years.

	1903-04.	1904-05.
November	326	226
December	326	374
January	350	180
February	303	135
March	295	263
April	146	497
May	272	394
June	119	149*
July	123	126
August	173	351
September	70	266
October	146	184
Total	2,649	3,145

*This includes thirty doses of Japanese tuberculin diluted at the laboratory for use.

PICTOU CATTLE DISEASE.

The work of the laboratory with reference to Pictou cattle disease, has as formerly consisted in the examination of material received from Nova Scotia. All this material during the past year has been sent by Dr. Pethick and was from experimental animals with two exceptions.

In the specimens from cattle that had contracted the disease experimentally there has been no deviation in the nature of the lesions from the classical type previously described by those who have studied this affection. The natural resistance toward the contraction of this disease by individual animals is noted in the nature of the lesions, from an animal very slightly affected (steer 12) to that in which very nearly all of the normal cells of the liver have been replaced by fibrous connective tissue (steers 3 and 19.)

From the result of my examination of the organs of cattle fed on weedy hay and those fed on weed free hay, it is evident that the weed, Senecio Jacoboea is actively concerned in causing this affection.

CATTLE TICKS.

A number of cattle ticks taken from a cow in Nova Scotia were identified as Dermacentor Variegatus. This is the tick commonly known as the "Moose tick," and as far as I am aware has not previously been recorded as occurring on cattle.

DISINFECTANTS.

There has been received during the year just ended but one sample of disinfectant for examination as to its germicidal value. This sample of disinfecting material was of proprietary origin and for the reasons stated in previous reports a detailed statement is not included under this heading.

ANTHRAX.

During the past year material from nine suspected cases of anthrax have been examined, the bacillus being found in one instance only. In this connection it must be remembered that material taken from an animal some time after death may not show the *bacillus anthracis*, the causative agent, due to the putrefactive processes depriving the carcass of the necessary oxygen which this bacillus must have that it may propagate. In cases which have been dead some hours the material sent to the laboratory should be taken from the bloody discharge of the nasal or anal openings as the bacillus is here to be found in the spore stage.

MALADIE DU COIT.

Acting on your instructions, it was my privilege in May last to meet and accompany yourself and your inspectors to the Macleod district in Alberta. I was also favoured with an opportunity to accompany Dr. Hargrave in his work in the Medicine Hat district where many more cases were seen and autopsies performed. Later I proceeded to Lethbridge where many cases were examined and post mortemed in conjunction with yourself, Doctors Warnock and Burnett.

My mission was primarily in connection with the causative agent of the disease. Buffard and Schneider, of Algeria, first described this disease as being caused by a trypanosoma which they named *Trypanosoma Epuiperdum*. This finding was, shortly after its announcement, confirmed by no less an authority than Nocard. Lingard, Imperial bacteriologist to the Government of India, also substantiates this finding

of Buffard and Schneider in a report on dourine issued in March, 1904, from his laboratory at Muktesar.

On the other hand we have Prof. Marek, of Budapest, and Prof. Ferdinand Kern, director of State Bacteriological Institutes, also of Budapest, who have been unable to confirm the presence of trypanosomata in cases of Beschalseuche, the term they use for maladie du coït.

I had not up to the time of my leaving for the west seen any mention of the work of these two last named authors and was therefore of the opinion that the trypanosoma described by Buffard and Schneider would be very easy of demonstration, provided a suitable case was obtained. However, in spite of this previously formed opinion, I took considerable trouble to prepare special stains and other necessary material that the trypanosoma, if present, might not elude my search. In justice to the observations made and recorded by the above mentioned authors and others, I do not wish to state that the *trypanosoma equiperdum* of Buffard and Schneider is not the cause of the disease manifesting itself in Western Canada. Suffice it to say repeated searches of the blood, vaginal secretion, synovia from the coxo-femoral joint; the brain, spinal cord and their fluids; the ovary, the mucous membrane of the uterus, &c., in fact almost every portion of the animal which would lend itself to the preparation of a smear, was at some time examined for the protozoan parasite in question, but these examinations resulted in negative findings. In connection with this microscopical work, I desire to state that all the cases from which material was obtained were of some standing and not the ones which from choice would be selected in view of our knowledge of diseases in animals and man caused by trypanosomata.

One case, Brucefield Prince, was given more attention than any of the others. He was first seen by me on May 12 at the ranch of his owner, where a careful clinical examination was made. Clinically this animal presented unmistakable symptoms, the knuckling gait, swollen sheath, and facial paralysis involving both the upper and lower lips and the ear. There was an opthalmitis of the right eye, the membrane nictitans covering the lower third. This stallion was taken to the police barracks at Macleod, that an opportunity for a thorough examination of his blood and other body fluids might be obtained. Quantitative blood counts did not reveal a marked variation in the number of cells from those found in horses under ordinary conditions. An attempt to show the presence of the trypanosoma in the superficial circulation was made according to the method of Capt. Rogers* without success. During my stay in the Medicine Hat district this stallion was sent to Lethbridge, a distance of forty miles, in the hope that the trip would cause an eruption of fresh placques, but the fatiguing journey did not accomplish the desired object. From the time I first saw this stallion to the time he was destroyed at the quarantine ground, covered a period of only fourteen days, and this was hardly sufficient, considering the maximum duration of this disease. Previous to destroying this animal, however, a number of flasks which had been prepared at the laboratory in Ottawa were partially filled with blood and defibrinated. These flasks were hermetically sealed and brought to the laboratory with me on my return. Dogs were inoculated with varying amounts, but none showed any general or local disturbance during the succeeding four weeks which they were under observance, and at autopsy did not show any lesions or variations from the normal. The last flask of blood opened at the laboratory six weeks after being drawn was still sterile. I merely mention this to indicate the possibility of taking blood in the field under adverse conditions and transporting it over a great distance and still have it uncontaminated from outside sources. From the report of Buffard and Schneider it is not surprising that this blood failed to give results on inoculation, as it was their experience that after forty-eight hours the blood of an affected animal would not infect dogs.

Autopsies were held on one hundred and sixteen horses, of which two were stallions and one a gelding of doubtful history said to have been castrated on account of

* 'London Lancet,' July, 1904, page 1,904.

being affected with this disease, although the affection had not been positively diagnosed as such prior to the castration. This gelding was the only case which presented any deviation from the autopsy findings on all the other horses examined, and in fact was the only case presenting a condition of the spleen closely resembling that described by Lingard as being characteristic of dourine in India.

The clinical manifestations of this infection comprise a feature of the disease with which I have had but little experience, and therefore I deem it unadvisable for me to make any observations in this connection.

With the pathological lesions I have endeavoured to make myself familiar, and will therefore briefly indicate the conditions found at autopsy. All cases upon which it was my privilege to hold post mortems were destroyed on account of their presenting evidence of being affected with the disease, and with one or two exceptions were of long duration.

On incising the skin the subcutaneous connective tissue is seen to be of a very yellowish tinge, there being very little fat present. The muscles are somewhat pale, but otherwise appear normal.

On removing the hind-leg at the coxo-femoral joint considerable oedema is noted about the joint ligaments and the ligamentum teres. The ligamentum teres is not of normal size in cases of some duration. The articulatory surfaces of this joint, particularly that of the acetabulum, show in the majority of cases a distinct ulceration, usually somewhat triangular in shape and in one instance each side of this irregular triangle was one inch in length. The synovial fluid shows no alteration either in colour or consistency.

On opening the abdominal cavity, fluid was invariably present in which were seen numerous nematodes, filaria papillosa,—these however, are usually met with in horses kept under range conditions and therefore bear no special relationship to the disease under consideration.

The connective tissue in the abdominal cavity has the same yellowish tinge noted in connection with the subcutaneous connective tissue. The mesentery also exhibits this peculiar coloration. The intestines are pale and on their serous surface evidences of a previous inflammatory condition are present.

The spleen is of a grayish colour and the surface presents many petechial spots. In consistency the spleen is soft and flabby, pitting on pressure, the pit not resuming its natural position on the removal of the finger. In size it is about normal. The spleen of the gelding above referred to was about four times its normal size and very soft and friable. The colour was that of the normal organ.

The liver appears very much shrunken in size, in some cases appearing to be but half that of the normal organ, and is of a much darker colour than is the case in horses not suffering from this disease. The organ is very firm with no evidence of cirrhosis. The capsule of the liver usually presents evidence of an old inflammatory process.

The kidneys show no marked alterations.

In the mares the vaginal mucous membrane is pale and of a leaden hue with some scars. There is an oedematous condition of the os, but otherwise nothing abnormal is noted. The uterus is usually of a leaden colour and the mucous membrane oedematous, in some cases the oedematous folds were very pronounced, increasing the size of the uterus considerably. The ovaries were invariably cystic, though I am not prepared to assert that this was due to the infectious process under discussion. None of the mares upon which autopsies were held had recently shown a profuse vaginal discharge indicating that all cases examined were more or less chronic.

In the two stallions the general lesions were those described above. In addition there was an atrophy of the testicles amounting in one instance to the almost complete absence of testicular tissue. In one of these stallions, Brucefield Prince, there was a diffuse oedematous swelling of the sheath. No marked changes were noted about the penis save a slight roughness of the urethra.

WEIGHTS OF ORGANS OF HORSES SUFFERING FROM MALADIE DU COIT. (Prepared by J. C. HARGRAVE, D.V.S.)

	Owner.	Weight in Lbs.	Age.	Sex.	Probable Time Infected.	Testicles. Rt. Weight in Grammes.	Testicles. Lt. Weight in Grammes.	Ovaries. Rt. Weight in Grammes.	Ovaries. Lt. Weight in Grammes.	Kidneys. Rt. Weight in Grammes.	Kidneys. Lt. Weight in Grammes.	Spleen. Weight in Grammes.	Liver. Weight in Grammes.	Remarks.
1	J. W. D.	1,000	8	F*	1 year	..	..	.....	.....	.....	.....	875	5,625	
2	"	1,150	15	F	1 "	..	..	.....	.....	.....	.....	750	6,750	
3	H. G.	1,500	7	F	6 months	.....	....	185	220	....	....	1,375	8,500	
4	"	1,000	6	F	6 "	....	....	150	126	.....	.....	1,440	6,500	
5	"	1,500	4	F	4 "	..	.....	100	100	.....	.....	1,100	8,500	
6	G. M.	1,000	3	F	4 "	.....	...	75	60	520	520	950	4,440	
7	M. H. R. Co.	950	7	F	6 "	.....	.....	90	220	760	600	1,550	7,540	Note difference in ovaries.
8	"	1,400	3	M*	7 "	280	329	.....	.....	700	620	1,000	5,500	Evidence of adhesions on testicles and spleen.
9	"	1,000	5	F	6 "	....	....	30	75	760	600	1,000	6,760	
10	"	1,200	3	F	6 "	....	....	60	80	700	720	1,480	7,040	
11	"	1,350	Aged	F	6 "	.....	.....	75	60	830	930	1,310	8,740	
12	"	1,450	4	F	6 "	.....	.....	100	120	620	700	1,420	8,160	
13	"	900	Aged	F	6 "	.....	.....	120	90	670	680	1,150	5,590	
14	"	1,250	6	F	6 "	.....	.....	50	160	680	700	1,250	8,660	
15	"	1,450	Aged	F	6 "	.....	.....	100	70	1,180	1,100	1,600	7,700	
16	R. E. S.	1,900	"	M	1 year	330	360	.....	.....	1,050	1,000	1,650	6,770	Evidence of adhesions on testicles.
17	"	1,750	"	M	8 months	200	240	.....	.....	820	760	1,180	7,600	" " "
18	W. G.	1,600	"	M	1 year	240	270	.....	.....	725	560	1,050	6,100	" " " Spleen very small.
19	C. F.	1,100	"	F	1 "	....	.....	80	80	800	720	700	6,300	Spleen very small.
20	"	1,100	"	F	1 "	.....	.....	60	100	560	1,000	1,080	6,900	Note difference in kidneys. Apparently normal.
21	J. B. L.	1,600	7	M	8 months	280	330	.....	.....	820	780	940	7,000	Evidence of adhesions on testicle. Spleen small.

WEIGHTS OF ORGANS OF TWO GELDINGS REACTING TO THE MALLEIN TEST. (For comparison with the above.)

	Owner.	Weight in Lbs.	Age.	Sex.	Lungs. Weight in Grammes.	Heart. Weight in Grammes.	Kidneys. Right. Weight in Grammes.	Kidneys. Left. Weight in Grammes.	Spleen. Weight in Grammes.	Liver. Weight in Grammes.
583	J. R. B.	1,450	5	G*	4,900	880	880	.....	840	6,520
587	"	1,350	13	G	4,700	680	680	.....	920	6,040

* M—Male. F—Female. G—Gelding.

The lumbar portion of the cord was examined in a large number of cases and revealed no well marked lesions.

As to the microscopic lesions found in the various specimens preserved and brought to the laboratory, I do not feel that I can at the present time add to what has already been written on this disease. I have, however, in the various sections stained for trypanosomata been unable to detect any body which would lead me to believe that they or their involution forms, as at present understood, existed in the material examined.

I append hereto a table prepared at my suggestion by Dr. J. C. Hargrave, of Medicine Hat. This table gives the weights of the different organs in twenty-one cases examined by him at autopsy. For the purpose of comparison, I append the weights of the organs of two geldings killed on account of being affected with glanders (p. 74).

POULTRY DISEASES.

A number of fowls have been received at the laboratory during the past year, with the request that we determine the cause of death in each instance. In many cases the difficulty has been found to be due to a form of indigestion caused by overfeeding with a ration too rich in starchy material accompanied by too little exercise. In a number of instances the changing of the ration and limiting the amount of feed, with an increase in the amount of exercise, has wholly overcome the difficulty.

Tuberculosis is still a factor contributing to the death of fowls, and is one which poultry raisers should take every care to eliminate.

Intestinal parasites, including round worms and tapeworms, have been found, and the elimination of these parasites from poultry yards will lead to increased profits for the poultryman.

At your request, Mr. Elford, chief of the poultry division, Mr. Graham, poultry expert at the Ontario Agricultural College, and Mr. L. H. Baldwin, of Deer Park, Ont., visited the laboratory to determine whether or not we could render any service in the determination of the cause of 'white diarrhoea' in chickens. A thorough discussion of the subject, coupled with the information I was able to gather concerning the history of the affection from these gentlemen, led me to offer the opinion that the cause of the difficulty was in a large measure due to insufficient ventilation of the rooms in which the chickens were artificially hatched. To supply this fresh air the system which is to be incorporated in the new stable under construction was advised in view of the fact that a great deal of fresh air is required to supply the oxygen necessary for the lamps used in heating the machines together with that required by the eggs in the incubating chambers.

The opinion then given as to the cause of this affection has been substantiated by information obtained from various breeders of poultry, and I am still of the opinion that the ventilation of the rooms in which the artificial incubation is carried on, and the vitality of the eggs used, are responsible for the trouble rather than to a disease of an infectious nature. The care of the chicks after removal from the incubator may assist the causes already mentioned in hastening a fatal issue.

ENTERO-HEPATITIS IN TURKEYS.

There have been received at the laboratory a number of turkeys affected with entero-hepatitis, sometimes called black-head from the fact that the whole head of the bird turns black during the course of the disease. The affection was first described by Dr. Theobald Smith, in 1895, when chief of the Division of Pathology of the United States Bureau of Animal Industry. His report, which deals with the history, spread and cause of the affection, describes the parasite as an amoeba (*amoeba meleagridis*), which invades the system, causing an entero-hepatitis.

This parasite alone is undoubtedly the cause of the great decrease in turkey raising in Canada during the past few years resulting in the scarcity and high prices

at the present time. I have found the parasite in the livers and caeca on various occasions in material which has been received at the laboratory for examination. From the pressure of other work it has been impossible to take up this subject very fully although it is one which should be investigated with a view to the eradication of the affection.

Individuals interested in the raising of turkeys should, if their flocks are now free, take such steps as will insure their freedom from this devastating affection. This can probably best be done by introducing all new stock through the egg and not through the medium of live birds as is usually the case. If the disease has gained a foothold in the flock, birds which are diseased should at once be killed and the quarters which they have frequented should be disinfected thoroughly. The range contaminated by affected birds should be ploughed late in the fall.

THE BIOLOGICAL LABORATORY.

In 1902, this laboratory made its beginning in temporary quarters at the Imperial Building on Queen Street, in the heart of the city. Plans were prepared and operations at once commenced in the erection of a suitable building for laboratory purposes on grounds connected with the Experimental farm. This building has now been completed and a brief description is not out of place in this connection.

That a better idea of the structure may be obtained, I present a plan of the ground floor together with a photograph of the exterior and one of the interior of the main laboratory.

On the ground floor are situated the office, (1), the main laboratory (3), and a room (2), for the use of the laboratory assistants, a portion of which will later be used for special work where a north light is not required. Reference to this floor plan shows that the ground floor is exceptionally well lighted and especially is this the case with the north side of the building, an essential feature where microscopic work is required.

The basement contains rooms of the same size as those on the ground floor. One, that directly under the office, is fitted with a sink and is used for post mortems on small animals and the examination of material which may be sent for diagnosis. The arrangement is such that anything for examination can be passed through the window, the sill of which is only a few inches above the ground on the outside, to the table without carrying the material through any portion of the building. The room under the main laboratory supplies space for the gas machine and I anticipate that it will soon be possible to remove all of the toxine work to this room after the necessary fittings are placed. The room under (2), contains the heating apparatus for the building and a large stove used as an incinerator in which all material of an infectious nature received at the laboratory is destroyed.

In the attic are situated the photographic and dark rooms. The photomicrographic apparatus is located in the hall, and all appointments have been studied to reduce as far as possible unnecessary travelling to and from the dark room. There is also a large room at the end of the hall in which is now stored the nucleus of a museum. This museum will, I anticipate, be one of the features of our laboratory, as it will contain material for demonstration purposes in connection with the more common affections with which we have to deal. The north room in the attic is now used as a storeroom, which purpose it serves admirably.

The main laboratory (3 on the ground floor) deserves perhaps a fuller description than any other room in the building, as it is the one in which the major portion of the work is now carried on. The floor plan referred to and the photograph show the arrangement of the tables and sinks. The incubators are placed on a raised stand opposite the entrance. The tables are higher than those usually seen in laboratories devoted to similar work, being forty inches from the floor. This height enables one working with a microscope to stand with ease, and if the examination is a long one

a stool may be used. Another feature of the ground floor is the manner in which the doors are hung. All doors are supplied with spring hinges and swing both ways. This feature insures the closing of all doors, and avoids the drafts which otherwise are so difficult to eliminate.

The equipment of the laboratory needs no special mention in this connection, save the statement that it has been my constant aim to procure apparatus suited to the various requirements of the work, at all times avoiding unnecessary expense.

In conclusion, I desire to express my appreciation of the interest which you have constantly manifested in the work of the laboratory, and the encouragement given me in making this institution an integral part of the health of animals service.

I have the honour to be, sir,
Your obedient servant,

CHAS. H. HIGGINS,
Pathologist.

The Veterinary Director General,
Ottawa.

A. E. MOORE, D.V.S.

OTTAWA, October 31, 1905.

SIR,—I have the honour to submit to you this, my annual report, for the year ended October 31, 1905.

GLANDERS.

During the year I have tested with mallein, 204 horses, 38 of which reacted and were destroyed. I also killed without testing, 8 horses showing marked clinical symptoms of the disease.

There were twenty-eight ceased reactors which at your request I held from last year for further supervision. I retested them in due time, and fourteen gave a characteristic reaction again, and were destroyed, the other fourteen did not react and were released.

The reacting of these ceased reactors after the lapse of a year, would indicate that the curative effect of mallein is very unreliable. These 28 horses were completely isolated from others during the whole time that they were under supervision, so there was no possibility of reinfected from other sources. The temperature of horses that become permanent ceased reactors has usually never reached an extremely high degree at the first test. It has been my experience that if the temperature reaches over 104½° the animal is not apt to become a permanent ceased reactor. None of these cases that reacted at the end of the year showed the least sign of clinical symptoms at any time. In fact none of the horses that we retested had ever shown any clinical symptoms.

I performed careful postmortems on some of these ceased reactors, and in every case found very slight lesions of glanders, nearly all of which were confined to the lungs. In most cases the lesions were encysted. Dr. Higgins inoculated guinea pigs with these lesions and obtained positive results.

As most of the lesions were in an encysted form and as none of these horses ever developed clinical symptoms, it would appear that whereas the repeated injection of mallein is not reliable as a cure for glanders, it seems to check the disease to a certain extent. I know of many other cases which have been ceased reactors for two years and over and still do not show any clinical symptoms.

In co-operation with local inspectors, I have dealt with several large outbreaks of glanders in the province of Quebec, especially in the lumbering districts. Their custom of employing the farmers' horses for the winter months, the close stabling, and the unsanitary conditions, all favour the spread of the disease.

From the information obtained in dealing with these outbreaks, I am positive that glanders has existed for many years in both the provinces of Ontario and Quebec. It is gratifying, however, to find that where we have dealt with this disease a marked improvement is noticed. In the horses of one large firm where there are from 800 to 1,000 head employed and where glanders existed to a large extent, I have not seen a single case for many months. In this city where glanders was very prevalent two years ago, only a very few cases were reported this year.

SHEEP SCAB.

Acting on instructions from you, I proceeded, in December, 1904, to the county of Lambton to try and locate the origin of some cases of sheep scab detected among animals shipped from that district. I visited Inwood, Watford and Thamesville, and obtained the names of all the farmers who sold lambs in these particular shipments. With the assistance of Drs. J. H. Tennent and M. B. Perdue, all these farms were visited, and the exact origin of the disease located.

On January 1, at your request, I went to Buffalo to obtain all the information possible regarding the shipment of Canadian sheep to that market. Through the kindness of Dr. B. P. Wende, who conducted me through the stock yards, I received much valuable information. On my return from Buffalo I visited the customs ports at Bridgeburg and Niagara Falls for the purpose of ascertaining the facts regarding live stock exported at these points to the United States. The important information then secured was duly reported to you.

During our visits to the sheep owners of Lambton and Middlesex counties we obtained information which led to our finding other centres in both these counties and also in Kent. We traced the disease to the flocks of several prominent breeders, one especially having spread the disease to a large extent.

In the early spring I again visited the counties of Middlesex, Lambton and Kent, and with Dr. Tennent made a systematic inspection of all contact flocks, and any that were reported as suspicious. We quarantined and ordered the treatment of all contact sheep as well as of the diseased ones. From the one breeder above mentioned we traced the disease to thirty farms, as well as being obliged to quarantine thirty-six flocks for being in contact with his diseased sheep.

The affected flocks were quarantined during the winter and early spring when it was too cold to dip, being kept confined to as small quarters as possible until the weather moderated and we were ready to superintend the dipping.

You thought advisable that the dipping be done in our presence, and this I consider was of the utmost importance. The lime and sulphur dip was used. Both diseased and contact sheep were dipped twice at an interval of from ten to twelve days. After the first dipping the sheep were returned to their pens, these having been in the meantime disinfected. They were kept there until after the second dipping, when they were immediately put in fresh pens or turned to pasture. When the weather was warm enough they were all turned to pasture away from the infected premises, and left there all summer. This plan was adopted to prevent reinfection from the infected premises, which were sometimes very difficult to properly disinfect.

In July I revisited all the farms and inspected closely all the sheep that we had dipped and none showed any symptoms of scabies, their skins were in perfect condition as the dip killed all ticks and lice as well as the acari. Many of the owners were enthusiastic over the dipping and have constructed vats and intend doing it every year.

I then recommended a release from quarantine of all farms dealt with under my supervision.

SESSIONAL PAPER No. 15a

The following is a synopsis of the Sheep Scab I dealt with during the year:—

Province.	County.	Number sheep quarantined where disease was found.	Number farms quarantined where disease was found.	Number contact or suspected sheep.	Number farms quarantined for contact sheep, or suspected.	Origin of disease.
Ontario	Middlesex	322	16	250	14	Unknown.
"	Lambton	209	17	25	9	"
"	Kent	61	5	49	6	"
"	Wentworth	19	2	.....	.....	From Middlesex Co.
"	Huron	36	3	11	1	" "
"	Grey	63	2	.....	.....	" "
"	Perth	13	1	.....	.....	" "
"	Simcoe	.....	.....	9	1	" "
"	York	35	1	.....	.....	" "
"	Haldimand	.....	.....	98	5	" "
"	Norfolk	.....	.....	71	5	Unknown.
"	Frontenac	75	2	.....	.....	From Lennox Co.
"	Lennox	58	1	.....	.....	Unknown.
"	Wolfe Island	24	1	.....	.....	From N. York state.
Quebec	Berthier	39	1	.....	.....	From Middlesex.
	Total	954	52	513	41	

Total number sheep dipped 1,467
" " farms quarantined 95

TUBERCULOSIS.

During the year I have tested with tuberculin the following cattle :—

	No. tested.	No. reacted.	Healthy.
For export to South Africa	66	1	65
" Japan	21	3 and 1 suspicious.	17
" United States	2		2
	89	4 and 1 suspicious.	84

All the reactors were ear-marked. I also ear-marked at four different farms, 17 reacting cattle that were tested by local veterinarians.

MANGE IN HORSES.

Only a few cases of mange in horses have come to my notice this year. The outbreak in the vicinity of Vankleek Hill and Hawkesbury, Ont., where the disease was very prevalent last year, has been about checked. There were a few scattered cases outside the district we visited a year ago.

While I was at Chicoutimi regarding glanders, I examined several cases which were quarantined by Dr. Thos. R. DuChêne. I also examined several cases that were quarantined by Dr. Charles McEachran at Chambly, Que.

MANGE IN CATTLE.

As a result of a report received by you from Dr. M. C. Baker, that cattle fed at the Wiser distillery at Prescott were found affected with mange on their arrival at the C.P.R. stock yards in Montreal, I visited Prescott, but there were no cattle left. I

ordered the stables that the diseased cattle occupied as also the yards and chutes used in their shipment to be thoroughly cleansed and disinfected.

SUSPECTED MANGE IN CATTLE.

I visited a farm near Carleton Place, Ont., where cattle were reported as being affected with mange, but found the cattle to be suffering from ring worm and lice.

OTHER DISEASES.

Suspected glanders.—Several cases were reported which I found due to distemper, purpura haemorrhagica, and diseased teeth.

Suspected Black Quarter.—I investigated an outbreak at Fenelon Falls, Ont., of a disease which somewhat resembles haemorrhagic septicaemia. Nine cattle died. I advised isolation of the sick, and the carcasses all burned. After this was accomplished the disease stopped.

In April, 6 cattle died on a farm near Balmoral, Ont. At the time of my visit no animals were sick or recently dead, so I was unable to arrive at any definite diagnosis.

From time to time during the year I have co-operated with the local inspectors in settling special cases. This work has occupied a considerable portion of my time.

I have the honour to be, sir,
Your obedient servant,
A. E. MOORE.
Inspector.

The Veterinary Director General,
Ottawa.

M. C. BAKER, D.V.S.

MONTREAL, October 31, 1905.

SIR,—I beg to submit my annual report for the year ending to-day.

During the year the following animals were inspected by me and passed for export at the Canadian Pacific Railway stock yards, Hochelaga.

	CATTLE.				SHEEP.	
	N. West.	Ontario.	U. S.	Mexico.	Canadian.	U. S.
November, 1904	5,576	2,045	65	.....	6,402	.....
November to May 1905.	60	32	.....	.....	2,550	.....
May	987	5,840	2,550	.....	499	1,078
June	1,253	4,905	3,511	141	2,460	.....
July	6,409	3,644	2,298	.....	2,507	.....
August	9,747	4,382	2,739	.....	2,532	151
September	10,643	3,603	1,808	.....	5,304	123
October	13,710	1,467	2,044	.....	2,212	.....
Totals	*48,385	25,918	15,015	141	24,466	1,352

Total cattle for the year 89,459
Total sheep for the year 25,818

* 22,242 more than for year ending October 31st, 1904.

Of these, 8,664 head of cattle, 6,878 sheep, were shipped via Boston, and 1,934 head of cattle and 126 sheep via Portland, one bull and 274 sheep from Vermont, and 104 Canadian cattle were shipped to South Africa. 978 Canadian cattle were shipped to Havre, France.

During the year 154 head of cattle and 45 sheep were rejected as unfit for shipment.

Thirty-one cases of actinomycosis, nearly all from the Northwest ranches. 38 mangy, all in ranch cattle and shipped from the west last year, part of these were inspected in November, 1904, the balance were ranch cattle that had been fed in a distilery stable during the winter. These cases were reported at the time and every precaution taken to prevent the spread of the disease. This season only one case with a slight suspicion of mange, he was sent to the slaughter house. 6 cattle were totally blind, the balance of the cattle 74, and the sheep were suffering from lameness and injuries.

In November, 1904, I visited Megantic county and found a number of cases of contagious abortion in cows, recommended thorough disinfection. I was sent to Berthier county this summer to deal with an outbreak of scab in sheep, these were dipped twice, the premises thoroughly disinfected. The disease was entirely cured. I also, at the same place tested with tuberculin, 5 cows that were to be exported to Japan, no reactions.

I was also sent to Shawinigan Falls to investigate a supposed outbreak of hog cholera, found the disease to be due to local causes.

I am happy to be able to report that the stock yards at Hochelaga, have been very much improved, a solid plank floor has been put down, and when a few alterations are made in the sheds, which the railway authorities have promised will be done, the yards will be in first rate condition.

I have the honour to be, sir,
Your obedient servant,

M. C. BAKER,
Inspector.

The Veterinary Director General,
Ottawa.

CHARLES McEACHRAN, D.V.S.

MONTREAL, October 31, 1905.

SIR,—I beg to report that during the year commencing November 1, 1904, and ending October 31, 1905, there were inspected, found free from disease, and exported from Canada via the port of Montreal, 432 head of horses; seventeen horses were held back, 8 having strangles and 9 showing symptoms of influenza.

During the same twelve months via the port of Montreal, 694 horses were imported to Canada, viz.: 404 Clydesdales, 223 ponies, 40 Hackneys, 23 Shires, 2 French Coachers, 1 Suffolk Punch, and 1 English thoroughbred. All were inspected on their arrival, found free from disease and allowed to be landed.

From the 4th of January, 1905, until the 31st of October, I inspected at the market places here and found free from disease, 15,338 head of cattle, 18,632 sheep, and 46,279 hogs. During the past ten months I have visited regularly and inspected the horses in the sale stables and on cab stands in Montreal. I found three horses showing the clinical symptoms of glanders and had them destroyed. Twenty horses were tested with mallein, ten reacted to the test and were shot; the others were retested

within six weeks, were found to be free from the disease and set free from quarantine. During 1905, I came across two outbreaks of mange in horses. In Chambly Canton, 7 horses were affected, and in a dealer's stable in Montreal 2 bad cases were found. In both instances the premises were put in quarantine, the animals under my supervision were treated, and when considered cured, the premises, utensils, &c., were thoroughly disinfected.

I have the honour to be, sir,
Your obedient servant,

CHARLES McEACHRAN,
Inspector.

The Veterinary Director General,
Ottawa.

B. A. SUGDEN, D.V.S.

MONTREAL, October 31, 1905.

SIR,—I have the honour to report to you upon the inspection of live stock offered for export at the Grand Trunk Stock Yards, Montreal, for the period extending from November 1, 1904, to October 31, 1905.

During this time there were inspected and passed for shipment at the port of Montreal:—

Cattle, 42,772 head, of which 2,636 were from the United States. Sheep, 14,524 head, of which 3,188 were from the United States. Hogs, 150. Buffalo, 1 buffalo bull, shipped to South Africa.

The following Canadian stock were inspected and passed for export via Portland and Boston:—

Cattle, 22,944. Sheep, 20,868.

From the above were rejected 65 head of cattle of which 37 were affected with actinomycosis and 5 with mange; the balance were suffering from sore feet or injuries received during transportation.

There were also rejected 72 sheep on account of injuries or sore feet.

During the same period 25,147 head of United States cattle and 28,363 United States sheep passed through the yards in bond for Portland and Boston for shipment to British ports.

During the year I visited Abbotsford, Lacolle and Compton and tested with tuberculin, 12 head of cattle for export to the United States.

Two reacted, 1 at Abbotsford and 1 at Compton.

I have the honour to be, sir,
Your obedient servant,

B. A. SUGDEN.
Inspector.

The Veterinary Director General,
Ottawa.

SESSIONAL PAPER No. 15a

J. H. FRINK, V.S.

St. John, N.B., October 31, 1905,

Sir,—I beg to submit my annual report, covering work performed at this station.

INSPECTION OF LIVE STOCK FOR EXPORT TO GREAT BRITAIN.

Cattle.—30,903 cattle were inspected, 2 were condemned for actinomycosis, one from intestinal disease, one from cerebritis; thirteen were condemned for lameness and injuries, and two detained; 8,893 United States cattle were comprised in this number. The usual conditions prevailed regarding inspection. The stock-yards received marked attention from the railway authorities, and they were maintained in excellent condition during the winter, except the month of April, when the mild weather made it impossible to keep them to the standard, and the animals, after inspection and feeding, were allowed to proceed on board ship without detention. Considerable improvement is noticed in stock cars of Canadian Pacific Railway, being much larger than formerly, and fewer animals are placed in the cars, with the result that cattle arrive in much better condition for shipment. Animals are not infrequently bruised when unloading, due to defective landing platforms from the cars, and it is noticeable that cars fitted with landing platforms, hinged to the car doors, afford the safest means of exit. This may seem a comparatively small matter, but it can be safely said that very great injury must ensue to shippers from bruising of animals. A record was kept concerning the places from which cattle have been shipped for export from Ontario and the Northwest, and it would appear from this that the greatest export centres are Toronto, Woodstock, Ingersoll, Drumbo, Embro, Innerkip, Teeswater, Ontario, and Cayley, in the Northwest. A careful examination was made of Northwest Territories cattle for mange, but this was not discovered in any of them. The general class of this last-named was inferior, and no doubt made worse by the long railway haul, and nervousness under restraint. The cattle traffic at this port is somewhat congested, owing to all cattle-carrying steamships having the same sailing date (Saturday), and not infrequently three or four shiploads arriving on or about the same day. The stock-yards not having sufficient capacity for such large numbers, discretion has to be permitted in the matter of time allowance. This necessitates inspection work on Sunday through the whole season, and it might be very well dispensed with, at least in part.

Export to South Africa.—276 cattle were shipped to South Africa by liners running from this port. They were made up largely of milch cows, and were as a lot inferior in size and condition.

Sheep Inspected for Export.—16,304. Of these, 3,087 were United States sheep. Fourteen sheep were condemned for injuries received in transit, and twenty-nine sheep arriving in dying condition were ordered destroyed. As usual, opthalmia was present to a considerable extent in Canadian sheep forwarded. It is possible this condition may arise from ammoniacal fumes arising from excreta, as sheep cars are not infrequently unclean and manure and litter is often four or five inches deep in car bottoms. The advisability of having these cars cleansed and cleanly bedded before shipment, may be well considered. As animals affected with opthalmia suffer severely and of necessity lose flesh and condition. It is the custom to feed sheep very scantily in stock-yards here. It would be to the advantage of shippers if they received a more generous allowance of food.

Horses for Export.—213; 68 were shipped to Glasgow, and 145 to South Africa. Of this latter lot, 24 were classified as mules, and 37 ponies from Mexico. All were inspected and found free from disease.

EXPORT CATTLE TO UNITED STATES.

Twenty-four milch cattle were inspected and tested for shipment to the United States, coming from the vicinity of Sussex, N.B., one reacting animal was earmarked permanently, and shipment of it forbidden.

INSPECTIONS IMPORT LIVE STOCK. (CATTLE.)

Twenty-six head of pure-bred cattle were imported from Great Britain, two born in quarantine. These animals were kept in quarantine the prescribed period, tested with tuberculin, and at the termination were discharged. Four animals reacted to the tuberculin test and were permanently earmarked.

Of the breeds imported, nine were West Highland cattle, nine Shorthorns, three Galloways, five Polled Angus.

Horses.—Forty-one pure-bred horses were imported from Britain, 33 Clydesdale and Shire, 6 Hackneys, 2 Thoroughbreds. All were in good health, and with one exception were provided with the necesasry health certificates; were allowed to proceed.

IMPORTS FROM UNITED STATES.

Ten head of cattle (pure-bred) were imported from United States. One animal from New York state without satisfactory tuberculin chart and certificate, was detained in quarantine one week, tested, passed and allowed to proceed. Some 5 head quarantined 15 days and allowed to proceed—sheep 1, goats 2.

Live Stock exported from Port of St. John, N. B., to Great Britain from November 1, 1904 to date.

Canadian cattle	21,734
" sheep	13,217
" horses	68
United States cattle	8,893
" sheep	3,087
	46,999
Total cattle shipped to Great Britain	30,627
" sheep " "	16,304
" horses " "	68
Export to South Africa—	
Canadian cattle	276
" horses	108
Mexican horses	37
	421
Export to United States—	
Canadian cattle	23
Live stock imported from Great Britain—	
Cattle	26
Horses	41
Live stock imported from United States—	
Cattle	10
Swine	5
Sheep	1
Goats	2

CONTAGIOUS DISEASE.

Mange.—Last year quite a serious outbreak of mange in horses occurred in this vicinity, and it was thought from all evidence, that it had been eradicated. It first made its appearance this year in a number of horses which had returned from a lumber camp in the interior. The stables had been cleansed and disinfected, and the different animals placed under quarantine and successfully treated. The difficulty in dealing with this disease is the concealment of a case or two, and as a result a general infection of animals with which it may come in contact. Immediate notification by the owner or agent of the presence of the disease to the inspector—in accordance with the Act—would prevent this.

Tuberculosis.—The testing of animals with tuberculin has been somewhat restricted. The only animals tested by me being those in quarantine at St. John, arriving there from Great Britain and the United States, a carload of cattle for export to the United States, and the testing of cattle at the experimental farm, Nappan, Nova Scotia.

At this establishement sixty-three animals were tested, 45 were classified as diseased, 2 suspicious.

GLANDERS.

A letter was received by me from the Provincial Commissioner of Agriculture stating that information had reached him that an animal was suspected of glanders in Charlotte county, New Brunswick. Investigation revealed the fact that the animal had paralysis of the pharynx, due to cerebral disease, the inability to swallow, with the food being returned through the nostrils. This condition, with the gradual wasting of the animal, excited fear and suspicion, which was unfounded.

I have the honour to be, sir,
Your obedient servant,

JAMES H. FRINK,
Inspector.

The Veterinary Director General,
Ottawa.

WILLIAM JAKEMAN, D.V.S.

HALIFAX, N.S., October 31, 1905.

SIR,—I beg leave to submit the following statement of animals inspected by me during the past twelve months.

On instruction by telegram from you, on April 5, 1905, I visited Truro, N.S., to examine horses which arrived from Boston and said to be diseased. I did so and learned that of seven horses from Boston, two had died from what I believe to be pneumonia, the remaining five were suffering from influenza.

April 6th. On instruction by telegram from you requesting me to visit Bear River, N.S., and investigate a disease said to exist there. On my arrival there, I visited Joseph Warren and learned that two cows died the previous week from impaction of the third stomach.

EXPORTS from Halifax to the following countries:—

	Cattle.	Horses.	Sheep.	Swine.
Great Britain	600	..	..	..
Bermuda	20	65	898	14
West Indies	..	5	67	..
Jamaica	23	10	278	..
Newfoundland	24	3	13	13
United States	..	7	..	7
Trinidad	..	..	27	4
Barbados	5	10	12	..
Total	672	100	1,295	38

IMPORTATION at Halifax from the following countries:—

	Horses.	Mules.
Great Britain	33	..
United States	9	..
Bermuda	..	3
	42	3

I have the honour to be, sir,
Your obedient servant,

WM. JAKEMAN,
Inspector.

The Veterinary Director General,
Ottawa.

A. A. LECKIE, M.R.C.V.S.

CHARLOTTETOWN, P.E.I., October 31, 1906.

SIR,—I beg to inclose the following report of work for year just ending, November 1, 1905.

28 horses, 1,296 cattle, 4,400 sheep, 10 swine, have been exported, distributed as follows:—

18 cattle, 2,049 sheep, to England.
16 cattle to the West Indies.
5 horses, 1 calf, 6 sheep, to the United States.
23 horses, 1,261 cattle, 2,345 sheep, to Newfoundland.

The outside work in connection with the Dominion government has been thus:—

On June 3, 1905, I received word from Ottawa to proceed to O'Leary to investigate a supposed outbreak of contagious disease among cattle. After a careful examination of the same, I came to the conclusion that the feeding was the cause of the trouble—a not quite sufficient amount of nutritious diet being provided,

their chief sustenance being from salted straw and water. The water being given somewhat irregularly, on account of the storms, caused an increased quantity to be taken, causing acute diarrhœa, leading to dysentery. This was the condition in which I found the sick cow, which was at pasture. The other looked in good shape.

On July 14th, I received word to investigate a case which had been reported, suspected glanders, the animal the property of a gentleman at Middleton. On test with mallein she was considered suspicious, but, on retest, showed no reaction. This mare is an excellent case of neglected disease in frontal sinus. Had she been trephined earlier, the operation might have done some good. She has been able to raise her foal, which she certainly would not have done had she not worn a tracheotomy tube. She showed no symptoms denoting infectious or contagious disease.

During August of this year, I was called to see a cow, at East Royalty, supposed to have lump jaw. On examination, I diagnosed an advanced case of tuberculosis, and advised owner to have his herd tested, which he did. His brother also thought he would have his cattle tested at the same time. They were tested with tuberculin, and the result of the test is known at Ottawa. I have done my best to interest the local government of this island in this matter, but there seems to be no wish to deal with the trouble. Our city authorities have made a move in the matter, causing each one supplying milk to the city to show a clean bill per tuberculin test for each cow in use. This is an excellent move and will, at least, help to keep the dairymen on the watch for any sign of the disease.

So far as the tuberculin test is concerned, I wish to express an opinion with regard to its use. As a diagnostic, it is valuable to show (not that animals reacting are all affected) but a condition of constitution, which, in the presence of tubercular bacilli, would soon succumb to the disease. The animal which does not react will, to a certain extent be immune, at least for a time, as in vaccination for smallpox there are individuals on whom the vaccine does not take, these would be considered immune. As the tubercular test is therefore useful to show us the cows which would be the first to succumb, it will give the dairyman an oportunity to clear out those which show this weakness, and to build up his herd from the more highly vigorous cattle. Should the immunizing of cattle by the Von Behring method prove successful (it being a preventative serum, prepared with live culture) one of the grandest finds ever discovered will have fallen to the lot of the agriculturist. It seems to have been successful so far, with calves inoculated twice in the first six months of their lives, turned loose with tuberculosed cattle, kept in their midst for three or four years, on being slaughtered, showed no symptoms of the disease, while others in their midst, not vaccinated with the Von Behring vaccine, and slaughtered, were found tuberculosed. It certainly looks bright for the discoverer, and it is to be hoped that some one will be successful in producing some method of immunization, or way in which to deal with this disease, more suitable and easier to manage than we have at present.

I have the honour to be, sir
Your obedient servant,

ANDREW A. LECKIE,
Inspector.

The Veterinary Director General,
Ottawa.

J. A. COUTURE, D.V.S.

ANIMAL QUARANTINE STATION,
QUEBEC, October 31. 1905.

SIR,—I have the honour to transmit my annual report of the operations of the Pointe Lévis Animal Quarantine for the twelve months ending on the 30th of October last.

The total number of animals imported through this station is 518 being:—

Cattle	52
Sheep	342
Swine	74
Goats	17
Horses	33

BREEDS OF THE ANIMALS.

The different breeds are represented as follows:—

Cattle.

Jerseys	3
Galloways	5
Ayrshires	16
Shorthorns	28
	52

Sheep.

Leicesters	5
South Downs	17
Oxford Downs	22
Cotswolds	22
Dorsets	23
Hampshires	63
Cheviots	70
Shropshires	120
	342

Swine.

Yorkshires	21
Berkshires	53
	74

Goats.

Breeds unknown	17

Horses.

Carriage	2
Welsh ponies	2
Ardennais	9
Clydes	20
	33

The animals have been imported by the following parties:—

Cattle.

Mrs. F. L. Cartwright, Napanee, Ontario, three Jerseys.
W. D. Flatt, Hamilton, Ontario, five Galloways.
R. R. Ness, Howick, Quebec, sixteen Ayrshires.
Sir William Mulock, Toronto, one Shorthorn.
Arthur Johnston, Greenwood, Ontario, two Shorthorns.
Robert Miller, Stouffville, Ontario, seven Shorthorns.
H. J. Davis, Woodstock, eighteen Shorthorns.

Sheep.

Robert Miller, Stouffville, Ontario, five Leicesters, eight South Downs, fourteen Cotswolds, five Hampshires, one hundred and two Shropshires.

John Milton, Marshall, Michigan, nine South Downs, eight Cotswolds, fifty-one Hampshires.

Henry Arkell, Arkell, Ontario, twenty-two Oxford Downs.
W. G. Appleby, Birmington, Vermont, twenty-three Dorsets.
Robson Bros., Hall's Corner, New York, seven Hampshires.
Thos. Oliver, Maple Creek, Saskatchewan, seventy Cheviots.
John Dryden & Son., Brooklin, Ontario, eighteen Shropshires.

Swine.

D. C. Flatt & Son., Millgrove, Ontario, twenty-one Yorkshires.
Robert Miller, Stouffville, Ontario, two Berkshires.
W. H. Durham, Toronto, fifty-one Berkshires.

Goats.

Chs. Demey, Maisonneuve, Quebec, seventeen goats.

Horses.

Vesey Boswell, Quebec, one carriage horse.
M. Major, Quebec, one carriage horse.
Robt. Miller, Stouffville, two Welsh ponies.
Baron de Lepine, Quebec, nine Ardennais.
Agricultural College, Nova Scotia, twenty Clydesdales.

Destination.

Of these animals there went to the United States:—5 cattle and 98 sheep, and the balance, viz.: 47 cattle, 244 sheep and all the swine, goats and horses remained in Canada.

The province of Nova Scotia imported twenty Clydesdale horses.

The province of Quebec imported sixteen Ayshire cattle, nine Ardennais horses, two carriage horses, seventeen goats.

The province of Ontario imported three Jersey cattle, twenty-eight Shorthorn cattle, 174 sheep.

The province of Saskatchewan imported seventy sheep.

The quarantine grounds are in good order, the stables and fences are in good condition. However, some minor repairs would have to be done next year so as to keep everything in good condition.

I have the honour to be, sir,

Your obedient servant,

J. A. COUTURE,
Superintendent.

P.S.—I may mention that eight cattle reacted to the tuberculin test.

J. A. C.

The Veterinary Director General,
Ottawa.

W. H. PETHICK, V.S.

ANTIGONISH, October 31, 1905.

SIR,—I have the honour to submit a report of the investigations into the cause of the Pictou cattle disease, conducted at the government experimental station, Antigonish, during the year just ended. Before dealing with the experiments, which I have had the honour of conducting under your direction, I beg liberty to offer a few general remarks on the subject.

The early history of Pictou cattle disease, we must confess, is somewhat shrouded in mystery, but from careful inquiry of the older inhabitants, we learn that the disease first made its appearance in the town of Pictou about fifty years ago.

Mr. Connell, of the Customs Department, remembers the first outbreak. The older people interviewed all claim that the plant 'ragwort' (*senecio jacobea*) had by this time a footing in that town. They say that the weed was imported in ballast from Europe and landed at Hatton's wharf, and, at an early date, was believed to be the cause of the new cattle disease, and so firmly was this believed, that Mr. Gordon, who was then street commissioner, imposed a fine upon those who did not destroy the weed found growing in front of their lands.

We are told that from the town of Pictou, the weed spread to West River, thence to Greenhill, New Glasgow, Fraser's Mountain, Merigomish and along the gulf shore into Antigonish county as far east as Cape George. We are told that the disease followed, and in no instance did the disease overstep the weed limit, and where there was no weed, no disease existed.

Upon looking at the accompanying map, you will see the extent of the present weed area. The portion shaded, shows, where it exists as a troublesome agricultural weed, that is, in pastures and hay-fields, and as a stray plant along the roadside and railway, it probably extends over nearly the whole of Pictou and Antigonish counties, and is making some progress into the northern part of Guysborough county.

The spreading of the weed to a greater distance east of Pictou than to the west, is accounted for by the fact that the prevailing winds here in winter are from the northwest. The heavily shaded portion, indicates the territory where the cattle disease exists.

A notable feature in the spread of the disease is a tendency to remain stationary in a locality for perhaps a year or more, and then extend somewhat rapidly taking in a few more miles of territory, and again becoming stationary.

I have not an opportunity of obtaining very accurate statistics. Dr. William McEachran states in his report, that up to 1881 one thousand three hundred and ninety-

six head of cattle had died, and during that year two hundred and three animals had succumbed. This seems to have been the greatest mortality in any one year to that date. Since then, if we can say that a considerable number of cases are not reported, we might estimate the average yearly mortality at two hundred head.

When this disease visits a farm, it remains for years, or, until 'ragwort' is eradicated, causing the loss of from one to six or eight head annually. On some farms, the total loss in fifteen or twenty years has exceeded sixty head; on some the entire stock has been lost, and upon restocking, has been lost again; on some the loss was so heavy, that stock-keeping had to be abandoned.

Heretofore the disease was believed to be confined to portions of Pictou and Antigonish counties, but in August, 1903, it was discovered near Souris, P.E.I. 'Ragwort' is also growing abundantly in this district, and from the evidence of farmers who have lost cattle, it is evident that the disease has during the last seven or eight years been accountable for the loss of sixty or seventy head in this locality.

Our suspicion that the disease also exists near Alberton, P.E.I., where 'ragwort' has also a footing, was confirmed last summer, and we have good reasons to fear that this troublesome malady exists undiscovered in localities, both on the island and mainland.

Although some valuable information has been gained through the investigations conducted at different times by Professor William Osler, Professor Adami and the late Dr. Wyatt Johnson regarding the morbid anatomy of the disease, the cause remained a mystery. The popular opinion that the disease was due to the eating of 'ragwort' had led to some feeding experiments being conducted under the supervision of Dr. William McEachran. These experiments, so far as they extend, gave negative results, and the plant was consequently pronounced innocent, and the old theory that the disease was due to some unknown contagion was adhered to.

Fortunately you visited eastern Nova Scotia in 1902 and realizing the disastrous effect of this disease upon the live stock interests of the affected counties, decided to establish an experiment station within the disease area where the disease could be studied, and feeding and other experiments conducted, and continued for a sufficient length of time to make the result conclusive.

You, sir, have already a perfect knowledge of the result, and indeed, every detail of the work at this station. But, the probability that this report may be read by many interested people, and as it seems to me very important that the most sceptical should be convinced that the cause of Pictou cattle disease has at last been settled beyond a doubt, to the end that a united effort be made to exterminate the plant 'ragwort,' which besides being accountable for cattle disease, grows at the expense of useful fodder plants, and is an enemy of the agriculturist in every sense of the word, I beg leave to give a detailed account of the different experiments, which I have had the honour of conducting under your direction.

Before doing so, I would say that many different theories have been advanced, both by the learned and unlearned, regarding the cause of Pictou cattle disease. Some claim that the causative agent exists in the soil of certain localities, in the form of a micro-organism. Others, that it exists in the body of the animal. It was thought by many that infected stables were accountable, while others were of the opinion that actual contact was necessary for its spread. A few pointed to the possibility of inoculation being accountable, but by far the greater number looked upon 'ragwort' with suspicion, but these again were divided, some claiming that the injury was done while the animal was at pasture on 'ragwort' land; others that the weed was only injurious when mixed with the hay and fed during the winter months. A few believed that the plant, if cut before flowering, was innocent. Nearly all were of the opinion that good or poor feeding rendered animals more or less liable to the disease, many claiming that good feeding gave complete protection.

Your wisdom in investigating the cause, with each of these theories in view is

obvious, and those who will read this report to the end will find their opinion either confirmed or negatived by a thorough and practical experiment.

In order that the records of the experiments may be the more complete, I have thought well to copy in part from my report of last year's work, and have added thereto the additional information gained, giving the results to date.

Experiment No. 1.

The object of this experiment was to ascertain whether the disease was communicable through the medium of infected stables, if so does feeding good or poor render the animal more or less liable to contract the disease.

In this test sixteen animals ranging from one to five years old were employed. They were housed in an old frame stable, in which thirty-six head of cattle had previously suffered from Pictou cattle disease. The building was not disinfected, or any precautions taken to guard against infection from that source.

These animals were fed upon hay absolutely free from 'ragwort' imported from Quebec.

These were subdivided into lots of four, and the following daily ration allowed.

A—D, full hay ration with four pounds grain mixture.
E—H, full hay ration with two pounds grain mixture.
I—L, full hay ration without grain.
M—P, restricted allowance of hay without grain.

While all these animals were during the first summer pastured on land comparatively free from 'ragwort' this season eight members of the herd, namely, (A), (B), (E), (F), (I), (J), (M) and (N) were grazed, not only upon weedy pasture, but on one in which no less than fourteen head of cattle had died of cattle disease within five months.

All the members of this herd remained in perfect health during the entire test which extended over twenty three months, the younger ones growing nicely and looking slick and thrifty. While all were at the time of sale in good market condition, those which had received a grain ration were prime butcher's cattle.

In accordance with your instructions, all these animals except (C), (E) and (F) which were held over because of advanced pregnancy were slaughtered between October 10 and October 31 under my inspection. A careful post-mortem examination revealed nothing abnormal. Specimens of different organs from each were forwarded to the Biological Laboratory, Ottawa.

The pathologist's report confirms my opinion, that all were healthy.

In order to avoid the possibility of criticism or doubt on the part of any, the animals were slaughtered in the presence of experienced butchers, who agreed that all the organs were healthy, and the flesh of that good colour which characterizes healthy beef.

Experiment No. 2.

To decide whether the disease is due to the ingestion of 'ragwort,' if so, does good or poor feeding render more or less liable to disease.

The sixteen animals employed in this test were procured from well outside the disease area, and housed in a new isolated stable built for the purpose. They have never since been in contact with other animals, or exposed to outside contagion. It will be noticed that while all were fed on hay containing 'ragwort' every four received a different ration as follows :—

1—4, sufficient hay containing 'ragwort' four pounds grain mixture.
5—8, sufficient hay containing 'ragwort' two pounds grain mixture.
9—12, sufficient hay containing 'ragwort' without grain.
13—16, a restricted allowance of hay containing 'ragwort,' without grain.

As this experiment is most important, I beg leave to give a separate record of each animal during the entire test. As this must of necessity be brief, I shall only mention conspicuous symptoms and post-mortem lesions.

Animal No. 1.

A steer two years old,* native breed, average size.

This animal fed well, and appeared in good health until May 1, 1905, when premonitory symptoms of Pictou cattle disease were observed, and in the use of the term, I beg to say that our experiment goes to show that this disease is progressive and runs a much more chronic course than previously believed, and to the careful observer who takes pains to become familiar with the appearance and disposition of each animal under his care, certain premonitory symptoms may be observed in some instances months before the more characteristic symptoms are manifest.

In this case, as indeed in nearly all others, we noticed a peculiar bleached appearance of the hair, which seemed to have lost its lustre, a desire to be alone, irritation of temper or nervousness, occasional chills, although in a moderately warm stable. This animal would stand and shiver, while the healthy members of this herd appeared comfortable. The bowels are irregular, the pulse at this stage is fast although quite strong, temperature slightly above normal.

On May 16 the more characteristic symptoms set in, visible mucous membrane pale, eyes amaurotic, slight diarrhœa, emaciation.

June 3.—Symptoms much aggravated, very weak, staggering gait, pulse 81, temperature 100.

June 11.—Unable to rise. Died on June 14, 1905, being eighteen months and seven days from beginning of experiment, and forty-four days after first symptoms were noticed.

Post-mortem.—Noticed muscles pale, abdominal cavity contains about three gallons dropsical fluid, marked wasting of mesenteric and omental fat, which is saturated with fluid, rumen half full of food, mucous coat very dark, sub-mucous coat dropsical. The second and third stomachs are partly filled with food, the muscular coat of abomasum is thin and covered with blebs of serous fluid, mucous coat saturated with fuid and dotted here and there with ulcers, some ulcers are recent, some few are healed with scar tissue. The liver is normal in size, somewhat mottled. The capsule is very adherent and the pulp appears cirrhotic. The gall bladder is much enlarged, and walls thickened, all the other organs appear fairly normal. Pathological specimens were forwarded to the Biological Laboratory.

The pathologist's report confirms my diagnosis, and to avoid repetiton, I may just say here that specimens of liver, kidney, spleen and lymph glands, and when necessary, stomach and other organs were forwarded for examination to the Biological Laboratory, and in each instance the pathologist found lesions of Pictou cattle disease, thus leaving no room for doubt as to the cause of death.

Animal No. 2.

Steer, two years old.—This animal appeared to be in good health, feeding well until February 7, 1905, when we find the following entry:—

Not doing well, variable appetite, rather unthrifty, the hair appears as though greased, and when rubbed the wrong way, shows much irritability of temper. If turned out he will stand and shiver. The temperature as is usual at this stage is slightly above normal.

April 1.—The animal exhibits severe nervous disturbance. When at large is almost constantly in motion. Temperature 103, pulse 80. For some days some improvement is shown, but on April 17th visible cerebral symptoms are exhibited, the animal running madly about, the eyes are exceedingly amaurotic, blood extravasations into the conjunctiva is noticed.

* The ages given are those of the animals at commencement of experiment.

April 23.—Appetite gone, much muscular inco-ordination.

April 25.—Animal is now lying down and seems indifferent to surroundings. Temperature has fallen to 99. Died on April 30, 1905, of Pictou cattle disease, being seventeen months and six days from beginning of experiment, and eighty-two days after first suspicious symptoms.

Post-mortem shows gross lesions, very similar to that of No. 1, but in this case the abdomen contains only a very small quantity of ascitic fluid, very little abdominal fat, layers of gelatinized fluid cover the visible viscera. Blebs of fluid standing out on omentum, the true stomach shows many ulcers, mostly old, the liver is slightly large and gray in appearance, spleen is normal in size, but darker than usual, heart and thoracic viscera are normal.

Animal No. 3.

A heifer rising two years old, average size.—This animal was a good feeder and quite thrifty, growing nicely until April 1, 1905, when she exhibited dullness, variable appetite, mucous membrane pale, slightly yellow, eyes prominent and bright, temperature slightly above normal, but rapidly falling when exposed to cold, pulse 50 and strong, little change noticed, except the progressive emaciation, which I may say is an almost constant feature of the disease, until May 13, when change for the worse takes place rapidly. Diarrhœa sets in, temperature falls to 99, pulse quick and weak, she gets up with difficulty, hind quarter seems paralysed.

May 18.—Body is covered with cold sweat, abdomen very pendulous, the submaxiliary tissue is dropsical.

May 23.—There is twitching of muscles, an occasional tenesmus. Died of Pictou cattle disease May 30, 1905, being eighteen months and six days from beginning of experiment and sixty days after first indication of disease.

Post morten.—The flesh is pale, and of slightly yellow colour. There is much asciates. The omentum is saturated with fluid. The coats of stomach are œdematous. considerable ulceration of true stomach, ulcers appear recent. In this case there is fluid under the mucosa of all the intestines, liver is somewhat small, substance shows fibrous bands, gall bladder very large, contains eighteen ounces dark green bile, kidneys are very pale, pericardial sack contains five ounces fluid.

Animal No. 4.

Heifer, one year old.—This was a very thrifty animal, and continued in apparently perfect health until June 19, 1905, when primary symptoms of cirrhosis set in. The more acute symptoms developed rapidly. By the 28th of June she had lost much flesh. Diarrhœa was not constant, appetite gone.

July 6.—Temperature slightly sub-normal, pulse very intermittent. The skin and visible mucous membranes are of a decidedly yellow tinge. The eyes though amaurotic were not so bright as noticed in some other cases. There was swelling of the lower eye-lids.

July 10.—Lying down, occasional tenesmus, temperature has fallen to 98.

July 15.—Died of Pictou cattle disease, being nineteen months and twenty-one days from beginning of experiment, and twenty-six days from beginning of sickness.

Post mortem examination reveals the usual gross lesions, ascites is very marked, and the mesenteric fat is decidedly yellow. The mucosa of abomasum hangs in loose folds, containing many ulcers. Many of these are pigmented. The mesenteric lymph glands are much enlarged and soft, the spleen pulp is very dark, the liver, though normal in size, is exceptionally tough and shows fibrous bands.

Animal No. 5.

Steer two years old, native breed, not a very good feeder, of a nervous temper and did not thrive as well as some of the others. He was apparently healthy until

February 2, 1905, when he began to lose flesh and had the appearance of a poorly kept animal. Other suspicious symptoms developed and by the 22nd March we were able to diagnose the disease as cirrhosis. Except for progressive emaciation little change was noticed until April 25, when he became decidedly worse. The symptoms became more pronounced. On May 12 he developed violent cerebral symptoms, was almost constantly in motion, occasionally shaking his head. Sometimes he would stop to take a bite of grass, but appeared unable to swallow (probably due to spasm of œsophagus). The amaurotic condition of the eye was very pronounced. Extra flexion of the knee, which I may say is fairly constant symptom, was very noticeable, the feet being raised higher from the ground than usual. The action, however, is slow, and the animal seems to hesitate at every step.

On the 21st he seemed to have gained new strength. Cerebral symptoms were aggravated, the animal running madly about until completely exhausted. He died May 23, 1905, being seventeen months and twenty-nine days from beginning of experiment and seventy days from date of first reliable symptom.

Post mortem examination revealed the usual gross lesions. There was not, however, so much ascites, nor was the gall so large as noticed in other cases, but the liver pulp was very gray. There was also much ulceration of the mucosa of abomasum.

Animal No. 6.

Steer two years old, small. This animal appeared perfectly normal until July 9, 1905, when he exhibited first symptoms of cattle disease.

On August 1 the more acute symptoms developed. In this case which was the quiet or dull type, which I may say is the form usually met with in weak subjects, the animal would be found in a fence corner standing quiet or lying down, showing no inclination to join the herd, but rather a desire for concealment.

August 5.—Diarrhœa has set in and the temperature is sub-normal 98⅘. The respiration is deep, twenty to a minute, pulse 81. The eye is not so bright as in other cases, and there is no hemorrhage into the conjunctiva. The lower eye-lids are much swollen and there is evidence of much ascites.

August 10.—Now lying down. The body is covered with cold sweat. Sticky saliva escapes from the mouth at intervals.

August 11.—Semi-comatose. Died August 12, 1905, being twenty months and nineteen days from the beginning of experiment, and thirty-four days from the date when first symptoms were observed.

Post-mortem examination shows the usual lesions. There was much ascites (fully six gallons). The abdominal fat was replaced with layers of jelly like lymph. The small intestines contained a considerable quantity of sand (this we have noticed in many cases). The stomach ulcers are much pigmented.

Animal No. 7.

Heifer one year old, average size. This animal showed no signs of illness until April 1, 1905, when we noticed the first symptoms of cattle disease. She, however, continued to feed well, and kept quite strong.

On June 5 the characteristic symptoms developed abruptly, which were similar to those exhibited by animal No. 5. She died June 15, 1905, being eighteen months and twenty-two days from beginning of experiment and seventy-six days from date of first symptom.

Post mortem examination showed a typical case of Picton cattle disease.

Animal No 8.

Steer, one year old, average size. This animal appeared to be healthy until July 15, 1904, when I noticed the following entry :—

Not feeding well, losing flesh, and on August 8 slight diarrhœa and usual symptoms of Pictou cattle disease.

Sept. 1.—The acute symptoms (similar to No. 1) had developed. Died on September 7, 1904, being nine months and fourteen days from beginning of experiment and fifty-four days from beginning of sickness.

Post mortem examination showed a well developed case of Pictou cattle disease, the only peculiar feature being the presence of considerable abdominal fat. This, however, is soft and yellow. The liver was smaller than usual and apparently very cirrhotic.

Animal No. 9.

Steer one year old, small. This was a very good thrifty animal until May 30, 1905, when he presented the usual symptoms of cattle disease.

About June 20 he seemed to improve somewhat in appearance, but by July 21 he developed the characteristic symptoms already described. These were, however, of the quiet type and he lingered along failing every day. He died on August 21, 1905, being twenty months and twenty-eight days from beginning of experiment and eighty-two days from date of first symptom.

Post mortem examination showed the usual pathological changes resembling those noted in case No. 3.

Animal No. 10.

A heifer one year old. This animal was rather thin but appeared healthy until April 2, 1905, when first symptom was noticed. On April 12, diarrhœa and other acute symptons set in (similar to case No. 6). Died June 2, 1905, being seventeen months and nine days from beginning of experiment and sixty-one days after first symptom of disease.

Post mortem examination showed the usual lesions.

Animal No. 11.

Steer one year old, average size. This was a thrifty animal until April, 1904, when the usual premonitory symptoms were noticed. On May 1 the more acute symptoms developed. This, however, was a very chronic case. He would for a few days appear much better, then a return of the symptoms, and he would lose more than he had gained. He continued in this way throughout June and July.

On August 1 the symptoms became more severe, the animal becoming very weak.

On August 26 the temperature had fallen to 97. Died on September last, 1904, being nine months and eight days from beginning of experiment and one hundred and twenty-three days from date of diagnosis.

Post mortem examination revealed the characteristic lesions of Pictou cattle desease, but no change was worthy of special notice, the liver to the naked eye showing much fibrosis.

Animal No. 12.

Steer one year old. This was a strong, healthy animal and a good feeder. He never gave evidence of sickness, and kept in fair flesh, however, he did not seem to grow as well as might be expected. He was killed on October 24, 1905, being twenty-four months from beginning of experiment. All the organs appear healthy to naked eye, except a few ulcers on mucous coat of abomasum. Dr. Higgins has found upon microscopic examination a slight deposit of connective tissue around the bile duets with the usual pericellular extension, as well as other characteristic changes in the liver, and although this deposit was so slight that it would be impossible to detect its presence except under high power. Yet the result of this examination proves con-

clusively that this animal, also, was affected with Pictou cattle desease although not exhibiting any clinical symptoms.

This, I beg to say, is but another instance of the great assistance your inspectors derive from the Biological Laboratory under such capable management.

Animal No. 13.

Steer, one year old. The animal appeared in good health until about January 3, 1905, when he began to lose flesh. By February 1 the premonitory symptoms had developed, these becoming more pronounced until April 11 when the more acute symptoms were observed. Died on May 20, 1905, being seventeen months and twenty-six days from beginning of experiment and one hundred and twenty days from first symptom of disease.

Post mortem examination showed the usual gross lesions of Pictou cattle disease.

Animal No. 14.

Heifer one year old. Appeared in good health until about April 17, 1905, when first symptoms of cirrhosis were observed. The more characteristic symptoms developed about May 29. Appetite was very irregular, hind quarters became weak and paralyzed. On June 17 she became semi-comatose, pulse intermittent, temperature 99. Died on June 10, 1905, being eighteen months and twenty-six days from beginning of experiment and sixty-three days from date of first symptoms of disease.

Post mortem examination showed organs to be in much the same condition as that of No. 1.

Animal No. 15.

Heifer, one year old. This animal was very thrifty. Early in June she began to lose flesh, but fed well until June 17 when the acute symptoms (similar to No. 5) developed. Violent cerebral symptoms were noticed.

On June 16 she broke from the enclosure, becoming dangerous. Was shot on June 16, being nineteen months and twenty-two days from beginning of experiment and nine days after first symptom was noticed.

Post-mortem examination revealed the usual lesions. There was not much ascites, but the mucosa of the true stomach was much ulcerated and the liver very cirrhotic.

Animal No. 16.

Heifer one year old. This animal appeared perfectly normal until June 2, 1904, when we observed the first symptoms of the disease. The more acute symptoms developed abruptly. These did not vary much in character from those exhibited by No. 3. She died July 19, 1904, being seven months and twenty-six days from beginning of experiment and forty-seven days from date of first reliable symptom.

Post-mortem examination showed this to be a typical case of cattle disease. There was fully five gallons of ascitic fluid in the peritoneal cavity, while the stomach and liver gave the usual lesions.

THIRD EXPERIMENT.

To ascertain if the feeding of 'ragwort' (which had been separated from the hay with which it was growing and thoroughly cured) would produce the disease.

This test was conducted in a new stable, the subjects being two two year old steers, quite healthy, about same size and weight. Animal No. 17 steer two years old was fed twice daily on chopped 'ragwort' with a little bran, while animal No. 18 was fed twice daily on chopped oats straw with very little bran. Although somewhat thin No. 17 was

bright and aparently healthy until July 14, 1904, when symptoms of cattle disease developed abruptly, characterized by severe nervous disturbance and loss of power of the limbs, palpitation, rapid action of the heart, sub-normal temperature and extreme emaciation. Died on July 22, 1904, being seven months and twenty-eight days from beginning of experiment and eight days from date of first definite symptom.

Post-mortem examination revealed a well developed case of Pictou cattle disease.

Animal No. 18.

Steer two years old. This animal continued in good health during the entire test and was slaughtered for beef on October 24, 1905, being twenty-three months from beginning of test. All the organs were upon careful examination found to be perfectly normal. This was verified by the pathologist after examining the specimens forwarded him.

FOURTH EXPERIMENT.

To ascertain if 'ragwort' if cut before flowering would produce the disease. A quantity of 'ragwort' was cut before flowering and mixed with twenty times its bulk of clean hay.

A calf six months old (No. 19) was fed twice daily upon this mixture, also receiving two pounds crushed oats. The feeding began on December 1, 1904. The animal did not grow well but appeared fairly healthy until May 1, 1905, when diarrhœa set in. He now failed rapidly exhibiting symptoms of nervous disturbance, followed by notable dejection. He died on May 26, 1905, being five months and twenty-six days from beginning of experiment and twenty-six days from date of first symptom.

Post-mortem changes did not vary much in character from those already described.

CONTACT EXPERIMENT.

Two healthy young animals (G and N) were on April 7, 1904, placed in an isolated stable and tied in the same stable with an animal suffering from cattle disease. All were fed on imported hay out of the same manger and watered from the one pail.

During the summer the contact animals were kept in an inclosure with the animals affected with the disease. No precaution was taken in any way to guard against infection.

The contact animals remained perfectly healthy during the entire test and were slaughtered for beef on October 23, 1905.

Post-mortem examination showed the organs normal as was verified by the pathologist.

Even more striking proof of the non-contagion of the disease will be found in the case of animal No. 18 (experiment No. 3).

This steer was stabled during two winters and pastured during two summers with the 'ragwort' fed cattle. Sixteen of these animals lived and died at his side. He fed over the ground on which they had fallen, was often noticed licking the sick ones when they were unable to rise. He was kept in an exactly similar way to the others except that 'ragwort' was withheld. (See experiment No. 3.)

INOCULATION EXPERIMENT.

The blood and ascitic fluid used in this test was obtained from experiment heifer No. 4. In his report upon the specimens from this case, your pathologist states that the cirrhotic condition of the liver was more extensive than in any of the experimental cases that he had examined, thus leaving no room for doubt as to the reliability of the material employed.

Subcutaneous inoculation—

Cow (B)—Fifteen cubic centimetres of fresh blood.
Steer (J)—Thirty cubic centimetres of fresh blood.
Steer (K)—Fifteen cubic centimetres of ascitic fluid.
Heifer (L)—Thirty cubic centimetres of ascitic fluid.

Intravenous inoculation—

Heifer (M)—Fifteen cubic centimetres of fresh blood.
Heifer (O)—Thirty cubic centimetres of fresh blood.

Intraperitoneal inoculation—

Steer (D)—Fifteen cubic centimetres of fresh blood.
Steer (A)—Thirty cubic centimetres of fresh blood.
Steer (H)—Fifteen cubic centimetres of ascitic fluid.
Heifer (P)—Thirty cubic centimetres of ascitic fluid.

These animals were inoculated on July 15, 1905, there was no swelling at point of inoculation or any ill effects of any nature. Temperature and pulse remained normal throughout. The animals were slaughtered between October 10 and October 31, 1905, Post-mortem examination gave no lesions of any description.

A similar test in which guinea pigs were employed gave negative results.

I beg to submit that the above experiments prove clearly that Pictou cattle disease is not contagious either by means of stable, pasture, contagion or inoculation, but is caused solely by the ingestion of 'ragwort' or by some deleterious substance which it imparts to the hay.

TREATMENT.

As to treatment, I have very little to say. My observations during the past year confirm the opinion that the strychnine and iron treatment (outlined in my last season's report) will in many cases prolong the life, and in incipient cases may enable the owner to get the animal into marketable condition, but medicine cannot repair the morbid changes in the liver, and it is very doubtful if much practical benefit can be derived therefrom.

PREVENTION.

Eradication of 'ragwort' is the first essential. I believe, sir, that you are of the opinion that sheep and perhaps goats will prove a most valuable aid in the fight that should at once be made against this plant. I heartily concur in your opinion, and firmly believe that if sheep were confined in sufficient number upon weedy farms and concerted action taken to cut the weed wherever found, in a few years the land will be free from 'ragwort' and consequently from cattle disease.

The following experiment helps to confirm this opinion. Four sheep were confined since April 1, 1905, on four acres of very weedy pasture. The field (as will be seen from the photograph which I have the honour of sending you) is entirely free from 'ragwort' while it is bounded on all sides by a luxuriant growth of the plant. More extensive experimentation, however, along this line is necessary before sufficiently reliable information is gained.

While it is generally admitted that sheep will destroy 'ragwort' the opinion prevails that the plant has an injurious effect upon the sheep, first by causing sickness and death, secondly by staining the tissues and rendering the flesh unmarketable.

All these are points of vital interest to the farmer and stock-owner, and I am glad to learn that you have under consideration a series of experiments which I believe will be of most practical value.

In conclusion, I am glad to be able to say that no contagious disease has visited this county during the year, although I have investigated the usual number of re-

ported outbreaks. I have, however, caused to be slaughtered sixty head of cattle, these being infected with Pictou cattle disease. Detailed accounts of each case have been forwarded to you.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

W. H. PETHICK,
Inspector.

F. S. MACDONALD, V.S.

SOURIS, P.E.I., October, 31, 1905.

SIR,—I have the honour to submit herewith a statement showing the number of cattle slaughtered for Pictou cattle disease and the amount of compensation paid therefor, during the twelve months ending October 31, 1905.

In compliance with your instructions, I have investigated the reported existence of glanders at Big Pond and East Baltic. Mallein test chart and a report on the subject have been forwarded to you.

1904.	Number slaughtered.	Amount paid.
November		....
December		....
1905.		
January		....
February		....
March		....
April	1	$ 20
May	3	56
June	9	112
July	8	138
August	5	82
September	1	20
October	3	50
Total	30	$478

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

F. S. MACDONALD,
Inspector.

G. TOWNSEND, D.V.S.

NEW GLASGOW, N.S., October 31, 1905.

SIR,—I beg to submit my report of work done for the Department of Agriculture for year 1904-5.

The only work I have been called on to do has been Quarantine Inspection of Pictou cattle disease in Pictou county.

There have been from November 1, 1904 to October 31, 1905, forty cases, a decrease from last year of forty-one in the county.

I think the following will explain to some extent the great falling off in the number of diseased animals.

The conditions in the province for the past year and a half have been exceptional, and the circumstances were such that practically placed the whole county in a feeding experiment.

First.—In 1904 there was a very great shortage in feeding stuff, hay, straw, &c.

Second.—On account of this, farmers rapidly disposed of a large number of their cattle naturally retaining when possible the strongest and most thrifty to carry through the winter, and would also lessen the number of head in the districts.

Third.—Large quantities of hay was imported from Quebec, which I have no doubt (in most cases) was better and more nutritious than that raised on the home farm where disease is found.

Fourth.—There would certainly be no Senecio Jacobea or Stinking Willie which I believe is an exciting, or predisposing cause, if not the direct one of the disease.

TUBERCULOSIS.

I have met a few cases that have been suspected as Pictou county disease. In all cases where I thought advisable to have animals destroyed the owner has done so cheerfully although with no indemnity in sight.

ANTHRAX.

This has been the one little spot in the nature of work performed by me this year that has been out of the ordinary.

Mr. John McLean, of Greenwood, Pictou county, came to me to see a two-year old bull that had died an hour previous, and said that he had lost a cow a week before under similar circumstances, and suspected Pictou county disease.

The bull had been stabled the night before apparently healthy, in the morning was dead, lying on his sternum quite natural, as if there had been no death struggle. There was a bloody, frothy discharge from nostrils. On opening up abdomen large quantities of serum escaped also tinged with blood, spleen very much enlarged and full of dark clotted blood, in fact there were hemorrhages in nearly all the organs. The cow had been lost a day, and when found was lying down on sternum. No marks of struggling were present, with the same bloody frothy discharge from nostrils. Those were the first two animals that have died on the farm for thirty years from any cause. Never had black leg.

I had animal burned and buried and stable, &c., cleansed and disinfected with carbolic solution and whitewash.

I have the honour to be, sir,
Your obedient servant,

GEORGE TOWNSEND.
Inspector.

The Veterinary Director General,
Ottawa.

E. C. THURSTON, D.V.S.

SYDNEY, C.B., October 31, 1905.

SIR,—I beg the honour to report that since my appointment of inspector here last June, no live stock has been imported through this port, nor has there been any outbreak of contagious disease in the district.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

E. C. THURSTON,
Inspector.

V. T. DAUBIGNY, M.V.

TERREBONNE, QUE., October 31, 1905.

MONSIEUR.—Pendant l'année expirant le 31 octobre 1905, je n'ai fait aucune inspection. Sauf une, cependant, à Montréal, pour un cas de glanders supposé.

J'ai visité à plusieurs reprises, la partie est de Montréal et n'ai découvert rien relativement aux maladies contagieuses.

En dehors de cela, j'ai donné des conférences dans diverses localités sur les glanders, gale, charbon, etc., etc.

Cet été il ya eu des cas de charbon dans quelques endroits du nord de la province de Québec.

Quant aux conférences, elles plaisent aux cultivateurs, qui comprennent bien ce qu'ils doivent faire en de pareils cas et après l'explication de la loi sur les maladies contagieuses on ne m'a pas fait de remarques d'hostilité, ce qui est de bon augure.

J'ai bien l'honneur d'être,
Monsieur le directeur,
Votre très dévoué serviteur.

Directeur Vétérinaire Général,
Ottawa.

V. T. DAUBIGNY,
Inspecteur.

J. D. WHYTE, D.V.S.

SHERBROOKE, Que., October 31, 1905.

SIR,—I have the honour to submit to you this my annual report for the year ending October 31, 1905.

GLANDERS.

Total number of horses tested during the year, 101, of which 1 was tested twice, 2 were tested three times, they becoming ceased reactors, the two previous tests being made in the year 1904. Total number destroyed, 47.

MANGE.

Acting on instructions, I visited Chicoutimi, Que., to investigate the nature of an outbreak of a skin disease affecting horses in that district, which proved to be

mange, which was quite prevalent in that locality, Dr. T. R. Duchene, of Chicoutimi, being appointed to take charge of this outbreak.

I also had three other cases, two at St. Ours, Que., and one at St. Denis, Que., one of the cases at St. Ours still being in quarantine.

SUSPECTED ANTHRAX.

I visited the parish of Yamaska, Que., August 31 to investigate a supposed outbreak of anthrax, fifteen cows having died suddenly in that locality, all carcasses having been disposed of, and the symptoms described by the people were such that a satisfactory diagnosis could not be arrived at; advised cleansing and disinfection.

I also visited La Baie du Febvre, Que., September 4, to investigate a supposed outbreak of anthrax, fifteen animals having died suddenly. As there were not any animals sick during my visit, and those that had died were deeply buried, I could not fully determine the nature of the disease. I requested Dr. Lahaye, of Nicolet, if any more died to forward specimens of the blood to the biological laboratory, Ottawa, which he did, and the result of the investigation was negative as to anthrax. I advised cleansing and disinfection, and either burning the bodies or burying them in lime.

TETANUS.

Acting on instructions, I visited the premises of Luther Fuller, of Bolton township, Quebec, who had two cows die in what appeared to him to be a peculiar manner, but upon investigation the symptoms presented were those of tetanus. Had the premises cleansed and disinfected.

SUSPECTED HÆMORRHAGIC SEPTICEAMIA.

I visited South Durham, Que., to investigate a supposed outbreak of hæmorrhagic septicæmia, three cows having died suddenly in a pasture in which for the three preceding years animals have died in somewhat the same manner, at a post mortem the lesions found not being characteristic. I forwarded specimens to the biological laboratory, Ottawa, the results of which were negative.

TUBERCULOSIS.

I have tested, assisted by Dr. Etienne, one lot of 93 head of cattle for South Africa, of which 3 reacted.

Have tested 9 head of pure-bred cattle for export to the United States, 5 head reacting.

Also have tested 4 head pure-bred cattle imported from the United States, not any reacting.

Cattle tested not for export, 103 head, 23 head reacting, all reacting cattle being ear-marked.

Making a total of 209 head tested.

The following is the number of animals imported from the United States at this port:—

Cattle	24
Sheep	1
Goats	4
Swine (for breeding purposes)	5
" (for immediate slaughter)	174

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

J. D. WHYTE,
Inspector.

A. A. ETIENNE, M.V.

October 31, 1905.

SIR,—I have the honour to submit my report from December 1, 1904, to October 31, 1905.

During that time I have inspected 48 premises and tested with mallein 78 horses, out of this number 50 responded to the test and were destroyed, 24 giving clinical symptoms and the remaining 26 did not. The owners of 39 of these horses have received compensation. Out of the 78 tested with mallein 20 horses did not react, 6 horses have ceased to react, 23 horses were tested the second time, and 11 were tested the third time.

On July 12 I was requested to visit St. Canute and examine several horses in that town, and in Ste. Agathe des Monts that were reported as having mange.

I found four horses owned by one man in St. Canute and one in Ste. Agathe that had mange. They were quarantined, treated and cured.

On the 7th of September I received orders to visit St. Jerome and make an investigation on seven farms where several cows had died, showing symptoms of anthrax; no action was taken, not being able to make closer examinations, for the animals had been buried for several days. One person in St. Agathe was prosecuted and fined for disposing of a quarantined horse.

I went to Shawinigan Falls and inspected premises where verminous bronchitis in hogs had existed for some time, which caused the deaths of over one hundred hogs.

October 27 I went to St. Thomas de Pierreville and La Baie du Fèvre and made a thorough investigation as to the existence of sheep scab. I am pleased to report that this disease has been eradicated several years ago when all the sheep were dipped.

While in La Baie du Febvre I was called to make a post mortem examination on a heifer that died of a very peculiar disease, on this farm 7 cows, 2 horses and 4 hogs having died, all giving the same symptoms.

I have the honour to be, sir,
Your obedient servant,

A. A. ETIENNE.
Inspector.

The Veterinary Director General,
Ottawa.

THOS R. DUCHENE, V.S.

CHICOUTIMI, QUE., October 31, 1905.

SIR,—I have the honour to submit to you my report for the year ending October 31, 1905, having started to work on the 15th of May last.

MANGE.

An outbreak of mange in horses in the county of Chicoutimi and Lake St. John came under my supervision, in which eighty-two farms were inspected, one hundred and forty-two horses were involved and placed under quarantine, of which there is only eleven to be relieved now and all recovered after proper treatment. The disease seems to be under control down here in Chicoutimi, but not in the Lake St. John district.

GLANDERS.

During the year I have tested in the county of Chicoutimi twenty horses with mallein, seven of which reacted and were destroyed and buried.

SESSIONAL PAPER No. 15a

In October last, I went down in the county of Saguenay upon special instructions, and there I have tested with mallein sixteen horses, five of which reacted and were by me marked E.R., five others were killed upon clinical symptoms.

In the Chicoutimi county I found that the most of the outbreaks can be traced to horses traded in the county of Saguenay and brought here by shantymen.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

THOS. R. DUCHENE,
Inspector.

J. D. DUCHENE, D.V.S.

QUEBEC, October 31, 1905.

SIR,—I have the honour to submit to you my report for the year ending October 31st, 1905.

GLANDERS.

During the year, I have tested 245 horses with mallein, 153 of which have reacted, 115 have been destroyed, 35 are quarantined under form No. 48, and 3 ceased reacting. Out of these which ceased reacting, 2 ceased at the third injection and the other at the sixth injection.

In my inspections throughout the province of Quebec, east of Montreal, I found some isolated cases of glanders, but on the north shore of the St. Lawrence river, I have inspected with Doctor A. E. Moore, an outbreak of glanders existing east of the Saguenay river from River Ste. Marguerite to River Portneuf, on a distance of about 85 miles.

This outbreak of glanders is said to have originated some 4 years ago when gypsies traded some infected horse with a farmer of the district.

Since that date infected horses belonging to farmers or to lumber companies specially in lumber camps have been in direct contact with sound ones and no one seemed to know the gravity of this malignant disease, and took no precautions whatever.

MANGE IN HORSES.

During the year an outbreak of mange in horses has been spread in the counties of Beauce and Dorchester. I have visited 38 farms and quarantined 49 horses which have been treated, of which 44 are cured and 5 under treatment.

SHEEP SCAB.

I have visited 28 farms at La Baie du Febvre, and examined 145 sheep. 65 were found to be affected and were treated by the dipping process and cured.

No case of hog cholera has been reported to me during the past year.

I have the honour to be, sir,
Your obedient servant,

JOHN D. DUCHENE,
Inspector.

The Veterinary Director General,
Ottawa.

J. O. GUY, D.V.S.

St. Johns, Que., October 31, 1905.

Sir,—I have the honour to submit to you my brief report from May 1 to October 31, 1905.

For import—
Cattle (Holsteins).. 2

For export—
Cattle... 2
Sheep.. 6

N.B.—Inspected at port St. Johns for export to the United States for exhibition purposes:—

Cattle (Short-horns).. 13
Sheep.. 21

All animals inspected at the port of entry have been free from disease.

I have notified the Department of Agriculture of the outbreak of a few cases of glanders which have occurred: at Napierville, 5; St. Alexandre, 1; Stanbridge Station, 1. These have been attended to by the inspector, Dr. Etienne, and reported to the department.

The infection of glanders was brought from the United States by the exchange of horses between gypsies and our farmers.

I have the satisfaction to state that there are no other signs of epizootic or enzootic diseases in my district to my knowledge.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

J. O. GUY,
Inspector.

A. McCORMICK, V.S.

Ormstown, Que., October 31, 1905.

Sir,—I have the honour to submit to you the following report of work done for the year ending October 31, 1905:—

I gave health certificates for the following animals from this district for exportation into the United States:

November 22, 1904—One registered lamb.
September 11, 1905—Thirty-seven head of cattle for exhibition purposes.
October 2, 1905—One registered lamb.
October 2, 1905—Ten head of cattle, grazers.
October 16, 1905—Twenty head of cattle, grazers.
October 17, 1905—Two registered Ayrshire calves.

I am glad to report that there has been no outbreak of any contagious disease, and that the health of animals in this district has generally been good.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

ARCH. McCORMICK,
Inspector.

A. SMITH, F.R.C.V.S.

TORONTO, October 31, 1905.

SIR,—I have the honour to submit the following brief report on the health of the domestic animals in the Province of Ontario, during the past year.

HORSES.

Have been generally healthy. A few cases of glanders have been discovered and reported to your department and promptly stamped out by the inspectors.

CATTLE.

Have been quite healthy. Tuberculosis no doubt exists to a slight extent, but certainly not to the extent it does in Great Britain.

SHEEP.

Have also been healthy, with exception of a few cases of scab, which has been quickly dealt with.

SWINE.

Hog cholera and swine plague exists to a very limited extent owing to the efficient measures taken by the various inspectors.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

ANDREW SMITH.

WM. STUBBS, V.S.

CALEDON, October 31, 1905.

SIR,—I have the honour to submit to you my annual report for the year ending October 31, 1905.

During the year I have tested with tuberculin one hundred and forty-seven head of pure bred cattle for export to the United States, twelve of which reacted.

I have tested for glanders with mallein nineteen horses owned by six different owners, eight of which reacted to the test and were destroyed. All the buildings and premises which I had placed under quarantine are now released.

June 27 I visited Southampton, Bruce County, where it was reported that a number of cattle died suddenly under peculiar circumstances. After careful examination I found the disease to be of a non-contagious character, and due to improper care and feeding.

August 30, I assisted Dr. A. E. Moore to examine all the show sheep at Toronto Exhibition and found them free from scab and all other diseases.

During the year, in the absence of Dr. Stork from the Toronto market, I invariably visited that market, also the Union Stock market at Toronto Junction and found the stock remarkably free from disease. During my presence at the markets I looked after the cleaning and disinfecting of cars that came listed from quarantined districts.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

WILLIAM STUBBS,
Inspector.

J. H. TENNENT, V.S.

LONDON, October 31, 1905.

SIR,—I have the honour to submit to you this, my annual report for the year ending October 31, 1905.

TUBERCULOSIS.

During the year I have tested with tuberculin 61 head of pure bred cattle for export.

For shipment to United States	52
For shipment to Japan	9

Five of the above animals were found to be diseased, and were duly reported and ear-marked.

SHEEP SCAB.

Number of farms quarantined	71
Number of flocks affected with sheep scab	41
Number of flocks in contact with diseased sheep	30

The sheep on the above quarantined farms have been twice dipped in lime and sulphur dip.

I superintended the first and second dipping of the sheep on 29 farms and have since inspected them, all of which appeared to be free from sheep scab.

It was reported to the department that sheep shipped from Owen Sound, and Chatsworth, to Toronto market, also from Oil Springs, and Brigden to Buffalo, were affected with sheep scab.

Acting on instructions I visited, and inspected the sheep on 24 farms in the neighbourhood of Owen Sound, 30 farms in the neighbourhood of Chatsworth and 99 farms in neighbourhood of Oil Springs and Brigden, and found no sheep in the above districts affected with sheep scab.

GLANDERS.

During the year I have made 37 tests with mallein.

Number of horses tested 1st time	21
" " 2nd "	16

Five of the above horses reacted to the first test and also showed clinical symptoms of glanders and were destroyed; the remaining 16 horses which had been in contact with the diseased five horses did not react to the second test, nor show clinical symptoms of glanders and were released.

Acting under instructions I visited and examined the horses that had been exposed to glanders on 33 farms, none of which showed clinical symptoms of the disease, consequently I did not submit them to the mallein test.

RABIES.

One dog showing symptoms of rabies was taken to the Pasteur Institute, New York, for examination, and was pronounced to be suffering from rabies.

Nineteen dogs were quarantined, 12 of which were suspected of having been in contact with the rabid dog; the remaining 7 had bitten persons and were quarantined on suspicion. After being kept in quarantine the required time, and rabies not developing among them, all were released.

SESSIONAL PAPER No. 15a

CLEANING AND DISINFECTING CARS.

I superintended the cleaning and disinfecting of 77 cars which carried live hogs from the quarantined district.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

J. H. TENNENT,
Inspector.

W. W. STORK, V.S.

TORONTO, October 31, 1905.

SIR,—I have the honour to submit my annual report as inspector stationed at Toronto. During the year just past my time has been occupied inspecting stock at the different markets in and around Toronto, supervising the cleansing and disinfecting of cars at different points, and investigating reported outbreaks of contagious disease in various parts of Ontario.

I have made periodical visits to the camps of the different railway construction companies where large numbers of mules and horses are employed in railway work, have been present at all large horse sales in Toronto and have inspected the horses and mules belonging to the different travelling circuses which, during the summer months, visited Toronto.

In the month of May, in company with Dr. James, of Ottawa, I tested a consignment of dairy cattle for export to South Africa. Also tested, within the last year, fifty-two pure bred cattle for export to the United States.

The following is a synopsis of the various investigations and outbreaks of contagious disease dealt with by me during the period covered by this report :

ANTHRAX.

During the month of August an outbreak of anthrax occurred in the vicinity of Collingwood, Ont., where on one farm within a few days three cows, two pigs and one sheep died, showing symptoms strongly indicative of this disease.

The owner of these animals, while removing the hide from the first animal to succumb, unfortunately became inoculated and died in a short time.

Prompt measures in the way of quarantining and disinfecting were immediately enforced with the result that the disease was checked without further fatalities.

GLANDERS.

During the year I have made twenty-two investigations where suspected glanders has been reported, testing with mallein in all forty-seven horses, twenty-two of which I had destroyed as being diseased.

The localities in which the disease appeared, the number tested and the number destroyed in each locality is as follows :—

	Tested.	Destroyed.
County of Addington	1	1
" Grey	5	4
" Hastings	8	4
" Huron	14	5
" Lennox	4	2
" Oxford	2	1
" Waterloo	1	1
" Wellington	9	2
" York (Toronto)	3	2

Wherever the presence of the disease was established strict enforcement of regulation regarding quarantine and disinfection of premises was carried out, and wherever it could be established that a diseased animal had lately changed ownership, the premises formerly occupied by the diseased animal were visited, quarantined and disinfected, and all horses that I could trace as having been in direct contact with the diseased animal were submitted to the mallein test.

SUSPECTED RABIES.

During the latter part of June I visited the city of London, Ontario, and in company with Dr. Tennent, of that city, spent some ten days in closely watching developments in what was currently reported to be a case of rabies.

The facts were that a child was bitten by a pet dog that had been observed acting strangely.

The child's father, who is a medical practitioner, residing in London, immediately took both child and dog to a New York institute and shortly after their arrival there a report was wired to the London Board of Health that the dog died of 'paralytic rabies.' Close inspection of all dogs in immediate vicinity of where the suspected animal had been at large failed to reveal anything abnormal in any of the canines, and although a close watch was maintained for some time, the reported case was the only one observed.

HOG CHOLERA.

During the past year there has been a marked falling off of reported cases of hog cholera, due no doubt to the rigid enforcement of regulations regarding shipment from suspected areas. Any investigations I have made of reported sickness in hogs have turned out to be minor ailments due either to injudicious feeding or unsanitary surroundings.

SHEEP SCAB.

During the year two separate consignments of sheep appeared in Toronto market showing the disease. These animals were promptly quarantined and slaughtered under inspection. The pens occupied by them and the cars in which they arrived were held in quarantine and disinfected and all precaution taken against further spreading of the trouble.

I visited several quarantined farms during the summer and supervised the dipping of sheep, using the lime and sulphur dip as prescribed by the department.

MANGE.

One case of mange in a horse appeared in Toronto, the animal was isolated and successfully treated.

I have also visited Parry Sound district where disease in cattle was reported and found upon investigation the trouble was confined to a few calves that died of black quarter. There being no veterinarian practising in the locality, I had the owner procure from the department some blacklegine, the remaining calves were vaccinated and the trouble disappeared.

During my absence from Toronto on various investigations, Dr. Orchard, of Windsor, or Dr. Stubbs, of Caledon, have attended inspection duties at the different markets and I might say in this connection that within the past year the duties of inspection of these markets has become systematized, especially the supervising of disinfection of stock cars, and should by any chance, as occasionally happens, a car

be removed without being attended to, no pains are spared in having this car located, brought back and cleaned to the satisfaction of the acting inspector.

I have the honour to be, sir,
Your obedient servant,

W. W. STORK,
Inspector.

The Veterinary Director General.
Ottawa.

M. B. PERDUE, V.S.

CHATHAM, ONT., October 31, 1905.

SIR,—I have the honour to submit my annual report for the year ending October 31, 1905.

HOG CHOLERA.

During the year there have been forty-five outbreaks of hog cholera, involving the slaughter of 1,032 hogs, which have been dealt with by myself and Drs. Orchard and Philips.

With one or two exceptions the outbreaks this year all occurred in the counties of Essex and Kent. One exception which should, perhaps, be noted, occurred at Grimsby, in Lincoln county. The Grand Trunk railroad tracks cross this farm and the only way of accounting for the appearance of the disease in that locality is that it may have been carried by shipments of foreign hogs passed through Canada and spread by droppings from the cars. This line of railroad is a direct line from Detroit to Buffalo.

The forty-five outbreaks of hog cholera during the past year is considerably less than one half the number during the previous year when there were 105 outbreaks and the number of hogs slaughtered this year, 1,032, is only a little more than one-third the number slaughtered last year, when 3,011 hogs were killed. During the year ending October 31, 1903, there were 207 outbreaks and 6,543 hogs killed. This is more than four times the number of outbreaks this year and more than six times as many hogs slaughtered. I submit that this shows a decided improvement in the situation as regards hog cholera and demonstrates, beyond question, the efficacy of the measures adopted by the department for the stamping out of the disease. When outbreaks have made necessary the quarantining of individual farms, I have this year generally found a prompt and cheerful compliance with the regulations in regard to cleansing and disinfecting, and there have rarely been second outbreaks where hogs were again kept after the raising of the quarantine. This is one of the most important and encouraging features of the improved conditions throughout the district. It is this co-operation of the farmers that makes the work of the inspectors effective.

At the beginning of the fiscal year, certain townships in Essex and Kent counties and the Island of Walpole in Lambton county were under quarantine. As conditions improved throughout this district there were many complaints that this worked an unnecessary hardship on both farmers and shippers and on May 15 last, the quarantine was raised and new regulations substituted, providing for the inspection of all shipments of hogs from the entire district in which hog cholera had existed. Under these new regulations, there have been shipped from this district 671 cars, containing 67,950 hogs, all of which have been carefully inspected before entering the cars. In all cases duplicate certificates of health are sent to inspectors at the point

of destination, where the cleansing and disinfection of the cars are superintended and certified to by them.

There are more than forty shipping points in the district and as all shipments must be reported forty-eight hours before being made, it will be apparent that not only do the actual inspections require considerable time, but also that it involves considerable time at headquarters receiving report from the different shippers and providing that the inspections be made without delay.

During the year I have made several trips of general inspection throughout the district, and am pleased to report that no case of attempted concealment of disease has come under my notice. Heretofore there has always been more or less concealment of the disease, but this year practically every case has been reported directly from the farmer. I have also visited a number of the fall fairs in the counties of Essex and Kent, where I have had an opportunity to meet and converse with the farmers and to see the different classes of stock.

GLANDERS.

In the vicinity of Amherstburg in Essex county, I tested two horses with mallein and found a reaction. They were afterwards again tested by Dr. Moore, who also found a reaction and had the animals destroyed.

SHEEP SCAB.

During an investigation in the vicinity of Watford and Inwood, in company with Doctors Moore and Tennent, four outbreaks of sheep scab and one suspect came under my notice during the year. These cases were afterwards dealt with by Dr. Tennent.

TUBERCULAR TEST.

During the year I tested two head of cattle for export, neither of which showed a reaction.

I have the honour to be, sir,
Your obedient servant,

M. B. PERDUE,
Inspector.

The Veterinary Director General,
Ottawa.

G. W. HIGGINSON, V.S.

ROCKLAND, October 31, 1905.

SIR,—I have the honour to submit to you my report ending the year October 31, 1905.

TUBERCULOSIS.

During the year I have submitted to the tuberculin test, 390 head of cattle, 146 of which were for export, 14 of which reacted, 244 others were private tested, 16 of which reacted.

GLANDERS.

During the year I have tested 158 horses with mallein, 37 of which reacted and were destroyed. Eight of these I tested three times and got a reaction at every test, three I tested twice and got a reaction in each case. Eight I destroyed on clinical symptoms.

MANGE.

An outbreak of mange in horses in the county of Labelle, eighteen horses were placed in quarantine and proper treatment recommended. An outbreak also occurred in the county of Glengarry in the vicinity of Glen Robertson and Alexandria where nine farms were placed under quarantine, thirteen horses in all. All of which with the exception of two made a speedy recovery. Also had four horses under quarantine in the county of Prescott for mange.

ANTHRAX.

From your instructions I visited Oka on the River Ottawa to investigate into an outbreak of disease among cattle that were grazing on a commons just outside of the village, some twenty-one having died previous to my visit. In a great many instances there had been just a little earth thrown over the carcase, no precaution being taken to prevent the spread of the disease. I had all the carcasses exhumed and properly destroyed by burning them and had the grass around where they were previously buried covered by slack lime and recommended that the rest of the cattle grazing on the said commons be vaccinated. One man who had owned one of the cows that had died became inoculated by some means and died within a week's time, and the doctors diagnosed his case as anthrax.

I have the honour to be, sir,
Your obedient servant,

G. W. HIGGINSON,
Inspector.

G. W. ORCHARD, V.S.

WINDSOR, October 31, 1905.

SIR,—I beg leave to submit below my report for the year ending October 31, 1905.

My work was confined to the counties of Essex and Kent, during the months of November and December, 1904, and January, 1905, and during that time I inspected thirty-eight cars containing 3,614 live hogs, consigned from the guaranteed area, to various packing houses for immediate slaughter. I dealt with twenty-two cases of hog cholera involving the slaughter of 539 diseased and contact hogs, for which $2,071.96 was allowed as compensation to the owners.

During the above-mentioned period, I visited Amherstburg and inspected 240 sheep brought by Walter Pabst, a settler from Montana, and found them all healthy.

I also visited several farms under quarantine and on those that had been thoroughly cleansed and disinfected I recommended their release from quarantine. During the year I tested with mallein five horses, two reacted and were destroyed; compensation allowed, $123.33.

On February 8th, I went to Toronto and relieved W. W. Stork, V.S., inspector of stock at the markets, and examined during February, 2,212 sheep and lambs. Although

scab in sheep, was somewhat prevalent in different sections of Ontario, I only found one shipment affected with scab while I was there, this lot was immediately quarantined and the next day slaughtered, and the pens in which they were placed thoroughly disinfected.

After Dr. Stork's return to his work at Toronto, I visited the Niagara frontier, and endeavoured to better conditions at Fort Erie and Bridgeburg, at which point a great deal of stock from Ontario as well as stock in transit from the United States enters Buffalo for market or feeding. The months of April, May and June and some of July was spent by me principally at Buffalo, with trips along the frontier during the spare days keeping a close watch on the transit trade going through Ontario. While at Buffalo, I inspected for shipment to Ontario and Quebec:—

Cars	211
Number of hogs	31,787

I was relieved from the above work in July, by M. Philps, V.S., who has since been moved to Bridgeburg, and I returned to Windsor and superintended the erection of a quarantine barn at this port, a building which was much needed, as a great deal of stock, generally in small lots, is brought in by way of Windsor.

On August 16, I started on a tour of inspection of stations north and west, calling at North Bay, White River, Schreiber, Port Arthur and Winnipeg, and returning by the Rainy River district, stopping off at Rainy River, Emo and Fort Frances, a detailed report of my trip was furnished the department at the time.

Late in the summer permission was granted to inspect transit stock at this point at night, and I superintended the erection of proper lighting stands at the M. C. R. and Grand Trunk Railway yards. Owing to the necessity of taking care of our large export trade in sheep and lambs to Buffalo the department issued a regulation that all sheep must be unloaded and certified to at Bridgeburg, which necessitated the erection of proper sheds by the G. T. Railway for inspection purposes, these were erected and fit for use early in September, the sheds previously erected by the M.C.R. being used for stock coming over the M.C.R. and the Canadian Pacific Railway, following out your instruction. I have given Mr. Philps, V.S., inspector in charge of Bridgeburg, needed assistance at various times, and I am pleased to report that up to the present time there have been no sheep detained, all being free from disease. Owing, greatly to the stringent regulations issued in April last, compelling hog cars to be equipped with close-fitting doors and ten-inch foot boards and not allowing hogs to be shipped in dirty cars, or to be douched while 'in transit' through Canada, and which regulations have been rigidly enforced by the inspector in charge at Windsor, the tone of this trade has improved greatly, and by lessening the chances of bringing disease into the country, will greatly facilitate the work of stamping out the contagious diseases which are now troubling the department.

Especial care has been devoted to cleansing and disinfection of stock cars used in conveying hogs from United States markets to packing factories in Canada, and those cars used in carrying stock from infected districts to packing houses.

At the beginning of the summer a great deal of dissatisfaction was expressed by some shippers where the different regulations were enforced, but I am pleased to state that most of them are now well pleased to obey the regulations in every particular.

In concluding my annual report, I may state that my observations this year have shown me the great results derived by your department from the measures used in preventing the spread of disease. The benefits of careful guarding of the transit trade in hogs, the rigid enforcement of the dipping regulations, and the cleansing and disinfecting of premises, on which diseased animals were found, are now very apparent.

I have the honour to be, sir,

Your obedient servant,

GEO. W. ORCHARD,

Inspector.

The Veterinary Director General,

Ottawa, Ont.

SESSIONAL PAPER No. 15a

ARTHUR BROWN, V.S.

SARNIA, October 31, 1905.

SIR,—I have the honour to submit my report of work done for the Department of Agriculture from November 1, 1904, to October 31, 1905.

On October 17, 1904, thirty-one hogs returning from St. Louis exposition were placed in quarantine. They consisted of two herds, thirteen and eighteen respectively. A week later the smaller herd showed symptoms of hog cholera; on November 4, the herd was destroyed, they having contracted the disease.

On November 22, sixteen of the other herd were slaughtered (two having died) and a careful postmortem examination held on each hog; ten were diseased with hog cholera and six were apparently healthy, although in contact. I may state that the owners of these hogs considered it a hardship and quite unnecessary to be detained in quarantine, but you insisted and had it not been for this good judgment the country might have suffered a heavy loss as both these firms ship hogs to all parts of Canada.

The domesticated animals in this locality are generally healthy, there being no contagious diseases among them with the exception of a few cases of tuberculosis and actinomycosis.

The following animals have been inspected by me during the past year:—

For Import—

Horses	247
Cattle	76
Sheep	221
Hogs	1,222

For Export—

Sheep	2
Swine	2

Since April 1, I have examined 1,318 cars containing hogs crossing at this port from the United States, most of them going through Ontario to Buffalo, U.S., in bond. I found it necessary to return 35, they not being in a proper condition to proceed to their destination.

I have the honour to be, sir,
Your obedient servant,
ARTHUR BROWN,
Inspector.

The Veterinary Director General,
Ottawa.

M. PHILPS, M.D., V.S.

BRIDGEBURG, ONT., October 31, 1905.

SIR,—I have the honour to submit to you my annual report for the year ending October 31, 1905.

During the first eight months of the year my work was principally in the quarantined area in the counties of Kent and Essex, and consisted of dealing with outbreaks of hog cholera inspections of shipments of live hogs and visiting farms already under quarantine to see that the cleansing and disinfecting regulations had been satisfactorily carried out.

From November 1, 1904, to June 27, 1905, I dealt with nine cases of hog cholera involving the slaughter of 187 hogs, for which the department paid the sum of $808.32. I inspected at the various shipping points in the quarantined district ninety-seven cars containing 9,667 live hogs consigned to the packing houses mostly at London, Hamilton and Toronto.

I visited thirty-three farms previously placed under quarantine and found that the cleansing and disinfecting regulations had been faithfully carried out and I accordingly forwarded recommendations for their release to the department.

On June 27, I received instructions from you to proceed to Buffalo, N.Y., to relieve Dr. Orchard. My work in Buffalo consisted of the inspection of live hogs imported by the different Canadian packing houses. Up to the present date I have inspected seventy-six cars containing 10,260 live fat hogs imported by the packing houses of Ingersoll, Toronto, Hamilton, London, Peterborough and Hull, Que. On August 25, I was instructed to make my headquarters at Bridgeburg, Ont., where I have inspected the sheep exported to the States. So far there have been 47,707 sheep exported from this point, and sixty-seven horses were imported.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa, Ont.

M. PHILPS,
Inspector.

F. A. JONES, V.S.

WINDSOR, ONT., October 31, 1905.

SIR,—I have the honour to submit my report of stock inspected at the Windsor quarantine station during the year ending October 31, 1905.

Hog cholera came under my notice on several occasions which I reported to Drs. Orchard or Perdue, who acted promptly and there was no further spread of the disease.

In addition to my duties as quarantine inspector, I have inspected at the M.C.R. Stock Yards, Detroit, 4,318 hogs consigned to the Ingersoll Packing Company of Ingersoll, Ont. They were shipped in thirty-three cars.

The following is a statement of animals received into quarantine, also stock requiring inspection :—

For Export—	
Cattle	28
Sheep	1
Swine	17
For Import—	
Horses	101
Mules	44
Cattle	57
Swine	17
Sheep	21
Goats	1

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

F. A. JONES,
Inspector.

SESSIONAL PAPER No. 15a

J. KIME, JR., V.S.

CHATHAM, October 31, 1905.

SIR,—I have the honour to submit to you a report of the work done by me during the past year, from November 1, 1904 to October 31, 1905.

During the year I have inspected forty-four car-loads of hogs for shipment, the total number of hogs being 4,064.

No hogs have been slaughtered this year by me, all reports of outbreaks being reported to M. B. Perdue, the officer in control in this district.

I have the honour to be, sir,
Your obedient servant,

JOSEPH KIME, JR.,
Inspector.

The Veterinary Director General,
Ottawa.

J. R. THORNE, V.S.

WALLACEBURG, ONT., October 31, 1905.

SIR,—I beg to submit my annual report for the year ended October 31, 1905, as follows:—

It pleases me to inform you that very little contagious disease in animals has existed in this district during the past year.

HOG CHOLERA.

Only two cases of hog cholera have been reported to me in this district in the past twelve months, each of these being in the Gore of Chatham in the county of Kent.

Fifty-two shipments comprising 6,072 fat hogs have been made under my inspection during the past year from this district, direct to the packing houses for immediate slaughter.

I have the honour to be, sir,
Your obedient servant,

J. R. THORNE,
Inspector.

The Veterinary Director General,
Ottawa, Ont.

W. B. ROWE.

BLEINHEIM, October 31, 1905.

SIR,—I have the honour to submit herewith my annual report ending October 31, 1905.

During the past year, my work for the department has been principally inspecting hogs for shipment. I have inspected seventy-nine cars containing 6,232 fat hogs

for immediate slaughter and consigned to various packing houses. I also visited several farms under quarantine to see if they have been cleansed and disinfected in a satisfactory manner.

Acting under instructions I visited a farm in South Colchester, as it was reported that they had some disease amongst their hogs, but it proved to be nothing but a form of stomach trouble, caused by improper food.

I hereby state that no other disease of a contagious nature has came under my notice during the past year.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa, Ont.

W. B. ROWE,
Inspector.

G. H. BELAIRE, V.S.

PEMBROKE, October 31, 1905.

SIR,—I have the honour to present my annual report for the year ending October 31, 1905.

GLANDERS.

During that period I have made forty-six tests with mallein; the horses were all in small lots being in sixteen different places:—

Horses tested first time	46
" second time	4
Ceased reactors	4

Eight horses showing clinical symptoms of glanders and which reacted to the mallein test were destroyed.

Two horses showing well marked clinical symptoms were destroyed without the application of the test.

Four horses which reacted to the mallein test, but showing no clinical symptoms were destroyed, making in all fourteen horses destroyed.

Nine of these horses were destroyed under the new compensation clause which came in force on March 25, 1905, the owners receiving compensation for these horses.

The present system of dealing with glanders, under the new regulations, is a long forward step in the right direction and has proven very satisfactory to the public in general. The compensation paid by the government is, no doubt, instrumental in bringing out new centres of infection previously unsuspected.

MANGE IN HORSES.

Five cases of mange in horses came under my notice; they were in three different places. I immediately quarantined them, ordered treatment of the horses and thorough disinfection of the premises. These places were recommended for release when I was satisfied that mange no longer existed therein and that the premises were thoroughly cleansed and disinfected.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa, Ont.

GEO. H. BELAIRE,
Inspector.

SESSIONAL PAPER No. 15a

D. HENDERSON, V.S.

GLENCOE, October 31, 1905.

SIR,—I have the honour to submit to you my annual report for the year ending October 31, 1905.

During the year I superintended the dipping in lime and sulphur dip of 1,488 sheep, all of which were dipped the second time at intervals of from ten to twelve days from the first dipping. The above dip proved an excellent one, no bad results following in any case.

I inspected 186 sheep at different stations for immediate slaughter under the departmental order of March 23, 1905.

I issued thirteen health certificates for eighty-five sheep being exported to the United States.

I have the honour to be, sir,
Your obedient servant,

D. HENDERSON,
Inspector.

The Veterinary Director General,
Ottawa.

A. E. JAMES, V.S.

OTTAWA, October 31, 1905.

SIR,—I have the honour to submit herewith, my annual report for the year ending October 31, 1905.

Glanders—

One clinical case—destroyed.

TUBERCULOSIS.

Tested with tuberculin for Gunn & Sinclair for export to South Africa, 109 head milch cows (grade.) Reactions, 3.

51 head grade for Department of Agriculture for export to South Africa. Reactions, 0.

3 Head pure bred Ayrshire heifers for export to Japan. Reactions, 0.

I have the honour to be, sir,
Your obedient servant.

A. E. JAMES,
Inspector.

The Veterinary Director General,
Ottawa.

J. B. HOLLINGSWORTH, D.V.S.

OTTAWA, October 31, 1905.

SIR,—I have the honour to submit my report from the date of my appointment, July 1, 1905 to October 30, 1905. I have tested six horses on four different farms, two

of these reacted and were destroyed. I also destroyed one horse without testing which showed clinical symptoms of the disease. In addition I have inspected five quarantined farms and found that the cleansing and disinfecting orders have been satisfactorily carried out.

I have also inspected horses and premises where mange did exist and found animals successfully treated and no new cases of mange.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

J. B. HOLLINGSWORTH,
Inspector.

W. C. McGUIRE, D.V.S.

CORNWALL, October 31, 1905.

SIR,—I have the honour to submit to you my report from the date of my appointment, April 25, 1905, to October 31, 1905. During the above period I have inspected 1,320 sheep for exportation to the United States, all of which I found in a healthy condition.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa, Ont.

W. C. McGUIRE,
Inspector.

D. McALPINE, D.V.S.

BROCKVILLE, ONT., October 31, 1905.

SIR,—I have the honour to submit to you my report of the year 1905, October 31.

During the year, I examined for export, four hundred and thirty-two sheep, and twenty-eight head of cattle. I was called to investigate two cases of suspected glanders, but upon two injections of mallein with no reaction they were discharged. One case of suspected hog cholera, where twenty-one hogs had died, but on investigation found death was due to injudicious feeding.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa, Ont.

D. McALPINE,
Inspector.

J. M. FAWCETT, V.S.

PALMERSTON, October 31, 1905.

SIR,—In the month of May, I examined eleven cars and saw that they were properly cleansed and disinfected. In June there were ten; July, one; August, two. These were all cleansed before they were used again. This is all I have done.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa, Ont.

J. M. FAWCETT.
Inspector.

H. J. LUNDY, V.S.

EMO, ONT., October 31, 1905.

SIR,—I beg leave to submit my annual report for the year ending October 31, 1905.

I have examined eight head of cattle during the year, all of which I found free from disease.

I have the honour to be, sir,
Your obedient servant,

H. J. LUNDY,
Inspector.

The Veterinary Director General,
Ottawa, Ont.

T. E. WATSON, V.S.

NIAGARA FALLS SOUTH, October 31, 1905.

SIR,—I have the honour to submit to you the following report of animals inspected by me at this port of entry during the year ending October 31, 1905.

Horses	27
Cattle	18
Sheep	34
Hogs	17

Three of the cattle were held and subjected to the tuberculin test, none of them reacting.

Hog cholera which we have had more or less of for several years has not made an appearance in this district this year.

I have the honour to be, sir,
Your obedient servant.

THOS. E. WATSON.
Inspector.

The Veterinary Director General,
Ottawa, Ont.

C. D. McGILVRAY, M.D.V.

WINNIPEG, October 31, 1906.

SIR,—I have the honour to submit herewith my report on the diseases dealt with by me from the time of my appointment as a veterinary inspector, on February 25, until October 31, inclusive. This period of eight months has been taken up chiefly in dealing with outbreaks of

GLANDERS

throughout the province of Manitoba, during which time I have submitted 747 animals to a first mallein test. Out of these 26 were retested a second time at the expiration

of 40 days from the time of the first test, 20 out of this 26 had not reacted to a first test, and as they again proved negative to the second test, were released, the other six had reacted either typically or atypically to the first test, and upon being submitted to a second test with mallein, three of them gave a typical reaction and were therefore slaughtered, the remaining three having failed to react to the second test, were again submitted to a third mallein inoculation at the expiration of 60 days from the time of the second test and again they proved negative to the test.

These three latter ceased reactors, *i.e.*, they had reacted to the first test but failed to react to the two subsequent tests conducted at intervals of 40 and 60 days respectively, have not been released but are allowed to be retained by the owner for use under the following restrictions contained in a license form, viz.: that they are not to be disposed of nor allowed to come in contact with other horses, but stabled separately and to be fed and watered in separate utensils, they are likewise not to be stabled in any public stable or stalls and are to be kept available for inspection at any time by an authorized veterinary inspector. In all 287 animals have been destroyed by me for glanders, of which 284 were destroyed as results of a typical reaction to a first mallein inoculation and the other three as result of reaction of both first and second tests.

Out of the 287 slaughtered, 101 were showing more or less clinical symptoms of the disease, thus leaving 186 contact infected animals slaughtered as result of a typical reaction to the mallein test.

RECAPITULATION.

747 animals submitted to a first mallein test.

26 animals submitted to a first and second mallein test.

3 animals submitted to a first, second and third mallein tests.

284 animals slaughtered as result of a typical reaction to a first mallein test (101 of these were showing more or less clinical symptoms of glanders).

3 animals slaughtered as result of reaction to both first and second mallein tests.

20 animals proved negative to both first and second mallein tests, therefore were released.

3 animals reacted to a first mallein test but failed to react to second and third tests conducted at intervals of 40 and 60 days respectively and are therefore classed as ceased reactors.

A question may arise as to why should the disease be so prevalent and widespread in this to you new territory, to this there can only be one reply, the lack heretofore in this province of an adequate and effective policy of dealing with outbreaks of glanders. Previous to February, 1905, at which time this province came under the direct control of the Dominion Contagious Diseases Act, there was no provision made for the compensation of owners for animals destroyed for glanders except wherein provided by the rural municipalities, hence in many outbreaks of the disease the clinically affected animals were the only ones dealt with. The remaining contact animals were not in many instances subjected to the mallein test and were either overlooked or simply held under observation for a short period awaiting developments of clinical symptoms. As you are aware quarantining in the case of contact infected animals is of little use except the period were an extended one of months and years instead of weeks, as animals affected with an occult or latent glanders (pulmonary glanders) may be to outward appearances apparently free from the disease and remain so for a considerable length of time and still in the meantime be capable of infecting and thus transmitting the disease to other healthy animals giving rise to fresh outbreaks.

Again, where the contact infected animals were subjected to the mallein test and did react slaughter was not in all cases enforced and could not be for want of an adequate compensation policy.

Hence in some cases the owners now being placed in possession of information as a result of the mallein test giving them a knowledge as to the condition of these con-

tact infected animals, an information and knowledge to which they had no moral right to and under existing conditions never should have had, they very often at a favourable opportunity disposed of these reacting animals to some unsuspecting purchaser from a distance.

It will thus be seen that prior to that time, (February, 1905), when this province came under your control there was prevalent what might be called a migration of contact infected animals from one part of the province to another, thus constituting new areas of infection and giving rise sooner or later to fresh outbreaks of glanders.

I am satisfied, however, that the regulations and methods of dealing with outbreaks of glanders inaugurated by you here in February, and now in force of submitting all animals affected with or suspected of being affected with glanders to the mallein test and destroying all reactors is the best and most effective means of dealing with and eradicating outbreaks of the disease and that with the least material sacrifice. This would only be obtained by means of compensation being paid to owners for animals destroyed. That the owners themselves realize this fact and appreciate this material assistance rendered, viz.: Adequate compensation being paid for animals destroyed is sustained and borne out by the number of requests received by letter from owners whose animals have been in contact more or less with other glanderous animals that their animals be submitted to the mallein test by authorized veterinary inspectors, and are willing to abide by the results of the test, consenting to have the animals which react to the test destroyed and thus eradicate from their premises animals to which strong suspicion must always attach even if they do not in the near future develop clinical symptoms of the disease. Another source of infection has been the number of contact infected horses (though to outward appearances apparently healthy horses at the time of importation), sold by dealers in the United States to unsuspecting purchasers, bought over here and sold to parties in Manitoba upon whose premises they sooner or later give rise to an outbreak of glanders. The class of horses chiefly responsible for this are the unbroken range horses brought from the States of Dakota and Montana, conclusive evidence of which I have placed in your hands from time to time in my reports.

GLANDERS IN MAN.

One case came under observation wherein a young man, aged 22 years, contracted glanders from a clinically affected mare on his father's premises. The deceased became inoculated on August 20 and died on September 8, the disease lasting a period of 18 days.

The following symptoms and stages of the course of the disease were obtained from information received from the parents and the attending physician, Dr. Ross, of Selkirk.

Period of incubation.—Was of two days' duration as diseased unquestionably became inoculated on August 20 and on August 22, or two days later, he first began to ail and complained of feeling sick and languid.

Period of premonitory illness.—Began on August 22 when patient first began to ail, on the 23rd appetite became impaired and patient began to complain of pains in region of loins and hips.

Period of pronounced illness.—This began on August 26, on which date patient became suddenly worse, refused all food, complained of pains in all his joints (the articulation and synovial membrances becoming involved). On this date a physician was called and diagnosed the case as probable typhoid fever.

Period of eruptions or nodular stage.—On September 3, or fourteen days after time of inoculation, the first clinical objective symption appeared as a large nodule or pimple on the forehead which was hot and painful to the touch. Two days later, September 5, nodules were rapidly increasing in numbers and size and appeared now simultaneously on the chest, arms and legs, and these became extremely painful as well as the joints affected.

Pustular period and ulcerative stage.—On September 6, the nodules had developed into pustules and became ulcerous, the attending physician became suspicious and called in another physician in consultation who diagnosed disease as glanders, word was sent to this branch that an inspection be made of their horses. I went and examined horses on the premises and found one aged mare showing well marked clinical symptoms of glanders. From this date the pustules and ulcers developed very rapidly , the nose and eyelids became ulcerated and discharged a viscid bloody discharge, patient sank very rapidly and succumbed to the disease on September 8, literally covered with pustules and ulcers.

MANGE OF HORSES.

Several outbreaks of mange were reported during the past summer. I inspected eight outbreaks and quarantined on premises affected sixty-four animals in all. Of these, forty-two have been successfully treated by the owners and being cured and free from the disease have been released. The remaining twenty-four are still in quarantine under treatment and will be kept under quarantine regulations until satisfied that they are cured and free from the disease. Owners have very readily adopted satisfactory treatment along the lines recommended in the mange bulletin published by the department.

SWAMP FEVER (SO-CALLED).

Several outbreaks reported as suspected glanders, have upon inspection proved to be the disease known here as 'swamp fever.' Under this head is included all febrile conditions of an intermittent type characterized by periodical exacerbations sooner or later resulting in a progressive emaciation, anæmic membranes, œdematous swellings of limbs, sheath and under abdomen, a critical polyuria, dicrotic pulse, cardiac insufficiency associated with venous regurgitation, in spite of a well maintained appetite emaciation reaches an advanced stage, inco-ordination of movement becomes marked especially hind extremities, the course of the disease is usually prolonged and invariably terminates fatally. Treatment has been unsuccessful. This disease, however, has not been so prevalent in the province during the past summer and is apparently decreasing.

MALARIAL AND TYPHO-MALARIAL FEVER.

Under this head is included acute febrile conditions ushered in by a high initial temperature, partial or complete loss of appetite, marked dullness, injection of mucous membranes sometimes icteric (yellowness) thoracic complications with tendency towards pleuratic and pericardial exudations, cardiac complications with a tendency towards the formation of ante-mortem clot, presence of the costal groove or (heave line), œdema of limb and sheath, inco-ordination of movement in some cases. A cough is seldom if ever met with as a primary affection in this disease. The disease usually runs an acute or sub-acute course, mortality is high especially where animals are kept at work too long, it is, however, amenable to treatment and quite a large percentage recover if appropriate treatment is resorted to in early stages and animals are refrained from all work until entirely recovered.

It has been quite prevalent throughout the province this summer.

INFLUENZA ; TYPHOID-INFLUENZA, SHIPPING FEVER, ETC.

Quite a number of reported outbreaks of suspected glanders have upon inspection proved to be nothing more or less than one of the various 'catarrhal fevers.' Under this head is included all infectious febrile conditions associated with an affection of the respiratory tract; ushered in by a high initial temperature, congestion and swelling of the eyelids and a 'weeping' from the eyes very frequently, total inappetence

usually, cough, quickened pulse and increased respiration pulmonary and abdominal complications sometimes occur. These diseases are quite amenable to successful treatment and were very prevalent here during early summer, in fact very few large stables were exempt or escaped having a siege of it, but mortality was low.

BLACK-LEG OR QUARTER-ILL.

Several outbreaks amongst cattle have been reported from various parts of the province, it is, however, chiefly indigenous and restricted to the lands adjacent to and in the larger lake districts (Lakes Winnipeg and Winnepegosis).

No further action was taken in these reported outbreaks otherwise than informing owners as to the nature of the disease and its prophylaxis, advising owners to resort to the protective inoculation of animals by means of the blacklegine furnished by the department at a small initial cost, the removal of animals from infected pastures and disposal of the carcases of dead animals.

I have the honour to be, sir,
Your obedient servant,

C. D. McGILVRAY,
Inspector.

The Veterinary Director General,
Ottawa, Ont.

F. TORRANCE, B.A., D.V.S.

WINNIPEG, October 31, 1905.

SIR,—I have the honour to submit the following report on the investigation of swamp fever of horses, carried on during the past year by Dr. Bell and myself. Our first case was secured in June, a sorrel mare, aged nine, showing the usual symptoms of the disease, anaemia, emaciation, fever, &c. A blood count showed the red corpuscles reduced to 2,700,000, and as it was evident that she could not live, we decided to kill her at once, and make cultures from various fluids of the body. She was killed by intravenous injection of strychnine, June 24, and cultures made from several organs and fluids, especially the cerebro-spinal fluid, which we were particularly desirous of testing in consequence of the symptoms of inco-ordination so prominent in the disease. Our cultures, however, proved sterile.

Some time elapsed before other cases could be procured, as the disease is fortunately decreasing, and cases are not nearly as numerous, as a few years ago. At length I was able to get two cases through the kindness of Dr. Taylor, of Portage la Prairie. One of these, however, was so far advanced, that it became exhausted by the railway journey, and could not reach the stable, but had to be killed and utilized for post-mortem examination only. The other one remained under observation for some weeks, during which frequent examinations were made of the blood, and a special study of the fœces was made. The object of this was to discover whether any special organisms were present in the intestinal tract, and if so to determine their relationship to the disease. Only the ordinary fauna of the intestine were found. We were disappointed with this result, as Dr. Bell thinks the disease is probably caused by auto-intoxication from the intestinal tract by absorption of toxins of bacterial origin. This is a point requiring further study. Unfortunately, this case died suddenly, and we were unable to make the post-mortem for some ten hours, so that our cultures were of no use. The usual gross lesions were observed, and the case was typical of the disease.

Two other cases were under observation, and examined post-mortem, but without throwing any light upon the pathology of the disease, as neither of them could be considered typical.

Of all the cases under observation this year, only one of them proved a suitable and typical case of the disease, the others being either too advanced or complicated by other diseases, so that we were hampered by lack of material. In one respect this is a fortunate circumstance, for it shows that the disease, which a few years ago, was a serious drawback to agriculture in this part of Manitoba, is much less prevalent than it was. Whether this is due to climatic changes, or to improved drainage and sanitation of stables, or other causes, we cannot at present determine.

However, we have reached a point in our investigation, where we can reasonably exclude trypanosomata or plasmodia from the possible causes of the disease. The blood has been examined so often, and in such a number of cases, that if either of these parasites had been present at any time, they could hardly have escaped detection. The marked resemblance between this disease and 'Surra,' lent a strong probability to the theory of a blood parasite being the cause, and our work has hitherto been largely along that line. We now turn to another field of investigation, in which we have already done some work, the intestinal tract. Here we hope to find bacteria, secreting toxins having a hæmolytic action on the blood, and in this way producing the anæmia characteristic of the disease. This is a task of great difficulty, owing to the presence in the intestine, normally, of a larger number of harmless bacteria from which the pathogenic ones can only be separated by tedious laboratory methods.

I have the honour to be, sir,

Yours respectfully,

The Veterinary Director General,
Ottawa.

F. TORRANCE, B.A., *D.V.S.*

CHAS. LITTLE, V.S.

WINNIPEG, October 31, 1905.

SIR,—I have the honour to submit to you this my annual report for the year ending October 31, 1905.

The following is the number of animals imported from the United States:—

Horses	3,520
Mules	331
Cattle	2,530
Sheep	98

I have kept a strict watch on all cattle shipped from the western ranches so as to prevent any affected with mange escaping that might have been overlooked by the inspectors when loading or developed in transit. The number shipped through to date is 49,748 and 9,208 shipped to Winnipeg for home consumption. I am pleased to state that a very few with any appearance of mange arrived here, even a good deal better showing than last year.

TUBERCULOSIS.

I have tested five head of pure bred cattle for export to the United States and found all healthy.

GLANDERS.

Since February 25 I have made 37 tests with mallein. The total number destroyed was 40, twenty-four of which were destroyed on clinical symptoms alone and sixteen after being tested.

I have the honour to be, sir,

Your obedient servant,

The Veterinary Director General,
Ottawa.

CHAS. LITTLE,
Inspector.

J. P. MOLLOY, M.D.V.

MORRIS, MAN., October 31, 1905.

SIR,—I have the honour to report that, beginning April 19, 1905, and ending October 31, 1905, that I have subjected to the mallein test four hundred and seventy four horses, destroyed two hundred and twenty-nine, ninety-three of which were clinical and a hundred and thirty-six contact infected animals. Two hundred and fifteen were destroyed on first test and fourteen on the second test.

I have the honour to be, sir,
Your obedient servant,

J. P. MOLLOY,
Inspector.

The Veterinary Director General,
Ottawa.

P. A. ROBINSON, V.S.

EMERSON, MAN., October 31, 1905.

SIR,—I beg to submit my annual report of stock inspected at this port for the twelve months ending October 31. During the year just closed, I have inspected 3,010 settlers' horses and 1,317 cattle. The number of horses imported for sale is 1,301. The inclosed statement shows the number of animals imported each month.

At the Port of Gretna I have inspected 70 horses imported for sale.

I have the honour to be, sir,
Your obedient servant

P. A. ROBINSON,
Inspector.

The Veterinary Director General,
Ottawa.

R. D. SCURFIELD, M.D.V.

CRYSTAL CITY, MAN., October 31, 1905.

SIR,—I have the honour to report on the health of the animals inspected by me in this district. The most of our entries here are settlers from North Dakota, U.S., who cross the boundary here destined principally to the North-west Territories. The stock imported has been of an average quality, some very good cattle having been brought in by settlers. I have inspected and submitted to the mallein test 65 horses suspected of being affected with glanders, of which 23 were slaughtered by consent of owners and the department. Most of these slaughtered were clinical cases. I have had one outbreak of blackleg, in which five cases had died. I advised vaccination and have had no further trouble since. I had a large outbreak of influenza in spring. The type is now gradually dying out, otherwise the health of our animals is fairly good.

I have the honour to be, sir,
Your obedient servant,

R. D. SCURFIELD,
Inspector.

The Veterinary Director General,
Ottawa.

W. LITTLE, V.S.

BOISSEVAIN, MAN., October 31, 1905.

SIR,—I have the honour to submit to you the following report of animals inspected by me at the ports of Deloraine and Killarney, Man., for the year ending October 31, 1905 :—

Animals inspected at Deloraine—

Horses	303
Mules	8
Cattle	214
Sheep	

Of the above, 53 horses were for sale; 250 horses, 8 mules, and 214 cattle were settlers' effects.

Animals inspected at Killarney—

Horses	456
Mules	10
Cattle	299
Sheep	61

Of the above 63 horses were for sale; 393 horses, 10 mules, 299 cattle, and 61 sheep were settlers' effects.

I have had one outbreak of glanders among horses during the year, three animals being affected. One horse showing clinical symptoms was destroyed at once and the other two were subjected to the mallein test, and both giving a suspicious reaction, were quarantined and retested in 30 days, both giving a high reaction, when they were slaughtered. Two of these animals came into Manitoba from Billings, Mont, during the summer.

I have had one outbreak of mange in horses during the year, eight animals being affected. They were treated by the dipping tank process. The disease was introduced into this herd by western horses brought from Alberta.

I have the honour to be, sir.
Your obedient servant,

W. LITTLE,
Inspector.

The Veterinary Director General,
Ottawa.

WM. LESLIE, V.S.

MELITA, MAN., October 31, 1905.

SIR,—I have the honour to submit the following report of stock entered at the customs port of Melita for the year ending October 31, 1905:—

Horses	180
Mules	8
Cattle	60

Of the above stock entered 133 horses and three cattle were for sale, the balance being entered as settlers' effects.

I also saw one outbreak of glanders on a farm where eight horses were subjected to the mallein test and having reacted were promptly valued and destroyed.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

W. LESLIE,
Inspector.

J. A. STEVENSON, V.S.

CARMAN, MAN., October 31, 1905.

SIR,—I have the honour to submit my annual report of inspections for the year ending October 31, 1905.

GLANDERS.

Number tested by mallein test first time, 30; number destroyed, 3.

MANGE IN HORSES.

An outbreak was reported from the west end of this district. Visited this part and quarantined two horses and gave owners proper instructions.

The health of animals in this district is fairly good.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

JAS. A. STEVENSON,
Inspector.

W. A. SHOULTS, V.S.

GLADSTONE, MAN., October 31, 1905.

SIR,—I have the honour to submit my report for the year ending October 31, 1905.

GLANDERS.

Since February 1, I have applied the mallein test to one hundred horses, twenty-nine of which reacted and were destroyed; fifteen horses exhibiting pronounced and unmistakable clinical symptoms of glanders were also slaughtered, making a total of forty-four horses destroyed for glanders.

MANGE.

I have also had occasion to deal with three small outbreaks of mange, which involved only thirteen horses, and were controlled without difficulty.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

W. A. SHOULTS,
Inspector.

A. McMILLAN, V.S.

BRANDON, MAN., October 31, 1905.

SIR,—I have the honour to submit herewith the annual report of work performed by me for the Department of Agriculture for the year ending November 30, 1905.

I was instructed by the Veterinary Director General to proceed to the farm of John Alteman and investigate an outbreak of glanders, which I did on the 3rd of March. I found one case of clinical glanders, which I immediately destroyed, and tested the remaining six, four of the number reacting and were destroyed.

I have the honour to be, sir,
Your obedient servant,

A. McMILLAN,
Inspector.

The Veterinary Director General,
Ottawa.

COMMISSIONER A. B. PERRY.

REGINA, October 31, 1905.

SIR,—I have the honour to submit herewith my annual report for the year ended October 31, 1905, on the work performed in the provinces of Alberta and Saskatchewan, for the Health of Animals Branch of the Department of Agriculture, by the veterinary staff under my directions, together with the reports of the individual inspectors, as follows:—

General report—Inspector Burnett, Veterinary Surgeon R.N.W.M. Police.
Battleford District—Veterinary Staff-Sergt. Meakings.
Calgary District.—Veterinary Staff-Sergts. McVeigh and Busselle.
Edmonton District.—Veterinary Staff-Sergt. Sweetapple.
Lethbridge District.—Veterinary Staff-Sergts. Gallivan, Greenwood and Johnson.
Maple Creek District.—Dr. Hargrave, V.S., Veterinary Staff-Sergts. Littlehales and Olsen.
Macleod District.—Veterinary Staff-Sergts. White, Douglas, and Veterinary Sergt. McCreight.
Prince Albert District.—Veterinary Staff-Sergt. Mountford.
Regina District.—Veterinary Staff-Sergts. Ayre, Gray, Dennis, Mitchell and Perry.

The veterinary staff employed at this date is as follows:—

Permanent—

Veterinary surgeons, members of R.N.W.M Police	19
Civil practitioners, permanently employed	3
Total	22

The staff was temporarily increased during the enforcement of the compulsory dipping order in the quarantine area, and during the stock shipping season, by seven (7) civil practitioners, who were engaged for short periods.

In addition, civil practitioners were employed at irregular times, at Calgary and Battleford, where the permanent staff, either through press of business, or sickness, were unable to attend to the work.

This year the work has been carried on under the supervision of Inspector Burnett, veterinary surgeon of the R.N.W.M. Police, who has had eighteen years' experience

in the western country, an experience that it is absolutely necessary that a veterinary surgeon should have, if the work of your department is to be successfully performed. Inspector Burnett's presence at headquarters has been of great advantage.

The staff is distributed in two provinces in accordance with the requirements of the work, the general idea being to have an inspector ready at hand in every part of the country, to deal promptly with any outbreaks. The distribution has varied, as the press of work in one district compelled the sending of assistance from another.

The work has been heavy, and with the staff available, large though it seems, the work has not always been kept up to date. I am able to assure you that the veterinary inspectors have worked very hard, and have, especially during the winter months, suffered a great deal of hardship in carrying out their duties. The outbreaks of disease are often long distances from any railway, and this means that many days are taken in dealing with them.

Six (6) veterinary inspectors are permanently stationed at the customs ports of entry : Twin Lakes, Coutts, Pendant d'Oreille, Willow Creek, Wood Mountain, and North Portal. They must always be in attendance at these points, so that their services are not available for the general work.

The inspection of stock, shipped from the quarantine area, oocupies a great deal of time, especially during the four months of the export shipping season. This is work which cannot be delayed, and demands immediate attention.

The staff appears large, but when the 'fixed charges' on them are deducted, it greatly reduces what I might term the fighting force. I hope that in the near future the inspection of shipments may be suspended, when I shall be able to concentrate our efforts on the stamping out of disease.

We have to combat three prevalent forms of disease among horses: glanders, maladie du coit, and mange; and among cattle, mange. Other stock is healthy.

Inspector Burnett has dealt with all these in his report, and I only desire to add a few words to emphasize the wisdom of the policy adopted by you, and which is being persistently carried out by us.

Taking glanders first, which has caused the greatest loss of valuable stock. Wherever an outbreak is discovered or reported a veterinary inspector is promptly detailed to examine all the horses. His duty is to at once destroy all showing clinical symptoms; to test all which have been exposed to the contagion, and to destroy any reacting; to see that stables, &c., are thoroughly disinfected; and finally, to attempt to trace the source of the disease. This often leads to the discovery of other cases, where the same has to be again done. Frequently the source is found to be a large band of horses, running in the open. These are usually unbroken, and the difficulty of examining and testing, can only be understood by those accustomed to range horses.

As an instance of this I may mention where it was reported a number of horses, sold in Manitoba, from a ranch in the southern part of Saskatchewan, had been slaughtered on account of glanders. On examining the band, which numbered 500 head, two very bad cases of glanders were discovered. The whole band is now under quarantine, and these 500 unbroken horses must be tested, a tremendous task. These horses were imported from the United States two years ago, and were inspected at the time. As Inspector Burnett remarks, we will be exposed to the source of contagion, as long as large unbroken bands of horses are imported from the Western States.

As I write, suspicion has been aroused that a ranch, with over 1,500 head, has glanders. They have been rounded up and are now being inspected. Should these suspicions be verified, our past troubles will be as nothing in comparison.

Here again the horses were imported from the Western States.

I agree with Inspector Burnett that we cannot hope to entirely stamp out this disease for years to come, because of the large influx of settlers with stock, the importation of a large number of western horses for sale, and the negligence and carelessness of owners.

The policy of allowing compensation for horses slaughtered on account of glanders, has greatly strengthened our hands, and has naturally pleased horse owners.

HORSE MANGE.

It is gratifying to be able to report that this disease, which at one time seriously threatened the horse raising industry, is now almost eradicated. Two years ago the disease was very prevalent in the vicinity of Medicine Hat. Dr. Hargrave, our veterinary inspector at that point, deserves much credit for his success in dealing with it.

MALADIE DU COIT.

This is a disease that was unknown in the west until two years ago, when it was discovered in the vicinity of Lethbridge.

An examination of the mares that had been running on the same range, showed that a number of them were diseased. As time went on, cases were found throughout Southern Alberta, especially in the Medicine Hat district.

Energetic measures were adopted by you. A suitable area for quarantining purpose was secured near Lethbridge, fenced, and corrals and squeezer built. A large number of animals suspected of the disease were collected at the quarantine, until a definite conclusion was arrived at as to the proper method of dealing with the disease. Having fully satisfied yourself of the existence of the disease, you decided that there was no other course but to slaughter all affected animals. This was done at the quarantine grounds under your personal direction last May.

It was then decided to deal with new cases, the same as with other contagious diseases, that is, to quarantine on the owner's place, and to destroy if found diseased.

Only four veterinary inspectors, who have had the necessary experience, were authorized to order slaughter.

You authorized the employment of three deputy inspectors, Medicine Hat, Lethbridge and Pincher Creek districts, to ride these districts and examine stallions and mares. Many cases were discovered and dealt with.

The presence of this disease and its seriousness is now generally known by the horse owners, who will, I hope, promptly report any cases.

I think that very energetic measures should be taken early in the spring, and I concur with Inspector Burnett that all the stallions and mares, in the area where the disease is known to exist, should be inspected.

Owing to the desirability of having a careful investigation of the course of the disease under the climatic conditions of the Northwest, you decided to establish an experimental station at the quarantine grounds at Lethbridge. A comfortable house, and commodious stable were erected for the necessary staff. Dr. Hadwen, V.S., was selected by you for this work.

CATTLE MANGE.

Because of the marked success which resulted from last year's treatment of all cattle for mange, it was again decided to enforce the compulsory dipping order.

The time for dipping was fixed between August 15 and October 31.

The area quarantined was slightly less than last year. Roughly speaking, it was that portion of Alberta south of the line between Townships 38 and 39 and the south-western corner of Saskatchewan.

This area was divided into 13 districts, with a veterinary inspector in charge of each. A large number of deputy inspectors were employed, so that the work, being carefully supervised, would be thoroughly done, and the treatment rendered effective.

The results have been satisfactory, although opposition was met with, and it was principally because the opposed claim their herds were free of disease, and not, as in many cases last year, that the treatment was dangerous, and, as even some claimed, positively harmful.

It is not to be wondered at that objections should be taken to an order that directed that over half a million head of cattle, scattered over 50,000 square miles, should be treated in the space of 2½ months. It affected hundreds of owners, owners of a single animal, owners of a thousand head. Protests were made, applications came in for exemption by the score, but by firmness and tact, these troubles were largely overcome, and I think I am justified in reporting that the order has been satisfactorily complied with. Some districts report absolute compliance, others that the second dipping has not been universal, because of the bad weather in October.

The total treated to the date of this report were:—

First dipping	520,828
Second dipping	392,239

As an instance of the magnitude of the work, I may mention that one rancher alone used 20,000 lbs. of sulphur. I am not aware that any such attempt was ever made in any country to combat a contagious disease.

The government has spent a large amount of money in carrying out the order, but no one will deny that it has been wisely and well spent. The burden on the cattle owners has been heavy, but it is as nothing to the large losses which occurred every winter as a result of the disease, nor to the risk which they ran of being shut out of the English market.

Our facilities along the boundary line for the inspection of stock have been increased.

At North Portal, where so many American settlers enter the west with their stock, we have erected an examining platform, shelter sheds, squeezer, and complete dipping plant.

At Willow Creek, south of Maple Creek, immediately on the boundary, a standard inspecting station has also been built.

There are now six fully equipped stations at the following points: North Portal, Wood Mountain, Willow Creek, Pendant d'Oreille, Cardston, and Coutts. All are in excellent condition, and will require only slight repairs for years to come as they have been very substantially constructed.

The only trouble has been with the heating apparatus. The Daisy boiler, to heat the dip, has not proved satisfactory, as the flues clog, and cannot be cleaned readily. It has been proved that heating by a steam boiler is the only satisfactory method, and I recommend that those stations now equipped with the Daisy boiler, be supplied with steam boilers of 15 h.p.

I have again to call your attention to the danger of the introduction of contagious diseases by American cattle, which drift into Canada. There is no way to effectively prevent this, except by fencing the boundary line. It seems idle to erect, at heavy expense, inspection and dipping stations along the boundary, to adopt rigorous regulations for the treatment of our own stock and then to expose our herds to infection by contaminated American stock.

In closing this report, I cannot but refer to the great advantages which have resulted from your frequent visits to the west, and the close personal touch you have maintained with the stock owners. If the important regulations dealing with the stock interests have been carried out so successfully, and with the least possible friction, it has been for two reasons; first, the generous treatment by granting compensation; and secondly, to the fact that you have met and consulted the people concerned, discussed the measures to be taken, explained the dangers threatening their interests, and impressed them that only their good was being sought, and that the Department of Agriculture was a friend, and only existed for their benefit.

I have to thank you on behalf of the officers of the force charged with duties for your department, and the veterinary staff, for the generous treatment received from

the Department of Agriculture, and for the support invariably given in carrying out the regulations.

I have the honour to be, sir,
Your obedient servant,

A. BOWEN PERRY,
Commissioner.

The Veterinary Director General,
Ottawa.

J. F. BURNETT, V.S.

REGINA, October 31, 1905.

The Commissioner,
Royal Northwest Mounted Police,
Regina.

SIR,—I have the honour to submit herewith my annual report for the year ending October 31, 1905.

On December 1, 1904, I took over general supervision of the work in the Territories under your direction, and since that time good progress has been made in getting contagious and infectious diseases then prevalent under control.

The undertaking was an immense one from the very fact that prior to 1902 no concerted action had been taken to prevent the spread of these diseases, which were not only spreading rapidly within the Territories, but affected animals were being brought in by settlers. (I refer here more particularly to glanders, a disease which may be latent in the system for years before any symptom is visible.) Appeals from ranchers and settlers asking to have their horses examined have been very frequent, more especially since compensation has been allowed for animals presenting clinical symptoms. In the majority of cases where inspectors were asked for disease was found, while in a few the trouble was due to some local cause such as decaying teeth, &c., and in a few cases there was absolutely nothing wrong.

Glanders among horses is the most serious problem we have to contend with, and while we have not succeeded in eradicating it, we have, I think, cleaned it out of certain districts which were formerly distributing points and from which it was carried to all parts of the country. Glanders, so far as I have been able to learn, was first brought to the Northwest Territories in 1882 by horses that were purchased for use on the trip made by the Marquis of Lorne. To what extent the disease now found in the country is attributable to that first outbreak I am not prepared to say, but I have no doubt that some of the cases handled in recent years trace back to horses turned loose on the prairie during that trip.

Perhaps the importation that proved the greatest curse to the whole of the Northwest and Manitoba included, was that of the late M. Oxerart, who located on the south side of the Cypress Hills, where the large bands of horses brought from Montana were ranged. About the years 1891 and 1892, when Oxerart was having his greatest yearly turnover, glanders was prevalent in his band, and hundreds of horses were being shipped or trailed east through Assiniboia into Manitoba to spread the disease. The contagious diseases of animals was being looked after by the local government at that time, so that little was done toward curtailing the spread of or stamping out the outbreak. At that time nearly every case of glanders found in the southern part of Assiniboia was traceable to Oxerart's horses. This band of horses has been dispersed, and although odd cases are occasionally found where they formerly ranged, the country is being so well looked after that there is little danger to be apprehended from that point.

The greatest source of danger we have to contend with now in the matter of glanders is the horses brought from the other side of the line by incoming settlers; this of course it is impossible to check without applying the mallein test to all horses at ports of entry, and as an animal may be affected with glanders for a considerable length of time before any outward symptoms are noticeable, it will be impossible to prevent the admission of all diseased animals without the use of this test. A case came under the notice of one of our inspectors a few months ago, of a settler who before coming to this country purchased eight horses in Chicago from a dealer. These horses were carefully inspected at the boundary, and were passed as they presented absolutely no clinical symptoms. While the inspector was in the district in which the owner of the horses lived he was informed that the horses looked suspicious, and when examined and tested with mallein it was found that six of the number were affected with glanders. These horses had not been in contact with any diseased animal after their arrival in Canada, so that they must have been affected before they were brought here. I mention this case to show the danger confronting us.

A few diseased animals have also found their way in from points further east in the Dominion, brought in principally by farmers from Manitoba and horse dealers who buy in any market. I do not, however, look upon this with any degree of alarm, as the department is putting forth every effort to stamp out this malady in all parts of Canada as well as in the two new provinces.

Glanders and its symptoms appear to be so well known now that little if anything new is left to discover, there are however a couple of points which I think worth mentioning, I have been informed that some old country practitioners claim that a loosening and falling out of hair of the tail and mane was a diagnostic symptom of glanders. I have tried this in over two hundred head that I have tested, some of them far advanced in the disease, and have come to the conclusion that there is nothing in it. Another point which I wish to speak of is the swelling at point of injection when testing, where the swelling pits upon pressure and there is a disinclination on the part of the animal to move its head. I look upon this as a reaction, when such swellings occur, I have invariably found the fore leg on the side the injection was made affected, there is more or less swelling of the whole leg; on the other hand where the swelling is soft and inclined to 'bag' a little at the lower side, where the head and neck is moved freely and there is no lameness, I would hesitate about destroying such an animal on this evidence alone. There is something about an affected animal apart from the swelling and rise in temperature that indicates the disease, *i.e.,* when using the mallein we are now supplied with. There are periods of marked dulness, animals will stop feeding with a wisp of hay in their mouths if in the stable and if disturbed will go on feeding again for a few minutes until they evidently forget what they were doing. I look upon this more as a cerebral affection or intoxication than actual bodily illness, this phenomenon is more marked between the hours of 9 and 11 in the morning than at any other time during the day. The mallein supplied by the Biological laboratory strikes me as being of better quality than any I have ever used of other manufacture, the reaction obtained in affected animals is more prompt and more pronounced and when proper antiseptic measures are taken there is seldom any swelling.

MALADIE DU COIT.

Notwithstanding the fact that the specific trypanosoma has not been discovered in any animal on this continent, there can be no doubt as to the existence of this disease in Southern Alberta. Repeated careful examinations made during life and careful post mortem examinations prove this disease to be Maladie du Coit as they have it in some of the European, Asiatic, and African countries. Post mortem examinations have been made upon practically every animal which has been destroyed on account of this disease, and these examinations have in every case proved the diagnosis made to have been correct while the lesions found have corresponded with those recorded by Lingard and other investigators.

The insidious nature of this disease and the difficulty of detecting it when at certain stages, stamps it as a very serious menace to the horse breeding interests of the county. There are periods in some cases where I think it would be absolutely impossible for any practitioner to say an animal was affected and yet this animal would be capable of transmitting the disease to other animals. I am inclined to the opinion that the climate of this country is not altogether favourable to the development of the disease, and it is only after a considerable lapse of time that the disease appears to manifest itself. Some of the mares which I examined in March, 1904, were found to be affected although presenting no other symptoms than a vaginal discharge, were last month apparently in good health apart from a barely noticeable lack of co-ordination; these animals are now at the experimental station near Lethbridge where the course of the disease will be watched with considerable interest.

Horse breeders for a long time were inclined to be sceptical about the existence of this disease, even some who saw post mortem examination made and the changes brought about found in different animals pointed out to them, said that they could not see anything different to what would be seen in a healthy animal; lately, however, they have changed their minds and are now asking for a general examination of all mares and stallions in the Lethbridge and Medicine Hat districts, this would, I think, be a move in the right direction as it would give a good idea as to the extent to which the disease has spread and would also afford us the opportunity of disposing of affected animals without waste of time and enable us to ensure control of suspects. I also think that it would be the means of making many owners take their horses in to keep when they are made to understand the danger they are exposed to while running out on the open prairie. What particular part of the continent the first affected animals came from, I have been unable to learn, but I do know that two different lots of mares have been destroyed at the quarantine grounds presenting the usual symptoms of the disease and in which cases the diagnoses were confirmed by post mortem examination. All of these mares, the owners informed me, came from Oregon. I refer to the DeRinzy and Kimball Brothers mares. The Kimball mares I first saw at Lethbridge, when inspecting for shipment, while the DeRinzy mares, I found under similar circumstances at the Macleod stock yards. In the list of brands furnished to Dr. Davison by Benson Brothers, of Union, Oregon, there is one brand, viz.: A, which I found on three of the Kimball Bros. mares. On two of these mares the brand had been vented with a bar over the brand thus: A, while none of the DeRinzy mares have this brand. I found mares out of both bunches branded '3' this latter brand is not mentioned in Dr. Davison's report. I doubt if there is anything to be gained by carrying this investigation further, but would insist upon the strictest examination of mares at ports of entry to be made in daylight only.

MANGE.

While occasional cases of mange among horses are reported from different parts of the country, the really serious outbreaks (those in large bands of horses) have been cleaned up, and I think the compulsory dipping order may be in a large measure credited with this result, for had it not been for this order we would not have had the vats to put the horses through, and the work of eradicating the disease from the bands of western horses would have dragged on for years if the treatment had had to be done by hand. Both last year and this large numbers of horses (not infected with mange) were put through the vats on the principle that if it was good for the cattle it certainly would be good for the horses. The cases now under quarantine are principally farm horses, which can be easily looked after and are not a serious menace to other stock.

The compulsory dipping order regarding cattle was again enforced this year, the results being such that there is ground for the hope this drastic measure will not have to be resorted to again for some years at least, and that any cases that may have been overlooked can be attended to without putting the whole country to such expense. The

results of last year's dipping have been most satisfactory. Last winter was one of the severest experienced in years, yet I could not learn of one death from mange on the range, whereas in previous years I doubt if 5 per cent would be an overestimate of the loss.

About 50,000 head of cattle were shipped this season for export, the consensus of opinion being that cattle were never brought to the stock yards in better condition or freer from mange. The work of carrying out the compulsory dipping order has been anything but a pleasant one, but now that it is finished it is gratifying to know that the result looked for has in a great measure been attained; not only have the cattle been freed from the scourge, but the owners have learned the benefits to be derived from dipping and that they have a cheap and effective remedy in the lime and sulphur preparation.

ANTHRAX.

No cases reported.

SYMPTOMATIC ANTHRAX OR BLACK LEG.

A few cases of this disease have been brought to my notice. Cattlemen as a rule understand the nature of this malady, and apply whatever treatment they think best, the majority using the Pasteur vaccine.

RABIES.

During the summer no little alarm was caused by the report that rabies existed in the southeastern part of Saskatchewan, having been introduced by a dog from across the line. Some few were destroyed and a number quarantined. Up to the present time, however, no further cases have been reported. That the trouble was rabies has not been verified.

TUBERCULOSIS.

Sixty-two cattle were tested, there being no reactors. While there may be an occasional milch cow brought in from the east affected with tuberculosis, I know of no herd in which the disease exists. I never saw a range animal showing any symptom of the disease, wasters being practically unknown among cattle that spend the entire year in the open in the country. This I think would apply to white men living in the country as well as to cattle. In the twenty years I have spent in the west I have only known one stock man to be affected with tuberculosis. Men engaged in this business spend practically their whole time in the open air, and I might add rarely use milk.

I have the honour to be, sir,
Your obedient servant,

JNO. F. BURNETT,
Inspector.

C. H. H. SWEETAPPLE, V.S.

ROYAL NORTHWEST MOUNTED POLICE.

FORT SASKATCHEWAN, October 31, 1905.

SIR,—I have the honour to forward the following annual report of services performed for the Department of Agriculture for the year ending 31st October, 1905.

All classes of stock have been remarkably free from disease and no epidemic of any kind has made its appearance.

Malaria or swamp fever, typhoid fever and typhoid influenza, among horses which prevailed to a considerable extent during the past few years has almost disappeared any hoof disease or perhaps more correctly, cutaneous quittor, has been almost, if not quite unknown.

The abatement of these diseases is, no doubt due to climatic conditions, but I am confident that when horses receive better care and sanitary surroundings are improved, as they no doubt will be, these diseases will be very much less prevalent under any climatic changes that may occur.

Tuberculosis in cattle occurs only to a very limited extent and we may well hope to escape very much from this disease as conditions are most unfavourable for its development.

Actinomycosis, which at one time could be seen in almost every herd of cattle, is most rare at the present time.

Black quarter in young cattle has appeared in a few localities, but the losses have not been at all serious and with proper attention to vaccination in these localities, any serious results will certainly be avoided.

Mange in cattle is comparatively unknown in Northern Alberta, and only a few isolated cases in horses have appeared, and these have yielded readily to treatment.

Abortion on some farms appears quite frequently, suffciently so to indicate its contagious nature and is confined to a very limited area.

Sheep, though kept only to a very limited extent, have been entirely free from disease.

Swine are not so fortunate, as a number of young pigs die due in almost every case to dietetic errors in not supplying a mixed grain ration which this animal appears to require.

Glanders which has made its appearance so frequently during the past will, I hope very soon be almost, if not quite, exterminated, owing to the liberality with which the Department of Agriculture is compensating owners of animals affected with this disease and the stringent measure taken in regard to animals reacting to the mallein test. 98 animals were subjected to the mallein test and of these 18 reacted but presented no clinical symptoms, and were destroyed. 8 horses and 2 mules were destroyed, presenting clinical symptoms.

I have the honour to be, sir,
Your obedient servant,

C. H. H. SWEETAPPLE,
Veterinary Staff-Sergt.

The Veterinary Director General,
Ottawa.

J. J. MOUNTFORD, V.S.

PRINCE ALBERT, October 31, 1905.

SIR,—I have the honour to forward the following report of the work done by me in this district for the Department of Agriculture for the year ending October 31, 1905.

I have frequently visited the different parts of this district and have destroyed sixty-eight glandered horses, and quite a number of these horses belonged to German settlers who came from Manitoba and have settled in and around Rosthern, Hague and Saskatoon.

There were thirty-three cases of mange in horses in this district during the past year. These were all placed in quarantine and under treatment.

An outbreak of glanders was reported in horses working on the construction of the Prince Albert branch of the Canadian Northern Railway, and on examination, I found them all to be in good health and condition, in all there were three hundred and fifty horses and one hundred and twenty-five mules. I watched these horses very closely while they remained in this district and they continued to keep in good health.

There was another outbreak of glanders reported in the Crooked Lake, Hoodoo and Humbolt districts, and on investigation I found typhoid fever to be the cause of death in most of the cases.

These settlers have just moved into the above districts and had freighted their stuff from Rosthern, a distance of eighty to one hundred miles, and did not feed their horses any oats and were watering them at the different sloughs along the road, and making the round trip in four days. I did not find any trace of glanders, having been in the above districts.

With the exception of the Crooked Lake, Hoodoo and Humbolt districts, I have seen but an odd case of fever in horses in this district during the past year.

A detailed statement of the work done by me here has been forwarded to the department each month.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General, J. J. MOUNTFORD,
Veterinary Staff-Sergeant.

W. MITCHELL, V.S.

NORTH PORTAL, October 31, 1905.

SIR,—I have the honour, in compliance with your instructions, to forward this, the annual quarantine report for North Portal for the year ending the 31st ulto.

And at the outset, permit me to say that in the performance of this duty, I find myself labouring under grave disadvantages through lack of personal knowledge relative to the matter I am writing about. Indeed, with the exception of the last couple of weeks in the year during which I had personal oversight of the work, for the material necessary for this report I am dependent entirely on the meagre supply furnished by the records, and that almost entirely of a statistical character. Under more favourable circumstances and with the entire scope of a year's operations to draw upon, much doubtless, might have been written that would not have been wholly devoid of interest but in the present instance, apart from the elaboration of merely hear-say knowledge, that course is wholly impracticable. Suffice to say that I have carefully checked the records over and find that the total number of United States stock brought into Canada at this point during the year for all purposes is as follows:—

Horses	6,504
Mules	311
Cattle	6,997
Sheep	92
Swine	48

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General, W. MITCHELL,
Veterinary Staff-Sergeant.

H. M. GRAY, M.D.V.

REGINA, October 31, 1905.

SIR,—I have the honour to forward herewith my yearly report for the year ending October 31, 1905.

I was stationed at Pendant D'Oreille inspecting stock crossing the line at that port of entry, leaving that point on December 15, to relieve Staff-Sergeant Johnston at Coutts, where I was stationed until February 1, being transferred from 'K' division to Depot division on June 1, 1905.

I was stationed at North Portal from June 18 until October 17, since when I have been working from Regina testing animals for glanders.

I have the honour to be, sir,
Your obedient servant,

H. M. GRAY,
Veterinary Staff-Sergeant.

The Veterinary Director General,
Ottawa.

A. E. DENNIS, V.S.

REGINA, October 31, 1905.

SIR,—I have the honour to forward the annual report on quarantine work done in this district; since entering the service about five months ago I have been working in this district on glanders; I have tested about 190 horses and examined quite a number more which I did not test owing to no clinical symptoms being present and failure to trace where they had been in contact with infected animals. But of the animals I have tested myself the second time, I only found one that did not react again; in nearly all of the cases where animals were infected I have traced the disease either to a ranch or the United States. I was at Tyvan on the Arcola and Regina Railway and destroyed twenty-five horses around that town and traced the origin of the disease to three different parts of the United States. I have found very little mange in this district and what I did find was not very far advanced and yielded readily to treatment.

I have the honour to be, sir,
Your obedient servant.

A. E. DENNIS,
Veterinary Staff-Sergeant.

The Veterinary Director General,
Ottawa.

E. A. MEAKINGS, M.D.V.

BATTLEFORD, October 31, 1905.

SIR,—I have the honour to submit this the annual quarantine report of this district for the year ended October 31.

GLANDERS.

Since the date of sending in last annual report till the end of February, I was stationed in Regina district, endeavouring with several other inspectors to stamp out the serious outbreak of glanders prevailing there at that time. I am pleased to state that our work is now facilitated by the owners of affected animals receiving compensation for those shot.

I also found that settlers were much more willing to have their horses tested, and in cases where horses had been exposed the owners instead of spreading the disease would report at once not waiting until pronounced clinical symptoms appeared.

It is quite evident that the work has been greatly lessened by destroying reactors as very few of the owners keep their animals for a retest.

MANGE.

There was only one case of mange reported to me in this district and that was doing well at the time of leaving for Battleford.

The statistics of above work done by me in Regina district will be shown under that heading.

GLANDERS.

In Battleford district I found considerable contagious disease chief of which was glanders. This disease existed at Bresaylor and a case or two north of Battleford. At the latter place all diseased animals were destroyed, at Bresaylor some were destroyed and others were ordered to be collected pending testing. At this time a serious outbreak occurred at the Canadian Northern Railway construction camps, this matter was investigated and all animals showing clinical symptoms were destroyed together with a number of animals which reacted to the mallein test.

Later the owners of these animals decided to quarantine those affected instead of destroying. These quarantined animals were visited from time to time and were found properly isolated thereby preventing the spread of the disease. All abandoned camps were burned, and a number of carcasses of horses and mules which I suspected of dying of said disease and which were lying along the trail unburied. Since knowing the nature of the disease the superintendents of various camps have attended to the burning of the camps before leaving, previous to that time the expense of burning said camp was borne by the Department of Agriculture as it was impossible to ascertain the names of the contractors who used these camps, owing to many of them having left the district.

Numerous settlers worked on the grade teaming during this outbreak the names being given to me by the superintendents of construction. All these horses have been tested with one or two exceptions, and I have great pleasure in stating that a very small majority of these horses have reacted to the mallein test.

With the exception of horses and mules under quarantine and those in the Bresaylor district at which place H. Ovens, V.S., is now working, I know of no other cases in this district.

MANGE.

During the spring a few cases of mange appeared in cattle these being confined to the Battleford town herd, those showing disease were promptly isolated, and a close watch kept on the others, none of which developed the disease, and all cases, I am glad to say, have been successfully treated. In horses this disease is somewhat more scattered, cases being found in various parts of the district; however, most of these are now cured and the others progressing favourably. And in only one case was it found in a band of horses and these were in pasture, all were quarantined and are now being treated.

I have visited some of the ranches in this district as well as a number of bunches of horses which have been in this vicinity and found no disease of any kind, the horses being in a fine healthy condition.

I attach a chart of number of animals tested, destroyed, &c.

I have the honour to be, sir,
Your obedient servant,
E. A. MEAKINGS,
Veterinary Staff-Sergeant.

The Veterinary Director General,
Ottawa.

Horses tested, reacted, destroyed and quarantined:

Tested	262
Reacted	103
Destroyed	54
Quarantined	55

J. E. LITTLEHALES, D.V.S.

MAPLE CREEK, October 31, 1905.

SIR,—I have the honour to submit the following report, for year ended October 31, on work performed for the Department of Agriculture since April 1, at which time I was transferred here.

Number of miles travelled—

Train	1,624
Trail	1,275

Number of animals inspected—

Imports—

Horses	442
Cattle	3,333
Sheep	3,070

Exports and local markets—

Cattle	4,781

About twenty-five head were rejected on account of mange.

These exports were inspected at different points between Medicine Hat and Waldeck.

Local markets—

Horses	81

These were inspected by me at Medicine Hat, Walsh and Irvine in the absence of Dr. Hargrave.

The above record shows an increase on imports and exports from last year.

The following exports were inspected by Dr. Jemison at Medicine Hat, Dunmore Junction, Irvine, Walsh, Brooks, Suffield and Stair:—

Cattle	12,187
Horses	393
Sheep	1,262
Mules	4

Dr. Jemison was temporarily and especially engaged, from August 1, for the purpose of inspecting shipments of live stock, at various points on the railway, between Brooks and Waldeck, as there was so much other work to be done in the country, by the inspectors stationed at Medicine Hat and Maple Creek.

GLANDERS.

I have destroyed ten horses which showed clinical symptoms, and tested forty-five head with mallein, three of which reacted and were destroyed.

I still have a bunch of horses to retest, as soon as the owner is able to gentle them sufficiently to be handled.

The districts in which glanders prevailed, are Herbert, among the German farmer's horses, and Battle Creek.

Some half-breeds, travelling from Saskatoon by trail to Swift Current were stopped and quarantined by the police as their horses showed suspicious symptoms; three horses I destroyed showing clinical symptoms, and after testing the balance, eight in number, destroyed one reactor.

MANGE.

There has been very little mange showing this year, only a very few cases were noticed in the cattle treated in this district.

The majority of the ranchers recognize the benefit they have derived from last year's treatment

Dipping operations are practically over, nearly 60,000 head of cattle being dipped in this district. It was found necessary to employ several more deputy inspectors than was at first expected, at the commencement of the dipping, on account of there being so many more vats to attend to than last year, and also so many ranchers dipped on the same dates, as it was in two cases at second dippings, it was found impossible to provide a deputy inspector. However, dipping operations were very thorough, hardly an animal being missed. The cage vat does the work most thoroughly.

There were no cases of mange in horses reported to me in this district.

MALADIE DU COIT.

So far this disease has not extended to this district. One case was reported, as suspicious, in a gelding at Battle Creek. I saw this animal with Dr. Hargrave, and it proved to be free from the disease.

No disease in sheep has been reported to me during the time I have been in Maple Creek.

I have the honour to be, sir,
Your obedient servant,

J. E. LITTLEHALES,
Veterinary Staff-Sergeant.

The Veterinary Director General,
Ottawa.

H. T. AYRE, V.S.

REGINA, October 31, 1905.

SIR,—I have the honour to submit the following report of quarantine work performed in the Regina district by Inspector Burnett, Staff-Sergeants Ayre, Mitchell,

Busselle, Greenwood, Meakings, Gray and Dennis, between November 1, 1904, and October 31, 1905 .

Tested and quarantined.	Tested and destroyed.	Destroyed without test.	Tested and no reaction.	Examined only and not tested or quarantined.	Tested more than once and ceased to react.						Total.
					1	2	3	4	5	6	
114	631	22	1,190	1,196	.....	67	31	18	2	4	3,275

Horses quarantined for mange..... 86
Cattle " " 41

Cattle tested for tuberculosis, 69; 62 for the experimental farm, Indian Head, and seven for Jno. Scott, Manor, no reaction.

Nine head of cattle died from Blackleg at Willow Bunch, 147 head examined.

I have the honour to be, sir,
Your obedient servant,

H. T. AYRE,
Veterinary Staff-Sergeant.

The Veterinary Director General,
Ottawa.

A. R. DOUGLAS, D.V.S.

Macleod, October 31, 1905.

Sir,—I have the honour to submit herewith my first annual report of services performed for the Department of Agriculture.

Having been taken on as veterinary staff-sergeant in the R.N.W.M. Police early in March, 1905, I was employed for a considerable length of time investigating cases reported as glanders among the horses in that district. On the Kirkella branch of the C.P.R. the general condition of stock was good, although about eight horses in the neighbourhood of Tantallon were found to be suffering from glanders and were forthwith slaughtered. On the main line east of Regina several cases of suspected glanders were reported, but no serious outbreak occurred. On the Arcola branch, eight horses were slaughtered for glanders at Kronan and two at Frances, in both cases these were reactors to the third test with mallein. At Bladworth, on the Prince Albert branch, six horses out of seven on the premises of a farmer in that neighbourhood were found to be infected with glanders and were forthwith destroyed; I also inspected the premises of several farmers residing near Davidson, where an outbreak of glanders had occurred some time previously, the disinfection of premises and cremation of carcasses had been carried out thoroughly, so that no fresh cases, up to that time, had been reported. At Craik a case of mange was reported, but upon examination proved to be a simple case of cutaneous irritation, the result of pediculi. Several other cases of suspected glanders were reported, but the majority of these proved to be nothing more serious than a severe attack of nasal catarrh or coryza, and especially was this found to be the case among horses imported from the east, the change of climate predisposing them to such nasal affections.

On the main line west of Regina several cases of glanders occurred; ten miles north of Belle Plaine two well marked cases developed and on testing with mallein the remainder of the horses on the premises, four in number, a reaction occurred in each case, so that the entire six were destroyed.

At Buffalo Lake, twenty miles north of Moosejaw, six cases of glanders were discovered just in time to prevent a serious outbreak in that district.

In the neighbourhood of Caron a great number of suspected cases were examined but in only two cases did the disease prove to be glanders.

At Parkbeg seven cases of glanders occurred and several cases of suspected mange were reported, but upon investigation these cases proved to be ringworm, with which a number of calves in that district were badly infected. North of Parkbeg, two cases of glanders occurred ; two cases were also discovered at Eyebrow Hill, about thirty miles north of Parkbeg. West of Parkbeg, seventy range horses were tested with mallein owing to the fact that they had been exposed to contagion by direct contact with a glandered horse on the same range; four of these reacted and were destroyed. About forty miles north of Chaplin, a very serious outbreak of glanders occurred; to all appearances the disease had been spreading amongst these horses for at least a year, but owing to the natural conditions under which these animals live being conducive to good health, it assumed a benign form, hence the characteristic symptoms were slowly developed and in the majority of cases the animal was, to all appearances, perfectly healthy until tested with mallein, when a decided reaction occurred, thus the disease would be disseminated among the farming community should these animals be offered for sale as the extreme change from the open range to a dark, damp or ill-ventilated stable would suffice to render the disease manifest in a short period of time. It appears then, that a careful examination of range horses from that particular district would be necessary before placing them on the market. Out of about 200 head of horses tested with mallein on this ranch, 56 reacted and were disposed of in the usual manner. At Waldeck I inspected six carloads of cattle for shipment, all of which passed inspection. On the Soo line the condition of stock was found to be good, although several suspected cases of glanders were reported from various points along this line no outbreak of any consequence occurred. Towards the latter part of May I inspected 632 Texas cattle and 74 horses for importation into Canada; owing to some alterations to the stock yards at North Portal I was obliged to proceed to Velva, North Dakota, to examine these animals.

Early in September I was attached to this division for the purpose of taking over the duties of inspector for No. 2 quarantine district. Compulsory dipping of cattle for mange is still in progress in this district and with few exceptions the ranchers are not adverse to this method of treatment, in fact some claim that the cattle winter better after having been dipped, however, it has checked the spread of mange to an enormous extent and a thorough dipping this year will practically exterminate the disease in this district. At Cardston I inspected 22 head of horses for shipment during the latter part of October. At present I have two mares under close quarantine for suspected maladie du coît; until a thorough examination can be made, these mares are in the neighbourhood of Cardston.

I have the honour to be, sir,
Your obedient servant,

A. R. DOUGLAS.
Veterinary Staff Sgt.

The Veterinary Director General,
Ottawa.

C. H. McVEIGH, V.S.

CALGARY, October 31, 1905.

SIR,—I have the honour to submit herewith my annual report of work done for the Department of Agriculture for the year ending October 31, 1905.

Cattle mange, which has been prevalent throughout this district, has been nearly eradicated by the recent compulsory mange dipping order. This district has been subdivided into three districts.

District No. 12.—That portion of the Calgary district lying west of the C. and E. railway, under the supervision of P. K. Walters, V.S.

District No. 10.—That portion of the district, west of the C. and E. railway and north of the C.P.R., under the supervision of Veterinary Staff-Sergeant Busselle.

District No. 11.—That portion of the district east of the C. and E. railway and south of the C.P.R., under the supervision of Veterinary Staff-Sergeant McVeigh.

I am pleased to state mange has not been nearly so noticeable this season as last, and also to state the dipping has been much more thoroughly carried out.

I do not believe there is a single animal in these districts which will not be treated this season. Not a single case of horse mange has come under my notice this year.

Glanders has been found to some extent throughout the district north of Calgary. Sixty-three animals have been destroyed, only three south of Calgary.

Most of the stock inspected for shipment were inspected by Drs. Hobbs and Riddell: Horses, 1,937; cattle 19,858.

I have the honour to be, sir,
Your obedient servant,

C. H. McVEIGH,
Veterinary Staff Sgt.

The Veterinary Director General,
Ottawa.

J. A. McCREIGHT, V.S.

R.N.W.M. POLICE,
MACLEOD, October 31, 1905.

SIR,—I have the honour to forward the following report of services performed for the Department of Agriculture for the year ending October 31, 1905.

I was transferred from Depot division, Regina, to this post in May last. My report prior to that date has been taken from records kept in the veterinary office.

Every shipment of stock during the year was inspected.

Number of cattle inspected and passed for shipment, 10,692 head.

Number of horses inspected and passed for shipment, 2,246 head.

Number of cattle rejected for mange, 4 head.

Number of cattle rejected for actinomycosis, 1 head.

Number of horses rejected for mange, nil.

MALADIE DU COIT.

Owing to the insidious nature of this disease and the difficulty in detecting its symptoms by the ordinary horse owner, I was employed chiefly during the summer in making examinations of stallions kept for service in this district, with a view to prevent further spread of the disease. In every case where the disease was suspected to

exist, a careful examination was made of all in contact animals and everything showing the slightest symptoms quarantined and isolated.

Number of stallions and mares examined, 304; number of stallions quarantined, 2; number of mares quarantined, 5.

Mange has not shown to any great extent so far in this district, nor have I seen, with the exception of one, a bad case of actinomycosis.

Glanders.—Twelve outbreaks of this disease were investigated, and measures carried out as seemed best for its eradication and control.

Number of animals destroyed for glanders, 23; number of animals tested and no reaction, 17; number of animals quarantined, 1; total 41.

I have the honour to be, sir,
Your obedient servant,

JAMES A. McCREIGHT,
Sergt.

The Veterinary Director General,
Ottawa.

N. P. OLSEN, V.S.

REGINA, October 31, 1905.

SIR,—I have the honour to submit the following report of work performed by myself for the Department of Agriculture from May 17 to October 31, 1905.

During the first three months of this period I was working in southeastern Assiniboia (now Saskatchewan). I found glanders to be by far the most prevalent of contagious diseases in this district. The attached table shows my work in this connection.

RABIES.

An outbreak of this occurred in Oxbow, and such measures were taken as were in accordance with the Animals Contagious Diseases Act.

EQUINE MANGE.

Only seven cases of this came under my notice.

CATTLE MANGE.

No cases of this disease were reported in this locality.

During September and October, I had charge of Dipping District No. 13. The Order in Council *re* compulsory dipping has been complied with in a satisfactory manner in this district.

Six dipping vats have been built since last year; there being now eleven vats in the district. No cases of mange were seen in the northern part of the district, but in the southern and central portions cases were quite numerous, particularly in herds not treated last year. No other diseases of a contagious or infectious nature came under my notice.

I have the honour to be, sir,
Your obedient servant,

N. P. OLSEN,
Veterinary Staff Sgt.

GLANDERS.

Tested and Quarantined.	Tested and Destroyed.	Destroyed without testing.	Tested and no reaction.	Examined only, not tested or quarantined.	Tested more than once and ceased to re-act.					Total.
					1	2	3	4	5	
28	53	0	138	43	.....	7	1	.....	.....	270

H. J. JOHNSTON, V.S.

COUTTS, October 31, 1905.

SIR,—I have the honour to submit this my annual report of work done for the Department of Agriculture for the year ending October 31, 1905.

With the exception of a very few cases of mange in cattle, no disease of a contagious or infectious nature, has shown itself in this district during the year.

Mange is practically eradicated in this district owing no doubt to the rigid enforcement of the compulsory dipping order, and every rancher seems anxious to comply with it, although some of them have been rather late in doing so.

There has been a marked decrease in the amount of stock imported as compared with that of last year, owing to the fact that the unbroken range horses are not being shipped and the dry seasons for the last two years in Southern Alberta have discouraged immigration.

During the year I tested with tuberculin thirty-nine head of cattle, none of which reacted.

The total number of stock that came into Canada at this port is as follows:—

Horses	2,584
Mules	6
Cattle	3,940
Sheep	4,473
Swine	.....
Total exports, cattle	409

We completed the dipping of all cattle in the vicinity of Coutts the second time on the 25th of October. I have not received the reports of the deputy inspectors of this district (No. 14) to date, so cannot give a complete detail of the work done.

I have the honour to be, sir,
Your obedient servant,

H. J. JOHNSTON,
Veterinary Staff Sgt.

The Veterinary Director General,
Ottawa.

SESSIONAL PAPER No. 15a

S. A. K. WHITE, V.S.

CARDSTON, October 31st, 1906.

SIR,—I have the honour to forward this my annual report of work done for the Department of Agriculture for the year ending October 31, 1905.

I relieved S. S. Oliver at this quarantine station on July 29, 1905, since that date there have been inspected here two hundred and fifty-four horses, and thirty-six head of cattle. The cattle were held, and dipped.

There were one hundred and forty-two horses inspected free of duty, being entered by settlers. And one hundred and two entered upon which inspection fees were collected.

I have examined, and tested for glanders, in this district, fourteen head of horses, one of which reacted, and was destroyed.

One case of maladie du coït came to my notice and is now held in quarantine.

Mange is practically stamped out in this district due to the active measures taken by the Department of Agriculture, in enforcing the dipping of all cattle, which is now declared to be very beneficial to all cattle whether affected or not.

I have the honour to be, sir,
Your obedient servant,

S. A. K. WHITE,
Veterinary Staff Sgt.

The Veterinary Director General,
Ottawa.

E. S. GREENWOOD, V.S.

PENDANT D'OREILLE, October 31, 1905.

SIR,—I have the honour to submit herewith my report of work performed for the Department of Agriculture for the seven months ending October 31, 1905.

On engaging with the Royal Northwest Mounted Police as a venterinary staff sergeant in April, 1905, I was stationed at Depot Division, Regina, where I remained until June, when I was transferred to K Division, Lethbridge, and stationed at Pendant d'Oreille, a port of entry on the international boundary.

While stationed at Depot Division I was sent out to investigate an outbreak of glanders on the Indian reserves, in the Touchwood Hills Indian agency. I found this to be quite a serious outbreak, not confined to horses on the Indian reserves but extending to those of several settlers in the vicinity. In all I found twenty-six cases of glanders, fourteen of which were on the Indian reserves. All those horses were dealt with according to the order. As those Indians are in the habit of spending a great portion of their time in pursuit of game and in visiting the different reserves, thus coming in contact with horses all over that country, I was unable to trace the origin of the outbreak.

While inspecting horses on one of the reserves, I came across two cases of mange in horses; these were treated according to the order. The dipping of horses for the eradication of this disease has had a marked effect on the horses of our western ranges.

Since coming to Pendant d'Oreille I have had one case of glanders. This horse was destroyed according to the order, and the remainder of the herd subjected to the mallein test.

When the compulsory dipping order of 1905 came out, I was given charge of district No. 6. In this district we have six dipping plants, besides the government vat

at Pendant d'Oreille. All the cattle in the district, about 27,000, have been treated according to the order, with the exception of those being dipped at this dipping plant. Two of the largest cattle owners in the district have been using this plant, and having to cover such a large tract of country in order to get their cattle, they have been unable to complete their dipping in the time specified by the order. They are, however, continuing to dip, and hope to have all their cattle dipped by November 15, 1905.

The compulsory dipping order of 1904 has had an appreciable effect on the eradication of this disease, and with this season's compulsory dipping will, I think, leave our herds entirely free from mange, and with the present regulations regarding import cattle at all ports of entry, and with something done to effectually prevent the invasion of our ranges by the American stray cattle, I think we will be free from this troublesome disease for some time.

While visiting the different dipping plants in my district I have noticed several cases of actinomycosis. Aside from this disease, and mange, cattle in this district are free from any contagious diseases. Attached is a list of stock inspected at this port of entry, and allowed to enter, from June 1, 1905, to October 31, 1905.

Import stock inspected at Pendant d'Oreille port of entry and allowed to enter:—

Horses	656
Cattle	899

Registered cattle tested with tuberculin and allowed to enter, 14.

Export cattle inspected and allowed to be removed from quarantine district, 2,627.

I have the honour to be, sir,
Your obedient servant,

E. S. GREENWOOD,
Veterinary Staff Sgt.

The Veterinary Director General,
Ottawa.

M. V. GALLIVAN, V.S.

LETHBRIDGE, ALTA., October 31, 1905.

SIR,—I have the honour to submit this my annual report of work done for the Department of Agriculture for year ended October 31, 1905.

During the past twelve months I have inspected for shipment 4,332 cattle and 314 horses, and have found no contagious diseases existing among cattle, with the exception of a few cases of mange and actinomycosis.

Mange is disappearing rapidly since the enforcement of the compulsory dipping order.

The equine disease known as maladie du coit still exists in this district, but every means possible is being used to eradicate it. Early in June an examination of the mares at the quarantine station was conducted by you, Inspector Burnett, Dr. Higgins, Dr. Warnock and myself also being present. A number of mares belonging to different owners were destroyed, while several selected cases were retained for experimental purposes. A considerable number were subjected to a further period of quarantine owing to the symptoms presented not furnishing conclusive evidence of their being affected. Since that time a number of other mares have been slaughtered after examination by Inspector Burnett, Dr. Hadwen and myself.

Dr. Higgins made post mortem examination on carcasses of animals slaughtered in June; Dr. Hadwen doing likewise on animals destroyed this fall. The pathological lesions found will be reported by them.

About thirty-six mares are still in quarantine field, some of which are yet to be destroyed. In the past two months I have seen three new cases, one a stallion, the other two cases are mares picked up on the prairie; these animals have been quarantined on premises of owners. One outbreak of glanders has been reported in this district, which I attended to. It occurred on a farm near Sterling, Alta., two horses were destroyed, one a gray gelding showing clinical symptoms, the other a brown mare that re-acted to mallein test. Since the slaughter of these animals the disinfecting of premises has been satisfactorily carried out.

Six thousand four hundred and seventy-two cattle have been dipped in this district under the provisions of the compulsory order.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

M. V. GALLIVAN,
Veterinary Staff Sgt.

J. C. HARGRAVE, D.V.S.

MEDICINE HAT, October 31, 1905.

SIR,—I have the honour to submit the following report for the twelve months ending October 31, 1905.

The number and classes of animals inspected and passed for shipment are as follows:—

Horses	1,413
Cattle	1,948

Since July the inspection of shipments has been looked after by Dr. Jemison.

The number and classes of animals imported from the United States are here given:—

Horses	45

During the year 350 doses blacklegine have been sold.

GLANDERS.

Number of horses destroyed for glanders during the year were forty-four (44), and for the previous years as follows:—

1901	43	head.
1902	21	"
1903	10	"
1904	11	"

Some 230 tests were made during the year.

Horses tested once	203
" twice	21
" thrice	1
Horses tested and no re-action	163
Horses tested and destroyed	40
Horses destroyed without testing	4
Number of ceased re-actors	2
Suspicious cases examined	20
Number in quarantine at present awaiting test	1

TUBERCULOSIS.

Only two cases came to my notice, both were dairy cows, and clinically diagnosed.

MANGE.

The result of the compulsory dipping of cattle in 1904 was most gratifying. The following may serve to illustrate the results.

R. E. Margeson, manager of the Medicine Hat Ranch Co., during the winter of 1903-4 treated in the neighbourhood of 300 cases, and during the winter of 1904-5 did not have a single case. Likewise the ranchers on Boxelder creek treated, during the winter of 1903-04 about 450 cases, and last winter only 3 cases were found, and these were thought to have escaped the dipping.

Similar reports were made from all over the district.

The dipping this year has been done most willingly and, although a few have to make their second dip, is practically finished.

Number of vats in operation during 1905	38
Number of cattle dipped	60,000
Number of horses dipped	2,426

Mange among horses has been almost stamped out. This date a year ago there were in quarantine 8 bunches, comprising some 2,500 head. This date I am pleased to be able to report that only two (2) remain in quarantine, and one of these two herds is free from mange, but remains in quarantine because of the maladie du coit.

At the present time to my knowledge there are only four cases of mange in the district.

The lime and sulphur dip has been used on all these herds.

A quantity of crude oil was received for experiment. Only one test was made. A roan gelding badly affected with sarcoptic mange received one application of this oil, with the result that no further treatment was necessary, but considerable œdema of the extremities resulting from the application.

MALADIE DU COIT.

In March a case of maladie du coit was detected, and several more on April 6, since when about 2,500 mares have been examined.

Number destroyed for maladie du coit	104
Number suspicious cases this date	86

A number of these herds have been examined two and three times. Post mortems were held on some 75 head.

All efforts towards tracing the disease to its origin have been without results, but from the location of the herds in which it was found and from the fact that a large number of strays are always to be found between here and Lethbridge, it is quite evident that it has spread from the Lethbridge district.

Respectfully submitted.

I have the honour to be, sir,
Your obedient servant,

J. C. HARGRAVE,
Inspector.

The Veterinary Director General,
Ottawa.

SESSIONAL PAPER No. 15a

D. WARNOCK, M.R.C.V.S.

PINCHER CREEK, October 31, 1905.

SIR,—I have the honour herewith to submit my report relative to inspection work done by me, in Southern Alberta, from January 1, 1905, to October 31, 1905.

During the past nine months my time has been largely devoted to examination and investigation in connection with maladie du coït among horses.

In accordance with instructions received from the commissioner, R.N.W.M. Police, during the months of March and April, I examined as many stallions as was possible, but found none of these affected with maladie du coit.

Early in May I met you and the commissioner of police at Lethbridge, and visited the quarantine station at that point. Later in the month you, Inspector Burnett, Dr. Higgins, Dr. Hargrave and others, accompanied me to the Porcupine Hills to examine some cases of maladie du coït. While there we destroyed two typical cases of this disease, a mare, and a stallion, quarantined by me in October, 1904, the source of contagion being directly traceable to a mare brought in from Utah, U.S. A few days later, I met Inspector Burnett, Dr. Higgins and Staff Sergt. Gallivan, V.S., at Lethbridge, and we began a systematic examination of all mares held at the quarantine station. On the 23rd, you joined us there, and, after examination had been completed the work of valuing and destroying affected mares was proceeded with. On the 31st May, I completed the work of destroying one hundred and ten (110) mares, and with Dr. Higgins, took over twenty (20) affected mares, from Mr. T. McCaugherty, for your department, these to be retained at the Lethbridge quarantine station for experimental purposes. At the same time a number of suspect mares were handed over to their owners, on licenses to be held for future examination.

After consultation with you and Inspector Burnett, I was authorized to employ range-riders for the infected districts, their duties being to see that the regulations relating to maladie du coït were being observed by horse owners and to take up all stray stallions found running at large. For this purpose two men were employed, one in the Lethbridge and Little Bow district, and one in the Porcupine Hills and Macleod district, and much good work was done by these men. The attention of horse owners was drawn to the regulations (many were ignorant, or professed to be ignorant regarding these regulations), and many stallions running at large, were taken up and either castrated, or kept under control, thereby minimizing the danger of disease being spread.

About the beginning of June I proceeded to High River district, to examine a large bunch of mares and four stallions, suspected of being affected with maladie du coït. In this bunch I found two stallions, and a number of dry mares, showing very suspicious symptoms, but, as many mares were heavy with foal, or had recently foaled, I considered it necessary to examine the herd later in the season before giving a decided opinion, so, quarantined the bunch for future examination. Unfortunately, a few days later, in the course of my inspection duties, I had the misfortune to have my left ankle badly fractured, and knee partially dislocated from the effects of which accident I was physically incapacitated for some months, and have not yet completely recovered; and lost much valuable time.

On the 5th October, I investigated an outbreak of contagious disease among livery horses at Cowley, Alberta, and found the disease to be *variola equina*. Finding four horses affected, I had these isolated, the stable thoroughly cleansed, and disinfected, and no fresh cases developed. Two of the stable attendants became inoculated and suffered considerable inconvenience. I then went to High River, in company with Dr. Hadwen, of Lethbridge, and arriving there met Dr. Walters, of Okotoks, when we visited the ranch already referred to, and made a thorough examination of one hundred and eighty-seven (187) mares, and three stallions—subsequent to my previous visit in June one range stallion had been castrated. As the result of our examination we found thirty-six (36) mares, and one stallion, undoubtedly affected with maladie du coït, which animals I valued and destroyed. As this herd is badly

contaminated, the remaining mares and stallions are under surveillance, and will be dealt with, from time to time, as the symptoms of disease develop.

Up till the 31st of October, I have valued, and destroyed one hundred and forty-seven mares (147), and (3) stallions, representing the brands of thirty-one individual owners, while a number of suspected stallions have been castrated by their owners. Many mares, and some stallions, died before the true nature of the disease was suspected by owners, or the existence of disease was reported.

A number of the mares destroyed have been of little value, but, on the other hand, many have been very valuable animals, and, even when the maximum valuation allowable has been given, the owners suffered heavy loss.

As the effects of this disease are, in many cases, largely manifested in the nervous system, autopsies are often unsatisfactory to owners. Although the lesions found are convincing to the student of pathology, owners are often not impressed with the result of post mortem examinations.

Owing to the insidious nature of maladie du coït, it is a difficult disease to control, and stamp out, even among domesticated animals, but, under range conditions the difficulties of eradication are many times increased, and entail much painstaking careful investigation.

In connection with this disease I think it is of the utmost importance that those entrusted with the duty of dealing with it should exercise the greatest care in diagnosis. Mares and stallions affected with other diseases sometimes exhibit symptoms very similar to those of maladie du coït, and, in dealing with suspected cases, much careful investigation may be required in order to differentiate. Where pathognomonic symptoms are not present, but, the symptoms presented are sufficiently definite to justify destruction of the animal, I think it is absolutely necessary that autopsies be made. A careful examination after death may reveal the existence of other contagious disease (or perhaps non-contagious disease sufficient to account for the symptoms), to combat the spread of which, measures altogether different from those required in maladie du coït may be necessary. By making thorough post mortems in obscure cases, much valuable data may be acquired of great assistance in future investigation. For example, if a mare is exhibiting symptoms suspicious of maladie du coït, but the stallion by which she was served, say, the previous year, is found to be in perfect health, and all mares served by him, subsequently are healthy, I think it is important that the true nature of the affected mare's disease should be discovered—after destruction, if the symptoms are such as to warrant this. Under the conditions existing here, I think it is less regrettable that a healthy (not affected with maladie du coït) mare should occasionally be destroyed than that one affected mare should be allowed to escape.

By making postmortems the inspector dealing with the case will become possessed of valuable information, and, if the disease does not prove to be Maladie du coït, owners of other animals concerned, will be left in a much less perturbed state of mind.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

D. WARNOCK,
Inspector.

SEYMOUR HADWEN, D.V.S.

LETHBRIDGE, October 31, 1905.

SIR,—I have the honour to submit to you my annual report for the year ending October 31, 1905.

On August 16 I was transferred from Nelson, B.C., where I was stationed, to Lethbridge, Alberta, to take charge of an experimental station then in course of erection, for the purpose of investigating the disease known as maladie du coit.

SESSIONAL PAPER No. 15a

The following lists show the number of animals inspected by me at the ports of Nelson and Rossland, also the contagious diseases dealt with, the number of animals tested, and the fees collected during the year.

Animals imported from the United States from October 31, 1904, to May 16, 1905:

Horses	718
Mules	14
Cattle	1,268
Sheep	3,084
Swine	119
Total	5,203

Number of cattle tested, 37. Found diseased and returned, 2. One mare held on suspicion of maladie du coït, subsequently returned.

CONTAGIOUS DISEASES DEALT WITH IN WEST KOOTENAY.

Tuberculosis.—Two cows were tested, one of which reacted and was destroyed.

Glanders.—In January at Pendant d'Oreille I destroyed a horse showing clinical symptoms of glanders.

In June there was another outbreak of glanders at Pendant d'Oreille, three horses were tested and a re-action obtained from them all; these were also destroyed.

AT LETHBRIDGE EXPERIMENTAL STATION.

Since my arrival here my time has been principally occupied in visiting the diseased herds of animals suffering from maladie du coit, and in taking notes upon those reserved for experimental purposes. I have not been able to conduct many experiments as yet, the stabling accommodation at the station not being completed. I have made a considerable number of autopsies, on which I am sending you a separate report.

In conclusion I desire to express my thanks to Drs. Burnett, Warnock and Gallivan, who have given me all the assistance and information which it lay in their power to do.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

SEYMOUR HADWEN,
Inspector.

G. W. JEMISON, V.S.

MEDICINE HAT, October 31, 1905.

SIR,—I have the honour to submit the following report:—

I inspected for shipment, commencing August 8, and continuing until November 4.

Cattle	12,424
Sheep	1,262
Horses	433
Mules	14

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

G. W. JEMISON,
Inspector.

S. F. TOLMIE, V.S.

VICTORIA, B.C., October 31, 1905.

SIR,—I beg to submit a report for the year ending October 31, 1905.

Hog cholera was dealt with on one farm near Nanaimo in November last, this was the fag end of the outbreak which caused us considerable trouble in Mountain and adjacent districts during the summer of 1904.

The disease showed itself in Saanich district to a limited extent, but was quickly stamped out, and has not been reported since.

It is gratifying to note that the disease has not been reported in a single district in this province this year where it existed during the summer of 1904 and was dealt with in accordance with the regulations.

Under your directions I had plans prepared, and superintended the erection of corrals, dipping vats, squeezers, etc., at Gateway, Nelson and Midway, B.C., and was ably assisted in this work by Drs. Seymour Hadwen and D. Tamblyn and Mr. J. D. Gordon, collector of customs at Gateway. These corrals are very complete, and were designed with a view to durability, convenience in handling, and the comfort of the stock. The largest was built at Gateway, on the line of the Great Northern Railway. It has two main yards besides smaller compartments, and is equipped with chutes, a dipping vat lined with galvanized-iron, and a capacious dripping yard. The contents of the vat are heated with a Daisy hot water heater, a suitable boiler being conveniently placed for the preparation of the dip. The water supply is secured from the Kootenay river by means of a 3½ horse-power gasoline engine connected with a 3,000 gallon water tank situated near the vat. The squeezer is of a good pattern and is built so as to render the examination of unbroken horses safe, rapid and efficient. The corral here is connected by a lane with a suitable unloading chute and yard provided by the railway company, and placed some distance away, owing to the peculiar nature of the ground.

The corrals at Nelson are situated next to the Canadian Pacific Railway stock yards, and are connected with them. They are 90′ x 30′ over all, divided into two main divisions. They are also provided with squeezers, dipping vat, dripping yard, etc. Owing to the peculiar nature of the ground in this neighbourhood and its liability to overflow under certain conditions, considerable filling was necessary before the corrals were erected, and for this reason also steam heating appliances have been substituted for the hot water system.

As quite a number of dairy cattle and stock swine are imported at this point, a testing and quarantine stable 60 x 30 feet has been fitted up in connection with the corrals. The water supply is secured from the city system.

The corrals at Midway are built on the same plan and are of the same dimensions as those at Nelson, they are also situated on the Canadian Pacific Railway, and are connected with their yards. Water is supplied from the C.P.R. pipes, and the hot water circulating system is used for heating the contents of the dipping vat. It was thought unnecessary to provide any stable at this point.

Suitable premises have been secured in Rossland for the purpose of testing imported dairy stock, and for the isolation of small lots of swine imported from the United States.

I am pleased to report that detention corrals have been provided by the Canadian Pacific Railway Company on their line at Huntington, B.C., and that similar accommodation for live stock has been erected by the Great Northern Railway on their line at Douglas, B.C. The inspection and disinfection of stock cars has been carried out at a number of points where beef cattle are received from the mange infected districts of the Northwest.

I have had to deal with somewhat serious outbreaks of glanders at Vancouver and in the Okanagan Valley, at Vernon, Kelowna and Peachland. The disease has apparently existed for some time at Vancouver and Peachland. It is impossible to state to what extent it exists at Vernon and Kelowna, as we are just about to com-

mence a proper investigation at these points. To date, 192 head of horses have been tested with mallein, 84 of which reacted and were destroyed, 64 passed the test successfully and 41 were found suspicious, 14 of these suspicious horses have been retested so far, of these two reacted and were destroyed, nine passed the test and three still remain suspicious and will be tested again. In nearly all reactors the history of the cases points to direct or indirect contact with diseased animals and this no doubt accounts for the large percentage of reactors.

Very little disease has been found among range horses so far. This is very gratifying, as an extensive outbreak among them would be very difficult to deal with, owing to the rough condition of the country over which they roam and to the presence of large bands of ownerless wild horses.

I have had associated with me in dealing with this outbreak, Drs. Bland and Gibbins at Vancouver, and Dr. H. H. S. George in the Okanagan.

An isolated case of mange was located in the Crow's Nest near Michel, B.C. This was quarantined and dealt with according to the regulations by Dr. Bell.

I examined with Dr. Hadwen, of Nelson, a mare imported from Washington, which showed suspicious symptoms of maladie du coit. She was refused entry and returned to the United States.

Enzootic opthalmia prevailed to a considerable extent in the dry belt districts of the province during 1904, but has not been reported this year.

No cattle were tested for export to the United States.

The general condition of the live stock industry in British Columbia during the year has been satisfactory, and fairly good prices have prevailed; but the importation of thousands of live sheep and hundreds of thousands of dollars worth of the products of the hogs annually from the United States for consumption in this province seem to indicate that there is still plenty of room for the development of these branches of the live stock industry here.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

S. F. TOLMIE.
Inspector.

W. S. BELL, V.S.

CRANBROOK, October 31, 1905.

SIR,—I have the honour to submit to you my report for year ending October 31, 1905, of stock inspected at the ports of Gateway and Rykets, and am pleased to say that the stock as a rule is of a better grade, with the exception of a few lots which were not up to the standard, and consequently were turned back.

One outbreak of mange occurred in my district, which was easily stamped out on account of it being in an isolated place.

I am pleased to say that this was the only case of contagious disease I had in my district.

Following are the number of animals inspected at ports Rykerts and Gateway:—

Horses	1,346
Cattle	420
Mules	9

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

W. S. BELL,
Inspector.

J. W. BLAND, V.S.

VANCOUVER, B.C., October 31, 1905.

SIR,—I beg to submit a report of inspection made by me at ports of Vancouver and Westminster district and sub-ports of Huntingdon and Douglas, for year ending October 31, 1905.

The following animals were inspected at Vancouver: Cattle 1, horses 85, sheep 25,893, all of which have passed inspection.

On August 1 I assumed the duties of veterinary inspector for New Westminster district and sub-ports of Huntingdon and Douglas, according to your instructions. At the above ports were inspected the following animals: Cattle 37, horses 55, mules 2, sheep 1,548, of which 36 cattle, 44 horses and 2 mules were entered as settlers' effects. All the above animals passed inspection. Previous to July 1, I received the inspection fees as my remuneration for my work; since that time I have been on salary, and have returned to the department the inspection fees collected.

Corrals have been erected by the railway company at Huntingdon and Douglas. This is a decided improvement and will facilitate the work of inspection at those ports. Stock yards in these districts have been kept in a clean and sanitary condition during the year.

A rather serious outbreak of glanders has occurred in Vancouver this summer; prompt and effective measures have been taken to stamp out the disease as rapidly as possible. All cars arriving with cattle from mange affected districts of the Northwest have been thoroughly cleansed and disinfected upon arrival at this port; this work has been carefully carried out by the railway officials.

I desire to take this opportunity of thanking Dr. S. F. Tolmie for practical demonstrations and suggestions *re* maladie de coït.

Also to thank His Majesty's customs officers and officials of various transportation companies concerned, for their kind assistance in carrying out the regulations of the department.

I have the honour to be, sir,
Your obedient servant,

J. W. BLAND,
Inspector.

The Veterinary Director General,
Ottawa.

D. TAMBLYN, D.V.S.

MIDWAY, B.C., October 31, 1905.

SIR,—I have the honour to submit my first annual report for the Department of Agriculture from March 13, 1905, to October 31, 1905.

My duties commenced at Ottawa under your personal supervision and during the six weeks there consisted chiefly of car inspection, outbreaks of glanders and mange.

The following table will give you the location and number of animals affected :—

Location.	Disease.	Number tested.	Number Destroyed after 1st test.	Number Destroyed after 4th test.	Number Destroyed showing clinical symptoms.	Number Suspicious.	Number animals affected.	Number healthy.
Kempvtille.....	Mange.....	.....	.....	.....	.....	.....	2	.....
Ottawa.....	Glanders....	9	5	.....	2	.....	7	2
Mont Cerf	"	11	4	3	2	1	10	1
		20	9	3	4	1	19	3

Number of stock cars inspected, 21; all of which I had thoroughly cleansed and disinfected.

I found in the district of Mont Cerf, P.Q., that the outbreak of glanders emanated from the numerous lumber camps in that vicinity, and the disease spreading through the disposal of these unfit horses to farmers for agricultural purposes.

On April 28, 1905, I received your letter transferring me to Grand Forks, B.C., to take over the boundary inspection work, including the outports of Grand Forks, Midway, Carson and Cascade, B.C.

During that period I have inspected the following stock:—

	For entry.	In transit.
Horses	111	755
Mules	...	24
Cattle	152	324
Sheep	3003	...
Swine	172	...
Total	3438	1084

Number of stock cars inspected (5) five.

On August 14, 1905, I inspected four horses in transit between the United States and Midway, B.C., and discovered a clinical case of glanders which was immediately destroyed and burnt, and the remaining three I tested with mallein, neither reacted. The usual precautions as to cleansing and disinfecting the premises were taken.

I also tested twenty-four head of cattle intended for milk and breeding purposes which I found healthy and in good condition.

The corrals at Midway are completed, the work being carried out in a very satisfactory manner. I should like to suggest that a stable and office be built at Midway. This would not only be of great service to the department, but to the public as well. At present we have no stable, consequently our testing has to be carried on in the open corral.

Your order issued in August respecting animals in transit has proved very effective, and is considered by the stock owners of this district to be a very essential one.

Following your instructions I transferred my headquarters to Midway, B.C., arriving there on June 12, 1905.

On September 2, I gave over the inspection work at Grand Forks to Dr. Frank, so that the inspections, &c., for the months of September and October for that port are not included in my report.

The general health of stock in the ports mentioned has been good, nothing except that contained in my report having occurred.

In closing my report I desire to mention the cordial assistance afforded me by Dr. Tolmie, on taking over the work in this district.

I have the honour to be, sir,
Your obedient servant,

D. TAMBLYN,
Inspector.

The Veterinary Director General.
Ottawa.

E. C. OLIVER, V.S.

NELSON, B.C., October 31, 1905.

SIR,—I have the honour to submit the following report:—

Since transferred here last August I have visited the principal parts of my district. I visited the Warreta district, where some horses had been destroyed last June, and the four ranches were quarantined, and many other districts, and have not found any disease. I tested for milk production at Rossland 28 cows, none re-acted.

Number of horses inspected	231
" mules inspected	17
" cattle inspected	200
" sheep inspected	823
" swine inspected	208
Total amount of inspection fees	$91.70

I have the honour to be, sir,
Your obedient servant,

E. C. OLIVER,
Inspector.

The Veterinary Director General,
Ottawa.

J. W. FRANK, V.S.

GRAND FORKS, B.C., October 31, 1905.

SIR,—I have the honour to submit a report of work performed from January 1 to October 31, inclusive.

From January 1 until July 31, my work lay in the district of Westminster, B.C. During that period the following animals were inspected for importation:—

Horses	271
Mules	6
Cattle	238
Sheep	945
Swine	4

SESSIONAL PAPER No. 15a

Since September 1, I have been stationed at Grand Forks, B.C., and up to the present time the following animals have been inspected:—

Imports—

Horses	161
Mules	2
Cattle	38
Sheep	21
Swine	136
Fees collected	$19.69

Exports—

Horses	2

At the present time four swine are in quarantine, which will not terminate until November 9.

On March 18 a very fine Red Poll bull was refused admission, as he reacted vigorously to the tuberculin test. On July 11 a settler was refused admission for tubercular cattle, and on several other occasions tubercular cattle were refused entry to Canada; with these few exceptions the animals inspected were healthy.

On June 6, I tested and saw destroyed a case of glanders, in Vancouver city, one horse only was tested, and tested but once.

On July 20, I tested and saw destroyed another horse suffering with glanders; this case being the one which brought to notice the serious extent to which the contagion had been spread in and around Vancouver city.

I have the honour to be, sir,
Your obedient servant,

J. WILLIAMSON FRANK,
Inspector.

The Veterinary Director General,
Ottawa.

G. S. JERMYN, V.S.

Osoyoos, B.C., October 31, 1905.

SIR,—I beg to submit the following report for the quarantine port of Osoyoos, B.C.

Since being opened in April last there has been no outbreak of contagious or infectious diseases in this district. Nor have any diseased animals been presented for inspection for entry.

The following is the number inspected and passed from the United States into Canada up to October 31 :—

Horses	138
Cattle	88
Sheep	149
Swine	8

I have the honour to be, sir,
Your obedient servant,

G. S. JERMYN,
Inspector.

The Veterinary Director General,
Ottawa.

C. R. RICHARDS, V.S.

VICTORIA, B.C., October 31, 1905.

SIR,—I submit the following as my annual report of the work carried on by me at the above port during the past year.

There has been a total importation of horses, 84; cattle, 14; sheep, 24,947; goats, 7; mules, 20. Excepting two cattle returned for being tubercular and two horses for being under valuation, all were admitted.

I was called on to inspect seven horses exported to the United States.

During the year I have tested twelve horses for glanders with four reactions, three were held as suspicious for a retest which was applied in three weeks' time with no reaction, making the number of tests fifteen. The four reactors and one showing clinical symptoms, numbering five in all, were destroyed and dealt with according to the Act.

Hog cholera in the early part of the year called for considerable attention, and I caused to be destroyed 33 hogs as being affected. These cases were the last of the outbreak reported of in my report for 1904.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

C. R. RICHARDS,
Inspector.

J. GIBBINS, M.R.C.V.S.

VANCOUVER, B.C., October 31, 1905.

SIR,—I have the honour herewith to submit my report.

I commenced my duties on August 28, viz.: to suppress the outbreak of glanders we have in our midst.

My total number tested up to October 31 is 81. Retests 7. Ceased reactors 6. Condemned and slaughtered 20. To be retested 9.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General.
Ottawa.

JOHNSON GIBBINS,
Inspector.

ASSISTANT COMMISSIONER WOOD.

DAWSON, Y.T., October 31, 1905.

SIR,—I have the honour to submit this my annual report for the year ended October 31, 1905, accompanied by reports from the veterinary staff-sergeants acting as inspectors at Dawson and Whitehorse.

We have but two points at which veterinary inspectors are stationed, namely Whitehorse, where Staff-Sergeant R. C. M. Nyblett is in charge, and Dawson, where Staff-Sergeant G. A. Acres attends to the duties.

The work of the inspectors in the Territory is largely of a preventive nature and, that this is necessary, is very evident from the way in which mange and more particularly glanders, makes a sporadic appearance here and there throughout the country.

Glanders during the year was confined altogether to the Dawson district, no case being discovered in Whitehorse or districts tributary thereto.

Veterinary Staff-Sergeant Acres inspected some 75 head of horses, but of these it was not considered necessary to test 50. Of the remaining 25, 12 were destroyed, 2 showing clinical symptoms and 9 as reactors to the mallein test; the balance, 12 head, were found in good health and entirely free from disease after testing.

In the Dawson district one case of purpura-haemorrhagica occurred, and as the animal when inspected was found to be in the last stages of the disease, it was destroyed.

Two cases of malaria also were reported both of which terminated fatally.

These two cases were the cause of some discussion, as, at the time of the death of the animals, an epidemic of malaria, or dysentery, was prevalent among the inhabitants of Dawson and vicinity, and no particular cause was forthcoming as to its origin. By some of the medical profession the cause was attributed to the contaminated source of our water supply and, in support of this contention, the death of the animals referred to was brought forward. Veterinary Staff-Sergeant Acres, however, refused to admit this and claimed that the horses contracted the disease from feeding on low marshy ground.

Fourteen head of horses were found to be affected with mange on arrival from the Upper River; all made good recovery and the disease was confined to the original band.

An outbreak of hog cholera also occurred on a small island in the vicinity of Dawson. Where the animals contracted the disease, whether en route, or whether the outbreak was entirely due to local causes, could not be ascertained. The circumstances in this case would seem to be peculiar as the hogs were obtained at Mission Junction, B.C., at which place there is no history of hog cholera. In view of this fact Staff-Sergeant Acres held a most thorough examination of the animals affected, holding post-mortems on several and carefully watching the symptoms of those still remaining alive, until he was fully satisfied that the disease was what he had diagnosed it to be—hog cholera.

In the Whitehorse district the only cases of infectious or contagious disease reported were two of mange. One of the animals recovered and the other was destroyed.

During the year the following stock was imported into the territory for Dawson: Horses, 65; cattle, 1,488; sheep, 2,916; calves, 73, and hogs 223; 422 cattle, 721 sheep, 23 horses and 150 hogs passed through destined for Alaskan points.

A considerable number of each of the above were also imported into the Whitehorse district, especially horses. These were brought in principally by the White Pass and Yukon Stage route, the Bullion Hydraulic Company and the Conrad Mining Company.

The cattle, sheep, calves, &c., imported into Dawson and Whitehorse were destined for the markets and were slaughtered as required.

The far greater proportion of the animals imported were from Canadian points. The duty on stock and inspection by the veterinary inspectors no doubt contributed largely to this.

The general conditions of the territory as far as horses are concerned have much improved and I think the owners of stock have realized that it pays better in the long run to co-operate with the inspectors in stamping out the disease than in endeavouring to conceal it.

I have the honour to be, sir,
Your obedient servant,

Z. T. WOOD,
Assistant Commissioner,
Com. R.N.W.M. Police Yukon Territory.

R. M. NYBLETT, V.S.

WHITEHORSE, Y.T., October 31, 1905.

SIR,—I have the honour to submit this my annual report of work done for the Department of Agriculture in this district for the year ending October 31, 1905.

During the year the following animals were inspected:—

——	For importation to Yukon Territory.	Passing through en route to Alaska.	Total.
Horses	140	50	190
Mules	20	16	36
Cattle	6	455	461
Sheep		821	821
Swine	42	50	92

All were found to be apparently in good health.

Two cases of mange in horses came under my notice during the year and were quarantined; one of these recovered and was released, the other was destroyed. A third horse I had isolated as a contact case, but it did not develop the disease and was released. Some work horses which had been working in the bush in the north part of the district were shipped down the river, and on arrival at Dawson were found to be suffering from mange and were isolated there.

During the winter a number of horses suffered from a form of eczema, which at first sight simulated mange, but this disease was not contagious.

During the summer a few of the horses, belonging to the White Pass and Yukon Route Mail Service, suffered from influenza, and two of them died, but, the epizootic did not spread, or last for any length of time.

With the above exceptions no cases of contagious disease occurred during the year.

I have the honour to be, sir,
Your obedient servant,

R. M. NYBLETT,
Veterinary Staff-Sergt.

The Veterinary Director General,
Ottawa.

G. H. ACRES, V.S.

DAWSON, Y.T., October 31, 1905.

SIR,—I have the honour to forward the following annual report for the year ending October 31, 1905, of work done for the Department of Agriculture in this district.

The number of cases of glanders which came under my observation has been much less than for the previous year. The following is a list of cases treated: (horses and mules):—

Destroyed on clinical symptoms	2
Destroyed on reaction to the mallein test	9
Released after a second test	2
Tested and no reaction	12
Inspected but not tested	50
Total	75

Three cases of suspected glanders were reported to me, but on examination I found one to be influenza, one chronic catarrh, one purpura hæmorrhagica: the latter was in the last stage of the disease upon my arrival, and I recommended the animal's destruction at once. I found two cases of malaria or swamp fever; the animals were running on marshy ground, both cases died. Compensation was claimed for seven animals, which reacted and showed no clinical symptoms of glanders. The majority of cases of glanders were found in the town of Forty Mile, which is close to the border of Alaska. I think that this outbreak was due to affected horses which at some time or other visited Forty Mile from Alaskan points. At first great difficulty was encountered as to the best means for protecting Canadian horses against contamination of the disease. Owing to the fact that horses are continually crossing and recrossing the line it is impossible to keep them separated. It was first suggested that separate stables should be set aside, but this was found impracticable; I think the suggestion made a short time ago that Corporal Cudlip, of the Royal Northwest Mounted Police, be appointed assistant inspector at Forty Mile, and a stable be set aside for quarantine purposes, so that any suspicious cases may be held until the arrival of the inspector from Dawson, is the most practicable one. In this way, I think that the danger of infection would be greatly minimized.

Owing to the large amount of transient work which takes place in this district, the Yukon Ordinance requires that all public stables be disinfected twice yearly: I think that this helps greatly to keep down disease amongst horses and mules.

Fourteen horses which arrived from the southern part of the territory were found to be affected with mange, these were quarantined and carefully treated until all signs of the disease disappeared. The above is the only outbreak of mange which has occurred in this district during the past year.

An outbreak of hog cholera occurred on the premises of Mr. Marshall, residing four miles down the river from Dawson. Fifty young hogs were imported from the outside last June, and early in August the owner reported that they were dying off. After careful post-mortems and examination of several suffering at the time, I found the disease to be hog cholera. Fifteen died, the remainder were slaughtered. This is the first attempt that young hogs have been imported into the country for the purpose of raising and fattening for store purposes, and I think will be the last.

On the whole the general health of live stock in this district during the past year has been very good, the percentage of contagious disease being very small. I am sorry to say that the number of horses in the country is on the decrease, very few were imported from the outside last year, and a great number were exported to the Tanana. I expect that many more will follow this winter.

The beef, mutton and pork imported for slaughter here was of excellent quality, and arrived in better condition than the previous year. The beef and pork imported was all Canadian, the larger part of the mutton being imported from the United States.

I have the honour to be, sir,
Your obedient servant,

G. H. ACRES,
Veterinary Staff-Sergt.

The Veterinary Director General,
Ottawa.

GEORGE HILTON, V.S.

OTTAWA, ONT., March 31, 1906.

SIR,—I have the honour to submit my report for the five months ending March 31, 1906.

During this period I have investigated a few reported cases of glanders in this city, with negative results, otherwise my duties have been confined to your office.

I have the honour to be, sir,
Your obedient servant,

GEORGE HILTON,
Inspector.

The Veterinary Director General,
Ottawa.

C. H. HIGGINS, B.Sc., D.V.S.

March 31, 1906.

SIR,—I have the honour, in acordance with your request under date of March 29th, to transmit this my report covering the period from November 1, 1905, to March 31, 1906.

This period of five months is the one during which a smaller number of specimens for diagnosis are received than at other seasons of the year, due in a large measure to climatic conditions, however, the material received for examination shows a total of fifty-nine series compared with fifty-five series during a similar period of the year preceding. Many fowls are still being forwarded to the laboratory for us to determine the nature of the affection to which they succumbed and the advice given in the individual reports sent through your office has been appreciated.

The greatest increase in the work of this institution is to be noted in connection with the preparation of mallein and so great has been the demand upon our facilities, that I found it necessary to provide greatly increased incubating space of a temporary character, for use in connection with its manufacture.

The temporary stable which was completed early in November last, has enabled work on maladie du coït, three cases of this disease having reached here on the 20th of that month. These cases have at no time presented active clinical symptoms though there has been a marked variation in the differential blood counts, indicating the gradual progression of the disease.

The increasing importance of investigations on the pathology of the blood in connection with human medicine, makes it necessary for us to lay more stress on this feature in diseases of animals, and there are now interesting records in connection with some of our routine experimental work which will prove of sufficient value, when completed, to compensate for the time and labour spent in their preparation.

Tuberculin has, as formerly, been forwarded from the laboratory, and I am now taking the necessary steps toward the manufacture of the entire amount used and anticipate in this connection, that the saving thus made will assist in increasing the efficiency of this institution.

The greatest necessity at this time, in connection with the equipment of the laboratory, is increased incubator space accompanied by proper arrangements for avoiding contaminating organisms when inoculating the large culture flasks used in the preparation of toxines.

SESSIONAL PAPER No. 15a

The assistance rendered by E. A. Watson, V.S., continues to relieve me of many details in connection with the laboratory routine, thus affording more time for the consideration of experimental work which it is necessary to take up.

It is impossible at this time to give a full report of the work of the laboratory for the period indicated on account of the incompleteness of experimental data, and the impossibility of completing them for incorporation in this report.

Such of the work as will interest the reader of this report is appended hereto, that a general idea may be obtained of the work of this institution during the past five months.

MALLEIN.

There have been shipped from the laboratory on request from your office, 6,453 doses of mallein, an amount during five months very nearly equaling the entire amount of the preceding year. The accompanying table indicates the amount sent out each month and enables a comparison with the amount sent out monthly during previous years.

	1903-4.	1904-5.	1905-6.
November	291	500	1,635
December	40	295	1,082
January	135	365	1,606
February	155	432	985
March	203	400	1,145
April	184	500	....
May	412	625	....
June	422	1,055	....
July	75	580	....
August	560	861	....
September	305	1,163	....
October	371	1,043	....
Total for year	3,153	7,819	
Total for five months			6,453

At present there is on hand very nearly 10,000 doses which amount with the above has been prepared at the laboratory. One difficulty experienced in connection with the manufacture of this material has been occasioned by the limited incubator space available at the laboratory. This difficulty has been partially overcome by the fitting up of a temporary incubating chamber, but it will be necessary to make permanent the installation of a chamber of sufficient size to meet our immediate demands and those of some years to come. The heating of this temporary incubator is by gas and some difficulty was experienced in fitting up an automatic arrangement for maintaining the desired temperature, due to the fact that it is impossible to turn down an acetylene burner designed for heating purposes without having it flash back. This difficulty was overcome and the experience thus gained will enable the arranging of the heating device on a permanent installation without any anxiety as to its efficiency.

Another difficulty experienced in the preparation of mallein is the contaminating of the large culture flasks with organisms foreign to the work in hand and this feature can be eliminated on the installation of an incubating chamber by connecting it with the proper preparation rooms which in other institutions of a similar nature have been found indispensable. Sufficient space is available for the increase briefly outlined above in the basement of the building.

TUBERCULIN.

Sufficient tuberculin to test 1,967 head of cattle has been sent from this laboratory on order from your office. An increase in the amount sent out is to be noted here as indicated in the following table :—

	1903-4.	1904-5.	1905-6.
November	326	226	405
December	326	374	437
January	350	180	309
February	303	135	438
March	295	263	378
April	146	497	....
May	272	394	....
June	119	149	....
July	123	126	....
August	173	351	....
September	70	266	....
October	146	184	....
Total for year	2,649	3,145	
Total for five months			1,967

The necessary steps have been taken and I anticipate that there will be no difficulty in preparing all of the tuberculin required by the department during the coming year, although the detail work in this connection has consumed, and will continue to consume considerable time in the laboratory routine.

ANTHRAX.

Anthrax was positively diagnosed in material forwarded from La Baie du Febvre after negative findings in several specimens received during the course of the same outbreak.

In making mention of this instance of a positive finding after several negative findings, it is my desire to impress upon those forwarding the material for similar examinations, that blood, removed from the carcass twenty-four hours or longer after death, is of little value as the putrefactive organisms kill off the anthrax germs in all portions of the dead animal's system and to further point out that the bloody fluid exuding from the natural body openings together with the blood in the superficial portions of the body (skin, ear in particular, also tail), are more likely to supply positive evidence on microscopic examination than blood taken from any internal organ.

MALADIE DU COIT.

The mares affected with maladie du coit which reached the laboratory on the 20th of November last, have given us an opportunity of studying this disease in its chronic form. Much experimental work has been undertaken in this connection, but at no time has there appeared any evidence of the infective agent, *Trypanosoma Equiperdum*. All animal inoculations have been negative. Efforts have been repeatedly made to demonstrate this trypanosoma by the methods suggested by the various authorities as well as attempts on original lines.

Some points not mentioned by other observers have been noted the most important of which is the change in the percentage of the various varieties of leucocytes as revealed by a differential blood count. In passing I may mention that within the past few years, an increasing amount of attention has been given to the differential count of the leucocytes of the blood in connection with certain diseases affecting the human

being and more recently this method of examination has claimed the attention of comparative pathologists, notably Burnett, Moore and Mier.

The blood counts conducted by these authors have shown that certain definite affections are indicated by certain variations in the percentages of leucocytes in the blood. Acting upon the suggestion presented by this data it has been found that there is a marked variation from the normal, in the percentages of certain of the leucocytes, as shown by differential counts of the blood in the cases of Maladie du Coit at the laboratory. This work upon the blood has given ground for the suspicion that we may be able to determine something definite concerning the pathology of this affection as seen in Canada, although it must be constantly borne in mind that the cases on which we are working cannot give sufficient evidence from which to draw reliable conclusions. In both cases that are under observation the progression of the clinical manifestations bears a close relationship to the changes noted in the differential blood counts.

Of the three mares received, one succumbed within a month of her arrival. Of the two remaining, one is gradually breaking down, while the other is in practically the same condition as on her arrival.

The finding of the *Trypanosoma Equiperdum* by Marek in cases of dourine in Hungary, as reported at the last International Veterinary Congress at Buda-Pesth, establishes beyond a doubt the causal role of this parasite in the '*Beschalseuche*' or dourine of that country. Buffard and Schneider, instance in France, the recovery of an affected stallion, but nevertheless this stallion was able to infect mares in whose blood trypanosoma were found by them, which finding was confirmed by Leclainche. Thus, we are face to face with the probability that the same parasite is concerned with the disease on this continent and that its identification is largely a matter of obtaining suitable cases, coupled with careful and systematic experiments and close observation.

As formerly, your appreciation of the work of this institution together with the encouragement offered to develop still further its usefulness, is a stimulus to take up research work on problems confronting this branch, in addition to the necessary laboratory routine, and I trust that the effort will fully meet your expectations.

I have the honour to be, sir,
Your obedient servant,

CHAS. H. HIGGINS,
Pathologist.

The Veterinary Director General,
Ottawa.

A. E. MOORE, D.V.S.

VANCOUVER, March 31, 1906.

SIR,—I have the honour to submit to you the following addition to my annual report of work done by me from November 1, 1905, to March 31, 1906.

I tested with mallein in the province of Ontario thirteen horses, out of which three reacted and were destroyed.

Acting under your instructions, I tested a private herd of cattle, numbering 38 with tuberculin which had been placed under your supervision. Three of these reacted, and have been branded and isolated.

I also investigated a reported outbreak of hog cholera in the vicinity of Winchester Springs, where I found a few sick hogs on one farm. At the request of the owner, a post-mortem examination was made upon one of these animals, the result of

which proved the disease not to be hog cholera but verminous bronchitis, and consequently no action was taken.

GLANDERS IN BRITISH COLUMBIA.

According to your instructions I left Ottawa for British Columbia on November 29, 1905, to co-operate with Dr. Tolmie in dealing with glanders in the city of Vancouver and also in the city and district of New Westminster. I have tested 389 horses, of which 80 reacted and were destroyed.

Many of these showed clinical symptoms, but in the majority of cases the disease has been of a mild type. As has been clearly shown by our tests there is much danger from these mild cases as they are capable of spreading infection to a large percentage of contact horses.

As the disease is so prevalent in this district a general inspection of all the large stables in Vancouver and New Westminster is being made.

HOG CHOLERA.

During my stay in British Columbia a report was received from Chilliwack that pigs were dying in the Chilliwack valley.

As Dr. Tolmie was ill, he requested me to visit the valley and, on investigation, I found hog cholera on seven farms and 118 hogs were destroyed.

I asked Dr. Wm. Lawson to accompany me and left him to finish the work of inspecting the hogs of the neighbourhood and to superintend the disinfection of premises.

This outbreak started at the Chilliwack Landing Indian Reservation, where the Indians have been losing hogs for some time.

As all hogs belonging to the Indians were running at large and were in contact with the disease, we were obliged to destroy all hogs on the reservation. In all cases where hog cholera was found the adjoining farms were inspected.

No new cases have been reported in this valley since we finished our inspection three months ago.

On January 20, 1906, hog cholera was discovered on the premises of the provincial hospital for the insane at New Westminster, where out of ninety-one hogs thirty-four were affected.

The remaining fifty-seven were dressed for food. Dr. Bland assisted me in dealing with this outbreak.

Acting on a report from the Deputy Minister of Agriculture at Victoria, and on request of Dr. Tolmie, I visited the British Columbia Distillery Company on March 31, where I found hog cholera in its most virulent type.

All the hogs on the premises (68) were sick and a large number (36) had recently died.

Extensive lesions of tuberculosis and verminous bronchitis were co-existing with those of hog cholera. In all outbreaks of hog cholera that I have seen in British Columbia (except in the case of the distillery hogs) the disease has been in an extremely mild form. The proportion of deaths is usually less than in more severe climates.

I found the most advanced typical lesions of hog cholera in hogs that were scarcely perceptibly ill. Verminous bronchitis was associated with hog cholera in the majority of cases where I held post-mortems.

I have the honour to be, sir,
Your obedient servant,

A. E. MOORE,
Inspector.

The Veterinary Director General,
Ottawa.

M. C. BAKER, D.V.S.

MONTREAL, March 31, 1906.

SIR,—I beg to report that since October 31, 1905, there have been inspected and passed by me for export at the Canadian Pacific stock yards, Hochelaga, Montreal.

CATTLE.

	Northwest.	Ontario.	U.S.A.
November, 1905	8,794	1,364	1,921
November, 1905 to March 31, 1906	....	35	....
Total	8,794	1,399	1,921

SHEEP.

	Canadian.
November, 1905	3,810

Total, 12,114 cattle and 3,810 sheep.

Of these 864 head of cattle and 3,008 sheep were shipped via Boston, 420 cattle and 260 sheep via Portland.

There were rejected as unfit for shipment, 17 head of cattle and 14 sheep. Of these, 6 cattles were effected with actinomycosis, the other animals were suffering from lameness and injuries.

On November 11, 1905, I received instructions from you that all sheep from Ontario passing through Montreal to the United States for slaughter that were not accompanied by a certificate of inspection from an inspector of the Department of Agriculture, must be unloaded and inspected here. Since then, there has been only one shipment of two carloads, 384 lambs, consigned to the New England Meat Company. These were inspected and found free from disease.

In December in accordance with your instructions, I visited La Baie du Febvre to investigate an outbreak of disease in cattle in that place. I found it to be anthrax, and reported at the time.

In January I tested with tuberculin for export to South Africa 133 cows, heifers and bulls, and got only three reactions.

I have the honour to be, sir,
Your obedient servant,

M. C. BAKER.
Inspector.

The Veterinary Director General,
Ottawa.

C. McEACHRAN, D.V.S.

MONTREAL, March 31, 1906.

SIR,—I have the honour to report that during the five months commencing November 1, 1905, and ending to-day, 247 horses were inspected by me, found healthy and exported from this port to Great Britain. Forty-three Clyd stales, viz., twenty stallions and twenty-three mares, were imported to Canada via the port of Montreal from Scotland. All were found free from disease, and allowed to land. Three horses were found in this city showing clinical symptoms of glanders, and were destroyed.

Forty-one horses were subjected to the mallein test here, six of which reacted and were shot. At the market places and abattoirs here 10,812 cattle, 7,364 sheep, and 19,259 hogs were inspected, and it is my pleasing duty to report that not one single case of disease was found. All the sale stables and cab stands in Montreal, were regularly inspected.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

CHARLES McEACHRAN,
Inspector.

B. A. SUGDEN, D.V.S.

MONTREAL, March 31, 1906.

SIR,—I have the honour to report to you as follows upon the inspection of live stock at the Grand Trunk stock yards for the period extending from November 1, 1905, to March 31, 1906.

Inspected for export to British Ports via Montreal.

Cattle	4,140
Sheep	378

For export to British Ports via Portland and Boston.

Cattle	9,185
Sheep	8,169

There were rejected twenty-one cattle, thirteen affected with antinomycosis and five for injuries received during transportation, there were also rejected seventeen crippled sheep.

During the same period the following United States stock passed through the yards for shipment to British ports via Portland and Boston:—

Cattle	35,091
Sheep	7,155

At Howick, I tested two head of cattle with tuberculin and eleven head at Athelstan, these being for export to the United States. None reacted.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

B. A. SUGDEN.
Inspector.

J. H. FRINK, V.S.

ST. JOHN, N.B., March 31, 1906.

SIR,—I beg to report work at the station, from November 1, 1905, to March 31, 1906. The time has been largely occupied in the inspection of live stock for export to Great Britain. The number of cattle inspected for export to Great Britain being 25,472:—

Sheep	1,811
Horses	65

Cattle shipped to South Africa, 450. Of the number shipped to the United Kingdom, 10,367 were United States cattle. 1,889 cattle were shipped out from the province of Alberta, originating chiefly from Milk River, Cayley, Cambrose, Lethbridge and Medicine Hat. No symptoms of mange were observed in them. All shipments were free from contagious disease except two or three cases of actinomycosis. It will be observed that there has been a great falling off in the shipment of sheep last year being about twenty thousand and this season falling below two thousand. Cattle for export have arrived in good condition, the comparative absence of snow in the eastern sections, much facilitated transport, giving a clear rail, good time being made from Montreal to St. John, and very few animals were detained from lameness or injuries in transit.

CATTLE QUARANTINE.

No cattle have arrived here for quarantine this winter. Ten sheep arrived here on January 2, from Liverpool, but being unaccompanied by the official permit for importation, were not allowed to land. This matter was after a time adjusted by the department. Two cattle imported from Boston, Mass., were held for two days until the tuberculin certificates were approved, the difficulty being that the names of veterinarians were not on the official list of qualified men, connected with United States Bureau of Annual Industry. A number of horses have been imported from Great Britain for breeding purposes, 190 horses and 53 ponies. They were free from infectious disease. A number of importations were unaccompanied by health certificates issued in Great Britain, and they were held here until produced, and it is altogether probable that importers in the future will obey the regulations more closely.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

JAMES H. FRINK,
Inspector.

W. JAKEMAN, V.S.

HALIFAX, March 31, 1906.

SIR,—I beg leave to submit my report for the period between November 1, 1905, to March 31, 1906.

Animals inspected for export at Halifax, N.S.:—

	Horses.	Cattle.	Sheep.	Swine.
Bermuda	8	7	189	4
Jamaica	..	....	80	..
Britain	..	1,042	..	..
Havre, France	..	150	..	..
Newfoundland	1	....	6	..
	9	1,199	275	4

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

WM. JAKEMAN,
Inspector.

A. A. LECKIE, M.R.C.V.S.

CHARLOTTETOWN, P.E.I., March 31, 1906.

SIR,—I beg to report for five months as stated in your letter of March 29, ult., as follows : November and December, 1905, also January and February, 1906, March. 1906.

Exportation of 16 horses, 149 cattle, 422 sheep.

They were distributed as follows :—

Fourteen horses and four cattle to the West Indies. Two horses, 145 cattle and 422 sheep to Newfoundland.

The work in connection with contagious and infectious diseases amounted to one trip to Freetown, and marking cattle, December 30, 1905, and one trip to Central Bedeque, where I found cattle slaughtered. This comprises the work done in the interest of the Dominion government. In performing this work I found sufficient data to make me believe that tuberculosis is very much on the increase in this island, and I am sorry to say that it is in most cases traceable to imported stock bulls or their immediate descendants. It seems to me that if its prevalence is going to be stopped, some system of interprovincial legislation is required. Such for instance as a test schedule accompanying each animal sold for stock purposes from one province to another, and that it be required in each province when a breeder or stock farm has pure bred cattle for sale, that they be accompanied with a certificate showing a test as free, and that no breeder be allowed to sell as stock bulls any animal which has not been subjected to such test.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

ANDREW A. LECKIE,
Inspector.

J. A. COUTURE, D.V.S.

QUEBEC, P.Q., March 31, 1906.

SIR,—I have the honour to transmit my report for the period extending from November 1, 1905 to March 31, 1906.

There have come into this station during that period the following animals, viz.:

November 7, per ss. *Pretorian,* from Glasgow, Scotland, one bull and two heifers, West Highlands, for Sir Hugh Allan, Montreal.

December 1, per Intercolonial Railway, from Delavan, Ill., two standard bred colts for Victor Chateauvert, Quebec.

December 16, per Quebec Central Railway, from Denver, Mass., one mare for Max. Clement, Quebec.

On December 26, the last cattle left the quarantine and the station closed for the winter season.

During the winter the men have been kept busy repairing the several buildings and putting up the hay barn in a more convenient place. Presently they are preparing the sheds for the opening of navigation.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

J. A. COUTURE,
Inspector.

SESSIONAL PAPER No. 15a

W. H. PETHICK, V.S.

ANTIGONISH, March 31, 1905.

SIR,—In accordance with instructions contained in your letter of March 29, I have the honour to submit a brief report of the experiments conducted at this station between November 1, 1905, and March 31, 1906.

In my annual report, which is now in your hands, I gave a detailed record of the experiments which I had the honour of conducting under your direction during the year ending October 31, 1905.

The cause of Pictou cattle disease having been clearly demonstrated, as a result of the experiments above referred to, those were closed out; and although the experiments now in train give promise of important results, yet these have not progressed far enough for reliable reference. As you are thoroughly informed upon every stage of the work at this station, I presume that a detailed account is not now required. I therefore beg liberty to confine myself to a general outline of the experiments now under way.

An experiment is being conducted with a view of learning if native hay from which all ragwort plants have been carefully removed can be fed with safety. Three healthy young cows are being fed twice daily since November 1, 1905, upon clean native hay of the usual quality, being a mixture of clover, timothy and brown top.

In order to control this experiment, three healthy young cattle are being fed upon hay of the same kind and quality, but in this instance no care was taken to remove the ragwort plants growing therewith. The experiments with sheep and goats give promise of results of practical value.

Pen No. 1.

Four healthy sheep have been fed during the past two winters on native hay containing much ragwort, and have been pastured during the past summer on very weedy land, and although they have consumed large quantities of ragwort (both green and dried) appear to be in good health.

Pen No. 2.

Five healthy ewes, and three lambs were pastured during the past summer on ragwort infested land. The object being to learn if possible, when yellow staining of the flesh supposed to be caused by feeding upon ragwort begins. Several of these animals have now been slaughtered between July 21 and March 19. Careful post-mortem examination proved the flesh to be of normal colour. Two animals of the lot are yet alive and will be slaughtered, with your permission, within the next two months.

Acting upon your instructions I purchased on November 1, forty healthy ewes. They are divided into two equal lots and confined in suitable pens. One lot (pen No. 3) being kept at the old stable. The other lot (pen No. 4) at the new building. Four goats are kept with each division. One flock (pen No. 3) receive hay containing a large amount of ragwort, a small grain ration is allowed since March 1 to ewes with lamb. The other flock (pen No. 4) are kept under exactly similar conditions, except that in this case the hay is absolutely free from ragwort.

I believe that it is your wish that as soon as grass and weather permits that these two lots of animals be subdivided (and after being carefully marked) ten sheep and two goats of each lot to be fed on weed pasture, while the others are to be kept on land free from ragwort.

I may just mention that, early in December, all our sheep suffered from infectious opthalmia. They, however, made a complete recovery, and are feeding well and appear healthy.

With your authority I purchased on January 28, a mare 8 years old, with a view of studing 'hepatic cirrhosis' as affecting the equine species. She is fed twice daily

on hay which contains a large proportion of ragwort, this is chopped fine and well mixed.

A horse that has been at the station for some time is fed upon clean native hay and will control this experiment.

Some minor experiments with guinea pigs are carefully watched, but so far give nothing of interest.

In conclusion I may say that since my last report only five cases of cattle disease have been brought to my notice. These animals were slaughtered and compensation amounting to $72 recommended.

The winter has been mild and exceptionally healthy, no contagious disease (except ophthalmia and tuberculosis) has existed in the county.

The usual number of visits for the purpose of investigating suspected outbreaks have been made.

I have the honour to be, sir,
Your obedient servant,

W. H. PETHICK,
Inspector.

The Veterinary Director General,
Ottawa.

G. TOWNSEND, D.V.S.

New Glasgow, N.S., March 31, 1906.

Sir,—I beg to report work on Pictou cattle disease from November 1, 1905, to March 31, 1906.

In November, 1905, there was one case at Maklefield from then up to the 31st of this month there has been none, a few reported suspected, but on examination proved not to be it.

I have the honour to be, sir,
Your obedient servant,

GEORGE TOWNSEND,
Inspector.

The Veterinary Director General,
Ottawa.

F. S. MACDONALD, V.S.

Souris, Prince Edward Island, March 31, 1906.

Sir,—I have the honour to report that no diseases, of a contagious character, have appeared in this section since my report of November 1, 1905.

It is satisfactory to note, and no doubt must be pleasing to you, that through your efforts in determining the cause of Pictou cattle disease the farmers of Prince Edward Island are being greatly benefited.

I have the honour to be, sir,
Your obedient servant,

F. S. MACDONALD,
Inspector.

The Veterinary Director General,
Ottawa.

SESSIONAL PAPER No. 15a

E. C. THURSTON, D.V.S.

SYDNEY, March 31, 1906.

SIR,—Herewith I have the honour to submit report of inspection of live stock dealing with the period between November 1, 1905 and March 31, 1906:—

Exported to St. Pierre et Miquelon—	
Cattle	22
Sheep	62
Swine	34
Imported from Newfoundland—	
Horses	7
Total	125

March 5.—Investigated case of suspected glanders at Bras D'Or, proved to be post pharyngeal abscess as a result of severe attack of influenza.

I have the honour to be, sir,
Your obedient servant,

E. C. THURSTON,
Inspector.

The Veterinary Director General,
Ottawa.

B. B. KILLAM, D.V.S.

YARMOUTH, March 31, 1906.

SIR,—I beg to submit herewith my report of inspections of live stock made by me at this port for the five months ending March 31, 1906.

During this period several horses from the United States have entered at this port. But as they are exempted from inspection I have not kept a tabular sheet. One pig was held in quarantine which I have reported.

All stock within district are in a healthy condition. There have been no contagious diseases within district.

I have the honour to be, sir,
Your obedient servant,

B. B. KILLAM,
Inspector.

The Veterinary Director General,
Ottawa.

E. W. HENRY, V.S.

FREDERICTON, N.B., March 31, 1906.

SIR,—In reply to your letter of the 29th ult., requesting me to furnish you with a report of the work done at the port of McAdam, N.B., from November 1, 1905, to March 31, 1906, I would state :—

That since my appointment in March, 1905, until the present time, there has not been any work done by me.

That I have not had any notification of any importation of any stock having been made at the port of McAdam.

I have the honour to be, sir,
Your obedient servant,

E. W. HENRY.
Inspector.

The Veterinary Director General,
Ottawa.

V. T. DAUBIGNY, M.V.

TERREBONNE, P.Q., 31 mars 1906.

MONSEIUR,—J'ai l'honneur de vous adresses le rapport demandé par votre lettre du 29 mars, c'est-à-dire du 1er novembre au 31 mars dernier.

Pendant ce laps de temps, je n'ai reçu aucun avis de votre department se rattachant aux maladies contagieuses des animaux domestiques, mais j'ai été demandé par des médecins vétérinaires pour connaître mon opinion sur différentes maladies paraissant suspectes ; examen fait je n'ai découvert rien de contagieux.

Durant ces cinq mois, je n'ai pas eu connaissance d'aucune autre affection contagieuse sur les animaux.

J'ai l'honneur d'être, monsieur.
Votre très humble serviteur.

V. T. DAUBIGNY.
Inspecteur.

Directeur Vétérinaire General,
Ottawa.

J. D. WHYTE, D.V.S.

SHERBROOKE, March 31, 1906.

SIR,—I have the honour to submit to you this, my report, for five months, from November 1, 1905, to March 31, 1906.

GLANDERS.

During the five months I have inspected and tested with mallein 64 horses, of which 27 reacted and were destroyed; 1 was destroyed from clinical symptoms only, making a total of 28 destroyed, the premises being duly quarantined, having to be inspected later, as in most places it was impossible to obtain disinfectants to properly disinfect the premises at the time of destroying the horses, making it necessary to visit each premises the second time. I also visited three premises and held three autopsies on horses that had died, being suspected of glanders, but found the deaths were due to other diseases.

MANGE.

I have quarantined three premises, seven horses in all, as follows:—in county of Beauce, 2 premises, 5 horses; county of Megantic, 1 premises, 2 horses.

INFLUENZA.

I also visited the county of Megantic to investigate a supposed case of glanders, but which proved to be influenza, one horse having died previous to my visit.

INSPECTION AT PORTS OF ENTRY.

Sherbrooke—Cattle, 1; swine, 1.
Stanstead Junction—Cattle, 1.
Mansonville—Cattle, 1 (this one was also tested).
Cattle tested for export, 3.

I have the honour to be, sir,
Your obedient servant,

J. D. WHYTE,
Inspector.

The Veterinary Director General,
Ottawa.

A. A. ETIENNE, M.V.

MONTREAL, March 31, 1906.

SIR,—I have the honour to submit to you my report from November 1, 1905, to March 31, 1906.

During the past five months I have tested 32 horses with mallein, 20 of which reacted and were destroyed. Two were destroyed on clinical symptoms only.

A large proportion of these horses that I have destroyed were in Yamaska and Drummond counties, where several others had been destroyed in previous years.

I have examined three horses clinically. The suspicious symptoms were due to distemper and pulmonary emphysema.

ANTHRAX.

Upon receiving instruction, I visited the same premises twice in the parish of La Baie du Febvre, to investigate an outbreak amongst animals that were dying suddenly, several head having died in a short time. The rest of the herd has been inoculated with anthrax vaccine, and no deaths have been recorded since December 25, 1905.

December 11, 1905, I was instructed to investigate a complaint that mange existed in St. André d'Argenteuil. After careful investigation I found that the complaint was not founded on facts.

I have the honour to be, sir,
Your obedient servant,

A. A. ETIENNE,
Inspector.

The Veterinary Director General,
Ottawa.

J. D. DUCHENE, D.V.S.

QUEBEC, March 31, 1906.

SIR,—I have the honour to submit to you my report for the five months from November 1, 1905, to March 31, 1906.

I have tested with mallein 52 horses, of which 23 have been destroyed, some of them were suffering with clinical symptoms of glanders. Out of this number (52) six have been examined and tested as suspect cases but were either suffering with catarrh or bronchitis .

I have also investigated five outbreaks of mange, which are presently quarantined and undergoing treatment.

I regret to state that the territory between Ste. Marguerite, on the Saguenay river, and Portneuf, on the St. Lawrence, is badly infected with glanders. This I think is due to the want of knowledge of the people and bad hygiene.

I have the honour to be, sir,
Your obedient servant

JOHN D. DUCHENE,
Inspector.

The Veterinary Director General,
Ottawa.

T. R. DUCHENE, V.S.

CHICOUTIMI, March 31, 1906.

SIR,—I have the honour to submit to you my report for the time since November 1, 1905, to March 1, 1906.

MANGE.

During that period in the county of Chicoutimi, forty-nine horses were placed under quarantine, suffering from mange, and twenty-eight farms found infected; ten of these horses are now relieved. They were all placed under proper treatment.

GLANDERS.

During the same period, in the county of Chicoutimi, I have tested with mallein five horses, two were killed and buried, one of them upon clinical symptoms.

In the county of Saguenay, I have tested in the same manner twenty-five horses and killed two, one upon clinical symptoms.

I have the honour to be, sir,
Your obedient servant,

THOS. R. DUCHENE,
Inspector.

The Veterinary Director General,
Ottawa.

J. O. GUY, M.V.

ST. JOHNS, P.Q., March 31, 1906.

SIR,—I have the honour to submit my report of stock inspected at Port St. Johns, Quebec, from November 1, 1905, to March 31, 1906.

For Import—

Cattle	1
Sheep	1
Horse	1

I refused the entry of two pigs, property of a dramatic stock company.

I have the honour to be, sir,
Your obedient servant,

J. O. GUY,
Inspector.

The Veterinary Director General,
Ottawa.

A. McCORMICK, D.V.S.

ORMSTOWN, QUE., March 31, 1906.

SIR,—I have the honour to inform you that I have done no work *re* inspection of animals in this district during the months of November, December, January, February and March. There has been no outbreak of any contagious diseases in this district since my last report.

I have the honour to be, sir,
Your obedient servant,

ARCH. McCORMICK,
Inspector.

The Veterinary Director General,
Ottawa.

A. SMITH, F.R.C.V.S.

TORONTO, March 31, 1906.

SIR,—I have the honour to report that the general health of horses, cattle, sheep and swine has been good since October 31, and only a few cases of contagious diseases have been reported, which have been promptly dealt with by the inspectors.

I have the honour to be, sir,
Your obedient servant,

ANDREW SMITH.

The Veterinary Director General,
Ottawa.

WM. STUBBS, V.S.

CALEDON, March 31, 1906.

SIR,—I have the honour to submit this, the continuation of my annual report, commencing on November 1, 1905, and continuing until March 31, 1906.

During this time I have tested with 'tuberculin' twenty-one head of cattle, two of which reacted.

I have also tested with 'mallein' seven horses, none of which reacted.

I have also visited the barns and premises in the counties of Wellington and Grey, where horses had been destroyed for glanders during the last two years, and found the animals on these premises to be apparently free from disease.

During this time I have visited several places, where there was reported to be suspicious cases of glanders, and found the animals to be suffering from other causes.

In the absence of Dr. Stork, I have visited the Toronto market, inspected the stock, and looked after the disinfecting of any cars arriving from diseased districts.

All of which was duly reported to the department.

I have the honour to be, sir,
Your obedient servant,

WILLIAM STUBBS,
Inspector.

The Veterinary Director General,
Ottawa.

J. H. TENNENT, V.S.

LONDON, March 31, 1906.

SIR,—I have the honour to submit to you this, my report for the period between November 1, 1905, and March 31, 1906.

TUBERCULOSIS.

During the time I have tested with tuberculin eighteen head of pure bred cattle for export to the United States, one of which reacted.

SHEEP SCAB.

With Dr. D. Henderson I visited sixty-six farms in the counties of Middlesex, Lambton and Kent, on which sheep scab existed during last year. The sheep on each of these farms had been dipped twice with lime and sulphur dip, and with one exception the flocks were free from the disease. During the month of January as directed by the Veterinary Director General, we visited three farms in the township of Metcalfe, when we found each flock affected with sheep scab, all of which have since been dipped in lime and sulphur dip.

CLEANING AND DISINFECTING CARS.

I have inspected the cleaning and disinfecting of fifty-five cars which carried live hogs from the quarantined district.

GLANDERS.

With Dr. Geo. W. Orchard, I visited Strood, in the county of Perth, where an outbreak of glanders existed. Total number of horses destroyed, forty-one, seven of

which were destroyed on clinical symptoms alone, and thirty-four after being tested with mallein. We examined a number of other horses clinically, in the neighbourhood, in most of which cases the suspicious symptoms were due to distemper.

I have the honour to be, sir,
Your obedient servant,

J. H. TENNENT,
Inspector.

The Veterinary Director General,
Ottawa.

W. W. STORK, V.S.

BRAMPTON, March 31, 1906.

SIR,—I have the honour to submit my report as inspector stationed at Toronto, dealing with the period between November 1, 1905, and March 31, 1906.

I have spent a large portion of the time in and around the city of Toronto visiting regularly the different stock yards, inspecting stock and supervising the cleansing and disinfecting of cars belonging to the different railway companies.

Toronto having become of late the distributing centre for large numbers of horses, the almost daily shipments coming to the two large sales stables, require the expenditure of considerable time in order to inspect the condition of the incoming stock, and I have to report that the general health and condition of the animals shipped to Toronto has ben exceedingly good.

During the past months numerous Ontario horses in transit to Manitoba and the Territories have been unloaded at Toronto railway yards for feeding and resting purposes, these horses being of good quality and in a thrifty and healthy condition.

TESTING EXPORT CATTLE.

Since November 1, 1905, I have tested with tuberculin 27 head of cattle about to be exported to the United States.

MANGE.

The only case of mange in horses coming to my notice is at present quarantined and being treated successfully.

GLANDERS.

During the period covered by this report I have been called upon to make several investigations where glanders was reported to exist, but in only 3 cases did I find it necessary to order the destruction of animals as being infected with the malady, two of these being isolated cases in Toronto and one in the county of Northumberland. The number of animals tested and the number condemned is as follows :—

Number tested	8
Number condemned and destroyed	3

The carcasses of those destroyed were disposed of in the regulation manner and the premises subjected to thorough disinfection.

HOG CHOLERA.

Hogs in this district at least, have been particularly free from disease. During the period of this report not a single case of cholera making its appearance.

SHEEP SCAB.

During the month of March a consignment of sheep and lambs was detected in Toronto market suffering from scab, the animals were quarantined and slaughtered under inspection, the premises cleansed and disinfected.

These animals were traced to locality from whence they came, all contact animals quarantined and all necessary precautions taken.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

W. W. STORK.
Inspector.

G. W. HIGGINSON, V.S.

ROCKLAND, March 31, 1906.

SIR,—I have the honour to submit to you a report of work done by me from November 1, 1905, till March 31, 1906.

Cattle tested with tuberculin for export, 182, 7 of which reacted.

Cattle tested with tuberculin not for export, 112, 9 of which reacted.

Ear-marked five head of cattle, which were tested by other inspectors. Three at Williamstown, two at Hudson Heights.

GLANDERS.

Have submitted to mallein test 46 head of horses, 15 of which reacted and were destroyed. Ten of these horses were tested the second time, four of which reacted to second test.

MANGE IN HORSES.

Have put under quarantine and ordered treatment of eight head of horses affected with mange.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

GEORGE W. HIGGINSON.
Inspector.

M. B. PERDUE, V.S.

CHATHAM, ONT., March 31, 1906.

SIR,—In accordance with instructions contained in your letter of March 29, I have the honour to submit following, my report for the period between November 1, 1905, and March 31, 1906:—

HOG CHOLERA.

There have been four outbreaks involving the slaughter of 54 hogs. Two of these outbreaks occurred in Essex county, one in Wentworth county, and one in the city of Guelph.

There have been 41,262 hogs inspected for shipment, making 425 shipments from the quarantined district.

During this period I have tested two head of cattle for export purposes.

I have the honour to be, sir,
Your obedient servant,

M. B. PERDUE.
Inspector.

The Veterinary Director General,
Ottawa.

G. W. ORCHARD, V.S.

OTTAWA, March 31, 1906.

SIR,—I submit below a report of work performed by me since October 31, 1905, to date. During that period I have tested with mallein 190 horses, of which number sixty-seven reacted and were destroyed. At Central Experimental Farm I tested nine steers, none of which reacted and four cows which did not react.

At Huntingdon, Geo. W. Higginson, V.S., and myself tested 138 Holstein Friesien cattle for export to South Africa, three reacted and were earmarked.

I also visited Iroquois and earmarked a cow which reacted in the test conducted by Dr. Hawarth.

I visited several farms in vicinity of Vankleek Hill, on one of which I found mange, quarantined farm and ordered treatment, visited a farm under quarantine for sheep scab at Cataraqui, and finding everything in good health recommended release from quarantine.

Besides this above I have made a great many examinations of horses in vicinity of Ottawa for clinical symptoms of glanders, and also visited places in which affected horses have been stabled and saw that the work of cleansing and disinfection had been thoroughly carried out.

Have also been able to visit the ports of Windsor and Sarnia several times during this period and beg leave to report that the work there is being carried on without the former difficulties encountered from the railway officials.

I have the honour to be, sir
Your obedient servant,

GEO. W. ORCHARD.
Inspector.

The Veterinary Director General,
Ottawa.

A. BROWN, V.S.

SARNIA, March 31, 1906.

SIR,—I have the honour to submit my report of work done for the Department of Agriculture from November 1, 1905, until March 31, 1906.

The domestic animals in this locality during the past six months have been generally healthy.

The following animals and cars have been inspected by me during the past five months.

For Import—

Cattle	68
Horses	68
Sheep	704
Hogs	134
Buffaloes	2

I returned twenty-one cattle and two Buffaloes, the cattle because not tested by a proper authority, and the buffalo because I was unable to test them with tuberculin. I also returned eight hogs because they were unaccompanied with proper health certificates.

Number of cars inspected containing hogs at G. T. R. Station.	886
Number found in unsatisfactory condition	20
Number of cars inspected containing hogs at P. M. Station	412
Number found in unsatisfactory condition	14

The cars and stock coming from the United States going through Canada in bond, have shown a marked improvement regarding loading and cleanliness during the past six months.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

ARTHUR BROWN,
Inspector.

F. A. JONES, V.S.

WINDSOR, ONT., March 31, 1906.

SIR,—I have the honour to submit my report of stock inspected at Windsor quarantine station from November 1, 1905, to March 31, 1906.

There have been no diseased animals in quarantine, other animals requiring inspection were in a healthy condition.

The following is a statement of animals received into quarantine, also stock requiring inspection :—

For import—

Horses	28
Cattle	53
Hogs	6

For export—

Sheep	354
Cattle	53

Inspection at Detroit stock yards for admittance in bond for immediate slaughter :—

Hogs	6,699

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

F. A. JONES,
Inspector.

SESSIONAL PAPER No. 15a

M. PHILPS, V.S.

BRIDGEBURG, ONT., March 31, 1906.

SIR,—I have the honour to submit herewith as requested the report of work done by me from November 1, 1905, until March 31, 1906. The exports were as follows :—

Lambs and sheep	55,888	to East Buffalo.
"	973	to England and Scotland.
Cattle	257	to England and Scotland.

Imports were as follows :—

Hogs	21,745
Sheep	39
Cattle	2

I have the honour to be, sir,
Your obedient servant,

M. PHILPS,
Inspector.

The Veterinary Director General,
Ottawa.

W. LAWSON, V.S.

DUNDAS, March 31, 1906.

SIR,—I have the honour to submit herewith report of work performed by me during the period from my engagement on November 23, 1905, to March 31, 1906. According to your instructions I reported for duty on November 24, and received directions from you as to my future work. I returned to Dundas on the 25th and made preparations to leave for the Pacific coast. I arrived in company with Dr. Moore at Vancouver on December 4, and assisted in testing horses with mallein. On December 10, I was instructed to proceed to the Chilliwack district, where an outbreak of hog cholera had been reported. I killed 109 affected and contact hogs and also tested 5 horses for glanders.

On December 22, 1905, I returned to Vancouver and assisted in controlling the outbreak of glanders there. I returned to Chilliwack again on January 11, as other cases of hog cholera were reported. I found a small outbreak and destroyed 45 contact hogs, returning to Vancouver on January 19, and was here engaged in the work in connection with glanders until March 13 when I was called to Ottawa.

My work here has been confined to visiting quarantined premises to ascertain if disinfection had been carried out according to regulations. I investigated a reported outbreak of hog cholera, which proved not to be a disease of a contagious nature, but caused by dietetic errors.

I have the honour to be, sir,
Your obedient servant,

WM. LAWSON,
Inspector.

The Veterinary Director General,
Ottawa.

J. R. THORNE, V.S.

WALLACEBURG, ONT., March 31, 1906.

SIR,—In pursuance of your circular of March 29, 1906, I beg to report as follows on the work done between the first day of November, 1905, and March 31, 1906:—

During the period above named there have been no cases of hog cholera or swine plague; on December 26, 1905, I inspected premises in the Gore of the township of Chatham, in the county of Kent, which had been under quarantine for hog cholera, and, finding that the premises had been properly disinfected, I advised the raising of the quarantine.

I have inspected twenty shipments, comprising 2,450 hogs, for immediate slaughter at the packing houses and found them all in a healthy condition.

I have the honour to be, sir,
Your obedient servant,

J. R. THORNE,
Inspector.

The Veterinary Director General,
Ottawa.

J. KIME, JR., V.S.

CHATHAM, March 31, 1906.

SIR,—I have the honour to submit my report of inspection from November 1, 1905, to March 31, 1906.

I have inspected twelve cars of hogs for shipment. The total number of hogs shipped being 960.

Yours truly,

JOSEPH KIME, JR.
Inspector.

The Veterinary Director General,
Ottawa.

W. B. ROWE, V.S.

BLENHEIM, ONT., March 31, 1906.

SIR,—I have the honour to submit my report of work done for the department from November 1, 1905, to March 31, 1906.

During this period I inspected at various shipping points in the quarantined district 79 cars containing 5,738 fat hogs for immediate slaughter and consigned to various packing houses.

I have the honour to be, sir,
Your obedient servant,

W. B. ROWE,
Inspector.

The Veterinary Director General,
Ottawa.

D. HENDERSON, V.S.

GLENCOE, March 31, 1906.

SIR,—I have the honour to report, that in pursuance of your directions, on or about December 12, 1905, Dr. J. H. Tennent, veterinary inspector of London, and myself, made a joint inspection of all the farms that were quarantined for sheep scab, in the counties of Middlesex, Kent and Lambton. We made a thorough investigation and found sheep scab among three flocks.

We quarantined the respective farms, and ordered the sheep to be thoroughly treated in lime and sulphur dip.

I afterwards superintended the dipping of sheep on two occasions.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

D. HENDERSON,
Inspector.

T. E. WATSON, V.S.

NIAGARA FALLS SOUTH, ONT., March 31, 1906.

SIR,—I have the honour to submit to you a report of animals inspected by me during the previous five months ending March 31, 1906:—

Horses	59
Mules	8
Cattle	6
Sheep	4

All of which were in good condition and found to be healthy.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

T. E. WATSON.
Inspector.

D. McALPINE, D.V.S.

BROCKVILLE, ONT., March 31, 1906.

SIR,—During the five months ending March 31, I have issued certificates for the following animals in export:—Thirty-seven head of cattle, one sheep, one hog, and two calves.

On February 13, there was reported at my office, a horse suffering in the vicinity of Algonquin, with supposed mange, which on investigation proved to be a skin trouble of an uncontagious character, due to the filthy condition of the premises.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

D. McALPINE,
Inspector.

J. B. HOLLINGSWORTH, D.V.S.

OTTAWA, ONT., March 31, 1906.

SIR,—I beg to submit herewith my report from November 1, 1905, to March 31, 1906.

Instructed to go to Shawville, Que., suspected glanders, I tested horse with mallein and got no reaction.

I also assisted Dr. Moore in dealing with an outbreak of glanders in Ottawa. I have also inspected cars which had contained live hogs for immediate slaughter and found cars had been properly cleaned and disinfected.

I am pleased to state that diseases of a contagious nature in this vicinity are very few.

I have the honour to be, sir,
Your obedient servant,

J. B. HOLLINGSWORTH,
Inspector.

The Veterinary Director General,
Ottawa.

G. H. BELAIRE, V.S.

PEMBROKE, March 31, 1906.

SIR,—According to instructions, I have the honour to submit to you a report of my work done during the period between November 1, 1905 and March 31, 1906.

On November 27, an outbreak of glanders was reported in the township of Chichester, Que. Acting on instructions, I visited that place and after a careful examination tested three horses with mallein, none of which reacted. The cause of the suspected glanders was a brown mare showing a slight frothy discharge from nostrils due to heaves in the chronic form.

I have the honour to be, sir,
Your obedient servant.

GEO. H. BELAIRE.
Inspector.

The Veterinary Director General,
Ottawa.

WILLIAM C. McGUIRE, D.V.S.

CORNWALL, ONT., March, 31, 1906.

SIR,—I have the honour to sumit my annual report for the six months ended March 31, 1906.

I have submitted to the tuberculin test during this time, thirty-three head of cattle of which three reacted. The health of animals in this district has been very good.

I have the honour to be, sir,
Your obedient servant,

W. C. McGUIRE.
Inspector.

The Veterinary Director General,
Ottawa.

D. McKERCHER, V.S.

PETERBOROUGH, March 31, 1906.

SIR,—I have the honour to make report from November 1 till March 31, as follows:—

I have made an examination of seven cars of hogs consigned to Peterborough.

I have had no contagious diseases during this period.

I have the honour to be, sir,
Your obedient servant,
D. McKERCHER,
Inspector.

The Veterinary Director General,
Ottawa.

J. H. GEORGE, V.S.

INGERSOLL, ONT., March 31, 1906.

SIR,—Reporting as to the health of animals in this district. I am pleased to state we have not suffered from an outbreak of any contagious disease for the past year. I had two cases of cerebrospinal meningitis on a farm near Avon in Middlesex county. In my opinion the disease was caused by grasses harvested from low lying and undrained lands subject to water overflows, spring and fall.

I have tested forty-eight horses for glanders, those horses were purchased by parties in Vancouver, and were subjected to the mallein test and not one showed the slightest taint of the disease. Showing that the western buyers are alive as to protection.

In my opinion the Health of Animals Branch is doing a good work in strictly inforcing the quarantine regulations.

I have the honour to be, sir,
Your obedient servant,
J. H. GEORGE,
Inspector.

The Veterinary Director General,
Ottawa.

E. S. ROGERS, V.S.

SAULT STE. MARIE, March 31, 1906.

SIR,—I have the honour to submit my report for the period between November 1, 1905, and March 31, 1906.

Of contagious diseases there has been none with the exception of typhoid influenza among the horses. However, it does not seem to be as prevalent as in former years.

Importations from across the line are very light at this point, there having been only two cattle imported at this point during the last four months.

I have the honour to be, sir,
Your obedient servant,
E. S. ROGERS
Inspector.

The Veterinary Director General,
Ottawa.

H. J. LUNDY, V.S.

EMO, ONT., March 31, 1906.

SIR,—There have been two head of cattle passed into this district to both of which applied the tuberculin test on and found them free from contagious disease. This is all the stock which has passed through up to March 31.

I have the honour to be, sir,
Your obedient servant,

H. J. LUNDY,
Inspector.

The Veterinary Director General,
Ottawa.

C. D. McGILVRAY, M.D.V.

WINNIPEG, MAN., March 31, 1906.

SIR,—I have the honour to submit herewith report on control work done in connection with the contagious diseases of animals for a period of five months extending from November 1, 1905, to March 31, 1906, inclusive.

GLANDERS.

I have during the above period submitted to a first mallein test 328 animals (consisting of 302 horses and 26 mules) of which it was necessary to slaughter 138 animals (112 horses and 26 mules) on account of reacting typically to the test. Out of this number slaughtered 61 were showing clinical symptoms of glanders, the remainder 77 were contact infected animals which reacted typically to the test. Six horses were submitted to a second mallein test, of which one was slaughtered as result of reacting typically to a second test, it had also developed clinical symptoms.

MANGE OF HORSES.

No new outbreak of mange has been dealt with by me during the above period. However have still six horses under quarantine from last year. This disease is now apparently well under control in Manitoba.

TUBERCULOSIS.

I have submitted to the tuberculin test three head of pure bred cattle for export to the United States, these were healthy and did not react to the test. Seven head of pure bred cattle imported from the United States were submitted to the tuberculin test, four of which reacted to the test.

The health of animals in general throughout the province of Manitoba has been good during the past winter.

I have the honour to be, sir,
Your obedient servant,

C. D. McGILVRAY,
Inspector.

The Veterinary Director General,
Ottawa.

J. P. MOLLOY, M.D.V.

MORRIS, MAN., March 31, 1906.

SIR.—I have the honour to report that beginning November 1, 1905, and ending March 31, 1906, that I have submitted to the mallein test 330 horses for a first time, 28 horses for a second time, 2 for a third time.

Eighty-nine horses were destroyed as a result of a first test, none were destroyed as a result of a second test, and two were destroyed on December 11 as a result of having reacted a third time.

Forty one of the 89 were clinical, and the remainder contact cases.

Nine of the 28 tested a second time were first tested prior to November 1, 1905, as were also the two tested a third time.

MANGE.

Twenty-four horses inspected and quarantined for mange, the property of two different parties, and are still in quarantine.

I have the honour to be, sir,
Your obedient servant,

J. P. MOLLOY,
Inspector.

The Veterinary Director General,
Ottawa,

C. LITTLE, V.S.

WINNIPEG, March 31, 1906.

SIR,—I have the honour to submit to you my report of animals inspected from November 1, 1905, to March 31, 1906.

Imported from the United States as follows:—

Horses	2,420
Mules	105
Cattle	1,402
Sheep	10

GLANDERS.

I have examined thirteen horses for glanders, tested ten, one of which I destroyed. The three others I destroyed being clinical.

TUBERCULOSIS.

I tested two pure-bred bulls being exported to United States and found them healthy.

I have the honour to be, sir,
Your obedient servant,

CHAS. LITTLE.
Inspector.

The Veterinary Director General,
Ottawa.

P. A. ROBINSON, V.S.

EMERSON, March 31, 1906.

SIR,—As requested, I beg to report the work done for past five months at this port. During that time I have inspected 465 horses, 175 cattle, four sheep and five swine belonging to settlers. Also 315 horses, 18 cattle on which fees have been collected.

I have the honour to be, sir,
Your obedient servant,
P. A. ROBINSON,
Inspector.

The Veterinary Director General,
Ottawa.

W. LESLIE, V. S.

MELITA, March 31, 1906.

SIR,—In compliance with your request, I submit my report up to and including March 31, 1906, as follows:—

Horses and cattle passed customs at the port of Melita—

Horses	55
Cattle	7

Of the above, twenty-four horses and seven cattle were settlers effects and thirty-one horses were imported for sale.

I have had two outbreaks of glanders since my October report. Thirteen were given the mallein test, and the reactors, seven in number, were destroyed.

I have the honour to be, sir,
Your obedient servant,
W. LESLIE,
Inspector.

The Veterinary Director General,
Ottawa.

W. LITTLE, V.S.

BOISSEVAIN, March 31, 1906.

SIR,—I have the honour to submit the following report of animals inspected by me at the customs ports of Deloraine and Killarney, Man., during the months beginning November 1, 1905, and ending March 31, 1906:—

Animals inspected at Deloraine—
Horses, 174; mules, 3; cattle 107.
Animals inspected at Killarney—
Horses, 203; mules, 16; cattle 142; sheep, 6.

All the above were entered as settlers' effects.

Of the above, three horses and four cattle entered for sale. Nine horses were entered for breeding purposes, and 71 horses and 14 mules were entered for railroad construction work. The balance of all animals were entered as settlers' effects.

I have the honour to be, sir,
Your obedient servant,
W. LITTLE,
Inspector.

The Veterinary Director General,
Ottawa.

SESSIONAL PAPER No. 15a

J. A. STEVENSON, V.S.

CARMAN, MAN., March 31, 1906.

SIR,—According to instructions received in letter dated March 29, I herewith send report from November 1, till March 31, 1906.

Everything has been fairly quiet in my district. There have been three reports of glanders sent in which have been dealt with from Winnipeg, the outcome I do not know.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

JAS. A. STEVENSON,
Inspector.

REGINA, March 31, 1906.

SIR,—I have the honour to submit, herewith, my annual report for the five months ended March 31, 1906, on the work performed in the provinces of Alberta and Saskatchewan, for the Health of Animals Branch of the Department of Agriculture, by the veterinary staff under my directions, together with the reports of the undermentioned inspectors, as follows :—

General report, Inspector Burnett, Vet. Surgeon, R.N.W.M. Police.

Battleford District, Vet. Staff-Sergt. Meakings.

Calgary District, Vet. Staff-Sergt. McVeigh, Dr. P. K. Walters, V.S.

Edmonton District, Vet. Staff-Sergt. Sweetapple.

Lethbridge District, Vet. Staff-Sergt. Gallivan, Vet. Staff-Sergt. Johnston, Vet. Staff-Sergt. Greenwood.

Maple Creek District, Vet. Staff-Sergt. Littlehales, Vet. Staff-Sergt. Dennis, Dr. Hargrave, V.S.

Macleod District, Vet. Staff-Sergt. White, Vet. Staff-Sergt. Douglas, Dr. Warnock, M.R.C.V.S.

Prince Albert District, Vet. Staff-Sergt. Mountford.

Regina District, Vet. Staff-Sergt. Grey, Vet. Staff-Sergt. Pinhorn, Vet. Staff-Sergt. Mitchell, Vet. Staff-Sergt. Ayre, Vet. Staff-Sergt. Olsen.

The veterinary staff employed is as follows :—

Veterinary surgeons, members of R.N.W.M. Police	17
" " civil practitioners	3

In addition to the above, civil practitioners have been temporarily employed at Regina, Battleford, and Calgary, where the permanent staff was unable to cope with the work. The staff is distributed as follows :—

At ports of entry, 6, viz.: North Portal, Wood Mountain, Willow Creek, Pendant d'Oreille, Coutts, and Twin Lakes.

Regina District	5
Prince Albert	1
Battleford	1
Edmonton	1
Calgary	2
Macleod	1
Lethbridge	1
Maple Creek	2

The area of the two provinces is so great, and the importation of stock so heavy, that I have found it impossible to meet and deal with all outbreaks of disease in an effective manner. I realize that every report should be investigated without delay and prompt action taken, but with the limited veterinary staff, this was not possible.

Every member has worked incessantly, and some I know have been despondent because they could not cope with their work.

In my opinion the staff must be largely increased. If veterinary surgeons of the proper stamp cannot be secured under the present arrangements for pay, &c., then such a substantial increase of pay should be given as will secure their services.

I need not dwell on the importance of eradicating disease in the new provinces, nor of the difficulties we encounter, as you are quite familiar with the conditions.

As in my previous report, the chief contagious and infectious diseases with which we have had to deal are: In horses, glanders and maladie du coît: and in cattle, mange.

GLANDERS.

Conditions have not changed with regard to this disease. We are still fighting in every portion of the new provinces, but principally in Southeastern and Central Saskatchewan.

The ignorance of horse owners is lamentable. Livery stable owners have kept in their stables horses in advanced stages of glanders, spreading the disease broadcast throughout their districts without even a suspicion entering their heads that the disease might be glanders, although they must have known that glanders was in the country. The owner of a large band of horses acknowledged to having the disease in his band for years, and continued to sell his horses which were taken far and wide.

Several convictions have been secured, but more convictions and severer penalties will have to be inflicted until the owners of horses waken up to the danger.

MALADIE DU COÎT.

Our inspectors are vigorously combating this disease which is found only in Southern Alberta, with one exception in Saskatchewan at Rush Lake.

MANGE.

The compulsory dipping of last season has been of great benefit.

Isolated cases of mange have been found in all the area covered by the dipping order, but most of the cases have occurred in that portion of the Calgary district where owners opposed dipping or dipped carelessly.

By your authority, range riders were employed during the winter months to ride the range and locate mangy animals. The services of these riders have been valuable.

Is a compulsory dipping order to be enforced this year? This is a question which is being asked. Opinion is divided. The benefits which have been conferred on the cattle industry by the compulsory dipping of 1904 and 1905 are acknowledged by all. Many say that as their herds are now clean, why then should they dip. Others say that although conditions have much improved, still as there are isolated cases of mange here and there, compulsory dipping is necessary to keep the disease in check and that if dipping is neglected, in a year or two conditions will be as they were in 1903-4.

It is a question of great importance, and I trust that a correct solution will be reached on the occasion of your next visit to the west.

I am of opinion that the stock growers recognize that you are anxious to do what is best for their interests.

They recognize that the Department of Agriculture has spent money freely and that the result has been most advantageous.

I have to thank the veterinary staff for their unflagging zeal in carrying on their duties.

I wish also to thank you for your support and encouragement given to the veterinary staff in carrying out their very important duties.

I have the honour to be, sir,
Your obedient servant,

A. BOWEN PERRY,
Commissioner.

The Veterinary Director General,
Ottawa.

J. F. BURNETT, V.S.

REGINA, March 31, 1906.

SIR,—I have the honour to submit herewith my report for the Department of Agriculture for the five months ending March 31, together with those of the following inspectors.

Sweetapple, C. H. H., Fort Saskatchewan.
Mitchell, W., North Portal.
Mountford, J. J., Prince Albert.
Johnston, H. J., Coutts.
White, S. A. K., Macleod.
Gray, F., Regina.
McVeigh, C. H., Calgary.
Gallivan, M. V., Lethbridge.
Littlehales, J. E., Maple Creek.
Douglas, A. R., Twin Lakes.
Greenwood, E. S., Wild Horse.
Dennis, A. E., Willow Creek.
Pinhorn, G., Regina.

All of the Royal North West Mounted Police.

Hargrave, J. C., Medicine Hat.
Warnock, D., Pincher Creek.
Walters, P. K., Okotoks.

Civil practitioners.

The work of the department has progressed in as satisfactory a manner as could be expected with the limited number of inspectors employed, the great drawback being that there are not enough to permit of every case reported being promptly attended to. This country is filling up so rapidly, that naturally the demand for the services of veterinary inspectors is increasing. This time last year, Staff Sergeants Mitchell, Busselle, Olsen and Dennis were working out of Regina, while at present there are only two, Staff-Sergeants Gray and Pinhorn. Staff-Sergeant Dennis had to be called in on account of his health, and Staff-Sergeant Busselle is in hospital with no immediate prospect of his being returned to duty.

Glanders the most widespread and prevalent disease we have to contend with is occupying the greater part of our time and attention, and while certain districts appear to have got rid of it, there are cases being continually reported from some of the most thickly settled parts of the country. In the country traversed by the Soo line, inspectors have been working for months, and no sooner do we begin to think that we have cleaned it up than a fresh outbreak is reported, this may be accounted

for from the fact that a large number of American horses have been taken into that country.

A very serious outbreak of glanders occurred among the horses of 'C' Division, Royal Northwest Mounted Police, Battleford, all horses belonging to the division were tested with the result that it was found necessary to destroy eleven. It is impossible to say where the first animal infected contracted the disease, as the horses were sent to that post from all parts of the country, and as many of them were used in patroling, they were put in all kinds and conditions of stables. Another outbreak occurred among the police horses stationed in the Yorkton district, a large percentage of which it was found necessary to destroy, and while the testing of these horses was being carried out a number of other cases were brought to the notice of the inspector employed, it being impossible now to say when he will be through. The outbreak cannot be traced to its source, but I am of the opinion that the infection was carried into that district by horses used on the construction of the Canadian Northern Railway.

MALADIE DU COIT,

Since the rendering of the last annual report a number of new cases of this disease have been discovered by our inspectors, one lot of infected animals being in a bunch brought from the States. This disease has temporarily injured the horse breeding interests of the west. I say temporarily for I believe it will be the means of doing away with a good deal of haphazard breeding. Owners will keep smaller bunches, will keep their horses in properly fenced pastures, and when they have to go to this expense, they will want a better class of animal. Owners of mares are complaining that they cannot get their mares bred as the owners of stallions refuse them unless they can furnish a certificate of health, while veterinary surgeons refuse to give such certificates, as it is not always possible to say whether an animal is infected or not, the result will be that in future the business will be carried on with more intelligence and care.

HORSE MANGE.

This disease appears to be well in hand at present, no serious outbreak having been reported since last report. The cases now brought to our notice, are principally among farmers horses where the disease is easily controlled and there is little danger of it spreading.

CATTLE MANGE.

Since the expiration of the time in which the compulsory dipping order was enforced, a number of cases have been reported from certain districts, while in other parts the affection appears to have entirely disappeared. On the whole, an immense improvement in the condition of the range is noticeable, and so far as I can learn deaths during the winter have been practically nil.

I have the honour to be, sir,
Your obedient servant,

JNO. F. BURNETT,
Inspector.

The Veterinary Director General,
Ottawa.

SESSIONAL PAPER No. 15a

C. H. SWEETAPPLE, V.S.

FORT SASKATCHEWAN, March 31, 1906.

SIR,—I have the honour to forward the following annual report of services performed for the Department of Agriculture for the year ending March 31, 1906.

Of the contagious and infectious diseases which have occurred most frequently in the past, glanders has prevailed most extensively and in almost every locality, but I am now able to report that only two outbreaks have come to my notice, and neither of these could be traced to localities where this disease had previously occurred.

Fifty-six mules, which were at work on the Canadian Northern Railway construction, were tested for glanders in the latter part of November, 1905, and of these two reacted and were destroyed, presenting no suspicious symptoms of glanders.

Small outbreaks of glanders also occurred at Morningside and Ponoka. These were promptly dealt with in accordance with the regulations.

I examined about seventy-five head of horses which were supposed to have came from locality in Montana, where maladie du coit was supposed to exist, but none of these animals presented any symptoms of this disease.

Mange has made its appearance near Ponoka, but as it is among a small number of cattle it will no doubt be stamped out at once.

Only one case of tuberculosis has come under my notice and the disease was in an advanced stage so animal was destroyed by the owner on being informed of the nature of the disease, and the condition of the animal which could not live but short time.

Black quarter has made its appearance in almost every locality and has proved a very serious loss to many of the settlers.

Vaccination is becoming quite general among the more intelligent settlers, but there are still a few who resort to the old method of mutilating their animals as a preventive.

Influenza has been quite general in this district but losses have been slight as it has usually been of a benign character.

I have the honour to be, sir,
Your obedient servant.

The Veterinary Director General,
Ottawa.

C. H. H. SWEETAPPLE,
Veterinary Staff-Sergt.

W. MITCHELL, V.S.

NORTH PORTAL, March 31, 1906.

SIR,—I have the honour, in compliance with your instructions, to forward this report of quarantine work performed at North Portal during the five months ending the 31st ulto.

And, obviously, at a boundary point like this, especially at this season of the year, the character of the work performed has consisted almost exclusively in inspecting incoming settlers' goods. Indeed to such an extent has this been the case during the interval in question that of a total of 6,166 horses inspected, only 577 were the property of others than actual settlers. And of these latter it might be remarked that, with the exception of a few stragglers brought across the line by adjacent Canadian residents for their own use, they consisted principally of aged workhorses of inferior quality from southern points brought in in carload lots of eighteen to twenty, and, with the exception of one lot consigned to Qu'Appelle, were consigned to Moosejaw and intermediate points on the 'Soo' line.

Of mules, 358 animals were inspected and with scarcely an exception, consisted of settlers' stock.

Of cattle, a total of 1,962 animals were inspected and, with the exception of one carload of registered Herefords imported for breeding purposes, and one Holstein bull calf consigned by express to a Canadian purchaser, were exclusively settlers' stock.

In the case of sheep and swine, however, possibly less than a dozen each reached the international line, and these their owners elected to dispose of in Portal, North Dakota, at fair prices rather than incur the expenses incidental to quarantining, together with the subsequent express charges implied in forwarding them to their respective owners.

In conclusion this following brief summary of the work performed might be inserted:—

Horses	6,166
Mules	358
Cattle	1,962
Sheep	....
Swine	....

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General.
Ottawa.

W. MITCHELL.
Veterinary Staff-Sergt.

J. J. MOUNTFORD, V.S.

PRINCE ALBERT, March 31, 1906.

SIR,—I have the honour to submit the following report of the work done by me for the Department of Agriculture from November 1, 1905, until March 31, 1906.

I administered the mallein test to seventy-three head of horses, forty of these stood the test, thirty-three reacted to the test and were destroyed. Twenty head of horses were showing diagnostic symptoms of glanders, and were destroyed without being tested.

Eleven cases of mange in horses came to my notice, ten of the above have been treated successfully and released from quarantine. One is still isolated and under treatment.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General.
Ottawa.

J. J. MOUNTFORD,
Veterinary Staff-Sergt.

S. A. K. WHITE, V.S.

MACLEOD, March 31, 1906.

SIR,—I have the honour to forward the following report of services performed for the Department of Agriculture, from November 1, 1905, to March 31, 1906 :—

During the month of November I was stationed at Twin Lakes, examining import stock, and looking after the carrying out of the mange dipping order. I was laid off duty through sickness from November 30, 1905, to March 4, 1906 ; returning to

Macleod upon recovery. My time has since been fully occupied, in investigating suspicious cases of contagious disease, and the inspection of animals for shipment, having examined 199 horses and 72 cattle for this purpose.

I have also destroyed three horses affected with glanders, and have detected a number of cases of mange, which were dealt with according to the regulations.

I have the honour to be, sir,
Your obedient servant.

S. A. K. WHITE.
Veterinary Staff Sergt.

The Veterinary Director General,
Ottawa.

A. R. DOUGLAS, D.V.S.

TWIN LAKES, ALTA., March 31, 1906.

SIR,—I have the honour to forward herewith the following report of services performed for the Department of Agriculture from November 1, 1905, to March 31, 1906 :—

During the month of November a great part of my time was taken up in connection with compulsory dipping operations, and clerical work.

Shipments of stock were frequent, which necessitated a considerable amount of travelling. I inspected 339 horses for shipment.

During December I tested three horses for glanders. One reacted and was destroyed. I also examined twenty-five horses and a band of cattle and found them free from disease.

I inspected 186 horses for shipment.

During January I quarantined three horses for mange, and also saw several cattle affected with that disease. I inspected and held for further test one mare suspected of being affected with glanders. I inspected 109 horses and fifty-eight cattle for shipment.

In February I tested thirty-four horses with mallein, of which six reacted and were destroyed. I inspected seventy-four head of horses and thirty-five cattle for shipment. On February 22 I was transferred to this detachment from Macleod, since which I have inspected 127 import horses.

In March I quarantined twelve horses as being affected with mange, and inspected seventy-nine horses and fifty-two cattle for shipment.

I have the honour to be, sir,
Your obedient servant,

A. R. DOUGLAS,
Veterinary Staff Sergt.

The Veterinary Director General,
Ottawa.

E. A. MEAKINGS, M.D.V.

BATTLEFORD, March 31, 1906.

SIR,—I have the honour to forward report of quarantine work performed by me from November 1, 1905, till March 31, 1906:—

I am pleased to say that almost all cases of mange previously reported have been successfully treated, but there are three fresh cases in this district at present; all are responding to treatment readily.

An outbreak of glanders I regret to say occurred in the police stables here, this was first noticed in the form of farcy buttons, all horses in the division were forthwith tested and a reaction followed, in a large majority these reactors were destroyed and stables were thoroughly disinfected. No other outbreaks have occurred with the exception of Paynton at which place five were destroyed, these, however, were reactors of long standing.

I am pleased to state that I find the settlers realize the seriousness of this disease and most of them report at once any suspicious symptoms that may be found.

I have the honour to be, sir,
Your obedient servant,

E. A. MEAKINGS,
Veterinary Staff Sergt.

The Veterinary Director General,
Ottawa.

J. E. LITTLEHALES, D.V.S.

MAPLE CREEK, March 31, 1906.

SIR,—I have the honour to submit my annual report of work performed for the Department of Agriculture from October 31, 1905, to March 31, 1906.

Number of miles travelled—

Train	1,090 and return
Trail	430 "

Stock inspected—

Horses imported	201
Cattle imported	291
Horses exported	356
Cattle	1,944

The horses and cattle exported were inspected at different points on the line, between Suffield, Alta., and Waldeck, Sask.

The above importations were inspected at Maple Creek until a veterinary inspector was stationed at Willow Creek port of entry.

GLANDERS.

Horses tested, 12; destroyed after reacting, 3; destroyed showing clinical symptoms, 3.

Glanders seems to be slightly on the increase, although it has not spread to any great extent yet, but cases turn up every now and again. Most of the cases have been among horses in the district north of Herbert.

MANGE.

There have been very few cases of mange reported among cattle during the year, what few that have been diseased have been promptly gathered and treated.

The Canadian Land and Ranch Company of Crane Lake had about fifteen diseased animals, but these have been treated and cured. There are several ranchers in the

Skull Creek district who have had their cattle quarantined all winter on account of not complying properly with the dipping orders, these people have been ordered to dip their cattle this spring. I have inspected their cattle several times during the winter, but have found no cases of mange among them. Last year's dipping seems to have cleaned the country of mange very thoroughly, and most of the ranchers are anxious for the compulsory dipping again this year, in order to rid the country of the few remaining cases. This last winter has been an exceptionally good one and all cattle are in good health and condition. I have had no horse mange reported to me during the year.

The health of sheep in this district seems to be very satisfactory, as no disease has been reported during the year.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

J. E. LITTLEHALES,
Veterinary Staff Sergt.

A. E. DENNIS, V.S.

WILLOW CREEK, March 31, 1906.

SIR,—I have the honour to forward report on quarantine work done on Soo line and Souris line from Moosejaw round to Gainsborough from October 31, 1905, to March 11, 1906. In that time I tested about one hundred and eighty-five horses, out of that number, I destroyed thirty-two for glanders and quarantined quite a number of horses for mange. Especially south of the Soo line near the Hills. I only came across two cattle with mange and one of them died and the other one is isolated.

On March 11, left the Soo line for Regina. On March 25, left Regina for Maple Creek en route for Willow Creek and arrived here on March 29, 1906. I have not inspected any stock up to date, at this port of entry.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

A. E. DENNIS,
Veterinary Staff Sergt.

E. S. GREENWOOD, V.S.

PENDANT D'OREILLE, March 31, 1906.

SIR,—I have the honour to submit herewith my report of inspections at this port of entry together with a brief report of other work performed for the Department of Agriculture in the outlying district allotted to me for the five months ending March 31, 1906.

The number and classes of animals imported from the United States which have been inspected and allowed to enter at this port of entry as follows :—

Horses	703
Cattle	87

MANGE.

That part of the district set apart for me to work was a portion of the country coming under the compulsory dipping order of 1905. This compulsory dipping has had a decidedly good effect, having almost completely eradicated this disease in this district. Since the expiration of the compulsory dipping season, I have made numerous visits to the different ranchers of my district trying to locate if possible, any cases of mange, up to this time I have only found sixteen cases, the reports of which have been forwarded to you from time to time. Ranchers here seen to be fully aware of the seriousness of this disease, and give every assistance possible to stamp it out.

GLANDERS.

During the last week in March while inspecting a bunch of horses belonging to a rancher in this district, I came across seven horses showing clinical symptoms of glanders. I have quarantined these and all contact animals, also horses on the adjoining ranch. All those horses will be subjected to the mallein test and disposed of according to the regulations. With the exception of this outbreak no other cases of glanders have appeared in this district.

MALADIE DU COIT.

During the summer of 1905, this disease appeared on one of the ranches in this district, but I am pleased to say is now thought to be completely stamped out. During the past month I have inspected all the available mares, and have made arrangements for a close inspection of the entire herd.

With the exception of the above, no contagious disease has appeared among stock in the district.

I have the honour to be, sir,
Your obedient servant,

E. S. GREENWOOD,
Veterinary Staff Sergt.

The Veterinary Director General,
Ottawa.

H. M. GRAY, M.D.V.

KAMSACK, SASK., March 31, 1906.

SIR,—I have the honour to herewith inclose report of work performed by me from November 1, to March 31, 1906.

The greater part of my time I have been employed in southern and northeastern Saskatchewan. The contagious disease most met with was glanders. A quite serious outbreak occurred at Stony Creek the end of January, which at the present time is well under control.

I have the honour to be, sir,
Your obedient servant,

H. M. GRAY,
Veterinary Staff Sergt.

The Veterinary Director General,
Ottawa.

SESSIONAL PAPER No. 15a

H. J. JOHNSTON, V.S.

COUTTS, March 31. 1906.

SIR,—I have the honour to submit herewith my report of work done for the Department of Agriculture, from November 1. 1905. to March 31, 1906.

I am pleased to be able to state that. in this locality we are free from all diseases of a contagious or infectious character. not even a case of mange having been reported to me by any of the ranchers since dipping season closed last October,

Number of animals imported:—	
Horses	1,722
Mules	5
Cattle	385
Sheep	27
Swine	1
Total exports—	
Horses	51
Cattle	1,308

I have the honour to be, sir,
Your obedient servant,

H. J. JOHNSTON,
Veterinary Staff Sergt.

The Veterinary Director General,
Ottawa.

M. V. GALLIVAN, V.S.

LETHBRIDGE, ALTA., March 31, 1906.

SIR,—I have the honour to forward this my report of work done for the Department of Agriculture dealing with the period from November 1, 1905, to end of our year on March 31, 1906.

I have in that time examined for shipment 2.124 cattle. 18 mules and 549 horses. I found it necessary to reject thirty mares on account of maladie du coit, which reduces the number of horses shipped to 519. I have had to exercise extra care in examining mares on account of the prevalence of this disease. I therefore did not think it advisable to allow any mare to be shipped that exhibited the slightest symptom.

I have made a number of trips to different parts to attend to mares and stallions affected with the above disease, the worst and largest number of cases were found in and around Sterling, Alta. A grade Percheron stallion stood for service in Sterling last year and communicated the disease to a large number of mares. The mares served by this stallion during the season of 1904 seem to be in good health, it therefore seems that the stallion contracted the disease during the early part of last years breeding season. This stallion was slaughtered a few weeks ago on the premises of owner.

I have the honour to be, sir,
Your obedient servant,

M. V. GALLIVAN,
Veterinary Staff Sergt.

The Veterinary Director General,
Ottawa.

N. P. OLSEN, V.S.

WOOD MOUNTAIN, March 31, 1906.

SIR,—I have the honour to submit the following report on quarantine work performed by me from November 1, 1905, to March 31, 1906 :—

During the first month of this period I was working in the Medicine Hat District, my duties being in connection with compulsory dipping of cattle in Dipping District No. 13. This, owing to unavoidable delays was not completed until the latter part of November.

About Decembepr 1, I took over the duties of veterinary staff-sergeant at this port of entry.

BOUNDARY INSPECTION.

Records kept in this office show the following animals entered here and inspected by ex-Staff-Sergt. Perry during December, 1905 :—

Horses	19 head.
Cattle	19 "

From December 1, 1905, to March 31, 1906, the following animals were inspected by me, passed as healthy and entered here :—

Horses	25
Cattle	1
Sheep	7

GLANDERS.

I regret to report that this disease is prevalent in this locality. During the past winter I have destroyed fourteen affected horses, thirteen of these were when destroyed exhibiting clinical symptoms. At present a herd of range horses, comprising about 500 head are under quarantine near Willow Bunch, they will be subjected to the mallein test as soon as the squeezers and corrals now under construction on the quarantined premises are completed.

MANGE.

Dipping being optional in this district, last year no animals were treated. Mange appeared amongst the cattle in about fifty per cent of the herds during the winter, and was dealt with in accordance with the regulations relating to this disease. The stock being as a result of the excellent condition of the range and mild nature of the winter, in a vigorous state of health suffered very little from the disease.

No other diseases of a contagious or infectious nature have come under my observation.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

N. P. OLSEN.
Veterinary Staff Sergt.

C. H. McVEIGH, V.S.

CALGARY, ALTA., March 31, 1906.

SIR,—I have the honour to submit herewith my report of work done for the Department of Agriculture for that portion of the year commencing November 1, 1905, ending March 31, 1906.

Cattle mange has been almost eradicated by the compulsory mange dipping order. Scarcely any mange is reported from the district north of Calgary, but I am sorry to state it seems prevalent to some extent through the High River district. Arrangements are now being made to dip these cattle this spring. The total number of stock inspected for shipment are as follows :—

	Horses.	Cattle.
November, 1905	290	733
December, 1905	211	428
January, 1906	119	532
February, 1906	177	631
March, 1906	393	1,037
Total	1,190	3,361

Glanders is still to be found throughout this district, twenty-six horses have been destroyed during this period at a compensation value of $1,865.99, twelve of these were destroyed by P. K. Walters, V.S., thirteen by C. H. McVeigh, V.S., and one by A. Hobbs, V.S.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

CHAS. H. McVEIGH,
Veterinary Staff Sergt.

G. C. PINHORN, V.S.

ESTEVAN, March 31, 1906.

SIR,—I have the honour to report that since my arrival in the Estevan district, the following cases have been attended to by me:—

GLANDERS.

Tested	115
Destroyed without test	3
Reacted to test and destroyed	22
Reacted to test and held for retest by owner	3
Held for retest on suspicion	37
No reaction	53

MANGE.

Twenty-nine cases. Twenty-six of which are on one ranch.

There are only a few isolated cases of mange in the district, but I regret to inform you that the disease of glanders is very prevalent. The poor sanitary conditions in many of the stables visited, and the lack of knowledge of the contagious character of the disease among some horse owners are not conducive to the stamping out of it. But by vigourous enforcement of the Contagious Diseases Act, I feel confident that the disease can eventually be controlled.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

GERALD C. PINHORN,
Veterinary Staff Sergt.

J. C. HARGRAVE, D.V.S.

MEDICINE HAT, March 31, 1906.

SIR,—I have the honour to submit, for your consideration, the following report for the period extending from November 1, 1905, to March 31, 1906.

The number and classes of animals inspected and passed for shipment are as follows:—

Horses	821
Cattle	716

A number of shipments from the district have been inspected by others during my absence. The total shipments for the period are more than double the above figures.

The number and classes of animals imported from the United States and inspected at Maple Creek are here given:—

Stallions	1
Mares	18
Geldings	15
Colts	4
Total	38

GLANDERS.

The number of horses destroyed during the past five (5) months are six, two presented clinical symptoms, the balance were condemned on mallein test.

Horses tested and destroyed	4
Horses destroyed without testing	2
Suspicious cases examined only	6
Number now awaiting retest	1

The latter animal is one requested to be retested by your department.

Average valuation of those destroyed, $81.66⅔.

MALADIE DU COÏT.

Number of horses examined, 1,660; number destroyed, mares, 47; stallions, 5; total, 52. Average valuation, mares, $78.72½; stallions, $180.

Number detained in quarantine under suspicion, mares, 39; stallions, 5; total, 44.

Of the stallions destroyed, one was a registered horse and the balance grade.

Number of animals examined under the Animals Contagious Diseases Act, horses, 2,756.

Respectfully submitted.

I have the honour to be, sir,
Your obedient servant,

J. C. HARGRAVE,
Inspector.

The Veterinary Director General,
Ottawa,

SESSIONAL PAPER No. 15a

D. WARNOCK, M.R.C.V.S.

PINCHER CREEK, March 31, 1906.

SIR,—I have the honour herewith to submit my report on work performed for the Department of Agriculture from November 1, 1905, to March 31, 1906.

MALADIE DU COÏT.

During November I dealt with some cases of maladie du coït among mares in the Cardston and Mountain View districts. In nearly every case I found that the affected animal had come originally and within the past few years, from the United States.

Early in January a farmer in the Porcupine Hills informed me that a mare, his property, had died, and from the symptoms described I suspected maladie du coït. Learning that this mare had been on the Peigan reservation, and had been served by some Indian stallions, I reported to the officer commanding R.N.W.M. Police, Macleod, who forwarded my report to the acting Indian agent and at the request of the latter I examined some stallions the property of the Indian Department, and a stallion belonging to one of the Indians.

Finding two stallions exhibiting suspicious symptoms I quarantined these and, later, quarantined all mares and stallions on the reservation.

The Indian agent is arranging to have all mares and stallions gathered for examination early in April.

In February I made a second examination of about 150 mares, and finding thirty-two affected, valued and destroyed these. I also examined a number of mares the property of farmers in the Tongue Creek and Okotoks districts, and finding several clearly affected, valued and destroyed these. Other suspected mares are quarantined for re-examination.

The affected mares in these districts are principally animals purchased out of an infected herd within the past year or two. Some of the farmers have had a convincing experience of the virulent nature of this disease, as a number of mares either died after being broken and put to hard work, or became so weak as to be quite unfit for work purposes.

I have also examined and dealt with a number of mares in the Macleod and Porcupine Hills districts. Since the 1st of November I have destroyed forty-two (42) mares affected with maladie du coït.

GLANDERS.

On December 3, I received instructions from the Veterinary Director General to proceed to Jaffray, B.C., to co-operate with Dr. Bell in dealing with an outbreak of glanders at that point.

After applying the mallein test we found twenty-four horses affected with glanders and destroyed these.

Later in December I tested twelve horses at Frank, Alberta, and finding three of these affected, destroyed them.

In November I destroyed a stallion at High River, showing clinical symptoms of glanders.

Since the 1st of November, 1905, I have destroyed twenty-eight (28) horses affected with glanders, of which number 24 were destroyed at Jaffray, B.C., and four in Alberta.

From November 1, 1905, to March 31, 1906, I made twenty-seven inspections of stock for shipment from Macleod, Pincher, Cowley and Frank stations on the Crow's Nest branch, Canadian Pacific Railway.

I have the honour to be, sir,

Your obedient servant,

The Veterinary Director General,
Ottawa,

D. WARNOCK,
Inspector.

P. K. WALTERS, V.S.

CALGARY, March 31, 1906.

SIR,—I have the honour to submit my annual report for the Department of Agriculture, from November 1, 1905 to March 31, 1906.

In November, most of the ranchers in No. 12 district dipped their cattle for mange very satisfactorily. The ranchers and farmers who did not comply with the Compulsory Dipping Regulations were quarantined.

Where no mange was found in the cattle during the winter months, the quarantine was raised. Some cattle which were very mangy were dipped in oil with very good results, only two breaking out during the winter months out of forty-six head of cattle which were in a very bad state, being nearly raw all over before being dipped.

During December, numerous cattle were inspected for mange, and where mange was found, and the cattle dipped, the quarantine was subsequently raised. Also destroyed four horses for glanders in the Didsbury district.

During the month of January I quarantined two mares showing suspicious symptoms of maladie du coït in the High River and Sheep Creek district, which were destroyed by Drs. Warnock and Gallivan. Also inspected numerous cattle in this district for mange, and tested two horses for glanders.

During the month of February two horses were destroyed by me for glanders. Also took a tour of inspection of cattle between the Bow River and East Arrowhead country, accompanied by Deputy Mange Inspector Sanders, and found quite a few cases of mange on the open range. Also found a few cases of mange west of High River, in district No. 12, which were taken in and treated. Also quarantined three bands of cattle, and tested fourteen horses for glanders, destroying five head. Also quarantined three mares showing well marked symptoms of maladie du coït, in the Okotoks and Lineham districts.

I have the honour to be, sir,
Your obedient servant,

P. K. WALTERS,
Inspector.

The Veterinary Director General.
Ottawa.

S. HADWEN, D.V.S.

LETHBRIDGE, March 31, 1906.

SIR,—I have the honour to submit to you a brief report on the work done at the Maladie du Coït Experimental station from November 1, 1905, to the end of our year on March 31, 1906.

The stabling accommodation at the station was finished early in November, and I began at once to carry out your instructions regarding the work to be undertaken.

The experimental animals here now number twenty-seven ; twenty-five mares and two colts, also a number of the smaller animals for inoculations.

The object of the station being to discover the nature, causes, and general characteristics of the disease known as maladie du coït, my time thus being taken up mainly with post-mortem work at the station and in the surrounding country, also in collecting information as to the value of the different symptoms exhibited by the affected animals ; as an aid to diagnosing the affection.

The early evidences of the disease are so obscure that manifestly it is of the utmost importance to discover some sure means of diagnosis in the primary stages.

SESSIONAL PAPER No. 15a

The details of the pathological work and experiments have been forwarded monthly for your consideration and approval.

Whenever possible I have accompanied the various maladie du coït inspectors on their inspection trips, and have added greatly to my knowledge of the disease and of the conditions under which it exists in Southern Alberta; in this connection I may state that the horse breeders of this southern portion of the province are becoming daily more alive to the fact that strict measures are necessary in order to stamp it out, and are anxious to co-operate with the inspectors in their work.

I believe this condition of affairs to be the natural result of knowledge gained by experience of the fatal and contagious nature of maladie du coït.

The time for the breeding experiments you suggested is fast approaching, the winter seems to be nearly over, it is to be hoped that these will be the means of elucidating the problems which now confront the veterinarians of Canada.

I have the honour to be, sir,
Your obedient servant,

SEYMOUR HADWEN,
Assistant Pathologist.

The Veterinary Director General,
Ottawa.

J. W. BLAND, V.S.

VANCOUVER, B.C., March 31, 1906.

SIR,—I beg to submit a report of inspections made by me at ports of Vancouver and New Westminster districts and sub-ports of Huntingdon and Douglas for five months ending March 31, 1906.

The following animals were inspected at Vancouver, B.C.:—Cow, 1; horses, 14; sheep, 11,130; all of which passed inspection.

The following animals were inspected at Westminster and sub-ports of Huntingdon and Douglas:—Horses, 228; mules, 4; cows, 88; also 20 pure bred Hereford animals; 88 cows and calves, 104 horses and 4 mules were entered as settlers' effects. All the above animals passed inspection.

The corralls erected by the railway company at Huntingdon and Douglas are a decided improvement and have facilitated the work of inspection at those ports. The stock yards in these districts have been kept in a clean and sanitary condition during the year.

A rather serious outbreak of glanders occurred in Vancouver during the past year but prompt and effective measures have been taken to stamp out the disease as rapidly as possible. All cars arriving with cattle from mange-affected districts of the Northwest have been thoroughly cleansed and disinfected upon arrival at this port. This work has been carefully carried out by the railway officials.

I have the honour to be, sir,
Your obedient servant,

J. W. BLAND,
Inspector.

The Veterinary Director General,
Ottawa.

W. S. BELL, V.S.

CRANBROOK, B.C., March 31, 1906.

SIR,—I have the honour to submit to you my report from November 1, 1905, to March 31, 1906.

During the month of November, an outbreak of glanders occurred at Jaffray, on the premises of the East Kootenay Lumber Company, twenty in all showed clinical symptoms, the remaining contacts reacted to test and were destroyed. A number of horses which had been in contact or exposed were tested, eight of which reacted and was destroyed and all the premises thoroughly cleansed and disinfected.

The importation during those months is very light at Port of Gateway. There was cattle, 156; horses, 109; goats, 106. Rykert's; horses, 12; cattle, 10; 393 animals passed for inspection.

I have the honour to be, sir,
Your obedient servant,

W. S. BELL,
Inspector.

The Veterinary Director General,
Ottawa.

D. TAMBLYN, D.V.S.

MIDWAY, B.C., March 31, 1906.

SIR,—I have the honour to submit to you the following report for the Department of Agriculture from November 1, 1905, to March 31, 1906.

BOUNDARY INSPECTION.

	For Entry.	In transit 1st Inspection.	In transit 2-6 Inspections.	Total.
Horses	21	214	337	572
Mules	.....	2	.....	2
Cattle	69	80	.....	149
Sheep	.....	.....	.....	.....
Swine	6	.....	.....	6
Grand total	96	296	337	729

In regard to the adequacy of the transit work here, I think the present system is all that is called for. One inspection per month is quite sufficient to preserve the health of our Canadian stock. I make it a rule when on the road to stop all transit teams and inspect them, I also visit the stables in which the freighters stable their horses, so that by doing this the majority of teams are inspected three and four times per month.

The inspection of 'stage horses' necessitates my making a trip once per month to Rock Creek, this being their destination.

I think as a precautionary measure that all horses imported from the Chesaw, Molson and Kipling districts should be subjected to the mallein test, as it is from these districts that my glandered cases have originated.

GLANDERS.

On January 3rd, 1906, I received a report that glanders existed near Greenwood, B.C. On investigating I found no contagious disease.

On February 6, 1906, I inspected 3 horses, the property of S. Nelson Kipling, Wash., and I found it necessary to mallein them, of which two reacted, these animals were given over to the state veterinarian for Washington to deal with.

February 20, 1906, I reeived a telegram from Dr. Tolmie to proceed to Cranbrook and there to work in co-operation with Dr. Bell, in making an inspection of all lumber and milling company horses of that district, this tour of inspection kept one occupied the best part of a month, as it was impossible to inspect more than one camp per diem, owing to the camps being so scattered and the train service so unreliable. Outside of one stable, nothing of a contagious nature was detected.

One or two cases of influenza, accompanied with suppurating glands were seen at the Elk Lumber Company stables, Hormer, and as I deemed it advisable, I asked Dr. Bell to make a second inspection within 15 to 20 days. Several reactors I had destroyed and burnt, and the usual precautions taken as to disinfecting, &c. The number of horses inspected during this tour numbered 289. Destroyed 3 on 2nd test, and 1 tested for the 1st time, 4 tested for the 2nd time.

During my absence from Midway the inspection work was carried on by Dr. Frank of Grand Forks.

BLACK QUARTER.

On November 24, 1905, I visited two farms near Rock Creek, B.C., to investigate a disease in cattle, which I found to be black quarter. I gave both farmers full instructions as to the precautionary measures, disinfecting and burning of carcasses.

Number of cattle on premises	134
Died	8
Remaining	126

TUBERCULOSIS.

I have tested 25 head of cattle for importation from the United States, all of which I found healthy. The necessity of a stable here at Midway for this work I mentioned in my last report.

In closing I desire to mention that Dr. Tolmie, chief inspector for B.C., has afforded me the greatest assistance from time to time on matters of great importance to the department.

I have the honour to be, sir,
Your obedient servant,

D. TAMBLYN,
Inspector.

The Veterinary Director General,
Ottawa.

D. CORISTINE, V.S.

Osoyoos, B.C., March 31, 1906.

SIR,—I have the honour to submit the following report of quarantine work done at this point during the period between November 1, 1905, and March 31, 1906.

Inspections of stock, settlers' effects, prospective settlers and stock for speculative purposes as follows:—

Horses	29
Pigs	6

There has been no indication of disease among stock imported.

There has been no outbreak of contagious or infectious disease in the district during the period mentioned.

I endeavour as far as possible to keep a supervision over the district from Anarchist mountain to Similkameen valley as far as Keremeos, and from international boundary to around Penticton.

I have recently seen the bulk of the cattle owned by the Southern Okanagan Land Company and F. Richter, of Keremeos, these being the only large bunches in the district.

There is no disease among them this spring, although a good many of them are in a rather poor condition. The past winter has not been a favourable one for stock, and so far the spring is cold and dry, consequently grass is making poor headway.

I have the honour to be, sir,
Your obedient servant,

D. CORISTINE,
Inspector.

The Veterinary Director General,
Ottawa.

J. W. FRANK, V.S.

GRAND FORKS, B.C., March 31, 1906.

SIR,—I have the honour to submit a report of work performed from November 1, 1905, to March 31, 1906, inclusive.

During the above mentioned period the following animals have been inspected:—

Horses	286
Mules	4
Cattle	37
Sheep	0
Swine	28

Of this number 28 horses, 37 cattle and 28 swine were for importation (the others being principally animals in transit), six horses of this number were refused entry as they reacted to the mallein test.

During the above mentioned period five horses have been destroyed with glanders in this town, one on inspection, three on the first test, and one on being tested the second time.

Six other horses came under the test, five of which have been tested the second time and the sixth is at present undergoing the test for the third time. Two of the five have already been declared healthy.

Information received as to a case of mange in horses, proved to be without foundation.

I have the honour to be, sir,
Your obedient servant,

J. WILLIAMSON FRANK,
Inspector.

The Veterinary Director General,
Ottawa.

SESSIONAL PAPER No. 15a

G. S. JERMYN, V.S.

VERNON, March 31, 1906.

SIR,—I beg to submit the following report to the month of November. At Osoyoos I inspected the following, two horses and six swine, and met with no disease.

Since starting on December 6 to work under instructions from Dr. Tolmie in the Okanagan district, I have tested for glanders five hundred and seventy-seven horses (577), of which two hundred and nineteen were diseased, and were destroyed in the various places as follows:—

Vernon and vicinity, 214 horses tested, 76 destroyed.
Kelowna and vicinity, 154 horses tested, 86 destroyed.
Peachland and vicinity, 63 horses tested, 26 destroyed.
Armstrong and vicinity, 31 horses tested, 23 destroyed.
Enderby and vicinity 15 horses tested, 8 destroyed.

The disease is gradually being controlled, the worst centres of infection in the Okanagan having been dealt with.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

G. S. JERMYN,
Inspector.

J. GIBBINS, M.R.C.V.S.

March 31, 1906.

SIR,—I have the honour herewith to submit my report as requested.

Since forwarding my last report I have been dealing solely with the outbreak of glanders.

In all I have tested for some 520, retested 86, and again retested for a third time, 23. And of the above numbers 78 have been killed for glanders, not including 3 condemned on December 29. On the second test 12 were killed, and one on the third test, making the total killed 78 as above stated.

I have the honour to be, sir,
Your obedient servant,

The Veterinary Director General,
Ottawa.

JOHNSON GIBBINS,
Inspector.

C. R. RICHARDS, M.D.V.

VICTORIA, B.C., March 31, 1906.

SIR,—I beg to submit the following as my report of the work carried on from October 31, 1905, to March 31, 1906.

The importations were as follows:—

Horses	18
Mules	42
Cattle	3
Sheep	8,771
Exportations—	
Horses	4

175 sheep consigned to the British Columbia Market Company, Victoria, were returned to Washington, owing to being affected with scab. One Jersey bull, consigned to Geo. Sangster, Victoria, was rejected, being tuberculous.

I have tested with mallein 27 horses, 14 were tested a second, and one a third time, making the total number of tests 42. Nine were destroyed affected with glanders. In all cases a thorough disinfection of the premises followed when the disease was found.

Hog cholera was dealt with at Fiddick Junction and Nanaimo; 16 hogs were destroyed.

I have the honour to be, sir,
Your obedient servant,
C. R. RICHARDS,
Inspector.

The Veterinary Director General,
Ottawa.

H. H. S. GEORGE, M.R.C.V.S.

KAMLOOPS, B.C., March 31, 1906.

SIR,—I have the honour to submit a report of inspection made by me for the period dating from November 1, 1905, to March 31, 1906.

I have inspected horses in the following districts during that time for glanders, Peachland, Golden, Palliser, Vernon, Grande Prairie and Enderby, B.C.

Out of the total number of horses tested, viz., 435, one hundred and eighty-four (184) passed the test, one hundred and three (103) reacted to the test, and one hundred and forty-eight (148) are suspects.

Below is a tabulated form of the number of horses submitted to the test in each district, and the results of the test for that district.

The number of suspects may seem to appear very large, but in a great number of cases the horses, although if by themselves would have passed the test, were held, as I thought it advisable, they being in company with those destroyed for the disease, and during the carrying out of the test were eating out of the same manger.

District.	Passed.	Reacted.	Suspected.	Number Tested.
Peachland, B. C.	45	26	48	119
Golden, B. C.	6	15	19	40
Palliser, B. C.	16	4	14	34
Vernon, B. C.	113	50	47	210
Grande Prairie, B. C.	1	9	16	26
Enderby, B. C.	3	.....	3	6

I have the honour to be, sir,
Your obedient servant,
H. H. S. GEORGE,
Inspector.

The Veterinary Director General,
Ottawa.

SESSIONAL PAPER No. 15a

D. WARNOCK, M.R.C.V.S.

PINCHER CREEK, November 28, 1905.

SIR,—I have the honour herewith to submit my report relative to disease prevailing among cattle in Beaver Creek district, Porcupine hills, Alberta.

'DOGIE' DISEASE.

This is a non-contagious disease and in my opinion, is a combination of osteo-malacia and fragilitas ossium, perhaps also osteo-porosis.

I cannot describe it better than to say that it is an arrested development of the bony frame, affecting more particularly the large metacarpal and metatarsal bones (which become fragile, but not flexible): also the nasal and inferior maxillary bones (which undergo a morbid hypertrophy and process of softening).

HISTORY.

I have been familar with this disease for some years, it having appeared shortly after the late cycle of wet seasons began. I have only seen it among cattle grazing in 'Tennessee Coulée' and 'Jack O'Neil Coulée, on Beaver Creek, and on that portion of the range south of the Porcupine hills, now known as 'Summerview.' The soil in these districts is a light warm sandy loam, which dries out very rapidly. These were always favourite ranges with cattle, and during the dry seasons of the early winters were so heavily overstocked that grass was badly eaten or trodden out, the result being that when the rainy season reappeared there was a rapid and prolific growth of weeds, particularly loco-weed, the latter being, at the present time, quite as abundant as grass.

Disease was first noticed among a few Ontario stockers the most prominent symptoms being an unsteady gait, swelling of the nasal bones, and a dirty discharge from the nostrils. Suspecting 'malignant catarrh' or 'tuberculosis' I destroyed the animals for post-mortem purposes, but was surprised to find the internal organs perfectly healthy, although anæmic. Later, in the same season, I saw more advanced cases, and associating the appearance of disease with the sodden state of the range and prevalence of stagnant lakes, suspected 'strongylus tetracanthus,' but on making post-mortems, and laying open the intestines from end to end I failed to find evidence of the presence of harmful parasites. However, noticing the imperfectly masticated condition of the contents of the rumen, I examined the teeth, and discovered that what, at a distance, I had taken to be an oedematous swelling was really a swelling of the inferior maxillary bones; I examined these and found them so softened as to be but little harder than cartilage, the teeth badly developed and loose. Observing that every affected animal was either a Manitoba or Ontario stocker, I was much perplexed regarding the cause, and the reason for the apparent immunity of native cattle, grazing on the same range, was a question often put to me as a 'poser' by the cowboys, when I doubted the correctness of their theory that the disease was due to some inherent defect in the 'makeup' of 'dogies' in general. In reply I could only point out that, for some years, dogies had done well, that disease had appeared subsequent to the return of the wet seasons, and that, it must be due to some pernicious plant—at that time I did not know the loco plant.

As disease appeared to be confined to dogies grazing in the localities mentioned, I made it a practice to have these cattle kept away as much as possible, and, in that way prevented much loss. In regard to range cattle not becoming affected, I would say that, after a long experience and close observation, it is my belief that animals native to certain areas of the range are able to discriminate between noxious and innocuous plants, indigenous to that locality. I think this, rather than immunity to effect, is the true explanation. In support of this theory I shall here mention some cases in point. On the moist west-slope of the Porcupine hills and foot hills, water

hemlock and other toxic plants grow in abundance. Cattle raised there do not suffer much, but when cattle are driven in from outside points they seem to eat anything that is green and succulent, with, in the case of water hemlock, dire results to themselves. For example, in 1900 or 1901, Mr. Burton, of Willow Creek, located a ranch on the west side of the Porcupine hills, about 12 miles north of the Upper Walrond, and drove his cattle across the hills to his new location. Within a few weeks Mr. Burton lost many cattle from hemlock poisoning, and to avert heavier loss, was compelled to move his cattle back to their old range. Other settlers, owning cattle native to the hills, grazing on the location selected by Mr. Burton, did not suffer loss.

Again, about mid-sumer of the present year, Mr. F. W. Godsal moved about 160 cows to Mr. Powlett's ranch on Red Deer river. These cattle were shipped from Pincher to Bassano station, I think, on the main line of the Canadian Pacific Railway, unloaded there, driven slowly a few miles north until a side hill was reached on which there was good grass, but, unfortunately, also plenty of water hemlock. There the cattle were allowed to graze for some hours, or until the herders noticed something amiss with some of them, when they were at once rounded up and driven off the hillside, too late, however, as within two or three days 37 cows died, showing all symptoms of acute poisoning. Mr. Godsal's cattle have for some years past been kept in inclosed pastures in which there is no hemlock, were not familiar with it, and evidently, ate greedily of it.

Up till 1901 I did not recognize loco-weed, but about that time I met Mr. Henry Smith, of High River (who had had considerable experience in Wyoming), at a meeting of the executive committee of the Western Stockgrowers Association, held at Macleod, and incidentally discussed the effects of poisonous plants. Mr. Smith, on his return to High River, very kindly sent me some specimens which enabled me to identify the plant growing so abundantly in Tennessee Coulee and on Beaver Creek.

SYMPTOMS OF 'DOGIE' DISEASE.

As a rule, the first noticeable symptom is an unthriftiness, the animal begins to lose flesh, the nasal bones are swollen, and there is a discharge from the nose. Later, the under-jaw becomes swollen (generally uniform in both rami), the senses of hearing, sight, taste and smell are impaired. Occasionally the chin becomes so swollen as to cause the lower jaw to become under-shot, the incisor teeth protruding from the mouth, giving an appearance very much like the jaw of a bull dog. In other cases the first symptom may be a rigidity of the spine, the animal walks with a 'stilty' unsteady gait, does not lie down, but will stand for hours at a time head down, and legs propped apart. I have ridden up within a few feet of an affected animal standing on the range in a semi-comatose condition, and on being startled, and attempting to move quickly the animal has fallen flat on its side, unable to rise until rolled on to its sternum, when it would get up without assistance, but would rise in the same way that a horse does. I have seen such an animal stumble and break a limb below the knee. Animals showing spinal symptoms soon become badly sway-backed, due to softening of the vertebrae, and as a rule, do not live long.

CAUSE OF DEATH.

Some animals die from paralysis, others are killed by coyotes, but the majority die a lingering death from starvation.

In 1904 I was consulted by Robbins Bros., of Beaver Creek, regarding an outbreak of disease in a bunch of Manitoba dogies purchased by them two years previously. These cattle had been confined to pastures, or close-herded on Beaver Creek since being brought in. I had heard that Robbins Bros. had suffered considerable loss, but on visiting their ranch I was astonished to find quite 50 per cent of their cattle affected in the same way as the Waldron dogies. In the bunch were a number of advanced cases, so selecting one of the most typical, a 4-years-old heifer, I had it

destroyed and made an autopsy in the presence of Mr. A. W. Robbins and Mr. Jas. Allison.

POST-MORTEM APPEARANCE OF ROBBINS' HEIFER.

On exposing the bones of the lower jaw these were found to be very much enlarged and softened. They were harder than cartilage, but could be readily sliced with a strong knife. Molar teeth badly developed, and some so loose in the alveoli that they could be removed by a strong pull with the fingers. Incisor teeth irregular, and the alveoli so soft that the teeth could be easily sliced off.

Superior maxillary bones normal, and teeth firm. Nasal bones swollen and softened. Bones of the skull thickened, but hard. On removing the large metacarpal bone on the left foreleg, it outwardly showed no change, but when broken across, which was easily done by a sharp blow with a hammer, the shaft of the bone was thin, the medulla enlarged, the marrow detached from the walls, gelatinous (having very much the appearance of cooked marrow) and easily shaken from the canal. The left femur was removed, and appeared to be healthy until broken across. There was not much thinning of the walls, but the marrow was abnormal and looked very much like coagulated arterial blood. Dr. Hadwen drew my attention to a like condition existing in the femurs of a stallion destroyed at High River, affected with maladie du coït, and which stallion for some time prior to death, exhibited pronounced symptoms of nervous affection.

The thoracic and abdominal organs were healthy, but very anaemic. The ingesta very imperfectly masticated, largely mixed with seeds, and stems of loco-weed, pieces of wood, feathers, &c.—the presence of foreign bodies is suggestive of depraved appetite, but I think the impaired sense of taste and smell is responsible.

TREATMENT.

Medical treatment is of no avail as long as the animal is permitted access to loco-infested pasture. Easily masticated and nourishing food is the remedy, and drugs are not necessary, although, no doubt, a course of mineral and vegetable tonics would materially hasten recovery. For some years I have advised stockmen, by whom I have been consulted, that hand-feeding was the proper remedy, or failing that, a change of range. If taken in time, *i.e.*, before the jaws and teeth have become so badly affected as to preclude prehension and mastication, or the digestive functions have become too impaired, many animals will recover sufficiently to become fit for beef, although they do not grow. Badly affected cattle should be destroyed rather than left to die from starvation, or left to meet a cruel death from the attacks of coyotes. I have seen an affected animal down on the range, with its tail eaten off, and great holes eaten into its thighs, but still conscious.

Almost the first indication of approaching convalescence is a periostitis of the metacarpal and metatarsal bones—nature's effort, I presume to strengthen the already weakened bones. Robbins Bros., acting on my advice, turned their cattle loose on fresh pasture. In September of this year I inspected a carload of beef cattle at Pincher for shipment to British Columbia, composed principally of survivors from Robbins Bros. bunch. These cattle were fat, but no stockmen could have failed to notice their under-sized stunted appearance, the knotty, thickened cannon bones, and the heavy under jaw. Robbins Bros. suffered heavy loss and in face of their experience with dogies, have disposed of their ranch on Beaver Creek, and are going out of the cattle business.

It was the custom at the Waldrond ranch to put affected cattle in the work horse pasture, where they lived principally on the droppings from the horses, and refuse from the stables generally, after a time, becoming fat enough to be fit for beef—this statement may appear somewhat imaginative, but many ex-cowboys of the company will say that affected animals have been known to follow the horse-herd from camp to

camp on the round-up, subsisting (and with obvious improvement) on the droppings from the horses, and refuse thrown from the mess tent. It was from noticing this that the above method of handling these cattle occurred to me. I do not think that the Walrond Ranch Company has suffered so very heavily from this disease. If so, it has been within the last two years. That company's loss has been much heavier from hemlock poisoning, on which I am preparing a separate report.

I have seen a somewhat similar disease among sheep in Scotland, attributed to absence of certain soil constituents and consequent poor quality of grass.

Here, however, I do not think the soil has anything to do with it, except so far as being favourable to the growth of the loco-plant. Were the disease due to poor quality of grass I should expect to find the native cattle affected equally with imported. Recently some of the native cattle in these districts have become affected and, I think, this is explained by the fact that month by month the grazing area is becoming more curtailed, while year by year cattle are becoming more domesticated, less able to take care of themselves, and now eat that which their ancestors eschewed.

Dr. Burnett, on his recent visit to Beaver Creek and seeing affected cattle for the first time, evidently had his attention attracted by the symptoms in much the same way that these appeared to me in 1899.

I look upon this disease as being of purely dietetic origin, endemic to certain districts, leading to alteration in bone composition, consequent to the effect of loco-weed upon the nervous system, the pathological changes varying according to the structure of the bones affected.

In my opinion it will prevail until these portions of the range have been given time to become rehabilitated after years of over stocking.

I have the honour to be, sir,
Your obedient servant,
D. WARNOCK,
Inspector.

The Veterinary Director General,
Ottawa.

PINCHER CREEK, November 30, 1905.

SIR,—I have the honour to herewith submit my report relative to poisoning by water hemlock among cattle grazing in the Porcupine hills.

Water hemlock is indigenous to many districts of the range country, but, as I pointed out in my report *re* loco-weed poisoning, it is especially abundant in the Porcupine hills, particularly on the west slope.

It is deadliest during the early spring months, or at least, that is the season at which cattle suffer most, and is the only time of the year that cattle 'native' to that district seem to eat it. It is most deadly during cold, late springs, when green grass is tardy in appearing, or is of slow growth.

In the Porcupine hills sharp frosts prevail until well on in June, thereby retarding vegetation, and as a rule, grass is from three weeks to one month later in appearing than in the case of the flats east of the hills. Occasionally, but very rarely, grass is earlier in the hills than on the flats, but I have only seen three exceptions during a residence of thirteen years.

When grass begins to appear cattle become restless, they roam over the prairie hunting for green grass, and that is the time when they suffer most. They frequent the banks of creeks, the borders of lakes, or the sheltered sides of coulees, and many are found dead from the effects of eating hemlock.

When plenty of range is available, it was my practice at the Waldrond ranch to have all cattle driven out of the hills as soon as green grass began to appear. They were drifted out onto the flats where, as a rule, grass was plentiful long before there was any in the hills. This course made the roundup later in the season, a little more expensive, but saved the loss of many cattle, and was absolutely necessary after a few importations of eastern stockers had been made.

Now that less range is available, and for other reasons, cattle are held in the valley between the Porcupine hills and the Livingstone range of the Rockies all the year round, and, I am informed on good authority that the annual spring loss from hemlock poisoning is extremely heavy. Careful stockmen combat this by hand-feeding till late in spring, or by holding their cattle in pastures specially reserved for the purpose, and do not 'turn loose' until a full bite of grass is procurable.

SYMPTOMS.

When an animal has eaten water hemlock, symptoms of poisoning, as a rule, do not appear until after rumination has been in progress for some time. Then the animal becomes uneasy, if lying down it gets up, kicks at the abdomen, switches its tail, may walk some distance, lie down and begin ruminating again. After a short time the symptoms become more violent, the animal rises, appears to suffer severely, very often vomiting and acute diarrhoea set in, the abdomen becomes tympanitic, the animal gallops around blindly delirious, or becomes comatose, and death rapidly ensues, often quite as rapidly as blackleg.

REMARKS.

I am of the opinion that as long as the plant is contained in the rumen it does not exert its toxic effects, and that it is only after maceration in the rumen and remastication that these effects are manifested. I do not think it is necessary that portions of the plant should pass into the intestines before the animal becomes affected, and I am convinced that I have seen poisoning occur from absorption of the juice of the plant during rumination. In 1900 I saw four imported Shorthorn bulls die in one afternoon from the effects of water hemlock eaten on the morning of the same day, the bull-herd having been allowed to graze for a few hours on the borders of a lake. On post-mortem I found that no portion of the plant had passed beyond the second stomach, nor were there pronounced intestinal lesions.

TREATMENT.

This, to be effective, must be prompt, but affected animals are seldom noticed in time for treatment to be of any avail. Medicines per the mouth are in most cases inadmissible, and for this reason treatment by amateurs is seldom successful. If an attempt be made to administer medicine by the mouth the affected animal generally drops as soon as its head is raised above the level, and there is grave danger of choking. Again, if vomiting is present the medicine is ejected almost as soon as given. As a rule, medicines can only be given subcutaneously, intravenously, or introduced directly into the rumen through the abdominal wall.

The latter method can be successfully carried out by almost any stockman if he possess a good cattle trocar and canula, and in this way doses of raw linseed oil and soda bicar bonate can safely be given. Also stimulants such as aromatic spirit of ammonia, spirit of turpentine, whiskey, brandy, &c., if the animal is comatose, where there is violent pain or delirium, choloral hydrate, bromide of potassium or tincture of opium are the remedies I have found most useful, but I have used these so as to secure their most rapid effects.

Most writers on veterinary medicine recommend large doses of purgative medicine in similar cases, but my experience with hemlock poisoning has been that drastic cathartics are a mistake, a 'kill or cure' method, with heavy odds against a cure. It

is my opinion that by administering powerful cathartics we only succeed in disseminating the poison throughout the entire intestinal tract with fatal result. The patient will die before the most rapid purgative can eliminate the poison from its system. If the toxic principle could be rendered unabsorbable, then purgatives would be safe. In my absence, I have lost cases forty-eight hours after acute symptoms had subsided and the animal appeared to be convalescent. Evidently some of the poison was still retained in the rumen, and the symptoms reappeared when the animals commenced ruminating again. If vomition could be induced in cattle by the administration of emetics so as to completely empty the rumen, that would be the remedy after acute symptoms had passed off.

From past experience if I had a valuable animal under treatment, and had been successful in alleviating the acute symptoms, I should not consider the animal safe until rumenotomy had been performed and the rumen emptied, as far as practicable of its deleterious contents. If this is not done the symptoms are almost sure to return. Rumenotomy, carefully performed, gives excellent results in grain engorgement and should be equally successful here.

Were I asked by an owner to outline appropriate treatment for a valuable animal known to have eaten water hemlock my reply would be 'Tie a piece of fork handle in the animal's mouth in the same manner that you would retain the bit in a horse's mouth, to prevent rumination, then procure competent veterinary services at the earliest possible moment, and have the contents of the "paunch" removed.'

I have the honour to be, sir,
Your obedient servant,

D. WARNOCK,
Inspector.

The Veterinary Director General,
Ottawa.

MALADIE DU COIT.

This disease which has long been known in the old world was introduced to this continent in 1882 by a Percheron stallion imported from France, and used for service in Illinois. Unfortunately the nature of the affection was not discovered until several years had elapsed, during which period a considerable number of stallions and mares had become infected. Some of these infected animals were removed from the district before quarantine was imposed, with the result that a number of disease centres have been established in various parts of the United States. The large influx of American horses is undoubtedly responsible for the introduction of this loathsome malady to western Canada, where its existence was first reported from the Lethbridge district in March, 1904.

Since that time active measures have been adopted for its repression, but owing to the nature of the malady and the loose conditions under which horses are handled in the range country, it is a matter of great difficulty to deal with it effectually. A copy of the regulations now in force is printed herewith, and the hearty co-operation of horse owners in enforcing the same is earnestly solicited. Compensation on a most liberal scale, when the intrinsic value of a diseased animal is considered, is paid for all animals slaughtered by order of an authorized inspector, except when the owner has been guilty of an infraction of the Animal Contagious Diseases Act, or of the regulations passed under the authority of the said Act.

Maladie du coït, wherever it exists, paralyses horse-breeding operations and ruins those engaged in the horse-breeding industry. It is, therefore, the plain duty of all interested in horses or horse-breeding to second in every possible way the efforts of the inspectors of this department to stamp it out wherever found. As its eradication is a matter of public and not private interest, every breeder is urged to report immediately any suspicious case of the existence of which he may become aware, whether among his own animals or those of others.

Maladie du coït (Dournie is a malignant, insidious, incurable disease peculiar to the horse, supposed to be due to the entrance into the system of a micro-organism, known as the Trypanosoma Equiperdum.

This disease, as its name implies, is essentially one of coïtion, being transmitted during the act of service, from stallion to mare, and vice versa. Some authorities report, however, that they have succeeded in inducing it, by experimental inoculation, in the horse and in several other animals of different species.

The symptoms, as in other contagious diseases, differ considerably according to the susceptibility of the animal, the nature of its surroundings, and the vitality of the virus. Some cases, therefore, are acute, the various stages of the disease following each other rapidly, and these generally reach a fatal termination within a very short time. Unfortunately, however, this is rarely the case, the disease generally following a chronic, insidious and semi-latent course, making it, in view of the constant danger of infection, a most serious menace to the horse-breeding industry.

In reading the following description of the symptoms as presented in the three stages of the malady, it will be well to bear in mind the great liability to variation, such as the appearance of characteristic symptoms in one animal, and their total, or partial, absence in another. The stages are not ushered in uniformly, neither are they of regular duration, as in many cases almost all evidence of disease will occasionally disappear for a time, only to recur later and with renewed virulence.

The duration of the disease varies, and may extend from a month to several years, the average time, however, being about eighteen months. After copulation with an infected animal, the germ, having been transmitted during this act, commences to multiply rapidly or tardily, according to its vitality, the susceptibility of the infected individual and the favourable or unfavourable condition of its surroundings in the generative organs. This constitutes the incubative period, which may last from one to two weeks or much longer.

The primary stage is ushered in after the germs have developed sufficient activity to produce irritation in the adjacent tissues, whether observable or not. In the stallion the mucous membrane of the urethral canal (passage through which urine is voided) exhibits the first sign of irritation; its external opening at the end of the penis (*Meatus Urinarius*) assumes a bright red colour, accompanied by swelling, which may cause it to bulge out prominently, followed by a discharge, at first almost imperceptible, but increasing in quantity as the disease progresses.

The above mentioned symptoms are often very meagre, and frequently overlooked, especially so with the unsuspicious. During this period, however, the stallion is a positive infective agent, his desire for serving mares being greatly increased and his ability to perform this function not seriously impaired.

The possibility of wide-spread infection, if such a case is not detected and immediately placed under restraint, can be readily appreciated.

As the disease advances the irritation of the generative organs increase, frequent erections of the penis follow, this organ often attaining unusual proportions, and occasionally swelling to such an extent as to prevent its complete return to the sheath. Urination is performed often and incompletely, the urine being mixed with a mucous discharge varying in quantity, and the act is often accompanied by switching of the tail or stamping of the feet, due to the irritable condition of the parts.

Red spots may appear on the penis and adjacent parts; these may disappear rapidly with a tendency to return, or they may increase in virulence, forming discharging sores.

White spots, due to loss of pigment (colouring matter of the skin), may indicate previous eruptions on the penis, sheath and surrounding tissues. This condition is often well marked, in some cases the spots forming large patches, which may involve the major portion of the penis, changing it to a dirty yellowish white, rough and unhealthy looking organ, while in others, they are only slightly perceptible or altogether absent.

A gradual swelling of the sheath becomes noticeable, and is frequently the first symptom observed; this swelling often involves the scrotum and testicles, and may extend to the abdomen and limbs. The character of the swelling is generally cold, doughy and passive, and it may obstinately persist, disappear rapidly, remain absent, or return frequently. Occasionally it is hot, tender and painful and shows a tendency to the formation of vesicles and erosions of the tissues, accompanied by a purulent discharge.

The penis, in many cases, becomes protruded from the sheath continually, the animal being unable to retract it, owing to the loss of such power, or to the excessive amount of swelling present. The appetite still remains unimpaired, and no serious constitutional disturbances are yet observable.

In the mare the symptoms are somewhat similar, differing only in accordance with the anatomical and physiological structures of the generative organs. The same variable incubative period follows infection as in the male. The preliminary symptoms are also of a very imperfect type, and difficult to detect, unless suspicions have been previously aroused. They are most frequently insidious, and consequently very dangerous, necessitating, as in the stallion, every precaution, where the slightest cause for suspicion exists.

On close observation, however, a discharge may be noticed from the vulva (external opening); the mucous membrane lining it and the vagina (canal from external opening to the womb) gradually assume a discoloured, thickened and rough appearance, giving evidence of increasing irritation and the consequent inflammatory results. Red spots may make their appearance on the vaginal membrane, and when present, are especially noticeable in the region of the already thickened and erect clitoris (the part commonly exposed by mares in season), a condition of this organ which to a greater or less extent, is persistently present throughout the course of the disease.

An abnormal sexual desire is intermittently present, the mare, at intervals, continually exposing the clitoris. Urine, mixed with mucous, is frequently voided in jets. This causes increased irritation, followed by stretching, stamping the feet, and switching the tail. An extremely irritable condition has been observed accompanying these symptoms, the animal rubbing itself violently against any object.

The discharge from the vulva becomes sticky and irritating, adhering to adjacent parts and scalding the contact tissues. The discharge may increase or decrease in quantity, and become more purulent as the disease advances. Local swellings appear, as in the stallion, at any stage of the disease, and may also, in the mare, be the first noticeable symptom; these frequently affecting one side of the vulva and may extend to the other, or spreading rapidly, involve the mammary glands, abdomen and limbs, or they may confine themselves persistently to more limited areas, often giving the vulva a puckered and deformed appearence.

As in the stallion, these swellings may persist, disappear suddenly, remain absent, or recur frequently. They are generally of a doughy consistency, cold and painless, but occasionally appear in an acute form, with heat and pain present, accompanied by a tendency to the formation of vesicles, followed by erosion and discharge.

As the disease advances, the lining membranes of the vulva and vagina assume a yellowish colour, the clitoris distinctly presenting a white or yellowish, and slightly corrugated appearance. White spots appear in the locations of previous vesicles, which vary considerably from small indefinite ones to most decided and marked patches.

Constitutional symptoms may not appear for weeks, and often months, and in some cases not until the local symptoms have been absent for some time, the animal still maintaining a good appetite.

THE SECONDARY STAGE is the result of the migration of the micro-organisms with their accompaning toxins, into the general system, which may occur from one to three months after infection, but differs largely in individuals. The disease now commences to mark its progress in no uncertain manner, and it is at this stage that the inexperienced realize that there is something seriously wrong. One or more, or all symptoms become aggravated, constitutional symptoms supervene, the condition of the skin and hair becomes dry and harsh, the rounded form disappears and the outlines of the ribs, haunches and spine gradually gain prominence, the eye takes on a dull, expressionless stare, the ears lop over, the lips often hang pendulous, the eyelids droop, owing to partial paralysis of the nerves supplying the parts, and a general marked unthrifty appearance presents itself.

In the stallion the appetite may be capricious, but is rarely impaired; langour and dullness replace his former vigour, occasional trembling may be noticed over the surface of the body, especially so when other horses are approaching. Although stupid, and apparently not interested in his surroundings, he frequently neighs persistently.

The swellings, when present, become hard and chronic, the testicles either enlarged (this condition being due to the thickening of the membranes enveloping the organs, and not the testicular substance proper) or atrophied, either hanging abnormally pendulous or lying close up to the abdomen.

The infection may now show its presence along the course of the lymphatics, by the formation of ulcers in the various glands, which may discharge a purulent fluid, or, on the other hand, a marked swelling and thickening of the glands may exist including the sub-maxillary under the lower jaw.

Rather peculiar, the characteristic elevations make their appearance at irregular intervals during this stage of the disease, and have been called, very appropriately, 'plaques.' They vary largely in dimensions and may appear rapidly, disappear as quickly, show a tendency to persist, remain absent, or break out in other localities. They are in the majority of cases, neither hot nor painful, but occasionally may assume an irritable aspect.

Placques may appear singly, or in groups, and are seen most frequently in the region of the croup, abdomen, chest, shoulders and neck, and are better described as flat elevations, raising up the skin, with defined edges, in some cases quite prominent, in others only perceptible by taking a position alongside, in front of, or behind the animal, and viewing the outline of the body. Marked alterations in the animal's gait soon become apparent, when standing he maintains his position imperfectly, moves his weight from one limb to another, keeping one limb in a semi-flexed position, and often raising it from the ground. When walking, knuckling over, or the dragging of a hind limb are often distinctly noticeable. Upon trotting, a stilty, jerky and swaying motion is quite apparent, the animal often falling down unexpectedly, showing a general inability to control his movements. He now prefers a lying posture, and when rising, manifests difficulty, and exhibits evidence of pain in doing so.

The stallion is unable to cover, the erections of the penis being feeble and incomplete, and his inability to handle himself well marked.

In the mare, the same constitutional symptoms prominently develop. The local swellings also assume a hard and chronic form, giving the vulva a distorted appearance. They may also occur on each side of, or below the vulva, which at this stage, often remains partially open at its lower extremity, due to the chronic thickening of the clitoris. The mucous membrane of the vagina presents a dirty yellowish, rough appearance, the discharge when present, acquiring a more purulent nature, and irritating the adjacent parts. Placques may make their appearance in the same manner as in the stallion, and in the same irregular way.

The infection of the lympathic system also shows the same inclination as in the male, causing enlarged glands, or suppurating sores. Marked depression and stupidity intervene, with the same inability to control movements, the lying posture being favoured.

THE TERTIARY STAGE in both sexes is marked by extreme depletion of the system, the progression of the disease having produced secondary lesions of a grave nature in the more important organs of the body. The senses become more and more blunted, the discharge from ulcers and generative organs may be profuse, in some cases there is a catarrhal discharge from the nostrils, sometimes accompanied by an inflammatory condition of the eyes.

The patient, at this stage has difficulty in maintaining a standing posture, generally requiring support. When moving, it sways from side to side and stubs the toes. The knees and pasterns finally give way, the animal falls and is unable to rise again. General paralysis, pneumonia, or other results of septic infection intervene, and hasten the end.

Cases have been known in which animals have reached the tertiary stage and have then made an apparent recovery. In all such cases, however, the disease has again manifested itself in a most severe form, ending in the death of the affected animal.

An apparent recovery, therefore, should be looked upon with grave suspicion.

CONGENITAL EXANTHEMA.

Maladie du Coït is frequently confounded with another, much more common, but, fortunately, far less dangerous venereal disease of horses known as Coital or Congenital Exanthema. This affection, which is not at all uncommon in Canada, generally makes its appearance during the breeding season, attention being directed to it by the fact of various mares served by the same horse becoming affected at once.

Such mares show the presence of vaginal irritation by frequent attempts to urinate and by switching the tail. Examination shows the vagina inflamed and studded with small vesicles which break leaving ulcers which, however, heal readily leaving temporary scars. These vesicles also appear frequently on the external surface of the vulva leaving in this situation small white spots about the size of grains of shot, which gradually become recovered with pigment. There is, during the acute stage, more or less muco-purulent discharge from the vagina, which, however, soon ceases as the irritation disappears. The disease is not of a malignant nature, although it is undoubtedly contagious. It yields readily to simple treatment and, except when complicated by co-existent strangles or other disease, generally runs its course in from two to four weeks.

In the stallion the vesicles appear on the penis and sheath and present characteristics similar to those described as occurring in the mare. Sometimes, when the horse is kept at service by an ignorant or unscrupulous groom, the ulcers become greatly irritated, with the result that prolonged rest and careful treatment are necessitated in order to restore the parts to a normal condition.

Coital Exanthema is not a serious disease, its principal ill effect being the loss due to the non-impregnation of breeding mares at the proper season. While no great alarm need, therefore, be felt on discovering its presence, it is strongly recommended, in view of the existence in Canada of the greatly more serious Maladie du Coït, that owners of mares or stallions showing any abnormal condition of the generative organs should immediately subject them to a careful examination at the hands of a qualified veterinary practitioner. After such examination if any doubt remains as to the nature of the disease the matter should be at once reported to this department and to the nearest veterinary inspector.

DOMINION OF CANADA.

REGULATIONS RELATING TO MALADIE DU COIT.

Authorized by Order in Council dated the 22nd day of July, 1905, in virtue of 'The Animal Contagious Diseases Act, 1903.'

1. No animal which is affected, or suspected of being affected, with Maladie du Coït shall be permitted to run at large or to come in contact with any animal which is not so affected, and no such animal shall, in any case, be used for breeding purposes.

2. Any veterinary inspector may declare to be an infected place within the meaning of 'The Animal Contagious Disease Act, 1903,' any common, field, stable or other place or premises where animals are found which are affected or suspected of being affected with Maladie du Coït.

3. No animal shall be removed out of an infected place without a license signed by an inspector.

4. The Veterinary Director General may, from time to time, order the slaughter castration, or other disposition of animals affected with Maladie du Coït.

5. Every veterinary inspector shall have full power to order animals affected, or suspected of being affected with Maladie du Coit to be collected for inspection, and when necessary, to be detained and isolated or otherwise dealt with in accordance with the instructions of the Veterinary Director General, and no indemnity shall be allowed to the owner in case of damage arising out of or resulting from such actions, except as hereinafter provided.

6. The expenses of and incidental to the collection, isolation, seizure, castration or otherwise dealing with horses for the purposes of these regulations shall be borne by the owners of the animals.

7. No entire horse or ridgling more than one year old shall be permitted to run at large on unfenced lands in the province of Alberta or in that portion of the province of Saskatchewan lying west of the third principal meridian.

8. Any entire horse or ridgling more than one year old found running at large within the area defined above may be seized and held on the order of any duly authorized veterinary inspector of the Department of Agriculture, who shall forthwith whenever possible notify the owner of the said horse of such seizure, and the said horse, if not claimed within thirty days of such seizure, may be castrated, and no indemnity shall be allowed to the owner in case of damages arising out of or resulting from said castration, seizure, or detention.

9. Animals affected with Maladie du Coït may, on an order signed by a duly appointed veterinary inspector acting under special instructions from the Veterinary Director General, be forthwith slaughtered, and the carcasses disposed of as in such order provided, and compensation may be paid to the owners of such animals if and when the Act so provides.

10. Before an order is made for the payment of compensation in any of the cases aforesaid there must be produced to the Minister of Agriculture a satisfactory report, order for slaughter and certificate of valuation and slaughter, all signed by an inspector.

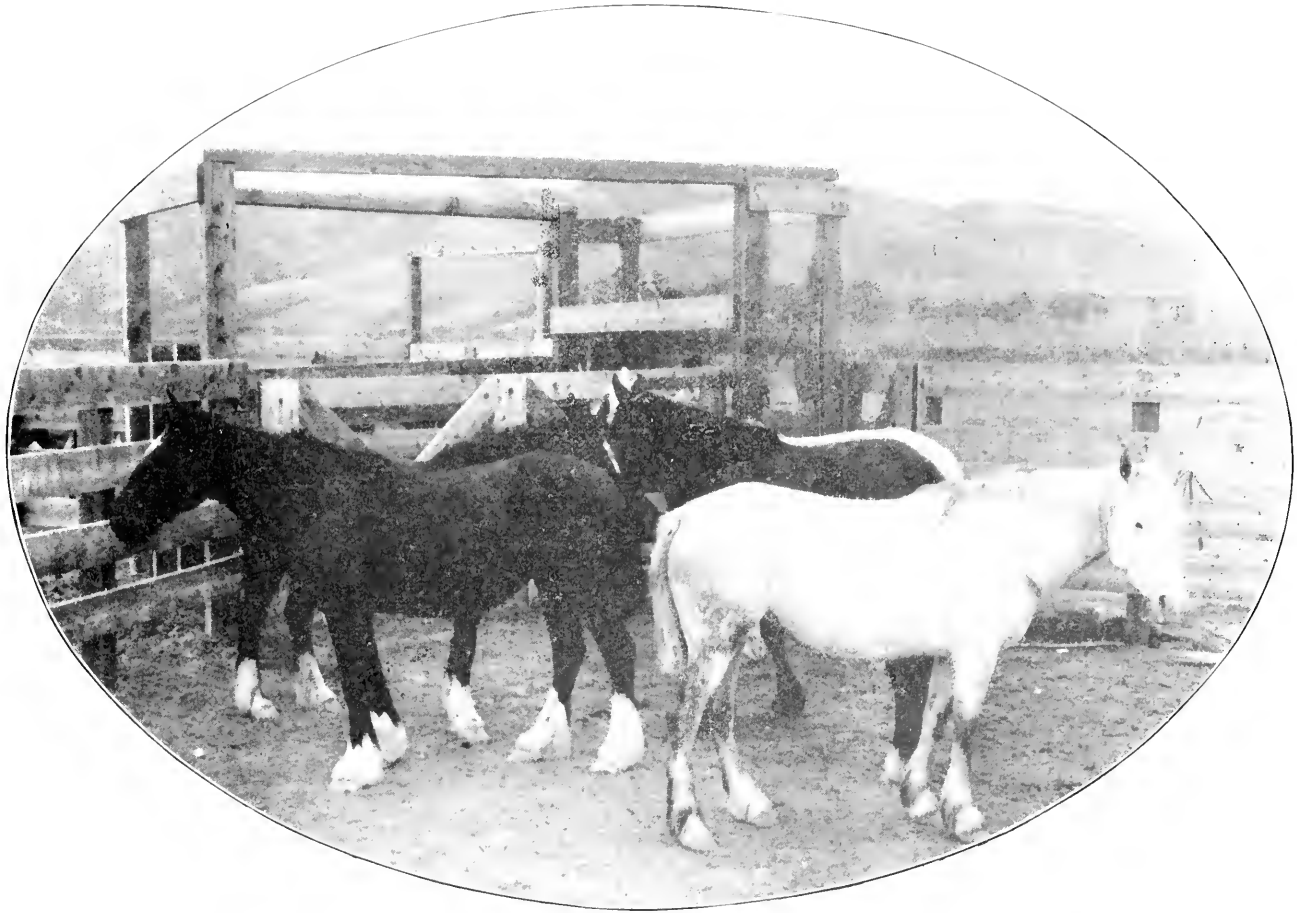
J. G. RUTHERFORD,
Veterinary Director General.

HEALTH OF ANIMALS BRANCH,
DEPARTMENT OF AGRICULTURE,
OTTAWA.

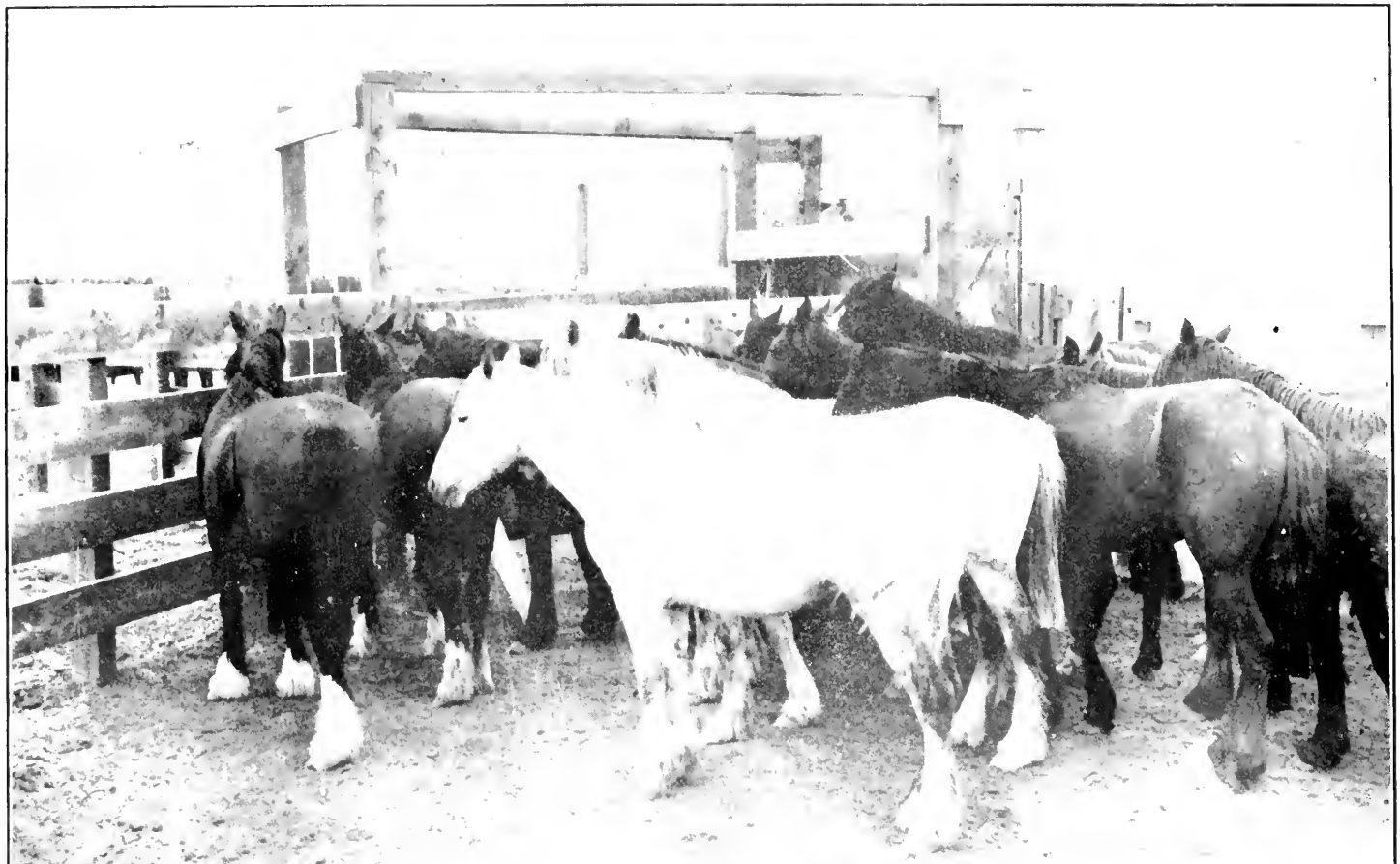
Maladie du Coit. Pure Bred Clyde Show Mare. Note the position of off hind leg. See Photograph of acetabulum of the affected limb on next page.

Maladie du Coit.—Extensive ulceration of the acetabulum, a result of the disease. See Photo. of Mare from which this joint was removed on the preceding page.

Maladie du Coit. Brucefield Prince.



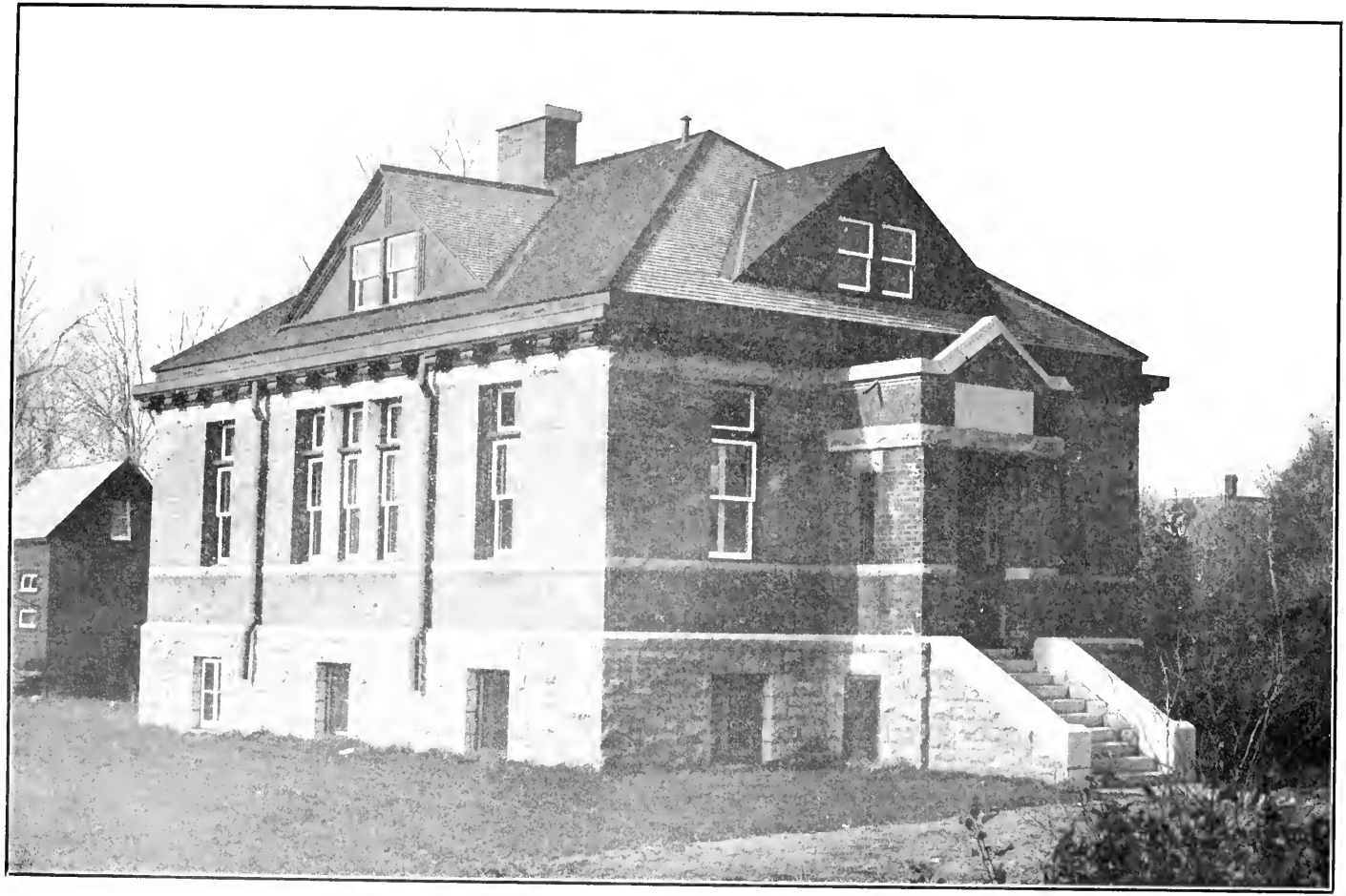
Maladie du Coit. A group of affected Mares at the Lethbridge Quarantine Grounds. Photo. taken May, 1905.



Maladie du Coit.—A group of affected Mares at the Lethbridge Quarantine Grounds. Photo. taken May, 1905.

Fig. 1.—Maladie du Coit.—Brucefield Prince. Note the paralysis of the ear and upper lip with accompanying distortion.

Fig. 2. Maladie du Coit. A Grade Mare in the Medicine Hat District. Note the paralysis of ear and lip with accompanying distortion.



The Biological Laboratory from the South-east.

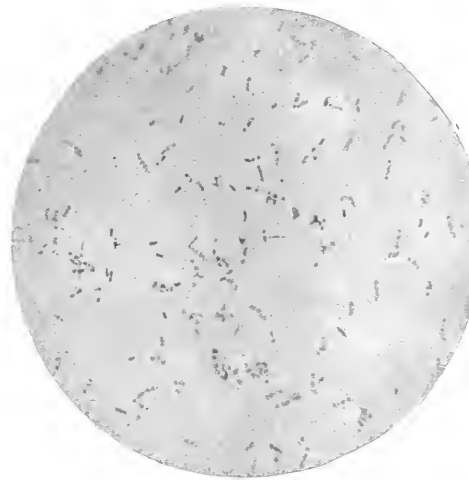


Fig. 1.
Bacillus Mallei from a pure Culture. (x1000).

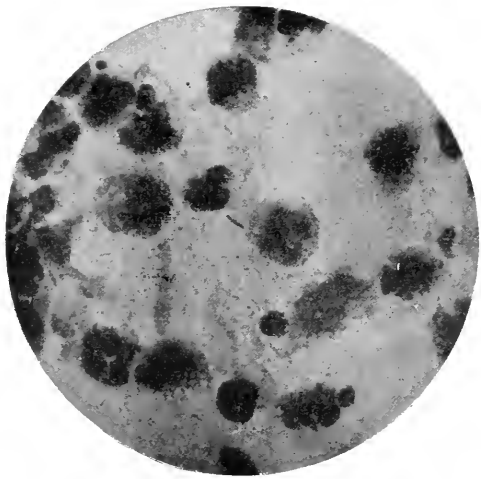


Fig. 2.
Bacillus Mallei in Pus from an Orchitis. (x1000).

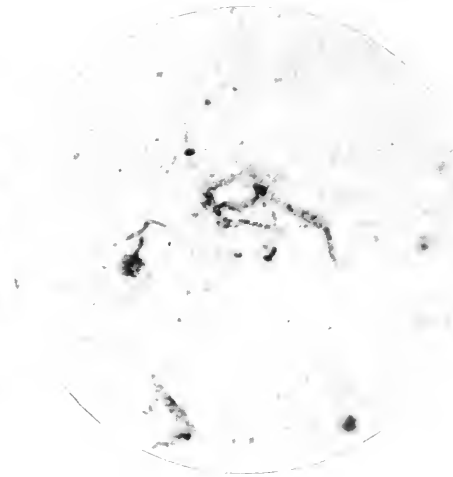
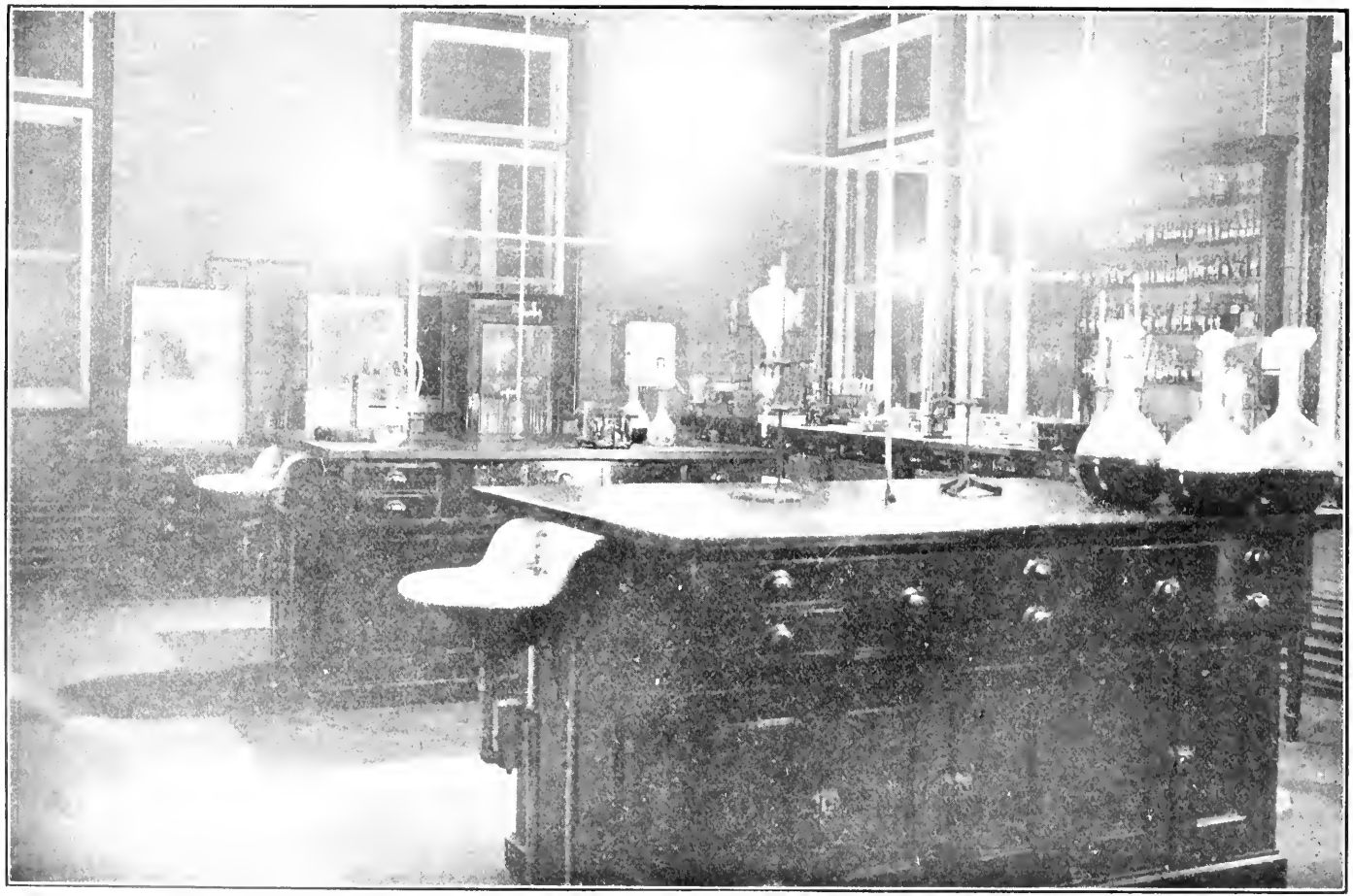
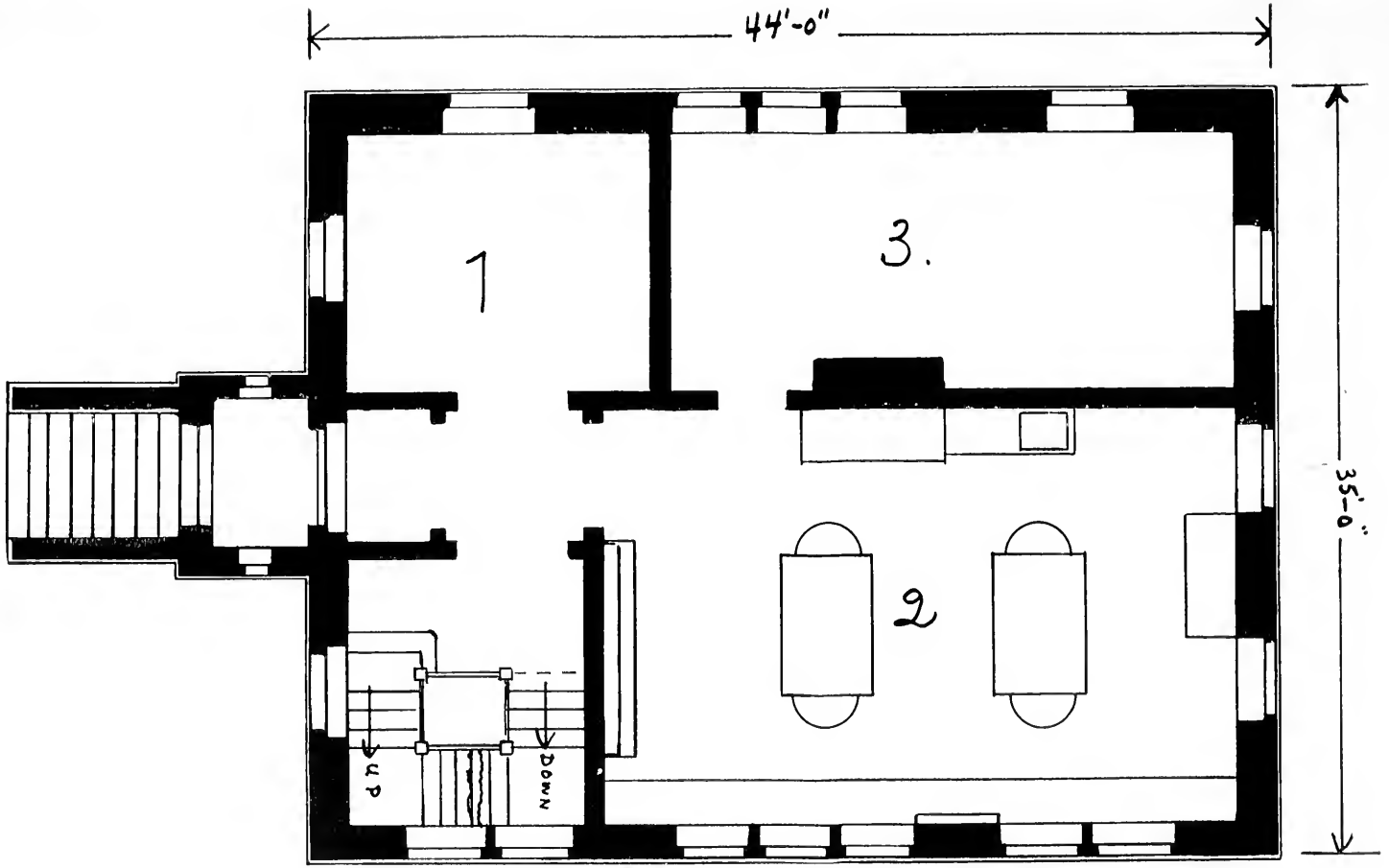


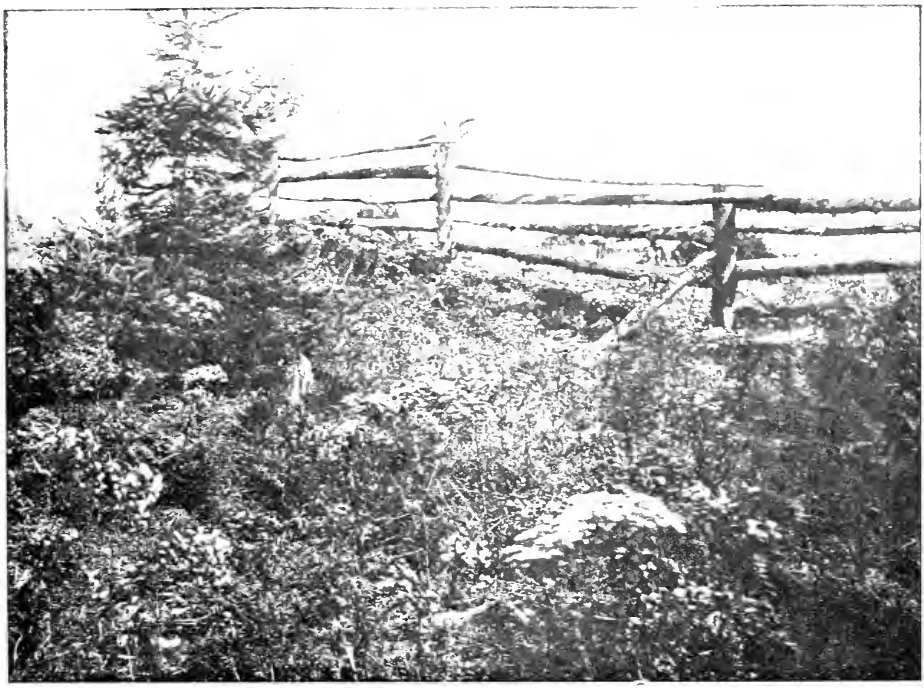
Fig. 3.
Bacillus Mallei. Involution found in an old Broth Culture. (x1000).



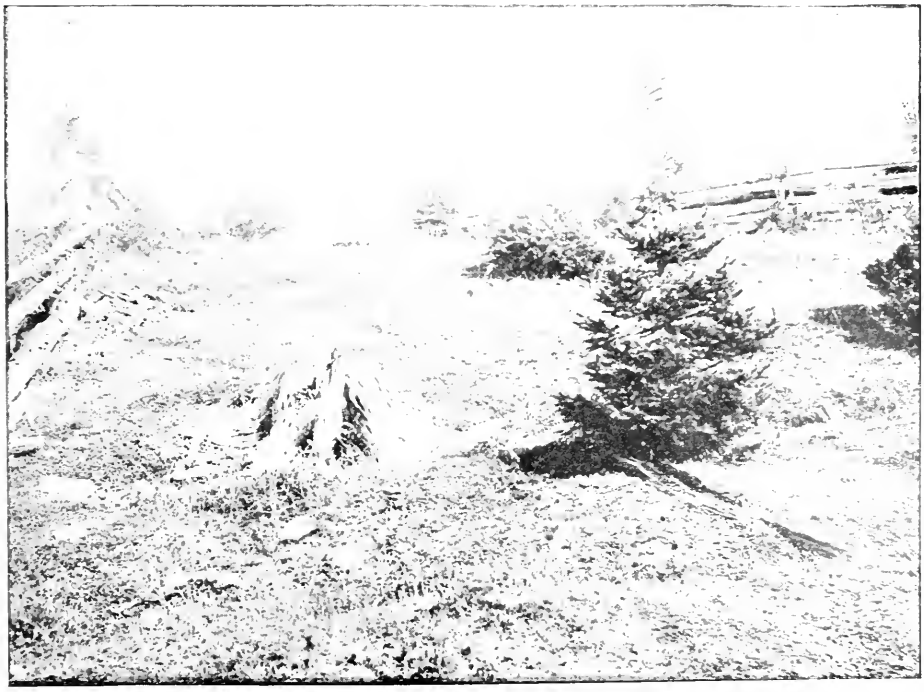
A View of the Main Laboratory.



Ground Floor Plan, Biological Laboratory.



Field on which Cattle were kept, showing growth of Ragwort.



Adjoining field on which Sheep were kept, showing effect on weed.

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Report of the Veterinary Director General:—

Report of the Veterinary Director General—*Continued.*

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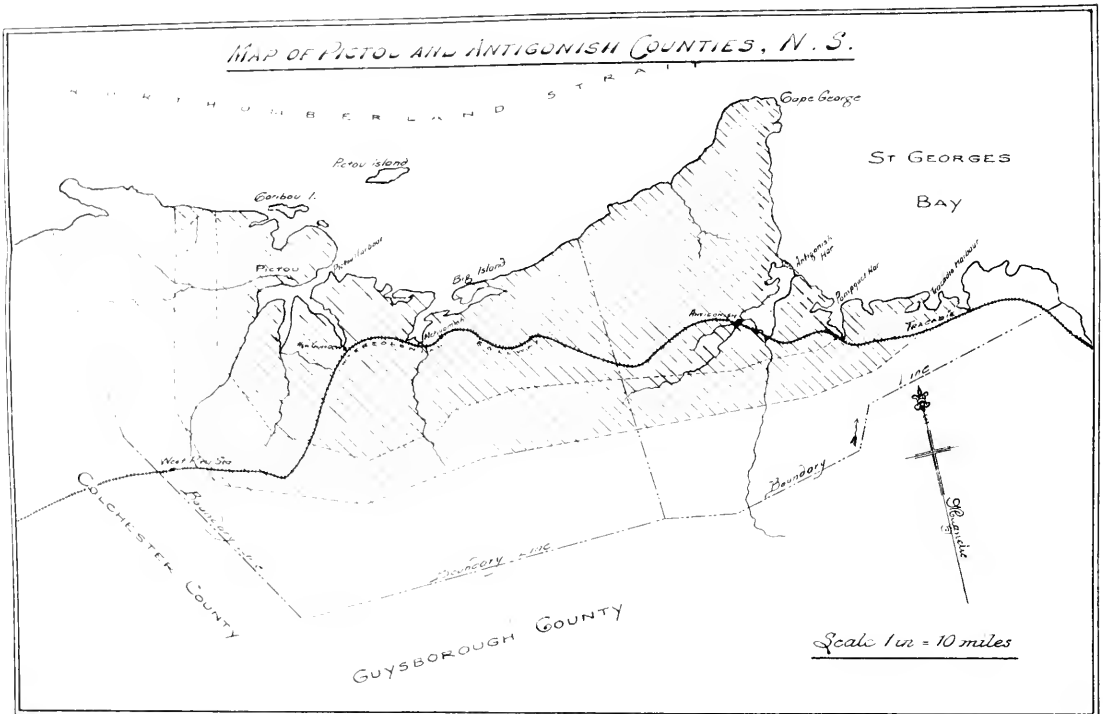

Shaded portion shows where Senecio Jacobea exists as a troublesome agricultural weed. Dotted portion indicates territory covered by cattle disease (Stepalo cerebasus).

Note. This weed and disease extends much further East than West of the starting point, Pictou Town

APPENDIX TO THE REPORT OF THE MINISTER OF AGRICULTURE

EXPERIMENTAL FARMS

REPORTS

OF THE

DIRECTOR	WM. SAUNDERS, C.M.G., LL.D.
AGRICULTURIST	J. H. GRISDALE, B. AGR.
HORTICULTURIST	W. T. MACOUN
CHEMIST	F. T. SHUTT, M.A.
ENTOMOLOGIST AND BOTANIST	JAS. FLETCHER, LL.D.
CEREALIST	C. E. SAUNDERS, PH.D.
POULTRY MANAGER	A. G. GILBERT
SUPT. EXPERIMENTAL FARM, NAPPAN, N.S.	R. ROBERTSON
HORTICULTURIST " " "	W. S. BLAIR
SUPT. EXPERIMENTAL FARM, BRANDON, MAN.	S. A. BEDFORD
" " " INDIAN HEAD, SASK.	ANGUS MACKAY
" " " AGASSIZ, B.C.	THOS. A. SHARPE

FOR

1905

PRINTED BY ORDER OF PARLIAMENT

OTTAWA
PRINTED BY S. E. DAWSON, PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1906

[No. 16—1906.]

APPENDIX

TO THE

REPORT OF THE MINISTER OF AGRICULTURE

ON

EXPERIMENTAL FARMS

OTTAWA, December 1, 1905.

SIR,—I beg to submit for your approval the nineteenth annual report of the work done, and in progress, at the several experimental farms.

In addition to my report, you will find appended reports from the following officers of the Central Experimental Farm:—From the Agriculturist, Mr. J. H. Grisdale; from the Horticulturist, Mr. W. T. Macoun; from the Chemist, Mr. Frank T. Shutt; from the Entomologist and Botanist, Dr. James Fletcher; from the Cerealist, Dr. C. E. Saunders, and from the Poultry Manager, Mr. A. G. Gilbert.

From the Branch Experimental Farms there are reports from Mr. R. Robertson, Superintendent, and from Mr. W. S. Blair, Horticulturist of the Experimental Farm for the Maritime Provinces, at Nappan, Nova Scotia; from Mr. S. A. Bedford, Superintendent of the Experimental Farm for Manitoba at Brandon; from Mr. Angus Mackay, Superintendent of the Experimental Farm for the North-west Territories, at Indian Head, and from Mr. Thomas A. Sharpe, Superintendent of the Experimental Farm for British Columbia, at Agassiz.

In these reports there will be found the results of many important and carefully conducted experiments in agriculture, horticulture and arboriculture, the outcome of practical and scientific work in the fields, barns, dairy and poultry buildings, orchards and plantations at the several experimental farms; also of scientific research in connection with the breeding of cereals and in determining their relative value; also of research work in the chemical laboratories bearing on many branches of agricultural and horticultural employment and of information gained from the careful study of the life histories and habits of injurious insects and the methods by which noxious weeds are propagated and spread, together with the most practical and economical

measures for their destruction. In the report of the Entomologist and Botanist will also be found particulars of the experiments and observations which have been made during the past year in connection with the Apiary.

The large and constantly increasing demand by the farmers of the Dominion for the publications issued from the experimental farms, the rapidly extending correspondence and the readiness shown by farmers everywhere to co-operate with the work of the farms in the testing of new and promising varieties of cereals furnish gratifying evidence of the desire for information and improvement among this class of the community, also of the high esteem in which the work of the farms is held. It is hoped that the facts brought together in the present issue will be found of much practical value to the Canadian farmer and fruit-grower, and that they may assist in advancing agriculture and horticulture in this country.

I have the honour to be, sir,

Your obedient servant,

WM. SAUNDERS,

Director of Experimental Farms.

To the Honourable,

The Minister of Agriculture,

Ottawa.

ANNUAL REPORT OF THE EXPERIMENTAL FARMS

REPORT OF THE DIRECTOR

(WM. SAUNDERS, C.M.G., LL.D., F.R.S.C., F.L.S.)

1905

Canadian farmers have been blessed with another bountiful harvest, and the crops gathered have been very satisfactory over almost the whole of the settled parts of the Dominion.

On the Pacific coast the hay crop, which is one of great importance in the coast climate of British Columbia, has been unusually large, and has been saved in good condition. Oats, probably the next largest crop in that province, have given a heavy yield of excellent grain. Barley, pease, Indian corn, and field roots have all done well. Wheat, which, however, occupies but a small area there has given a crop below the average, owing to the prevalence of the wheat midge *Diplosis tritici*.

The fruit crop, which is fast becoming an important one in that province, has on the whole been satisfactory. Apples, pears and plums have produced in most localities a medium crop, and in some districts the yield has been a heavy one. Small fruits of all sorts have done well.

The production of butter, also of poultry and eggs is increasing, and hop growing is being extended with profitable results.

In Alberta there is a large and rapidly increasing area devoted to spring wheat and oats. The cultivation of winter wheat is also being greatly extended, while barley and other useful crops occupy smaller areas. All these have given very satisfactory returns during the season of 1905. The beet sugar factory at Raymond, in Southern Alberta, has had a good season, and a large quantity of sugar beets of excellent quality has been worked. The dairy interests in Northern Alberta are also advancing, and a large quantity of butter has been exported during the past year. New settlers are flocking in to all those parts which are being opened up by railways, and this accession of population will soon result in a very large increase in the area of land under cultivation.

The crops in Saskatchewan have never been better. Many new districts have been opened up, and large crops of wheat grown in localities where a few years ago the land was passed over by settlers as unpromising for wheat growing. Throughout these western provinces grain this year of all sorts was excellent in yield and quality, and was practically all cut before frost occurred.

In Manitoba also a large harvest has been gathered of grain of high quality, which has given an enduring stimulus to business of all sorts, and placed farmers generally in a comfortable position. The larger part of the wheat harvested has graded No. 1 Northern, while oats and barley have given crops of unusual weight and quality. The stock and dairy interests are also making satisfactory progress.

In Ontario the hay has been an unusually heavy crop, well above the average. The same may be said of fall and spring wheat, oats and barley, all of which are now important crops in this province. Field roots and Indian corn have given about an average return.

Pastures have made fair to good growth during the summer and fall, and all classes of live stock are in good condition. Apples have been a medium crop and have commanded good prices, while pears, plums, peaches and grapes have yielded well.

In the western counties of Quebec, where the rainfall has been sufficient, hay has yielded abundantly, and owing to the rich pasturage the dairy industry has flourished, and field crops of all sorts have given satisfactory returns. The eastern counties have suffered somewhat from drought, and there the crops have been lighter and the dairy output has been lessened owing to inferior pastures.

In the Maritime Provinces the hay crop as a whole is said to have been above the average, while oats have given a fair average return; wheat and barley also have done well. The early part of the season was cold and wet, and seeding was delayed. Later the weather was very favourable and crops matured rapidly. In September dry weather set in, which prevented the usual growth in field roots and the drought brought many crops which promised to be heavy down to an average or less than an average yield.

In the fruit producing districts the apple crop was a very fair one, the fruit was large and of excellent quality and has realized good prices.

Upon the progress of farming in all sections of Canada the experimental farms continue to exercise a weighty influence. The results of nineteen years of ceaseless inquiry into the needs of farmers in all parts of the country has resulted in the accumulation of volumes of information and experience which are placed within reach of all who need them. Instruction and information have been given out on every hand covering every branch of agriculture and horticulture. Reports and bulletins have been sent in thousands and tens of thousands, in response to inquiries from earnest seekers after information from all parts of the country. The knowledge acquired by long experience, close observation and careful study has been spread over the whole Dominion, and none need dwell in ignorance as to the best methods to adopt to render their work successful. Correspondence with farmers has been encouraged and many thousands of letters have been written by the officers of the farms in response to inquiries on special subjects. Many meetings of farmers held in the different provinces of the Dominion have been attended by farm officers, and opportunities afforded of bringing under the direct notice of many farmers some of the more important aspects of the work carried on at the several experimental farms.

Thus, Canadian farmers are growing in intelligence and becoming more resourceful and successful in their work, while the stranger coming among us is helped in many directions with information as to the best way of overcoming difficulties and of directing his energies along profitable lines.

THE GROWING OF WINTER WHEAT IN ALBERTA.

The recent remarkable increase in the quantity of winter wheat grown in the province of Alberta is a subject of much interest and is claiming the attention of grain growers and millers in all parts of the western country. In the Annual Report of the Experimental Farms for 1901, when giving an account of a visit paid during August of that year to the district lying between Cardston and Pincher in Southern Alberta, I said, 'Notwithstanding its high elevation of 3,000 to 3,500 feet the climate is such that winter wheat is grown in many localities quite successfully. This now forms an important crop both at Cardston and Pincher, many of the farmers reaping from 30 to 40 bushels per acre. The variety chiefly grown at Cardston is a beardless red-chaff wheat known as Odessa, that most grown at Pincher is a bearded wheat the name of which has been lost.'

At that time no very large area was occupied by this crop, and with many farmers spring wheat was preferred and the cultivation of winter wheat had scarcely passed the experimental stage. Since then the acreage under this crop has much increased, and the growing of winter wheat become much more general, especially in the Lethbridge, Macleod and Pincher districts.

A statement as to the area under winter wheat and the yield of grain per acre appeared for the first time in the Annual Crop Report for the North-west Territories for 1903, in which it was stated that this crop occupied 3,440 acres and had given a total yield of 82,418 bushels. In 1904 the acreage was increased to 8,296 and the total crop to 152,125 bushels. The returns for 1905 are not yet available, but there is no doubt that they will show a much larger proportionate increase. While the total crop of winter wheat in Alberta in 1904 is far exceeded by spring wheat, it must be borne in mind that in some of the districts of Southern Alberta, where only a limited area of land is under cultivation, winter wheat formed that year more than one-third of the entire wheat crop, and there is little doubt that the returns for 1905 will show a much larger proportion of winter wheat.

INTRODUCTION OF SEED OF SUPERIOR QUALITY.

During the past two or three years, a variety of wheat known as Turkey Red has been introduced and is fast coming into general cultivation in Alberta. Much of the seed sown last year was brought from Kansas, where it is commonly grown. It was brought in by the Canadian Pacific Railway and supplied to the farmers at cost. Turkey Red is a wheat of high quality, probably the best in this respect of all the winter wheats. It is a bearded variety with rather a short head, and does not look as if it would be very productive, and in Ontario it has the reputation of being a light yielder. In Alberta this variety stools very freely, often producing from five to seven heads from a single kernel, and its general productiveness has been a matter of surprise to many. Samples we have had, brought from Kansas, have shown the kernel to be small and thin, with a weight per bushel of 60 to 61 lbs., while in samples grown in Alberta, the kernels have been much more plump and brighter in colour, with a weight per bushel of 64 lb. and over. This wheat is a favourite with millers in Kansas, and there is no doubt it will make excellent flour.

A TOUR OF INVESTIGATION.

With the object of inquiring more fully into the agricultural conditions and possibilities of the western part of southern and northern Alberta, having especially in view the production of winter wheat, a visit was paid during the past season to different parts of that province in company with Mr. A. Mackay, Superintendent of the Experimental farm at Indian Head, Sask.

We arrived at Calgary August 27, when we called on Mr. J. S. Dennis, Superintendent of Irrigation for the Canadian Pacific Railway, from whom we obtained much valuable information, especially with regard to the progress of irrigation in Alberta. Through the courtesy of Mr. Dennis we were shown over the irrigation works of the Canadian Pacific Railway, within ten or twelve miles of Calgary, and had the opportunity of seeing the great progress which has been made there. It is expected that when this gigantic undertaking is completed, that the irrigation ditches will distribute water sufficient to irrigate about one million acres of land. It is difficult to realize the wonderful change this will bring about over a large part of the area lying between Calgary and Medicine Hat and when the irrigated land becomes saturated with sufficient water this will no doubt bring about more favourable conditions of moisture for the growing of crops on adjoining lands too high to be reached by the flowing streams.

JOURNEY THROUGH SOUTHERN ALBERTA.

On August 29 we left Calgary and proceeded southward. North of DeWinton a few fields of wheat were seen from the railway and from Okotoks to High river, a large number of fields were in view. High river was our first stopping place, and here we drove about 50 miles over the country and visited several farms.

HIGH RIVER AND VICINITY.

Mr. R. H. Robertson, High River P.O., had 47 acres of Turkey Red wheat which at this date, August 30, was all cut and threshed. The sample was an excellent one, plump and heavy, and the crop was estimated at from 40 to 44 bushels per acre. Mr. Robertson cut his Turkey Red wheat August 15. He also had a fine field of spring wheat, White Fife, which was cut September 1.

The estimates of crops given throughout this narrative are those of the growers, the correctness of which we had no means of accurately testing, but from what we saw of the wheat under different conditions, while still standing, of the appearance and bulk of the grain when threshed, and of the character of the stubble we regarded the estimates given of the crops on the fields we visited as approximately correct.

Mr. Wm. Thompson, High River, P. O., had 27 acres Turkey Red, estimated yield 35 to 40 bushels per acre. Sowed only one bushel of seed per acre, sown August 15, 1904; cut August 20, 1905. He was threshing at the time of our visit and the grain was a fine sample. He also had a large oat crop which he expected would give from 80 to 90 bushels per acre.

Mr. R. D. Brown, High River, P. O., had 60 acres Turkey Red. He sowed 1¼ bushels per acre on August 15, 1904, and it was cut August 15, 1905. Threshing was in progress August 30. Estimated crop, 40 bushels per acre.

Mr. Gilman, Okotoks, P.O., had 20 acres of winter Wheat, Dawson's Golden Chaff mixed with some Tenessee Giant. This was sown July 26, 1904, and harvested August 19, 1905. The grain was not then threshed, but he expected to get 30 bushels per acre.

Mr. A. Clayton, High River, had 30 acres of winter wheat from which he was expecting 35 bushels per acre.

South of High River, especially from Stavely to Claresholm, many good sized fields were seen under crop and considerable quantities of land were ploughed and ready for seeding.

CLARESHOLM TO MACLEOD.

Claresholm was our next stopping place, where we had another long drive of 50 miles or more before reaching Macleod.

Mr. Robert Pearson, Claresholm, had a large field of winter wheat, which promised well. He was cutting this at the time of our visit and expected it to average over 30 bushels per acre.

Mr. George Hartman, near Claresholm, had 200 acres of winter wheat which was all cut and stacked, but none of it had then been threshed.

From Claresholm to Leavings there were many large fields of winter wheat, and still larger areas sown or ready for sowing, and similar conditions prevailed from Leavings to near Macleod. In this district many large fields of winter wheat were seen, mostly in stook.

Mr. Fred. Garrow, of Cutbanks, had 33 acres of winter wheat which were said to have given him 1,350 bushels in all.

Mr. Grady, 18 miles west of Macleod, had 80 acres of winter wheat which was sown in October, 1904, and cut in the middle of August, 1905. This farm is at an elevation of about 4,000 feet above sea level. The crop was excellent and the grain matured well.

Taylor Bros., 7 miles north of Macleod, had a large field of winter wheat which was all cut and in stook by August 15. He started cutting August 4.

Mr. J. McNaught, 12 miles from Macleod, had 250 acres of wheat, some of which was winter, but most of it was spring wheat.

Mr. Miller, of this district had 50 acres of winter wheat estimated to give 30 bushels per acre.

In the Willow Creek district, 10 miles north of Macleod, Thompson Bros. had over 400 acres of spring wheat, Red Fife, which was then being threshed and was expected to give 25 bushels per acre.

Mr. Lee Evans, 3 miles east of Macleod, had 140 acres under winter wheat, mostly Turkey Red, with some Golden Chaff, which was cut during the first week in August, and was expected to give 25 bushels to the acre.

Mr. Peter Rohlig, Macleod, had 6 acres of winter wheat, Turkey Red, said to have yielded him 56 bushels per acre.

Mr. J. Robert, Macleod, is said to have threshed 500 bushels of good winter wheat, from 10 acres.

Mr. Hayter, of this district, had 200 acres of winter wheat, which is said to have given him an average of 33 bushels per acre.

Mr. Peter Roberts, 9 miles south of Macleod, had six acres of Turkey Red, which gave him 300 bushels of fine wheat.

LETHBRIDGE TO CARDSTON.

From Macleod we went to Lethbridge and visited some farms in that neighbourhood.

Richard G. Watkin had 40 acres of spring wheat, Red Fife, which was just about ready for cutting and looked very promising, this would probably give him from 30 to 35 bushels per acre.

Seven miles from Lethbridge Mr. C. Magrath had 100 acres of Turkey Red. This was sown in August, 1904, and at the time of our visit had been threshed and sold. The yield was 17 bushels per acre. A sample of this wheat was procured, it was very fine and plump and weighed 64 pounds per bushel. This field was on high land, and in this locality the weather was unusually dry and the crop had suffered from drought, which had reduced the yield.

Nine miles from Lethbridge, also on high land, was a very large field said to contain two thousand acres, which seemed to be well prepared. This belonged to Silver and Carman, and at that time was nearly all sown, one seeder only was working at one end of the field to finish it. The ploughing in this case was done in the ordinary way.

Nearly adjoining this was another large field said to contain 500 acres also prepared for winter wheat. This had been broken by a steam plough and seemed to be worked up very evenly.

In travelling over the country from Lethbridge to Cardston by rail many fields of winter wheat were seen, but there was not much opportunity of visiting individual farms.

Mr. T. J. Smellie, of Raymond, came from Idaho one and a half years ago. He had this year 1,300 acres of winter wheat, all Turkey Red, which averaged about 15 bushels per acre. He had expected a larger yield but the very dry weather which preceded harvest there had cut the crop short. He expected to finish seeding 1,000 acres during September. Mr. Smellie grows principally winter wheat, and inclines to the opinion that the Odessa is more profitable than the Turkey Red.

Mr. W. L. Thompson had about 1,700 acres in the Spring Coulee district, chiefly Turkey Red, with some Odessa. Mr. Thompson's wheat was cut and threshed and is said to have averaged from 15 to 20 bushels per acre. We were informed that there

were in all about 20,000 acres of wheat in this district, chiefly winter sorts. One elevator was built at Spring Coulee, and a second one nearly built which would be ready in time to receive the crop. Seven elevators in all have been built along this line.

ABOUT PINCHER AND COWLEY.

The next part visited was the district about Pincher and Cowley along the line of the Canadian Pacific Railway towards the Crow's Nest Pass.

At Pincher we saw the wheat fields of Mr. Wm. R. Dobbie. He has 1,170 acres of winter wheat, about 550 of Turkey Red, 200 of Odessa, and the remainder mixed bald and bearded wheats. One field of Turkey Red examined we estimated at 30 to 35 bushels per acre. One part of his crop which had been sown late was lighter and would not probably give more than 15 to 20 bushels per acre.

Mr. G. W. Buchanan, of Pincher, had 300 acres of winter wheat, and many other farmers in the district from 50 to 100 acres or more. Most of the land in this part of the country has been fenced in, and nearly all the homesteads have been taken within reasonable distance of railways, and much additional land held for sale has been purchased by incoming settlers. In driving about this neighbourhood, and from Pincher to Cowley, large quantities of winter wheat were seen in stook covering many hundreds of acres, also many fields of recently sown grain.

At Cowley Mr. Bryce Miller had 110 acres Odessa and Turkey Red. His wheat was cut on August 15.

Mr. J. E. Davison had 50 acres of winter wheat near the station, and many other fields large and small could be seen in the distance.

BEST TIME FOR SOWING, &c.

Much difference of opinion was expressed by the farmers we visited as to the best time to sow winter wheat in Southern Alberta, but judging from the results seen it would appear safer as a rule to sow on well prepared land from the last week in August to the middle of September.

We did not hear of any injurious insects affecting the winter wheat crop, but there was a good deal of smut in the grain in some localities. Where this occurs the grain is considerably lessened in value, and as this disease is so easily prevented by treating the seed with copper sulphate, bluestone, (one pound dissolved in three gallons of water and sprinkled on 10 bushels of grain a few hours before sowing) no farmer should neglect to take this precaution.

With regard to the time of ripening, the winter wheat in Southern Alberta matures on an average about ten days earlier than the spring varieties. Most of the wheat thus far referred to was grown on land which five years ago was considered fit only for grazing and with one or two slight exceptions was all grown without irrigation.

VISIT TO NORTHERN ALBERTA.

In pursuance of this investigation we visited also the northern part of the province from Calgary to Edmonton and found more or less winter wheat being grown at many different points, although the total area under this crop in Northern Alberta is as yet relatively small.

In the suburbs of Calgary Mr. Wm. Pearce had a few acres of winter wheat sown this season which had made strong growth and looked promising.

Fields of winter wheat varying in size were seen from the train in many different places. Some were in stook, others but recently sown and well up. Fields of this crop were most numerous from Crossfield to Olds. In a drive taken through the district

surrounding Innisfail, considerable quantities of wheat were seen, some of it winter sorts. In a similar drive about Red Deer several fields of winter wheat were noticed.

Mr. Joseph W. Smith, Red Deer, P.O., had 18 acres of winter wheat which gave him 51 bushels per acre. We saw this wheat, which was very good and plump.

Another farmer a short distance from Red Deer sowed three bushels of Turkey Red wheat on a little less than three acres of land and threshed 151 bushels. This was the first experiment with Turkey Red in that locality.

In travelling from Blackfalds to Lacombe, one large field of winter wheat was seen recently sown and well up, and another large field in stook near Lacombe. During a drive in that neighbourhood other fields were seen.

While in Edmonton two days were occupied in driving about the country, but not much winter wheat was seen there. Had time permitted us to visit a larger number of farmers in Northern Alberta we should no doubt have seen many more fields of this grain.

In the annual report of the Department of Agriculture for the North-west Territories for 1904, the total area of winter wheat grown that year in the several districts included in that part of the province we visited is given as follows:—

District No. 12—Edmonton, Strathcona and Wetaskiwin: Winter wheat 47 acres; average crop, 13·23 bushels per acre.

District No. 13—Red Deer, Lacombe and Ponoka: Winter wheat, 344 acres; average crop, 30·24 bushels per acre.

District No. 14—Innisfail, Olds and Didsbury, including the country adjacent to the Calgary and Edmonton railway from Carstairs to Penhold: Winter wheat, 915 acres; average crop, 21·95 bushels per acre.

From these figures it will be seen that winter wheat is being tested over a large area in Northern Alberta, but it does not yet occupy that prominent position as a crop which it does in the southern parts of the province.

The results of the experiments which have been tried seem to show that the climatic conditions prevailing in Northern Alberta are favourable for the growth of winter wheat; and if further experiments confirm the idea now prevailing that there is a gain of ten days in the time of ripening and a heavier average yield, these potent factors may lead to the cultivation of this grain in the north in much larger quantities. Spring wheat is of course grown successfully over the greater part of the settled country, and the acreage under this crop is rapidly increasing.

When considering the advantages attending the growing of winter wheat in Alberta it should be borne in mind that the land cannot be used so advantageously as in the case of spring wheat. Only one crop of winter wheat can be had in two years, unless an early spring crop be grown, such as oats or mixed grain cut green for feed early enough to admit of the land being ploughed in time for the sowing of winter wheat. Spring grain might of course follow winter wheat, to be succeeded by summer fallow, which would give two grain crops in three years.

In carrying out this investigation a large area of country has been covered, involving over 800 miles of railway travel and over 300 miles by vehicle.

EXPERIMENTS IN GROWING FARM CROPS IN THE YUKON.

With the object of gaining some information as to the agricultural possibilities of some parts of the Yukon Territory, a course of experiments was planned in consultation with the Comptroller of the Royal North-west Mounted Police, who has very kindly co-operated with me in this matter. He has given directions for the proper distribution of the material sent, and both the officers and men of the police force deserve many thanks for the kindly interest they have taken in this work.

The packages of grain, grass seeds and potatoes were forwarded from Ottawa on April 18, 1905, but owing to the lack of mail facilities for carrying packages in that distant region during the winter months they did not reach Dawson until early in June which was too late for uniform success in that climate.

A part of the material forwarded for test was left at White Horse in charge of the commanding officer, Sup. A. E. Snyder, who received the samples there about the middle of May.

LIST OF THE SAMPLES FORWARDED.

8—1-lb. bags Brome Grass Seed.

8—1-lb. bags Western Rye Grass.

8—1-lb. bags Timothy.

8—1-lb. bags Hungarian Grass.

8—5-lb. bags wheat (two each Early Riga, Ladoga, Preston and Stanley).

8—4lb. bags oats (four of Improved Ligowo and two each of Welcome and Tartar King).

8—5-lb. bags barley (four of Mensury and two each of Odessa and Champion).

10—3-lb. bags potatoes (five each of Rochester Rose and Vick's Extra Early).

The following explanations and instructions were sent with the samples:—

'In sending the samples above enumerated provision has been made for testing them at eight or ten different points. The Brome and Western Rye grasses are both very hardy perennial sorts. The Timothy is not so hardy but is also a perennial and will be useful for a comparative test. The Hungarian grass is a variety of Millet, it is an annual which matures very early, and it will I hope be found useful as a forage crop.'

'The grasses should be sown as early as practicable. They may be sown broadcast and covered by hand raking or in rows seven or eight inches apart. If convenient it may be well to try both methods. Where weeds are prevalent, the plots can be more easily kept clean where grass seed is sown in rows. Where plots are allowed to become overgrown with weeds the crops are much injured thereby, and the yields are usually small.

'All the varieties of grain sent are early ripening sorts, and, hence, among the most promising for testing in the Yukon country. They should be sown as early as the land is in condition to be worked, and may be sown broadcast or in drills. If sown broadcast the land should be subsequently raked until the seed is well covered; if in rows the seed should be buried to a depth of two inches. Each sample of grain sent is sufficient to sow one-twentieth of an acre, a plot 33 by 66 feet. The quantity of grass seed in each bag will sow a similar sized plot.

'The varieties of potatoes sent are both extra early sorts. They are also productive and of excellent quality. In preparing them for planting they should be cut so as to have from two to three eyes in each piece, or set, and planted in rows 2½ feet apart, and the sets placed about a foot apart in the rows and covered with about four inches of soil.'

Reports of the results obtained from the planting of these samples were received from the Assistant Commissioner at Dawson, T. G. Moore, commanding officer for the Yukon Territory, also from Supt. A. E. Snyder, commander at White Horse, as follows:—

SESSIONAL PAPER No. 16

REPORT ON SEEDS SUPPLIED BY THE EXPERIMENTAL FARM, DEPARTMENT OF AGRICULTURE, SOWN IN YUKON TERRITORY DURING SEASON OF 1905.

Tested by.	Name of Seed.	Date of Planting.	Date of Report.	Report of Grower.
Wm. Horkan..	Mensury barley.....	13-6-1905	18-8-1905	Sown in new ground, well worked, and is doing well, but was planted too late for perfect maturity this season.
"	" " .... (Seed received 1904.)	23-5-1905	18-8-1905	I planted the same seed in the Government House garden and it ripened well and will be ready for harvest in one week more, or about 13 weeks from seed to sickle. Excellent for the Yukon either for hay or grain, but should be planted early.
"	Odessa barley.....	15-6-1905	18-8-1905	Notwithstanding late sowing and continued dry weather in June and July it has grown vigorously but can hardly ripen perfectly this season. If sown in May or early in June I believe this would be a useful and profitable variety for this climate.
"	Timothy grass.....	12-6-1905	18-8-1905	Sown in Administration lawn separately and mixed—has done remarkably well, was cut four times and is now refreshing to look at. Well adapted for lawn, pasture and meadow in the Yukon.
"	Brome grass.....	12-6-1905	18-8-1905	Sown in Government House lawn separately and mixed with other grasses and in all cases has proved a vigorous grower. A good hay and field grass for this climate.
"	Hungarian grass....	12-6-1905	18-8-1905	Sown in Government House grounds, has done well, was cut three times and is now growing vigorously. A useful grass for this climate.
"	Western Rye grass..	12-6-1905	18-8-1905	Sown on Government House lawn in partial shade. Growth vigorous and very satisfactory.
"	" " ..	13-6-1905	18-8-1905	Sown in Administration grounds separately and mixed with other grasses and in each case has done well and is now verdantly and vigorously growing. Well adapted for this climate.
"	Welcome oats.....	15-6-1905	18-8-1905	Good vigorous grower, but sown too late for this season's harvest. It is now doing well and will be an excellent crop for the Yukon if sown early as frost will permit.
"	Impr'd Ligowo oats.	15-6-1905	18-8-1905	Growing well and promising good returns, but too late for this season's harvest. A good hardy oat that should be planted early.
"	Stanley wheat.....	15-6-1905	18-8-1905	Sown in new ground, well worked. Is growing nicely and looking well, but too late for practical results this year. I have reserved some of the seed for early planting next season.
"	Preston wheat	15-6-1905	18-8-1905	Growing vigorously and full of promise, but too late to mature before frost. I have reserved some of the seed for next season's early sowing.
"	Rochester Rose potatoes.	12-6-1905	18-8-1905	A good strong vigorous grower; stalks stout and well shaped; tubers of good size and maturing well considering the very late sowing. I think it will be an excellent variety for early planting.
"	Vick's Extra Early potatoes.	12-6-1905	18-8-1905	Stalk growth slender and small, tubers equally backward. Not so good, so far, as the Rochester Rose, sown in the same soil and under equal conditions. Seed received too late for satisfactory test.
P. Reitsma.....	Timothy grass.	8-6-1905	9-9-1905	Growth fairly good.
"	Western Rye grass..	8-6-1905	9-9-1905	Growth very poor.

REPORT ON SEEDS SUPPLIED BY THE EXPERIMENTAL FARM, &c.—*Continued.*

Tested by.	Name of Seed.	Date of Planting.	Date of Report.	Report of Grower.
P. Reitsma.....	Tartar King oats....	9-6-1905	9-9-1905	Growth splendid, will, I believe, mature if put in very early in spring.
"	Mensury barley....	9-6-1905	9-9-1905	Splendid growth until the heavy rain set in, would undoubtedly mature here if put in about the middle of May.
"	Vick's Extra Early potatoes.	7-6-1905	9-9-1905	Good growth, a heavy yielder. Did not mature on account of heavy frost in August. N.B —Above named seeds were planted in rich sand and loamy soil, well manured in previous years. By planting a month earlier we can raise fairly good crops around Dawson.
Supt. Cuthbert..	Western Rye grass..	7-6-1905	5-9-1905	Both seeds were late in sowing, but have shown good growth and are suitable for this country.
" ..	Brome grass.....	.....	5-9-1905	" " " "
W. H. Dailey...	Timothy grass.....	24-5-1905	13-9-1905	Cut on August 20th; in flower for over two weeks before cutting.
" ..	Oats.....	24-5-1905	13-9-1905	Cut grain on August 29th.
" ..	Wheat.....	24-5-1905	13-9-1905	Killed by high water.
N. F. Hagel....	Vick's Extra Early potatoes.	....	14-8-1905	The plants are at this date looking exceedingly well and have been in bloom for about three weeks. I think they will mature and have no doubt of it had they been planted earlier.
"	Rochester Rose potatoes.	.....	14-8-1905	" " " "
W. R. Dubell...	....	.....	.....	As to results obtained from seeds furnished by the police department, I would like to state that after receiving the seeds and thinking over the matter, I came to the conclusion that neither the soil, conditions or season on which the seeds were received were suitable for a proper test of the same. As I am one of the pioneer farmers of the Yukon Territory, I am very much interested in this matter and I thought best to hold the seeds over for another year in order that I may be able to make what I consider a fair test for the same on an average piece of ground and sown at the proper time for seeding. I will hold the seeds over until the coming spring and will be pleased to furnish the department with specimens and details concerning their culture and growth. I would suggest that all experimental seeds be sent to Dawson during the fall or winter months as a short period of even ten days very often determines the success or failure of any crop of cereals or vegetables in this vicinity. From my experience I consider that any seeds planted after the date on which I received these packages for experiment (latter part of May) would be practically thrown away and in order to give them a fair test should be planted almost before the frost has left the ground. I shall be pleased to furnish the department with any information I can give, at all times.
J. P. Whitehouse	Vick's Extra Early potatoes.	4-6-1905	12 8-1905	Good robust growth; at present in blossom.
" ..	Rochester Rose potatoes.	4-6-1905	12-8-1905	Not quite as good a grower as Vick's but appears to make a better setting of tubers.
" ..	Early Riga wheat...	5-6-1905	12-8-1905	Made fairly good growth considering the time of sowing; well headed out but quite green at present.

SESSIONAL PAPER No. 16

REPORT ON SEEDS SUPPLIED BY THE EXPERIMENTAL FARM, &c.—*Concluded.*

Tested by.	Name of Seed.	Date of Planting.	Date of Report.	Report of Grower.
J. P. Whitehouse	Mensury barley...	5-6-1905	12-8-1905	Made a good start, but frost on night of June 12th cut it down. At present just heading out.
" ..	Ligowo oats....	5-6-1905	12-8-1905	Made very good growth; stooled heavily and headed well; straw about 3½ feet in length, quite green at this time.
" ..	Timothy grass. ...	5-6-1905	12-8-1905	Some of this I seeded with the oats which has made a fairly good catch. The balance did not do so well seeded alone, owing to dry weather, is just showing up well now.
" ..	Hungarian grass....	5-6-1905	12-8-1905	Owing to drought did not start until late. Will not make any growth to speak of.
" ..	Brome and Western Rye grass.	5-6-1905	12-8-1905	The dry weather held these seeds back for a long time. Not a good catch and I don't think they will stand the winter. N.B.—All these seeds could have been planted by May 10th. At that time the soil was in better condition and the weather more favourable. The Timothy I think will stand the winter. Will report on yield of potatoes and on seeds next spring, if required.

Z. G. WOOD,
Assistant Commissioner Comd'g R.N.W.M. Police, Yukon Territory.

REPORT FROM WHITE HORSE.

I have the honour to submit the following report, giving results of the seeds, obtained from the Experimental Farm, Ottawa, and planted at several places in this district this spring:—

GRASS.

Brome—This was planted at White Horse and Ten Mile Point. That at Ten Mile Point only attained a growth of three inches, being planted in new ground, and having no rainfall. That at White Horse, where we had more rain turned out better.

Western Rye—This was planted at White Horse, Ten Mile Point and Big Bend, on the Kluahne trail about 80 miles from White Horse. At White Horse and Big Bend, it was a surprise in growth and would yield about three tons, or so, to the acre, while at Ten Mile Point it only attained a growth of three inches.

Hungarian—This was planted at White Horse and was a failure, the season being too dry. Timothy—This was planted by two different parties at White Horse, with one it turned out a failure while with the other, although planted on poorer ground, made a most luxuriant growth and in the opinion of the man who planted it is admirably suited to the conditions existing in this portion of the Yukon Territory.

At Big Bend the timothy was a failure, the man who planted it claiming that it required more water and better preparation of soil than the rye grass.

OATS.

The Improved Ligowo was planted at White Horse and Big Bend, that at White Horse was planted on high and low ground, both ripening and turning out an excellent quality of oats, while that at Big Bend was a failure, the person planting it claiming that the season there was too dry.

Welcome—Some of this seed was planted at Ten Mile Point, put in on new land with no rainfall, it only grew three inches high and was a failure.

WHEAT.

Preston—This was the only variety planted. From one package planted by Mr. J. C. Shermer, Ten Mile Point, he obtained 20 pounds, which grew to a height of 23 inches.

BARLEY.

Champion—This was planted at White Horse and produced an extra good crop, which was of special quality.

Odessa—This seed was planted on very high ground about seven miles from White Horse and grew to a height of thirty inches.

POTATOES.

Rochester Rose—This seed was planted at Ten Mile Point, and 57 pounds raised from a 3-pound package of potatoes. Another 3-pound package of this variety was planted on high land near White Horse, which, however, only produced 12 pounds, but in every other respect were very satisfactory. In the barrack garden at White Horse a 3-pound package of this seed was planted and produced 98½ pounds, nine potatoes weighing 4½ pounds, those potatoes took first prize at the White Horse fair, and it would appear that this variety is particularly suitable for this soil and climate.

Vicks' Extra Early—This variety was planted in White Horse and turned out fairly good.

All the seeds received were distributed amongst ten different parties; seven at White Horse and neighbourhood, one at Ten Mile Point, one at Big Bend on the Kluahne trail, and one at Big Salmon. The party to whom I distributed seeds at Big Salmon, I was unfortunately unable to get any return from, the seeds after being delivered to him having been burnt in the fire which occurred here on the 22nd of May last.

The seeds were distributed between the 12th and 22nd May, and in some instances were not planted until the end of May, which this year was a little late in the season. In conclusion, I might say that of five seasons, this was the most favourable for growing vegetables and grains in this district, and then we did not have any rainfall till the middle of June. It rained two days during June, the 13th and 26th, the total rainfall of the month being ·93 inches.

A. E. SNYDER,
Supt. Commanding 'H' Division.

The success attending these experiments is quite encouraging considering that the seeds arrived so late, and, it was decided to send out another and larger lot of samples similar to those which had done so well in 1905. To save time a part of these

View on the Grounds of the Central Experimental Farm, Ottawa.

Photo. by C. E. Saunders.

were forwarded from Brandon, Man., and a second lot from Ottawa. All of these were sent to Dawson addressed to Supt. A. R. Cuthbert.

The samples forwarded from Brandon were sent September 23, and consisted of the following:—

100	lbs.	Preston wheat in	5 lb. bags.
100	"	Stanley wheat in	5 "
100	"	Odessa barley in	2½ "
100	"	Rochester Rose potatoes in	2½ "
100	"	Vick's Extra Early potatoes in	2½ "
50	"	Early Rose potatoes in	2½ "
50	"	Vermont Gold Coin potatoes in	2½ "
25	"	Brome grass in	1 "
25	"	Western Rye grass in	1 "

Subsequently, on October 2, the following were forwarded to the same address, from the Central Experimental Farm, Ottawa:—

100	lbs.	Welcome oats in	2½ lb. bags.
200	"	Improved Ligowo oats in	2½ "
100	"	Odessa barley in	2½ "
200	"	Mensury barley in	2½ "
25	"	Timothy seed in	2½ "
25	"	Hungarian grass in	1 "

A letter was received from Supt. Cuthbert, under date of October 12, acknowledging the receipt of all the samples, which he says arrived in good order.

A further consignment was sent later to White Horse. These samples were sent from the Central Experimental Farm, Ottawa, on November 20, and consisted of the following:—

20	lbs.	Preston wheat in	5 lb. bags.
16	"	Improved Ligowo oats in	4 "
16	"	Odessa barley in	4 "
30	"	Rochester Rose potatoes in	3 "
4	"	Brome grass in	1 "
4	"	Western Rye grass in	1 "
4	"	Timothy in	1 "
4	"	Hungarian grass in	1 "

As these samples have already reached their destination there will be ample time and opportunity for distributing them to the best advantage and so as to admit of their being sown in the coming spring at the earliest opportunity.

Recently samples of two varieties of very early ripening wheats have been forwarded to Dawson. These are new sorts recently introduced by the Cerealist of the experimental farms. One named Aurora, got by selection from an early wheat obtained from a high altitude in the Himalaya mountains in India, the other is an improved and early strain of a cross-bred variety known as Bishop. Aurora is the earliest ripening variety we have yet produced, it ripens more than two weeks earlier than the Red Fife. Bishop is also very early, maturing in about ten days less time than Red Fife. Both are wheats of good quality, but their relative productiveness has not yet been fully ascertained. One pound of the Aurora has been sent in half-pound packages, and two pounds of Bishop also in half-pound packages. The results of these tests will be watched with much interest.

THE INSPECTION AND GRADING OF WHEAT IN THE MANITOBA GRAIN INSPECTION DIVISION.

The methods employed in the inspection of wheat and their fairness to the farmer as well as to the miller or export purchaser have of late attracted some attention. Farmers in some instances have been of opinion that they have not received from the millers the full value, especially of their lower grades of wheat.

This subject has been carefully investigated at the Central Experimental Farm by the Cereal and Chemical Divisions, and a bulletin has been published giving the results of this inquiry. Authentic and representative samples of the different grades of wheat have been obtained from Mr. David Horn, chief inspector of the Manitoba Grain Inspection Division. By the use of a small roller mill flour has been produced from these samples, and the flour made into bread and baked. The results of the bakings several times repeated have been carefully compared as to texture, quality, &c., and the information compiled. In the Chemical Division the samples both of whole wheat and flour have been analysed, and the proportions of their several constituents determined. A comparison of the conclusions reached independently by the Cerealist and Chemist show conclusively that considering the difficulties surrounding this subject, the present system of grading, which is faithfully administered and well carried out works on the whole fairly well. This bulletin has been widely distributed and copies may still be had by any one desiring them by applying to the Director of Experimental Farms.

GRADES OF SPRING WHEAT IN THE MANITOBA GRAIN INSPECTION DIVISION.

The Grain Inspection Act provides that the spring wheat grown in Manitoba and the North-west Territories shall be graded as follows:—

Extra Manitoba hard wheat shall weigh not less than 62 pounds per bushel, shall be plump, sound and well cleaned and shall contain not less than eighty-five per cent of hard red Fife wheat.

No. 1 Manitoba hard wheat shall be plump, sound and well cleaned, weighing not less than 60 lbs. to the bushel, and shall be composed of at least seventy-five per cent of hard red Fife wheat.

No. 1 hard white Fife wheat shall be sound and well cleaned, weighing not less than 60 lbs. to the bushel and shall be composed of not less than sixty per cent of hard white Fife wheat, and shall not contain more than twenty-five per cent of soft wheat.

No. 1 Manitoba northern wheat shall be sound and well cleaned, weighing not less than 60 lbs. to the bushel and shall be composed of at least sixty per cent of hard red Fife wheat.

No. 2 Manitoba northern wheat shall be sound and reasonably clean, of good milling qualities and fit for warehousing, weighing not less than 58 pounds to the bushel, and shall be composed of at least forty-five per cent of hard red Fife wheat.

Any wheat not good enough to be graded No. 2 Manitoba northern shall be graded No. 3 Manitoba northern, in the discretion of the inspector.

These grades form the bulk of the wheat marketed every season. In a good year the larger part of the grain will be No. 1 Hard and No. 1 Northern, while in a poor year the proportions of No. 2 and No. 3 Northern will be larger.

Every year a considerable number of cars containing wheat of too low a quality to be graded as No. 3 Northern, find their way into the market, and special standards are prepared for these low class products, such as No. 4 Extra, No. 4, No. 5, Feed and No. 2 Feed. Any good wheat that is damp and which cannot be safely warehoused, is classed as No Grade. All good wheat that contains a large admixture of other kinds of grain is also classed as No Grade. All grain brought to the market in a heating condition or mixed with heated grain, is entered on the inspector's books as condemned.

Portions of the crop of 1904 were damaged by rust. Some of this when threshed was of so little value and weight that it compared only with elevator cleanings; such grain is graded as 'screenings.'

Any wheat that is injured by smut is classed as 'No. 1 rejected.' If very smutty, as 'No. 2 rejected.'

Where wheat contains a large proportion of weed seeds such as wild oats, the seeds of rag-weed, &c., it is classed as 'rejected,' without using any number.

Such low grades of wheat as cannot be used profitably for flour are ground and sold as feed for stock. Wheat rejected on account of smut or weeds is usually sent to Fort William to an elevator provided with special cleaning apparatus, and after it is cleaned and dried it may be given a grade, and can then be marketed in the usual way.

VISIT TO THE INSPECTOR'S OFFICE AND RAILWAY YARDS.

Being desirous of seeing the actual working of the methods adopted for the inspection and grading of wheat, I called on Mr. David Horn, Chief Inspector at Winnipeg, on the morning of September 23, 1905, who showed me much courtesy. I was first taken through his own office where the work of inspection and grading was in progress. Then provided with a note to one of his deputies, I visited the railway yard where some 200 cars of wheat which had just arrived were being inspected and graded.

As the train comes into the yard the conductor goes to the railway office with his bills to report his train. The inspector makes a list of the grain cars on these bills from which he learns where each car is from, where it is going, the name of the shipper and of the party to whom it is consigned. With this information he goes with his men at once to the train. The inspector has usually three men with him.

One man opens the doors of each car and closes them again after the inspection is over. When the doors are opened the other two men enter the car. A car laden with wheat is usually filled to a depth of about 5 feet. This leaves room between the wheat and the roof of the car for these men to work. One man carries with him a cotton sheet about a yard long and three-quarters of a yard wide, which he spreads on top of the wheat. The other carries what is known as a 'stabber,' a cylindrical brass instrument, reminding one of a large syringe. This is about 6 feet long and 2½ inches in diameter and pointed at the lower end. The instrument is hollow and consists of an interior and exterior tube which by a turn of the handle at the end can be made to slide one on the other. Each tube has openings at intervals, about 5 inches long and an inch wide which are alike in each tube. By turning the outer tube these openings are closed. The stabber is then thrust through the grain in a somewhat slanting direction until the pointed end reaches the floor, then, with a turn of the handle the openings in the tube are brought opposite each other, when the grain immediately flows into and fills the instrument. By reversing the handle the holes are closed so that the grain cannot fall out, and when the 'stabber' is brought up it brings with it a complete section of the wheat which that part of the car contains. The grain is let out of the instrument at the top and placed on the sheet in the form of an irregular band from 4 to 6 inches wide, 2½ feet long, and about half an inch deep, showing the character of the wheat from the top to the bottom of the car. This is done from seven to ten or twelve times in different parts of the car, and spread each time on the sheet as described. When the car has been 'stabbed' a sufficient number of times and the grain properly spread on the sheet, the inspector has before him a complete display of the character and quality of the contents of the car from the bottom to the top. He then examines this and writes on a card the number of the car, the date of inspection, and his opinion of the grade. He also puts about two pounds of the mixed grain on the sheet into a cotton bag which closes by a draw-string, the card is placed inside the bag and the bag hung on a point of the car outside, to be taken from thence to the inspector's office.

Occasionally a car is found to be 'plugged,' that is fraudulently loaded by putting inferior wheat in parts of the car where the shipper imagines it will not be detected. Where any indication of this is noticed the car is 'stabbed' in many places, and all parts of it closely examined. If the inspector has reason to believe that plugging was intended the law requires that the whole car shall be graded at the same value as the poorest grade found in the car. This penalty is a severe one, and hence 'plugging' is not a common practice.

With sufficient and competent help the grading of grain is very rapidly done, and a whole train load of wheat can be examined and graded in the course of an hour or two. The sample bags from the cars are carried to the inspector's office near the railway yard, where they are successively spread out on a large table, carefully examined, and their grade finally determined by the deputy inspectors. The grain is then put back in the bags with the cards, when they are filed away for reference.

A complete report on each car is made, one copy of which is sent to Fort William and another to the office of the chief inspector, Mr. David Horn. Certificates for each car are also sent to the parties interested. Every day the entire record for all the cars arriving during the previous 24 hours is completed and disposed of. From 20 to 30 men are employed at this work during the busy period. The fee fixed by law for the inspection is 40 cents per car; the cars will average about 1,000 bushels each.

HOW FARMERS DISPOSE OF THEIR CROPS.

Some farmers sell their grain at the elevators, while others prefer to load and ship their own grain. These latter usually consign their wheat to an independent broker, one not connected in any way with elevator or railway companies. He charges one cent per bushel for looking after the business of marketing the wheat, and remitting the money received for it. If the farmer sells to an elevator company, his wheat is then graded by the man in charge, but only temporarily and for the purpose of giving the farmer cash. If the farmer objects to the local grading a sample of the wheat is sent to the chief inspector at Winnipeg, and if he grades it higher than the man at the elevator did, then the elevator company must pay the farmer the difference in market price between the grades on the day of sale.

HOW THE CROPS OF 1904 AND 1905 HAVE GRADED.

In the following table the first column shows the total returns for the inspection of the crop of 1904. In the second column the total number of cars of wheat of the crop of 1905, inspected to December 1, 1905:—

Crop of 1904.	Cars.	*Crop of 1905 Inspected to Dec. 1, 1905.*	Cars.
No. 1 Hard	176	No. 1 Hard	532
No. 1 Northern	3,788	No. 1 Northern	17,833
No. 2 "	11,585	No. 2 "	6,858
No. 3 "	9,293	No. 3 "	996
No. 4 Extra	2,214	No. 4 Extra	5
No. 4	3,036	No. 4	58
No. 5	2,247	No. 5	1
Feed	1,098	Feed	None.
Feed No. 2	233	Feed No. 2	None.
Rejected (for weed seeds)	603	Rejected (for weed seeds)	1,535
No. 1 Rejected (for smut)	631	No. 1 Rejected (for smut)	1,227
No. 2 " "	591	No. 2 " "	1,234
Screenings	40	Screenings	9
Condemned	78	Condemned	10
No Grade	2,279	No Grade	155

INCREASE IN PROPORTION OF WEEDY AND SMUTTY WHEAT.

A study of these figures shows that the character of the season is a most important factor in determining the value of the wheat crop. The year 1904 was comparatively unfavourable, while the present year has been favourable. That portion of the crop (probably about two-thirds of the whole) marketed before December 1, 1905, is largely No. 1 Northern. It is also worthy of comment that the number of cars of wheat graded rejected this year on account of weed seeds is more than double that of 1904. The total number classed as 'rejected' for smut has also more than doubled. While the bulk of this wheat classed as rejected is ultimately recovered, the cost and loss of weight entailed by the scouring and cleansing required to bring the sample into a marketable condition are very considerable and materially lessen the returns received by those farmers who send their wheat to market in a condition so dirty and discreditable as to justify the inspectors in marking it 'rejected.' A more vigorous campaign is evidently needed against weeds and smut, to stir up these careless farmers now to a sense of their duty.

HOW THE UNIFORMITY OF THE GRADES IS MAINTAINED.

Objection has sometimes been made to the method of grading wheat on the ground that the grades are lacking in uniformity from year to year. Prior to 1899 the grades were fixed from season to season by a board of experts, on samples of the current year's growth brought from different localities and compared. Under that arrangement it is quite likely that the grades varied more or less from year to year. Under the present system a handful is taken from each carload, graded and thrown into a vessel or bin provided for that grade, and this grain thus mixed is used as a basis for the same grade the following season. Samples are given to the inspectors and others requiring them, and in this way the grades are maintained of a uniform character.

The system of grading as carried on by the Manitoba Grain Inspection Division, under direction of the Chief Inspector, Mr. David Horn, seems to be very thorough and satisfactory and to command the confidence both of the farmers and buyers in a marked degree.

CO-OPERATIVE EXPERIMENTS BY CANADIAN FARMERS.

The assistance rendered to Canadian farmers by the distribution of samples of seed of high quality for the improvement of crops has been continued with gratifying results. Farmers everywhere have gladly undertaken to co-operate with the experimental farms in the endeavour to ascertain the relative merits in earliness, productiveness and quality of the different sorts under trial when grown under the different climatic conditions which prevail in the several provinces of the Dominion.

During the present year 41,548 farmers have joined in these co-operative tests. A large number of reports have been received expressing appreciation of the great value of this work. The samples of wheat and barley sent out have weighed five pounds each, and those of oats four pounds, sufficient in each case to sow one-twentieth of an acre. The samples of Indian corn, pease and potatoes have weighed three pounds each.

The samples sent from the Central Experimental Farm during the distribution period for the past year have been distributed as follows:—

DISTRIBUTION BY PROVINCES.

Name of Grain.	Prince Edward Island.	Nova Scotia.	New Brunswick.	Quebec.	Ontario.	Manitoba.	North-west Territories.	British Columbia.
Oats	836	1,513	1,664	4,735	1,713	551	1,517	86
Barley	114	433	217	1,473	650	176	579	41
Wheat	250	718	836	2,874	757	1,496	2,499	64
Pease	10	102	131	406	102	39	79	7
Indian Corn	26	148	116	511	450	78	117	33
Potatoes	157	859	1,053	2,075	2,356	905	1,958	436
Total	1,393	3,773	4,017	12,074	6,028	3,245	6,749	667

Total number of samples distributed, 37,946.
Number of applicants supplied, 37,865.

Total number of packages of each sort distributed :—

Oats	12,615
Barley	3,683
Wheat	9,494
Pease	876
Indian Corn	1,479
Potatoes	9,799
Total	37,946

The following list shows the number of packages which have been sent of the different varieties :—

Name of Variety.	Number of Packages.
OATS.	
Banner	3,027
Improved Ligowo	1,633
Waverley	1,514
Wide Awake	1,503
Thousand Dollar	1,448
Abundance	1,354
Tartar King	1,083
Goldfinder	749
Black Beauty	299
Total	12,615
BARLEY (Six-rowed).	
Mensury	928
Odessa	611
Claude	605
Mansfield	465
(Two-rowed.)	
Invincible	369
Standwell	282
Sidney	252
Canadian Thorpe	171
Total	3,683
SPRING WHEAT.	
Laurel	1,950
Preston	1,694
Red Fife	1,262
Stanley	1,029
Wellman's Fife	961
White Fife	836
Percy	804
Huron	591
Monarch	271
White Russian	46
Common Emmer	32
Early Riga	18
Total	9,494
PEASE.	
Arthur	585
White Wonder	291
Total	876

Name of Variety	Number of Packages.
INDIAN CORN.	
Compton's Early	477
Longfellow	376
Early Mastodon	335
Selected Leaming	140
Angel of Midnight	112
Sanford	39
Total	1,479

Name of Variety.	Number of Packages
POTATOES.	
Early White Prize	1,515
Carman No. 1	1,206
Uncle Sam	1,084
American Wonder	1,071
Canadian Beauty	822
Rochester Rose	742
Dr. Maerker	581
Early Andes	499
Burnaby Mammoth	452
Bovee	431
Country Gentleman	420
Money Maker	340
Everett	285
Swiss Snow Flake	196
Late Puritan	139
Dreer's Standard	16
Total	9,799

DISTRIBUTION OF SAMPLES FROM THE BRANCH EXPERIMENTAL FARMS.

Samples were also distributed from the Branch Experimental Farms, as follows:—

Experimental Farm, Nappan, N.S.	No. of Sample Bags.
Spring wheat	69
Oats	167
Barley	89
Pease	41
Potatoes	280
Buckwheat	23
Total	669

Experimental Farm, Brandon, Man.	No. of Sample Bags.
Spring wheat	131
Oats	100
Barley	40
Pease	72
Potatoes	206
Total	549

Experimental Farm, Indian Head, Sask.	
Spring wheat	546
Oats	406
Barley	197
Pease	87
Flax, Rye and Spelt	25
Potatoes	618
Total	1,879

Experimental Farm, Agassiz, B.C.	
Spring wheat	56
Oats	173
Barley	74
Pease	161
Potatoes	203
Total	667

By adding the number of farmers supplied by the Branch Farms to those supplied by the Central Farm we have a total of 41,548. It is gratifying to find among the farmers of Canada so large a number of volunteers in this co-operative work. The average number of samples distributed each year for the past ten years has been 37,521.

In growing and preparing this large quantity of seed grain for distribution great care is taken to have it clean and true to name. Most of it is grown on the Experimental Farms at Indian Head and Brandon, where the crops average larger yields and a heavier weight per bushel than they do at Ottawa.

To provide the large quantity of seed required for this work arrangements are made for growing the varieties needed the previous year. While maturing in the fields most of the grain is carefully examined and any plants found of other varieties are pulled up. After the grain is threshed it is passed through suitable cleaning machinery and then thoroughly examined, and if there are any foreign seeds present which the cleaners will not remove the grain is hand-picked before it is sent out. These samples are sent free of charge to the nearest post office. They are sent only in response to personal application, and only one variety is obtainable by one applicant each year. Those farmers who take good care of the sample received usually have at the end of

the second year sufficient seed for a considerable area, and after that have all they require for their own use, and some surplus to sell to their neighbours.

It is remarkable how rapidly a supply of grain may be built up from a single four or five-pound sample. Take for instance, a sample of oats. The four pounds received will, if well cared for, usually produce from three to four bushels. This sown on two acres of land will at a very moderate estimate give one hundred bushels, and some times much more, but taking the lower figure as the basis for this calculation, the crop at the end of the second year would be sufficient to sow fifty acres, which at the same moderate computation would furnish 2,500 bushels, available for seed or sale at the end of the third year.

The critical point in these tests is the threshing of the grain at the end of the first season, and it is here that some farmers fail to get the full advantage of the experiment. The product of the one-twentieth acre plot is sometimes threshed in a large machine, which it is difficult to thoroughly clean, and in this way the grain becomes mixed with other varieties and practically ruined. At the Central Experimental Farm we thresh the produce of many of the small plots of grain by cutting off the heads, placing them in sacks and beating them with a stick, and winnowing until most of the chaff is got rid of, and the grain made clean enough for sowing.

Where the farmer is to use this seed for his own sowing it is not necessary that the sample be entirely free from chaff. It is, however, most essential if he is to get the full benefit of his experiment, that the grain be quite free from all admixture with other sorts. Farmers are expected to harvest the product of their experimental plot separately, and store it away carefully, threshing it by hand either with a flail or in such other manner as they may prefer. The results to be gained will abundantly repay the careful handling of the grain in this way.

Occasional complaints are made that the samples are too small and that not less than two bushels of grain should be sent to each applicant. If such quantities were sent the distribution must necessarily be limited to comparatively few individuals, which would be very unfair. The experimental farm officers have also been criticised for not arranging to sell any surplus seed grain to farmers in quantities of two bushels and upwards. As a matter of fact this has been the practice at the western farms for many years past. Every season after the regular distribution of smaller samples has been provided for the surplus grain not needed for seed has been sold to farmers in quantities of two to ten bushels or more each.

At the Indian Head Experimental Farm the following number of farmers have been supplied in this way:

In 1904—
24 farmers purchased from 2 to 5 bushels each of seed wheat.
7 two to five bushels of seed oats.
9 two to five bushels of seed barley.

40 in all.

In 1905—
107 farmers bought from 2 to 10 bushels each of seed wheat.
74 two to ten bushels or more of seed oats, and
24 bought 2 to 10 bushels or more of seed barley.

205 in all.

At the Brandon experimental farm in 1904—
10 farmers bought from 2 to 10 bushels each of seed wheat.
112 two to ten bushels or more of seed oats, and
21 from 2 to 10 bushels, or more of seed barley.

143 in all.

In 1905—
32 farmers bought from 1 to 5 bushels each of seed wheat.
6 from 2 to ten bushels, or more of seed oats, and
30 from 2 to ten bushels, or more of seed barley.

68 in all.

It will thus be seen that within the past two years 245 farmers have been supplied with these larger lots from the experimental farm at Indian Head and 211 from the experimental farm at Brandon, a total of 456. The following note from one of those who bought seed wheat at Brandon will serve as an example of the way these larger lots are appreciated:—

GLADSTONE, MAN., December 29, 1905.

S. A. BEDFORD, ESQ.,

DEAR SIR,—Just a few lines in report on the four bushels of Red Fife wheat that James Huddleston and myself received from you last spring. We sowed it on April 24 and harvested it on August 26. There was about three acres and the total yield was 133 bushels, about 45 bushels per acre, which was about twice the yield of the rest of our crop. I must say we are well satisfied and would recommend any farmer to get a few bushels of wheat from you when possible.

Yours respectfully,

A. M. HUDDLESTON.

CORRESPONDENCE.

The correspondence carried on during 1905 between the farmers of Canada and the officers of the Experimental Farms has been very large.

CENTRAL EXPERIMENTAL FARM.

The following is a summary of the letters received and sent out at the Central Experimental Farm from December 1, 1904 to November 30, 1905; also the number of reports, bulletins and circulars forwarded by mail during the same period:—

	Letters received.	Letters sent.
Director	51,908	19,074
Agriculturist	2,090	3,206
Horticulturist	1,634	1,626
Chemist	1,531	1,441
Entomologist and Botanist	3,406	3,291
Cereal ist	289	208
Poultry Manager	2,993	3,043
Accountant	988	1,401
Totals	64,839	33,290

A large number of the letters received by the Director are applications for samples of grain, or for the publications of the farms, a considerable proportion of which are answered by sending the correspondents the material asked for, accompanied by circular letters. This explains why the number of letters received so much exceeds the number sent out.

Circular letters, including circulars sent with samples of seed grain	39,105
Reports and bulletins mailed	351,374
Total	390,479

BRANCH EXPERIMENTAL FARMS.

The correspondence with the Superintendents of the branch experimental farms is shown by the following figures:—

	Letters received.	Letters sent.
Experimental Farm, Nappan, N.S.	2,080	1,812
" Brandon, Man.	4,783	3,140
" Indian Head, Sask.	7,820	7,874
" Agassiz, B. C.	3,187	2,953
Totals	17,870	15,779

Much additional information has also been sent out from the branch farms in printed circulars. By adding the correspondance conducted at the branch farms to that of the central farm, it will be seen that 82,709 letters in all were received, and 49,069 sent out during the year..

TESTS OF THE VITALITY OF SEED GRAIN AND OTHER SEEDS.

The number of samples of seeds tested during the season of 1904-05 to find the proportion which would germinate and to determine the percentage of plants of strong and weak growth, was 1,949.

This useful work has been carried on at the Central Experimental Farm every year since its establishment in 1887, and the total number of samples tested from that time to the present is 33,685. By instruction of the Hon. Minister of Agriculture this work will in future be done by the seed division, hence any farmer or seedsman desiring to have samples tested should address them to the Seed Commissioner, Department of Agriculture, Ottawa.

RESULTS OF TESTS OF SEEDS FOR VITALITY 1904-05.

Kind of Seed.	Number of Tests.	Highest Per-centage.	Lowest Per-centage.	Per-centage of Strong Growth.	Per-centage of Weak Growth	Average Vitality.
Wheat	660	100·0	0·0	81·1	4·8	85·9
Barley	328	100·0	3·0	85·5	6·2	91·8
Oats	498	100·0	2·0	78·6	6·3	84·9
Rye	7	94·0	80·0	81·8	4·1	86·0
Pease	136	100·0	2·0			73·4
Grass	63	98·0	1·0			74·1
Clover	112	97·0	26·0			78·8
Flax	17	78·0	56·0			67·4
Corn	34	100·0	26·0			74·0
Tares	2	92·0	15·0			53·5
Carrots	10	88·0	0·0			30·9
Onions	8	83·0	2·0			59·7
Cabbage	9	88·0	1·0			59·4
Radish	11	79·0	19·0			44·6
Squash	7	22·0	0·0			4·2
Musk melon	8	72·0	4·0			37·5
Water melon	2	56·0	44·0			50·0
Lettuce	4	86·0	10·0			31·5
Parsnip	4	70·0	40·0			60·2
Beet	4	76·0	32·0			54·0
Tomato	3	63·0	4·0			36·6
Celery	3	39·0	0.0			13·6
Tobacco	6	54·0	10·0			34·8
Turnips	2	100·0	86·0			93·0
Cress	2	87·0	7·0			47·0
Spinach	2	12·0	0·0			6·0
Miscellaneous seed	7	79·0	0·0			36·1
Total number of samples tested, highest and lowest percentage	1,949	100·0	0·0			

TABLE SHOWING RESULTS OF GRAIN TESTS FOR EACH PROVINCE.

ONTARIO.

Kind of Seed.	Number of Tests.	Highest Per-centage.	Lowest Per-centage.	Per-centage of Strong Growth.	Per-centage of Weak Growth.	Average Vitality.
Wheat	228	100·0	0·0	69·5	7·1	76·7
Barley	122	100·0	3·0	79·8	8·8	88·7
Oats	121	100·0	2·0	82·4	8·2	90·6

QUEBEC.

Wheat	33	99·0	63·0	87·1	3.1	90·3
Barley	15	99·0	33·0	84·4	5·0	89·4
Oats	21	100·0	86·0	91.4	2·9	94·4

MANITOBA.

Wheat	149	100·0	36·0	87·3	4·2	91·6
Barley	54	100·0	65·0	90·0	4·0	94·0
Oats	114	100·0	16·0	74·5	7·2	81·7

NORTH-WEST TERRITORIES.

Wheat	118	100·0	39·0	83·8	4·1	87·9
Barley	68	100·0	13·0	86·9	4·1	91·1
Oats	160	99·0	4·0	70.5	6·4	76·9

NOVA SCOTIA.

Wheat	56	100·0	82·0	90·7	3·0	93·8
Barley	47	100·0	78·0	91·9	6·1	93 0
Oats	47	100·0	20·0	93·4	1·9	95·3

NEW BRUNSWICK.

Wheat	32	100·0	59·0	92·8	1·7	94·5
Barley	8	100·0	38·0	81·2	6·0	87·2
Oats	14	100·0	76 0	90·5	3·6	94·1

PRINCE EDWARD ISLAND.

Wheat	15	100 0	74·0	95·2	1·1	96·3
Barley	13	100·0	80·0	93·6	3·2	96·9
Oats	15	100·0	79·0	92·0	3·8	95·9

BRITISH COLUMBIA.

Wheat	29	100·0	50·0	83·4	2·9	86·4
Barley	1	100·0	100·0	98·0	2·0	100·0
Oats	6	94·0	57·0	73·8	7.8	81·6

Signed, WILLIAM T. ELLIS.

Meteorological Observations.

Table of Meteorological Observations taken at the Central Experimental Farm, Ottawa, 1905; maximum, minimum, and mean temperature for each month, with date of occurrence, also rainfall, snowfall, and total precipitation.

Month.	Maximum.	Minimum.	Range.	Mean.	Highest.	Date.	Lowest.	Date.	Rainfall.	Snowfall.	Total Precipitation.	Number of days Precipitation.	Heaviest in 24 hours.	Date.
	°	°	°	°	°		°							
January...	16·92	—3·69	20·62	6·62	39·3	1st	—20·0	14th	T	34·00	3·39	15	1·40	7th
February..	18·38	—2·16	20·54	8·11	32·0	10th & 20th	—18·7	16th	.....	23·00	2·30	15	0·45	6th
March.....	33·05	11·45	21·59	22·24	50·0	30th	—16·0	14th	0·81	4·00	1·21	10	0·42	19th
April.....	52·54	29·74	22·80	41·14	75·0	28th	20·7	2nd	6·89	1·00	0·99	10	0·23	29th
May.....	65·82	42·47	23·34	54·14	78·8	25th	29·5	1st & 2nd	1·90	.....	1·90	13	0·39	15th
June.....	75·80	52·80	23·00	64·30	86·5	20th	39·0	1st & 8th	4·63	.....	4·63	11	1·94	13th
July.....	79·67	58·62	21·04	69·14	91·4	18th	48·0	21st	4·76	.....	4·76	19	1·13	30th
August....	77·02	53·73	23·28	65·37	86·6	10th	45·2	14th	4·07	.....	4·07	15	0·87	12th
September.	69·45	48·00	21·44	58·72	80·2	10th	32·2	26th	2·83	....	2·83	14	0·98	18th
October....	55·65	35·08	20·57	45·36	76·0	1st	16·5	30th	2·43	0·50	2·48	14	0·75	11th
November..	38·17	22·86	15·31	30·51	53·2	25th	3·2	30th	0·56	8·25	1·38	14	0·40	8th
December..	28·60	11·57	17·02	20·08	41·5	8th	—13·1	16th	0·83	16·50	2·48	20	0·78	29th
	.....	.....	...	.. ..	....	....	.....	.. ....	23·71	87·25	32·42	170	....	....

Rain or snow fell on 170 days during the 12 months.

Heaviest rainfall in 24 hours, 1.54 inches on June 13th.

Heaviest snowfall in 24 hours, 14·00 inches on January 7th.

The highest temperature during the 12 months was 91°·4 on July 18th.

The lowest temperature during the 12 months was 20°·0 on January 14th.

During the growing season rain fell on 10 days in April, 13 days in May, 11 days in June, 19 days in July, 15 days in August, and 14 days in September.

March and April show the lowest number of days with precipitation, viz., on 10 days during each month.

Total precipitation during the 12 months, 32·42 inches, as compared with 36·79 inches during 1904.

Rainfall, Snowfall and Total Precipitation from 1890 to 1905; also the average annual amount that has fallen.

Year.	Rainfall.	Snowfall.	Total Precipitation.
1890	24·73	64·85	31 22
1891	30·19	73·50	37·54
1892	23·78	105·00	34·28
1893	31·79	72·50	39·04
1894	23·05	71·50	30 20
1895	27·01	87·50	35·76
1896	21·53	99·75	31·50
1897	24·18	89·00	33·08
1898	24·75	112·25	35·97
1899	33·86	77·25	41·63
1900	29·48	108·00	40·27
1901	29·21	97·25	38·91
1902	25·94	101·75	36·10
1903	26·43	85·00	34·92
1904	25·95	108·75	36·79
1905	23·71	87·25	32·42
Total for 16 years	425·59	1,411·10	569·63
Yearly average for 16 years	26·56	90·06	35·60

SESSIONAL PAPER No. 16

RECORD of Sunshine at the Central Experimental Farm, Ottawa, for the year 1905.

MONTHS.	1905.			
	Number of days with Sunshine.	Number of days without Sunshine.	Total hours Sunshine.	Average Sunshine per day.
January	23	8	79·6	2·56
February	21	7	120·8	4·31
March	20	2	169·1	5·45
April	26	4	175·8	5·86
May	29	2	219·6	7·08
June	28	2	195 2	6·50
July	28	3	205·0	6·61
August	30	1	260·5	8·40
September	27	3	155·9	5 19
October	27	4	153·8	4·96
November	21	9	89·4	2·98
December	20	11	68·8	2 21

(Signed,)

WILLIAM T. ELLIS,
Observer.

SPECIAL EXPERIMENTS WITH FERTILIZERS.

In the Annual Report of the Experimental Farms for 1893, details were given on pages 8 to 24 of the results of a series of tests which had then been carried on for some years with the object of gaining information regarding the effects which follow the application of certain fertilizers and combinations of fertilizers on the more important farm crops.

These experiments have been continued, and a summary of the results obtained has been given each year, taking the average yield of crops from the beginning, adding the results for the current year, and then giving the average yield for the full time. These tests were undertaken on virgin soil, on a piece of land which was cleared for the purpose. For particulars regarding the clearing and preparing of the land for crop in 1887-88 and its subsequent treatment, the reader is referred to the earlier issues of this report.

VALUABLE INFORMATION GAINED.

From this long conducted series of tests some useful information has been gained.

These trials have shown that barn-yard manure can be most economically used in the fresh or unrotted condition; that fresh manure is equal, ton for ton, in crop-producing power to rotted manure, which, other experiments have shown, loses during the process of rotting about 60 per cent of its weight. In view of the vast importance of making the best possible use of barn-yard manure, it is difficult to estimate the value of this one item of information.

When these experiments were planned, the opinion was very generally held that untreated mineral phosphate, if very finely ground, was a valuable fertilizer, which gradually gave up its phosphoric acid for the promotion of plant growth. Ten years' experience has shown that mineral phosphate, untreated, is of no value as a fertilizer.

The use of sulphate of iron, which at the time these tests were begun, was highly recommended, as a means of producing increased crops, has also been proven to be of very little value for this purpose.

Common salt, which has long had a reputation with many farmers for its value as a fertilizer for barley, while others disbelieved in its efficacy, has been shown to be a valuable agent for producing an increased crop of that grain, while it is of much less use when applied to crops of spring wheat or oats. Land plaster or gypsum has also proven to be of some value as a fertilizer for barley, while of very little service for wheat or oats. Some light has also been thrown on the relative usefulness of single and combined fertilizers.

CHANGES MADE IN THE EXPERIMENTS.

After ten years' experience had demonstrated that finely-ground, untreated mineral phosphate was of no value as a fertilizer, its use was discontinued in 1898. Prior to this it had been used in each set of plots in Nos. 4, 5, 6, 7 and 8, in all the different series of plots, excepting roots. In 1898 and 1899, similar weights of the Thomas' phosphate were used in place of the mineral phosphate, excepting in plot 6 in each series. In this plot the Thomas' phosphate was used in 1898 only.

After constant cropping for ten or eleven years, it was found that the soil on those plots to which no barn-yard manure had been applied was much depleted of humus, and hence its power of holding moisture had been lessened, and the conditions for plant growth, apart from the question of plant food, had on this account become less favourable. In 1899 the experiments were modified and an effort made to restore some proportion of the humus and at the same time gain further information as to the value of clover as a collector of plant food. In the spring of that year ten pounds of red clover seed per acre was sown with the grain on all the plots of wheat, barley and oats. The young clover plants made rapid growth, and by the middle of October there was a thick mat of foliage varying in height and density on the different plots, which was ploughed under. No barn-yard manure was applied on plots 1 and 2 in each series since 1898.

In 1900 all the fertilizers on all the plots were discontinued, and since then to 1905 the same crops have been grown on all these plots from year to year without fertilizers, sowing clover with the grain each season. In this way some information has been gained as to the value of clover as a collector of plant food, and also as to the unexhausted values of the different fertilizers which have been used on these plots since the experiments were begun. In 1905 all the fertilizers were again used as at the beginning.

SPECIAL TREATMENT OF PLOTS OF INDIAN CORN AND ROOTS.

As it was not practicable to sow clover with the Indian corn and root crops, the sowing of these latter crops was discontinued in the spring of 1900 and clover sown in their place in the proportion of 12 pounds per acre. The clover on these plots made strong growth, so strong as to necessitate twice cutting during the season, the cut clover being left on the ground in each case to decay and add to the fertility of the soil. The clover was left over for further growth in the spring of 1901, and ploughed under for the roots about May 10, and for corn about the middle of that month. Then roots and Indian corn were again sown. In 1902 crops of Indian corn and roots were grown on these plots, in 1903 the land was again devoted to clover and was in Indian corn and roots again in 1904 and in 1905.

WHEAT PLOTS.

The seed sown on each of these plots from the beginning has been in the proportion of 1½ bushels per acre, excepting in 1894; and the varieties used were as follows:— In 1888 to 1891, White Russian, and in 1892-3, Campbell's White Chaff. In 1894, Rio Grande was used, and from 1895 to 1905, inclusive, Red Fife. In 1905 the Red Fife was sown May 4, and was ripe August 12.

TABLE I.

EXPERIMENTS WITH FERTILIZERS ON PLOTS OF WHEAT.

No. of Plot.	Fertilizers applied each year from 1888 to 1898 or 1899. No fertilizers used from that time to 1905. Clover sown in 1899 and each year since with the grain and ploughed under in the autumn. In 1905 fertilizers again applied as at first, clover discontinued.	Average Yield for Seventeen Years.		18th Season 1905. Variety Red Fife.		Average Yield for Eighteen Years.	
		Yield of Grain.	Yield of Straw.	Yield of Grain.	Yield of Straw.	Yield of Grain.	Yield of Straw.
		Per acre.	Per acre	Per acre.	Per acre	Per acre.	Per acre
		Bush. lbs.	Lbs.	Bush. lbs.	Lbs.	Bush. lbs.	Lbs.
1	Barn-yard manure (mixed horse and cow manure) well rotted 12 tons per acre in 1888; 15 tons per acre each year after to 1898 inclusive. No manure used from 1899 to 1905. In 1905 15 tons per acre again used.	22 37 12/17	3947	20 50	3610	22 31 17/18	3628
2	Barn-yard manure (mixed horse and cow manure) fresh, 12 tons per acre in 1888: 15 tons per acre each year after to 1898 inclusive. No manure used from 1899 to 1905. In 1905 15 tons per acre again used.	22 50 8/17	3985	21 30	3690	22 46	3969
3	Unmanured from the beginning	11 42 16/17	1937	13 10	1460	11 47 14/18	1910
4	Mineral phosphate, untreated, finely ground, 500 lbs. per acre, used each year from 1888 to 1897 inclusive. In 1898 and 1899 a similar weight of the Thomas' phosphate was used. No fertilizer used from 1900 to 1905. In 1905 Thomas' phosphate again used as in 1899	12 23 14/17	2056	16 40	1680	12 38 1/18	2035
5	Mineral phosphate, untreated, finely ground, 500 lbs., nitrate of soda, 200 lbs., per acre used each year from 1888 to 1897 inclusive. In 1898 and 1899, 500 lbs. of the Thomas' phosphate was used in place of the mineral phosphate. No fertilizers used from 1900 to 1905. In 1905 fertilizers again used as in 1899	13 19 13/17	2680	16 10	2190	13 29 3/18	2653
6	Barn-yard manure, partly rotted and actively fermenting, six tons per acre; mineral phosphate, untreated, finely ground, 500 lbs. per acre, composted together, intimately mixed and allowed to heat for several days before using, applied each year from 1888 to 1897 inclusive. In 1898, 500 lbs. of Thomas' phosphate was used in place of the mineral phosphate. No fertilizers used from 1899 to 1905. In 1905 fertilizers again used as in 1898	19 28 13/17	3270	17 ..	3450	19 20 3/18	3280
7	Mineral phosphate, untreated, finely ground, 500 lbs.; nitrate of soda, 200 lbs.; wood ashes, unleached, 1,000 lbs. per acre, used each year from 1888 to 1897 inclusive. In 1898 and 1899, 500 lbs. of the Thomas' phosphate was used in place of the mineral phosphate. No fertilizers used from 1900 to 1905. In 1905 fertilizers again used as in 1899	13 52 7/17	2590	15 50	3160	13 58 17/18	2622
8	Mineral phosphate, untreated, finely ground, 500 lbs.; wood ashes, unleached, 1,500 lbs. per acre, used each year from 1888 to 1897 inclusive. In 1898 and 1899, 500 lbs. of the Thomas' phosphate was used in place of the mineral phosphate. No fertilizers used from 1900 to 1905. In 1905 fertilizers again used as in 1899	11 50	2226	15 30	2330	12 2 4/18	2232

TABLE I.—EXPERIMENTS WITH FERTILIZERS ON PLOTS OF WHEAT—*Concluded.*

No. of Plot.	Fertilizers applied each year from 1888 to 1898 or 1899. No fertilizers used from that time to 1905. Clover sown in 1899 and each year since with the grain and ploughed under in the autumn. In 1905 fertilizers again applied as in 1898, clover discontinued.	Average Yield for Seventeen Years.		18th Season, 1905. Variety, Red Fife.		Average Yield for Eighteen Years.	
		Yield of Grain.	Yield of Straw.	Yield of Grain.	Yield of Straw.	Yield of Grain.	Yield of Straw.
		Per acre.	Per acre	Per acre.	Per acre	Per acre.	Per acre
		Bush. lbs.	Lbs.	Bush. lbs.	Lbs.	Bush. lbs.	Lbs.
9	Mineral superphosphate, No. 1, 500 lbs. per acre, used each year from 1888 to 1899 inclusive. No fertilizer used from 1900 to 1905. In 1905 fertilizer again used as in 1899	12 33 3/17	2002	14 40	2110	12 40 5/18	2008
10	Mineral superphosphate, No. 1, 350 lbs.; nitrate of soda, 200 lbs. per acre, used each year from 1888 to 1899 inclusive. No fertilizers used from 1900 to 1905. In 1905 fertilizers again used as in 1899	13 28	2935	15 10	2840	13 33 1/18	2930
11	Mineral superphosphate, No. 1, 350 lbs.; nitrate of soda, 200 lbs.; wood ashes, unleached, 1,500 lbs. per acre, used each year from 1888 to 1899 inclusive. No fertilizers used from 1900 to 1905. In 1905 fertilizers again used as in 1899	14 23 1/17	2863	13 40	2780	14 21 7/18	2858
12	Unmanured from the beginning	10 41 8/17	1911	10 40	1240	10 41 7/18	1874
13	Bone, finely ground, 500 lbs. per acre, used each year from 1888 to 1899 inclusive. No fertilizer used from 1900 to 1905. In 1905 bone again used as at first	12 47 1/17	2083	14 10	2490	12 52 7/18	2106
14	Bone, finely ground, 500 lbs.; wood ashes unleached, 1,500 lbs. per acre; used each year from 1888 to 1899 inclusive. No fertilizers used from 1900 to 1905. In 1905 fertilizers again used as at first	15 32 6/17	2632	15 40	3100	15 32 14/18	2658
15	Nitrate of soda, 200 lbs. per acre, used each year from 1888 to 1899 inclusive. No fertilizer used from 1900 to 1905. In 1905 fertilizer again used as at first	14 21 3/17	2472	15 10	2570	14 23 6/18	2477
16	Muriate of potash, 150 lbs. per acre, used each year from 1888 to 1899 inclusive. No fertilizer used from 1900 to 1905. In 1905 fertilizer again used as at first	15 39 12/17	2282	13 40	2820	15 32 17/18	2312
17	Sulphate of ammonia, 300 lbs. per acre, used each year from 1888 to 1899 inclusive. No fertilizer used from 1900 to 1905. In 1905 fertilizer again used as at first	13 3 6/17	2475	13 10	2450	13 4 5/18	2474
18	Sulphate of iron, 60 lbs. per acre, used each year from 1888 to 1899 inclusive. No fertilizer used from 1900 to 1905. In 1905 fertilizer again used as at first	12 53 4/17	2020	13	2100	12 53 11/18	2024
19	Common salt (Sodium chloride), 300 lbs. per acre, used each year from 1888 to 1899 inclusive. No fertilizer used from 1900 to 1905. In 1905 fertilizer again used as at first	13 54 1/17	1655	13 30	2030	13 52 13/18	1676
20	Land plaster or gypsum (Calcium sulphate), 300 lbs. per acre, used each year from 1888 to 1899 inclusive. No fertilizer used from 1900 to 1905. In 1905 fertilizer again used as at first	12 53 12/17	1966	13 50	1830	12 56 15/18	1958
21	Mineral superphosphate, No. 2, 500 lbs. per acre, used each year from 1888 to 1899 inclusive. No fertilizer used from 1900 to 1905. In 1905 fertilizer again used as at first	13 13 15/17	1960	14 10	1850	13 16 6/18	1954

Preston Wheat in Stook, Experimental Farm, Indian Head, Sask. Crop, 469 Bushels from 10 Acres. *Photo. by C. E. Saunders.*

BARLEY PLOTS.

The quantity of seed sown per acre on the barley plots was 2 bushels in 1889 to 1891, 1½ bushels in 1892 and 1893, and 2 bushels from 1894 to 1905 inclusive. Two-rowed barley was used for seed throughout until 1902, when Mensury, a six-rowed sort, was tried. The varieties used were as follows: 1889 to 1891, Saale; 1892, Goldthorpe; 1893, Duck-bill; and in 1894 to 1901, Canadian Thorpe, a selected form of the Duck-bill. Since 1902 Mensury has been sown. In 1905 it was sown May 4, and was harvested on July 30.

TABLE II.

EXPERIMENTS WITH FERTILIZERS ON PLOTS OF BARLEY.

No. of Plot.	Fertilizers applied each year from 1889 to 1898 or 1899. No fertilizers used from that time to 1905. Clover sown in 1899 and each year since with the grain and ploughed under in the autumn. In 1905 fertilizers again applied as in 1898. Clover discontinued.	Average Yield for Sixteen Years.		17th Season, 1905. Variety, Mensury.		Average Yield for Seventeen Years.	
		Yield of Grain.	Yield of Straw.	Yield of Grain.	Yield of Straw.	Yield of Grain.	Yield of Straw.
		Per acre.	Per acre	Per acre.	Per acre	Per acre.	Per acre
		Bush. lbs.	Lbs.	Bush. lbs	Lbs.	Bush. lbs.	Lbs.
1	Barn-yard manure, well rotted, 15 tons per acre each year to 1898, inclusive. No manure used from 1899 to 1905. In 1905 15 tons per acre again used	35 45 12/15	3047	56 2	2960	37 51 15/17	3042
2	Barn-yard manure, fresh, 15 tons per acre each year to 1898, inclusive. No manure used from 1899 to 1905. In 1905 15 tons per acre again used	35 32 2/15	3198	59 38	3010	37 4 4/17	3187
3	Unmanured from the beginning	14 35 11/16	1530	22 34	1790	15 10 7/17	1545
4	Mineral phosphate, untreated, finely ground, 500 lbs. per acre, used each year from 1888 to 1897, inclusive. In 1898 and 1899 a similar weight of the Thomas' phosphate was used. No fertilizer used from 1900 to 1905. In 1905 fertilizer again used as in 1899	16 2 8/16	1519	31 22	2870	16 46	1598
5	Mineral phosphate, untreated, finely ground, 500 lbs., nitrate of soda, 200 lbs. per acre, used each year from 1888 to 1897, inclusive. In 1898 and 1899 500 lbs. of the Thomas' phosphate was used in place of the mineral phosphate. No fertilizers used from 1900 to 1905. In 1905 fertilizers again used as in 1899	21 13 6/16	2193	37 4	3070	22 10	2245
6	Barn-yard manure, partly rotted and actively fermenting, 6 tons per acre; mineral phosphate, untreated, finely ground, 500 lbs. per acre composted together, intimately mixed and allowed to heat for several days before using, applied each year from 1888 to 1897, inclusive. In 1898 500 lbs. of the Thomas' phosphate was used in place of the mineral phosphate. No fertilizers used from 1899 to 1905. In 1905 fertilizers again used as in 1899	29 3 12/16	2416	54 8	3220	30 26 12/17	2463
7	Mineral phosphate, untreated, finely ground, 500 lbs. nitrate of soda, 200 lbs.; wood ashes, unleached, 1,000 lbs. per acre, used each year from 1888 to 1897, inclusive. In 1898 and 1899, 500 lbs. of the Thomas' phosphate was used in place of the mineral phosphate. No fertilizers used from 1900 to 1905. In 1905 fertilizers again used as in 1899	26 39 11/16	2401	47 34	3170	28 21 1/17	2446

TABLE II.—EXPERIMENTS WITH FERTILIZERS ON PLOTS OF BARLEY—*Concluded.*

No. of Plot.	Fertilizers applied each year from 1889 to 1898 or 1899. No fertilizers used from that time to 1905. Clover sown in 1899 and each year since with the grain and ploughed under in the autumn. In 1905 fertilizers again applied as in 1898 clover discontinued.	Average Yield for Sixteen Years.		17th Season, 1905. Variety, Mensury.		Average Yield for Seventeen Years.	
		Yield of Grain.	Yield of Straw.	Yield of Grain.	Yield of Straw.	Yield of Grain.	Yield of Straw.
		Per acre.	Per acre	Per acre.	Per acre	Per acre.	Per acre
		Bush. lbs.	Lbs.	Bush. lbs.	Lbs.	Bush. lbs.	Lbs.
8	Mineral phosphate, untreated, finely ground, 500 lbs., wood ashes, unleached, 1,500 lbs. per acre, used each year from 1888 to 1897, inclusive. In 1898 and 1899, 500 lbs. of the Thomas' phosphate was used in place of the mineral phosphate. No fertilizers used from 1900 to 1905. In 1905 fertilizers again used as in 1899	22 30 8/16	1850	40 ..	2720	23 31 10/17	1901
9	Mineral superphosphate No. 1, 500 lbs. per acre used each year from 1888 to 1899, inclusive. No fertilizer used 1900 to 1905. In 1905 fertilizer again used as in 1899	22 0 8/16	1701	38 26	3040	22 47 4/17	1780
10	Mineral superphosphate, No. 1, 350 lbs.; nitrate of soda, 200 lbs. per acre, used each year from 1888 to 1899, inclusive. No fertilizers used from 1900 to 1905. In 1905 fertilizers again used as in 1899	27 45 4/16	2322	43 36	3350	28 41 15/17	2382
11	Mineral superphosphate, No. 1, 350 lbs.; nitrate of soda, 200 lbs.; wood ashes, unleached, 1,500 lbs. per acre, used each year from 1888 to 1899, inclusive. No fertilizers used from 1900 to 1905. In 1905 fertilizers again used as in 1899	27 17 12/16	2462	45 39	3180	28 20 13/17	2504
12	Unmanured from the beginning	14 22 1/16	1240	24 28	1880	15 2 11/17	1278
13	Bone, finely ground, 500 lbs. per acre, used each year from 1888 to 1899, inclusive. No fertilizer used from 1900 to 1905. In 1905 bone again used as at first	15 33 7/16	1430	35 20	1530	16 41 2/17	1436
14	Bone, finely ground, 500 lbs.; wood ashes, unleached, 1,500 lbs. per acre, used each year from 1888 to 1899 inclusive. No fertilizers used from 1900 to 1905. In 1905 fertilizers again used as at first	24 12 8/16	2123	45 40	2690	25 25 6/17	2151
15	Nitrate of soda, 200 lbs. per acre, used each year from 1888 to 1899, inclusive. No fertilizer used from 1900 to 1905. In 1905 fertilizer again used as at first	21 46 14/16	2224	28 6	2060	22 16 1/17	2211
16	Muriate of potash, 150 lbs. per acre, used each year from 1888 to 1899, inclusive. No fertilizer used from 1900 to 1905. In 1905 fertilizer again used as at first	22 43 11/16	1832	31 2	2030	23 18 11/17	1847
17	Sulphate of ammonia, 300 lbs. per acre, used each year from 1888 to 1899, inclusive. No fertilizer used from 1900 to 1905. In 1905 fertilizer again used as at first	19 17 13/16	1903	32 44	1930	20 8 1/17	1905
18	Sulphate of iron, 60 lbs. per acre, used each year from 1888 to 1899, inclusive. No fertilizer used from 1900 to 1905. In 1905 fertilizer again used as at first	18 47 14/16	1633	34 8	1590	19 42 13/17	1630
19	Common salt (Sodium chloride) 300 lbs. per acre used each year from 1888 to 1899, inclusive. No fertilizer used from 1900 to 1905. In 1905 fertilizer again used as at first	27 7 7/16	1868	43 46	1890	28 6 15/17	1869
20	Land plaster or gypsum (Calcium sulphate), 300 lbs. per acre, used each year from 1888 to 1899, inclusive. No fertilizer used from 1900 to 1905. In 1905 fertilizer again used as at first	20 30 10/16	1603	31 2	1780	21 12	1613
21	Mineral superphosphate, No. 2, 500 lbs. per acre, used each year from 1889 to 1899, inclusive. No fertilizer used from 1900 to 1905. In 1905 fertilizer again used as at first	21 19 9/16	1758	37 14	1970	22 16	1770

OAT PLOTS.

The quantity of seed sown per acre on the oat plots was 2 bushels in 1889 and 1890; 1½ bushels in 1891 to 1893, and 2 bushels from 1894 to 1905, inclusive. The varieties used were as follows: In 1889, Early English; in 1890 to 1893, Prize Cluster; and from 1894 to 1905, inclusive, the Banner. In 1905 Banner was sown May 4 and the plots were harvested August 10.

TABLE III.

EXPERIMENTS WITH FERTILIZERS ON PLOTS OF OATS.

No. of Plot.	Fertilizers applied each year from 1889 to 1898 or 1899. No fertilizers used from that time to 1905. Clover sown in 1899 and each year since with the grain and ploughed under in the autumn. In 1905 fertilizers again applied as in 1898. Clover discontinued.	Average Yield for Sixteen Years.		17th Season, 1905. Variety, Banner.		Average Yield for Seventeen Years.	
		Yield of Grain.	Yield of Straw.	Yield of Grain.	Yield of Straw.	Yield of Grain.	Yield of Straw.
		Per acre.	Per acre	Per acre.	Per acre	Per acre.	Per acre
		Bush. lbs.	Lbs.	Bush. lbs.	Lbs.	Bush. lbs.	Lbs.
1	Barn-yard manure, well rotted, 15 tons per acre each year to 1898, inclusive. No manure used from 1899 to 1905. In 1905 15 tons per acre were again used	51 24 7/16	3214	64 4	3470	52 15 4/17	3229
2	Barn-yard manure, fresh, 15 tons per acre each year to 1898, inclusive. No manure used from 1899 to 1905. In 1905 15 tons per acre were again used.	55 23 3/16	3352	62 22	3650	56 3 1/17	3379
3	Unmanured from the beginning	34 28 1/16	1774	43 18	1750	35 11 2/17	1773
4	Mineral phosphate, untreated, finely ground, 500 lbs. per acre, used each year from 1888 to 1897, inclusive. In 1898 and 1899 a similar weight of the Thomas' phosphate was used. No fertilizer used from 1900 to 1905. In 1905 fertilizer again used as in 1899	35 27 10/16	1892	52 22	2450	36 27 5/17	1925
5	Mineral phosphate, untreated, finely ground, 500 lbs. nitrate of soda, 200 lbs. per acre, used each year from 1888 to 1897, inclusive. In 1898 and 1899, 500 lbs. of the Thomas' phosphate was used in place of the mineral phosphate. No fertilizers used from 1900 to 1905. In 1905 fertilizers again used as in 1899	49 12 13/16	2643	49 14	3240	49 12 14/17	2673
6	Barn-yard manure, partly rotted and actively fermenting, 6 tons per acre; mineral phosphate, untreated, finely ground, 500 lbs. per acre, composted together, intimately mixed and allowed to heat for several days before using, applied each year from 1888 to 1897, inclusive. In 1898 500 lbs. of Thomas' phosphate was used in place of the mineral phosphate. No fertilizers used from 1899 to 1905. In 1905 fertilizers again used as in 1898	48 32 6/16	2745	60 20	3640	49 21 14/17	2798
7	Mineral phosphate, untreated, finely ground, 500 lbs.; nitrate of soda, 200 lbs.; wood ashes, unleached, 1,000 lbs. per acre, used each year from 1888 to 1897, inclusive. In 1898 and 1899, 500 lbs. of the Thomas' phosphate was used in place of the mineral phosphate. No fertilizers used from 1900 to 1905. In 1905 fertilizers again used as in 1899	49 13 14/16	3121	57 32	3300	49 30 11/17	3132
8	Mineral phosphate, untreated, finely ground, 500 lbs.; wood ashes, unleached, 1,500 lbs. per acre used each year from 1888 to 1897, inclusive. In 1898 and 1899, 500 lbs. of Thomas' phosphate was used in place of the mineral phosphate. No fertilizers used from 1900 to 1905. In 1905 fertilizers again used as in 1899	44 19 15/16	2523	52 22	3560	45 2 7/17	2584
9	Mineral superphosphate, No. 1, 500 lbs. per acre, used each year from 1888 to 1899, inclusive. No fertilizer used from 1900 to 1905. In 1905 fertilizer again used as in 1899	38 31 7/16	1999	50 —	2080	39 19 12/17	2004

EXPERIMENTS WITH FERTILIZERS ON PLOTS OF OATS—*Concluded.*

No. of Plot.	Fertilizers applied each year, from 1889 to 1898 or 1899. No fertilizers used from that time to 1905. Clover sown in 1899 and each year since with the grain and ploughed under in the autumn. In 1905 fertilizers again applied as in 1898. Clover discontinued.	Average Yield for Sixteen Years.		17th Season, 1905. Variety, Banner.		Average Yield for Seventeen Years.	
		Yield of Grain.	Yield of Straw.	Yield of Grain.	Yield of Straw.	Yield of Grain.	Yield of Straw.
		Per acre.	Per acre	Per acre.	Per acre	Per acre.	Per acre
		Bush. lbs.	Lbs.	Bush. lbs.	Lbs.	Bush. lbs.	Lbs.
10	Mineral superphosphate, No. 1, 350 lbs.; nitrate of soda, 200 lbs. per acre, used each year from 1888 to 1899, inclusive. No fertilizers used from 1900 to 1905. In 1905 fertilizers again used as in 1899.....	47 $14\frac{51}{60}$	2645	57 22	1650	48 $-1\frac{5}{17}$	2576
11	Mineral superphosphate, No. 1, 350 lbs.; nitrate of soda, 200 lbs.; wood ashes unleached, 1,500 lbs. per acre, used each year from 1888 to 1899, inclusive. No fertilizers used from 1900 to 1905. In 1905 fertilizers again used as in 1899.....	38 $31\frac{14}{15}$	2441	49 4	2190	39 $18\frac{4}{17}$	2426
12	Unmanured from the beginning.....	23 $30\frac{53}{60}$	1433	36 6	1580	24 $21\frac{6}{17}$	1442
13	Bone, finely ground, 500 lbs. per acre, used each year from 1888 to 1899 inclusive. No fertilizer used from 1900 to 1905. In 1905 bone again used as at first.....	35 $19\frac{11}{16}$	2005	48 28	2170	36 $12\frac{3}{17}$	2015
14	Bone, finely ground, 500 lbs.; wood ashes, unleached, 1,500 lbs. per acre, used each year from 1888 to 1899, inclusive. No fertilizers used from 1900 to 1905. In 1905 fertilizers used again as at first.....	41 $3\frac{14}{16}$	2300	53 18	2980	41 $28\frac{12}{17}$	2340
15	Nitrate of soda, 200 lbs. per acre, used each year from 1888 to 1899, inclusive. No fertilizer used from 1900 to 1905. In 1905 fertilizer used again as at first.....	46 $32\frac{14}{16}$	2729	55 ..	3010	47 $14\frac{16}{17}$	2746
16	Muriate of potash, 150 lbs. per acre, used each year from 1888 to 1899, inclusive. No fertilizer used from 1900 to 1905. In 1905 fertilizer again used as at first.....	40 $4\frac{11}{16}$	2717	56 26	2620	41 $3\frac{2}{17}$	2241
17	Sulphate of ammonia, 300 lbs. per acre, used each year from 1888 to 1899, inclusive. No fertilizer used from 1900 to 1905. In 1905 fertilizer again used as at first.....	45 $32\frac{1}{16}$	2766	59 4	2520	46 $24\frac{7}{17}$	2752
18	Sulphate of iron, 60 lbs. per acre, used each year from 1888 to 1899, inclusive. No fertilizer used from 1900 to 1905. In 1905 fertilizer again used as at first.....	39 $13\frac{1}{16}$	2025	48 18	2690	39 $31\frac{2}{17}$	2064
19	Common salt (Sodium chloride), 300 lbs. per acre, used each year from 1888 to 1899, inclusive. No fertilizer used from 1900 to 1905. In 1905 fertilizer used again as at first.....	39 $13\frac{1}{16}$	1976	49 24	2510	40 $-\frac{5}{17}$	2007
20	Land plaster or gypsum (Calcium sulphate), 300 lbs. per acre, used each year from 1888 to 1899, inclusive. No fertilizer used from 1900 to 1905. In 1905 fertilizer again used as at first.....	35 $23\frac{13}{16}$	2060	51 6	2170	36 $20\frac{3}{17}$	2066
21	Mineral superphosphate, No. 2, 500 lbs. per acre, used each year from 1889 to 1899, inclusive. No fertilizer used from 1900 to 1905. In 1905 fertilizer again used as at first.....	36 $17\frac{9}{16}$	1904	52 22	2040	37 $15\frac{1}{17}$	1912

The one-tenth acre plots of wheat, barley and oats had by the end of 1903 become infested with several troublesome perennial weeds, hence it was thought best to sow only one-half of each plot with grain in 1904, devoting the other half to a hoed crop to clean the land. On this account no clover was sown on any of the cereal plots in 1904, and one-half of the wheat plots was sown with mangels, one-half of the barley plots with potatoes, and one-half of the oat plots with carrots, computing the yields of grain from a one-twentieth acre plot in each case.

INDIAN CORN PLOTS.

The experiments with the plots of Indian corn have been conducted with the object of obtaining the largest weight of well matured green fodder for the silo, and to have the corn so far advanced when cut, that the ears shall be as far as is practicable in the late milk or glazed condition. Each plot has been divided from the outset into two equal parts, on one of which—known as No. 1—one of the stronger growing and somewhat later ripening sorts has been tried, and on the other, marked No. 2, one of the earlier maturing varieties. During the first four years one of the Dent varieties was tested under No. 1. On the other half of the plot (No. 2) one of the Flint varieties was grown. For the first four years the No. 1 series was planted in drills 3 feet apart, using about 24 pounds of seed to the acre and thinning the plants, when up, to 6 or 8 inches, and the No. 2 in hills 3 feet apart each way with 4 or 5 kernels in a hill. During the past eight years both sorts have been grown in hills.

In 1900 no crop of Indian corn was grown on these plots, but clover was sown in its place on May 5, in the proportion of 12 pounds per acre. This made a strong growth, was cut twice during the season and left on the ground to decay, so that when ploughed under, the land might get the full benefit of the clover crop. The clover was allowed to remain growing until May 20, 1901. It was then ploughed under about 6 inches deep, and harrowed well before the corn was planted. Clover was sown again in 1903, and ploughed under in May, 1904. The corn was planted in 1905, on May 16, and cut for ensilage September 14.

EXPERIMENTS WITH FERTILIZERS ON PLOTS OF INDIAN CORN, CUT GREEN FOR ENSILAGE.

No. of Plot.	Fertilizers applied each year from 1888 to 1898 or 1899. No fertilizers used from that time to 1905. Clover sown in 1900 in place of the corn and ploughed under in May, 1901, before the corn was planted. In 1903 clover was again sown and ploughed under in May, 1904. In 1905 fertilizers again applied as in 1898, clover discontinued.	Average Yield for Thirteen Years.		16th Season, 1905.		Average Yield for Fourteen Years.	
		½ Plot No. 1—weight of green fodder.	½ Plot No. 2—weight of green fodder.	½ Plot No. 1—Thoroughbred White Flint weight of green fodder.	½ Plot No. 2—Angel of Midnight, weight of green fodder.	½ Plot No. 1—weight of green fodder.	½ Plot No. 2—weight of green fodder.
		Per acre.	Per acre	Per acre.	Per acre	Per acre.	Per acre
		Tons. lbs.	Tons lbs	Tons. lbs.	Tons lbs	Tons. lbs.	Tons lbs
1	Barn-yard manure (mixed horse and cow manure (well rotted, 12 tons per acre, each year from 1888 to 1898 inclusive. No manure used from 1899 to 1905. In 1905 manure was again used as at first...	16 804	13 332	18 1160	15 1170	16 1076	13 634
2	Barn-yard manure (mixed horse and cow manure) fresh, 12 tons per acre each year from 1888 to 1898 inclusive. No manure used from 1899 to 1905. In 1905 manure was again used as at first.....	16 594	11 1161	18 30	15 760	16 809	11 1636
3	Unmanured from the beginning..... ..	7 399	5 826	6 140	7 836	7 258	5 1077

EXPERIMENTS WITH FERTILIZERS ON PLOTS OF INDIAN CORN.

No. of Plot.	Fertilizers applied each year, from 1888 to 1898 or 1899. No fertilizers used from that time to 1905. Clover sown in 1900 in place of the corn and ploughed under in May, 1901, before the corn was planted. In 1903 clover was again sown and ploughed under in May, 1904. In 1905 fertilizers again applied as in 1898. Clover discontinued.	Average Yield for Thirteen Years.				16th Season, 1905.				Average Yield for Fourteen Years.			
		½ Plot No. 1—weight of green fodder.		½ Plot No. 2—weight of green fodder.		½ Plot No. 1—Thoroughbred White Flint, weight of green fodder.		½ Plot No. 2—Angel of Midnight, weight of green fodder.		½ Plot No. 1—weight of green fodder.		½ Plot No. 2—weight of green fodder.	
		Per acre.		Per acre		Per acre.		Per acre		Per acre.		Per acre	
		Tons.	lbs.	Tons.	lbs	Tons.	lbs.	Tons.	lbs	Tons.	lbs.	Tons.	lbs
4	Mineral phosphate, untreated, finely ground, 800 lbs. per acre, used each year from 1888 to 1897 inclusive. In 1898 and 1899 a similar weight of the Thomas' phosphate was used. No fertilizer used from 1900 to 1905. In 1905 fertilizer again used as in 1899	8	468	5	924	10	1300	10	1210	8	770	5	1567
5	Mineral phosphate, untreated, finely ground, 800 lbs., nitrate of soda, 200 lbs. per acre, used each year from 1888 to 1897 inclusive. In 1898 and 1899, 800 lbs. of the Thomas' phosphate was used in place of the mineral phosphate. No fertilizers used from 1900 to 1905. In 1905 fertilizers again used as in 1899	11	1311	9	578	14	1870	12	1570	11	1721	9	1014
6	Barn-yard manure, partly rotted and actively fermenting, 6 tons per acre; mineral phosphate, untreated, finely ground, 500 lbs. per acre, composted together, intimately mixed and allowed to heat for several days before using, applied each year from 1888 to 1897 inclusive. In 1898 500 lbs. of Thomas' phosphate was used in place of the mineral phosphate. No fertilizers used from 1899 to 1905. In 1905 fertilizers again used as in 1898	16	473	12	288	15	250	13	420	16	334	12	421
7	Mineral phosphate, untreated, finely ground, 500 lbs.; nitrate of soda, 200 lbs.; wood ashes, unleached, 1,000 lbs. per acre, used each year from 1888 to 1897 inclusive. In 1898 and 1899, 500 lbs. of the Thomas' phosphate was used in place of the mineral phosphate. No fertilizers used from 1900 to 1905. In 1905 fertilizers again used as in 1899	15	449	11	660	14	840	12	1320	15	348	11	826
8	Mineral phosphate, untreated, finely ground, 500 lbs., wood ashes, unleached, 1,500 lbs., per acre, used each year from 1888 to 1897 inclusive. In 1898 and 1899 500 lbs. of the Thomas' phosphate was used in place of the mineral phosphate. No fertilizers used from 1900 to 1905. In 1905 fertilizers again used as in 1899	12	564	9	1292	14	1810	13	240	12	892	9	1726
9	Mineral superphosphate, No. 1, 500 lbs. per acre, used each year from 1888 to 1899 inclusive. No fertilizer used from 1900 to 1905. In 1905 fertilizer again used as in 1899	11	757	8	1651	13	1410	10	1250	11	1048	8	1876
10	Mineral superphosphate, No. 1, 350 lbs.; nitrate of soda, 200 lbs. per acre, used each year from 1888 to 1899 inclusive. No fertilizers used from 1900 to 1905. In 1905 fertilizers again used as in 1899	13	1060	10	1234	13	1950	10	1660	13	1116	10	1261
11	Mineral superphosphate, No. 1, 350 lbs.; nitrate of soda, 200 lbs.; wood ashes, unleached, 1,500 lbs. per acre, used each year from 1888 to 1899 inclusive. No fertilizers used from 1900 to 1905. In 1905 fertilizers again used as in 1899	16	532	12	1007	16	740	13	970	16	545	12	1130

EXPERIMENTS WITH FERTILIZERS ON PLOTS OF INDIAN CORN—*Concluded.*

No. of Plot.	Fertilizers applied each year from 1888 to 1898 or 1899. No fertilizers used from that time to 1905. Clover sown in 1900 in place of the corn and ploughed under in May, 1901, before the corn was planted. In 1903 clover was again sown and ploughed under in May, 1904. In 1905 fertilizers again applied as in 1898. Clover discontinued.	Average Yield for Thirteen Years.				16th Season, 1905.				Average Yield for Fourteen Years.			
		Plot No. 1—½ plot, weight of green fodder.		Plot No. 2—½ plot, weight of green fodder.		Plot No. 1—½ plot, Thoroughbred White Flint, weight of green fodder.		Plot No. 2—½ plot, Angel of Midnight, weight of green fodder.		Plot No. 1—½ plot, weight of green fodder.		Plot No. 2—½ plot, weight of green fodder.	
		Per acre.		Per acre		Per acre.		Per acre		Per acre.		Per acre	
		Tons.	lbs.	Tons	lbs	Tons.	lbs.	Tons	lbs	Tons.	lbs.	Tons	lbs
12	Unmanured from the beginning	11	116	9	342	10	1640	10	320	11	86	9	466
13	Bone, finely ground, 500 lbs. per acre, used each year from 1888 to 1899 inclusive. No fertilizer used from 1900 to 1905. In 1905 bone again used as at first	12	538	9	1206	13	1490	12	860	12	722	9	1559
14	Bone, finely ground, 500 lbs.; wood ashes, unleached, 1,500 lbs. per acre, used each year from 1888 to 1899 inclusive. No fertilizers used from 1900 to 1905. In 1905 fertilizers again used as at first	12	1921	10	210	15	600	13	1200	13	213	10	647
15	Nitrate of soda, 200 lbs. per acre, used each year from 1888 to 1899 inclusive. No fertilizer used from 1900 to 1905. In 1905 fertilizer again used as at first	12	1099	9	1481	12	710	10	1910	12	1075	9	1633
16	Sulphate of ammonia, 300 lbs. per acre, used each year from 1888 to 1899 inclusive. No fertilizer used from 1900 to 1905. In 1905 fertilizer again used as at first	13	212	10	254	12	1130	11	1260	13	144	10	442
17	Mineral superphosphate, No. 1, 600 lbs.; muriate of potash 200 lbs.; sulphate of ammonia, 150 lbs. per acre, used each year from 1889 to 1899 inclusive. No fertilizer used from 1900 to 1905. In 1905 fertilizer again used as at first	13	1149	10	306	14	780	12	1640	13	1251	10	639
18	Muriate of potash, 300 lbs. per acre, used each year from 1889 to 1899 inclusive. No fertilizer used from 1900 to 1905. In 1905 fertilizer again used as at first	10	255	7	960	14	710	13	770	10	783	7	1698
19	Double sulphate of potash and magnesia, 300 lbs. per acre in 1889 and '90; (muriate of potash 200 lbs., substituted, each year since); dried blood, 300 lbs.; mineral superphosphate, No. 1, 500 lbs. per acre, used each year from 1889 to 1899 inclusive. No fertilizers used from 1900 to 1905. In 1905 fertilizers again used as at first	12	765	9	297	15	1770	13	540	12	1203	9	812
20	Wood ashes, unleached, 1,900 lbs. per acre, used each year from 1889 to 1899 inclusive. No fertilizer used from 1900 to 1905. In 1905 fertilizer again used as at first	11	257	8	1119	15	940	13	1430	11	800	8	1763
21	Bone, finely ground, 500 lbs.; sulphate of ammonia, 200 lbs.; muriate of potash, 200 lbs. per acre, used each year from 1889 to 1899 inclusive. No fertilizers used from 1900 to 1905. In 1905 fertilizers again used as at first	12	1387	7	1797	14	610	12	1800	12	1588	8	422

PLOTS OF MANGELS AND TURNIPS.

In conducting these experiments, the roots only have been taken from the land, the tops have always been cut off and left on the ground to be ploughed under, so that the plant food they have taken from the soil may be returned to it. One half of each one-tenth acre plot in the series has been devoted to the growth of mangels, and the other half to turnips, and these crops have been alternated from year to year. The preparation of the land has been the same for both these roots. Until 1900 it was

ploughed in the autumn after the crop was gathered, gang-ploughed deeply in the spring after the barn-yard manure had been spread on plots 1, 2 and 6, and after gang-ploughing, the other fertilizers were spread by scattering them evenly over the surface, after which it was all harrowed with the smoothing harrow, then made in ridges 2 feet apart, rolled and sown.

The variety of mangel principally grown was the Mammoth Long Red, and four pounds of seed were sown per acre each year.

The variety of turnip chiefly sown was the Prize Purple Top Swede. The land used for the turnips, which are usually sown later than the mangels, was prepared in the same manner as for the mangels. It was then allowed to stand until the day before sowing, when it was gang-ploughed shallow or cultivated to kill weeds and loosen the soil, ridged, rolled and sown. About 3 pounds of seed were sown per acre.

In 1900 and 1903, no crops of mangels or turnips were grown, but clover was sown in their place in May in the proportion of 12 pounds per acre. This made a strong growth and was cut twice each year during the season, and left on the ground to decay, so that when ploughed under, the land might get the full benefit of the clover crop. The clover was allowed to remain growing until near the middle of May, the second year following, by which time it had made a very heavy growth. It was then ploughed under about 6 inches deep and harrowed well, then made into ridges 2 feet apart. These were rolled with a hand roller, which flattened the ridges considerably and made a firm, even seed bed. The crops of clover and roots were alternated in this way, for the purpose of supplying humus and also of gaining information as to the fertilizing effect of green clover ploughed under on land to be used for growing roots.

In 1905, the mangels were sown on May 6, and pulled on October 17; the turnips were sown May 10, and pulled October 8. The yield per acre has been calculated in each case frm the weight of roots gathered from the whole plot.

EXPERIMENTS WITH FERTILIZERS ON PLOTS OF MANGELS AND TURNIPS.

No. of Plot.	Fertilizers applied each year from 1889 to 1898 or 1899. No fertilizers used from that time to 1905. Clover sown in 1900 in place of the roots and ploughed under in May, 1901, before the roots were sown. In 1903 clover was again sown and ploughed under in May, 1904. In 1905 fertilizers again applied as in 1899, clover discontinued.	Average Yield for Thirteen Years.				16th Season, 1905. Varieties.				Average Yield for Fourteen Years.			
						East Half Plot.		West Half Plot.					
		Mangels, Weight of roots.		Turnips, Weight of roots.		Turnips Purple Top Swede. Weight of roots.		Mangels Mammoth Long Red, Weight of roots.		Mangels, Weight of roots.		Turnips, Weight of roots.	
		Per Acre.		Per Acre.		Per Acre.		Per Acre.		Per Acre.		Per Acre.	
		Tons.	lbs.	Tons.	lbs.	Tons.	lbs.	Tons.	lbs.	Tons.	lbs.	Tons.	lbs.
1	Barn-yard manure (mixed horse and cow manure) well rotted, 20 tons per acre each year from 1889 to 1898 inclusive. No manure used from 1899 to 1905. In 1905 manure was again used as at first.....	21	1879	16	475	8	300	25	1060	22	358	15	1397
2	Barn-yard manure (mixed horse and cow manure) fresh, 20 tons per acre each year from 1889 to 1898 inclusive. No manure used from 1899 to 1905. In 1905 manure was again used as at first..	20	1535	16	570	8	30	27	850	21	423	15	1467
3	Unmanured from the beginning....	9	58	7	1669	2	1610	8	420	8	1949	7	998
4	Mineral phosphate, untreated, finely ground, 1,000 lbs. per acre, used each year from 1889 to 1897, inclusive. In 1898 and 1899 a similar weight of the Thomas' phosphate was used. No fertilizer used from 1900 to 1905. In 1905 fertilizer again used as in 1899.....	8	1739	8	1307	3	1430	10	490	8	1922	8	649

EXPERIMENTS WITH FERTILIZERS ON PLOTS OF MANGELS AND TURNIPS—*Continued.*

No. of Plot.	Fertilizers applied each year from 1889 to 1898 or 1899. No fertilizers used from that time to 1905. Clover sown in 1900 in place of the roots and ploughed under in May, 1901, before the roots were sown. In 1903 clover was again sown and ploughed under in May, 1904. In 1905 fertilizers again applied as in 1899. Clover discontinued.	Average Yield for Thirteen Years.		16th Season, 1905, Varieties.		Average Yield for Fourteen Years.	
				East Half Plot.	West half Plot.		
		Mangels, Weight of Roots.	Turnips, Weight of Roots.	Turnips, Purple Top Swede Weight of Roots.	Mangels, Mammoth Long Red, Weight of Roots.	Mangels, Weight of Roots.	Turnips, Weight of Roots.
		Per Acre.	Per Acre.	Per Acre.	Per Acre.	Per Acre.	Per Acre.
		Tons. lbs.	Tons. lbs.	Tons. lbs.	Tons. lbs.	Tons. lbs.	Tons. lbs.
5	Mineral phosphate, untreated, finely ground, 1,000 lbs., nitrate of soda, 250 lbs., wood ashes, unleached, 1,000 lbs. per acre, used each year from 1889 to 1897 inclusive. In 1898 and 1899 500 lbs. of the Thomas' phosphate was used in place of the mineral phosphate. No fertilizers used from 1900 to 1905. In 1905 fertilizers again used as in 1899.	14 963	10 1099	5 1660	20 1880	14 1824	10 470
6	Barn-yard manure, partly rotted and actively fermenting, 6 tons per acre; mineral phosphate, untreated, finely ground, 1,000 lbs. per acre, composted together, intimately mixed and allowed to heat for several days before using, applied each year from 1889 to 1897 inclusive. In 1898 1,000 lbs. of Thomas' phosphate was used in place of the mineral phosphate. No fertilizers used from 1899 to 1905. In 1905 fertilizers again used as in 1898.....	17 1318	13 755	6 1820	22 560	17 1934	12 1893
7	Mineral phosphate, untreated, finely ground, 1,000 lbs. ; sulphate of potash, 200 lbs. in 1889 and 1890 (substituted by muriate of potash, 259 lbs. in 1891 and subsequent years); nitrate of soda, 200 lbs. per acre, used each year from 1889 to 1897 inclusive. In 1898 and 1899 1,000 lbs. of the Thomas' phosphate was used in place of the mineral phosphate. No fertilizers used from 1900 to 1905. In 1905 fertilizers again used as in 1899.....	11 1162	9 1695	6 140	19 1370	12 243	9 1191
8	Mineral superphosphate, No. 1, 500 lbs. ; sulphate of potash, 200 lbs. in 1889 and 1890 (substituted by muriate of potash, 250 lbs. in 1891 and subsequent years) ; nitrate of soda, 200 lbs. per acre, used each year from 1889 to 1899 inclusive. No fertilizers used from 1900 to 1905. In 1905 fertilizers again used as in 1899....	13 1690	11 1990	5 1770	17 1970	14 242	11 1175
9	Mineral superphosphate, No. 1, 500 lbs. per acre, used each year from 1889 to 1899 inclusive. No fertilizer used from 1900 to 1905. In 1905 fertilizer again used as in 1899	9 1444	9 1701	4 1050	16 480	10 313	9 991
10	Nitrate of soda, 300 lbs. per acre, used each year from 1889 to 1899, inclusive. No fertilizer use from 1900 to 1905. In 1905 fertilizer used again as in 1899.	14 294	9 1637	4 460	17 950	14 738	9 892
11	Sulphate of ammonia, 300 lbs. per acre, used each year from 1889 to 1899 inclusive. No fertilizer used from 1900 to 1905. In 1905 fertilizer used again as in 1899.....	12 529	11 158	5 160	13 1740	12 743	10 1358

EXPERIMENTS WITH FERTILIZERS ON PLOTS OF MANGELS AND TURNIPS—*Concluded.*

No. of Plot.	Fertilizers applied each year from 1889 to 1898 or 1899. No fertilizers used from that time to 1905. Clover sown in 1900 in place of the roots and ploughed under in May, 1901, before the roots were sown. In 1903 clover was again sown and ploughed under in May, 1904. In 1905 fertilizers again applied as in 1899. Clover discontinued.	Average Yield for Thirteen Years.		16th Season, 1905, Varieties.				Average Yield for Fourteen Years.			
				East Half Plot.		West Half Plot.					
		Mangels, Weight of Roots.	Turnips, Weight of Roots.	Turnips, Purple Top Swede Weight of Roots.		Mangels, Mammoth Long Red, Weight of Roots.		Mangels, Weight of Roots.		Turnips, Weight of Roots.	
		Per Acre.		Per Acre.		Per Acre.		Per Acre.		Per Acre.	
		Tons.	lbs.	Tons.	lbs.	Tons.	lbs.	Tons.	lbs.	Tons.	lbs.
12	Unmanured from the beginning	7	966	7	1407	2	430	7	250	7	918	7	675
13	Bone, finely ground, 500 lbs.; wood ashes, unleached, 1,000 lbs. per acre, used each year from 1889 to 1899 inclusive. No fertilizers used from 1900 to 1905. In 1905 fertilizers again used as at first.	12	356	9	628	4	1040	13	1580	12	571	8	1989
14	Wood ashes, unleached, 2,000 lbs. per acre, used each year from 1889 to 1899, inclusive. No fertilizer used from 1900 to 1905. In 1905 fertilizer again used as at first.	11	266	8	1523	5	840	12	600	11	422	8	1077
15	Common salt (Sodium chloride), 400 lbs. per acre, used each year from 1889 to 1899 inclusive. No fertilizer used from 1900 to 1905. In 1905 fertilizer again used as at first	9	1814	8	896	3	1590	13	450	10	256	8	276
16	Mineral superphosphate, No. 1, 500 lbs.; nitrate of soda, 200 lbs. per acre, used each year from 1889 to 1899 inclusive. No fertilizers used from 1900 to 1905. In 1905 fertilizers again used as at first.....	12	1801	11	837	4	540	14	530	12	1983	10	1884
17	Mineral superphosphate, No. 1, 350 lbs.; wood ashes, unleached, 1,500 lbs. per acre, used each year from 1889 to 1899 inclusive. No fertilizers used from 1900 to 1905. In 1905 fertilizers again used as at first....	13	735	11	301	3	1570	16	1150	13	1163	10	1319
18	Mineral superphosphate, No. 1, 500 lbs., muriate of potash, 200 lbs. per acre, used each year from 1889 to 1899 inclusive. No fertilizers used from 1900 to 1905. In 1905 fertilizers again used as at first.....	12	1762	11	1465	4	140	15	1580	13	150	11	443
19	Double sulphate of potash and magnesia, 300 lbs. per acre in 1889 and 1890 (muriate of potash, 200 lbs., substituted each year since); dried blood, 250 lbs.; mineral superphosphate, No. 1, 500 lbs. per acre, used each year from 1889 to 1899 inclusive. No fertilizers used from 1900 to 1905. In 1905 fertilizers again used as at first	14	458	12	1395	4	960	16	1590	14	800	12	299
20	Wood ashes, unleached, 1,500 lbs.; common salt (sodium chloride), 300 lbs. per acre, used each year from 1889 to 1899 inclusive. No fertilizers used from 1900 to 1905. In 1905 fertilizers again used as at first....	14	1922	11	881	3	810	17	300	15	214	10	1810
21	Mineral superphosphate, No. 2, 500 lbs. per acre, used each year from 1889 to 1899 inclusive. No fertilizer used from 1900 to 1905. In 1905 fertilizer again used as at first	14	1725	11	1544	3	110	16	1500	14	1977	11	382

BULLETINS ISSUED DURING 1905.

Five bulletins have been issued during the year: No. 48 on the 'results obtained in 1904 from trial plots of grain, fodder corn, field roots and potatoes.' This bulletin is the tenth of the series of crop bulletins issued from the Experimental Farm, and was prepared jointly by Dr. C. E. Saunders, Cerealist, and the Director. In this bulletin there are presented the results of a large number of experiments which were conducted at all the Experimental Farms during the season of 1904, with oats, barley, spring wheat, pease, Indian corn, turnips, mangels, carrots, sugar beets and potatoes, in plots of uniform size, and the crops grown under uniform conditions. Both the relative earliness and productiveness of the varieties are recorded. The average results are also given of these tests for the past five years, the varieties being arranged in order of their productiveness, for this period.

No. 49, 'the Potato and its Culture, with tests of Varieties found most useful.' This bulletin has been prepared by the Horticulturist of the Central Experimental Farm, Mr. W. T. Macoun. The potato crop is everywhere one of great importance to the community. In bulletin 49 there is presented in convenient form the results gained through a long course of experiments regarding the productiveness, quality and general usefulness of the best sorts of potatoes which have been under trial at the Experimental Farm during the past eighteen years. The number of named varieties tested during this period is over 800, besides several hundred seedlings. The relative merits of all these different sorts have been compared, especially as to their productiveness, quality and earliness in maturing. The best methods of preparing the land for this crop and of planting and cultivating are fully explained; particulars are also given as to the most successful remedies which have been adopted for the destruction of the injurious insects which attack this plant, and for the diseases which affect the vines and tubers. Select lists are also given of those varieties which have proved most useful and profitable.

No. 50 on 'The Milling and Chemical Value of the Grades of Wheat in the Manitoba Inspection Division, Crop of 1904.' This bulletin consists of two parts. Part I. on the Milling Value of the Grades of Wheat, has been prepared by Dr. C. E. Saunders, Cerealist, and Part II. on A Chemical Study of the Grain and Flour, by Mr. Frank T. Shutt, Chemist of the Dominion Experimental Farms.

The investigations reported on in this bulletin were undertaken in response to a request received from the Manitoba Grain Growers Association, asking that the experimental farm staff should determine as accurately as possible the value of each grade of wheat in the Manitoba Inspection Division, for milling purposes, also from the standpoint of chemical composition.

This subject is one of deep interest to the farmers of the Canadian North-west, and every effort has been made to make the investigation thorough and complete. The uniformity of the results obtained by these independent workers gives evidence of the care and accuracy with which the work has been conducted, and will doubtless inspire confidence in the reliability of the conclusions reached.

No. 51, on 'Bacon and Pigs in Canada, Notes on Breeding, Feeding and Managing Swine, with Reports of some Experiments.' This bulletin was prepared by Mr. J. H. Grisdale, Agriculturist of the Central Experimental Farm, and presents a summary of the experiments which have been conducted in reference to pork production since the beginning of this work at the experimental farm. Much information is also given regarding the selection of the best types of animals for carrying on this work, and of the different methods of management as to housing, pasturing, &c. Many facts are also presented in reference to the care and treatment of swine of different ages, and the most profitable methods of feeding them in the several stages of their growth. The swine industry has developed very rapidly in Canada during the past few years, and the facilities the country affords for the extension of this profitable branch of farming are practically unlimited. The useful information given in bulletin 51 will doubtless prove helpful to a large number of those engaged in this branch of farm work.

No. 52, on 'Insects Injurious to Grain and Fodder Crops, Root Crops and Vegetables,' prepared by Dr. James Fletcher, Entomologist and Botanist of the Dominion Experimental Farms.' The injuries annually caused by insects to farm crops, seriously reduce the profits arising from the labour of the farmer. Much of this loss is preventable, and the object of this bulletin is to supply that practical information which will enable the reader to deal with these several pests in the most effective manner and at the least cost. The concise accounts given of the life history and habits of the injurious species treated of, together with the illustrations, will provide the means whereby they may be readily distinguished. The remedies suggested for the destruction of these pests are, as a rule, of easy application and at the same time are very effective.

ANNUAL VISITS TO THE BRANCH EXPERIMENTAL FARMS.

The usual annual visits of inspection were made.

AGASSIZ was visited during the latter part of August. The weather was dry prior to and at the time of my visit and all the standing crops were in need of rain. The grain was all harvested and threshing was in progress. All the grain crops excepting wheat had been good, that had been injured by weevil. Hay had given very heavy returns, the field roots and corn were growing rapidly and promised to be well up to the average.

The apple crop was about medium, the yield of pears was light, plums variable, some of the more prolific varieties were fruiting well, while others gave only light returns. In the nut orchard the Japanese walnuts and chestnuts were yielding well, English walnuts and Spanish chestnuts both gave light crops, filberts gave more than an average yield.

INDIAN HEAD was twice visited, once on the way out to the coast about the middle of August, and the second time on September 11. The first visit was just before harvest began at the return visit in September. I found the grain practically all cut and no frost had occurred up to that time. The wheat in stook looked very heavy and the oats and barley equally good. Field peas were an excellent crop, and roots were growing rapidly and promised well. Potatoes also were giving excellent returns. This season carrots were sown earlier than usual and they were the best crop ever grown at this farm. Clover and Alfalfa were doing well, and Brome Grass and Western Rye Grass had both given excellent crops of hay; orchard grass and timothy had also done well. Corn was being cut on the day I arrived, September 11, and gave good returns. The next day, September 12, there was a light frost, the thermometer registering 31° F. at Indian Head. Most of the tender plants were cut, but no serious injury was done to any of the crops. Fruit, forest trees and ornamental trees and shrubs had all made excellent growth.

BRANDON also was visited twice. At the time of the first visit early in August most of the grain was ripening and several of the earliest sorts of barley had been cut. All varieties of grain promised well, oats were unusually heavy. On my return visit the grain had been harvested and the results had been most gratifying. Oats on the experimental plots had given yields varying with the different varieties from 137 bushels to 93 bushels per acre; the 39 different sorts under test averaged 111 bushels, 23 pounds per acre. Corn had given an excellent crop, and potatoes the largest crops ever grown on the farm. The weather had been very favourable for harvesting, and threshing was proceeding in every direction. Many of the cross-bred apples planted in the experimental orchards, both here and at Indian Head, were fruiting well and were attracting much attention from visiting farmers. Both of these farms were in excellent condition.

NAPPAN, Nova Scotia, was visited early in October. The crops of cereals which were all harvested had given yields well above the average; some of the oats gave from 80 to 90 bushels per acre, spring wheat from 20 to 35 bushels and barley from 35 to 49 bushels. Seeding was late in 1905, owing to a cold and wet spring, but favourable weather later on brought the grain crops on rapidly. Hay has given very good crops, much above the average. Field roots and Indian corn produced returns also above the average. The fruit orchards on this farm are doing well, most of the apples gave heavy crops; the other sorts of large fruits gave light returns; small fruits, however, did well.

ACKNOWLEDGMENTS.

I beg to tender grateful acknowledgments to those who have rendered me special service during the year. To the Department of Agriculture, St. Petersburg, Russia, for samples of early maturing varieties of barley brought from the northern grain growing sections of the Empire. To the United States Department of Agriculture for seed of Alfalfa from different countries for test at the experimental farms. To the Director of the Arnold Arboretum, Jamaica Plains, Mass., for seeds of shrubs and trees, also to the Director of the Royal Gardens, Kew, England, for many sorts of seeds of trees, shrubs and flowers.

I thank the officers of the Central and Branch Experimental Farms, for their earnest co-operation in carrying on the different divisions of the work. My acknowledgments are also due to those members of the staff who have assisted me in those branches of the work of which I have retained personal charge. To the farm foreman, Mr. John Fixter, who has carefully supervised the special tests of fertilizers and recorded the results. To Mr. George Fixter, to whom I am indebted for his watchful care over the distribution of samples of seed grain. To Mr. James Taggart for the care and industry he has displayed as foreman of the ornamental grounds, and to Mr. Wm. Ellis for his careful management of the plants and shrubs in the green houses, and the propagation and raising of plants for outside decoration; also for the useful service he has rendered in testing the vitality of seeds and in the taking of meteorological records.

I take pleasure also in bearing testimony to the faithful services of my secretary, Mr. Malcolm C. O'Hanly. The employees also of all the farms have my thanks for the interest they have taken in their work and the care with which they have discharged their respective duties.

WM. SAUNDERS,
Director of Dominion Experimental Farms.

REPORT OF THE AGRICULTURIST

(J. H. GRISDALE, B. AGR.)

DR. WM. SAUNDERS,
Director Dominion Experimental Farms,
Ottawa.

SIR,—I have the honour to submit herewith reports upon the horses, cattle, sheep, swine and farming operations under my supervision during the past year.

I have to report a fairly successful year in the different branches of my division and in this connection I wish to acknowledge my indebtedness for assistance and interested co-operation in their various positions of the farm foreman, Mr. John Fixter, of the herdsman, Mr. C. T. Brettell, and of the dairyman, Mr. J. Meilleur.

During the year I have attended a number of meetings in various parts of Canada, and have conducted a number of student-judging contests, in addition to my regular work of supervising and directing the experimental feeding and farming operations at the Central Experimental Farm.

From December 1, 1904, to November 30, 1905, 2,090 letters were received, and 3,206 despatched by the agricultural division.

I have the honour to be, sir,

Your obedient servant,

J. H. GRISDALE,

Agriculturist.

LIVE STOCK.

The live stock now (December 1, 1905) occupying the different stables and pens under my charge include horses, cattle, sheep and swine.

HORSES.

The horses are kept for labour exclusively, although some experimental feeding is usually under way to gain some information as to the most economical methods of feeding draught horses, as well as experiments to determine the comparative values of different foods as forage for the same.

The horses are usually 19 in number, made up of:—

Thirteen heavy draught horses of Clydesdale and Percheron blood.

Five heavy driving horses.

One light driver.

CATTLE.

There are representatives of four breeds of cattle, viz.:—

Shorthorn, Ayrshire, Guernsey and Canadian. There are besides, a number of grade cattle and steers. These cattle are kept for breeding and feeding operations, mostly of an experimental character. Pure bred feeding animals are usually on sale, however, and a considerable number are sold in the course of the year.

PURE BRED BREEDING CATTLE.

The pure bred cattle in the barn at present are as follows:—
19 Shorthorns, including 5 bulls and 14 females.
20 Ayrshire, including 3 bulls and 17 females.
12 Guernseys, including 3 bulls and 9 females.
12 Canadians, including 1 bull and 11 females.

GRADE CATTLE.

At present the grades number 18 head, made up of 3 Shorthorn grades, 5 Ayrshire grades, 6 Guernsey grades, and 4 Canadian grades.

Steers.

Forty-seven steers are under feed at present. They are of different ages and breeding, and the number is made up of:
29 two-year-olds. 8 yearlings. 10 calves.

SHEEP.

Sheep are not kept in large numbers, only 42 being now in the pens. Two breeds are kept, namely: Shropshires and Leicesters.

There are 27 Shropshires, as follows:—2 Shearling rams, 5 ram lambs, 11 aged ewes, 6 shearling ewes and 3 ewe lambs.

There are 15 Leicesters, as follows:—10 ewes, 1 ewe lamb, and 4 ram lambs.

SWINE.

Ninety swine of all classes are now in the pens being fed experimentally or being kept for breeding purposes. The breeds kept are Berkshires, Tamworths and Yorkshires.

The Yorkshires are 39 in number, including: 2 stock boars; 24 breeding sows; 13 feeders.

The Berkshires are 12 in number, including: 1 stock boar. 8 breeding sows. 3 feeders.

The Tamworths are 15 in number, including: 1 stock boar; 8 breeding sows; 4 feeders; 2 young boars.

Crossbreds, 24 feeders.

HORSES.

There are 19 horses in the stables. These horses are expected to do the work in the various departments during the year. The work on the '200-acre farm' is but a part of their duties. They work in addition for the horticultural and cereal departments, as well as upon the lawns and in the Arboretum. In addition a large amount of hauling in connection with the different departments, as well as road making and messenger service, takes up much of their time.

HORSE LABOUR.

During the year from July 1, 1904, to June 30, 1905, the work done by the 19 horses kept in the stables here was equivalent to 5,763·9 days' work, distributed as follows:—Live stock, hauling feed, marketing stock, &c., 159·1 days; farm work (200-acre farm) 723·1 days; draining and care of roads, including removing snow and breaking roads in winter, 286·2 days; manure on 200-acre farm, 252·8 days; cleaning land, gathering stones, &c., 10 days; Arboretum, 130·5 days; horticultural division, 664 days; lawns, &c., 175 days; cereal division, 696·6 days; bulletins and reports to and from farm office, 103·6 days; poultry, 31·8 days; mail, including milk delivery, 176·3 days; omnibus service, including 3 horses

for omnibus, 2 horses for general driving and 1 horse for supervision of work, 2,345 days; work about greenhouse, outbuildings, sidewalks, exhibitions, &c., 169·9 days.

In estimating the cost of farming operations further on in this report, $3 per day is charged for team and driver. To feed and care for the horses costs 32½ cents per horse per working day, and the driver receives $1.72½ per 10-hour day. It is evident, therefore, that the team and driver cost $2.37⅝ per day, leaving a margin of 62⅝ cents, or 31¼ cents, nearly, per horse per day for wear and tear.

FEEDING HEAVY HORSES.

The horses have been fed during the year along the lines indicated by recent experimental feeding as reported upon in 1904. The extensive use of bran in the place of oats has resulted in a very considerable saving in the cost of feeding during the year.

An experiment to gain more information as to the value of bran as a horse feed has been conducted this year and may be reported upon as follows:—

The horses, 10 in number, were divided into 5 groups of 2 each; the roughage ration in each case being mixed hay.

During the second period group 1 received a meal mixture of pure oats; group 2, 1 part bran to 1 part oats; group 3, 2 parts bran to 1 part oats; group 4, 2 parts oats, 1 part bran; group 5, oats 1 part, bran 3 parts. The oats were whole in every case.

The meal was fed in three nearly equal portions morning, noon and night, while only one-fifth of the hay was fed in the morning, as much at noon, and the balance or three-fifths at night.

To illustrate, one of the horses in group 1 received his rations as follows:—

Morning, hay 3 lbs.; meal mixture, 6 lbs.

Noon, hay 3 lbs.; meal mixture, 6 lbs.

Evening, hay 8 lbs.; meal mixture, 5 lbs.

FIRST PERIOD OF 21 DAYS.

BRAN FEEDING EXPERIMENT.

Group.	Average weight Sept. 15.	Meal Ration, kind.	Hay (all fed on timothy).	Amt. Meal Mixture fed in 21 days to 1 horse.	Amt. fed in 21 days. Timothy hay.	Daily Meal Ration.	Daily Hay Ration.	Average weight Oct. 6.	Loss — or Gain +	Value of Food consumed in one day.	Value of Food consumed in 21 days.	Cost of Food for 1 year if such a meal ration were fed.	Cost of food for 1 year if pure oats were fed.	Saving in 1 year by feeding such grain ration rather than pure oats.
				Lbs	Lbs	Lbs	Lbs	Lbs.	Lbs.	Cts.	$ cts.	$ cts.	$ cts.	$ cts.
1	1,542	Oats ....2 Bran 1	Timothy	441	420	21	20	1,530	12—	28	6 09	102 20	109 50	7 30
2	1,606	Bran ....3 Oats 1	"	441	357	21	17	1,556	50—	24	5 04	87 60	105 12	17 42
3	1,535	Oats ....3 Bran 1	"	441	420	21	20	1,556	21+	29·5	6 09½	97 67	109 50	11 83
4	1,602	Oats pure.	"	441	420	21	20	1,587	15—	30	6 30	109 50		
5	1,443	Bran ....1 Oats 1	"	441	336	21	16	1,448	5+	25·5	5 35	93 07	104 02	10 95

SECOND PERIOD OF 21 DAYS.

BRAN FEEDING EXPERIMENT.

Group.	Average weight, Oct. 6.	Meal Ration, kind.	Hay (all fed on timothy.)	Amt. Meal Mixture fed in 21 days to 1 horse.	Amt. fed in 21 days. Timothy hay.	Daily Meal Ration.	Daily Hay Ration.	Average weight on Oct. 27	Loss — or Gain +	Value of Food consumed in one day.	Value of Food consumed in 21 days.	Cost of Food for a year if such a meal ration were fed.	Cost of Food for 1 year if pure oats were fed.	Saving in 1 year by feeding such grain ration rather than pure oats.
				Lbs	Lbs	Lbs	Lbs	Lbs.	Lbs.	Cts.	$ cts.	$ cts.	$ cts.	$ cts.
1	1,530	Pure Oats.	Timothy	441	420	21	20	1,551	21 +	30	6 30	109 50	109 59	
2	1,556	Bran ....1 Oats 1	"	441	357	21	17	1,548	8—	25·9	5 44	94 53	104 82	10 29
3	1,556	Bran ....2 Oats 1	"	441	420	21	20	1,556	.....	25·8	5 42	94 17	109 50	15 33
4	1,587	Bran ....1 Oats 2	"	441	420	21	20	1,576	10—	27·9	5 86	101 83	109 50	7 67
5	1,448	Bran ....3 Oats ...1	"	441	336	21	16	1,471	23+	23·6	4 95	86 14	103 36	17 22

The horses on these different rations were employed at various kinds of farm work. During the first three week's period most of the time was spent hauling corn to the silo (very heavy work) but during the last three weeks' period the work was more general in character, such as ploughing, cultivating, hauling roots, &c.

Group 1.—This group consisted of young horses in fair flesh. They were fed during the first period on hay and a concentrate ration of oats 14 lbs., bran 7 lbs. They may be said to have held their own in the three weeks, since they changed only 12 lbs. in weight, a slight loss. During the second period they received the same hay ration and a concentrate ration of pure oats. They did somewhat better during this time, possibly due to lighter work.

Group 2.—Strong mature horses in their prime, were fed during the first period on hay and a concentrate ration of bran and oats, 3 parts bran and 1 part oats. During the 3 weeks they fell off 50 lbs. each, but when changed to a ration of equal parts bran and oats, and given lighter work, they continued to lose weight, though not so rapidly since they lost only 8 lbs. in the 3 weeks.

Group 3.—Strong young horses 5 and 6 years old in good shape. This group were fed during the first period on a concentrate ration of 3 parts oats and 1 part bran. They made a slight gain, about 1 lb. per day, while on this ration, and when changed to a ration of 2 parts bran and 1 part oats during the second period neither gained nor lost during the 21 days.

Group 4.—Large geldings aged 9 and 10 years. They were fed hay and pure oats during the first period, during which 21 days they lost 15 lbs. per head. The ration was changed to bran 1, oats 2, when they still lost, though not quite so heavily, dropping only 10 lbs. in the 21 days.

Group 5.—Somewhat lighter horses, but in their prime were fed during the first period on hay and a concentrate ration made up of equal parts bran and oats. On this

ration they made a gain of 5 lbs. each in the 21 days. They were changed to a ration 3 parts oats and 1 part bran during the second period, on which ration they gained 23 lbs. each in the 21 days.

Taking the different rations in turn and examining them we find that:—

On pure oats there was in 1 group a loss of 15 lbs. per period and a gain of 21 lbs. per period in the other group, a net gain of 6 lbs. in 6 weeks.

On oats 2, bran 1 there was during first period a loss of 12 lbs. per horse and a further loss of 10 lbs. per horse during the second period, a total loss of 22 lbs. per horse in 6 weeks.

On oats 1, bran 1 there was during first period a gain of 5 lbs. per horse and a loss of 8 lbs. during the second period, or a net loss of 3 lbs. per horse in the 6 weeks.

On oats 1, bran 3 there was during the first period a loss of 50 lbs. per horse, but a gain of 23 lbs. during the second period, showing a total loss of 27 lbs. per horse in the 6 weeks.

On oats 1, bran 2 there was no change in 3 weeks.

On oats 3, bran 1 there was a gain of 21 lbs. in 3 weeks.

In conclusion, our experiments during 1905 go to corroborate our findings in 1904, when we concluded that bran might very safely and very profitably constitute a very large percentage of the meal ration of working horses. Probably equal parts bran and oats might be taken as a fair proportion in which to mix the two feeds. Where the mixture is being fed to horses with sound teeth there does not seem to be any particular advantage in grinding the oats.

DAIRY CATTLE.

The herd of dairy cattle during the year 1904 consisted of 35 females all told. They were:—

Ayrshires	8
Guernseys	5
Canadians	5
Shorthorns	6
Shorthorn grades	2
Ayrshire grades	4
Guernsey grades	4
Canadian grades	1

FEEDING THE DAIRY CATTLE.

Winter Feeding.

The roughage ration for the winter months was made up of straw, roots, ensilage and clover hay. The straw was cut, the roots were pulped and a mixture in the proportions of 400 lbs. ensilage, 200 lbs. roots and 30 lbs. cut straw prepared every second day. This mixture being put in a solid pile fermented more or less in a few hours, and the whole mass became quite juicy and apparently very palatable to the cows by the time it was being fed. It was fed at the rate of about 40 lbs. per 1,000 lbs. live weight of cows fed.

The meal mixture this year was made up of bran 50 parts, ground oats 25 parts, oil meal 25 parts. This mixture was fed at the same time as the roughage. Each cow received meal in proportion to the amount of milk she was producing. The amount fed varied from 2 lbs. per day up to 13 lbs. per day. The meal portion was thrown on top of the roughage the cow had just received and the whole mass given a slight stir so as to mix the meal with the roughage, thus ensuring the two being eaten together. After succulent roughage and meal had been consumed clover hay was fed at the rate

of about 2 lbs. per cow. The cows were fed in this way at 5.30 in the morning and 4 o'clock in the afternoon.

SUMMER FEEDING.

The cows were pastured as usual during the greater part of the summer months. They occupied one field of the three year rotation marked 'E' on page 82, and referred to there, as being under pasture in 1905. This field was able to carry about forty head of cattle for over two months and over thirty head for the next two months. When the pasture began to get bare it was supplemented by soiling crops cut and fed in the stables. A somewhat heavier grain ration was fed this year than during any previous year save 1904, on account of the greater extent to which soiling was carried on. The meal ration in summer consisted of oats and bran about equal parts. It was fed in amounts varying with the milk yield of the cows being fed, save in the case of heifers with their first calves, which usually received more than their records seemed to call for as it was desired to encourage and to cultivate in them the habit of maintaining a heavy and uniform flow of milk during the whole lactation period.

COST OF FEEDING.

In estimating the cost of feeding, the following prices were charged for feed stuffs, being the average local market rates for the same during the season of 1905 save in the case of ensilage and roots, which are charged for at the rate usually affixed in experimental feeding in all parts of America.

Pasture (per month)	$ 1 00	per cow.
Bran	16 00	per ton.
Gluten meal and oil meal	25 00	"
Oats and barley	21 00	"
Clover hay	7 00	"
Chaff	4 00	"
Roots and ensilage	2 00	"

In estimating the value of the product, 20 cents per pound is allowed for the butter and 15 cents per hundred pounds for skim milk and butter milk. The butter is manufactured on the farm and sells on the market at from 22 to 30 cents per pound, an average of about 25 cents per pound during the last year. This leaves about 5 cents per pound for cost of manufacture.

The following tables give in detail the particulars concerning each cow, herd statements for each of the pure bred herds, and monthly statements for all the herds combined.

The monthly statements for the whole milking herd show the total yield of milk for each month, its butterfat content, the amount of butter produced, the number of pounds of milk required for a pound of butter, and the average yield of milk per cow per diem. The highest average per cent fat was recorded in November and the lowest in February.

DAIRY CATTLE REPORTS.

During the year 35 different cows were milked for shorter or longer periods, as indicated on the first page of my report on dairy cattle, whereas in the subjoined 'herd reports' only 3 animals are reported upon in each breed.

In almost any dairy herd of any size some cows will be found that for some reason have given milk during only a small part of any given year. Where a large number of cows are being considered, one or two such cases introduced in estimating the average does not materially affect the same, but where the herds to be compared

are small the consideration of one or two such cases in one herd and no such cases in another makes an unjust difference in favour of the latter herd. To overcome this difficulty as far as possible, the records of three of the best cows in each herd, and of cows that had been in milk for the greater part of the year, have been taken and the average estimated from these records, rather than from the records of all cows of that particular breed that happened to calve during the year.

Report 1 is a summary of the more important points in connection with the year's work with the dairy herd.

Report 2 contains the individual records of all cows that gave milk during the year.

Report 3. 4, 5, 6, 7, 8, and 9 give the herd records of the several pure bred and grade herds under test.

REPORT I.

General Summary.

—	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	Average.
No. of cows giving milk for month.	25	24	23	27	24	26	20	19	23	26	29	27	24·7
Lbs. of milk in month..	20,481	17,226	15,714	16,605	13,193	14,333	13,060	11,705	18,791	21,813	23,850	22,166	17·411
Average for 1 day.....	660·6	555·6	523·8	535·6	439·7	462·3	421·2	418·8	606·1	727·1	769 3	738·8	571·5
Daily average per cow.....	26·42	23·12	22·77	19·83	18·32	17·78	21 06	22·04	26·34	27·96	26·52	27·36	23·29
Per cent fat.....	4·11	4·34	4·08	4·39	4·49	4·04	3·99	3·64	4·02	4·01	3·82	3·96	4·07
Lbs. butter fat..	842·37	749·18	642·12	730·47	592·70	579·10	522·35	426·68	756·01	874.81	910·49	879·45	708·81
Lbs. butter.	991·02	881·38	755·43	859·29	697·29	681·29	610·45	501·97	889·42	1029·30	1071·05	1034·65	823·50
Lbs milk for 1 lb. b tter. ...	20·66	19 54	20·80	19·32	18·92	21·03	21·41	23·11	21·12	21·19	22·26	21·43	21·73

Name of Cows.	Age.	Date of dropping last calf.	Number of days in milk.	Daily average yield of milk.	Total milk for year.	Per cent of fat in milk.	Pounds butter produced in year.	Value of butter at 20 cts. per lb.	Value of skim milk at 15 cts. per 100 lbs.	Total value of product.	Amount meal eaten, valued at 1c. per lb.	Amount of roots and ensilage eaten, valued at $2 per ton.	Amount hay, valued at $7 per ton.	Months on pasture at $1 per month.	Total cost of feed for year.	Cost to produce 100 lbs. milk.	Cost to produce 1 lb. butter, skim-milk neglected.	Profit on 1 lb. butter, skim-milk neglected.	Profit on cow during year, labour neglected.
			Days.	Lbs.	Lbs.	p. c.	Lbs.	$ cts.	$ cts.	$ cts.	Lbs.	Lbs.	Lbs.	Mos	$ cts.	Cts.	Cts.	Cts.	$ cts.
Queeni (G.G.)	7	Apr. 5, '05	308	20·1	6,204	6·08	444·	88 80	8 64	97 44	1,767	12,570	1,089	4	38 05	61·3	8·5	11·5	59 39
Itchen Lady (G.)	8	" 29, '05	281	29·2	8,211	4·34	420·	84 00	11 68	95 68	1,920	13,480	1,089	4	40 49	49·3	9·6	10·4	55 19
Belle Flower (G.G.)	7	Mar. 11, '05	309	27·9	8,621	4·14	425·17	85 03	12 29	97 32	2,127	13,500	1,089	4	42 60	51·6	10·01	9·99	54 72
Fortune (C.)	9	Dec. 26, '04	283	28·9	8,179	4·23	407·25	81 45	11 65	93 10	2,017	13,430	1,089	4	41 41	50·6	10·1	9·9	51 69
Denty (A.)	6	Mar. 2, '05	301	28·2	8,509	4·05	405.67	81 12	12 17	93 29	2,242	13,790	1,089	4	44 02	51·07	10·8	9·2	49 27
Deanie (G.)	8	Nov. 30, '04	315	24·3	7,679	4·33	391·92	78 38	10 93	89 31	2,030	13,170	1,089	4	41 28	53·7	10·5	9·5	48 03
Maggie (A.)	9	Feb. 21, '05	286	32·	9,152	3·66	395·	79 00	13 13	92 13	2,257	13,780	1,089	4	44 16	48·2	11·1	8·9	47 97
Zamora (C.)	9	July 2, '05	297	24·2	7,217	4·76	401·78	80 95	10 21	91 16	2,319	12,800	1,008	4	43 51	60·2	10·7	9·3	47 65
Jessica (A.)	11	Feb. 23, '05	273	33·2	9,165	3·54	382·16	76 43	13 07	89 50	2,257	13,790	1,135	4	44 33	48·3	11·5	8·5	45 17
Alma (G.G.)	4	" 5, '05	305	22·8	6,960	4·73	380·	76 00	9 87	85 87	2,050	12,870	1,089	4	41 18	59·1	10·8	9·2	41 69
Flossy Lyons (G.)	5	" 14, '05	293	21·003	6,154	5·18	375·20	75 04	8 66	84 70	1,895	12,570	1,089	4	39 33	63·8	10·4	9·6	44 37
Polly (G.C.)	10	Mar. 8, '05	284	26·9	7,651	4·08	367·88	73 57	10 92	84 49	2,125	13,170	1,089	4	42 33	55·1	11·4	8·6	42 26
Beauty (G.G.)	4	Aug. 15, '04	293	22·9	6,715	3·62	290·02	58 00	9 63	67 63	1,634	9,340	1,089	4	33 49	49·8	11·5	8·5	34 14
Cherry (G.S.)	5	Sept. 14, '04	252	26·8	6,767	3·98	317·22	63 44	9 50	72 94	1,859	13,550	1,889	4	39 96	59·5	12·5	7·5	32 98
Bloomer (A.)	6	Mar. 18, '05	266	27·	7,199	3·77	319·63	63 92	10 32	74 24	1,997	13,790	1,089	4	41 57	57·7	13·0	7·	32 67
Countess (G.A.)	7	June 18, '05	261	26·5	6,929	3·92	319·74	63 94	9 91	73 85	2,040	13,790	1,089	4	42 00	60.6	13·1	6·9	31 85
Marchioness. (S.)	11	Mar. 4, '05	302	23·7	7,177	3·68	311·27	62 25	10 40	72 65	2,344	14,290	1,134	4	45 70	63·6	14·6	5·4	26 95
Alice (G.A.)	4	" 28, '05	307	21·9	6,727	3·35	265·58	53 11	9 69	62 80	1,859	13,170	1,089	4	36 57	54·3	13·2	6·8	26 23
Rosy (G.S.)	6	Jan. 9, '05	300	22·2	6,679	3·54	278·76	55 75	9 60	65 35	1,817	13,170	1,089	4	39 15	58·6	13·1	6·9	26 20
Exilée (C.)	10		103	37·01	3,815	4·82	183·17	36 63	5 44	42 07	829	3,980		4	16 27	45·	8·8	11·2	25 80
Margerie (A.)	3	Sept. 28, '04	253	21·9	5,562	3·98	261·04	52 20	7 95	60 15	1,822	9,650	1,089	4	35 68	64·1	13·6	6·4	24 47
Laura (G.A.)	9	Apr. 6, '05	215	29·2	6,373	3·27	245·21	49 04	9 19	58 23	1,432	13,170	1,089	4	35 30	55·3	14·3	5·7	22 93
Gurta (A.)	4	Oct. 31, '04	307	21·3	6,558	3·48	271·54	54 30	9 38	63 68	1,942	13,580	1,089	4	40 81	62·2	15·02	4·98	22 87
Flavia (A.)	3	Sept. 23, '04	253	22·5	5,713	3·69	248·78	49 75	8 79	58 54	1,813	10,690	1,089	4	36 69	64·2	14·7	5·3	21 85
Legacy (A.)	3	Oct. 7, '04	242	23·3	5,641	3·61	239·83	47 96	8 10	56 06	1,724	10,690	1,089	4	35 74	63 3	14·9	5·1	20 32
Cora (A.G.)	3	Jan. 30, '05	125	25·9	3,239	4·01	152·82	31 56	4 63	36 19	814	4,290	397	4	17 82	55·01	11·6	8·4	18 37
Darlington (S.)	3	Oct. 21, '04	222	21·9	4,862	3·71	212·47	42 49	6 97	49 46	1,696	9,640	1,089	4	34 41	70·7	16·1	3·9	15 05
Ruby (G.)	8	Sept. 28, '04	296	14·8	4,394	4·54	236·23	47 24	6·23	53 47	2,035	13,180	1,089	4	41 34	94·08	17·5	2·5	12 13
Jessica (S.)	4	Feb. 9, '05	252	16·2	4,112	4·05	196·09	39 21	5 54	44 75	1,615	13,170	1,089	4	37 13	90·7	18·9	1·1	7 62
Janet (S.)	4	Nov. 23, '04	258	16·7	4,335	3·88	198·23	39 65	6 20	45 85	1,917	13,480	1,089	4	40 46	93·3	20·9	·9	5 39
Poupée (C.)	2	Jan. 16, '05	142	17·7	2,522	3·97	115·88	22 16	3 61	25 77	918	5,375	586	4	20 59	81·6	17·8	2·2	5 18
Duchesse (C.)	4	July 21, '04	235	18·4	4,332	3·65	186·47	37 29	6 21	43 50	1,801	13,480	1,089	4	39 30	90·7	21·68	*1·08	4 20
Clatford Spot. (G.)	11	June 10, '05	254	15·1	3,846	4·15	176·	35 20	5 45	40 65	1,887	13,180	1,089	4	39 86	103·7	22·6	*2·6	0 79
Duchess (S.)	4	Nov. 27, '04	192	17·4	3,346	3·91	142·51	29 50	4 80	34 30	1,819	13,790	1,089	4	39 79	118·	27·8	*7·8	*5 49
Illuminata (S.)	5	Apr. 18, '05	31	3·5	109	3·76	4·10	0 97	0 16	1 13	1,253	13,480	1,089	4	33 82	.....	.....	.....	*32 69

* Loss.

Shorthorns—																		
Marchioness	11	Mar. 4, '05	30·2	23·7	7,177	3·68	311·27	62 25	10 40	72 65	2,344	14,290	1,134	4	45 70	63·6	14·6	5·4	26 95
Darlington	3	Oct. 21, '04	222	21·9	4,862	3·71	212·47	42 29	6 97	49 46	1,696	9,640	1,089	4	34 41	70·7	16·1	3·9	15 05
Jessica	4	Feb. 9, '05	252	16·2	4,112	4·05	196·09	39 21	5 54	44 75	1,615	13,170	1,089	4	37 13	90·7	18·9	1·1	7 62
Average			259	20·8	5,834	3·81	239·94	47 92	7 64	55 62	1,885	12,367	1,104	4	39 08	75·	16·5	3·5	16 54
Ayrshires—																			
Denty	6	Mar. 2, '05	301	28·2	8,569	4·05	405·67	81 12	12 17	93 29	2,242	13,790	1,089	4	44 02	51 7	10·8	9·2	49 27
Maggie	9	Feb. 21, '05	286	32·	9,152	3·66	395·	79 00	13 13	92 13	2,257	13,780	1,089	4	44 16	48·2	11·1	8·9	47 97
Jessie A	11	Feb. 23, '05	273	33·2	9,165	3·54	382·16	76 43	13 07	89 50	2,257	13,790	1,135	4	44 33	48·3	11·5	8·5	45 17
Average			287	28·7	8,942	3·75	394·28	78 85	12 79	91 64	2,252	13,787	1,104	4	44 17	49·2	11·1	8·9	47 47
Guernseys—																			
Itchen Lady	8	Apr. 29, '05	281	29·2	8,211	4·34	420·	84 00	11 68	95 68	1,920	13,480	1,089	4	40 49	49·3	9·6	10·4	55 19
Deanie	8	Nov. 30, '04	315	24·3	7,679	4·33	391·92	78 38	10 93	89 31	2,030	13,170	1,089	4	41 28	53·7	10·5	9·5	48 03
Flossie Lyons	5	Feb. 14, '05	293	21·	6,154	5·18	375·20	75 04	8 66	84 70	1,895	12,570	1,089	4	39 33	63·8	10·4	9·6	44 37
Average			296	24·8	7,348	4·62	395·70	79 14	10 42	89 89	1,948	13,073	1,089	4	40 33	55·6	10·2	9·8	49 20
Canadians—																			
Fortune	9	Dec. 26, '04	283	28·9	8,179	4·23	407·25	81 45	11 65	93 10	2,017	13,430	1,089	4	41 41	50·6	10·1	9·9	51 69
Zamora	9	July 2, '05	297	24·2	7,217	4·76	404·78	80 95	10 21	91 16	2,219	12,800	1,008	4	43 51	60·2	10·7	9·3	47 65
Exilée	10	....	103	37·01	3,815	4·82	183·17	36 63	5 44	42 07	829	3,980	....	4	16 27	45·	8·8	11·2	25 80
Average			228	30·	6,404	4·60	331·73	66 34	9 10	75 44	1,722	10,070	.....	4	33 73	51·9	9·9	10·1	41 71
Ayrshire Grades—																			
Countess	7	June 18, '05	261	26·5	6,929	3·92	319·74	63 94	9 91	73 85	2,040	13,790	1,089	4	42 00	60·6	13·1	6·9	31 85
Alice	4	Mar. 28, '05	307	21·9	6,727	3·35	265·58	53 11	9 69	62 80	1,559	13,170	1,089	4	36 57	54·3	13·2	6·8	26 23
Laura	9	Apr. 6, '05	215	29·2	6,373	3·27	245·21	49 04	9 19	58 23	1,432	13,170	1,089	4	35 30	55·3	14·3	5·7	22 93
Average			261	25·8	6,676	3·51	276·84	55 36	9 59	64 96	1,677	13,376	1,089	4	37 96	56·7	13·5	6·5	27 00
Shorthorn Grades—																			
Cherry	5	Sept. 14, '04	252	26·8	6,767	3·98	317·22	63 44	9 50	72 94	1,859	13,550	1,089	4	59 96	59·5	12·5	7·5	32 98
Rosy	6	Jan. 9, '05	300	22·2	6,679	3·54	278·76	55 75	9 60	65 35	1,817	13,170	1,089	4	39 15	58·6	13·1	6·9	29 59
Average			276	24·5	6,723	3·76	288·	59 60	9 55	69 15	1,838	13,360	1,089	4	39 55	59·	12·8	7·2	29 59
Guernsey Grades—																			
Queenie	7	Apr. 5, '05	308	20·1	6,204	6·08	444·	88 80	8 64	97 44	1,767	12,570	1,089	4	38 05	61 3	8·5	11·5	59 39
Belle Flower	7	Mar. 11, '05	309	27·9	8,621	4·14	425·17	85 03	12 29	97 32	2,127	13,500	1,098	4	42 60	51·6	10·1	9·99	54 72
Alma	4	Feb. 5, '05	365	22·8	6,960	4·73	380·00	76 00	9 87	85 47	2,050	12,870	1,089	4	41 18	59·1	10·8	9·2	44 69
Average			307	23·6	7,262	4·98	416·39	83 28	10 27	93 41	1,981	12,980	1,092	4	40 61	57·3	9·8	10·2	52 93

* Loss.

FEEDING DAIRY CATTLE.

For the Canadian dairy farmer the chief aim in his feeding operations for milk production must ever be to produce the milk at as low a cost as possible. A not uncommon error, however, if one may judge by the average returns from Canadian dairy herds, is to attempt to lower cost by so decreasing the amount of food fed or by supplying food of such poor quality as to make heavy milk yields impossible. Profitable milk yields and very light rations do not go together. An abundance of food low in nutritive value is equally certain to prove unsatisfactory. To illustrate, a cow with the capacity to consume 25 lbs. of dry matter per day will not be profitable if fed only 20 lbs. per day. Neither will she be likely to prove more profitable even though she receive the 25 lbs. of dry matter per day if that dry matter be made up chiefly of such coarse forage as straw and chaff. It must be borne in mind, however, that it is quite possible to feed too heavy a ration and also that one may easily feed a ration too rich in nutritive elements as for instance by feeding too large a proportion of meal in the ration.

Our experiments and experience go to show that certain qualities should characterize rations for dairy cows if they are to prove satisfactory. In the first place the food should be so abundant as to quite satisfy the cow without encouraging her to leave anything over. In the second place it should be so palatable as to induce her to eat all she can get. Lastly it should be so high in food value as to insure a sufficient amount of material for milk production being left after life has been maintained. The best and most available aids to palatability at the command of the farmer are succulent feeds, such as roots and ensilage; while clover hay and bran are usually the most economical sources of such nutritive elements as are most essential for milk production.

Of succulent feeds there is usually a sufficiency in summer, but even the summer supply frequently falls short in such districts as are heavily stocked. Of the two seasons it is quite certain that an abundance of green feed in summer is even more important than in winter, hence the necessity of every dairy farmer making provision by means of soiling crops of (1) pease and oats, (2) oats and vetches, (3) pease, oats and vetches, (4) clover, (5) alfalfa, (6) green corn or (7) white turnips, or possibly better still by means of (8) the summer silo filled with corn or clover ensilage.

In winter, in addition to corn, clover or other ensilage, sugar beets, mangels and turnips may be provided and are certain to prove profitable additions to the dry ration usually fed.

The value of a small amount of such succulent food in winter can scarcely be overestimated. Where it is desired to feed stock very cheaply, yet in such a way as to insure good returns during the winter and good preparation for the next summer's work, ensilage or roots are certainly the most economical foods that can be used.

The amount of such foods to use will depend chiefly upon the supply, since the ration might quite easily include as much as 50 lbs. roots or 40 lbs. ensilage per average sized adult animal. Hence if all of such food as could be fed were to be fed, a supply of from 5 to 8 tons should be provided for each full grown cow. This would of course provide for summer as well as for winter feeding.

In feeding succulent foods probably the best preparation is to mix chaff, cut straw or cut hay in the proportion of 5 lbs. of one of them or a mixture of all three to 100 ensilage, or pulped roots or a mixture of the two. Probably the best roughage ration possible of preparation would be cut clover 5 lbs., pulped sugar beets 40 lbs., ensilage 60 lbs., mixed every second day in quantities sufficient for 48 hours feed and mixed, if possible, 6 hours before the first feed is to be fed therefrom. Mangels are exceedingly valuable as feed for cows but not equal to sugar beets. Sugar beets it must be remembered, however, cost more per ton to produce. Turnips are not to be recommended for cows whose milk is to be manufactured into butter or cheese nor for herds from which cream is to be sold. Corn ensilage is probably about the best that could be provided. A mixture of good corn and second growth clover is, however, even more to be desired than pure corn ensilage. Clover ensilage if well made is of very high feeding value but is generally more difficult to procure of good quality than the corn ensilage where

corn will grow to a fair state of maturity. Pease and oats cut in the milk stage of the oats will make fair ensilage as will almost any other cereal and legume mixture cut at the same stage, but such mixtures seem to be rather unsatisfactory and are not commonly used.

For concentrates or meal feeds the common farm grains, oats, barley and pease do very well, particularly for summer feeding. In winter the addition of bran, shorts, oil meal, gluten, or cottonseed meal has been found to give excellent returns.

The amount to feed should depend upon the possibilities of the cow as a milk producer and upon the stage she has reached in the lactation period. Very heavy meal rations are not as a rule as profitable as those of medium character.

The meal had better be fed along with the roughage.

KEEPING RECORDS.

The effort to interest dairymen in the returns from their individual cows has been continued, and many farmers seem to be awakening to a knowledge of the fact that the improvement of the whole herd demands the study of the unit; that is, a close acquaintance with the expenditure upon the individual cow and the returns from the same.

This can be determined in no other way than by keeping an exact record of the daily milk yield. A record of the daily food consumption would also be of great use if it could be kept.

Many farmers who have been keeping such records for some time report very strongly in favour of this line of work.

As soon as the farmer sets to work to know what his cows are doing by keeping a record he finds himself much more closely in touch with his business. He sees at once the effect of better care and better feeding. He notes the great difference in returns between the best and the worst cows in his herd and cannot help but determine to get rid of the poor ones and replace them with good ones. Even the poor cows are improved because better feeding is almost certain to be tried and quite certainly poor feeding is responsible for many of our unprofitable dairy cows and even for many unprofitable dairy herds.

To facilitate the keeping of such records and to help in the building up of dairying interests in Canada forms similar to the following are supplied on application:—

DAIRY MILK RECORD.

Herd belonging to.....
Post Office .....
Record for week ending.....

(This form supplied free by Live Stock Division, Central Experimental Farm, Ottawa, Ont.)

COWS.

Day.	Time.																		Total for Day.
Sunday	Morning																		
	Evening																		
Monday	Morning																		
	Evening																		
Tuesday	Morning																		
	Evening																		
Wednesday	Morning																		
	Evening																		
Thursday	Morning																		
	Evening																		
Friday	Morning																		
	Evening																		
Saturday	Morning																		
	Evening																		
Total	Week																		

(Reverse)

CENTRAL EXPERIMENTAL FARM.

Wm. Saunders, Director. J. H. Grisdale, Live Stock and Agriculture.

MILK RECORDS.

1. The profitable dairy cow must give over 5,000 pounds of milk each year. To know the value of a cow, her total annual yield of milk must be known. The only way to know this is to keep a record of her daily milk yield.

2. The form on the other side of this sheet is intended to help progressive dairy farmers by supplying them with a simple and convenient sheet for the keeping of the milk records of their individual cows. A study of such records will soon indicate which cows should go to the butcher. We would be pleased to receive a summary of your record. If you have no summary forms write us.

3. Such records are being kept by hundreds of successful dairymen to-day. Many of these men attribute their success to the keeping of such records. Why not give the thing a trial if you are a dairyman? It will increase your milk product. It will lighten your labour since your interest will be increased in your work, and 'interest lightens labour.' It will show you the unprofitable cow the 'boarder.' You cannot get rid of her too quickly.

4. For weighing the milk a simple spring balance may be secured for from one to three dollars. If your local dealer cannot supply you, write the undersigned for particulars. A small platform scale is fairly convenient, but we find the spring balance preferable.

5. Many farmers keep records of the amount of food fed to individual cows. If you would like to do so, sample forms would be sent free on writing J. H. Grisdale, Agriculturist, Central Experimental Farm, Ottawa, Ont.

VALUES OF FOODS FOR MILK PRODUCTION.

During the year a number of different bye-products recommended by the manufacturers who put them on the market as particularly valuable for milk production, have been given a trial.

Those tried this year upon which we think it advisable to report are: 'Spirit Grains,' a bye-product from distilleries; 'Meal Seeds,' small grain and more or less refuse and weed seeds ground together a bye-product from cereal foods factories; and 'Pea Dust,' another bye-product from cereal foods factories, being the small peas broken parts, &c., of peas not suitable for sale as prepared peas of some description.

MEAL SEEDS.

Four Shorthorn cows were taken and a record of their work for 11 days previously is shown. They were fed the same roughage as usual for 17 days longer but in the place of the usual meal ration of bran 600 lbs., oats 300 lbs., and oil meal 300 lbs. at the rate of about 8 lbs. per day, they were given an equal amount of 'Meal Seeds.'

The cattle did not like the meal seeds quite so well as the regular meal ration. The data given below show the estimation in which this bye-product may be held as a feed for cows in milk. The reader will remember that under even the best conditions cows in milk are likely to fall off about 5 per cent in the time occupied by the experiment.

Number of cows under test	4	
Average meal ration (bran, oats, oil meal before test)	8	lbs.
Average hay ration before test	5	"
Average ensilage and roots ration before test	70	"
Average yield of milk per day during 11 days while on regular meal ration	88 6/11	"
Milk produced by group first day of 11-day period	90	"
Milk produced by group average of last 7 days before feeding 'Meal Seeds'	88	"
Average yield of milk per day for 17 days while being fed 'meal seeds'	80 1/3	"
Average yield of milk per day during first week on 'meal seeds'	83 3/7	"
Average yield of milk per day during last three days on 'meal seeds'	78 1/2	"
Rate of decrease	10%	
Normal rate of decrease for period	5%	

The above data show a tendency on the part of cows to decrease considerably more rapidly than they should be doing, due no doubt to their being on a meal ration of 'meal seeds.' We may fairly safely conclude, therefore, that as a sole meal feed for cows in milk they are not to be very highly recommended. They might, of course, be fed to some profit if mixed with other concentrates so that they made up only a part of the meal ration.

SPIRIT GRAINS.

Four cows of different breeding were taken and a record of their work for 11 days previously is shown. They were then fed the same roughage as usual for 17 days, but in the place of the usual meal ration of bran 600 lbs., oats 300 lbs., and oil meal 300 lbs. at the rate of about 8 lbs. per day, they were given an equal amount of 'spirit grains.' The cattle liked the 'spirit grains' quite well, and the results speak for themselves, it being remembered, of course, that milking cows were likely to fall off about 5 per cent in time covered by the experiment.

Number of cows under test	4	
Average meal ration (bran, oats, oil meal before test)	8	lbs.
Average hay ration before test	5	"
Average ensilage and roots before test	60	"
Average yield of milk per day for 11 days before feeding of 'spirit grains' began	80 1/3	"
Milk yielded by group first day of 11-day period	81 1/4	"
Milk yielded by group average of last 7 days before feeding 'spirit grains'	79 5/7	"
Average yield of milk per day for 17 days while being fed 'spirit grains'	79 3/4	"
Average yield of milk per day during first week on 'spirit grains'	75 1/7	"
Average yield of milk for last 3 days on 'spirit grains'	83	"
Rate of decrease	1/2%	
Normal rate of decrease for period	5%	

The above data appear to show a tendency on the part of the cattle to increase in milk flow while being fed 'spirit grains' once the effects of the change of feed was passed. Such a tendency on the part of cows being fed a certain ration is exactly what indicates a good sort of food being fed. Since the only change made in the

ration was in the substitution of 'spirit grains' for meal, 'spirit grains was evidently a good food.

PEA DUST.

Four cows of different breeding were used in the trial. To make a comparison of 'pea dust' with the regular ration made up of bran 6 parts, oats 3 parts and oil meal 3 parts possible a record is given of the feed and milk for 11 days immediately previous to the 17 days during which the regular meal ration was replaced by 'pea dust.'

The 'pea dust' was not very well liked by the animals and some little difficulty was experienced in getting them to eat as great a weight of it as they had been eating of the regular meal mixture. The data given below show the estimation in which this bye-product may be held as a feed for cows in milk. It will, of course, be remembered that under favourable conditions cows might be expected to fall off about 5 per cent in the time covered by the experiment.

Number of cows under test	4	
Average meal ration (bran, oats, oil meal before test)	8	lbs.
Average hay ration before test	5	"
Average ensilage and roots ration before test	60	"
Average yield of milk per day during 11 days while on regular meal ration	88 4/11	"
Milk produced by group first day of 11-day period	89 1/2	"
Milk produced by group average of last 7 days before being fed 'pea dust'	87 5/7	"
Average yield of milk per day for 17 days while being fed 'pea dust'	84 1/3	"
Average yield of milk per day for first week while being fed 'pea dust'	85 1/7	"
Average yield of milk per day for last 3 days while being fed 'pea dust'	85 1/3	"
Rate of decrease	4 1/2%	
Normal rate of decrease for period	5%	

The above data show that 'pea dust,' in spite of being somewhat unpalatable to cows is a most excellent ration for milk production. The cows, though not eating quite as much of the 'pea dust' as of the regular meal, did quite as well when fed on 'pea dust' as when on the regular meal mixture.

FEEDING REFUSE APPLES TO DAIRY COWS.

Another test has been made of the value of apples as a food for milk production. Apples were fed at the rate of 22 lbs. per day during 4 weeks, with the result that there was a slight increase in the rate of milk production as compared with a considerable decrease when apples were not fed. The following table gives all data of the experiment:—

—		Method of Feeding.						Summaries.	
		1st period of 1 week.		2nd period of 2 weeks.		3rd period of 2 weeks.			
		Group A.	Group B.	Group A.	Group B.	Group A.	Group B.	Summary.	Summary.
		Preliminary.	Preliminary.	Fed Apples.	No Apples.	Fed Apples.	No Apples.	Fed Apples.	No Apples.
		Number in group, 3.	Number in group, 3.	Number in group, 3.	Number in group, 3.	Number in group, 3.	Number in group, 3.	Number in group, 3.	Number in group, 3.
Average weight to start period	Lbs.	972	978	953	955	993	985	969	969
Average weight at end of period	"	953	955	993	985	1,022	1,015	1,004	1,003
Loss — or gain	"	— 19	— 23	+ 40	+ 30	+ 29	+ 30	+ 35	+ 34
Meal fed group in 1 day	"	18	18	18	18	18	18	18	18
Hay fed group in 1 day	"	9	9	9	9	9	9	9	9
Ensilage fed group in 1 day	"	120	115	48	130	104	45	46½	117
Apples fed group in 1 day	"	.....	.....	60	.....	.....	75	67½	.....
Meal fed group in period	"	126	126	252	252	252	252	252	252
Hay fed group in period	"	63	63	126	126	126	126	126	126
Ensilage and roots fed group in period	"	840	810	672	1,820	1,455	630	651	1,638
Apples fed group in period	"	.....	.....	840	.....	.....	1,100	970	.....
Value of feed fed group in period	$	2 31	2 28	4 76	4 76	4 40	4 40	4 58	4 58
Value of feed fed 1 cow in 1 day	Cts.	11	11	10½	10½	10½	10½	10½	10½
Milk produced by group in period	Lbs.	370	321	802½	711	766	676	739	738
First day's milk from group	"	50	45	56	48½	58½	48½	52¼	53½
Second " "	"	51½	41½	57	54	58½	49½	53¼	56¼
Average daily yield of group during 1st week	"	52⅝	45⅝	57	50⅝	57⅜	49	53	54
" " 2nd week	"	.....	.....	57¾	51	52	47⅞	52⅛	51½
" " 2 weeks	"	.....	.....	57⅜	50⅝	54⅛	48⅜	52¾	52⅝
Next to last day's milk from group	"	53	47	60	51½	54	48	54	52¾
Last day's milk from group	"	55	49½	56½	48⅝	51½	47½	52	50
Change in rate of daily milk yield in 2 weeks	"	+ ½	+ 3	+ 3	— 1½	— 5⅜	— 1¼	+ ¼	— 3½
Per cent change in rate of daily milk yield	p. c.	+ 1	+ 6⅔	+ 3	— 2½	— 10	— 2½	+ ½	— 7

BEEF PRODUCTION.

EXPERIMENTS IN 1903-4.

The lines of experiment followed in the winter of 1903-4 were:—Influence of age on cost of beef; influence of manner of housing, *i.e.*, feeding loose vs. feeding tied; baby beef; values of feeds.

The steer feeding operations may be considered successful from a financial point of view since the selling price covered the cost of the steers, the cost of the feed at market prices, and left a good margin for profit. Full particulars are given in the group reports.

Of course it must always be remembered in reading the reports that the cost of caring for and feeding the steers is not included in the estimate of the cost of production. There is not the least doubt but that where feeding operations are conducted in such a manner as to require a reasonable amount of labour for the number of animals fed the manure is of a value quite equal to the cost of the labour.

In our beef feeding operations here high values are put on hay, straw ensilage and roots, while the market prices are charged for meal of all kinds. If only cost of production were charged for the straw, hay, roots, ensilage and such meal as is produced on the farm a very much higher margin of profit could be shown and there would still be saved the cost of marketing, a no small item for roots, hay and straw, to say nothing of ensilage. Further, by beef feeding operations where it is not convenient or not desired to keep dairy cattle on the farm much valuable fertilizing material is kept on the farm that would otherwise have been lost, hence the feeder should be satisfied with somewhat smaller returns than might be expected from the sale of the raw material.

SHORT FEED VS. LONG FEED.

Not infrequently the feeder when starting his operations in the fall is uncertain as to whether he should try to fit for an early or a late market. Generally speaking it may be said that steers rushed for an early market put on gains considerably more cheaply than those fed for a longer time. Further, steers fed for a short period are likely to consume relatively more roughage in comparison with the necessary meal than are those fed for a long period. To illustrate the two points made, lot A (discussed below) fed for 127 days cost $6.76 to lay on 100 lbs. of increase in live weight and consumed only 4,937 lbs. of meal along with 68,328 lbs. roots and ensilage about 1 of meal to 14 of roots and ensilage, while lot B, fed for 202 days consumed 10,356½ lbs. meal along with only 91,558 lbs. ensilage and roots or about 1 of meal to 9 of roots and ensilage. The rates of gain as will be seen below were practically the same.

Lot 'A'—Short Feed Steers.

Number of steers in lot	9
First weight, gross, Nov. 12, 1904	10,880 lbs.
First weight, average	1,209 "
Finished weight, gross, Mar. 21, 1905	12,995 "
Finished weight, average	1,444 "
Total gain in 127 days	2,115 "
Average gain per steer	235 "
Daily gain for lot, 9 steers	16·65 "
Daily gain per steer	1·85 "
Gross cost of feed	$ 143 15
Cost of 100 lbs. gain	6 76
Cost of steers, 10,880 lbs. at $4 per 100 lbs.	435 20
Total cost to produce beef	578 35
Sold, 12,995 lbs. at $5 per 100 lbs., less 4 per cent.	623 80
Profit on lot	45 45

Net profit per steer	$ 5 05	
Average buying price per steer	48 35	
Average selling price per steer	69 30	
Average increase in value	20 95	
Average cost of feed for steer	15 90	
Amount of meal eaten by lot of 9 steers	4,937	lbs.
Amount of ensilage and roots	68,328	"
Amount of hay	7,092	"
Amount of straw eaten	252	"

Lot 'B'—Long Feed Steers.

Number of steers in lot	9	
First weight, gross, Nov. 12, 1904	9,380	lbs.
First weight, average	1,042	"
Finished weight, gross	12,720	"
Finished weight, average, June 2, 1905	1,413	" ....
Total gain in 202 days	3,340	"
Average gain per steer	371	"
Daily gain per steer	1·83	
Daily gain for lot, 9 steers	16·53	
Gross cost of feed	$ 246 74	
Cost of 100 lbs. gain	7 38	
Cost of steers, 9,380 lbs. at $4 per 100 lbs.	375 20	
Total cost to produce beef	621 94	
Sold, 12,720 lbs. at $6 per 100 lbs., less 4 per cent.	732 72	
Profit on lot	110 78	
Net profit per steer	12 31	
Average buying price per steer	41 69	
Average selling price per steer	81 49	
Average increase in value	39 80	
Average cost of feed for steer	27 41	
Amount of meal eaten by lot of 9 steers	10,356½	lbs.
Amount of ensilage and roots	91,558	"
Amount of hay	14,656	"
Amount of straw eaten	126	"

INFLUENCE OF AGE ON COST OF BEEF.

Cost of producing beef with three-year olds, two-year olds, yearlings and calves.

Since in connection with other work in steer feeding an opportunity occurred to give the influence of age on cost of beef production another trial, it was done, and reported on below in detail.

A study shows the following peculiarities revealed:—

Ages.	Daily Gain.	Cost 100 lbs. Gain.
	Lbs.	S cts.
Three-year-olds	1·65	6 52
Two-year-olds	2·16	5 99
Yearlings	2·00	4 30
Skim milk calves, new born under 8 months	1·54	3 40

Lot 'C'—(Three-year Olds).

Number of steers in lot	9
First weight, gross	10,875 lbs.
First weight, average	1,208 "
Finished weight, gross	12,760 "
Finished weight, average	1,418 "
Total gain in 127 days	1,895 "
Average gain per steer	210 "
Daily gain for lot, 9 steers	14.88 "
Daily gain per steer	1.65 "
Gross cost of feed	$123 61
Cost of 100 lbs. gain	6 52
Cost of steers, 10,875 lbs. at 4c. per 100 lbs	434 00
Total cost to produce beef	557 61
Sold, 13,035 lbs. at $5 per 100 lbs., less 4 per cent	625 70
Profit on lot	68 09
Net profit per steer	7 55
Average buying price per steer	48 22
Average selling price per steer	69 52
Average increase in value	21 30
Average cost of feed for steer	13 73
Amount of meal eaten by lot of 9 steers	3,318 lbs.
Amount of ensilage and roots	67,536 "
Amount of hay	6,930 "
Amount of straw eaten	252 "

Lot 'D'—Two-year-olds.

Number of steers in lot	7
First weight, gross	7,490 lbs.
First weight, average	1,070 "
Finished weight, gross	9,415 "
Finished weight, average	1,345 "
Total gain in 127 days	1,925 "
Average gain per steer	275 "
Daily gain for lot, 7 steers	15·15 "
Daily gain per steer	2·16 "
Gross cost of feed	$ 109 51
Cost of 100 lbs. gain	5 99
Cost of steers, 7,490 lbs. at $4 per 100 lbs	299 60
Total cost to produce beef	409 11
Sold, 9,415 lbs. at $5 per 100 lbs., less 4 per cent	451 95
Profit on lot	42 84
Net profit per steer	6 12
Average buying price per steer	42 80
Average selling price per steer	64 76
Average increase in value	21 96
Average cost of feed for steer	15 64
Amount of meal eaten by lot of 7 steers	2,635 lbs.
Amount of ensilage and roots	50,116 "
Amount of hay	9,443 "

Lot 'E'—Steers over 8 Months Old.

Number of steers in lot	6
First weight, gross	2,900 lbs.

First weight, average	483	lbs.
Finished weight, gross	5,220	"
Finished weight, average	870	"
Total gain in 193 days	2,320	"
Average gain per steer	387	"
Daily gain for lot, 6 steers	12	"
Daily gain per steer	2	"
Gross cost of feed, Dec. 1, 1904, to June 12, 1905	$ 99 76	
Cost of 100 lbs. gain, Dec. 1, 1904, to June 12, 1905	4 30	
Average cost of feed for steer, Dec. 1, 1904, to June 12, 1905	16 63	
Amount of meal eaten by lot of 6 steers	4,682	lbs.
Amount of ensilage and roots	33,910	"
Amount of hay	5,388	"

Meal consumed consisted of: Oats, 1,509 lbs.; oil meal, 984 lbs.; bran, 1,785 lbs.; corn, 276 lbs.; shorts, 138 lbs.

Lot 'F'—Steers under 8 Months Old.

Number of steers in lot	5	
First weight, gross, May 12, 1905	795	lbs.
First weight, average	159	"
Finished weight, gross, Dec. 1, 1905	2,345	"
Finished weight, average	469	"
Total gain in 201 days	1,550	"
Average gain per steer	310	"
Daily gain for lot, 5 steers	7·71	"
Daily gain per steer	1·54	"
Gross cost of feed	$ 52 70	
Cost of 100 lbs. gain	3 40	
Average cost of feed for steer	10 54	
Amount of meal eaten by lot of 5 steers	2,210	lbs.
Amount of ensilage and roots	6,790	"
Amount of hay	2,055	"
Amount of skim milk	11,350	"

EXPERIMENTS WITH BABY BEEF.

The experiments to determine the cost of producing beef at an early age have been continued and are reported upon below.

BEEF FROM STEERS AT 2 YEARS OLD.

The first reports submitted in this line are those that have to do with calves dropped in April, 1903. These reports speak for themselves.

Lot 'G'—Limited Growing Ration Steers, Dropped in 1903.

Number of steers in lot	5	
First weight, gross, Dec. 1, 1904	3,690	lbs.
First weight, average	738	"
Finished weight, gross, June 26, 1905	5,200	"

Finished weight, average	1,040	lbs.
Total gain in 207 days	1,510	"
Average gain per steer	302	"
Daily gain for lot, 5 steers	7·20	"
Daily gain per steer	1·46	"
Gross cost of feed	$ 94 89	
Cost of 100 lbs. gain	6 28	
Average cost of feed per steer for 207 days	18 98	
Amount of meal eaten by lot of 5 steers	2,782	lbs.
Amount of ensilage and roots	45,139	"
Amount of hay	5,354	"
Amount of straw eaten	1,181	"

Meal consumed consisted of: Oats, 262 lbs.; corn, 840 lbs.; oil meal, 560 lbs.; bran, 350 lbs.; shorts, 455 lbs.; mixed crop, 315 lbs.

Lot 'H'—Full Fattening Ration, Dropped April, 1903.

Number of steers in lot	5	
First weight, gross, Dec. 1, 1904	4,950	lbs.
First weight, average	990	"
Finished weight, gross, Mar. 20, 1905	5,865	"
Finished weight, average	1,173	"
Total gain in 110 days	915	"
Average gain per steer	183	"
Daily gain for lot, 5 steers	8·30	"
Daily gain per steer	1·66	"
Gross cost of feed, Dec. 1, 1904 to Mar. 20, 1905	$ 66 64	
Cost of 100 lbs. gain	7 28	
Average cost of feed for steer	19 73	
Amount of meal eaten by lot of 5 steers	5,444	lbs.
Amount of ensilage and roots	36,973	"
Amount of hay	5,130	"
Amount of straw eaten	481	"

Meal consumed consisted of: Oats, 272 lbs.; oil meal, 1,648 lbs.; bran, 2,029 lbs.; shorts, 522 lbs.; mixed meal, 514 lbs.; corn, 459 lbs.

Lot 'I'—Full Fattening Ration, Dropped April, 1903.

Number of steers in lot	5	
First weight, gross, May 1, 1903	565	lbs.
First weight, average	113	"
Finished weight, gross	6,480	"
Finished weight, average	1,296	"
Total gain in 766 days	5,915	"
Average gain per steer	1,083	"
Daily gain for lot, 5 steers	7·72	"
Daily gain per steer	1·54	"
Gross cost of feed	$ 285 91	
Cost of 100 lbs. gain	4 83	
Cost of steers	25 00	
Total cost to produce beef $25 + $285.91	310 91	
Sold, 6,480 lbs. at $6 per 100 lbs., less 4 per cent.	373 26	
Profit on lot	62 35	

Net profit per steer	$12 47	
Average buying price per steer	5 00	
Average selling price per steer	74 65	
Average increase in value	69 65	
Average cost of feed for steer	57 18	
Amount of meal eaten by lot of 5 steers	11,585	lbs.
Amount of ensilage and roots	81,805	"
Amount of hay	8,800	"
Amount of straw eaten	2,021	"
Amount of sugar beet pulp (dried)	378	"
Green feed (soiling crops)	9,408	"
Amount of skim milk	6,775	"
On pasture (lot)	1	Mo.

Meal consumed consisted of: Oats, 3,033 lbs.; bran, 3,416 lbs.; oil meal, 2,875 lbs.; shorts, 635 lbs.; gluten, 644 lbs.; corn, 459 lbs.; mixed meal (oats, pease, barley and wheat), 514 lbs.

Lot 'J'—Limited Growing Ration Steers, Dropped in 1903.

Number of steers in lot	5	
First weight, gross	500	lbs.
First weight, average	100	"
Finished weight, gross	5,200	"
Finished weight, average	1,040	"
Total gain in 786 days	4,700	"
Average gain per steer	940	"
Daily gain for lot, 5 steers	5·95	"
Daily gain per steer	1·19	"
Gross cost of feed	$ 205 17	
Cost of 100 lbs. gain	4 37	
Cost of steers	25 00	
Total cost to produce beef, $187.17 + $25	230 17	
Sold, 5,200 lbs. at $5.50 per 100 lbs., less 4 per cent	274 56	
Profit on lot	44 39	
Net profit per steer	8 89	
Average buying price per steer	5 00	
Average selling price per steer	54 91	
Average increase in value	49 91	
Average cost of feed for steer	37 43	
Amount of meal eaten by lot of 5 steers	5,122	lbs.
Amount of ensilage and roots	90,285	"
Amount of hay	8,931	"
Amount of straw eaten	2,371	
Pasture (50 cents per month)	30	Mos.
Soiling crop	15,430	lbs.

BEEF FROM STEERS AT 13½ MONTHS. STEERS DROPPED APRIL, 1904.

The heavily fed lot of the 2 lots put on experiment May 1, 1904, were in such good shape in June, 1905, that it was decided to sell them, as $5.50 per 100 lbs. live weight was offered. Reports follow. The beef from these steers was exceedingly tender, very fat, and of excellent flavour.

Lot 'K'—(Limited Growing Ration Steers; Dropped April, 1904).

Number of steers in lot	6	
First weight, gross	2,530	lbs.
First weight, average	422	"
Weight on going to grass, May 18, 1905	4,020	"
Average weight, May 18, 1905	670	"
Total gain in 169 days	1,490	"
Average gain per steer	248	"
Daily gain for lot, 6 steers	8.82	"
Daily gain per steer	1.47	"
Gross cost of feed, Dec. 1, 1904, to May 18, 1905	$58 66	
Cost of 100 lbs. gain	3 95	
Average cost of feed for steer	9 77	
Amount of meal eaten by lot of 6 steers	1,478	lbs.
Amount of ensilage and roots	32,040	"
Amount of hay	2,574	"
Amount of straw eaten	1,684	"

Meal consumed consisted of: Oats, 467 lbs.; oil meal, 408 lbs.; bran, 603 lbs.

Lot 'L.'—Full Fattening Ration Steers, Dropped April, 1904.

Number of steers in lot	6	
First weight, gross, Dec., 1904	2,900	lbs.
First weight, average	483	"
Finished weight, gross	5,220	"
Finished weight, average	870	"
Total gain in 193 days	2,320	"
Average gain per steer	387	"
Daily gain for lot, 6 steers	12	"
Daily gain per steer	2	"
Gross cost of feed, Dec. 1, 1904, to June 12, 1905	$99 76	
Cost of 100 lbs. gain, Dec. 1, 1904, to June 12, 1905	4 30	
Average cost of feed for steer, Dec. 1, 1904, to June 12, 1905	16 63	
Amount of meal eaten by lot of 6 steers	4,682	lbs.
Amount of ensilage and roots	33,910	"
Amount of hay	5,388	"

Amount of meal consumed consisted of: Oats, 1,509 lbs.; oil meal, 974 lbs.; bran, 1,785 lbs.: corn, 276 lbs.; shorts, 138 lbs.

Lot 'M'—Full Fattening Ration Steers, Dropped April, 1904.

Number of steers in lot	6	
First weight, gross, May 1, 1904	740	lbs.
First weight, average	123	"
Finished weight, gross	5,220	"
Finished weight, average	870	"
Total gain in 407 days	4,480	"
Average gain per steer	746	"
Daily gain for lot, 6 steers	11·00	"
Daily gain per steer	1·83	"
Gross cost of feed, Dec. 1, 1904, to June 12, 1905	$ 99 76	

Cost of 100 lbs. gain, Dec. 1, 1904, to June 12, 1905	$4 30	
Cost of steers up to Dec 1, 1904—Feed, $59.83; buying price, $30	89 83	
Cost of 100 lbs. gain—May 1, 1904, to Nov. 30, 1904	2 77	
Total cost of steers at 407 days or 13½ months old	189 59	
Sold, 5,220 lbs. at $5.50 per 100 lbs., less 4 per cent	275 66	
Profit on lot	86 07	
Net profit per steer	14 34	
Average value of steer at birth	5 00	
Average selling price per steer	45 94	
Average increase in value, allowing $5 as value of calf when dropped	40 94	
Average cost of feed for steer	26 59	
Amount of meal eaten by lot of 6 steers in 407 days	6,707	lbs.
Amount of ensilage and roots	43,150	"
Amout of hay	6,900	"
Amount of green feed, clover, mixed crop cut green, rape, &c	9,408	"

Meal consumed consisted of: Oats, 2,289 lbs.: oil meal, 1,145 lbs.; bran, 2,523 lbs.; corn, 276 lbs.; shorts, 138 lbs.: barley meal, 336 lbs.

Lot 'N'—Limited Growing Ration Steers, Dropped April, 1904.

Number of steers in lot	6	
First weight, gross	490	lbs.
First weight, average	81	"
Total weight, May 18, 1905	4,020	"
Average weight, May 18, 1905	670	"
Total gain in 383 days	3,530	"
Average gain per steer	588	"
Daily gain for lot, 6 steers	9·18	"
Daily gain per steer	1·53	"
Gross cost of feed, Dec. 1, 1904, to May 18, 1905	$ 58 66	
Cost of 100 lbs. gain, Dec. 1, 1904, to May 18, 1905	3 95	
Cost of steers up to Dec. 1, 1904—Feed, $57.90; buying price, $30	87 90	
Cost of 100 lbs. gain, May 1, 1904, to Nov. 30, 1904	2 83	
Total cost of steers at 383 days or 12⅔ mos. old	146 56	
Value of steers May 18, 1905, going on grass 4,020 lbs. at 3½	140 70	
Loss on lot	5 86	
Net loss per steer	0 97	
Average buying price per steer	5 00	
Average value of steer at 12⅔ mos. old	23 45	
Average increase in value, allowing $5 value of calf when dropped	18 45	
Average cost of feed for steer	19 43	
Amount of meal eaten by lot of 6 steers	3,356	lbs.
Amount of ensilage and roots	42,882	"
Amount of hay	4,173	"
Amount of straw eaten	1,684	"
Amount of green feed, clover, mixed crop cut green, rape, &c	7,266	"

Meal consumed consisted of: Oats, 1,247 lbs.; oil meal, 504 lbs.; barley, 273 lbs.; bran, 1,332 lbs.

CALVES DROPPED APRIL, 1905.

These lots have not done quite so well as those dropped in 1904, but will, it is evident make excellent animals when 6 months older.

Lot 'O'—Limited Growing Ration, Dropped 1905.

Number of steers in lot	5
First weight, gross, May 12, 1905	490 lbs.
First weight, average	98 "
Finished weight, gross, Dec. 1, 1905	1,800 "
Finished weight, average	360 "
Total gain in 201 days	1,310 "
Average gain per steer	262 "
Daily gain for lot, 5 steers	6·53 "
Daily gain per steer	1·30 "
Gross cost of feed	$ 46 97
Cost of 100 lbs. gain	3 58
Average cost of feed for steer	9 39
Amount of meal eaten by lot of 5 steers	2,050 lbs.
Amount of ensilage and roots	5,720 "
Amount of hay	1,582 "
Amount of skim milk	10,825 "

Meal consumed consisted of: Oats, 733 lbs.; bran, 907 lbs.; barley, 228 lbs.; Gluten, 182 lbs.

Lot 'P'—Full Fattening Ration, Dropped 1905.

Number of steers in lot	5
First weight, gross, May 12, 1905	795 lbs.
First weight, average	159 "
Finished weight, gross, Dec. 1, 1905	2,345 "
Finished weight, average	469 "
Total gain in 201 days	1,550 "
Average gain per steer	310 "
Daily gain for lot, 5 steers	7·71 "
Daily gain per steer	1·54 "
Gross cost of feed	$ 52 70
Cost of 100 lbs. gain	3 40
Average cost of feed for steer	10 54
Amount of meal eaten by lot of 5 steers	2,210 "
Amount of ensilage and roots	6,790 "
Amount of hay	2,055 "
Amount of skim milk	11,350 "

Meal consumed consisted of: Oats, 840¾ lbs.; bran, 960 lbs.; and barley, 175 lbs.

SWINE FEEDING.

I have to report a rather unsuccessful year with swine. The rather poor showing made is due to various causes chief among them being the frequent change of men. The regular feeder was called away several times for considerable periods and it was not

always possible to replace him with a man who could do the work satisfactorily, and very considerable losses were suffered.

The experiment with the small pig farm is being continued and will be reported upon more fully at a later date. A report of the crops grown on this area will be found on page 84.

EXPERIMENTS.

A number of swine are constantly being fed in an experimental way. The work done this year was along the lines of (1) economy of production, (2) type of pig as influenced by feed and environment or conditions under which they were fed.

Five lots of 5 pigs each were fed as follows:—

Lot 1. Meal, Alfalfa pasture.

Lot 2. Meal, clover pasture.

Lot 3. Meal, root pasture.

Lot 4. Meal *no* supplementary food in pens.

Lot 5. Meal, roots fed in pens.

Reports of the different lots follow. All pigs were fed on the same meal mixture shorts, 500 lbs.; oil meal, 30 lbs.; gluten, 10 lbs.

Lot 1—Alfalfa Pasture.

No. of pigs in lot	5
Weight to start Sept. 10, 1905	529 lbs.
Average weight to start	106 "
Weight to finish Oct. 15, 1905	775 "
Average weight to finish	155 "
Total gain in 35 days	246 "
Average gain per pig in period of 35 days	49 "
Daily rate of gain	1·4 "
Food consumed in addition to pasture, meal	1,002 "
Cost of food	$ 9 02
Cost of 100 lbs. gain	3 67

The pigs had about ¼ acre of alfalfa.
Good effect on form and health of animals.

Lot 2—Red Clover Pasture.

No. of pigs in lot	5
Weight to start, Sept. 10, 1905	455 lbs.
Average weight to start	91 "
Weight to finish Oct. 15, 1905	716 "
Average weight to finish	143 "
Average gain per pig in 35 days	52 "
Total gain in 35 days	259 "
Daily rate of gain	1·5 "
Food consumed in addition to pasture, meal	1,012 "
Value of food apart from pasture	$9 10
Cost of 100 lbs. gain, pasture neglected	3 52

The pigs had about ¼ acre of clover.
Good effect on form and health of animals.

Lot 3—Root Pasture.

Mangels, sugar mangels, sugar beets, carrots and turnips.

No. of pigs in lot	5
Weight to start Sept. 10, 1905	509 lbs.
Average weight to start	102 "
Weight to finish Oct. 15, 1905	745 "
Average weight to finish	149 "
Total gain in 35 days	236 "
Average gain per pig in 35 days	47 "
Daily rate of gain	1.31 "
Food consumed in addition to pasture	1,002 "
Value of food apart from pasture	$9 02
Cost of 100 lbs. gain, pasture neglected	3 82

Pigs ate roots of all kinds but turnips quite greedily, following them down quite deep into the ground in the case of sugar beets and carrots. In the 35 days they ate the roots off an area of 77 feet long and 40 feet wide. This system of feeding has a tendency to develop the paunch and must be used with caution.

Lot 4—No Pasture—(Fed in Pens).

No. of pigs in lot	5
Weight to start Sept. 10, 1905	248 lbs.
Average weight to start	50 "
Weight to finish Oct. 15, 1905	501 "
Average weight to finish	100 "
Total gain in 35 days	253 "
Average gain per pig	50⅗ "
Daily rate of gain	1.45 "
Food consumed, meal	1,202 "
Value of food	$10 81
Cost of 100 lbs. gain	4 23

This method of feeding seemed to have a tendency to make rather short flabby pigs.

Lot 5—Roots and Meal (Fed inside).

No. of pigs in lot	5
Weight to start Sept. 10, 1905	262 lbs.
Average weight to start	52 "
Weight to finish Oct. 15, 1905	570 "
Average weight to finish	114 "
Total gain in 35 days	308 "
Average gain per pig	61⅗ "
Daily rate of gain	1·77 "
Amount of meal consumed	1,002 "
Value of meal	$ 9 02
Cost of 100 lbs. gain meal alone	2 93
Roots consumed	483 lbs.
Value of roots	0·49
Total cost to produce pork	$ 10 51
Cost 100 lbs. gain meal and roots	3 09

This method of feeding had a good effect on the form of the animals making them come as near the ideal bacon type as could be desired.

PASTURING PIGS ON RIPE PEAS.

An acre of peas on the hog rotation were allowed to ripen and pigs turned out to pasture on them. The returns in pork were not satisfactory but the effect of the exer-

cise and the pease together was wonderfully beneficial so far as form of pigs was concerned and so far as fitting them for finishing off for the packer when brought into the pens.

UTILIZATION OF FEED.

An examination into the supply of feed produced on the '200 acre Farm,' the experimental plots of roots and corn, and the meal or grain purchased for use in the barns, together with a detailed statement of the disposal thereof, and a statement of the kinds of grain and meal consumed from July 1, 1904 to June 30, 1905, follows:—

SUMMARY of Feed of all kinds used for Stock on 200 acre Farm from July 1, 1904 to June 30, 1905.

——	Straw.	Grain or Meal.	Roots and Ensilage.	Hay.
	lbs.	lbs.	lbs.	lbs.
Grown on 200 acre farm, crop of 1904	168,635	92,197	1,564,030	376,387
Received from Cereal Division	10,000	9,519	307,384	.....
Received from Distribution Division (small grain)	.....	8,671	.....	.....
Purchased	130,655	383,709	.....	22,330
Total supplied during year	309,290	494,096	1,671,414	398,717
Consumed during year	294,511	435,559	1,116,123	342,471
On hand June 30, 1905	4,000	58,537	100,000	5,000

DISPOSITION of Feed harvested on, and bought for use of Live Stock on 200 Acre Farm.

——	Hay.	Grain and Meal.	Corn and Roots.	Straw.
	lbs.	lbs.	lbs.	lbs.
19 Horses	138,700	126,841	20,500	36,500
73 Steers	79,721	59,185	358,356	95,743
44 Milch cows	46,755	66,343	375,884	46,153
48 Young stock and bulls	37,702	36,554	298,981	50,921
70 Sheep	19,458	9,458	12,000	11,650
200 Swine	.....	129,135	15,905	40,500
Supplied to Poultry division	.....	24,792	5,827	13,044
" " Veterinary laboratory	1,535	3,551	3,670	.....
Loss by experimental curing	18,600	.....	25,000	.....
Total accounted for	342,471	435,559	1,116,123	294,511
Amount harvested and received	398,717	494,096	1,671,414	309,290
On hand June 30, 1905	5,000	58,537	100,000	4,000
Shrinkage or loss	51,246	.....	455,291	10,779

The meal consumed consisted of:—	Lbs.
Oats	171,936
Barley	19,363
Bran	96,600
Shorts	65,000
Oil meal	35,100
Various feeds	47,560
Total	435,559

LIVE STOCK INVENTORIES.

	July 1, 1904.		June 30, 1905.				Gross Returns, made up of increase in value, value of products and value of animals sold.
	Number on hand.	Value.	Number handled during year.	Number on hand.	Value.	Returns of all descriptions.	
		$ cts.			$ cts.	$ cts.	$ cts.
Horses	19			19		3,458 40	3,458 40
Shorthorns—							
Pure breds (17) and grades (4).	18	3,495 00	25	21	4,510 00	956 43	1,971 43
Guernseys—							
Pure breds (15) and grades (6).	23	2,040 00	23	21	2,530 00	898 67	1,388 67
Ayrshires—							
Pure breds (20) and grades (5).	28	2,560 00	29	25	2,800 00	918 66	1,158 66
Canadians—							
Pure breds (10) and grades (4).	10	1,075 00	15	14	1,650 00	445 09	1,020 09
Steers	22	449 00	73	16	300 00	1,787 90	1,647 90
Sheep	66	1,020 00	70	49	1,170 00	115 08	265 08
Swine		2,090 00	200	117	2,255 00	1,316 07	1,481 07
Total		12,720 00	454	282	15,215 00	9,896 30	12,391 30

SUMMARY OF LIVE STOCK OPERATIONS.

RETURNS.

Gross returns from animals of all classes, including value of products, values of services and increase in value of young stock		$12,391 30
Manure, 1,200 tons		1,200 00
Total		$13,591 30

EXPENDITURE.

Value of Food Consumed.

Meal		$4,355 59
Hay		1,198 86
Roots and ensilage		1,116 12
Whole milk, 18,000 lbs		180 00
Skim-milk, 200,000 lbs		300 00
Straw, 147 tons at $4 per ton		588 00
Cost of labour in connection with care of horses, cattle, sheep and swine:—		
Herdsman	$ 700 00	
Two men at $450	1,080 00	
Three men at $504	1,512 00	
Extra help, teaming, &c.	415 02	
	$3,707 02	
		3,707 02
		$11,445 59
Balance		2,145 71

SUMMARY OF FARMING AND LIVE STOCK OPERATIONS ON '200-ACRE FARM,' 1905.

RETURNS.

Total value of return from fields	$ 5,590 08	
Total value of returns from live stock	13,591 30	
Total returns	$19,181 38	
		$19,181 38

EXPENDITURE.

Total cost of field operations (see page 90)	$ 3,858 18	
Total cost of live stock operations (see page 74)	11,445 59	
Total expenditure	$15,303 77	
		$15,303 77
Balance		3,877 61

CROPS.

I have to report a fairly successful year for all kinds of crops grown. The season was peculiarly favourable for hay and pasture. It was, however, rather difficult to cure the hay properly hence the quality is not quite so good as might be desired. The kinds of hay grown this year were timothy, mixed timothy and red clover, red clover and alfalfa, red clover and orchard grass. The red clover fields and the field of alfalfa and orchard grass were cut twice. Some of the fields of red clover gave about 5½ tons per acre of cured hay in two cuttings. The pasture, a field of 14 acres, was able to carry an equivalent of 30 cows for five months. During about half that period they were being fed some green feed or ensilage as well as a small meal ration, in addition to the pasture.

The only cereal sown was oats. The variety grown was the Banner. Where soil conditions were favourable the returns were fairly good, some fields going as high as 66⅔ bushels per acre. The quality was for the most part very good. The crop of straw was rather heavy in comparison with the grain, due to the rather damp season.

On the black muck areas weeds came so thickly as to necessitate cutting certain parts while yet green. The mixture of grass, oats and weeds so cut was fed to the cattle. This of course had the effect of lowering average yield per acre as the crop-less areas had to be counted in when estimating average yields per acre.

The grass, clover and alfalfa seeds sown on the different fields came up well, and did exceedingly well all summer and till late in the fall, making a fine promise for good crops of hay next year.

Corn was a very heavy crop this year. Some fields yielded an average of over 20 tons per acre, although about 20 per cent of the crop was a small growing variety, Longfellow.

The varieties grown were Longfellow, Selected Leaming, and Early Mastodon. Longfellow was almost ripe when cut about September 20, Selected Leaming was glazing or in the dough stage, and the Early Mastodon was in about the same condition. The average yield from 40 acres was about 18 tons per acre, large and small varieties all taken together. The quality of the ensilage produced is very excellent, showing a very high percentage of dry matter. One sample taken from silage made from Early Mastodon was found by Mr. Shutt, our chemist, to contain about 26 per cent of dry matter. The silage from the Selected Leaming and Longfellow is no doubt even richer in food content.

As will be seen by a glance at the reports below the cost to produce the crops was very high per acre. On account of the high yield, however, the cost per ton in the silo is comparatively low.

Mangels, sugar mangels, sugar beets, carrots, swedes, white turnips, yellow Aberdeens, kohl rabi, cabbage, 1,000 headed kale and rape were all grown in greater or lesser quantities.

On account of the wet season the cost to grow an acre of roots was very great. The yield was high, however, so the cost of roots per ton was not unusually high.

Mangels are found to be the most satisfactory root to grow on this land. Sugar mangels, while not yielding as good a crop per acre, supply a peculiarly good feed for cattle and are grown in moderate quantities for that reason. Sugar beets yielded very well this year. They are particularly valuable as feed for swine. Kohl rabi are very welcome to sheep. The 1,000 headed kale is also relished by sheep, and is probably superior to rape as a fall feed. Cabbages were fed to sheep.

COMPARATIVE Statement of Crops on '200 Acre Farm,' from 1899 to 1905, inclusive. (200 Acre Farm includes 7 Acres of Roads.)

YEAR.	GRAIN.		HAY.		ROOTS AND CORN.		PASTURE.		SOILING CROP.		PIG PASTURE.		Remarks.
	Area in Acres.	Yield in Pounds.	Area in Acres.	Yield in Tons.	Area in Acres.	Yield in Tons.	Area in Acres.	Number of Cattle.	Area in Acres.	Disposition of Crops.	Area in Acres.	Crops Grown for Pasture.	
1899.....	73	118,466	39	93	40	326½	40	36	1	Fed to dairy cows	....	. .....	Generally considered a good year for all crops.
1900.....	80	126,621	53	138	40	743	20 and aftermath.	49	....	. .. .	....	.....	Season very favourable for most crops.
1901.....	79	114,472	58	210	40	702	16 and aftermath.	52	. ..	....	....	.....	" " "
1902.....	74	144,914	60	216	39	665	20 and aftermath.	62	....	....	5	Clover, rape and aftermath.	Season favourable for hay, bad for corn.
1903.....	69	126,619	62	154	34	473	16 and aftermath.	96	5	Dairy cows, bulls and calves.	6	Clover and rape.	Season very unfavourable for most crops, particularly adverse to corn and roots. No second crop hay.
1904.....	67	112,009	60	192	46¾	674	13·75	98	3	" " ..	3	" " ..	Season unfavourable for grain and corn, good for hay and roots.
1905.....	66	111,932	59	258	47	971½	14 and aftermath.	109	5	All cattle ensilage fed.	4	Clover, rape, mixed crop, pease, roots.	Season favourable for hay, corn and roots, too wet for grain on mucky land.

Of the area indicated as having been used as pasture for swine in 1905, 2 acres yielded a crop of green feed for soiling cattle before being given over to swine. Cattle were pastured on roads where possible. A small rough field not included in the '200 Acre Farm' was used as partial pasture and a run for about 20 head of young stock. These cattle received ensilage or other succulent food every day, and meal at the rate of about 1½ lbs. each per day part of the time.

The variety of crops grown and the varying areas under each crop each year make it quite difficult to make a comparison of the returns of the different years, so to simplify matters I would suggest that a fixed valuation be put upon the products, and the returns of each year valued accordingly.

Fixing prices as follows: Grain, $1 per hundred lbs.; roots and ensilage $2 per ton; hay $7 per ton; summering cattle, $8 per season; and an area used as pasture for pigs, $15 per acre; the returns from the '200-acre farm' for the years mentioned may be said to have been worth $2,776.66 in 1899; $4,110.21 in 1900; $4,434.72 in 1901; $4,787.14 in 1902; $4,148.19 in 1903; $4,741.09 in 1904; $5,714.32 in 1905.

ROTATION EXPERIMENT.

The experiment to determine the effects of different rotations is being followed up and over the detailed report of the labour on each plot, and the returns therefrom will be found some brief notes on each field and on the rotation as a whole.

The rotations are as follows:—

Rotation A.—Five years, clover hay, Timothy hay, grain, corn, grain.

Rotation B.—Five years, clover hay, grain, clover hay, corn, grain.

Rotation E.—Three years, pasture, corn, grain.

Rotation Z.—Three years, clover hay, corn, grain.

Rotation S.—Four years, shallow ploughing, clover hay, timothy hay, roots, grain.

Rotation D.—Four years, deep ploughing, clover hay, timothy hay, roots, grain.

Rotation H.—Three years, hog pasture, roots, grain or soiling crop.

Rotation T.—Four years, sheep pasture, roots and soiling crop, grain, clover hay.

Rotation M.—Six years, grain, grain, clover hay, timothy hay for three years.

Rotation N.—Six years, grain, grain, timothy hay for four years.

Rotation O.—Three years, grain, timothy hay, timothy hay.

Rotation P.—Three years, grain, clover hay, timothy hay.

In the descriptions of the rotations and fields that follow, an effort is made to give as concisely as possible the location of each field, its size, the character of its soil, its drainage and its general crop history.

In the tables will be found all items of expenditure. The manure is applied in the same ratio to each field in each rotation. To illustrate: if to the corn land in rotation 'Z,' 15 tons of manure per acre are applied; this equivalent to 5 tons per acre per annum, as Z, is a three-year rotation. Then in applying manure to M, 30 tons per acre would be applied, as M is a six-year rotation. Since the manure must vary slightly in quantity each year, $3 per annum per acre is charged in each rotation.

COMPARATIVE VALUES OF ROTATION ON STOCK FARMS.

Supposing the average animal of the bovine species to consume 2,000 lbs. hay, 1,500 lbs. meal, 16,000 lbs. roots and ensilage and 2,000 lbs. of straw per annum, which valued at prices given above would amount to $37, a rough idea of the relative value of the different rotations for stockmen may be arrived at.

ROTATION

Lot.	Location.	Description f soil. Sand.	Sandy Loam.	Clayey Loam.	Clay.	Black Muck.	Gravel.	Hardpan.	Area in Acres.	Crop.	Crop.	Rent and Manure.	Seed, Twine and use of Machinery.
		p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	Ac.	1904.	1905.	$ cts.	$ cts
A 1	W.S. 3	30	45	...	....	25	....	....	9·96	Hay	Oats	59 76	16 89
A 2	L.S. 1	30	65	5	....	..	....	....	8·90	"	Hay	53 40	11 57
A 3	A.S. 14	10	15	20	20	15	....	20	10·20	Oats	Corn	61 20	16 87
A 4	W.P.G.S. 1 / F.S. 1	70	20	10	...	...	....	...	9·15	"	Hay	54 90	11 89
A 5	F.S. 3	....	35	30	10	15	10	....	9·63	Corn	Oats	57 78	15 76
	Aggregate								47·84			287 04	72 98
	Average per acre in 1905								1			6 00	1 52

ROTATION

B 1	W.S. 4	5	35	5	50	5	....	....	10 00	Corn	Oats	60 00	16 90
B 2	L.S. 2	20	70	....	5	5	..	....	8 82	Hay	"	52 92	14 97
B 3	A.S. 15	20	60	5	...	15	....	....	10 20	Oats	Hay	61 20	13 26
B 4	W.P.G.S. 2	20	60	15	....	5	....	...	9 15	"	"	54 90	11 89
B 5	F.S. 2	..	30	30	40	....	....	...	9 93	Hay	Corn	59 58	14 73
	Aggregate								48 10			288 60	71 75
	Average per acre in 1905								1			6 00	1 49

ROTATION 'A.'

This rotation of 5 years duration includes grain, hay (2 years) grain and corn or roots in the order named. The grain crop mentioned first comes after corn. With the first crop of grain is sown 10 lbs. red clover, 1 lb. alsike and 10 lbs. timothy per acre. The field is left in hay for 2 years, then in August of the second year it is ploughed and cultivated at intervals till October, when it is ridged up and left till the next spring. Oats are sown on this field, and with them red clover seed at the rate of 10 lbs. per acre. This clover is allowed to grow for something over a year or until corn seeding time the following spring, when it is turned under with a shallow furrow along with the manure that will have been applied during the winter. After the corn has been harvested the land is ploughed shallow and left till the next spring.

The crops on this rotation this year have been fairly satisfactory. On A1 the ploughing in the fall was delayed, hence a light crop of grain. On A2 two crops of Alfalfa hay were harvested in time to permit of August ploughing. A3 gave an excellent crop of corn, and A4 a very good crop of hay. On A5 the black muck portion was injuriously affected by the weather, and no crop was harvested therefrom.

'A.'

Items of Expense in Raising Crop of 1905.									Particulars of Crop of 1905.						
Manual Labour.		Horse Labour.													
No. of hours.	Cost of Manual Labour.	No. of hours with Team.	No. of hours with Single Horse.	Value of Horse Labour.	Threshing.	Total Cost.	Cost for 1 acre.		Grain.	Straw.	Hay.	Roots and Ensilage.	Total Value.	Value of Crop per acre.	Profit per acre in 1905.
Hrs.	$ cts.	Hrs	Hrs	$ cts.	$ cts.	$ cts.	$ cts.		Lbs.	Lbs.	Lbs.	Lbs.	$ cts.	$ cts.	$ cts.
44	6 60	166¾	....	50 02	7 29	140 56	14 11		12,155	25,181	.....	.....	171 51	17 22	3 11
158	23 70	52	49	25 40	.....	114 07	12 81		.....	. ...	62,650	.....	250 60	28 16	15 35
605	90 75	339	....	101 70	.....	270 52	26 52		.....	.. .	.....	399,915	399 91	39 20	12 68
180	27 00	72	38	29 20	. ..	122 99	13 44		... .	.....	70,628	.....	247 20	27 02	13 58
87	13 05	144	10	45 20	....	131 79	14 74		16,969	23,281	... .. .	.....	216 25	22 45	7 71
1,074	161 10	773¾	97	251 52	7 29	779 93	16 30		29,124	48,462	133,278	399,915	1,285 47	26 86	10 56
22·44	3 36	16·17	2·02	5 25	0 15	16 30	16 30		608	971	2,785	8,359	26 86	26 86	10 56

'B.'

78	11 70	161	5	49 30	6 44	144 34	14 43		10,725	32,125	.....	20,000	191 50	19 15	4 72
82	12 30	140	6	43 20	8 42	131 81	14 94		14,040	19,910	....	.....	180 22	20 43	5 49
310	46 50	100	42	38 40	.....	159 36	15 62		.....	... ..	92,240	.....	322 84	31 65	16 03
227	34 05	80	38	31 60	.....	132 44	14 47		..	.....	93,682	.....	327 88	35 83	21 36
760	114 00	359	....	107 70	. ...	296 01	29 81		.....	. ....	.....	411,850	411 85	41 47	11 66
1,457	218 55	840	91	270 20	14 86	863 96	17 96		24,765	52,035	185,922	431,850	1,434 29	29 81	11 85
30·29	4 54	17·46	1·89	5 63	·30	17 96	17 96		515	1,081	3,865	8,978	29 81	29 81	11 85

ROTATION 'B.'

This rotation of 5 years duration includes grain, hay, corn or roots in the order named, the first crop of grain following a crop of corn or roots. Red clover 10 lbs., alsike 1 lb. and timothy 5 lbs. is sown with the grain each time grain is sown. When grain follows hay the land is ploughed in the early fall. When corn follows hay the land is ploughed in the spring, the spring growth of grass and clover being ploughed in along with the manure which will have been applied during the preceding winter.

The crops on this rotation were very fair. The crop on B1 however was very short on account of the black muck soil being very weedy. It was necessary to cut part of this field while still green so that the average was very materially lowered. B2 was similarly affected in a less degree. The corn on B5 was a remarkable crop.

ROTATION

Four year rotation, with Deep

Lot,	Location.	Description of Soil.							Area in Acres.	Crop.	Crop.	Rent and Manure.	Seed and twine and use of machinery.
		Sand.	Sandy loam.	Clayey loam.	Clay.	Black muck.	Gravel.	Hardpan.					
		p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	Ac.	1904.	1905.	$ cts.	$ cts.
D 1	E. G. P. S. 2	20	80	....	....	....	....	....	2	Oats	Hay	12 00	1 60
D 2	E. G. P. S. 4	20	80	....	....	....	....	....	2	Oat hay	"	12 00	1 60
D 3	E. G. P. S. 6	30	70	....	....	....	....	....	2	"	Roots	12 00	2 60
D 4	E. G. P. S. 8	60	40	....	....	....	....	....	2	Roots	Oats	12 00	3 38
	Aggregate								8			48 00	9 18
	Average per acre in 1905								1			6 00	1 14

ROTATON

Four year rotation, with Shallow

S 1	E. G. P. S. 1	20	80	....	....	....	....	....	2	Oats	Hay	12 00	1 60
S 2	E. G. P. S. 3	20	80	....	....	....	....	....	2	Oat hay	"	12 00	1 60
S 3	E. G. P. S. 5	30	70	....	....	....	....	....	2	"	Roots	12 00	2 60
S 4	E. G. P. S. 7	60	40	....	....	....	....	....	2	Roots	Oats	12 00	3 38
	Aggregate								8			48 00	9 1[illegible]
	Average per acre in 1905								1			6 00	1 15

ROTATION 'D.'

Deep Ploughing.

This rotation is of 4 years duration and includes grain 2 years, hay and roots.

The grain crop follows roots, the root land being ploughed to a depth of about 7 inches after the roots are harvested in the fall. With the grain is sown 10 lbs. red clover, 1 lb. alsike and 10 lbs. timothy seed per acre. The clover hay is cut twice in the season and the second aftermath left on the field, that is it is not pastured off as is usually done. In the second hay year two crops are cut if possible, and the land ploughed in August with a deep 7-inch furrow.

D1 and D2. These two plots were under hay this year. Since they had not been treated differently from S1 and S2 before being seeded down they were not cut separately.

D3. This plot, like its fellow S3, was under roots. The seed came up badly and it was necessary to resow with turnips. The cut worm then attacked the plots so that it was not considered advisable to give the actual crops in the report found below. The figures given are the average of the crops grown on both D3 and S3.

D4. This plot was under oats. The crops in this case were kept separate although there had been no difference in methods of cultivation previous to seeding to oats.

D.'

late Fall Plowing Area 8 acres.

Items of Expense in raising Crop of 1905.								Particulars of Crop of 1905.						
Manual Labour.		Horse Labour.												
No. of hours.	Cost of manual labour.	No. of hours with team.	No. of hours with single horse.	Value of horse labour.	Threshing.	Total cost.	Cost for 1 acre.	Grain.	Straw.	Hay.	Roots and ensilage.	Total value.	Value of crop per acre.	Profit per acre in 1905.
	$ cts.			$ cts.	$ cts.	$ cts.	$ cts.	Lbs.	Lbs.	Lbs.	Lbs.	$ cts.	$ cts.	$ cts.
50	7 50	16½	10½	7 05	.....	28 15	14 08	.....	.....	19,601	.....	68 60	34 30	20 22
50	7 50	16½	10½	7 05	.....	28 15	14 07	.....	.....	19,601	.....	68 60	34 30	20 22
425	63 75	50¼	28	20 67	.....	99 02	49 51	.....	.....	.....	109,086	109 09	54 50	5 04
19	2 85	24½	....	7 35	2 22	27 80	13 90	3,705	5,885	.....	.....	48 82	24 41	10 51
544	81 60	107¾	49	42 12	2 22	183 12	91 56	3,705	5,885	39,202	109,086	295 11	147 55	55 99
68	10 20	13⅓	6⅛	5 26	0 28	22 89	22 89	463	735	4,900	13,636	36 89	36 89	14 00

'S.'

early Fall Plowing Area 8 acres.

50	7 50	16½	10½	7 05	....	28 15	14 08	.....	....	19,601	.....	68 60	34 30	20 22
50	7 50	16½	10½	7 05	.....	28 15	14 07	.....	.....	19,601	.....	68 60	34 30	20 22
425	63 75	50¼	28	20 67	.....	99 02	49 51	.....	.....	.....	109,086	109 09	54 54	5 03
19	2 85	24½	....	7 35	2 11	27 69	13 84	3,510	6,270	.....	.....	47 64	23 82	10 02
544	81 60	107¾	49	42 12	2 11	183 01	91 56	3,510	6,270	39,202	109,086	293 93	146 96	55 49
68	10 20	13⅓	6⅛	5 26	0 26	22 88	22 88	439	784	4,900	13,635	36 74	36 74	13 86

ROTATION 'S.'

Shallow Ploughing.

This rotation is of 4 years duration and includes grain, 2 years hay and roots.

The grain crop follows roots, the root land being ploughed (or cultivated) to a depth of about 4 inches after the roots are harvested in the fall. With the grain is sown 10 lbs. red clover, 1 lb. alsike and 10 lbs. timothy seed per acre. The clover hay is cut twice in the season and the second aftermath left on the field, that is, it is not pastured off as is usually done. In the second hay year two crops are cut if possible and the land ploughed in August with a shallow 4-inch furrow. If manure is applied before ploughing a sub-soiler should be attached to the plough to loosen up the sub-soil to a depth of 8 or 9 inches. If manure is not applied this end is attained by means of a strong deep-cutting cultivator after the sod has rotted in the fall, or next spring.

S1 and S2. These two plots were under hay this year. Since they had not been treated differently from D1 and D2 before being seeded down they were not cut separately.

S3. This plot, like its fellow D3, was under roots. The seed came up badly, and it was necessary to resow with turnips. The cut worm then attacked the plots so that it was not considered advisable to give the actual crops in the report found below. The figures given are the average of the crops grown on both S3 and D3.

S4. This plot was under oats. The crops in this case were kept separate, although there had been no difference in methods of cultivation previous to seeding to oats.

ROTATION

Lot.	Location.	Description of Soil.							Area in acres.	Crop.	Crop.	Rent and manure.	Seed, twine and use of machinery.
		Sand.	Sandy loam.	Clayey loam.	Clay.	Black muck.	Gravel.	Hardpan.					
		p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	Ac.	1904.	1905.	$ cts.	$ cts.
E 1	W.S. 1	40	40	....	....	15	5	....	14·00	.....	.....	84·00	23·66
E 2	L.S. 4	10	60	10	....	20	....	....	13·75	.....	.....	82·50	20·51
E 3	Morn.	30	60	5	....	5	....	....	14·00	.....	.....	84·00	25·57
	Aggregate								41·75	.....	.....	250 50	69·74
	Average per acre in 1905								1·00	.....	.....	6·00	1·67

ROTATION

Z 1	W.S. 2.	40	40	....	....	15	5	....	6·00	.....	.....	36·00	10·14
Z 2	L.S. 3.	10	60	10	....	20	....	....	5·81	.....	.....	34·86	8·73
Z 3	Obs. S.	10	60	20	10	....	....	....	5·50	.....	.....	40·00	7·15
	Aggregate								17·31	.....	.....	110·86	26·02
	Average per acre in 1905								1·00	.....	.....	6·00	1·59

ROTATION 'E.'

This rotation of three years' duration includes grain, pasture and corn.

The grain comes after the corn, the stubble of which is treated as described under rotation 'A.' With the grain in the spring is sown 10 lbs. red clover, 1 lb. alsike clover, 5 lbs. alfalfa and 5 lbs. timothy seed per acre. If weather permits the field is pastured slightly in the fall.

After the grain crop the land is pastured, the grass seeding having been done with this object in view. In estimating the value of the returns from this field, pasture is charged at $1 per month per cow. At this rate the returns fall very far short of what would have been the returns if a hay crop had been harvested, if we may judge by the returns from 'Z 2.' This rotation and rotation Z were introduced into the list in order to gain some idea as to the difference in returns probable from land pastured and land from which all the crops are harvested. Of course the corn crop after the pasture has in a measure made up for the difference in favour of the no pasture rotation 'Z,' but the returns are on the whole still considerably short of those from 'Z.'

Corn follows the pasture. Manure is applied during the fall and winter and turned under with the growth of clover grass in the spring.

'E.'

Items of Expenses in Raising Crop in 1905.								Particulars of Crop in 1905.						
Mannal Labour.		Horse Labour.												
No. of hours.	Cost of manual labour.	No. of hours with team.	No. of hours with single horse.	Value of horse labour.	Threshing.	Total cost.	Cost for 1 acre.	Grain.	Straw.	Hay.	Roots and ensilage.	Total value.	Value of crop per acre.	Profit per acre in 1905.
Hrs.	$ cts.	Hrs.	Hrs	$ cts.	$ cts.	$ cts.	$ cts.	Lbs.	Lbs.	Lbs.	Lbs.	$ cts.	$ cts.	$ cts.
135	29 25	200	12	62 40	18 96	209 27	14 94	31,580	36,770	.....	.....	399 34	28 52	13 58
843	126 45	452	20	139 60	.....	369 06	26 84	.....	.....	.....	530,340	530 34	38 57	11 73
.....	.....	.....	....	.....	.....	109 57	7 83	.....	....	*162 m.	.....	162 00	11 57	3 74
978	146 70	652	32	202 00	18 96	687 90	.....	31,580	36,770	162	530,340	1,091 68	....	.....
23 42	3 51	15·61	76	4 83	0 45	16 47	16 47	756	880	3·88	12,678	26 14	26 14	9 67

'Z.'

60	9 00	71	4	22 10	5 07	82 31	12 05	8,450	14,930	.....	.....	115 36	19 23	7 18
325	48 75	181	15	57 30	.....	149 64	25 75	.....	.....	.....	195,850	195 85	33 71	7 96
96	14 40	55	36	23 70	.....	85 25	15 50	.....	.....	59,260	.....	207 41	37 71	24 63
481	72 15	307	55	103 10	5 07	317 10	18 31	8,450	14,930	59,260	195,850	518 62	29 96	———
27·78	4 17	17·73	3 17	5 95	0 29	18 31	18 31	488·15	862·5	423·14	11314·21	29 96	29 96	11 65

ROTATION 'Z.'

This rotation of three years' duration includes corn, grain and clover hay, in the order named.

Corn comes after the clover hay. The manure is applied in the fall or during the winter and spring, and the clover allowed to grow up through it, so facilitating the turning under of the whole mass of manure and spring growth and late fall growth of clover a few days before the corn is to be sown. The furrow turned is quite shallow, about 5 inches deep, and the land is then thoroughly disc-harrowed and the corn sown in rows 42 inches apart. It receives later the usual cultivation and care.

Grain follows corn, the land having been ploughed in the fall. With the grain there is sown 10 lbs. red clover, 1 lbs. alsike and 5 lbs. timothy seed. The hay is cut twice and the last aftermath allowed to grow up to be turned under the next spring for corn. Such a rotation would be particularly valuable to a farmer having sufficient rough land for pasture or for one desirous of keeping as many cattle as possible on the land at his disposal, supposing him willing to grow roots and corn.

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ROTATION

Lot.	Location.	Description of Soil.							Area in Acres.	Crop.	Crop.	Rent and Manure.	Seed, Twine and use of Machinery.
		Sand.	Sandy Loam.	Clayey Loam.	Clay.	Black Muck.	Gravel.	Hardpan.					
		p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	Ac.	1904.	1905.	$ cts.	$ cts.
H 1	H.S. 1	30	40	20	10	....	....	....	3·35	Pasture	Roots	20 10	5 59
H 2	H.S. 2	25	45	20	10	....	....	....	3·15	Roots	Grain	18 90	5 64
H 3	H.S. 3	10	20	50	20	....	....	....	2·85	Pasture and soiling crop	Pasture and soiling crop	17 10	2 60
	Aggregate								9·35			56 10	13 74
	Average per acre in 1905								1			6 00	1 47

ROTATION

T 1	S.S. 1	10	90	....	....	....	....	....	1·51	Roots	Grain	9 06	2 45
T 2	S.S. 2	15	85	....	....	....	....	....	2·44	Rape	Roots	14 64	2 73
T 3	S.S. 3	....	100	....	....	....	....	....	3·27	Soiling	Pasture	19 62	2 48
T 4	S.S. 4	15	85	....	....	....	....	....	3 50	Pasture	Pasture	21 00	....
	Aggregate								10·72			64 32	7 66
	Average per acre in 1905								....	....	....	6 00	0 71

ROTATION 'H.'

Hog Farm.

This rotation is of three years' duration and includes roots, soiling crop and pasture in the order named. The land is ploughed late in the fall after it has been manured. It is disked the next spring and the roots sown on ridges. The roots receive the usual cultivation and are of a varied character, including mangels, sugar mangels, sugar beets and turnips devoted to pork production for the most part, the surplus being sold to cattle and the returns invested in meal for pig feeding.

The soiling crop field is sown with various crops suitable for feeding to pigs. What is over and above the amount possible of consumption by pigs is sold to cattle at $2 per ton and the returns used to purchase meal for pork production.

The pasture area is divided into several parts, the seed being sown as far as possible at the same time as the soiling crops the previous year, and not allowed to be eaten too close the first fall, although any good growth is not wasted.

H. 1. This field was this year under roots, turnips, carrots, mangels, sugar beets and sugar mangels. Part of the plot is pastured off with pigs. They had access to all the above sorts of roots, but seemed to prefer mangels and sugar beets.

H. 2. This plot was in grain soiling crop and peas for pasturing off when ripe.

H. 3. This plot was used for pasture after cutting crops of alfalfa and peas and oats for soiling cows.

'H.'

Items of Expense in Raising Crop of 1905.								Particulars of Crop of 1905.						
Manual Labour.		Horse Labour.												
No. of Hours.	Cost of Manual Labour.	No. of hours with Team.	No. of hours with single Horse.	Value of Horse Labour.	Threshing.	Total Cost.	Cost for one Acre.	Grain.	Straw.	Hay.	Roots and Ensilage.	Total Value.	Value of Crops per Acre.	Profit per Acre in 1905.
Hrs.	$ cts.	Hrs	Hrs	$ cts.	$ cts.	$ cts.	$ cts.	Lbs.	Lbs.	Lbs.	Lbs.	$ cts.	$ cts.	$ cts.
891	133 65	83	63	37 50	.....	196 75	58 73	...	.....	.....	186,532	249 36	74 43	15 70
24	3 60	63	1	19 10	2 07	49 31	15 65	3,448	6,332	.....	.....	79 64	25 28	9 63
6	0 90	23½	....	7 05	1 00	28 67	10 05	794	2,000	.....	12,085	33 02	11 58	1 53
921	138 15	169½	64	63 65	3 07	274 71	.....	4,242	8,332	.....	198,617	362 02	38 70	9 32
98½	14 78	18·1	6 8	6 81	0 33	29 38	29 38	454	891	.... ..	212·42	38 70	38 70	9 32

'T.'

8	1 20	19	1	5 90	.....	18 61	12 25	.....	.....	9,000	10,300	22 20	14 70	1 75
385	57 75	64	29	25 00	.....	100 12	41 03	..	.....	.....	139,245	139 25	57 07	16 04
3	0 45	13	3	4 50	.....	27 05	8 27	.....	. ...	4,000	....	47 41	14 50	6 23
2	0 30	9	1	2 90	.....	24 20	6 90	.....	....	... ...	.....	24 20	6 90	.....
398	59 70	105	34	38 30	....	169 98	. ...	... .	...	13,000	149,545	233 06	21 74	5 89
37⅓	5 58	9⅘	3⅙	3 57	.....	15 85	15 85	.....	.....	1,212	13,950	21 74	21 74	5 89

ROTATION 'T.'

Sheep Farm.

This rotation of four years duration includes roots, grain, hay and pasture.

The area devoted to sheep farming is rather limited, about 10·72 acres. This area is not included in the '200-acre farm.' The whole field had been for several years devoted to pasturing sheep, but it has been divided into four rather unequal fields susceptible of further subdivision and devoted to a rotation considered suitable for sheep.

The root field is devoted to white turnips, Swedes, cabbage, Kohl Rabi, thousand headed kale, rape, &c. It comes after the pasture, the land being manured and ploughed in the fall.

Grain follows the root land, and with the grain various clovers and grass seeds are sown to prepare for the ensuing two years. The grain may be harvested or used as soiling crop for sheep. The hay field is expected to give one crop of hay and then be devoted to pasture for lambs as soon as they are weaned.

The pasture field is the field that has been hay the previous year. Alfalfa, red clover, alsike clover, *Bromus inermis* and timothy are the clovers and grasses used.

The crops on this rotation were fairly satisfactory this year.

ROTATION

This rotation of six years' duration

Lot.	Location.	Description of Soil.							Area in acres.	Crop.	Crop.	Rent and manure.	Seed, twine and use of machinery.
		Sand.	Sandy loam.	Clayey loam.	Clay.	Black muck.	Gravel.	Hardpan.					
		p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	Ac.	1904.	1905.	$ cts.	$ cts.
M 1.....	A.S. 2.....	....	30	15	....	45	....	10	1	Oats.....	Oats.....	6 00	2 60
M 2.....	A.S. 4.....	....	30	15	....	45	....	10	1	Oat hay..	Clover hay....	6 00	0 80
M 3.....	A.S. 6.....	....	30	15	....	45	....	10	1	" ..	"	6 00	0 80
	Aggregate.....								3			18 00	4 20
	Average per acre in 1905.....								1			6 00	1 40

ROTATION

This rotation of six years' duration includes no clover in the hay save

N 1.....	A.S. 3.....	....	30	15	....	45	....	10	1	Oats.....	Oats.....	6 00	1 60
N 2.....	A.S. 5	....	30	15	....	45	....	10	1	Oat hay..	Timothy hay..	6 00	0 45
N 3.....	A.S. 7 ...	....	30	15	....	45	....	10	1	" ..	" ..	6 00	0 45
	Aggregate.....								3			18 00	2 50
	Average per acre 1905.....								1			6 00	0 89

ROTATION 'M.'

This rotation of six years duration includes in its crops grain, grain, clover hay and then timothy hay or mixed hay for three years. First year grain is sown on sod ploughed late in the fall. In the spring the land is disked, harrowed and sown with 10-pound of red clover seed per acre at the same time as the grain is sown. After the grain is harvested the clover is allowed to grow as late as possible and the land ploughed the last thing in the fall. The next spring 8 pounds of red clover and 10 pounds timothy seed is sown with the grain and the land put in as good shape as possible.

Clover hay follows the second year grain. It is cut twice in the year and the last aftermath not pastured.

Timothy hay or mixed hay then occupies the land for three consecutive years. Manure is applied in the fall of the second year that the field is under hay.

M 1. This field was sown to oats May 1 and cut August 11. It includes a very considerable area of black mucky soil which on account of the season became infested with weeds and the crop had to be cut and fed green to cattle. In giving the returns for this field this fact was borne in mind and allowance made.

M. 2. This field was under clover hay.

M. 3. This field was the one in the rotation that received manure in the fall of 1904.

'M.'

includes clover in the hay. Area 3 acres.

Items of Expense in Raising Crop of 1905.								Particulars of Crop of 1905.						
Manual Labour.		Horse Labour.												
No. of Hours.	Cost of manual labour	No. of hours with team.	No. of hours with horse.	Value of horse labour	Threshing.	Total cost.	Cost for 1 acre.	Grain.	Straw.	Hay.	Roots and ensilage.	Total value.	Value of crop per acre.	Profit per acre in 1905.
Hrs.	$ cts.	Hrs	Hrs	$ cts.	$ cts.	$ cts.	$ cts.	Lbs.	Lbs.	Lbs.	Lbs.	$ cts.	$ cts.	$ cts.
6	0 90	16¾	....	5 02	1 10	15 62	15 62	18 20	36 10	.....	.....	25 42	25 42	9 80
18½	2 77	11	4	4 10	.....	13 67	13 67	..	....	8,830	.....	30 84	30 84	17 17
18½	2 77	11	4	4 10	...	13 67	13 67	... .	.....	10,950	.....	38 32	38 32	24 65
43	6 44	38¾	8	13 22	1 10	42 96	42 96	18 20	36 10	19,780	....	94 58	94 58	51 62
14	2 15	13	3	4 41	0 37	14 32	14 32	6 07	12 03	6,593	.....	31 53	31 53	17 21

'N.'

such as may happen to get in from unknown sources. Area 3 acres.

6	0 90	16¾	½	5 12	0 95	13 57	13 57	15 60	31 90	.....	.....	21 98	21 98	8 41
10	1 50	6	2	2 20	.... .	10 15	10 15	... ..	... ..	4,830	.....	19 32	19 32	9 17
10	1 50	5½	2	2 05	.....	10 00	10 00	.....	.....	6,200	.. ....	24 40	24 40	14 40
26	3 90	28¼	4½	9 37	0 95	33 72	33 72	15 60	31 90	11,030	.... ..	65 70	65 70	31 98
9	1 30	9⅓	....	3 12	0 32	11 24	11 24	5 20	10 63	3,676	.....	21 90	21 90	10 66

ROTATION 'N.'

This rotation of six years' duration includes in its crop grain, grain and timothy hay for four years.

The first year's grain is sown on land that had been ploughed six inches deep the fall previous. No grass or clover seed of any kind is sown with it. The stubble is ploughed in the fall and with the grain of the second year timothy seed is sown at the rate of 12 pounds per acre. Every care is taken to insure a good catch and the land put in as good shape as possible to remain in meadow four years.

Timothy hay is then the crop for four years, manure being applied in the fall of the second year of hay.

N 1. This field was sown to oats May 1 and cut Aug. 11. It includes a very considerable area of black mucky soil which on account of the season became infested with weeds, and the crop had to be cut and feed green to cattle. In giving the returns for this field below this fact was borne in mind and allowance made.

N. 2. This field was under timothy hay.

N. 3. This field was the one in the rotation that received manure in the fall of 1904.

ROTATION

This rotation of three years duration has no

Lot.	Location.	Description of Soil.							Area in acres.	Crop.	Crop.	Rent and manure.	Seed, twine and use of machinery.
		Sand.	Sandy loam.	Clayey loam.	Clay.	Black muck.	Gravel.	Hardpan.					
		p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	Ac.	1904.	1905.	$ cts.	$ cts.
O 1	A. S. 8	....	30	15	....	45	....	10	1	Oat hay	Hay	6 00	0 60
O 2	A. S. 10	....	30	15	....	45	....	10	1	"	Oats	6 00	2 30
O 3	A. S. 12	....	30	15	....	45	....	10	1	Oats	Hay	6 00	1 30
	Aggregate								3			18 00	4 20
	Average per acre in 1905								1			6 00	1 40

ROTATION

This rotation of three years duration

P 1	A. S. 9	....	30	15	....	45	....	10	1	Oat hay	Hay	6 00	1 30
P 2	A. S. 11	....	30	15	....	45	....	10	1	"	Oats	6 00	1 30
P 3	A. S. 13	....	30	15	....	45	....	10	1	Oats	Hay	6 00	0 60
	Aggregate								3			18 00	3 20
	Average per acre in 1905								1			6 00	1 07

ROTATION 'O.'

This rotation is three years' duration and includes grain, timothy hay, timothy hay.

The field intended for grain is ploughed early in the fall and cultivated at intervals to insure the sod rotting. It is ploughed again late in the fall and with the grain, the next spring, timothy seed is sown at the rate of 12 lbs. to the acre.

Timothy hay is cut for two years and the land again ploughed early in the fall. Manure is applied in the fall of the first year under hay.

O 1. This field was under timothy hay.

O 2. This field was sown to oats May 1, cut August 11. It includes a very considerable proportion of black mucky soil which, on account of the season, became infested with weeds and the crop on that part had to be cut and fed green to cattle. In giving the returns for this field below this fact was borne in mind and allowance made.

O 3. This field was under timothy hay and was the field to receive manure in the fall of 1904.

'O.'

clover included in its crops. Area 3 acres.

Items of Expense in raising Crop of 1905.								Particulars of Crop of 1905.						
Manual Labour.		Horse Labour.												
No. of hours.	Cost of manual labour.	No. of hours with team.	No. of hours with single horse.	Value of horse labour.	Threshing.	Total cost.	Cost for 1 acre.	Grain.	Straw.	Hay.	Roots and ensilage.	Total value.	Value of crop per acre.	Profit per acre in 1905.
Hrs.	$ cts.	Hrs	Hrs	$ cts.	$ cts.	$ cts.	$ cts.	Lbs.	Lbs.	Lbs.	Lbs.	$ cts.	$ cts.	$ cts.
10	1 50	5½	2	2 05		10 15	10 15	.....	.....	4,290	.....	16 58	16 58	6 43
6	0 90	16½	½	5 05	1 02	15 27	15 27	1,690	3,280	.....	.....	23 46	23 46	8 19
10	1 50	5½	2	2 05	.....	10 85	10 85	.....	.....	5,000	.....	20 00	20 00	9 15
26	3 90	27½	4½	9 15	1 02	36 27	36 27	1,690	3,280	9,290	.....	60 04	60 04	23 77
8⅔	1 30	9⅙	1½	3 05	0 34	12 09	12 09	563	1,093	3,097	.....	20 01	20 01	7 92

'P.'

includes clover. Area 3 acres.

18½	2 77½	10½	4	3 95	.....	14 02	14 02	.....	.....	8,210	.....	28 73	28 73	14 71
6	0 90	16½	½	5 05	0 90	14 15	14 15	1,494	3,256	.....	.....	21 45	21 45	7 30
18½	2 77½	19½	4	3 95	.....	13 33	13 32	.....	.....	10,990	.....	38 46	38 46	25 14
43	6 45	37½	8½	12 95	0 90	41 50	13 83	1,494	3,256	19,200	.....	88 64	88 64	15 72
14⅓	2 15	12½	2⅚	4 32	0 30	13 83	13 83	498	1,085	6,400	.....	29 55	29 55	15 72

ROTATION 'P.'

This rotation is of three year's duration and includes grain, clover hay, and timothy hay or mixed hay.

The field intended for grain is ploughed early the previous fall and cultivated at intervals to insure the sod rotting. It is again ploughed late in the fall and left till seed time next spring. With the grain is sown ten pounds clover and ten pounds timothy.

Manure is applied in the fall of the first year of hay.

P 1. This field was under clover hay.

P 2. This field was sown to oats May 1, cut August 11.

It includes a very considerable proportion of black mucky soil which on account of the peculiar weather became infested with weeds, and the crop on that part had to be cut and fed green to cattle.

In giving the returns for this field below this fact was borne in mind and allowance made.

P 3. This field was under clover hay and was the field to receive manure in the fall of 1904.

SUMMARY OF OPERATIONS ON '200 ACRE FARM.'

Returns as per statements, pages 73 to 89 inclusive		$ 5,590 08
EXPENDITURES.		
Rent, labour and manure as per statements on pages 73 to 89 inclusive	$ 3,444 18	
Extra manure (not included in statements mentioned above but produced by live stock on experimental farm and applied to '200 Acre Farm')	414 00	
Total expenditure	$ 3,858 18	
		$ 3,858 18
Balance		$ 1,731 90

REPORT OF THE HORTICULTURIST

(W. T. Macoun.)

December 1, 1905.

Dr. Wm. Saunders, C.M.G.,
Director, Dominion Experimental Farms,
Ottawa.

Sir,—I have the honour to submit herewith the nineteenth annual report of this division. The results of some of the most important experiments conducted during the year and information regarding other work of the horticultural division will be found in this report.

CHARACTER OF SEASON.

The winter of 1904-5 while not a very severe one, was marked by long spells of cold weather, but as there was a good depth of snow no special injury was done. Winter set in on November 24, 1904, with snow and frost. The snow gradually increased in depth, but was reduced a little on December 31, when the temperature rose to 35·7°F. This, however, was the only day in December when the temperature rose above freezing, it being a cold month. The coldest day of the month and the coldest of the winter was Christmas day, when the temperature went down to 20·6°F. below zero. January was a moderately cold month. While the temperature rose above freezing it was only for a few hours, and there was no real thaw during the month. The lowest temperature was 20°F. below zero on January 14. The heaviest snowstorm in many years occurred on January 6 and 7, the high wind causing the snow to drift badly. This was followed by another heavy storm on the 10th. By the middle of the month there were about three feet on the level, affording excellent protection for the roots of trees and for low growing plants. February was a cold month, the temperature not once rising above freezing. The lowest temperature was 18·7°F. below zero on the 16th. The weather continued cold up to March 18, the temperature falling to 16°F. below zero on the 14th, a low temperature for March. On the 18th there was heavy rain and the snow may be said to have begun to go on that date. There were about three feet on the level when it began to melt, but there was an almost continuous thaw until April, and by April 1, while there were still patches of snow on the ground, about half the surface of the soil was bare. Owing to the snow coming in November and remaining, there was very little frost in the ground during the winter, hence the soil could be worked soon after the snow disappeared. The first ploughing was done in the orchard on April 15, but spades were used on the 13th. There was very little rain in April and owing to the comparatively cool weather through most of the month it was very favourable for planting. The highest temperature was on the 28th, when it rose to 75°F. The last spring frost recorded was on May 2, when the temperature was 29·5°F., although light local frosts were noticed in this locality later in the month. The weather in May was alternately warm and cool. The highest temperature during the month was 78·8°F. on the 25th. At the end of May the vegetation was from a week to ten days later than the average. Vegetation was showing the need of rain badly at the beginning of June, but on the 2nd there was a fine rain. There was a light frost in low places on June 3. On June 10 the season was considered still ten

days later than the average. From June 12 until July 19, the weather was almost constantly warm. For ten days in June and for sixteen days in July the temperature was 80°F. and above. The highest recorded in June being 86·5°F. on the 20th, and the highest in July 91·4°F. on the 18th. While the weather became a little cooler on July 20, it continued warm until August 12. As there was plenty of rain during this long spell of warm weather growth was rapid. The latter part of August was moderately warm and bright. The highest temperature was 86·6°F. on the 10th. September was moderately warm and with occasional showers up to the 23rd, when it became cool and remained so to near the end of the month. The highest temperature was 80·2°F. on the 10th, and the nearest approach to frost recorded was on September 26, when it fell to 32·2°F. There was, however, a light frost on September 13th, not recorded by the thermometer, which killed cucumbers and melons and in places touched tobacco, although the injury to the latter was not great. On September 26, tomatoes and other tender things were killed. October was a fine month. The first ten days were moderately warm, the temperature rising to 76°F. on the 1st, and the rest of the month varied from cool to moderately warm. The night temperatures were rather low, both in September and October, though no frost was recorded until October 7, when the temperature fell to 29·5°F. The first severe frost was on the 22nd, when the temperature was 22·8°F., and after that date there were several frosts, the lowest occurring on the 30th, when it was 16·5°F. November was cool and frosty. On the 6th there was a fall of 2½ inches of snow, and on the 8th, 2 inches more. This melted slowly, and was practically gone on November 13, when the temperature dropped to 16·8°F., and to 10°F. on the 14th, stopping ploughing. The ground remained frozen, preventing ploughing, until November 24, when there was little frost left in the ground. There was heavy rain on November 26, and on the 27th the ground froze again and winter may be said to have set in on that date.

FRUIT AND VEGETABLE CROPS.

There was a good supply of fruit and vegetables in the provinces of Ontario and Quebec this year, although the apple crop was below the average in most sections of Ontario, and hence there was not as much fruit exported as last year. The light crop of apples this year was no doubt in a measure due to the severe winter of 1903-4, which weakened many trees. This was followed by a bountiful harvest in 1904, which probably further weakened the trees, which were not able to support another good crop this year. In the Ottawa Valley, where the crop was very good, bearing trees were for the most part of hardy varieties, which were uninjured by the winter of 1903-4, the tenderer kinds having been killed outright. Summer and autumn varieties sold at low prices, but winter fruit, for which there was a strong demand, brought very remunerative returns.

The peach, pear, plum, and cherry crops were all good. The cherry rot and ripe rot on the plums, however, caused considerable loss. The grape crop was good and the black rot not nearly so bad as last year. The crops of all bush and small fruits were good. Tomatoes were not so plentiful as last year, owing to the cool spring, but prices were better. Other vegetables were abundant, with the exception of potatoes, which were much injured by blight and rot in most sections, except where sprayed with Bordeaux mixture.

At the Central Experimental Farm the apple crop was good and the fruit practically uninjured by either codling moth or black spot. There was a light crop of Russian pears and cherries, but the crop of Americana and Nigra plums was good; some of the Domestica varieties also fruited this year. The grape crop was very good, but owing to the comparatively cool autumn the fruit did not ripen as thoroughly as in some years, although 90 varieties matured sufficiently to be called ripe. The crops of raspberries, currants and gooseberries were all good. Strawberries bore a medium

crop. Most vegetables did well, but the season was too cool and showery for melons, which were practically a failure, and tomatoes did not yield as much ripe fruit as in drier and warmer seasons. Leaf blight affected the cabbage and cauliflower to a considerable extent, preventing them from developing as well as usual. The potato crop was good where the vines were well sprayed with Bordeaux mixture, but unsprayed plots suffered badly from blight and the crop was much reduced.

MEETINGS ATTENDED AND PLACES VISITED.

During the year the following meetings were attended and addresses given where intimated:—

Quebec Pomological Society, Ayer's Cliff, P.Q., December 14 and 15, 1904: 'Potato Culture.'

Prince Edward Island Fruit Growers' Association, Charlottetown, P.E.I., December 20, 21, 1904: 'Guides to Success in Fruit Culture,' 'Strawberry Culture.'

Society for Horticultural Science, Philadelphia, December 27-28: 'The Horse Bean as a Cover Crop.'

Vermont State Fruit Growers' Association, Vergennes, Vt., February 9-10, 1905. 'The Cherry.' 'The Strawberry.'

Niagara Fruit Growers' Association, meetings at Jordan Station, Queenston and St. Catharines, March 16, 17, 18, 1905. 'Diseases of the Grape' and 'Strawberries.'

Ontario Agricultural Department, Demonstrations in Spraying, St. Catharines and Virgil, April 18-19, 1905.

'Demonstration of Making Kerosene Emulsion with Flour.'

Quebec Pomological Society, St. Hilaire, P.Q., August 23-24, 1905. 'Report on Fruit Exhibits.'

Toronto Exhibition, September 12, 1905. Examination of Fruit Exhibits.

Ontario Fruit Growers' Association.

Ontario Vegetable Growers' Association.

Ontario Horticultural Association, Toronto, November 14, 15, 16, 17, 18, 1905. 'Report on New Fruits.' 'Fruit Growing in Great Britain and Ireland,' 'The Botanic Garden of the Central Experimental Farm,' 'The Best Varieties of Vegetables.'

While in Great Britain and Ireland during the summer of 1905, I visited many places of interest and the information obtained should prove of considerable value in connection with the horticultural work here. Among the places visited may be mentioned the Department of Agriculture, Dublin, Ireland, and the Government Farm and Botanic Gardens at Glasnevin, Ireland; the Daisy Hill Nurseries, Newry, Ireland; the Fruit Districts of Armagh county, Loughgall and Anaghmore, Ireland, being others of principal points visited. Dickson's Nurseries at Belfast were also examined. While in England a visit was paid to the Royal Gardens, Kew; the Horticultural College, Swanley, Kent; the Horticultural College, Reading; Sutton's Trial Grounds, Reading, and the Woburn Fruit Experiment Station, Ridgemont, at all of which places many interesting things were seen.

ACKNOWLEDGMENTS.

It is again a pleasure to acknowledge the services of Mr. J. F. Watson and Mr. H. Holz, who in the performance of their various duties have done much to make the work of the division successful. The faithful work of Mr. F. Horn, foreman in the Arboretum and Botanic Garden, is acknowledged.

The information furnished by many fruit growers in Canada and the United States has been much apreciated, as in order to make the experimental work here of the greatest value it should be supplemented by the experience of others.

DONATIONS.

Each year there are many valuable donations of plants, scions, seeds, etc., and in the following list will be found an acknowledgment of those that were received during the past year.

Donations.	Sender.
New Jersey Experiment Station, New Brunswick, N.J., U.S.	Seeds of corn, tomatoes, peppers, and egg plants.
James Miller, Lyn, Ont.	One Miller Hand marker.
J. F. Wagner, Bennett, Iowa, U.S.	Scions of 194, 197 and 199 Seedling plums.
Wm. A. Anderson, West Union, Iowa, U.S.	Scions of Anderson plum.
Ohio Experiment Station, Wooster, Ohio, U.S.	Apple scions—15 varieties.
L. Cameron, Iroquois, Ont.	Scions of Seedless apple, McIntosh Sweet and Fall Greening.
Ontario Agricultural College, Guelph, Ont.	Pearl of Savoy, Empire State and American Wonder potatoes.
P. Carstesen, Billings' Bridge, Ont.	Scions of early native plum.
C. L. Stephens, Orillia, Ont.	Scions of Northern Spy and King apples.
Trappist Fathers, Oka, Que.	Scions of American Golden Russet apple.
Botanic Garden, Upsala, Sweden.	Collection of seeds.
T. Rowan, Macgregor, Man.	Wee Macgregor potato.
John McCarty, Semiwagan Ridge, N.B.	Scions of No. 1 and No. 2 and Esson seedling apples.
Dr. A. Harkness, Lancaster, Ont.	Apple scions.
J. P. Cockburn, Gravenhurst, Ont.	Scions of Rakestrow apple and Gopon plum.
W. H. Dempsey, Trenton, Ont.	Apple scions.
E. Kenny, St. Vincent de Paul, Que.	Scions of seedling apple.
D. E. Bloomfield, Scotland, Ont.	Scions of unknown apple.
W. L. Rowell, Ayers' Cliff, Que.	Scions of Lincoln apple.
C. R. Dickie, Muddy Creek, P.E.I.	Velvet beans.
Miss P. L. Baker, Oakville, Ont.	Scions of seedling apple.
The Templin Co., Calla, Ohio, U.S.	3 plants Cardinal strawberry.
Amherst Agricultural College, Amherst, Mass., U.S.	Scions of Palmer Greening apple.
A. C. Sharpley, Arizona, Man.	Northern Star, Sir John Llewellyn and Duke of York potatoes.
W. L. Scott, Ottawa, Ont.	Scions of unknown apple.
Thos. Bousfield, Carlisle, Ont.	Snider Best Early potato
W. A. Smith, Roblin, Man.	Sutton's Sion House potato.
Vermont Experiment Station, Burlington, Vt., U.S.	Rust-proof, June and Sutton's Discovery potatoes.
Henry E. Wright, Summerside, P.E.I.	2 trees Abegweit plum.
H. G. Schmidt, Cross Lake, Ont.	Four varieties of beans.
J. F. Litooy, Everett, Wash., U.S.	Plants of Mammoth and Himalaya Blackberries and Phenomenal raspberry.
A. M. Smith, St. Catharines, Ont.	Plants of two seedling strawberries.
C. Draffin, Merivale, Ont.	Fantail Rose and Early Pride potatoes.
Chas. H. Smith, Sand Beach, Yarmouth, N.S.	Plants of seedling strawberry.
Thos. C. Paddon, Toronto, Ont.	Scions of seedling plum.
Dr. Mackay, Halifax, N.S.	Plants of Heather.
Hon. F. R. Latchford, Ottawa, Ont.	Buds of Latchford plum.
W. J. Malden, Surbiton, England.	Malden's Recorder potato.
L. A. Sovereign, Round Plains, Man.	Potatoes.
John Scott, ———	Recorder, Duches of Cornwall, and Eldorado potatoes.
———, Oshawa, Ont.	Hard to Beat potato.
Isaac Lindsay, Sawyerville, Que.	Canadian Red potato.
Charles Scott, Melville Cross, Ont.	Magyar potato.
J. M. Macoun, Ottawa, Ont.	Seeds of *Lilium Philadelphicum* from wet ground.
J. W. Johnston, Campbellford, Ont.	Scions of seedling plum.
Miss Maggie McLaurin, Dalkeith, Ont.	Scions of Craignaivie apple.

SESSIONAL PAPER No. 16

THE TESTING AND THE ORIGINATION OF NEW FRUITS AT THE CENTRAL EXPERIMENTAL FARM.

There is a large collection of promising new fruits at the Central Experimental Farm, the result of eighteen years' work in gathering together the varieties advertised by nurserymen and the best seedlings not yet offered for sale. Many seedlings have also been raised from the best varieties which have fruited at Ottawa, and many others from seed imported from Russia. Work in cross-breeding has also been carried on, and varieties originated in this way are now beginning to fruit. If a man sends a seedling fruit for examination and it is considered promising, scions are asked for and if received are propagated and later on the young trees are planted in the orchard. At the present time there are over 100 such promising seedlings of apples alone which are being tested in this way. The results of these experiments take time, and it has always been the policy of the Horticulturist to thoroughly test a variety before recommending it for general planting. For this reason, there have been comparatively few additional kinds added in recent years to the list of those recommended. When we are convinced, however, that a variety is a decided acquisition, the planting of it is strongly recommended. The McIntosh Red apple is an example of this. The information furnished regarding this fine variety has undoubtedly done much to extend the planting of it during recent years.

Nearly 2 000 seedlings of McIntosh Red, Fameuse, Swayzie Pomme Grise, Lawver, Northern Spy, Winter St. Lawrence, Wealthy, Salome and other varieties are under test. This year 37 of these fruited. Few of them were promising, but the majority of them were apples of good size and fair quality. An orchard of 3,000 trees of seedling apples from seed imported from Russia has, after testing the fruit, been reduced to 75 trees, which have borne the best fruit, the rest having been destroyed. While but few of these will prove of value in the warmer parts of Ontario and Quebec, a greater number may be found valuable for the North. In a few years the crosses made with McIntosh Red, Lawver, Northern Spy, Milwaukee and North Western Greening will begin to fruit and from these something good should be obtained. There are also seedling plums, currants, raspberries, grapes and strawberries in the Horticultural Department, of which there are some that we are confident will yet find a place among commercial varieties. Descriptions of the most promising varieties originated and tested at the Central Experimental Farm have appeared from time to time in the annual reports.

SEEDLING FRUITS RECEIVED FOR EXAMINATION—1905.

The following seedling varieties were received for examination this year. Full descriptions are published of those considered promising, and only a partial description of those of less merit. These descriptions are valuable because they constitute a record of all the promising seedling fruits which come under our notice. If any of these varieties should in future years be grown in the commercial nurseries of Canada their history can be traced and the description given by the nurseryman compared with the original description published in these reports. These descriptions not only serve as a record, but they bring these varieties and their characteristics under the notice of many fruit growers who, if they desire, can test the more promising ones themselves, providing of course, that scions can be obtained.

Fruit growers are asked to continue to send in specimens of promising varieties, as in this way those of exceptional merit will find recognition.

Record.	Province.	Name and Address of Sender.	Description of Fruit.
316	Nova Scotia.	E. Zwickers, Oakland...	Medium size, yellow with a red blush on sunny side; Medium to above medium quality; season autumn; not good enough in quality.
317	Quebec.....	R. Hamilton, Grenville..	'Large Fameuse Seedling D.' (See full description.)
318	"	" " ..	'No. 10.'—Medium size; pale yellow, well washed with bright crimson; quality good; season October to November. A handsome apple but not sufficiently promising.
319	"	" " ..	'No. 26.'—Below medium size; yellow well splashed and washed with dull crimson; quality good to very good; season November. Too small.
320	"	" " ..	'No. 36.'—Best keeping good apple; medium size; pale yellow splashed with crimson; quality medium; season early to midwinter. Not specially promising.
321	"	" " ..	'No. 4.—Keeper, light green, striped.' (See full description.)
322	"	" " ..	'X.—Resembles Salome.' Medium size; greenish yellow, faintly splashed with pink on sunny side; quality above medium; season early to mid or late winter; not good enough in quality.
323	"	A. J. Langlois, St. Malo.	Medium size; pale yellow splashed and washed on sunny side with crimson; quality good; season mid to late September; not sufficiently promising.
324	Ontario	Samuel Greenfield, Ottawa East.	'Greenfield Seedling.'—Medium to above medium in size; pale greenish yellow splashed and washed with crimson; quality above medium; season early to mid August; not equal to Lowland Raspberry.
325	"	Ed. Hall, Ottawa.....	Medium size; greenish yellow, splashed and washed with crimson; quality medium to above medium; season evidently September to October. A handsome apple but not good enough in quality.
326	"	John McKay, Creemore.	Medium size; yellow well washed with dark crimson; medium quality; season mid to late September; not sufficiently promising.
327	" ...	C. L. Stephens, Orillia..	Below medium size; yellow with a faint pink blush; quality good; season evidently mid to late September; too small and not sufficiently attractive.
328	" ...	Thos. A. Harsant, Glen Orchard.	Two small apples of inferior quality; one pale yellow with a few crimson splashes; the other, pale yellow with a pink blush.
329	" ...		
330	"	Wm. Pratt, Penetanguishene.	Medium size; yellow well splashed and washed with crimson; quality above medium; season evidently October. Handsome but not as good as Wealthy, which is of the same season.
331	"	Wm. Pratt. Penetanguishene.	See full description.
332	"	J. J. McGovern, Ottawa.	Large; pale yellowish green splashed and streaked with dull purplish red; quality medium; season evidently October.
333	"	R. Coughan, M.D., Hastings.	See full description.
334	"	R. A. Marrison, Cataraqui.	See full description.
335	"	E. Lafontaine, Ottawa ..	Size above medium; greenish yellow splashed and washed with crimson; quality above medium; season October; not sufficiently promising.
336	"	Louis Charron, Ottawa..	Large; pale green with a crimson blush on sunny side; quality above medium; season probably October to November; not sufficiently promising.
337	"	Sam. Greenfield, Ottawa East.	'Greenfield No. 6.'—Above medium size; pale green splashed and streaked with dull red on sunny side; quality good; season late autumn to early winter; not attractive in appearance. Not as good as McIntosh which is of the same season.
338	"	Sam. Greenfield, Ottawa East.	'Greenfield No. 5.'—Above medium to large: yellow well washed with rather bright crimson; quality above medium; season evidently October to November; not juicy enough for a good sweet apple.
339	"	W. L. Scott, Ottawa.....	See full description.

Photo by F. T. Shutt.

English Horse Beans, used for Snow and Wind-break. April 26th, 1905.

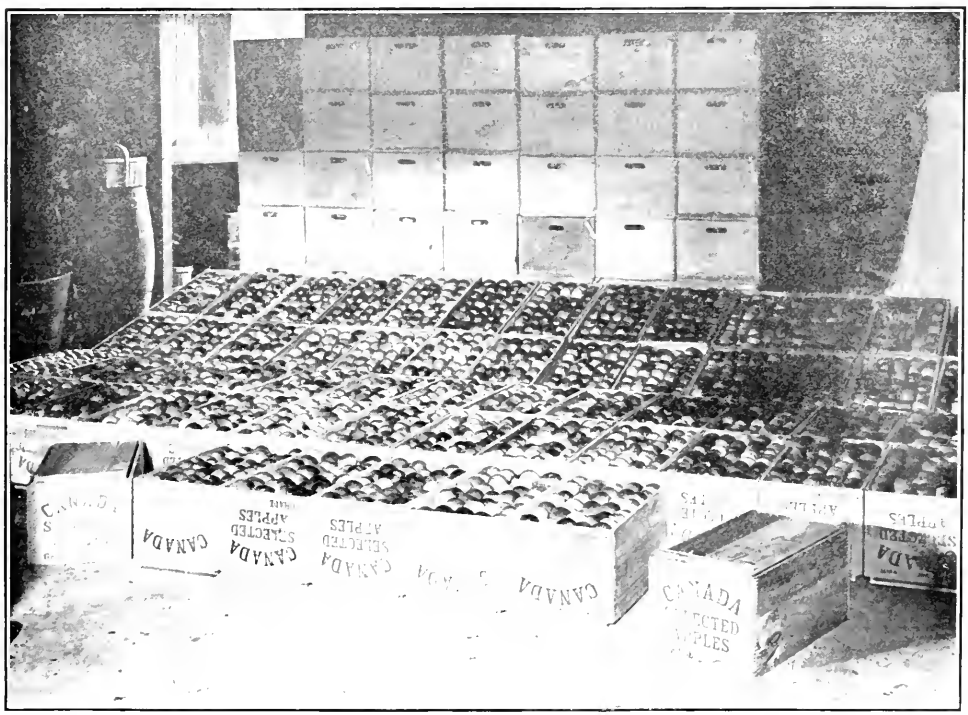

Photo. by F. T. Shutt.

Wealthy Apples Packed for Shipment to Glascow.

Record.	Province.	Name and Address of Sender.	Description of Fruit.
340	Manitoba ..	A. H. Rogers, Gladstone.	Seedling No. 1.—Small, 1½ by 1⅜ inch.; greenish yellow; quality above medium; season evidently October.
341	" ..	" " ..	Seedling No. 2.—Small, 1¼ by 1½ inch.; yellow, with a bronze blush on sunny side; quality medium to below; season evidently October; not very promising.
342	" ..	" " ..	Seedling No. 3.—Quite small; green well washed with deep crimson; too small.
343	Ontario ...	W. C. Wilson, Hawkstone.	Medium size; yellow, washed and splashed with orange red; mildly subacid; season late winter; not sufficiently promising.
344	"	Maggie McLaurin, Dalkeith.	See full description of 'Craignaivie.'
345	Quebec.....	W. L. Rowell, Ayer's Cliff.	See full description of 'Lincoln.'

APPLES.

No. 317. From R. Hamilton, Grenville, Que.—Large Fameuse Seedling, D.—Fruit above medium size; form oblate; cavity medium depth and width; russeted at base; stem short, moderately stout; basin open, medium depth, nearly smooth; calyx open; colour pale yellow or whitish well washed and splashed with crimson; dots obscure; skin moderately thick, rather tough; flesh white, slightly tinged with red, tender, juicy; core medium; subacid, pleasant, Fameuse-like flavour; quality good to very good; season probably October to mid November.

A good dessert apple, much like Fameuse in quality but coarser in flesh.

No. 321. From R. Hamilton, Grenville, Que., 'Keeper, light green, striped with red, well coloured on top of tree. No. 4.'—Fruit medium size; form roundish to oblate; cavity open, deep; stem short, moderately stout; basin medium depth and width, wrinkled; calyx closed; colour pale greenish yellow washed with red on sunny side; dots indistinct; skin moderately thick, tender; flesh white, tender, juicy; core small; mildly subacid, pleasant flavour; quality good to very good; season probably early to mid winter.

A good deal like Princess Louise both in appearance and quality. May be promising.

No. 331. From Wm. Pratt, Penetanguishene, Ont., Seedling No. 2.—Fruit medium size; form roundish; cavity narrow, medium depth; stem medium length, moderately stout; basin medium depth and width, wrinkled; calyx partly open or closed; colour yellow well washed and splashed with rich crimson; dots numerous, yellow, distinct; skin moderately thick, rather tough; flesh dull white, firm, juicy; core small; subacid, pleasant flavour, not high; quality above medium; almost good; season probably early winter to mid winter. Supposed to be a seedling of Wealthy. Grown on an adjoining farm to Wm. Pratt. A handsome apple.

No. 333. From R. Couglan, (M.D.), Hastings, Ont.—Fruit medium size; form oblate to roundish; cavity deep, medium width, russeted; stem short, slender; basin medium depth and width, smooth; calyx partly open; colour yellow, almost entirely covered with bright crimson; dots moderately numerous, yellow, distinct; skin moderately thick, tender; flesh white, tinged with red, tender, juicy; core small; briskly subacid, little decided flavour, quality above medium; season probably mid September.

A seedling growing in a remote part of farm near Hastings village.

A very handsome apple with an aroma. Of good shape. May prove a useful apple at this season of the year.

No. 334. From R. A. Marrison, Cataraqui, Ont., Seedling Crab Apple.—Fruit large for a crab; 2 by 2½ inches; form roundish, slightly angular; cavity medium depth and width; stem long, slender; basin open, medium depth, much wrinkled; calyx closed; colour yellow well washed with deep crimson and splashed with dark crimson; dots few, yellow, distince; skin moderately thick, moderately tough; flesh yellow, tender, juicy; core medium; briskly subacid, pleasant flavour, very little astringency; quality good for a crab; season probably early to mid October.

A handsome crab of the largest size. May prove desirable as a late variety.

No. 344. Craignaivie—Seedling from Maggie McLaurin, Dalkeith, Ont.—Fruit large; form roundish to oblate, conic; cavity deep, medium width; stem medium length, moderately stout; basin medium depth and width, wrinkled; calyx closed; colour pale yellow, well washed on sunny side with bright red; dots obscure; skin rather thin, tender; flesh white, tender, melting, juicy; core medium, mildly subacid; quality good to very good; season probably mid winter to late winter.

A handsome apple of good quality, and if hardy may be useful. 'A graft from a seedling planted by my father long years ago. Very good cookers and bakers.'

No. 345. Lincoln—Seedling from W. L. Rowell, Ayer's Cliff, P.Q.—Fruit above medium size; form roundish conical; cavity narrow, shallow; stem short, slender; basin shallow, narrow; calyx closed; colour pale yellowish green splashed and washed with dull dark purplish red; dots obscure, skin thick, tough; flesh white, tender, juicy; core medium; mildly subacid, pleasant flavour; quality good; season probably mid to late winter. Resembles Winter St. Lawrence very much in outward appearance. A good dessert apple.

APPLES.

After the severe winter of 1903-04, which killed so many varieties of apples in the orchard at the Experimental Farm, a number of trees not killed outright were left in a weakened condition. Most of these either died since or have been removed, so that quite a number of vacancies occurred in the orchard this year. These were practically all filled by other kinds or by more trees of the varieties which withstood the winter of 1903-4. The winter of 1904-5 was a favourable one and few additional kinds were injured. There are still in the apple orchards 435 varieties exclusive of the seedlings originated at the Central Experimental Farm. Owing to the favourable season, the trees made fine growth this year. The crop was good and the fruit clean, being practically free of both spot and codling moth. The early varieties were sprayed three times with Bordeaux mixture, and the later ones four times. There were 193 varieties which fruited.

Three different cover crops consisting of hairy vetch, rape and buckwheat were used this year to aid in protecting the roots of trees this winter in the standard orchard. The Russian orchard was in sod this year, but this will be broken up in the spring.

VARIETIES OF APPLES NEW OR NOT WELL KNOWN IN ONTARIO AND QUEBEC.

Many descriptions of apples have been made at the Central Experimental Farm during the past eighteen years, and a large number have been published from time to time in the annual reports, but as there are many others which have not been, it is considered advisable to continue publishing descriptions of the newer and not well known sorts. The following descriptions were all made from fruit grown at the Central Experimental Farm, with a few exceptions, from outside sources, which are mentioned.

Allen Choice.—Originated in Pennsylvania:—Fruit below medium size; form oblate; cavity medium depth and width; stem short to medium, moderately stout; basin shallow, open, wrinkled; calyx open; colour pale yellow splashed and washed with deep red; dots moderately numerous, grey, distinct; skin moderately thick, tender; flesh yellowish, crisp, juicy; core small; subacid, pleasant flavour, sprightly; quality good; season mid winter to late winter.

A pretty apple of good quality. A little under sized, but evidently a good keeper. Not sufficiently hardy at Ottawa.

Arthur.—Originated in Northern Iowa:—Fruit roundish to oblong; size medium; cavity deep, narrow, slightly russeted near base; stem long, slender; basin deep, medium width, smooth; calyx open or closed; colour yellow splashed and streaked with purplish red, mostly on sunny side; dots moderately numerous, grey, distinct; skin thick, rather tough; flesh yellow, rather coarse, moderately juicy, subacid; core small to medium; quality medium; season early to mid winter. Tree hardy, vigorous and productive, but not desirable here.

Bessie.—Originated in Wisconsin:—Fruit roundish, angular; size large to very large; cavity deep, medium width, russeted; stem short, stout; basin deep, medium width, almost smooth; calyx open; colour pale yellow well splashed and streaked with bright red; dots few, pale, indistinct; skin moderately thick, tender; flesh white, crisp, rather coarse, juicy, subacid; core small; quality above medium; season late September, October. Tree hardy, vigorous and a moderate bearer. A large, handsome apple, but too coarse for dessert.

Bismarck.—Originated in New Zealand:—Fruit roundish, conical; size large; cavity deep, medium width, russeted; stem short, slender; basin deep, open, wrinkled; calyx open; colour greenish yellow, well washed and splashed with rich crimson; dots obscure; skin moderately thick, moderately tough; flesh dull white, coarse, juicy subacid; core small; quality medium; season November, December. Tree a poor grower, but an early and abundant bearer. Quality not good enough. Of doubtful hardiness. Fruit received from W. H. Dempsy, Trenton, Ont.

Black Annette.—Originated in Ohio:—Fruit roundish; size small; cavity medium depth and width, russeted; stem medium length, slender; basin open, shallow, wrinkled; calyx open; colour yellowish green washed with deep, dull purplish red; dots numerous, small, pale distinct; skin rather thick, tough; flesh greenish yellow, moderately juicy, tender; core medium; briskly subacid, somewhat like R. I. Greening in flavour; quality above medium; season late winter. Tree an early bearer. Hardy until winter of 1903-4.

Brockville Beauty.—Originated in Eastern Ontario:—Fruit roundish, conical; size medium to above medium; cavity open, medium depth; stem short, stout; basin medium depth and width, slightly wrinkled; calyx open; colour pale yellow well washed and splashed with orange red; dots obscured; bloom none; skin rather thick, tender; flesh yellow, firm, coarse, moderately juicy, brickly subacid; core medium; quality above medium; season early September. Tree vigorous and productive, but fruit drops badly. A pretty apple.

Cellini.—Originated in England:—Fruit roundish, obtusely conical; size large to very large; cavity medium depth and width or rather open, russeted; stem medium length, stout; basin deep, very open, slightly wrinkled; calyx open; colour greenish yellow well washed and splashed with deep red; dots obscure; skin rather thick, tender; flesh white, tinged with yellow; tender, melting, moderately juicy; core small, briskly subacid with a high flavour; quality good to very good; season late October to November. Quite hardy at Ottawa. Tree vigorous and productive.

Clayton.—Originated in Indiana:—Fruit above medium size; form oblate, conic, angular; basin medium depth and width, slightly wrinkled; cavity medium depth, open, stem short to medium, stout; calyx partly open; colour pale green washed and splashed with dull red; dots few, pale, indistinct; skin thick, tough; flesh firm, crisp, greenish yellow, juicy; core rather small; subacid not high flavour; quality above medium; season late winter. A good keeper. Not quite hardy enough at Ottawa.

Coo's River Beauty:—Fruit, medium to large size; form oblate; cavity deep, open, lightly russeted; stem very short, slender; basin deep, medium width almost smooth, calyx open; colour pale yellow well washed with bright crimson; dots few, yellow, distinct; skin moderately thick, tough; flesh white, crisp, tender, juicy; core medium; subacid, sprightly, pleasant flavour; quality good to very good; season early to mid winter.

A handsome apple. A promising variety for the best apple districts. Fruit received from W. H. Dempsey, Trenton, Ont.

Dyer (Pomme Royale).—Originated in France:—Fruit roundish; size medium; cavity medium depth and width; stem medium length, moderately stout; basin medium depth and width, wrinkled; calyx closed; colour pale yellow; dots obscure; skin moderately thick, tender; flesh white, very tender, breaking, very juicy, pear-like; core medium size, open; mildly subacid, with a sprightly, delicious, pear-like flavour; quality best; season October. Hardy in garden of Maurice Bennett, Ottawa, from which fruit was obtained and described.

Duke of Connaught:—Fruit oblong, conical; size large to above medium; cavity deep, narrow, sometimes slightly russeted; stem short, moderately stout; basin medium width, medium depth, wrinkled; calyx rather small, closed; colour golden yellow, sparingly splashed with pink on sunny side; dots numerous, grey, distinct but not conspicuous; bloom none; skin slightly oily, moderately thick, rather tough; flesh yellow, firm, fairly juicy; core large, open; subacid, pleasant flavour; quality above medium; season early to mid winter. Tree hardy and vigorous but not productive enough.

Excelsior Crab.—Originated in Minnesota.—Fruit roundish, angular; size very large for a crab, about the size of a medium apple, cavity narrow, shallow to medium in depth; stem long to medium, moderately stout; basin shallow to medium in depth, narrow, slightly wrinkled; calyx closed or partly open; colour pale yellow, well washed on sunny side with bright red; and extending nearly around the apple in some cases; dots few, yellow, distinct but not prominent; bloom slight; skin moderately thick, tender; flesh yellowish, tender melting, juicy; core large, open; subacid, pleasant flavour; quality good as a crab, above medium to good as an apple; season early to mid September. Tree vigorous and very productive. A handsome fruit, more like an apple than a crab, but flesh has some crab characteristics.

Fameuse Noire.—Originated in the province of Quebec:—Fruit roundish conical; size medium; cavity narrow, medium depth, slightly russeted near base; stem medium length, slender; basin narrow, medium depth, slightly wrinkled; calyx open; colour greenish yellow well splashed and washed with dark red over most of surface; dots few, small, yellow, distinct; skin moderately thick, tough; flesh white, tender, crisp, juicy, a slight tinge of red in spots; core small to below medium; mildly subacid, Fameuse-like flavour, but not as good; quality good; season mid October to mid November. Tree productive but lacks vigour. Not as good an apple as Fameuse.

Forest—Originated in Wisconsin:—Fruit above medium size; form oblong to roundish conical; cavity medium depth and width, sometimes lipped, russeted; stem short, stout; basin medium depth and width, wrinkled; calyx open; colour greenish

yellow washed with deep rather dull red, mostly on sunny side; dots few, grey, distinct; skin thick, rather tough; flesh yellow, crisp, juicy; core small; subacid, good, pleasant flavour; quality good to very good; season mid to late winter. Tree hardy. Would be very promising if fruit was a little more attractive. Scions received from the late J. L. Budl, Ames, Ia.

Frazer's Russet.—Fruit about medium size; form roundish to oblate, obtusely conical; cavity medium depth, open, russeted; stem medium length, moderately stout; basin medium width and depth slightly wrinkled; calyx small, partly open; colour greenish yellow, sparingly splashed with purplish red on sunny side; dots obscure; skin moderately thick, tender; flesh dull white, crisp, somewhat coarse, moderately juicy; core small; mildly subacid, pleasant flavour; quality above medium to good; mid winter to late winter. Tree hardy.

Owing to hardiness of tree, this may prove a useful apple.

Hoadly.—Originated in Wisconsin:—Fruit oblate; size above medium; cavity deep, moderately open, slightly russeted; stem short, slender; basin medium depth and width, almost smooth to slightly wrinkled; calyx open, colour yellow splashed and streaked with carmine; dots few, yellow, indistinct; skin thick, moderately tender; flesh yellowish with traces of red, juicy, rather tender, briskly subacid; pleasant flavour; core medium; quality above medium; season October. Tree an upright grower, hardy and productive. Scions obtained from the late J. L. Budd, Ames, Iowa.

Langford Beauty (Russell).—Originated in Russell County, Ontario:—Fruit medium to above medium in size; roundish to oblate; skin pale yellow, almost or completely covered with deep red; dots few, grey, not prominent; cavity shallow, open; stem long, slender; basin shallow, open, slightly wrinkled; calyx closed; flesh white, tender, melting, juicy, subacid, with a pleasant flavour, having a suggestion of Fameuse about it, slightly astringent; core large; quality good; season middle of August to middle of September. Tree vigorous. Top grafted on Wealthy at the Central Experimental Farm; it has produced good crops every other year. It ripens unevenly and drops badly, making it more desirable for home use than for commercial purposes.

The apple described under the name of Russell in Bulletin No. 37, Experimental Farms Series, has been found to be the same as this variety.

Lord.—A seedling of Wealthy, originated in Minnesota:—Fruit roundish conical; size medium; cavity deep, medium width; stem medium length, moderately stout; basin deep, narrow to medium, slightly wrinkled; calyx partly open; colour pale yellow almost covered with crimson; dots obscure; skin thick, rather tough; flesh white tinged with red near skin, moderately juicy, tender; core small, briskly subacid, pleasant flavour; quality above medium to good; season November.

A handsome apple, but not specially promising. Not juicy enough.

Newell (Orange Winter).—Originated in Wisconsin:—Fruit oblate conic; size large; cavity deep, open; stem short, moderately stout; basin narrow, medium depth, wrinkled; calyx open; colour yellow, slightly washed with pink; dots fairly numerous, grey, distinct; skin moderately thick, tender; flesh yellow, crisp, moderately juicy; core medium size; subacid, spicy, good flavour; quality very good. Season, mid to late winter. Tree moderately productive, but not as hardy, as some others.

A pleasant dessert apple, but fruit is not attractive. May be useful.

Newtown Spitzenburg (Flushing Spitzenburg)—Originated on Long Island, N.Y.:—Fruit oblate to roundish, conical; above medium to large; cavity deep, narrow slightly russeted; stem short, moderately stout to slender; basin narrow, shallow, smooth, calyx open; colour yellow, well splashed and washed with deep orange red; dots fairly numerous, large, grey or yellow, distinct; skin moderately thick, tough;

flesh yellow, very tender, juicy; core medium, open; mildly subacid, pleasant flavour; quality good; season early winter.

October.—Originated in Minnesota:—Fruit roundish, angular; size medium to below; cavity deep, medium width, slightly russeted; stem medium length, moderately stout; basin shallow, medium width, considerably wrinkled; calyx closed or partly open; colour yellow, splashed and washed with deep red; dots few, yellow, indistinct; skin rather thick, tender; flesh yellowish, rather coarse, crisp, tender, moderately juicy, briskly subacid; core medium; quality almost good; season late September and early October. Tree vigorous and productive but fruit is very subject to dry rot making this variety quite undesirable.

Renaud (Argenteuil)—Originated in Argenteuil Co., Que.:—Fruit medium size, form oblate, irregular, angular; cavity narrow, medium depth; stem short, slender; basin medium depth and width, wrinkled; calyx closed; colour greenish yellow splashed and streaked with dull purplish red; dots obscure; skin moderately thick, tough; flesh yellowish, juicy, tender; core medium; briskly subacid, pleasant but not high flavour; quality above medium; season late winter.

May be useful but is not attractive.

Springdale.—Originated in Arkansas:—Fruit roundish; size medium; cavity narrow, medium depth; stem clubbed, short, stout; basin medium depth and width, smooth; calyx open; colour greenish yellow, well washed with dark red; dots few, yellow, distinct; skin rather thick, tough; flesh white, firm, moderately juicy subacid; core small; quality above medium; season late winter. Not a very handsome apple, but is a good keeper.

Titovka (Gipsy Girl).—Originated in Russia:—Fruit roundish conical, angular; size large to very large; cavity deep, medium in width, slightly russeted; stem short, stout; basin deep, medium width, wrinkled, calyx closed or open; colour pale yellow well splashed or almost covered with bright red; dots obscure; bloom none; skin moderately thick, tender; flesh, yellow, firm, rather coarse, juicy; core small, closed; subacid, not high flavoured; quality medium to above medium; season early September to mid September. Tree hardy, vigorous and productive. A handsome apple.

Walworth Pippin.—Originated in New Jersey:—Fruit roundish, obtusely conical, angular; size medium; cavity medium depth and width; stem short, slender; basin narrow, medium depth, wrinkled; calyx closed; colour green with a faint blush; dots fairly numerous, large, white, distinct; skin moderately thick, tender; flesh greenish yellow, firm, juicy; core medium size; subacid, no decided flavour; quality medium; season late winter. Tree vigorous. Fruit does not mature well at Ottawa.

Stone.—Originated in Vermont:—Fruit large to very large; form roundish, irregular, angular; cavity narrow sometimes closed, shallow; stem short, slender; basin narrow, shallow, slightly wrinkled; calyx partly open; colour yellowish green, splashed and washed with dull, deep, purplish red; dots moderately numerous, grey, distinct; skin thick, tough; flesh yellowish, crisp, tender, juicy; core small; mildly subacid, spicy, good flavour; quality good; season mid winter to late winter.

Appearance is rather against this apple, as it is not attractive, but it is a fair dessert apple. Tree apparently very hardy.

Winter Rose.—Originated in Dundas county, Ontario:—Fruit oblate; size above medium; cavity medium depth, narrow, lipped towards base of stem; stem short, moderately stout; basin narrow, shallow to medium, slightly wrinkled; calyx partly open or open; colour yellowish green well washed with dull red; dots obscure; skin rather thick, tough; flesh white, tender, moderately juicy subacid; core small; quality

above medium; season early to mid winter. Tree hardy, vigorous and an early bearer. May be useful in the north.

A CLOSELY PLANTED WEALTHY APPLE ORCHARD.

Considerable interest has been shown in the results obtained from a small, closely planted Wealthy apple orchard at the Central Experimental Farm. There are 129 trees now living in this orchard, occupying about one-third of an acre. The trees were originally 10 x 10 feet apart, but a few have died. The trees were planted in the spring of 1896. Full details regarding the returns from this orchard were published in the annual report for 1904. In that report it was shown that the average net profit per acre from the time of planting was $54.13, and from the time of fruiting, $106.19. There was a heavy crop in the orchard in 1904, and the crop this year was medium. The total crop produced was 1,247 gallons, of which 631 was picked fruit and 616 windfalls. Part of the windfalls was sold in baskets as they were good apples, and they brought fair prices.

The following sales were made:—

SALE OF FRUIT FROM CLOSELY PLANTED WEALTHY ORCHARD, 1905.

		Estimated per acre.
Sold, 203 baskets at 17½	$ 35 52	$107 45
" 22 baskets at 20c	4 40	13 31
" 2 bags at 25c	0 50	1 51
" 42 boxes (Glasgow) at $1.46	61 32	185 49
	$101 74	$307 76

Expenses, 1905.

225 baskets and covers at $5.25 per 100	$ 11 81	$ 35 73
42 boxes at 14½c	6 09	18 42
Freight on boxes	14 94	45 19
Commission on sales	6 92	20 93
Rent on land	0 99	3 00
Spraying	2 49	7 53
Picking fruit	9 00	27 22
Grading and packing fruit	8 41	25 44
Barnyard manure (8 tons at 50c)	4 00	12 10
Pruning	3 00	9 07
	$67 65	$204 63
Net profit, 1905	34 09	103 13
Average net profit per acre per year, 1896-1905		59 03
" " 1899-1905		105 75

These receipts and expenditures are estimated from about one-third of an acre ($\frac{40}{121}$) and the estimated figures per acre are given on the assumption that the percentage of sales in boxes and baskets would be the same from a full acre. A record is kept of the time actually spent in caring for this orchard and the other expenses incurred. Labour is valued at 15 cents an hour. There was no expense for cultivating since 1902, as the trees being close, cultivation is impossible. The grass that grows is left to die down and rot. As the trees were beginning to interlace, about half of them

were severely headed back in the spring of 1905, and the remainder will be thus treated next spring. The apples on the trees headed back were much larger than on the others, and while the crop was reduced somewhat the greater percentage of marketable fruit compensated to a considerable extent for the loss of crop. The orchard received a heavy application of barnyard manure in December, 1904.

EXPERIMENTAL APPLE SHIPMENT TO GLASGOW, 1905.

This year a small shipment of 80 boxes of apples was made to Glasgow by the steamer 'Lakonia,' which sailed from Montreal on October 5.

One object of the shipment was to market the fruit raised at the Experimental Farm to the best advantage, and another was to compare the results from different methods of packing. Two styles of boxes were also compared. All the fruit was shipped in boxes 10 by 11 by 20 inches, and consigned to Thos. Russell, Fruit Bazaar, Glasgow, Scotland.

32 boxes XXX Wealthy, without any packing material in boxes, sold at 6 shillings per box.

26 boxes XXX Wealthy, with thin layer of Excelsior and a sheet of cardboard at top and bottom, sold at 6 shillings per box.

11 boxes Winter St. Lawrence, without any packing material in boxes, sold at 5 shillings per box.

11 boxes Patten's Duchess (Myer's folding boxes), without any packing material in boxes, sold at 4 shillings per box.

Total receipts for 80 boxes	$ 109 09
Freight on goods: River and Harbour Duties, &c., Marine Insurance: Commission and guarantee	33 91
Cost of boxes	11 65
Sorting and packing	14 40
Total expenses	$ 59 96
Net profit	$ 49 13

While the profit on this shipment is not large, it is very fair for autumn apples. In a small shipment of this kind the price of boxes and the cost of sorting and packing are greater than they would be if large quantities were handled.

The following correspondence was received regarding this shipment:—

'GLASGOW, October 28, 1905.

'We beg to send you herewith account sales for your consignment of 80 boxes of apples ex S. S. 'Lakonia' and draft for L 15-8-9 sterling in payment of net proceeds, which please acknowledge. I trust the result of this experimental consignment will be satisfactory to you, and have to report that the fruit arrived here in good condition, and we could see no difference in quality or landing condition of the Wealthy packed with Excelsior and the difference in boxes did not seem to make any difference in the carrying of the fruit, for although the Patten's Duchess packed in the new style of box (Myer's folding box) made only 4—as compared with 6—for the Wealthy, still this is accounted for by the fact that Wealthy are a much more popular apple here.'

(Signed) THOMAS RUSSELL.

Apple shipment to Winnipeg:—Fifty boxes of apples, consisting of Antonovka, Golden White and Anis were shipped to Winnipeg on September 21, 1905. After deducting freight and commission the net return from this shipment was $35.10, or about 70c. per box.

Final statement of shipments made in 1904:—In the Annual Report for 1904 a statement was made regarding six trial shipments of apples to Ireland and Scotland. The prices obtained for the fruit and other details were given in the report, but as the charges on four of the shipments had not been received when the report was published it was not possible to give the profit or loss. As the markets were glutted with fruit when the apples were sold, and hence the prices obtained small, there was a small loss on these four shipments, although the other two gave fair profits. The net returns from the 350 boxes in question were $78.87, or 22.53 cents per box. The boxes cost 14½c. each and deducting this from 22·53c. there are left but 8c. for sorting and packing, which does not cover the cost of this work.

INDIVIDUALITY OF FRUITS.

In the annual report for 1903 attention was drawn to the marked difference in yields of trees of the same variety of apple planted at the same time and under apparently very similar conditions. A table was published giving the yields of some trees from the time, the first records were taken until 1903. Following will be found the same table with the addition of the yields for 1904 and 1905. It will be noticed that Wealthy, Tree 4; McMahan White, Tree 1; McIntosh Red, Tree 1; and Patten's Greening, Tree 1, which had yielded the most up to 1903, still prove the most productive, though some of the other trees have gained on them. It is of interest to note the variation in yield of the different trees from year to year. Trees are being propagated from the most productive and from the least productive trees in order to find if these characteristics are retained in other trees. Top grafts have also been made for the same purpose.

APPLES—WEALTHY.

(Planted, 1896)—Yielded in Gallons.

Tree.	1899.	1900.	1901.	1902.	1903.	1904.	1905.	Total Yield 1899-1905.
1	1·0	2·25	2·75	15·0	.....	17·0	1·0	39·0
2	2·0	·5	2·5	12·0	.....	14·0	8·0	39·0
3	1·75	12·0	2·25	8·0	.....	6·5	7·0	37·5
4	9·0	2·25	15·5	20·5	27·0	1·0	28·0	103·25
5	7·5	6·5	7·75	23·0	7·5	23·0	13·0	88·25
6	3·25	6·5	3·5	24·0	.....	17·5	5·0	59·75
7	7·5	1·0	10·0	19·0	16·0	.....	19·0	72·5
8	.....	8·5	·5	21·5	.....	10·0	5·0	45·5
9	.....	11·25	·25	27·5	.....	21·0	20·0	80·0
10	1·0	12·25	.....	30·0	.....	17·5	8·0	68·75
11	1·25	11·25	.....	21·5	.....	31·0	10·0	75·0
12	.....	7·5	.....	18·5	2·0	13·5	13·5	55·0
13	4·25	6·25	4·5	20·0	·5	20·5	19·0	75·0
14	2·5	5·5	·5	34·0	.....	17·0	8·0	67·5
15	.....	2·25	3·5	21·5	8·5	31·5	16·0	83·25
16	3·0	2·25	4·0	22·5	4·5	16·5	23·5	76·25
17	.....	2·0	1·0	22·5	.....	8·5	16·0	59·0

APPLES—McMAHAN WHITE.

(Planted, 1888)—Yielded in Gallons.

Tree.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.	Total Yield 1899–1905
1	62·0	.....	83·0	2·0	147·0	1·5	141·0	40·0	476·5
2	42·0	1·0	6·0	12·5	98·0	23·0	116·0	30·0	328·5
3	32·0	29·0	49·0	18·0	55·0	63·5	56·0	108·0	410·5
4	35·0	.....	34·5	4·0	63·0	34·0	67·0	69·0	306·5
5	.....	37·5	55·0	49·0	.....	61·0	.....	98·0	300·5
6	29·0	4·5	46·0	·5	69·5	43·0	72·0	96·0	360·5
7	·5	9·5	19·5	4·0	19·0	39·5	14·0	37·0	143·0
8	7·0	9·0	27·0	9·0	53·0	15·5	54·0	35·5	210·0

APPLES—McINTOSH RED.

(Planted, 1890)—Yielded in Gallons.

Tree.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.	Total Yield 1899–1905
1	17·5	26·0	37·0	6·5	71·5	94·0	12·0	109·0	373·5
2	1·0	9·5	10·5	1·0	37·5	31·0	6·0	72·0	168·5

APPLES—PATTEN'S GREENING.

(Planted, 1892)—Yielded in Gallons.

Tree.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.	Total Yield 1899–1905.
1	27·0	2·0	35·0	1·5	71·0	15·0	84·0	34·0	269·5
2	2·0	6·0	14·0	19·0	24·0	55·5	7·5	66·0	194·0
3	2·0	31·0	1·5	40·5	22·0	67·0	26·0	69·0	259·0
4	13·0	.....	6·5	.....	12·0	15·0	45·0	45·0	136·5
5	1·0	.....	19·0	·5	17·5	21·0	54·0	75·0	188·0

PLUMS.

There was a good crop of plums this year, but most of the fruit consisted of Americana and Nigra varieties. A few European or Domestica plums had a light to medium crop. The largest crop of Domestica plums was from the Mount Royal, one of the Montreal seedlings. The Mount Royal and Raynes are two of the hardiest of these seedlings and are very desirable plums. The Americana plums sold well. There were 457 baskets sold, for which $138.25 was received. The highest price received was 47½ cents per basket, and the lowest, 22½ cents. The average price was 29½ cents.

One new Experimental Farm Americana seedling of merit was named this year, a description of which follows:—

Kilmore (Yosemite Purple Seedling):—Size large; form roundish, slightly flattened; cavity medium depth and width; suture a distinct line; colour bright purplish red; dots moderately numerous, yellow, distinct; bloom moderate; skin moderately thick, moderately tough; flesh deep yellow, juicy; stone above medium, oval, considerably flattened, almost free; sweet, rich, good flavour; quality good. Promising. Season medium late.

CHERRIES.

As a rule the fruit buds of practically all varieties of cherries are winter-killed at the Central Experimental Farm. When, however, there are no very low temperatures there is a fair crop on a few varieties. Last winter the lowest temperature was only 20·6° F. below zero and there were no long spells of very cold weather, hence it was a little more favourable for cherries. As a result a few varieties produced fair crops. These were Orel 25, Vladimir, Minnesota Ostheim, Cerise d'Ostheim, Lithaur Weichsel, Heart-shaped Weichsel, Griotte du Nord, and Orel 24. The best crops were on trees of the first four varieties, which have in the past shown themselves to be of greater hardiness in fruit bud than others. The Orel 25 is probably the hardiest of all.

PEARS.

Pears are not a success at Ottawa, none of the better varieties having survived. The Flemish Beauty has proven the hardiest good pear, but the tree blights and it does not live long. At Oka, lower down the Ottawa river, this variety succeeds well. The Goliva Kurskaya, Dvinnoe Solovieff, and Zuckerbirn, which are among the hardiest and freest from blight, fruited this year, but they are all of inferior quality. Some seedling pears are being grown in the hope of getting some better hardy sorts.

GRAPES.

This was only a moderately favourable season for grapes. The crop was probably the largest that the vines have borne and the bunches were well filled and the fruit of good size and little affected by disease, but owing to the comparatively cool autumn and the cool nights the grapes did not become as sweet as they sometimes do. Robins were very troublesome and at the beginning of the season destroyed a large quantity of grapes, a flock of these birds apparently making their headquarters near the vineyard. The birds did not wait until the fruit was ripe the acidity of some of the varieties apparently suiting their taste. The varieties chosen were with thin skins, such as Canada, Brant, Peabody, Poughkeepsie and Delaware.

There were 90 varieties which ripened. As this was an unfavourable season for early ripening, it will be useful to record the names of those which ripened first, as these may be relied on to ripen almost every year.

Grapes which ripened earliest, 1905:—Florence, September 16, Champion, Manito, Early Daisy, September 18; Moore's Early, Early Ohio, September 20; Moyer, Golden Drop, Bonne Madame, Pattison, Campbell's Early, September 23; Janesville, Telegraph, Marion, Jewel, Canada, September 30. Brant and Peabody were nearly all eaten by birds, but they usually ripen about the same time as Canada.

The Lincoln (Read's hybrid) grape, which ripened early last year, did not ripen this year until after the above named varieties, but the vines are in a low part of the vineyard and the nights being cool ripening was delayed. This is a very promising sort, being a heavy bearer with uniform bunches and fruit of rather good quality.

Of grapes not yet described in this report the following is a rather promising variety for home use, being among the earliest:—

Early Daisy:—This variety was originated by John Kready, Mount Joy, Pa. It was first planted at the Central Experimental Farm in the spring of 1901, has fruited for the past two seasons and has been one of the very earliest to ripen. Vine a medium grower and up to the present time rather a light bearer. Bunch small, moderately compact; fruit below medium size, round, black with a blue bloom; skin thick, tough; pulp firm; stones large; sweet but not high flavoured. Quality above medium. As early as Champion or earlier and much superior to it in quality. On account of its extreme earliness it should prove valuable for home use.

NEW BLACK CURRANTS.

In 1887, when Dr. Wm. Saunders, Director of the Dominion Experimental Farms, moved to Ottawa from London, Ont., he brought with him from his garden in London about 150 seedling black currants. These had been raised by Dr. Saunders from an extra fine seedling of a Black Naples seedling obtained by him from a former lot of seedlings grown in 1879. There are still growing at the Central Experimental Farm 28 of the best of those brought from London, and a few others originated at Ottawa. This number will be still further reduced in the next plantation. After eighteen years' experience with these currants, it is possible to form a good estimate of their relative value with other kinds now on the market. The following twelve varieties, which are given in order of productiveness, are practically all considered equal to any other named variety yet tested at Ottawa, and most of them are superior:—

Ogden:—Bush a medium to strong grower and the most productive black currant tested. Bunches medium to small. Fruit uneven in size, below to above medium; skin moderately thick, fairly tender; briskly subacid; quality medium; ripens unevenly. Season medium to late. Where great productiveness is desired and where size or quality is not important, this variety is recommended.

Saunders:—Bush a strong grower and very productive. Bunches medium size. Fruit above medium to large; skin thick; briskly subacid; quality medium. Season medium. One of the most promising commercial varieties. This is already offered for sale in Canada.

Kerry:—Bush a strong grower and very productive. Bunches medium to large. Fruit above medium to large; skin thick but tender; briskly subacid; quality above medium to good. Season medium to late. One of the most promising for commercial purposes on account of its great productiveness and good size of fruit.

Ontario:—Bush a strong grower and very productive. Bunches medium size. Fruit medium to above medium in size; skin moderately thick, tender; briskly subacid; quality medium to good. Ripens evenly. Season medium. Promising on account of productiveness.

Eclipse:—Bush a medium to strong grower and productive. Bunches large. Fruit medium to large; skin moderately thick, fairly tender; subacid; quality good; ripens evenly. Season early. Promising on account of productiveness, size and quality.

Magnus:—Bush a strong grower and very productive. Clusters medium in size. Fruit large; skin rather thick; subacid, good flavour; quality good. Season medium. Promising on account of productiveness, size of fruit and quality.

Ethel:—Bush a strong grower and productive. Bunches large. Fruit above medium size; skin rather thick; briskly subacid. Quality above medium. Fruit ripens evenly. Season medium. Promising on account of productiveness and size of fruit.

Climax:—Bush a strong grower and productive. Bunches large. Fruit above medium to large. Skin moderately thick, fairly tender, briskly subacid, good flavour; quality good. Season medium late. One of the most promising.

Success:—Bush a medium grower, but productive. Bunches medium size. Fruit large; skin moderately thick, tender, subacid, good flavour; quality good to very good. Ripens evenly. Season very early. Promising on account of earliness, size of fruit and quality.

Clipper:—Bush a strong grower and productive. Bunches large. Fruit medium to large; skin moderately thick, tender; briskly subacid, good flavour. Quality good. Fruit ripens somewhat unevenly. Season medium late. Promising.

Winona:—Bush a medium grower, productive. Bunches small to medium. Fruit above medium to large; subacid; quality good. Ripens evenly. Season early.

Topsy:—Bush a strong grower, moderately productive. Bunches large. Fruit above medium to large; clings well. Skin rather thick; briskly subacid; good flavour; quality good to very good. Season medium. This originated as a hybrid between Dempsey's Black Currant and a cross-bred gooseberry (Houghton X. Broom Girl). From this cross five plants grew. Of these, four had gooseberry foliage and one, the Topsy, black currant foliage and fruit.

RASPBERRIES.

The raspberry canes were bent down in the autumn of 1904 for protection as usual and came through the winter, in most cases, in fine condition. The crop of fruit was good this year.

Of all the varieties under test, the Herbert, a seedling originated by Mr. R. B. Whyte, Ottawa, Ont., is decidedly the best for this district. This variety has already been referred to and described in the previous reports, but a few more words may be said of it here. It is hardy, vigorous and very productive. The fruit is of the largest size and of good colour, and good quality. It is not quite as firm as Cuthbert, but in every other respect is superior to that variety at Ottawa. The Herbert is now for sale in Canada and the United States.

STRAWBERRIES.

There were 203 named varieties of strawberries under test this year. The crop, on the whole, was a medium one, but not so large as in some seasons, the plants of most varieties not having made many runners in 1904, when the plantation was made, and there being some injury from winter. In the variety tests a plantation is usually left to fruit for two seasons, as when the plants are not set very early in the spring the crop, the first year after planting, is not so large as the second. For commercial planting, however, it usually pays best to set the plants as early in the spring as possible, leaving a long season for making runners and taking only one crop from a plantation, as when many runners are made the plants become crowded the second year and the fruit is often small.

In the following table will be found a list of the fifty varieties which have given the best average yield in a test of from two to five years. Of these the Sample, Buster, Bisel, Glen Mary, Greenville, Beder Wood, Marie, Warfield, Enhance Barton's Eclipse, Thompson's Late, Dora, Daisy, Howard's 41, and Splendid, are among the most satisfactory, taking into consideration other qualities as well as yield. In addition to the above, Bubach and Lovett are two excellent varieties for home use, and Williams is one of the best for long distance shipment, although the Pocomoke, a firm newer variety, has yielded better and may take its place. The Early Beauty is a promising new early variety. The Afton, Daniel Boone and Stevens' Early, which have averaged a little better than Warfield in yield, are almost, if not quite, identical with the latter variety.

Average Rank.	Number of years averaged.	Rank, 1905.	Name.	Date of full bloom, 1905.	Date of first ripe fruit, 1905.	Date of first picking, 1905.	Date of last picking, 1905.	Number of pickings, 1905.	Weight of 25 average berries, 1905.	Total yield, 1905.	Average total yield.
									Oz.	Lbs. Oz.	Lbs. Oz.
1	2	1	Pocomoke ..... B..	June 6	June 24	June 27	July 14	7	7	23 4	22 11
2	5	15	Sample ..... P..	" 5	" 26	" 27	" 18	8	7	15 3	21 5
3	5	42	Bisel ..... P..	" 5	" 27	" 29	" 18	7	6½	10 4½	19 7¼
4	5	73	Buster ..... P..	" 7	" 26	" 27	" 14	7	7½	7 14¾	19 5
5	4	190	Mele ..... P..	" 7	" 27	" 29	" 14	5	6¼	2 1	19 2¼
6	5	34	Glen Mary ..... B..	" 5	" 26	" 29	" 18	8	7½	11 2¼	18 15
7	5	19	Greenville ..... P..	" 5	" 24	" 27	" 14	7	7	13 0	18 13
8	5	18	Daniel Boone ..... P..	" 2	" 21	" 24	" 14	8	5	13 3⅜	18 10½
9	5	65	Stevens' Early ..... P..	" 5	" 21	" 24	" 14	9	5	8 8½	18 6½
10	5	161	Afton ..... P..	" 5	" 24	" 27	" 11	6	5	3 2	17 13⅝
11	2	14	Splendid ..... B..	" 5	" 24	" 27	" 18	8	6½	15 4½	17 9¼
12	5	121	Daisy ..... P..	" 5	" 24	" 27	" 14	7	6½	4 15½	17 8
13	5	9	Maggie ..... P..	" 5	" 24	" 27	" 14	7	6	16 11	17 3½
14	5	16	Dora ..... P..	" 7	" 23	" 24	" 14	8	6⅛	15 2	16 15½
15	5	23	Carleton ..... P..	" 5	" 21	" 24	" 18	10	6½	12 11¾	16 14
16	5	123	Howard's 41 ..... P..	" 7	" 26	" 27	" 14	7	6	4 14	16 12⅝
17	5	182	Enhance ..... B..	" 5	" 24	" 27	" 11	6	6	2 6½	16 1
18	5	3	Carrie ..... P..	" 8	" 29	" 30	" 18	6	7	18 9	16 1
19	5	146	Warfield, No. 2 ..... P..	" 2	" 23	" 27	" 14	7	5¾	3 15	15 12½
20	5	72	Thompson's Late ..... P..	" 5	" 27	July 3	" 18	6	5½	7 14½	15 8½
21	5	129	Beder Wood ..... B..	" 2	" 23	June 24	" 11	8	5	4 13	15 7½
22	2	17	Early Beauty ..... B..	" 2	" 19	" 24	" 14	6	4¾	7 8½	15 6½
23	4	88	Cole's Seedling ..... B..	" 8	" 28	" 30	" 18	7	6⅜	6 15½	15 2
24	2	58	Lyon ..... P..	" 8	" 25	" 27	" 14	7	6½	9 2½	15 0
25	5	183	Barton's Eclipse ..... P..	" 5	" 28	" 29	" 11	5	6¼	2 6¼	14 12
26	5	101	Swindle ..... P..	" 2	" 26	" 27	" 18	8	6	6 5	14 11
27	5	67	John Little ..... P..	" 5	" 23	" 24	" 14	9	5	8 3½	14 11
28	5	70	Wonderful ..... P..	" 5	" 23	" 24	" 11	7	6	8 0	14 8⅝
29	5	93	No Name ..... B..	" 5	" 23	" 24	" 11	7	6¼	6 9½	14 8¼
30	5	115	Bubach ..... P..	" 5	" 24	" 27	" 14	7	7¼	5 5½	14 8
31	5	48	Parker Earle ..... B..	" 2	" 24	" 27	" 18	9	6⅝	10 6¾	14 6
32	5	81	Williams ..... B..	" 8	" 27	" 27	" 14	7	6½	7 5½	14 2¾
33	3	107	Marie ..... P..	" 5	" 28	" 29	" 14	6	7⅛	5 15¾	14 2¼
34	5	86	Clyde ..... B..	" 5	" 26	" 27	" 18	8	6⅝	7 0	14 0¼
35	5	28	Tennessee Prolific ..... B..	" 5	" 24	" 27	" 18	8	6½	12 1¼	13 15¼
36	5	98	Arkansas Traveller ..... B..	" 7	" 26	" 27	" 14	7	6	6 6	13 13
37	5	155	Crescent ..... P..	" 2	" 25	" 27	" 14	7	5	3 6	13 12
38	5	87	G. H. Caughell ..... B..	" 2	" 21	" 24	" 14	7	5⅜	6 15⅜	13 5¼
39	2	5	Big Bobs ..... B..	" 5	" 26	" 29	" 18	8	8	18 1⅝	13 1½
40	5	137	Bomba ..... P..	" 5	" 26	" 27	" 14	8	5½	4 7⅜	13 1
41	5	6	Mrs. Cleveland ..... P..	" 7	" 25	" 27	" 18	8	7	16 15¼	13 1
42	3	4	Kansas ..... P..	" 8	" 27	" 29	" 18	8	6¾	18 6	12 15
43	5	179	World's Champion ..... B..	" 7	" 26	" 27	" 14	7	5	2 7¼	12 9¼
44	2	24	Success ..... B..	" 5	" 26	" 27	" 14	7	6¼	12 6	12 9½
45	5	133	Dr. Arp ..... P..	" 5	" 25	" 27	" 14	7	6	4 9	12 9
46	5	23	Morgan's Favorite ..... B..	" 5	" 25	" 27	" 18	8	7¾	12 8	12 7
47	5	22	Princess ..... P..	" 5	" 21	" 24	" 18	10	5½	12 8	12 7
48	5	47	Boynton ..... P..	" 5	" 23	" 24	" 14	9	5	10 1½	12 6
49	5	108	Kyle ..... B..	" 4	" 25	" 27	" 14	8	6¼	5 15	11 14½
50	5	95	Hood River ..... P..	" 5	" 24	" 27	" 14	7	7	6 8	11 13

COVER CROPS.

In recent years the English horse bean has proven valuable as a cover crop for holding the snow in winter as it is tall and does not break down much, but as no seed could be obtained it was not used this year. It was planned to grow horse beans and rape together this year as a cover crop, the former principally to hold the snow, and the latter for a bottom cover. As horse beans could not be obtained, rape was sown broadcast alone in part of the orchard on July 28, at the rate of 8 lbs. per acre, and when winter set in averaged 17 inches in height. It formed a dense cover, killing out practically all the weeds. Owing to the height to which it grew it should hold the snow well, and as leguminous crops have been used for the past nine years there should be sufficient nitrogen in the soil for some time. In another part of the orchard Hairy vetch, which had proven a very good cover crop, was sown in drills 28 inches apart on July 15. By winter it had made a perfect mat in most places, but had not made a strong enough growth to hold the snow well. The most satisfactory results are obtained from Hairy Vetch sown in drills when the seed is sown about the middle of June.

Work in determining the amount of moisture which different cover crops take from the soil was continued in the orchard this year by Mr. Frank T. Shutt, Chemist.

FUNGOUS DISEASES.

The Apple Spot fungus was not as bad as usual this year in most districts, but here and there it was very bad. In the orchards of the Experimental Farm, where spraying with Bordeaux mixture has been carried on regularly for the past thirteen or fourteen years, there is never any trouble with this disease, it being a rare sight to see any fruit spotted except among seedling trees which are not sprayed regularly; while there is good evidence to show that if the orchard trees were not sprayed the disease would soon spread.

Ripe Rot, Brown Rot, of the Plum:—This is one of the most difficult diseases to control. At the Central Experimental Farm it did considerable injury to Americana plums this year, notwithstanding thorough spraying. As this disease spreads by means of spores which germinate early in the spring and penetrate the twigs from the leaves and flower buds on which they alight, all the diseased plums which harbour myriads of these spores should be destroyed in the fall if practicable, but as this often cannot be done it will be seen how important it is to thoroughly spray the trees early in the spring before the spores, which are carried from this diseased fruit, germinate. The first spraying should be made shortly before the buds break with poisoned Bordeaux mixture or a sulphate of copper solution in the proportion of 1 lb. sulphate of copper to 25 gallons of water. A second spraying should be made with poisoned Bordeaux just before the blossoms open. These are two of the most important sprayings. The trees should be thoroughly sprayed again after blooming with poisoned Bordeaux, and again about two weeks before the fruit begins to colour. When the fruit begins to ripen they may be sprayed with the ammoniacal copper carbonate, which will not discolour the fruit, and which should destroy many of the spores which appear in great numbers on the mature fruit. As the disease spreads much more rapidly from fruit to fruit when they are touching each other, thinning is a good practice if for no other reason than to reduce this disease. Thorough spraying and thinning will lessen the injury from this disease very much.

Black Rot of the Grape:—While the black rot of the grape was not nearly so destructive this year as in 1904, and hence the results of spraying not so apparent, fruit growers should not neglect to spray their vineyards next year, as the disease

may cause even greater loss than it did in 1904. The first spraying should be made with Bordeaux mixture just before blossoming; the second just after the fruit has set, and the third and fourth at intervals of about a week. There should then be three sprayings with ammoniacal copper carbonate.

SPRAYING AND SPRAYING MIXTURES.

The practice of spraying crops for the prevention of fungous diseases and insect pests is not growing in popularity as rapidly as the good results obtained would warrant, and notwithstanding the fact that year after year the advantages of spraying are impressed upon Canadian fruit growers from many sources. Spraying at the best, however, is an unpleasant operation and when the results are not always so apparent as killing potato beetles with Paris green, fruit growers are liable to get discouraged and decide to let spraying alone and take their chances. No greater mistake could be made. The good results from spraying to prevent injury from fungous diseases and injurious insects have been so frequently proven that spraying should be carried on by every fruit grower, just as he cultivates his field, in faith that good will result. Some years the results are not so pronounced as in others, but spraying is an insurance and the average results will well compensate for all the trouble and expense incurred. Thoroughness in spraying is, however, essential. A spraying calendar was published at the Central Experimental Farm this year which will be sent free to any one applying for it. This calendar gives information as to the time of spraying for the various diseases and insect pests affecting orchard and garden crops, and the formulas for preparing the different fungicides and insecticides recommended, and this will be found most useful for reference.

SODA BORDEAUX (BURGUNDY MIXTURE).

The Soda Bordeaux, or Burgundy Mixture as it is known in Great Britain, is made with carbonate of soda or washing soda instead of lime for neutralizing the sulphate of copper. Owing to the difficulty of getting lime in many places in the country, and because of the occasional clogging of nozzles by the lime when it has not been properly slacked or strained, considerable attention has been given in Canada of late to the Soda Bordeaux. Moreover, the experience of those who have used it in large quantities in the old country for several years for spraying potatoes is that if it is applied when freshly made it will adhere better than ordinary Bordeaux. At least one, and perhaps several Ontario fruit growers have been using the Soda Bordeaux successfully for several years in spraying apple trees for the prevention of Apple Spot fungus. It does not discolour the fruit as much as ordinary Bordeaux and is liked on this account.

It is not, however, recommended instead of Bordeaux mixture for spraying fruit trees, as sufficient evidence has not yet been obtained of its relative value.

During the past season several Canadian fruit growers used the Soda Bordeaux for the first time and with it Paris Green. Considerable injury to foliage resulted. The cause of this injury is explained by Mr. F. T. Shutt, Chemist, Experimental Farms, in the August number of the Canadian Horticulturist, where he writes:— 'When Paris green is mixed with ordinary Bordeaux it is not dissolved, but remains in suspension and experience has shown that no injury results from the use of such a spray. When, however, Paris green is added to Burgundy mixture it is partly dissolved by the excess of washing soda used in the preparation of the spray and a soluble arsenical compound formed which is more or less corrosive to foliage. It has long been known that soluble arsenical compounds have this injurious effect upon foliage, and consequently cannot be used in insecticidal mixtures.' In some experiments conducted by Mr. Shutt at the Central Experimental Farm, the details of which will be found in his annual report for this year, it was shown that injury to foliage resulted when arsenical poisons were

used with the Burgundy mixture. It will, therefore, be readily seen that no arsenical poison should be used with Burgundy mixture for fruit trees.

In some potato experiments conducted during the past year we have not noticed any injury to the vines from the use of Paris green with the Burgundy mixture, although slight injury not detected, may have occurred. The formula for Soda Bordeaux mixture was published in the report of the Horticulturist for 1902. The following formula has been used with success for spraying potatoes for the prevention of blight and rot, although the results were not quite as good as with ordinary Bordeaux. The details of the results will be found among the potato experiments in this report.

SODA BORDEAUX (BURGUNDY MIXTURE) FOR POTATO BLIGHT AND ROT.

Copper sulphate (bluestone).....	6 lbs.
Washing soda (carbonate of soda)....	7½ lbs.
Water (1 barrel)....	40 gallons.

Dissolve copper sulphate as for Bordeaux mixture. Dissolve washing soda in about 4 gallons of water. Pour the copper sulphate solution into a barrel, half fill the barrel with water, then stir in the solution of washing soda, and finally fill the barrel with water. It is now ready for use. The Soda Bordeaux adheres better to the foliage when freshly made than the ordinary Bordeaux mixture, but it deteriorates rapidly in this respect and must be used as soon as made. If left to stand for twenty-four hours it will have lost nearly all its adhesiveness. The Soda Bordeaux is not recommended in preference to the ordinary Bordeaux mixture, but where lime cannot be obtained it may be used with good results. Furthermore, on account of its freedom from gritty matter, there is less likelihood of the nozzles becoming clogged when it is used. As washing soda is considerably more expensive than lime, this mixture costs more than the ordinary Bordeaux mixture. If Soda Bordeaux is used for fruit trees it should be made in the proportion of copper sulphate, 4 lbs.; washing soda, 5 lbs., water (1 barrel), 40 gallons, but no arsenical poison should be used with it.

NEW FORMULAS FOR KEROSENE EMULSION.

Kerosene emulsion has for a number of years been one of the best remedies for sucking insects, but as it is somewhat troublesome to make, efforts have been made from time to time to find some other way in which kerosene could be safely used as an insecticide. As kerosene does not mix with water it is necessary to apply it in the form of an emulsion in order that it may be well distributed, and thus not cause injury to the tree.

In 1904 Prof. Close, of the Delaware Experiment Station, discovered that lime could be used instead of soap as an emulsifying agent. By mixing 1 lb. of limoid, or slaked lime, with 1 quart of kerosene and then diluting with water to the percentage desired and churning for five minutes by means of the liquid pumped through a coarse nozzle, an emulsion was formed which kept the kerosene in suspension for several weeks. He called this mixture the K-L Mixture, from the initial letters of kerosene and limoid. Limoid is a very fine preparation of lime manufactured in the United States and not obtainable in Canada. In order to learn if good lime, well slaked would not answer the same purpose, several experiments were planned and carried out in the chemical laboratory at the Central Experimental Farm in conjunction with Mr. F. T. Shutt, Chemist. The following results were obtained:—

1. Freshly slaked lime makes a smoother emulsion and one that stays in suspension longer than one made with ordinary air slaked lime; the latter, however, furnishes a satisfactory emulsion if it is not too much carbonated by long exposure to the air.

2. By using lime slaked immediately before mixing the quantity may be materially reduced. A perfect emulsion can be made by slaking ½ lb. of good quick lime and emulsifying with 1 quart of kerosene and 2 gallons of water.

A further advantage in using freshly slaked lime for orchard purposes lies in the fact that it more thoroughly whitens the trees than the emulsion made with the air-slaked lime. This enables the operator the easier to observe the degree of thoroughness with which the spraying is done.

3. By the use of freshly slaked lime less time is needed for the churning in order to bring the mass to a perfect emulsion. From three to five minutes will be found sufficient to make the emulsion.

4. It is not apparently a matter of much moment that the lime be dry and powdery when mixed with the kerosene. Excellent emulsions have been made both from the air-slaked and freshly slaked lime when they have been quite moist or even made into a thin cream with water before adding the kerosene.

FLOUR EMULSION.

While conducting the experiments already referred to, it was discovered by Mr. Shutt that flour could be successfully substituted for lime. It was found by experiment that 8 ounces of flour was sufficient to hold in suspension 1 quart of kerosene, and even 2 ounces would make a temporary emulsion for immediate use. If the flour were scalded before adding the kerosene 2 ounces were found sufficient to make an emulsion which would stay up for more than a week. The operation of making kerosene emulsion with flour is very simple. The kerosene is first poured into a dry pail or barrel, the flour is then added and the two stirred together. Water is now added to make the desired percentage and the emulsion is then made by churning vigorously for about four or five minutes. If made in the proportion of 1 quart kerosene to 2 gallons of water the emulsion will contain about 11 per cent of kerosene, which is a safe amount to use for most plants in summer. The flour emulsion is smooth, readily and easily atomized, and does not clog the nozzle. Although no free kerosene will appear for several days at least, any separation into layers may be readily overcome or remedied by simply stirring the mixture.

When the flour emulsion is used there is no noticeable whitening of the tree or foliage, which is an advantage where ornamental shrubs are to be treated and where the whitening of the foliage is objectionable, but this is a disadvantage, however, in spraying fruit trees where the thoroughness of the work is of prime importance, as when the flour emulsion is used one cannot so readily see if the work has been well done. The chief advantages of the flour emulsion are that it is easily made, and also can be used when good lime cannot be obtained. This flour emulsion may be added to Bordeaux mixture, and Bordeaux mixture and Paris green if desired.

Experiments conducted at the Central Experimental Farm this year to test the effect of the lime and flour kerosene emulsions were not conclusive, but the indications are that these emulsions are not so effective as the ordinary kerosene emulsion made with soap, the soap evidently playing an important part in the destruction of sucking insects.

In reply to a letter addressed to Mr. E. D. Smith, M.P., who had used the Kerosene Emulsion made with flour in fighting aphis on his nursery stock in 1905, the following letter was received:—

DEAR SIR,—Yours to hand in regard to the kerosene emulsion with flour. It worked very well. We had no trouble when it was thoroughly agitated. We had no damage from the use of it, as we have had in previous years when made in the old way.

Yours truly,

E. D. SMITH.

VEGETABLES.

FARMERS' LIST OF BEST VEGETABLES.

The results of variety tests of vegetables for the past eighteen years are summarized in the following table, where a list is given of the varieties of each kind of vegetable which are considered the best to plant:

Asparagus.—Conover's Colossal is the best all round variety, but this is more subject to rust than Palmetto or Argenteuil.

Beans.—Keeney's Rustless Golden Wax or Wardwell's Kidney Wax, for early crop; Early Refugee, for medium; and Refugee or 1,000 to 1, for late crop, are the most satisfactory dwarf varieties. Asparagus, Lazy Wife and Old Homestead are three of the best pole varieties.

Beets.—Egyptian Turnip, Meteor and Eclipse are three of the best.

Borecole or Kale.—Dwarf Green Curled Scotch is the best.

Broccoli.—White Cape.

Brussels Sprouts.—Improved Dwarf is the most satisfactory.

Cabbage.—Early Jersey Wakefield (early), Succession (medium), Late Flat Dutch, Houser, Drumhead Savoy (late), Red Dutch (red), is a select list of the best varieties of cabbage. For extra early use, Paris Market is desirable, being a week earlier than Early Jersey Wakefield.

Cauliflowers.—Early Dwarf Erfurt and Early Snowball.

Carrots.—Chantenay is one of the best, but if a good extra early sort is required the Early Scarlet Horn can be planted with advantage. It is a small variety.

Celery.—Golden Self-Blanching (Paris Golden Yellow), Improved White Plume (early), Perfection Heartwell, White Triumph, London Red (late) are among the best.

Corn.—Early Fordhook, Early Cory (early), Crosby's Early, Golden Bantam, Henderson's Metropolitan (second early), Perry's Hybrid, Stabler's Early, Early Evergreen, and Black Mexican (medium), Stowel's Evergreen, Country Gentleman (late). In planting, the Country Gentleman should not be omitted, as it lengthens the season very considerably and is of fine quality.

Cucumbers.—Peerless White Spine or White Spine, Cool and Crisp, and Giant Pera are three of the most satisfactory slicing varieties. Boston Pickling is a good pickling sort.

Egg Plant.—New York improved and Long Purple succeed best.

Lettuce.—Black Seeded Simpson, The Morse, (early curled); New York, Giant Crystal Head, Crisp as Ice, and Improved Hanson (curled cabbage); Improved Salamandar, Tennis Ball (cabbage); Trianon and Paris (Cos lettuce).

Melons, Musk.—Long Island Beauty, Hackensack and Montreal Market, of the Nutmeg type; Surprise, Christiana and Emerald Gem, of the yellow fleshed types, are all good.

Melons, Water.—Cole's Early, Salzer's Earliest, Ice Cream, Phinney's Early are good early water melons.

Onions.—Yellow Globe Danvers and Large Red Wethersfield are two of the best onions in cultivation.

Parsnips.—Hollow Crown and Dobbie's Selected are both good sorts.

Parsley.—Doubled Curled is as good as any.

Peppers.—Cayenne, Chili and Cardinal, are three of the best.

Pease.—Gregory's Surprise, Thos. Laxton, Gradus, American Wonder, Premium Gem (early); McLean's Advancer, Nott's New Perfection, Heroine (medium). None of these are tall growing varieties. Stratagem, Juno (dwarf), Telephone (late). Excelsior is a promising second early sort.

Potatoes.—Extra early; Rochester Rose, Early Ohio, Early Andes (pink), Bovee, Burpee's Extra Early (pink and white), Snowball and Eureka Extra Early, (white); early; Early White Prize (white), Vick's Extra Early (pink and white). Main crop; Carman No. 1 (white), Money Maker (white), Burnaby Mammoth (pink and white), Late Puritan (white), Dreer's Standard (white).

Radishes.—Early; Scarlet White-tipped Turnip, Rosy Gem, French Breakfast, Red Rocket (red); Icicle (white); late: White Strasburg, Long White Vienna; winter: Long Black Spanish, Chinese Rose-coloured.

Rhubarb.—Linnaeus, Victoria.

Salsify.—Long White, Sandwich Island.

Spinach.—Victoria, Thickleaved.

Squash.—Early: White Bush Scalloped, Summer Crook Neck; late: Hubbard.

Tomatoes.—Early; Sparks' Earliana, Chalk's Early Jewel; Main crop: Brinton's Best, Trophy, Matchless (scarlet), Burpee's Climax, Autocrat (purplish pink).

There are many varieties of tomatoes which are almost equal in excellence and productiveness.

Turnips.—Early; Extra Early Milan, Red Top Strap Leaf.

Swedes.—Champion Purple Top, Skirving's Improved.

POTATOES.

Although the potato crop in some parts of the provinces of Ontario and Quebec was much reduced this year owing to Blight and Rot, the yields in the experimental plots were good, and there was little rot there. The thorough spraying with Bordeaux mixture which the vines received was undoubtedly the cause of such good results in an unfavourable season. In the uniform test plots the highest yield was obtained from the Dalmeny Beauty, a variety obtained from Scotland in 1904, which yielded at the rate of 475 bushels 12 lbs. per acre this year. This is an exception to most varieties from Great Britain, which usually give comparatively poor results here.

The potatoes were planted in good sandy loam soil on May 22. The previous crop was tobacco, which had been well manured. The soil was ploughed in the autumn and again in the spring after which it was disc harrowed twice, and harrowed once with the smoothing harrow. The drills were made 30 inches apart and about 4 inches deep with the double mould board plough. The sets, which had at least three good eyes, were dropped one foot apart in the drills. Sixty-six sets of each kind were planted and covered with the hoe. The land was harrowed before the potatoes appeared above ground in order to kill weeds, and then kept thoroughly cultivated as long as possible. Practically, level cultivation was practiced, although the soil was drawn slightly towards the plants. The vines were sprayed with Bordeaux mixture five times and with Paris green when necessary. The potatoes were dug on October 5. Last year new seed of the Carman No. 1 and Carman No. 3 potatoes were obtained from the introducers, J. M. Thorburn & Co., Philadelphia, to compare the yield with those from seed which had been grown at the Central Experimental Farm for the past nine seasons. The difference in yield last year in favour of the new seed of Carman No. 1, was at the rate of 66 bushels 36 lbs. per acre, and of Carman No. 3, 171 bushels 36 lbs. The crop from these strains was kept separate and planted again this year with somewhat similar results, the new seed of Carman No. 1 yielding at the rate of 92 bushels 24 lbs. more, and of Carman No. 3 at the rate of 66 bushels more per acre than the Experimental Farm seed. These results are very marked and indicate the benefits which are at least sometimes derived from a change of seed.

SESSIONAL PAPER No. 16

Potatoes—Test of Varieties.

Number.	Name of Variety.	Quality.	Total Yield per Acre.		Yield per Acre, Marketable.		Yield per Acre, Unmarketable.		Colour.
	Medium and Late Varieties.		Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	
1	Dalmeny Beauty	Good	475	12	426	48	48	24	White.
2	Rural Blush	"	462	..	431	12	30	48	Pink.
3	Ashleaf Kidney	"	435	36	396	..	39	36	White.
4	Manistee	Med. to g.	422	24	374	..	48	24	Bright pink.
5	Norcross	Good	418	..	391	36	26	24	White.
6	Carman No. 1 (New Seed, 1904)	"	413	36	369	36	44	..	"
7	Sabean's Elephant	"	404	48	360	48	44	..	"
8	Canadian Beauty	"	396	..	374	..	22	..	Pink and white.
9	I. X. L	"	396	..	3 5	12	30	48	"
10	Pearce	"	391	36	347	36	44	..	"
11	Ionia	Medium	382	48	347	36	35	12	White.
12	Clay Rose	"	378	24	334	24	44	..	Pink.
13	Morgan's Seedling	Good	374	..	343	12	30	48	Pink and white.
14	Empire State	"	369	36	338	48	30	48	White.
15	American Wonder	"	369	36	330	..	39	36	"
16	Seedling No. 7	Med. to p.	365	12	334	24	30	48	Bright pink.
17	Morgan's White	Medium	365	12	308	..	57	12	White.
18	Holborn Abundance	"	360	48	316	48	44	..	"
19	Dooley	Good	356	24	325	36	30	48	"
20	Delaware	"	356	24	316	48	39	36	"
21	Vermont Gold Coin	"	347	36	308	..	39	36	"
22	Carman No. 3 (New Seed, 1904)	"	343	12	325	36	17	36	"
23	Enormous	"	343	12	303	36	39	36	"
24	Dreer's Standard	"	334	24	308	..	26	24	"
25	Late Puritan	"	330	..	308	..	22	..	"
26	Uncle Sam	"	321	12	290	24	30	48	"
27	Carman No. 1	"	321	12	286	..	35	12	"
28	State of Maine	"	316	48	281	36	35	12	"
29	Burnaby Mammoth	"	316	48	272	48	44	..	Pink and white.
30	Empress Queen		308	..	228	48	79	12	
31	Money Maker	Good	299	12	228	48	70	24	White.
32	Rose No. 9	Medium	294	48	272	48	22	..	Pink.
33	Swiss Snowflake	Good	286	..	250	48	35	12	White.
34	American Giant	"	281	36	242	..	39	36	"
35	Doherty's Seedling	"	277	12	264	..	13	12	"
36	Carman No. 3	"	277	12	255	12	22	..	"
37	Vick's No. 9		277	12	242	..	35	12	"
38	White Albino	Good	277	12	224	24	52	48	"
39	Charles Fidler	"	272	48	246	24	26	24	"
40	Mammoth Pearl	"	264	..	250	48	13	12	"
41	Dr. Maerker	Medium	255	12	154	..	101	12	"
42	Cambridge Russet	Good	228	48	206	48	22	..	"
43	Evergood		228	48	162	48	66	..	"
44	Northern Star		224	24	154	..	70	24	"
45	Jubilee	Good	198	..	171	36	26	24	Pink and white.
46	Hibernia		193	36	110	..	83	36	Deep pink.
47	Malden's Recorder		17	36			17	36	White

POTATOES—TEST OF VARIETIES.

Number.	Name of Variety.	Quality.	Total Yield per Acre.		Yield per Acre, Marketable.		Yield per Acre, Unmarketable.		Colour.
	Early Varieties.		Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	
1	Maule's Thoroughbred	Good	396	..	360	48	35	12	Pink.
2	Country Gentleman	"	382	48	347	36	35	12	" and white.
3	Crine's Lightning	"	374	..	347	36	26	24	Red.
4	Rochester Rose	"	352	..	303	36	48	24	Pink.
5	Reeve's Rose	"	343	12	308	..	35	12	"
6	Vick's Extra Early	"	338	48	312	24	26	24	" and white.
7	Early Carter	"	321	12	290	24	30	48	White.
8	Early Rose	"	294	48	259	36	35	12	Pink.
9	Clarke's Pride	"	290	24	242	..	48	24	White.
10	Everett	"	290	24	242	..	48	24	Pink.
11	Irish Cobbler	"	290	24	242	..	48	24	White.
12	Daybreak		290	24	233	12	57	12	Pink.
13	Quick Crop	Good	286	..	250	48	35	12	" and white.
14	Rawdon Rose		281	36	255	12	26	24	" "
15	Penn Manor	Good	281	36	250	48	30	48	" "
16	Early White Prize	"	272	48	242	..	30	48	" "
17	Peck's Early		268	24	242	..	26	24	Pink.
18	Pingree		268	24	220	..	48	24	White.
19	Early Sunlight		268	24	215	36	52	48	"
20	Northern Beauty		264	..	228	48	35	12	Pink.
21	Early Johnston		259	36	224	24	35	12	Pale pink.
22	Bovee	Good	250	48	176	..	74	48	Pink and white.
23	Early Elkinah	"	246	24	224	24	22	..	Pink.
24	Early Ohio	"	246	24	220	..	26	24	"
25	Early Andes	"	246	24	220	..	26	24	"
26	Eureka Extra Early	"	242	..	176	..	66	..	White.
27	Snowball	"	224	24	198	..	26	24	"
28	Early Superior		211	12	162	48	48	24	Pink.
29	Early St. George	Good	198	..	162	48	35	12	" and white.
30	Burpee's Extra Early	"	176	..	132	..	44	..	" "
31	Early Envoy		162	48	132	..	30	48	" "
32	Van Orman's Earliest		114	24	83	36	30	48	Bright pink.

TWELVE BEST YIELDING POTATOES—AVERAGE OF FIVE YEARS, 1901-05.

Number.	Name of Variety.	Number of Years under Test.	Season.	Colour.	Quality.	Average Yield per Acre, 1901 to 1905.	
						Bush.	Lbs.
1	Dr. Maerker	7	Very late	White	Medium to good.	456	43
2	Late Puritan	12	Late	"	Good	452	46
3	Carman No. 1	11	Medium late	"	"	447	55
4	Money Maker	11	Medium	"	"	439	7
5	Rural Blush	17	Late	Pink and reddish	"	438	14
6	Dreer's Standard	12	"	White	"	434	17
7	*Burnaby Mammoth	13	Medium	Pink and white	"	427	41
8	Pearce	6	"	" "	"	425	2
9	I. X. L	13	"	" "	"	422	50
10	Canadian Beauty	8	"	" "	"	422	24
11	Clay Rose	11	Late	Deep pink	Medium	420	38
12	Sabean's Elephant	11	"	White	Good	418	..

* This variety was first grown under the name of Burnaby Seedling, and then procured under the name of Burnaby Mammoth. The average yield given is from the new strain for two years, and the old one for three years.

Smaller plots of potatoes.—This year a much larger number of varieties than usual was tested for the first time. A number of these was imported from Great Britain, but in most cases those from this source did not yield nearly as well as those

from Canada or the United States. Our season is apparently too short for most of the varieties from Great Britain. Some of the new varieties were tested in the uniform test plots, but the following 44 sorts were grown in smaller plots. Of these, three were new strains of old varieties obtained from the Ontario Agricultural College, Guelph.

POTATOES—YIELDS FROM SMALLER PLOTS.

Number.	Name of Variety.	Number of Sets Planted.	Total Yield per Acre.		Yield per Acre Marketable.		Yield per Acre Unmarketable.	
			Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.
1	Harris Snowball	8	562	39	544	30	18	9
2	Snider Best Early	8	544	30	490	3	54	27
3	L. A. Sovereign, Round Plains, Man.	4	508	12	471	54	36	18
4	Merrill	8	526	21	508	12	18	9
5	Early Pride	33	475	12	378	24	96	48
6	Hard to Beat	16	471	53	381	9	90	45
7	Potentate	16	453	45	381	9	72	36
8	Early May	16	435	36	363	..	72	36
9	Woltman	33	431	12	352	..	79	12
10	Star of the East	8	417	27	399	18	18	9
11	Fantail Rose	33	413	36	343	12	70	24
12	Pearl of Savoy (O.A.C.)	16	381	9	344	51	36	18
13	Empire State (O.A.C.)	16	381	8	299	28	81	48
14	Wee MacGregor	33	378	24	343	12	35	12
15	White Mammoth	16	363	..	308	33	54	27
16	Early Trumbull	16	363	..	326	42	36	18
17	Early Bird	8	363	..	326	42	36	18
18	Uncle Gideon's Quick Lunch	8	363	..	290	24	72	36
19	Naught Six	16	363	..	272	15	90	45
20	Early Excelsior	16	353	55	335	46	18	9
21	Washington	16	353	55	317	37	36	18
22	Noroton Beauty	8	326	42	290	24	36	18
23	Million Dollar	16	326	41	317	37	9	4
24	American Wonder (O.A.C.)	16	326	32	299	19	27	13
25	New Reliance	16	317	37	254	6	63	31
26	Standard	16	299	28	245	1	54	27
27	Burpee's Extra Early (Burpee)	33	295	12	246	24	52	48
28	Babbit	8	290	24	217	48	72	36
29	New Climax	16	272	14	190	34	81	40
30	Canadian Red	16	271	45	235	27	36	18
31	Sutton's Sion House	16	254	6	199	39	54	27
32	Dewey	16	245	1	217	48	27	13
33	The Scot	12	242	..	193	36	48	24
34	Duke of York	16	199	39	145	12	54	27
35	Early Hero	16	181	30	145	12	36	18
36	Vicktor	16	163	21	145	12	18	9
37	Peacemaker	16	163	21	127	3	36	18
38	Eightyfold	33	136	24	114	24	22	..
39	Ninetyfold	16	136	7	90	45	45	12
40	Snowdrop	33	114	24	70	24	44	..
41	Pride of Tonbridge	33	105	36	79	12	26	24
42	Sir John Llewellyn	33	88	..	61	36	26	24
43	Sharpe's Victor	33	70	24	..	..	70	24
44	Myatt's Ashleaf	33	52	48	..	..	52	48

POTATOES—TEST OF RESISTANCE TO BLIGHT.

An experiment was conducted this year to determine which varieties of potatoes were freest from blight, and which of those freest from blight would prove most productive. The potatoes were planted side by side on May 27 in sandy loam soil, 33 sets of each kind being used. The plants were sprayed with Paris green to protect them from the potato beetle, but no Bordeaux mixture was used. Level cultivation was adopted. The kinds planted were those which in previous years had shown themselves freest from blight, but a few less resistant varieties were used with the object of giving the disease a foothold. Thirty-two varieties were planted. The Holborn Abundance,

which has been grown at the Central Experimental Farm for the past seventeen years, proved to be the most blight resistant as well as one of the most productive. It yielded at the rate of 516 bushels 48 lbs. per acre. About equally as resistant to blight but much lower in yield were: June, 189 bushels 12 lbs. per acre; Rust Proof, 118 bushels 48 lbs. per acre; Sutton's Discovery, 66 bushels per acre. Almost equally resistant were Clay Rose, 215 bushels 36 lbs. per acre; Rural Blush, 206 bushels 48 lbs. per acre, and Dr. Maerker, 158 bushels 24 lbs. per acre, and State of Maine, 149 bushels 36 lbs. per acre. The dates when the tops showed the first signs of disease; when the leaves were dead; and when the stems were dead, were all noted and the yield per acre recorded of all the varieties tested.

The disease did eventually attack the foliage of those most resistant and as these are all late varieties some of them did not yield as much as other earlier kinds a little less resistant. The disease developed early this year, which accounts, no doubt, for the fact that the yields from some of the most blight resistant but latest varieties were comparatively small. It is evident that a variety can be so late in season that it will not resist blight long enough for a crop to be developed which will equal a variety a little earlier in season though apparently not so resistant. The potatoes from the best hills of the most blight resistant varieties were saved for the purpose of continuing this test in the hope that by careful selection more productive and more blight resistant strains will be developed.

Spraying Potatoes to Prevent Blight and Rot.—The prevalence of blight and rot in the provinces of Ontario and Quebec this year will, it is hoped, draw the attention of farmers more than it has done in the past to the value of Bordeaux mixture in preventing this disease. During the past fourteen years experiments have been conducted at the Central Experimental Farm with the object of testing different remedies, but up to the present time nothing has proven as satisfactory as Bordeaux mixture. An estimate of the cost of applying Bordeaux mixture has been given in previous reports and in a bulletin on potato culture published this year. Briefly stated, it may be said that the cost of four applications per acre was estimated at $5.52. As this estimate was based on comparatively small plots it would be somewhat reduced on large areas. As the disease may make its appearance any time during the latter part of July, it has been found to be the best practice to spray about the middle of July, or even before, if one has to spray for the potato beetle about that time. The formula recommended is: 6 lbs. bluestone, 4 lbs. lime, 40 gallons water.

Following are the results obtained from the use of Bordeaux mixture, including this year. It will be seen that the average increase from spraying for four years is at the rate of 92 bushels 31 lbs. per acre. At 40c. a bushel this would mean an average net profit per acre from the use of Bordeaux mixture of about $30, deducting the cost of application.

—	1901.		1902.		1904.		1905.		1901-2-4-5.	
	Average yield per acre of Marketable Potatoes—Sprayed four times and unsprayed.		Average yield per acre of Marketable Potatoes—Sprayed four times and unsprayed.		Average yield per acre of Marketable Potatoes—Sprayed five times and unsprayed.		Average yield per acre of Marketable Potatoes—Sprayed five times and unsprayed.		Average yield per acre of Marketable Potatoes (Four Years)—Sprayed and unsprayed.	
	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.
Sprayed	333	48	310	12	369	21	128	4	310	20
Unsprayed	233	11	189	54	306	39	141	32	217	49
Average increase in yield per acre of Marketable Potatoes from spraying with Bordeaux mixture	100	32	120	18	62	42	86	32	92	31

POTATO SPRAYING EXPERIMENTS, 1905.

This year five comparative experiments were made, there being eighteen varieties in each test. The potatoes were planted on May 26, 33 sets of each variety being used. Level cultivation was adopted. The figures given are the averages of the eighteen kinds tested. This experiment was practically the same as was conducted in 1904, and in the report for that year fuller details are given regarding the different formulas and the relative cost of application. The Bordeaux mixture, Soda Bordeaux, and Bordeaux mixture and Bug Death were each applied five times. With the two first, Paris green was added when necessary. Where Bug Death alone was used it was applied twice dry and four times with water.

Average Yield per Acre Marketable Potatoes, 1905 (18 varieties).

	Bush.	*Lbs.*
Bordeaux mixture and Paris green	228	4
Soda Bordeaux and Paris green	211	27
Bordeaux mixture and Bug Death	182	7
Paris green only	141	32
Bug Death	107	33

TOMATOES—TEST OF VARIETIES.

The tomato is such a popular vegetable that it has received much attention in the horticultural department. Practically all the varieties which have been offered for sale have been tested during recent years, the greater part of which have now been discarded, although 54 sorts were tested this year.

The Bright and Early, which leads the list for productiveness this year, has nearly always been one of the most productive. It is, however, too small for commercial purposes, but where weight of crop is the chief consideration this should prove a very valuable variety. It is smooth, regular in shape and of an attractive scarlet colour, but is below medium to small in size. The main crop varieties, which have averaged best in productiveness in the past and which are of good shape, are: Brinton's Best, Trophy, and Matchless (scarlet); and Burpee's Climax and Autocrat (purplish pink). The Marvel, one of the newer scarlet main crop varieties, is a very fine sort.

Among early varieties, Sparks' Earliana continues to take first place. It is the earliest smooth scarlet tomato which has been tested. In the table containing the list of earliest varieties for 1905, it will be noticed that Sparks' Earliana (C.E.F.) gave by far the largest weight of early ripe fruit. This was from seed selected for the two previous years from the earliest ripening fruits of this variety at the Central Experimental Farm, and shows the importance of selecting and saving one's own seed when possible. In this instance the plants from the C. E. F. seed produced more than twice as much early fruit as that from imported seed. In addition to the six earliest tomatoes for 1905, the Dominion Day, Frogmore Selected, and Chalk's Early Jewel are three early varieties which produced more fruit up to August 10 than those in the table of earliest. The reason they were not included is that they did not produce as much ripe fruit before August 10 as some of the others, and hence could not be considered quite as early. The Dominion Day and Chalk's Early Jewel were, however, among the earliest six in 1904.

Owing to the cloudy, showery and comparatively cool summer the yields are not as large as they have been in more favourable seasons. The seed was sown in hotbeds on March 29, and the plants pricked out into strawberry boxes on April 25, and kept in a cold frame until June 7, when they were planted in the open air. They were

planted four feet apart each way and five plants of each variety were used. The soil was a light sandy loam. The soil was kept cultivated until the plants covered the ground. The plants were not pruned or trained in any way in the test of varieties.

TOMATOES—TWELVE BEST YIELDING VARIETIES, 1905.

Name of Variety.	Date of first Ripe Fruit, 1905.	Yield of Ripe Fruit to Aug. 10, 1905, 5 plants.		Yield of Ripe Fruit per acre to Aug. 10, 1905.		Total Yield of Ripe Fruit, 5 Plants — All pickings, 1905.		Total Yield of Ripe Fruit per plant, 1905.		Remarks.
		Lbs.	Ozs.	Lbs.	Ozs.	Lbs.	Ozs.	Lbs.	Ozs.	
Bright and Early	July 27	4	12	2,586	6	64	12	12	15	Below medium size, regular, smooth, scarlet.
King Humbert	Aug. 2	5	..	2,722	8	57	4	11	7	Below medium size, pear shaped, scarlet.
Nolte's Earliest (C.E.F.)	July 26	10	12	5,853	6	55	4	11	1	Medium size, wrinkled. scarlet.
Thorburn's Earliest	Aug. 7	2	..	1,089	..	53	12	10	12	Medium size, almost smooth, scarlet.
Nolte's Earliest	July 25	6	12	3,675	6	51	8	10	5	Medium size, wrinkled, scarlet.
Bond's Early Minnesota	Aug. 5	3	..	1,633	8	50	8	10	2	Below medium size, smooth, regular, purplish pink.
Dominion Day	July 24	13	4	7,214	10	50	4	10	1	Medium size, wrinkled, scarlet.
Chalk's Early Jewel	Aug. 1	8	..	4,356	..	50	..	10	..	Medium size, smooth, regular, scarlet.
The Marvel	" 2	2	12	1,497	6	49	..	9	13	Medium size, smooth, very regular, scarlet, handsome.
Democrat	" 7	3	..	1,633	8	47	8	9	8	Above medium size, smooth, purplish pink.
Freedom	July 26	2	8	1,361	4	47	8	9	8	Below medium to medium size, regular, smooth, scarlet.
Frogmore Selected	" 28	8	12	4,764	6	44	..	8	13	Below medium size, smooth, scarlet.
*Sparks' Earliana (C.E.F)	" 21	18	8	10,073	4	43	.	8	10	Medium size, smooth, scarlet.

TOMATOES—SIX EARLIEST VARIETIES, 1905.

Sparks' Earliana (C.E.F)	July 24	18	8	10,073	4	43	..	8	10	Medium size, smooth, scarlet.
Maule's Earliest	" 26	10	8	5,717	4	38	8	7	11	Medium size, smooth to wrinkled, scarlet.
Money Maker	" 25	7	..	3,811	8	32	4	6	7	Medium size, wrinkled, scarlet.
Sparks' Earliana	" 27	7	..	3,811	8	39	..	7	13	Medium size, smooth, scarlet.
Early Ruby	" 24	6	12	3,675	6	23	12	4	12	Medium size, smooth to wrinkled, scarlet.
Quicksure	" 18	5	7	2,960	11	37	15	7	9	Medium size, wrinkled, scarlet.
Conqueror	" 26	4	..	2,178	..	26	8	5	5	Medium size, almost smooth scarlet.

* NOTE.—Imported seed of Sparks' Earliana yielded 39 lbs. ripe fruit of which only 7 lbs. matured, by Aug. 10.

TOMATOES—EXPERIMENTS IN PRUNING.

In the annual report for 1904, the results of an experiment in a certain method of pruning tomato plants were published. The experiment was continued during the past season. The seed was sown on March 10, and the plants pricked out on March 30; and transplanted again into strawberry boxes on April 19. As soon as the plants in the hot-

beds had six strong leaves on them, which was on May 2 in 1905, the tops were nipped off and the plants given more room, being placed 5½ inches apart. The object of pinching off the tops of the plant was to cause new shoots to develop at the axils of the leaves in order to have six branches bearing tomatoes instead of the one cluster usually found at the top of the plant. These were planted out on June 7 alongside other plants unpruned. On July 4 half of the pruned plants were again pruned, all laterals being taken out, and the six main branches only being left. This left 20 plants for each system. The further-advanced the axillary shoots are when the plants are set out the larger the early crop is likely to be. In the following table will be found the results of the experiment with Sparks' Earliana for the years 1904 and 1905, and of Chalk's Early Jewel for 1905. It will be seen that there is considerable advantage in pruning by this method.

Name of Variety.	Date of First Ripe Fruit, 1904.	Date of First Ripe Fruit, 1905.	Ripe Fruit First Three Pickings, 1904.		Ripe Fruit First Three Pickings, 1905.		Total Yield of Ripe Fruit, 1904.		Total Yield of Ripe Fruit, 1905.	
			Lbs.	Ozs.	Lbs.	Ozs.	Lbs.	Ozs.	Lbs.	Ozs.
Sparks' Earliana :										
Unpruned	July 23	July 18	9	..	5	4	84	..	182	4
Pruned once	Aug. 13	July 25	6	..	11	..	137	10	212	..
Pruned twice	Aug. 12	July 25	18	..	16	8	132	13	134	8
Chalk's Early Jewel :										..
Unpruned	..	July 16	.....		5	3	..		240	11
Pruned once	.....	July 29	.....		1	..	.....		256	..
Pruned twice	.....	July 29	.....		2	12	.....		173	12

While the unpruned plants produced the earliest fruit, in the case of the Sparks' Earliana, the yield from the pruned plants for the first three pickings in 1904 was, from the plants pruned twice, double the crop from those not pruned; and in 1905 more than three times from those pruned once (merely nipped off at top) than from those not pruned. The Chalk's Early Jewel, which is not quite so early, did not show such an advantage. The first three pickings represented the crop up to August 4. On August 10 the crop of ripe fruit up to that date from the unpruned Sparks' Earliana was 17 lbs. 4 ounces; from plants pruned once, 56 lbs., and from plants pruned twice, 64 lbs. 8 ounces, showing nearly four times as great a yield from the pruned as from the unpruned. The difference in the Chalk's Early Jewel was even greater. On August 10 the crop of ripe fruit from the unpruned up to that date was 13 lbs. 3 ounces; from plants pruned once, or simply headed back, 41 lbs., from plants pruned twice, 58 lbs. 4 ounces. This year the price of tomatoes was still high on August 10, and hence good returns would have been had from pruning. From the experience of 1904 and 1905 it would appear that the most early fruit is obtained when the plants are headed back before planting out and pruned once after planting.

TOBACCO.

The variety test of tobacco was continued this year and 49 varieties were grown. A few of the kinds which had done well in previous years were grown in larger areas, and following will be found a table giving the names of the varieties and the yields obtained from each. The tobacco seed was sown in a hotbed on April 8, the young plants transplanted to a cold frame on May 18, and set out in the open 3 by 3½ feet apart on June 8. The soil was sandy loam which had been well manured with rotted barnyard manure. There was a hailstorm during the growing season which did much injury to the leaves and lessened the quantity of first grade tobacco. The plants were cut on September 14 and taken to the curing house. The tobacco was stripped during

the latter part of November and early in December, and experiments in fermentation have been planned.

Name of Variety.	Number of Plants.	Weight of 1st Grade.		Weight of 2nd Grade.		Weight of 3rd Grade.		Total Yield per Acre all Grades.		Condition when cut, Sept. 15.
		Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	
Long Leaf Gooch.....	265	53	..	.....	.....	12	..	1017	9	Near ripe.
Little Oronoka..... ...	326	44	..	2	..	11	..	725	6	Ripe.
Havana.....	416	19	..	8	..	19	..	458	12	"
Connecticut Seed Leaf....	383	75	..	24	8	37	..	1478	9	Near ripe.
Improved White Burley...	250	34	..	2	..	7	..	713	9	" "
Kentucky Burley.....	585	109	..	52	..	42	..	1439	9	" "
Lacks	280	55	..	4	..	10	..	1022	5	Ripe.

ARBORETUM AND BOTANIC GARDEN.

The winter of 1904-5 was a favourable one for trees, shrubs, and herbaceous plants, as there were no very low temperatures and there was a good covering of snow, hence there was no special injury to plants this year, although there was the usual killing back of the half hardy and tender species. The summer season was a favourable one for growth and most of the specimens did well this year. There were 263 species and varieties of trees and shrubs planted in the spring of 1905, and when the records were completed in the autumn it was found that there was a total of 3,229 species and varieties of trees and shrubs living in the Arboretum represented by 5,010 specimens. Among the interesting things planted this year may be mentioned a fine collection of Cratægus donated by the Arnold Arboretum.

The herbaceous borders looked well this year, and additions were made to the collection there, making a total of 2,041 species and varieties of herbaceous perennials living in the autumn of 1905. There are, without doubt, some synonyms among the trees and shrubs, as well as the perennials, not yet identified, but the number of these is not large.

Following is a record of the information which has been published in previous reports regarding plants in the Arboretum and Botanic garden:—

In 1899 a catalogue of the trees and shrubs in the Arboretum which had been tested up to that time was published conjointly by Dr. Wm. Saunders and the writer. In this catalogue the scientific names of the trees and shrubs are arranged alphabetically, and when a species or variety has a common name this is also given. The countries are named of which the trees and shrubs are native, also the year in which they are planted. Notes on the hardiness of the specimens were published in this bulletin.

In the annual report of the writer for 1897 a descriptive list was published of what was considered 'the best one hundred hardy ornamental trees and shrubs,' and 'the best one hundred herbaceous perennials.' This list has proven very useful to many persons. In the writer's report for 1898 a short 'Additional list of Herbaceous Perennials' is given. In the report for 1899 another short descriptive 'List of Additional Good Perennials,' and a descriptive list of 'The Best Low Growing Flowering Shrubs.' The report for 1900 contains 'Descriptive Lists of the Best Woody and Annual Climbers,' and that for 1901 'A Descriptive List of the Different Species and Best Varieties of Lilacs.' In 1902 was published 'A List of Best Spring Flowering Perennials,' in 1903 a list of 'Deciduous Trees, Shrubs and Climbers with Attractive Foliage, Bark and Fruit,' in 1904 'A List of the Genera in the Arboretum with the Number of Species of each Genus.'

REPORT OF THE CHEMIST.

(Frank T. Shutt, M.A., F.I.C., F.C.S., F.R.S.C.)

Ottawa, December 1, 1905.

Dr. Wm. Saunders, C.M.G.,
Director, Dominion Experimental Farms,
Ottawa.

Sir,—I have the honour to submit herewith the nineteenth annual report of the Chemical Division of the Experimental Farms.

Investigations have been carried on during the past year in all the more important branches of agriculture, and many problems in connection with dairying, fruit growing, grain growing, cattle feeding, &c., have received our attention.

Soils.—We are able to present data of an important character regarding the accumulation of nitrogen in the soil through the growth and turning under of clover. The results were obtained by the analysis of certain soils before and after the growth of clover, the period of the experiment extending over two seasons. In former years we have determined the fertilizing influence of the legumes by estimating the nitrogen they contained and by the increase of yield in the crop succeeding them. The method employed in the work now reported on is more direct and attacks the problem from another standpoint. It is a matter of interest to note that the results from all three methods practically agree, thus furnishing evidence of a most complete and satisfactory nature respecting this economic means of soil improvement.

The study of the various factors by which the soil's moisture may be controlled has been continued, the experiments being conducted, as during 1904, on the Experimental Farm at Ottawa, Ont., and Nappan, N.S. The object of the investigation has been to obtain information that would be of assistance in the rational management of orchard soils. Though the results here, owing to a somewhat heavy rainfall, do not show the necessity of cultivation, the experiments at Nappan clearly demonstrate the injurious effect of a grain crop in the orchard and also indicate the benefit to be derived from the dry earth mulch, in localities in which a limited precipitation prevails.

Closely associated with the growth of the legumes for soil enrichment is the question of inoculation: Is it necessary to inoculate the soil or the seed in order to obtain the best results with clover and Alfalfa? We discussed this subject at length in last year's report, stating our position regarding the practical value of cultures. This season we continued the research, using cultures kindly supplied by the Bureau of Plant Industry, Washington, D.C., and the Ontario Agricultural College, Guelph, Ont. Though on the whole the results are more favourable than those obtained in 1904, I doubt very much if they should be construed as indicating that any general benefit would be derived from cultures in districts in which clover and Alfalfa have already flourished.

Chemistry of Insecticides and Fungicides.—Under this heading will be found chapters on several interesting investigations relating to sprays and mixtures used in the destruction of insect and fungus pests, as follows:—

(*a*) An account of Soda-Bordeaux and the injury to fruit trees that may result from the addition thereto of Paris green.

(*b*) A discussion of some new forms of Kerosene Emulsion, including a review of the so-called lime emulsions, and a description of certain emulsions in which flour

was substituted for lime. The lime emulsions were first proposed and made by Professor Close, of the Delaware Experiment Station, and we found them fairly stable, homogeneous, easy to spray and not clogging the nozzle. The flour emulsions, suggested by the writer, were also shown to answer equally well, if required for immediate use.

(*c*) The action of solutions of Formalin on the vitality of wheat has been ascertained and the strength of certain brands of Formalin has also been determined. The large quantity of this chemical now used in the North-west in the treatment of grain for the prevention of smut makes the information now given timely and valuable.

(*d*) The relative efficiency of certain cyanides, used in the production of hydrocyanic acid for the fumigation of trees and shrubs for the destruction of the San José scale is given.

Fodders and Feeding Stuffs.—In addition to the tabulation and discussion of a number of analyses of concentrated feeding stuffs and condimental foods made during the past year, we present the results of the examination of the chief field roots, and show that marked differences in feeding value may occur. The influence of heredity or 'breed' is also shown by examples of two well known varieties of mangels.

Sugar Beets.—Three varieties usually grown for factory purposes, Vilmorin's Improved, Klein Wanzleben, and Très Riche, as grown on the Dominion Experimental Farms during the past season have been analysed as to their sugar content.

Well Waters.—One hundred and sixteen samples of water from farm homesteads have been received. The tabulated results from 83 of these are given, together with a short report on their quality from the sanitary standpoint.

Samples Received from Farmers.—The number of these continues to increase. A large proportion of them have been examined and reported upon. This very useful branch of our work, though affording very little material for the annual report, is one, I believe, of immense value to the farming community. It certainly entails a large amount of labour, but as it is distinctly educative and helpful in character, it must receive attention, though at times it undoubtedly interferes with the research work in progress. If, however, all branches of the work of the Chemical Division are to be maintained, further laboratory assistance will be necessary.

The following table states the number of samples received, their nature, the province from which they come, and those still awaiting examination.

SAMPLES RECEIVED FOR EXAMINATION AND REPORT NOVEMBER 30, 1904, TO DECEMBER 1, 1905.

Sample.	British Columbia.	Alberta.	Saskatchewan.	Manitoba.	Ontario.	Quebec.	New Brunswick.	Nova Scotia.	Prince Edward Island.	Total.	Number still awaiting examination.
Soils	29	27	19	6	52	9	1	62	2	207	60
Muds, mucks and marls	3	.....	.....	.....	.....	2	4	6	1	16	7
Manure and fertilizers	.....	...	....	3	11	6	.....	11	.....	31	3
Forage plants and fodders	13	10	7	5	165	11	10	9	.....	230	36
Well waters	7	6	12	8	52	15	9	3	4	116	0
Miscellaneous, including dairy products, fungicides and insecticides	2	9	1	7	27	25	6	4	2	83	7
Totals	54	52	39	29	307	68	30	95	9	683	113

Investigations Relating to Dairying.—These include the examination of milk preserved by hydrogen peroxide as received from Denmark (the Budde method), the analysis of a milk powder prepared from whey, an inquiry into the volatile acid content of two-year-old cheese, and several other matters of more or less interest. The reports of these investigations are published in Bulletin No. 8, Dairy Series, May, 1905.

Grades of Wheat.—In conjunction with the Cereal Division, an investigation to determine the value of the various grades of wheat (Manitoba Inspection Division) was undertaken in the early months of the present year. The results are presented, together with those from the Cereal Division, in Bulletin No. 50 of the Experimental Farms Series.

The Winter Care of Manure.—This series of experiments was planned to ascertain the losses of plant food that may take place from December to April when manure is piled in large and small heaps, respectively. We are not reporting on the results this year, as it seems desirable to confirm the data by further trials.

Correspondence.—From November 30, 1904, to December 1, 1905, the letters directed to this division, in addition to those referred to us by the other departments of the farms, numbered 1,531; those sent out, 1,441.

Acknowledgments.—The investigations and analyses undertaken by the Division have satisfactorily progressed, due chiefly to the painstaking and excellent work of the Assistant Chemists, Mr. A. T. Charron, M.A., and Mr. H. W. Charlton, B.A.Sc. My thanks are due to them for most valuable aid in carrying out the various researches here reported on.

Mr. Charron, in addition to his duties here, has delivered a number of lectures on agricultural topics at Farmers' Institute Meetings, spending a month in the province of Quebec, and another month in New Brunswick. In all, more than 60 addresses were given.

Mr. J. F. Watson has continued to discharge his duties in connection with the secretarial work of the division and has earned my thanks for the thorough and careful manner in which everything entrusted to him has been done.

I have the honour to be, sir,

Your obedient servant,

FRANK T. SHUTT,

Chemist, Dominion Experimental Farms.

THE NITROGEN-ENRICHMENT OF SOILS THROUGH THE GROWTH OF LEGUMES.

Many analyses of exhausted or, more correctly speaking, partially exhausted soils from cultivated areas have shown unmistakably that in the majority of cases the soil's constituents that have more particularly been dissipated through successive cropping and poor farming are organic matter (humus) and its concomitant, nitrogen. Again, it has almost invariably been found that our virgin soils of great productiveness are well supplied with these constituents and that accompanying them there is a goodly proportion of the mineral elements of plant food in readily assimilable forms.

As an illustration of the effect of continuous cropping and cultivation, without manure of any kind, on the soil's nitrogen-content, the following cases may be cited: During the past season samples of soils—virgin and cultivated, and from closely adjacent areas—were collected in the North-west Territories and analysed. The re-

sults show a marked decrease in the percentage of nitrogen in the cultivated lands. One series may suffice. Regarding the cultivated soil, we possess a complete and authenticated record of the cropping and fallowing since the prairie was first broken, 22 years ago. It had borne six crops of wheat, 4 of barley, and 3 of oats, with fallows (9 in all) between each crop since 1887. No manure had ever been applied. The sample of virgin soil for comparison was taken from an adjacent area that had never been cultivated, the point of collection being about 120 feet distant from where the cultivated soil sample was taken. Both samples were of a composite character and every precaution taken to have them thoroughly representative. It may, further, be added that there is every reason to suppose that the soil over the whole area examined was originally of an extremely uniform nature; in other words, that at the outset the nitrogen content was practically the same for the soils now designated as virgin and cultivated respectively. The results of the investigation are given in the following table:—

Nitrogen.

	Per cent.	*Lbs. per acre.*
Virgin soil to a depth of 4 inches.....	·409	3,824
Cultivated soil to a depth of 4 inches.....	·257	2,402
Difference, or loss due to cropping and cultural operations....	·152	1,422
Virgin soil, to a depth of 8 inches..	·371	6,936
Cultivated soil to a depth of 8 inches..	·253	4,730
Difference, or loss due to cropping and cultural operations..	·118	2,206

Though in all probability the virgin soil has gained somewhat in nitrogen during the period of 22 years, for that is the tendency with soils in sod, the increase could not have been such as to materially affect the deduction that a very considerable depletion of soil nitrogen has followed the practice of continued cropping with grain and fallowing. The results show that the cultivated soil is to-day still very rich, yet compared with the untouched prairie it is seen to have lost one-third, practically, of its nitrogen. This is highly significant. Humus and nitrogen must be returned, either as manure or by the occasional growth of certain enriching crops, or fertility will inevitably decline. The productiveness of many of our soils is due largely to the accumulation of centuries, but these stores of plant food may be and are in many places being unduly dissipated through irrational methods and with even our best soils it cannot be many decades before decreased yields will show the necessity of occasionally replenishing the soil's humus and nitrogen.

The work of the experimental farms during the past fifteen years has shown that wherever climatic conditions allow, this replenishing of humus and nitrogen, this maintenance, and indeed increase, of fertility may be most readily and economically accomplished through the growth of one or other of the legumes—a family of plants possessing the unique and valuable property of appropriating the free nitrogen of the atmosphere. In establishing the manurial value of the legumes, the nitrogen-content of a number of those more commonly advised from the standpoint of soil enrichers has been determined. The results of these analyses are to be found in several of the past reports of this Division. Evidence has also been brought forward by determining the yields of various farm crops following the growth of clover or other legume. The data that we have accumulated on this important subject are voluminous, but they all point in the same direction—the increase of productiveness following the growth of the legume.

Photo. by F. T. Shutt.

SERIES No. I. WASHINGTON CULTURES.

ALFALFA No. 1. Seed Inoculated.
No. 2. Untreated.
No. 3. Soil Inoculated.

CLOVER No. 4. Soil Inoculated.
No. 5. Untreated.
No. 6. Seed Inoculated.

SERIES No. II. GUELPH CULTURES.

ALFALFA No. 1. Soil Inoculated.
No. 2. Untreated.
No. 3. Seed Inoculated.

CLOVER No. 4. Soil Inoculated.
No. 5. Untreated.
No. 6. Seed Inoculated.

The experiments now to be described had for their object the estimation of the amount of nitrogen that became part and parcel of the soil nitrogen through the growth of clover. By the analysis of the soil before sowing and after the decomposition of the legume it was thought that data of a valuable character would be obtained. The work was carried on in experimental pots and on a small plot simultaneously, soil poor in nitrogen being purposely selected for the investigation. The plan was to determine as accurately as possible its nitrogen content at the outset, to sow it with clover, to return the crop to the soil and after its decay to again determine the soil's nitrogen. The experiments were continued over a period of two seasons.

Pot Experiments.—Twenty-one pots, each having a diameter of 8 inches and a depth of 12 inches, were filled to a height of 9 inches with soil containing 0·0392 per cent nitrogen. These were sown with Mammoth Red clover on May 13, 1902. The pots were then sunk in the soil, level with the surface, so that moisture and temperature conditions for the clover might be as nearly normal as possible. On October 13 of the same year (1902) the crop (including the roots) was taken up, cut very fine and returned to the soil—the cut clover and the soil being thoroughly mixed. Throughout the following winter the pots were kept in the laboratory building and the soil maintained in a moist condition, so that the decay of the clover might be as complete as possible.

On June 13, 1903, the pots were again sown with Mammoth Red clover, and the growth returned to the soil in the autumn as in the previous year. In the spring of 1904 (May 14) the soils were again thoroughly mixed and sampled, the undecomposed fibre being carefully separated, and analysed. The result was 0·0457 per cent nitrogen.

Plot Experiment.—The plot used was $\frac{1}{990}$ of an acre. Its soil to a depth of 8 inches was removed and replaced with soil thoroughly uniform throughout and containing 0·0437 per cent nitrogen. The plot was sown with Mammoth Red clover on May 13, 1902. During the season's growth the clover was cut twice and allowed to decay on the soil. At the close of the season (October 17) the crop was turned under, the soil being stirred to a depth of 4 inches. In the following spring (1903) the plot was again sown with clover which made a very fair growth. This was cut twice and finally turned under as during the previous year. On May 14, 1904, the soil of the plot was sampled to a depth of 4 inches and its nitrogen-content determined. This was now 0·0580 per cent. The following tabulated statement permits of a ready review of the results obtained:—

NITROGEN—Content of Soil before and after the Growth of Clover.

Pot Experiment.	Nitrogen.	
	Percentage (in water-free soil).	Pounds per Acre to a depth of 9 inches.
Before experiment	·0392	1,076
After experiment	·0457	1,255
Gain due to two years' growth of clover	·0065	179
Plot Experiment.		**To a depth of 4 inches.**
Before experiment	·0437	533
After experiment	·0580	708
Gain due to two years' growth of clover	·0043	175

The data furnish further evidence of a very satisfactory character concerning the manurial value of clover. In one set of trials, two seasons of clover had enriched the soil with nitrogen to the amount of 179 lbs. per acre, calculated to a depth of 9 inches; in the other, calculated to a depth of 4 inches, the increase was 175 lbs. per acre. This nitrogen, although not present in an immediately available condition, is associated with readily decomposable organic matter and would be set free for the use of succeeding crops.*

INOCULATION FOR THE GROWTH OF LEGUMES.

A statement regarding the results of work carried on in this investigation since 1896, by the Experimental Farms, was given in the report of this Division for last year (1904). After briefly recounting the results we had obtained from the use of German and American cultures, the opinion was expressed that the necessity for inoculation was by no means so great as was supposed by many; in other words, that the soil bacteria that serve to fix the nitrogen in the legumes had been found to be widely distributed over the Dominion. Our experience this year confirms this view. During the past season, clover plants have been received from several districts in Manitoba, all bearing nodules on their roots. Observation has gone to show that in the majority of cases in which there has been failure to obtain a good catch of clover that one or more of the following causes have been to blame rather than the absence of the necessary bacteria: Deficiency of moisture; unsuitable mechanical condition of the soil, due to lack of humus, inadequate drainage, or improper working of the soil; acidity or sourness of the soil; poor seed; or, if the crop failed the second season, the severity of the winter.

Last season (1904) we experimented with the new cultures for clover and alfalfa supplied by the Bureau of Plant Industry, Washington, D.C. The results were, on the whole, unsatisfactory, and we were consequently not in a position to report very favourably. This season we have continued the investigation with the Washington cultures, and also have experimented with those supplied by the Ontario Agricultural College, Guelph, the latter being kindly furnished by Prof. Harrison, Bacteriologist. The trials were conducted in pots and plots.

POT EXPERIMENTS.

These were made in clean, new flowers pots, with a diameter at the top of 11 inches and a depth of 13 inches. The soil was a light sandy loam of poor quality. After sowing, the pots were plunged, the rim (2 inches) only being above the surface of the soil. This was done in order to avoid as far as possible sudden changes in temperature and moisture content.

The inoculating fluids were prepared in accordance with instructions received with the cultures. In the case of the 'seed inoculated,' the seed was immersed in the cultural preparation for a few minutes and then allowed to dry by exposure to the air; with the 'soil inoculated' the inoculating fluid was used to moisten the soil to a depth, approximately, of one inch. The same number of seeds were sown in each pot.

Note.—The relatively larger increase in nitrogen obtained in the plot experiment may be accounted for by the fact, often observed, that the greater part of the root system of the clover lies in the first or upper six inches of soil. It is also possible that there had been a more complete decomposition of the clover in the plot than in the pots.

CLOVER: Weight of Fresh Material, in Grams.

Date of Cutting.	O. A. C. CULTURE, SOWN 6TH MAY, 1905.			WASHINGTON CULTURE, SOWN 13TH MAY, 1905.		
	Untreated.	Seed Inoculated.	Soil Inoculated.	Untreated.	Seed Inoculated.	Soil Inoculated.
July 17	125·7	124·2	128·6	109·7	91·9	110·0
August 12	125·8	183·3	175·3	113·7	146·4	141·3
September 30	123·2	143·2	140·5	143·5	149·4	161·9
Totals	374·7	450·7	444·4	366 9	387·7	413·2

On the date of the first cutting, July 17, no difference in vigour of growth could be observed between the O. A. C. culture pots, and the weights of the crops then taken show that the growth was practically the same in the treated and untreated pots. With regard to the Washington culture pots, the same might also be said, though the crop from the 'seed inoculated' fell somewhat behind that of the other two pots.

The data of the second and third cutting, however, show in nearly every instance a marked increase of growth from the treated clovers, so that the total weights of foliage produced in the season from them exceeded those of the untreated and check pots. Larger returns were obtained from the O. A. C. than from the Washington cultures; the results, however, do not make clear whether seed or soil inoculation was the more effective.

We may now similarly consider the data from the Alfalfa.

ALFALFA: Weight of Fresh Material, in Grams.

Date of Cutting.	O. A. C. CULTURE, SOWN 6TH MAY, 1905.			WASHINGTON CULTURE, SOWN 9TH MAY, 1905.		
	Untreated.	Seed Inoculated.	Soil Inoculated.	Untreated.	Seed Inoculated.	Soil Inoculated.
July 17	58·1	47·3	55·5	69·0	63·6	51·3
August 8	71·5	71·1	83·1	78·8	72·6	99 6
September 19	74·9	98·9	110·5	96·7	104·8	141·4
Totals	204·5	217·3	249·1	244·5	241·0	292·3

It will be noticed that as in the case of the clover, the first cuttings of Alfalfa showed no increase from the inoculated pots, indeed, the untreated seed in each case gave slightly higher yields. At the time of the second cutting, the 'soil inoculated' alone showed an advantage. An increase, however, was observed when the third cutting was made in treated Alfalfas, more especially in the 'soil inoculated' pots. Considering the total yields, it will be seen that it is only in the latter that any benefit has been derived from the cultures. The differences throughout are not large and, therefore, can scarcely be used as an argument to prove the practical value of the Alfalfa cultures.

These pots, both clover and Alfalfa, are being kept over the winter in the hope that their respective yields may be obtained next season.

PLOT EXPERIMENTS.

Clover, O. A. C. Culture.—Adjoining areas of fairly uniform soil, each 33 by 32 feet, were sown with inoculated and untreated seed. The date of sowing was May 9. Owing to the appearance of weeds, the first cutting was raked off and not weighed. The yields of subsequent cuttings were weighed as hay.

—	From Untreated Seed.		From Inoculated Seed.	
	Lbs.	Ozs.	Lbs.	Ozs.
Cutting, August 9	15	13	20	12
" Sept. 27	30	14	39	1
Total	46	11	59	13

Clover, Washington Culture.—These plots were also contiguous, each measuring 80 by 12 feet. The date of sowing was April 25. The first cutting was raked off and not weighed, owing to weeds.

—	From Untreated Seed.		From Inoculated Seed.	
	Lbs.	Ozs.	Lbs.	Ozs.
Cutting, August 9	48	12	61	1
" Sept. 27	44	13	44	13
Total	93	9	105	14

From the inoculated seed, in both instances, larger yields of hay were obtained.

Alfalfa.—Owing to insufficient drainage on one of the plots used in the experiment with Washington culture the results were vitiated, and accordingly are not given. With the O.A.C. culture, the plots were 33 by 22 feet, and adjoining; the soil, as far as could be judged, was fairly uniform throughout.

Culture—Ontario Agriculture College.	From Untreated Seed.		From Inoculated Seed.	
	Lbs.	Ozs.	Lbs.	Ozs.
Cutting, July 11	29	1	12	13
" Aug. 9	24	5	22	14
" Sept. 27	34	14	27	2
Total	88	4	62	13

We could not say that inoculation had decreased the yield, the falling off is most possibly due to other causes, but the fact remains that a heavier crop of Alfalfa hay was obtained from untreated seed in all three cuttings.

It is to be hoped that the plants on all these plots will survive the winter, so that the effect of the cultures during the second season of growth may be determined.

At the close of the season a number of roots, both of Clover and Alfalfa, from all the plots were carefully examined, but no difference in either the size, number or distribution of the nodules was to be observed, indicating that the soil of the experimental farm is well supplied with the nitrogen-fixing bacteria.

SESSIONAL PAPER No. 16

THE CONTROL OF SOIL MOISTURE IN ORCHARD SOILS.

EXPERIMENTS AT THE EXPERIMENTAL FARM, OTTAWA, ONT.

Various phases of the 'cover' crop system have been under examination for a number of years past in the orchards of the Experimental Farms at Ottawa, Ont., and Nappan, N.S., the two chief points receiving attention from the Chemical Division being the control of the soil's moisture throughout the spring, summer, and autumn seasons, and the increase of the soil's fertility.

These investigations have received discussion from year to year in the annual report, so that it merely remains to state the nature of the work of 1905 and to consider the results obtained.

Two series of experiments, each comprising 3 plots, were instituted. In the first series we sought to ascertain the moisture-content of soil under a thick mulch of straw as compared with that of a soil constantly cultivated, and consequently covered with a dry earth mulch. A plot in which the soil was left undisturbed was also included, with the expectation that its moisture-content would be found to be less than that of either of the mulched soils.

The object of the second series was to learn the relative moisture-content of soil carrying (*a*) a crop of Hairy Vetch, (*b*)a crop of tares, with that of a soil kept constantly cultivated.

This work has been, as heretofore, carried on with the advice and co-operation of Mr. W. T. Macoun, Horticulturist, to whom my thanks are due for much valuable aid.

The past summer, as regards rainfall, was characterized by an ample and well distributed precipitation, and consequently the results do not show, as they do in so many of our previous trials, any marked advantage accruing from cultivation.

Series I., Plots A, B, and C.—The first collection of samples was made on June 5, when plot C was heavily mulched with straw. The dates of cultivation for plot A were June 5, 15, 24, and 28; July 7, 22; August 4, 17 and 25; September 1, 13 and 25. Plot B was left undisturbed, but as a crop of weeds appeared it was mown July 22, to prevent them from going to seed.

Series I.—Conservation of Soil moisture, C. E. F., Ottawa, Ont., 1905.

Date of Collection.	Rainfall.	Plot A. — Cultivated.			Plot B. — Undisturbed.			Plot C. — Mulched with Straw, 10 in. to 12 in.		
		Water.			Water.			Water.		
		Per cent.	Per acre.		Per cent.	Per acre.		Per cent.	Per acre.	
	Inches.		Tons.	Lbs.		Tons.	Lbs.		Tons.	Lbs.
June 5	*2·29	15·87	360	1,012	18·07	421	1,132	16·57	379	1,131
" 26	3·22	20·62	496	874	20·21	484	131	19·01	448	1,154
July 10	1·60	23·60	655	1,578	29·95	506	975	21·31	530	510
" 24	2·12	18·25	426	1,280	18·92	445	1,916	18·17	424	709
Aug. 8	2·54	18·84	443	1,269	19·77	470	1,860	17·63	409	330
" 21	2·45	17·71	410	1,383	17·60	408	398	20·29	486	939
Sept. 5	1·96	15·07	339	217	16·99	391	311	20·52	493	815
" 18	·64	15·21	342	1,648	17·52	405	1,887	21·67	525	1,198
Oct. 2	1·36	17·81	414	250	18·14	423	997	19·95	476	572
" 16	1 40	19·43	469	1,756	19·31	457	709	22·48	554	406

* May 1 to June 5.

All three plots show a remarkable uniformity in moisture-content, due no doubt to the high rainfall before referred to. The effect of the straw mulch in conserving moisture is, however, observable after August 21, for from that date on to the end of the season the soil of plot C contained from 2 per cent to 5 per cent more moisture than that of either of the other plots. On one or two dates it appears that the undis-

turbed plot contained slightly higher percentages of moisture than the cultivated plot, but the differences are very small and we may conclude that both soils were very nearly at the point of saturation throughout the season.

Series II.—Plots D. E. and F.:—Plots E. and F. were sown in rows 8 inches apart, respectively with Hairy Vetch and tares on June 30. Plot D. was cultivated June 16, 24 and 28, July 12, 22, August 4, 17 and 25, September 1, 13 and 25. The first collection of soils was made on June 16.

Series II.—Conservation of Soil Moisture, C. E. F., Ottawa, Ont., 1905.

Date of Collection.	Rainfall.	Plot D. — Cultivated.			Plot E. — Hairy Vetch.			Plot F. — Tares.		
		Water.			Water.			Water.		
		Per cent.	Per acre.		Per cent.	Per acre.		Per cent.	Per acre.	
			Tons.	Lbs.		Tons.	Lbs.		Tons.	Lbs.
June 16	*5·37	13·16	306	1,539	11·62	266	188	12·16	280	463
" 30	1·16	12·81	297	823	10·78	244	1,173	10·48	236	1,966
July 14	1·25	13·24	308	1,837	10·60	249	36	11·48	262	1,057
" 28	1·85	11·79	270	1,130	8·31	183	931	10·22	230	868
Aug. 11	2·14	10·44	235	1,934	8·38	185	305	9·75	218	1,384
" 25	2·45	8·56	185	1,003	8·91	198	16	9·21	205	702
Sept. 8	2·01	10·08	226	1,847	10·66	241	1,077	9·83	220	1,364
" 22	1·61	14·76	350	1,049	12·49	288	1,844	12·53	232	1,634
Oct. 6	·74	12·79	296	1,759	9·36	209	1,185	10·82	245	1,208
" 20	1·52	16·08	387	1,770	17·35	424	1,889	15·52	371	1,778

*May 1 to June 16

Compared with plot D., cultivated, the soil of plot E., bearing Hairy Vetch, showed a slight falling off in moisture in the early part of the season. After the middle of August, however, save on one or two dates, it would not appear that the soil with the crop had at all suffered any moisture exhaustion, so ample was the rainfall and effective the protection offered by the heavy growth that was made.

The draft on the soil moisture through the growth of Tares was very similar to that noticed in the case of the Hairy Vetch; it was not sufficient to cause any very marked effect. This we attribute to the causes just mentioned. The Tares, as did the Vetch, grew luxuriantly, completely covering the ground.

The results this season at Ottawa have not emphasized the necessity of cultivation for conserving soil moisture, but this is easily explained by reference to the rainfall, which it will be seen was both ample and well distributed throughout the season. They must not be considered as throwing any doubt upon the useful function of cultivation in districts where the rainfall is deficient, for that has been amply proven by our expements in past seasons, confirmatory evidence also being given in the chapters following, stating the results obtained this year at Nappan, N.S.

EXPERIMENTS AT THE EXPERIMENTAL FARM, NAPPAN, N.S.

In the experiments conducted on the Experimental Farm, Nappan, N.S., six plots were employed. In this series we are able to contrast throughout the season the moisture content of soil (1) bearing an oat crop, (2) carrying a second season's growth of clover (with Timothy)and harvested, (3) similar to (2) but with the growth cut from time to time and used as a mulch, (4) cultivated till June 15, then sown with Crimson clover, (5) cultivated till July 20, then sown with Crimson clover, (6) cultivated until July 20 then left undisturbed.

Conservation of Soil Moisture, Nappan, N.S., 1905.

Date of Collection.	Rainfall.	Plot 1. Oats harvested with Timothy and Clover.		Plot 2. Clover with Timothy 2nd season's growth —Harvested.		Plot 3. Clover with Timothy 2nd season's growth —Mulched.		Plot 4. Cultivated till June 15 and then seeded with Crimson Clover.		Plot 5. Cultivated till July 20 and then seeded with Crimson Clover.		Plot 6. Cultivated until July 20.	
		Water.		Water.		Water.		Water.		Water.		Water.	
		Per cent	Per acre.	Per cent	Per acre.	Per cent	Per acre.	Per cent	Per acre.	Per cent	Per acre.	Per cent	Per acre.
	Inches.		Tons. Lbs.		Tons. Lbs.		Tons. Lbs.		Tons. Lbs.		Tons. Lbs.		Tons. Lbs.
May 15	*3·36	17·40	443 1,716	16·04	401 1,127	17·33	440 1,257	16·50	415 710	16·28	408 1,480	17·76	453 1,845
June 1	·90	16·37	411 872	14·23	348 1,462	13·83	337 711	15·25	378 453	16·97	429 1,209	14·74	363 782
" 16	1·80	15·54	386 1,485	14·88	366 1,599	15·94	398 1,170	16·19	406 207	15·78	393 1,669	18·02	462 58
" 29	1·53	16·30	409 680	19·06	494 1,947	18·52	477 1,526	17·50	445 1,736	17·97	460 932	17·92	458 1,810
July 17	1·39	11·02	260 644	8·08	184 1,533	11·77	280 805	13·89	339 111	15·65	389 1,976	14·50	359 123
Aug. 2	·23	5·63	125 799	7·26	164 1,095	7·12	161 262	9·73	226 1,128	15·50	385 1,129	15·02	371 1,028
" 15	·84½	5·17	114 1,190	5·91	132 56	5·64	120 537	7·87	179 1,108	14·11	345 616	14·03	343 61
" 30	·03½	5·01	110 1,723	4·17	91 930	4·37	96 105	5·26	116 1,402	9·97	232 1,654	14·36	352 904
Sept. 18	3·40	12 66	304 1,358	10·52	247 244	12·58	302 953	11·47	272 659	14·68	367 1,035	16·31	409 1,291
Oct. 3	·57	11 22	265 1,288	9·05	209 309	10·61	249 975	9·24	213 1,986	12·67	304 1,909	13·06	315 1,503
" 18	·09	9·34	222 125	6·71	151 370	8·01	183 53	6·69	150 1,405	9·44	219 215	11·34	268 1,697

*April 1 to May 15.

Rainfall during the season.—April was characterized by a very small rainfall (1·24 inches) not half that which fell in April of the two preceding years. May and June had very fair and well distributed precipitations; the totals were 3·02 and 3·30 inches, respectively. July and August were very dry, the total being only 1·56 and 1·53 inches, many of these rains being so slight that the moisture was evaporated before it could penetrate the soil. September had a fair rainfall, 3·38 inches, while October was comparatively dry, with only 1·29 inches.

Plot 1.—The crop of oats, which had made good growth, though the seed had not filled out well, was harvested on September 3. The results show that the moisture content of this plot was greatly and steadily reduced from the end of June till September 1, and again slightly reduced during October. From the middle of July to the end of August the soil was exceedingly dry (in the neighbourhood of 5 per cent moisture). The oats suffered much from drought during this period and there can be no doubt that the moisture available for the orchard trees was altogether insufficient for their needs. Confirmatory evidence of a most emphatic nature is furnished by the data from this plot of the great exhaustion of soil moisture by a grain crop.

Plot 2.—This carried a crop of clover and timothy, having been seeded (with oats) in the spring of 1904. It was cut on July 20, having made excellent growth, and yielded about 2½ tons of hay to the acre. The moisture content data are very similar to those of Plot 1, indicating a very large draught on the store of soil moisture by the growth of clover. During the first two weeks of July the moisture was reduced from 19·06 per cent to 8·08 per cent and continued to fall until the end of August, when the soil contained only 4·17 per cent.

Plot 3.—This, like Plot 2, bore a crop of clover and timothy, but the growth was cut from time to time and used as a mulch. The first cutting was on June 16, when the crop was about 12 inches high; the second on July 8, with about the same amount of growth. No further cutting was possible, as owing to the very dry period in July and August no material growth was subsequently made. Mr. Blair reports that the mulches rapidly dried out and quickly became valueless in conserving moisture. The analytical data are very much the same as those for Plot 2, and, therefore, confirm the conclusions regarding the great draught on the soil's moisture. They require no special comment further than to say that the mulch seems to have been effective in checking to a certain degree the loss of soil moisture during the first two weeks of July—an important matter. After the middle of July the mulch evidently exercised very little beneficial influence so far as soil moisture is concerned.

Plot 4.—The soil of this plot was cultivated until June 15, and then sown with Crimson clover. The effect of this cultivation is very apparent; it postponed at least two weeks the severe drying out so noticeable on the plots already discussed. On August 2, this soil contained considerably more moisture than those of Plots 2 and 3, and nearly twice as much as that on Plot 1.

Plot 5 and Plot 6.—Were cultivated until July 20, the former at that date being sown with Crimson clover. Plot 5 maintained, practically, its initial moisture content all through the period of drought, the first decline—and that a slight one—being recorded by the determination made on August 30. After the middle of September a further, but not very large, falling off is observable, due to the growth of clover. Plot 6, though showing some fluctuations, practically held its moisture content throughout the growing season.

* In this investigation the scheme was planned by Mr. W. S. Blair, Horticulturist, Experimental Farm, Nappan, N.S., and myself. Mr. Blair undertook all the work in connection with the plots and also collected the fortnightly soil samples. In his report, full cultural notes, made during the season, are to be found.

The value of cultivation has been by this series well brought out. The severe drought during July and August specially accentuated this year the importance of the dry earth mulch in conserving the moisture so necessary for the growth and thrift of orchard trees, but the results may well serve as a guide for the management of orchard soils in all districts where an insufficient rainfall is likely to occur.

NATURALLY-OCCURRING FERTILIZERS AND WASTE PRODUCTS.

MARSH MUD.

This was collected at Flannery's Point, near Bathurst, N.B., and forwarded by T. M. Burns, M.P.P., through Mr. T. A. Peters, Deputy Minister of Agriculture, Fredericton, N.B.

The sample as received was of a light-grey colour, having all the appearances of clay. It was practically free from stones, sticks, or other foreign matter. On exposure to the air it dried into lumps or masses, which were, comparatively speaking, easily crushed and reduced to powder.

Analysis of (Air-dried) Mud.

	Per Cent.
Moisture	3·83
Loss on ignition-organic matter	15·77
Clay and sand	66·69
Oxide of iron and alumina	8·33
Lime	·65
Magnesia	1·57
Potash	·65
Phosphoric acid	·15
Undetermined, including salt	2·36
	100·00
Nitrogen, in organic matter	·585

It will be obvious from the above data that although this 'mud' is not destitute of plant food it cannot be considered in any way comparable to farm manures or commercial fertilizers. However, if its application does not injuriously affect the tilth or mechanical condition of the soil, I think it might be found a useful amendment.

Its chief fertilizing constituent is nitrogen, of which it contains about as much as is found in our best soils, and, therefore, it is possible that a tolerably heavy application on soils poor in organic matter and nitrogen might prove of considerable benefit.

My advice would be to try it at first on a small area and to note the result, both on the condition of the soil and the crop yield. The character of the soil will no doubt have much to do with its efficiency, and careful notes should be taken as to the nature of the soil to which it is applied and the number of loads spread per acre.

In conclusion, it may be stated that its composition does not, I think, warrant any great expenditure in its application, and this furnishes another reason for ascertaining its effect on a small area before extensively applying it.

SEMI-DECAYED SEAWEED.

This material was forwarded by Mr. Donaldson, of Port Williams, N.S., who furnished the following information regarding its occurrence:

'It is from Westport on Briar Island, the extreme western part of Nova Scotia, where it is quite plentiful all along the shores of the island. It is there used as a fertilizer, chiefly for grain and grass, I think. Several barrels were sent to our county last spring and orchardists in this vicinity would be glad to know its value.'

As received, it was a pasty mass, decomposition apparently having proceeded to a considerable degree.

Analysis of Semi-decayed Seaweed.

	Per Cent.
Water	61·03
Organic matter	28·92
Ash or mineral matter	10·05
	100·00
Nitrogen	1·20
Phosphoric acid	·19
Potash	·90

Some years ago a sample of fresh seaweed (*Fucus furcatus*) was analysed, the data of which may here be given for the purpose of comparison.

Analysis of Fresh Sea-weed.

Water	63·49
Organic matter	27·93
Ash or mineral matter	8·58
	100·00
Nitrogen	·468
Phosphoric acid	·108
Potash	2·025

The general result of the decomposition, it will be seen, has been to increase the nitrogen-content and to decrease the percentage of potash, so that while the fresh seaweed is essentially a potassic manure, the semi-decayed weed is more particularly nitrogenous.

The value of sea-weed as a manure is undoubtedly enhanced by the readiness with which this naturally-occurring fertilizer decomposes in the soil, quickly liberating its constituents in forms available to crops.

GYPSUM OR LAND PLASTER.

The agricultural uses and value of gypsum or land plaster have been discussed in previous publications (see pages 163-4 An. Rep. Exp. Farms 1900). It may, therefore, suffice here to give the results of the analyses of certain samples examined this year. From correspondence we judge that the use of finely ground gypsum in barns and stables is increasing, and we are of the opinion, from all points of view that this in general is the most advantageous method of employing it.

ANALYSES of Gypsum.

—	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.
Sulphate of lime	94·53	91·58	73·15	68·98	74·25
Insoluble rock matter	·78	2·00	7·45	15·75	11·95
Carbonate of lime, &c. (undetermined)	4·69	6·42	19·40	15·27	13·80
	100·00	100·00	100·00	100·00	100·00

Nos. 1 and 2, labelled 'white' and 'grey,' respectively, and forwarded by General Laurie, Oakfield, N.S. Quarried at Dutch Settlement, Halifax county, N.S.

Both are excellent samples, but the 'white" (No. 1) is somewhat the better of the two. No. 1 has also superior value by reason of its greater fineness.

No. 3. White or grey coloured, manufactured by the Alabastine Co., Ltd., Paris, Ont., submitted by K. McDonald, Ottawa, Ont.

No. 4. Brown or chocolate coloured, supplied by Mr. Manly H. Craig, Perth, N.B., submitted by Kenneth McDonald, Ottawa, Ont.

Sample No. 3 is distinctly superior to No. 4, though neither is equal to the first two samples considered.

No. 5. From 'Plaster Rock,' Tobique River, N.B., furnished by M. H. Craig, Perth, N.B. It is of distinctly better quality than No. 4, though apparently from the same quarry.

FERTILIZING VALUE OF COTTON WASTE.

This refuse material was from the cotton mills at Montmorency Falls, Que. As received, it formed a black, pasty mass and was neutral to test paper. It dried readily on exposure and was then easily reduced to a powder by crushing and grinding.

Analysis of Waste (as received).

	Per Cent.
Water	58·66
Organic matter	15·41
Mineral matter (containing sand, &c., 20·94)	25·93
	100·00
Nitrogen	·72
Phosphoric acid	·27
Potash	·95

We doubt if this waste could be economically manufactured into a fertilizer. The greater part of the water would have to be got rid of—a more or less expensive matter when undertaken on a large scale. Secondly, this accomplished, the percentages of plant food would not then equal those in most brands of commercial fertilizers. And, thirdly, the condition or combination of the plant food in this 'waste' is not the most valuable from the agricultural standpoint: in other words, without treatment, the waste would not readily furnish available nourishment for crops.

If obtained for little cost, however, it might be converted by the farmer into a useful manure by composting, say, with lime or wood ashes.

FLUE ASHES.

These ashes are from the flues or dust chambers of the blast furnaces at the Londonderry, N.S., iron mines. The sample was forwarded by Mr. G. R. Fleming, Folly Mountain, N.S., who thought they might possess some fertilizing value.

Analysis of flue ashes.

	Per Cent.
Lime	12·16
Oxide of iron	31·79
Phosphoric acid	·26
Potash	·17
Nitrogen	·23

Considering the nature of the material, the percentage of nitrogen is quite notable. Presumably the nitrogen is present as ammonium salts.

The percentages of phosphoric acid and potash are very small and though there is a notable amount of lime, we are unable to speak definitely as to its availability. My opinion, therefore, is that the fertilizing value of these ashes is negligable. On heavy clay soils, however, they might be of some benefit in improving the texture.

FODDERS AND FEEDING STUFFS.

Though we have never attempted any systematic or comprehensive examination of the feeding stuffs sold in Canada, we have every year analysed many of them regarding which information and advice have been sought. The use of concentrated feed stuffs to supplement the protein and fat of the home grown fodders, and thus balance the ration, is constantly on the increase. Only a few years ago the feeds employed by farmers and dairymen were very limited in number and comparatively simple in character—bran, shorts, provender and ground Indian corn; these, with the addition of oil cake and one or two meals, comprised the list of those upon the market. But the case is very different now. The by-products of the starch factories, of the rice mills, of the manufactories of breakfast foods, etc., etc., now find a ready sale. These various feeds differ widely in their composition, and hence in their nutritive value, and the farmer cannot intelligently or profitably use them unless he knows their composition, more especially as to the percentages of protein and fat they contain. The protein and fat are the most important and the most costly nutriments in a food. There are, of course, other constituents of feeding value in these 'concentrates,' but in estimating the value of these feeds it is the proportion of protein and fat that must be principally considered, as it is for them practically alone that they are purchased, for the reason already stated.

For a number of years the writer has claimed that an annual inspection and analysis of the feeds upon the Canadian market should be made; in other words, that as there is an official examination of fertilizers (plant foods), so there should be an equal protection to the farmer by the official examination of these feeds (cattle foods), for in many instances it is quite impossible to arrive at a correct opinion as to the value of these by-products without an analysis. This matter has also been recently urged by the authorities of the Ontario Agricultural College and the Experimental Union—a society of co-operative workers in connection with that institution.

It is, therefore, with much pleasure that I can announce as a result of these representations that the Department of Inland Revenue, the branch of the Government Service which annually analyses the commercial fertilizers, has taken initiatory steps towards this end. A collection is now being made by the officers of that department in various parts of Canada of these feeding stuffs and the analyses will be made in due course. I am, further, authorized to say that the results of this examination will be published early in the coming year in bulletin form, and thus will be available for the guidance of purchasers.

During the past year a number of such feeding stuffs have been submitted to us. As far as time permitted, these have been analysed. The results appear in the subjoined table, but since in previous reports the sources and character of the greater number of them have received discussion, it will only be necessary now to add briefly remarks upon their comparative values as deduced from the analytical data. They comprise 'mixed' feeds of various character, the products of the starch factories (gluten meal, gluten feed, and corn bran), oil cake and meals, cotton seed meals and a few other miscellaneous feeds. Much of the profit in dairying and stock feeding lies in the judicious balancing of the ration, and we feel assured that great assistance towards that end may be obtained by a consultation of the data here presented.

ANALYSIS of Feeding Stuffs, 1905.

Number.	Name.	Particulars.	Moisture.	Protein.	Fat or oil.	Carbo-hydrates.	Fibre.	Ash.
1	"Cattle Feed" No. 1	Insp. of Live Stock Shipments, Montreal.	11·22	9·06	4·29	67·47	5·73	2·23
2	" No. 2		9·38	8·06	4·06	69·11	7·19	2·20
3	" No. 3		12·82	8·94	3·71	67·24	5·06	2·23
4	" No. 4		10·90	10·00	4·57	66·00	6·18	2·35
5	Victor Corn and Oat Feed	American Cereal Co., Peterboro'	8·29	7·75	3·29	66·55	12·11	3·01
6	Banner Cattle Food	" "	8·38	7·75	4·46	68·55	8·56	2·30
7	Ground Oat Hulls	" "	5·23	2·81	1·52	53·40	32·48	4·56
8	"Mixed Feed"	Quoted by J. N. Tilton, St. John, at $30 per ton.	.....	9·63	3·59	.....	.....	....
9	"Oat Feed"	Ogilvy Milling Co., Lt	10·74	7·75	2·25	60·75	14·86	3·65
10	Gluten Meal	Edwardsburg Starch Co., Lt., Cardinal.	9·71	32·31	2·44	54·27	·74	·53
11	Gluten Feed	" "	8·31	25·38	2·17	58·31	5·30	·53
12	Corn Oil Cake	" "	7·89	22·25	15·69	43·51	8·90	1·78
13	Corn Bran	" "	8·15	9 12	3·23	67 05	12·05	·40
14	Gluten Meal	" "	8·72	36·69	3·36	.....	.....	....
15	Gluten Feed	" "	6·62	22·90	3·59	.....	.....	....
16	Corn Bran	" "	8·72	10·43	3·22	...	.....	....
17	Gluten Feed	" "	.....	22·75	2·03	.....	.....	....
18	"Gluten Meal"?	Brantford Starch Co., Brantford	8·19	12·44	7·92	64·29	6·51	·65
19	Gluten Feed	Imperial Starch Co	7·37	21·06	6·20	58·27	6·42	·68
20	Linseed or oil cake	Dom. Linseed Oil Co., Lt	.....	29·56	10·84	.....	.....	....
21	" "	Can. Linseed Oil Mills, Lt	.....	32·12	6·41	.....	.....	....
22	Oil Cake Meal	Dom. Linseed Oil Co., Lt	.....	27·06	13·75	.....	.....	....
23	" "	Can. Linseed Oil Mills, Lt	.....	31·62	9·98	.....	.....	....
24	Cotton-seed Meal	"Prime Bright," Broker C. A. Smith, St. John.	.....	37·94	.....	....	.....	....
25	" "	"Second Bright," Broker C. A. Smith, St. John.	.....	19·94	.....	.....	.....	....
26	" "	No. 1 Broker, Frank Oliver, Toronto	.....	39·88	8·97	.....	.....	....
27	" "	No. 2 Am. Cotton Oil Co	.....	41·25	7·80	.....	.....	....
28	Spirit Grains	G. & W., Toronto	4 05	29·06	6·32	48·54	10·76	1·27
29	Goose Wheat	A. W. Milne, Markham	11·25	12·50	1·90	70·78	1·81	1·76
30	Fall Wheat	" "	12·47	8·44	1·84	73·46	2·00	1·79
31	Soda Biscuits	Factory at London, Ont	5·35	9·31	13·68	69·12	·08	1·97
32	Rice Meal	B. C. Rice Mills	9·06	12 25	15·73	50·01	5·83	7·12

MIXED FEEDS.

Nos. 1, 2, 3 and 4.—These were forwarded by the Inspector of Live Stock Shipments, Montreal (Department of Marine and Fisheries) with a request for an analysis and report on their relative values. These feeds were intended for the use of cattle en route to England. They were found to consist essentially of crushed corn and oats. There is a general similarity between them, and the differences in nutritive values are not great, but a careful scrutiny of the data allows us to arrange the feeds in the following order of merit: First, No. 4, by reason of its higher protein and fat content; second, No. 1, and No. 3, which are practically equal, with a protein content essentially 1 per cent lower than that of No. 4; third, No. 2, which contains 2 per cent less protein than No. 4 and 1 per cent less than Nos. 1 and 3, and is the highest of the series in fibre.

Nos. 5, 6 and 7.—Products of the American Cereal Company, Peterboro, Ont. In the most important constituent, protein, the Victor Corn and Oat Feed and the Banner Cattle Food are identical. The latter, however, is somewhat the richer in fat and poorer in fibre, and consequently is the better feed, though the difference between the two in nutritive value would not be large. Though wholesome feeding stuffs, their

comparatively speaking low protein content precludes them from the list of high class 'concentrates.'

No. 7—Oat Hulls.—The analysis shows very well the practically worthless character of 'oat hulls,' when considered as a feed. It is difficult to understand how such a material can obtain purchasers, but the writer is informed that large quantities of this ground hulls and other waste from oatmeal and cereal mills find a ready sale among farmers and dairymen in various parts of the country at fairly good prices. There are, of course, different grades or qualities of such feeds, but in general they will be found very low in protein and high in fibre. They consequently occupy a position at the very bottom of the list of purchased feeds, and great judgment and knowledge of the comparative prices and feeding values are necessary in order to use them with profit. The 'mixed' feeds, of which there are now so many sold, give the miller an opportunity of disposing of hulls, sweepings, and other almost worthless material at prices far in excess of the feeding values.

No. 8.—'Mixed Feed,' sent by F. W. Davidson, Sussex, N.B., and quoted by I. N. Tilton, broker, St. John, at $30 per ton. It consists largely of cracked corn, bran and oat by-products, there being quite a large proportion of oat hulls. It is not a food of high quality and certainly is not worth the price quoted.

No. 9.—'Oat Feed,' sent by G. S. Kinnear, Sussex, N. B., and stated to be manufactured by the Ogilvy Milling Company. Its composition is said to be made up of ground oats and feed flour in equal proportions. A mechanical examination showed it to contain, approximately, 72 per cent fine meal and 28 per cent oat hulls. The analysis does not give it a high rating.

CORN BY-PRODUCTS—GLUTEN MEAL, ETC.

Nos. 10, 11, 12 and 13.—These are the by-products of the Edwardsburg Starch Company, Cardinal, Ont. The samples were sent by the company in January as representative of their various brands of feed. Their comparative feeding values may be easily arrived at by a consideration of the data for protein and fat. Gluten Feed is a mixed product, Gluten Meal and Corn Bran being the components.

Nos. 14, 15, and 16.—These are further samples of Gluten Feed and Corn Bran sent by the Edwardsburg Starch Company, in November, 1905.

No. 17.—Is a sample of Gluten Feed forwarded by P. G. Mills, Sussex, N.B., and stated to be manufactured by the Edwardsburg Starch Company.

No. 18.—'Gluten Meal,' forwarded by P. G. Mills, Sussex, N.B., and stated to be from the Brantford Starch Company. It is not gluten meal; indeed, it contains but little more than one-half the protein found in most gluten feeds.

No. 19.—Gluten Feed, submitted by Dwyer & Co., Ottawa, and stated to be a product of the Imperial Starch Company, Prescott, Ont. While having a slightly higher fat content than the Edwardsburg Gluten Feed, it is not quite so rich in protein.

LINSEED OR OIL CAKE AND MEAL.

Nos. 20, 21, 22, and 23.—These are linseed oil cakes and meals from the Dominion Linseed Oil Company, and the Canada Linseed Oil Mills, as stated in the table. They are all genuine and of good quality, though differing somewhat in their composition. The data of the protein and fat will allow the feeder to judge of their relative merits and greatly assist when considering their prices.

COTTON SEED MEAL.

Nos. 24, 25, 26, and 27.—Are Cotton seed meals. Nos. 24 and 25 were sent by F. W. Davidson, Sussex, N.B., who reported their prices at $30 and $27.25 per ton, respectively. The analyses show a much greater difference in feeding value than is indicated by $2.5 per ton. Nos. 26 and 27, also sent by F. W. Davidson, are of much better quality. They are quoted at $32.25 and $32.50 per ton, respectively.

SPIRIT GRAINS.

No. 28, 'Spirit Grains.'—A by-product from the distillery of Gooderham & Worts, Toronto. This is a feed of high value, being rich in both protein and fat. It ranks with oil cake, gluten meal and other concentrates in this respect.

GOOSE AND FALL WHEAT.

Nos. 29 and 30—Goose and Fall Wheats.—These were submitted by A. Ward Milne, Markham, with a view of obtaining data regarding their relative values for feeding purposes. The high protein content of the Goose Wheat makes it much the more valuable from this standpoint.

SODA BISCUITS.

No. 31—Broken Soda Biscuits.—These can frequently be obtained from biscuit factories at prices that permit of their being used as a feed for pigs, &c. The analysis shows a high fat content and a very fair percentage of protein. At the price quoted, $20 per ton, they are very good value.

RICE MEAL.

No. 32.—Rice Meal, sent by Chas. B. Jones, Colquitz, B.C., and said to be from the British Columbia Rice Mills. Price quoted $16 per ton. This is an excellent feed, particularly rich in fat and with a protein content equal to that of hard wheat.

CONDIMENTAL AND SO CALLED STOCK FOODS.

Inquiries are being constantly received as to the feeding value of these preparations, of which there are now a number upon the market. The claims made for these, it is only right to state, are not based simply upon the percentages of protein and fat present. It is urged that in addition to their food value they are appetizers, tonics, and assist in the digestion and assimilation of the rest of the ration; that they are in fact both food and medicine. It is for this reason that the analyses of those we have examined this year are not incorporated with those of the feeds already considered.

A few notes made from their chemical and microscopical examination may be added, though it is not claimed that all the herbs, roots and drugs present have been detected.

ANALYSIS *of* Condimental Foods.

——	Herbagium.	International Stock Food.	Anglo-Saxon Stock Food.	Sugar and Flax.
	p. c.	p. c.	p. c.	p. c.
Moisture	6·70	8·83	9·11	9·82
Protein	22·94	13·06	17·66	24·69
Fat	6·98	4·29	3·57	9·90
Carbohydrates	40·61	45·15	40·48	43·86
Fibre	7·86	11·97	10·80	6·56
Ash	14·91	16·70	12·83	5·17
Sulphur (free)	.....	.....	5·55	

Herbageum.—This consists essentially of linseed and wheat bran or some wheat refuse. Fenugreek, sugar, charcoal and salt are also present.

International Stock Food.—Its principal ingredient is a wheat feed. Salt, charcoal, and fenugreek were also detected and some bitter drug, probably gentian, also noted.

Anglo-Saxon Stock Food.—Largely linseed meal. It contains charcoal, salt, sulphur, fenugreek and probably gentian.

Sugar and Flax.—Its chief component is linseed meal. Fenugreek, charcoal and salt were also detected. Sugar is not present.

Our position with regard to these preparations is that all the ingredients are of a cheap character and the prices asked are altogether extravagant, whether they are to be regarded as foods or medicine, or both. Thus, the price of herbageum is $12 per hundred weight, and as a food its value cannot be equal to that of oil cake meal. We do not deny that such condimental foods may at times be useful, but we do not think their continued or general employment is either necessary or economical. It has been shown by careful experiment that animals in good health do not thrive any better from the addition of such 'tonics' to their food, and it seems only reasonable that it would be far cheaper and more rational to treat stock out of condition as their ailments require.

THE RELATIVE VALUE OF ROOTS.

In continuing the examination of field roots to learn their relative food value and the effect of seasonal conditions upon their composition, we have analysed this year 17 varieties of mangels, 20 varieties of turnips, and 11 varieties of carrots, all grown on the Central Experimental Farm.

Mangels.—The percentages of dry matter and sugar are, on the whole, considerably below those usually obtained here. This, we believe, is due to the somewhat abnormal character of the season, which was marked by high rainfall and high daily temperatures. Under these conditions the roots did not thoroughly mature and the storing up of sugar during September and October to a certain extent was interfered with. For the best results it is generally conceded that an ample though not excessive precipitation during the first three months of summer, with comparatively low temperatures, followed by a moderately dry, warm, but not too hot, ripening season (September and October) are the best conditions for the production of sugar in roots. The averages for 10 varieties analysed in 1904 were: dry matter, 11·69 per cent, sugar in juice, 6·62 per cent. This season, for 20 varieties we obtained: dry matter, 10·04 per cent, sugar in juice, 4·61 per cent.

ANALYSIS OF MANGELS, C.E.F., OTTAWA, ONT., 1905.

Variety.	Water.	Dry Matter.	Sugar in Juice.	Average weight of one Root.	
	p. c.	p. c.	p. c.	Lbs.	Oz.
Selected Mammoth Long Red	87·18	12·82	6·95	3	9
Yellow Intermediate	87·85	12·15	6·36	3	4
Gate Post	87·93	12·07	6·83	2	13
Leviathan Long Red	88·45	11·55	5·88	4	3
Half Long Sugar White	88·94	11·06	4·65	4	0
Giant Sugar	88·95	11·05	5·15	4	5
Half Long Sugar Rosy	89·63	10·37	5·07	2	15
Triumph Yellow Globe	89·87	10·13	4·86	4	10
Prize Mammoth Long Red	90·06	9·94	5·56	3	14
Giant Yellow Intermediate	90·09	9·91	3·88	4	2
Ideal	90·20	9·80	5·07	3	4
Mammoth Long Red	90·82	9·18	3·44	2	3
Giant Yellow Globe	91·36	8·64	3·55	3	12
Selected Yellow Globe	91·47	8·53	4·67	3	7
Mammoth Yellow Intermediate	91·83	8·17	3·45	4	3
Lion Yellow Intermediate	92·19	7.81	1·93	3	9
Prize Winner Yellow Globe	92·48	7·52	2·14	3	14
Average of 17 varieties	89·96	10·04	4·67	3	9

The varieties have been arranged in this table in the order of their 'dry matter' and sugar, beginning with the highest, and it will be noticed that between the first and last of the series vast differences occur. We do not think that the value of roots as part of the ration depends entirely on the percentages of dry matter and its sugar content, but we have no hesitation in saying that of two roots, the one containing 12·82 per cent dry matter with a sugar content of 6·95 per cent, the other with but 7·52 per cent dry matter and 2·14 per cent sugar, the former must be much the more valuable feed. This important matter has been called attention to in former reports and is again emphasized that farmers in choosing their varieties of mangels may consider not only yield per acre, but also the composition of the roots. It is not at all probable that the same order as here given will be preserved for any two successive seasons, but the data presented bear an added importance when it is remembered that all these mangels were grown under the same climatic and cultural conditions. The 'breed' factor has been investigated for a number of years past by us, using two varieties of mangels (see the following chapter) and the results clearly show that despite changes due to season, &c., each variety has held its own relative position for six seasons.

Turnips.—The differences in composition are not so great as with mangels, and this fact serves to bring the averages of the dry matter of these two classes of field roots very close together. In sugar content, however, the turnip is distinctly inferior to mangels. This season, as with all classes of roots grown here, the percentage of sugar is below the average.

ANALYSIS OF TURNIPS, C.E.F., OTTAWA, ONT., 1905.

Variety.	Water.	Dry Matter.	Sugar in Juice.	Average weight of one Root.	
	p. c.	p. c.	p. c.	Lbs.	Oz.
Mammoth Clyde	88·49	11·51	1·52	2	7
Sutton's Champion	88·54	11·46	1·01	2	11
Hartley's Bronze	88·89	11·20	1·01	1	13
New Century	89·10	10·90	1·01	2	9
Selected Purple Top	89·21	10·79	0·50	2	14
Imperial Swede	89·29	10·71	1·11	2	8
Kangaroo	89·34	10·66	1·02	2	14
East Lothian	89·78	10·22	0·91	3	1
Elephant's Master	90·00	10·00	1·22	3	0
Skirvings	90·09	9·91	1·32	3	9
Bangholm Selected	90·10	9·90	1·42	2	5
Halewood's Bronze Top	90·10	9·90	0·91	2	5
Magnum Bonum	90·17	9·83	1·01	3	8
Perfection Swede	90·19	9·81	1·01	2	11
Drummond Purple Top	90·21	9·79	0·81	3	13
Good Luck	90·64	9·36	1·21	3	9
Carter's Elephant	90·72	9·28	0·81	3	2
Jumbo	91·08	8·92	1·31	3	6
Emperor Swede	91·18	8·82	1·12	3	9
Hall's Westbury	91·19	8·81	1·83	2	3
Average of 20 varieties	89·91	10·09	1·10	2	13

With this greater uniformity in composition there is not the same necessity in selecting turnips as with mangels, and yield per acre and keeping qualities become the chief factors to consider.

Carrots.—On the whole, carrots are slightly higher in dry matter than turnips, and in regard to sugar content occupy a middle place between mangels and turnips. The differences between the varieties while not so great as with the mangels, are larger than those noticed in the varieties of turnips.

ANALYSIS OF CARROTS, C.E.F., OTTAWA, ONT., 1905.

Variety.	Water.	Dry Matter.	Sugar in Juice.	Average Weight of one Root.	
	p. c.	p. c.	p. c.	Lbs.	Oz.
White Belgian	87·46	12·54	3·63	1	1
Half Long Chantenay	88·53	11·47	3·64	0	14
Kos Kirches	89·21	10·79	3·44	1	2
Carter's Orange Giant	89·43	10·57	2·02	1	3
Improved Short White	89·65	10·35	2·14	1	7
Ontario Champion	89·82	10·18	2·53	1	1
Mammoth White Intermediate	89·85	10·15	2·95	1	4
Early Gem	90·39	9·61	1·92	0	14
Long Yellow Stump-rooted	90·63	9·37	2·44	1	10
Giant White Vosges	90·96	9·04	1·52	1	3
New White Intermediate	91·35	8·65	1·53	1	4
Average of 11 varieties	89·75	10·25	2·52	1	3

INFLUENCE OF INHERITED QUALITIES.

The composition of roots is influenced by various factors, chief among which are the character of the season as regards rainfall and temperature, and the relative richness of the soil. Quality in roots, however, as evidenced by the percentage of 'dry matter' and sugar is in part inherited. For the past six years we have analysed two varieties, the Gate Post and Giant Yellow Globe grown side by side, on land of the same character and, necessarily, under the same climatic conditions, and the results indicate that 'breed' in mangels is a factor of considerable importance.

DRY MATTER AND SUGAR IN GATE POST AND YELLOW GLOBE MANGELS.

Season of Growth.	GATE POST.		GIANT YELLOW GLOBE.	
	Dry Matter.	Sugar in Juice.	Dry Matter.	Sugar in Juice.
	p. c.	p. c.	p. c.	p. c.
1900	11·14	6·15	8·19	2·64
1901	9·41	4·15	9·10	4·08
1902	13·90	9·39	10·24	5·24
1903	12·93	7·38	10·89	6·17
1904	12·64	7·62	9·24	5·26
1905	12·07	6·83	8·64	3·55
Average of 6 years 1900-05	12·01	6·92	9·38	4·49

Though the data for neither of these roots show great regularity or uniformity, due chiefly, I believe, to varying seasonal conditions, a well marked and always present difference is to be observed between these mangels as regards their percentages of dry matter and sugar. We have already observed that the past season at Ottawa was not one favourable to sugar production, and this, I think, may account for the fact that both varieties have given low returns this year. However, this does not affect in any way the general results or the conclusions drawn from previous years' work in this matter, viz., that the Gate Post is the richer of the two, both as to dry matter and sugar. The difference between these varieties, as far as it can be ascertained by chemical analysis, shows that weight for weight the Gate Post should be worth between one-third and one-fourth more than the Giant Yellow Globe for feeding purposes.

SUGAR BEETS, FOR FACTORY PURPOSES.

The three varieties of sugar beets principally used for sugar extraction, Vilmorin's Improved, Klein Wanzleben and Très Riche (French 'Very Rich') as grown on the Dominion Experimental Farms during the past season have been analysed. By reference to the reports of this Division it will be seen that this investigation has been carried on, practically, since the establishment of the Farms, so that now we have on record considerable evidence as to the richness and purity of sugar beets as grown in Canada under varying climatic or seasonal conditions.

SUGAR BEETS GROWN ON THE DOMINION EXPERIMENTAL FARMS, 1905.

Variety.	Locality.	Percentage of Sugar in Juice.	Percentage of Solids in Juice.	Co-efficient of Purity.	Average Weight of one Root.	
					Lbs.	Oz.
Vilmorin's Improved	Nappan, N.S.	15·39	18·77	82·0	0	14
"	Ottawa, Ont.	12·00	15·37	78·1	1	0
"	Brandon, Man.	10·70	14·43	74·2	1	15
"	Indian Head, Sask.	15·13	17·86	84·7	1	14
"	Agassiz, B.C.	17·14	21·06	81·3	1	2
Klein Wanzleben	Nappan, N.S.	17·86	20·63	86·5	0	13
"	Ottawa, Ont.	13·34	13·95	95·6	1	14
"	Brandon, Man.	10·57	15·03	70·3	2	12
"	Indian Head, Sask.	16·35	19·28	84·8	1	14
"	Agassiz, B.C.	17·26	19·97	86·5	1	1
Très Riche (French 'Very Rich')	Nappan, N.S.	16·31	19·70	82·3	0	13
"	Ottawa, Ont.	12·00	14·40	83·3	1	4
"	Brandon, Man.	11·99	15·83	75·7	2	12
"	Indian Head, Sask.	13·34	17·26	77·2	1	15
"	Agassiz, B.C.	17·56	20·20	86·9	1	3

The best results have been obtained on the Experimental Farm at Agassiz, B. C., and at Nappan, N.S., closely followed by those at Indian Head. In all three instances the data indicate a good quality of factory beets from which sugar could be profitably extracted.

At Ottawa the percentage of sugar and co-efficient of purity are considerably lower than those usually obtained.

This I believe is due, if not entirely, certainly in a very large measure, to the abnormal climatic conditions that obtained here during the past season. In the first place, the rainfall (13·45 inches) during June, July, and August was somewhat greater than the average. This was followed by a precipitation of 5·31 inches during September and October, an amount not less than usual for these months. In conjunction with this ample supply of moisture we find certain and notable peculiarities of temperature, as follows: Exceptionally high maximum temperatures, and unusually low minimum temperature for the summer months, May, June, July, August, September, and October. This naturally means sudden and great changes in temperature, or in other words, speaking generally, hot days and cool nights. Bearing these facts in mind and remembering that ideal climatic conditions for sugar-production include a moderate and well distributed rainfall during May, June, July, and August, with fairly dry weather in September and October, when the beets are maturing; and, further, that a low mean summer temperature, say 60°F., with few sudden or great changes in the latter part of the season, are specially conducive to a high sugar content, the explanation of the poor results obtained this year is not difficult to find.

At Brandon, Man., the beets are the poorest of the series. This may in part be due to unfavourable weather for sugar accumulation during the ripening of the roots, but the large size to which the beets have grown, considerably over 2 lbs. each in weight, is certainly against a high sugar content.

CHEMISTRY OF INSECTICIDES AND FUNGICIDES.

SODA-BORDEAUX OR BURGUNDY MIXTURE.

During June and July of the present year a number of reports were received, both from Ontario and Quebec, stating that serious injury had resulted from the use of Soda Bordeaux on apples, plums, cherries and peaches—in some instances the trees being entirely defoliated. These communications were accompanied by requests for information regarding this newly introduced mixture, in which washing soda is substituted for lime.

Soda-Bordeaux, which has been used successfully on potatoes for blight and rot, may be prepared according to one or other of the following formulæ:—

	A.	B.
Copper sulphate (Blue stone)	6 lbs.	4 lbs.
Carbonate of soda (washing soda)	7½ "	5 "
Water	40 gals.	40 gals.

The proportion of bluestone to washing soda is the same in each, but 'A' is naturally the stronger spray.

Though, as far as the writer can learn, Soda-Bordeaux mixture had not been suggested for fruit trees, its use being mainly for potatoes, there appeared no reason why it should prove injurious for orchard work. The explanation was furnished, when upon further inquiry it was learnt that in every authenticated case in which injury had been reported, Paris green, white arsenic or some other arsenical compound had been added to the mixture. When Paris green is added to ordinary (lime) Bordeaux it is not dissolved, but remains in suspension, and experience has shown that no injury to foliage or fruit results from the use of such a spray. When, however, Paris green is added to Burgundy mixture it is partly dissolved (owing to the excess of washing soda present) and becomes an active arsenical compound more or less corrosive to foliage. It has long been known that soluble arsenical compounds have this injurious effect and that consequently they cannot be used in insecticidal mixtures. Paris green, arsenite of soda, and white arsenic were all reported as having been added to the Burgundy mixture; all of these would render the spray extremely injurious.

As it seemed desirable to furnish experimental proof on this subject and since certain correspondents claimed that Burgundy mixture containing Paris green had been used with impunity on fruit trees, a series of trials were made in the orchards of the Experimental Farm, Ottawa, on apples, cherries and plums. In the absence of the Horticulturist, these experiments were planned and carried through by myself. The spraying mixtures were as follows:—

'A'—SODA-BORDEAUX.

Copper sulphate (bluestone)	4 lbs.
Carbonate of soda (washing soda)	5 lbs.
Water	40 gals.

The bluestone and washing soda were dissolved separately in half the total volume of water and the resultant solutions mixed. This mixture, it will be observed, contains no Paris green or arsenic in any form.

'B.'—Soda-Bordeaux, as above, but to which 4 ounces of Paris green had been added.

'C.'—Soda-Bordeaux, as above, but to which a solution of arsenite of soda (formed by boiling 8 ounces white arsenic and 2 lbs. washing soda with 1 gallon of water) had been added.

RESULTS AND CONCLUSIONS.

Soda-Bordeaux.—(Spray 'A'):—After two sprayings there was no apparent injury to the foliage of apples, plums and cherries.

Soda-Boraeaux with Paris green.—(Spray 'B'):—Leaves of apple slightly scorched at edges. Varieties were found to differ in their resisting power to the corrosive action of this spray, but the results indicate that its use would be attended with a considerable degree of danger in the apple orchard.

The foliage of plums was decidedly scorched, though the injury was not very serious.

The cherries used in the experiment had their foliage slightly scorched. It was evident that this spray could not be used on the cherry with safety.

Soda-Bordeaux with Arsenite of Soda (Spray 'C').—This mixture caused excessive injury on apples, plums, and cherries. The foliage in every instance was scorched, subsequently becoming crisp and falling off. The damage was such as to show conclusively that this spray is dangerous in the highest degree for all classes of fruit trees.

In a word, Burgundy mixture, pure and simple, has shown itself as far as our experiments have gone, to be non-injurious to foliage. The addition of Paris green or other arsenite, however, renders the spray corrosive and therefore dangerous for orchard use.

When it is desired to use Paris green as an insecticide in the spray only Bordeaux mixture made with lime should be employed.

NEW FORMS OF KEROSENE EMULSION.*

The desirability of obtaining emulsifying materials other than the solution of whale oil or soft soap, materials that would not only lessen the expense of the spray, but at the same time obviate the necessity of the application of heat, led Professor Close, of the Delaware Experiment Station, to experiment with lime as an agent to hold the kerosene in suspension. This Lime-kerosene emulsion, prepared according to directions, is very fairly stable, homogeneous, one easy to spray and one which does not clog the nozzle. Briefly described, Prof. Close's directions are as follows: Mix into a 'thin,' sloppy mass 1 lb. of Limoid (an American preparation for the purpose) or the same quantity of good, freshly slaked lime with 1 quart of kerosene. For an approximately ten per cent emulsion, two gallons of water (Imperial measure) are then added and the whole emulsified by churning, say, for 5 minutes, best effected by means of a pump and a coarse nozzle. No free kerosene, he states, will appear for several weeks, and though there may be a separation on standing into limey layers, these will readily, if stirred, again produce the emulsion without deterioration.

Lime Emulsion.—Since 'Limoid' was specially recommended and was not obtainable in Canada, and numerous inquiries were being received as to the value of lime for this purpose, a number of experiments were made in the farm laboratories from the results of which the following important conclusions were drawn.

1. Freshly slaked lime makes a smoother and more lasting emulsion than ordinary air-slaked lime—the latter, however, will make a satisfactory emulsion if it is not too much carbonated by long exposure to the air.

2. By employing lime slaked immediately before using, the quantity may be materially reduced. A perfect emulsion can be made by slaking ½ lb. of good quick lime and emulsifying with 1 quart of kerosene and 2 gallons of water. This makes an approximately 11 per cent emulsion, suitable for Aphis.

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*This investigation was made at the suggestion and with the co-operation of Mr. W. T. Macoun, the Horticulturist, to whom my thanks are due for much valuable advice and assistance.

3. By the use of freshly slaked lime less time is needed for the churning in order to bring the mass to a perfect emulsion. Two to three minutes of vigorous, continuous pumping were found sufficient.

4. It is not apparently a matter of much moment that the lime be dry when mixed with the kerosene. Excellent emulsions have been made when the slaked lime has been quite moist or even made into a thick cream with water before adding the kerosene.

Flour Emulsion.—It occurred to the writer that as good quicklime was not always obtainable at a moment's notice, it would be well to ascertain if flour—to be had everywhere—would not answer equally well. Our experiments showed that flour could be successfully substituted for lime in making the emulsion when desired for immediate use. One pound to 1 quart of kerosene makes a perfect emulsion, as in the case of the lime, but 8 ounces were subsequently found sufficient to hold in perfect suspension the quart of kerosene.

The preparation with flour is very simple. The requisite amount of kerosene is placed in the vessel (pail or barrel), which is preferably dry, and flour added in the proportion stated, viz.: 8 ounces to 1 quart, the mass thoroughly stirred and the water added—2 gallons for every quart of kerosene. This is then vigorously churned, as already described, say, for 5 minutes, and the emulsion is ready for use.

It was further found that by scalding the flour a less weight is required. An excellent emulsion which did not show the slightest separation of kerosene after one week was prepared by scalding 2 ozs. of flour, mixing the resulting thin paste with 1 quart of kerosene and emulsifying with 2 gallons of water.

The flour emulsion is smooth, easily atomized, and does not clog the nozzle. Any separation into layers may be easily remedied by simply stirring or shaking the mixture. It is equally effective, we believe, as an insecticide with the lime-formed emulsion, and amongst other advantages that may be claimed for it is the fact that there is no perceptible whitening of the foliage, and, further, that in some places it will be found cheaper and easier to make than the lime emulsion. Its use is suggested as an alternative when good lime is unobtainable—when the emulsion is for immediate use and when intended for ornamental trees and shrubs, upon which the whitening of the foliage is objectionable.

FORMALIN—FORMALDEHYDE 40 PER CENT.

The amount of Formalin used in the treatment of grain, especially wheat and oats, for the prevention of smut, increases yearly and very rapidly. In Manitoba and the North-west generally it has already very largely replaced bluestone, due no doubt in a measure to the ease with which the solution may be prepared—simple dilution being all that is necessary. The results of the Formalin treatment have been highly satisfactory, and there is ample proof that Formalin is a most efficient smut destroyer. It has been used in two strengths: 3 ozs. to 10 gallons (2 parts in 1,000), and 4½ ozs. to 10 gallons (3 parts to 1,000). The seed grain is either thoroughly sprinkled or immersed for 5 minutes. In the majority of cases, and save perhaps with very badly affected grain, the weaker solution has proved as effective as the stronger, and thorough sprinkling equally satisfactory with immersion. In addition to ascertaining the strength of several brands of formalin on the market, we have endeavoured this year to learn if formalin, which had become milky through age, had lost its efficiency, wholly or in part, and if such altered (polymerized) formalin injuriously affected the germ of the grain. These were questions asked by several correspondents in the North-west last spring. A further enquiry was as to the effect of the formalin treatment on the vitality of wheat as compared with that of bluestone.

ANALYSIS OF FORMALDEHYDES.

	Percentage of Formaldehyde by weight.
No. 1. From Fulford-Leonard Drug Co., Brandon, Man. (clear)	38·0
No. 2. From Halpins Drug Store, Brandon, Man. (clear)	38·9
No. 3. From Clement Drug Store, Brandon, Man. (milky through polymerization)	38·7
No. 4. From Fleming's Drug Store, Brandon, Man. (milky through polymerization)	38·9
No. 5. From Cereal Division, C.E.F.	38·5
No. 6. From The Chemists and Surgeons Supply Co., Montreal.	37·9
No. 7. Scherings Formalin, very old and badly polymerized sample	46·4
No. 8. Scherings Formalin, very old and badly polymerized sample	34·4

These results, generally, are slightly higher than those obtained in 1903. Though it is not advisable to draw hard and fast conclusions from a few samples, the data indicate that there is considerable uniformity in strength among the brands found upon the market. Samples No. 7 and 8 were taken from the same bottle, which had been in the Farm Laboratory for more than 5 years; the formalin had become quite pasty through polymerization. The thinner portion gave 34·4 per cent; the thicker 46·4 per cent formaldehyde.

Slight polymerization, as in samples 3 and 4, does not apparently affect the analytical determination; excessive polymerization evidently interferes with the estimation.

So far our analyses have not detected any wilful adulteration or material falling off in strength.

ACTION OF FORMALIN ON THE VITALITY OF WHEAT.

For this purpose we used two samples of Red Fife wheat kindly furnished by Mr. Bedford, Superintendent of the Experimental Farm, Brandon, Man. He writes:—

'The 1904 sample is very smutty and is also badly rusted. Some think that rusted grain is so weak in germination that formalin or bluestone will kill the germ and for that reason do not treat it for smut. Information as to this will be gratefully received by western farmers. The 1902 wheat has not so much smut and is not rusted.' In the following table the treatment of these wheats is detailed, together with the results of the vitality test.

	Percentage of Vitality.	
	1902. Wheat.	1904. Wheat.
Untreated	91	98
Formalin, fresh, 4½ ozs. to 10 gals.	66	86
" polmerized, 4½ ozs. to 10 gals.	71	92
" fresh, 9 ozs. to 10 gals.	69	72
Bluestone, 1 lb. to 2½ gals.		63

(The treated wheats were immersed for 5 minutes, dried by exposure to the air, and tested at once as to vitality).

The results, it must be admitted, are not altogether satisfactory; the work must be repeated before any final conclusion can be reached and any definite statement made on several of the points under discussion. There are one or two deductions, however, that I think may safely be made, as follows:—

The formalin treatment lowers the percentage of vitality; the effect being more noticeable on the older (1902) wheat. In one instance the stronger solution (9½ ozs. to 10 gals.) reduced the vitality to a greater degree than the weaker solution; further work will probably confirm this result. Investigations carried on in the Farm laboratory in 1890-93 showed that bluestone similarly affected the vitality of the wheat; the stronger the solution, the more injury to the grain germ.

Milky or slightly polymerized formaldehyde is apparently less injurious to the germ than the fresh material, but it is only with the 1904 wheat that the difference is well marked.

Some years ago, the writer showed that bluestone *continues* to act injuriously upon the germ of the wheat, and therefore, that it was highly desirable that the grain should be sown as soon as possible after treatment. The same is no doubt true in the case of the formalin treatment. In this connection, Dr. Chas. E. Saunders, Cerealist, C.E.F., has furnished me with some valuable data that he recently obtained. He states that in the case of wheat, oats, and barley, the seed being treated with formalin solution 9 ozs. to 10 gallons, the vitality of the treated grains was after 11 months found to have been entirely destroyed. To study further this 'after effect' of formalin, samples of the treated wheats have been preserved and will be examined from time to time as to vitality.

It is of interest to note that the formalin treatment was not so severe on the life of the germ as the bluestone solution. It is quite possible, of course, that a more dilute solution of bluestone, say, 1 lb. to 5 gallons, would have been equally efficacious in destroying smut and less injurious to the wheat.

It does not appear that the vitality of the wheat (1904) had been impaired or weakened by the rust. It is not, therefore, advisable to neglect the treatment of grain simply on the count that it is rusted.

MILKY (POLYMERIZED) FORMALDEHYDE AS A SMUT PREVENTIVE.

In order to ascertain the relative values of the various treatments in smut prevention, samples of these treated grains (with the exception of those from the solution 9 ozs. to 10 gallons) were sent to the Experimental Farm at Brandon, Man., to be sown. They were sown in rows 6 inches apart and 30 inches long. Under date of August 28 Mr. Bedford writes: 'I have carefully gone over all the grain you sent me for smut test and I find that there are 159 smutty heads in the lot marked '1904, untreated,' but not a solitary smutty head in any of the others."

From this it might be concluded that all the treatments had been equally efficacious. There is this unsatisfactory feature, however, about the results, that the untreated 1902 sample, which contained a slight amount of smut, gave no sign of smut in the plot.

Slight polymerization of the formalin, as indicated by milkiness, does not apparently materially affect the virtue of the material for the destruction of smut, but it will be necessary to repeat this work another season before making any definite statement on this point.

CYANIDE FOR FUMIGATION PURPOSES.

It is a matter of considerable importance that the quality or strength of the cyanide used in the fumigation of plants and shrubs for the destruction of the San José scale should not fall below that called for. The value of this chemical so used is entirely dependent upon the amount of hydrocyanic acid gas evolved on the addition of acid.

The examination of a number of samples of 'potassium cyanide' in 1902, showed that at that time considerable differences in strength, *i.e.*, hydrocyanic acid content,

existed between the various brands upon the market. It was, further, made clear that much of the so-called potassic cyanide was sodic cyanide. From the standpoint of an insecticide, however, this latter fact has no significance, the percentage of hydrocyanic acid alone, as has been stated, determining the value of any particular sample.*

Last March two samples, submitted by the Entomological Division, were examined, the analysis furnishing the following data:

	Hydrocyanic acid, Per cent.
'A.' 'Pot cyanide 98-100 per cent,' as supplied to St. John N.B. Fumigation Station, 1904..	36·41
'B.' 'Cyanide of potash, C.P.', Henderson Bros., Lt..	42·71

Analysis showed 'A' to be practically potassium cyanide: sample 'B' contains no potassium and is exclusively sodium cyanide. The values of these samples are indicated by the percentages of hydrocyanic acid stated; in other words, 100 ounces of 'B' are equivalent to 117 ounces of 'A' in gas producing power.

WELL WATERS FROM FARM HOMESTEADS.

The examination of well waters from farmers has proved one of the most popular and directly useful features of our work. The danger that exists when the water supply is polluted is now widely known and every year finds a larger proportion of our rural population impressed with the fact that there is a very real and intimate relationship between good water and good health.

As we have shown again and again, the barnyard and back door wells are the sources above all others to be feared. Such are a dangerous convenience and not infrequently the cause of much ill health in the farmer's family. Every phase of the pure water question has, however, been discussed fully in past reports, and it only seems necessary to add now that assistance will continue to be given in this matter of water analysis to farmers and dairymen desiring it. We cannot, however, undertake water analyses for municipalities, villages, and towns. Requests for such work should be referred by the local health authorities to the Provincial Board of Health.

Instructions for the collection and shipment of water samples are forwarded on application.

Of the 118 samples of water received during 1905, 83 were submitted to analysis, the remainder being rejected by reason of insufficient quantity, dirty containing vessels or corks. By grouping the results of those examined, we find that 22 were reported as safe and wholesome, 38 seriously polluted, 12 suspicious and probably unsafe for drinking purposes, and 11 saline in character.

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* See page 151 et seq. Report of the Chemist of the Experimental Farms for 1902.

ANALYSES OF WELL WATERS, 1905.

RESULTS STATED IN PARTS PER MILLION.

Number.	Locality	Marks.	Date.	Free Ammonia.	Albuminoid Ammonia.	Nitrogen in Nitrates and Nitrites.	Chlorine.	Total Solids at 105° C.	Solids after Ignition.	Loss on Ignition.	Phosphate.	Report.
			1904.									
1	Calgary, Alta.	T. A.	Dec. 5	·275	2·0	·73	5·0	592·0	364·0	228·0	.....	Unsafe to use for drink'g purposes.
			1905.									
2	Carstairs, Alta.	Dr. A. R.	Jan. 3	·135	·382	·078	8·0	692·0	516·0	176·0	V. hvy. trs.	Very suspicious.
3	Carleton Place, Ont.	W. B. McA.	" 11	Free.	·085	2·561	8·0	319·2	269·6	49·6	Slight trcs.	Suspicious.
4	Rouleau, Assa.	W. H. J.	" 16	·09	1·38	33·72	200·0	8937·0	7966·0	971·0	.....	Strongly saline.
5	Longlaketon, Assa.	W. L. W.	" 23	·04	·08	·245	9·0	719·2	553·6	165·6	None.	Free from pollution.
6	Medora, Man.	A. N. M.	Feb. 20	4·70	·625	None.	801·0	4676·0	4341·2	334·8	"	Saline water.
7	Lefroy, Ont.	W. R.	" 24	·01	·155	·42	6·1	242·0	147·2	94·8	"	Fairly good water.
8	Salisbury, N.B.	P. J. G.	" 24	·192	·330	·212	92·5	542·0	390·0	152·0	Slight trcs.	Dangerously polluted.
9	Salisbury, N.B.	J. W. P.	" 24	None.	·294	3·963	23·5	240·0	155·0	85·0	V. hvy. trs.	Very suspicious.
10	Morrison Lake, Ont.	C. H.	Mar. 10	·65	·30	.....	None.	113·0	58·0	55·0	None.	Rather suspicious.
11	Lennoxville, Que.	F. W. F.	" 16	None.	·13	055	None.	111·2	69·6	41·6	"	Wholesome.
12	Balmoral, Ont.	G. H. R.	Apr. 10	1·59	2·46	2·45	38·0	1187·0	834·0	243·0	Heavy trs.	Very seriously polluted.
13	Calumet, Que.	R. L.	" 11	None.	·05	None.	2·5	255·2	217·2	38·0	None.	Perfectly safe and wholesome.
14	Rockliffe, Ont.	W. H. S.	" 20	·06	·06	16·61	22·0	407·2	314·4	92·8	Heavy trs.	Seriously contaminated
15	Campbell's Bay, Que.	E. H. W.	" 22	Free.	·285	7·20	32·0	550·8	414·8	136·0	Free.	Contaminated with drainage mat'r.
16	Ottawa, Ont.	G. C. E.	" 29	Free.	·10	4·61	16·25	310·0	224·8	85·2	"	Suspicious.
17	Meach's Lake, Ont.	N. J. K.	May 2	·01	·295	·0082	.....	68·4	38·4	30·0	None.	Unpolluted.
18	Pile Hill, Assa.	W. M. G.	" 2	·016	·88	8·668	65·0	2855·6	2171·2	684·4	Heavy trs.	Strongly saline.
19	Sutton, Que.	A. G. E. No. 1.	" 6	·01	·095	·758	Free.	29·6	20·0	9·6	Free.	Pure and wholesome.
20	" "	A. G. E. No. 2.	" 6	·01	·115	1·62	Free.	54·0	32·4	21·6	"	" "
21	Lennoxville, Que.	H. A.	" 16	·008	·235	·059	None.	132·0	96·8	35·2	Traces.	Excellent water.
22	Broomhill, Man.	W. K.	" 25	·008	·208	·059	1·0	387·2	283·2	104·0	None.	Unpolluted with drainage.
23	Murray Harbor South, P.E.I.	W. S. H. No. 1.	June 2	·03	·268	11·264	98·0	416·8	344·0	72·8	Traces.	Seriously polluted.
24	" " "	" " 2.	" 2	1·62	·757	1·352	190·0	1126·8	775·6	351·2	Heavy trcs.	" "
25	" " "	" " 3.	" 2	·048	·075	22·517	60·0	213·6	148·0	65·6	.....	" "
26	Calgary, Alta.	J. S. D.	" 6	Free.	·425	Free.	14·5	3047·6	2461·6	286·0	Free.	Saline water.
27	Meadowvale, N.S.	M. S.	" 12	·01	·095	2·255	7·8	66·4	26·8	39·6	Traces.	Rather suspicious.
28	Balaclava, Ont.	J. E.	" 20	·215	·270	·523	7·5	412·0	308·0	104·0	"	Dangerously polluted.

ANALYSIS OF WELL WATERS, 1905—*Concluded.*

Number.	Locality.	Marks.	Date.	Free Ammonia.	Albuminoid Ammonia.	Nitrogen in Nitrates and Nitrites.	Chlorine.	Total solids at 105° C.	Solids after Ignition.	Loss on Ignition.	Phosphates.	Report.
			1905.									
29	Cascades, Que	F. F. D.	July 17	None.	·1167	2·475	1·2	88·0	24·0	64·0	None	Quite safe for drinking purposes.
30	Penhold, Alta	J. S.	" 19	·26	·23	None.	10·0	1112·0	972·8	139·2	"	Rather suspicious.
31	St. Stephen, N.B.	C. M. V. No. 1.	" 19	None.	·16	25·6	123·0	638·4	515·2	123·2	"	Dangerously polluted.
32	"	" No. 2.	" 19	"	·02	·14	5·8	41·6	24·8	16·8	"	Free from pollution.
33	St. Victor d'Alfred, Ont.	W. G.	" 22	8·425	·98	·374	15204·4	12416·0	2788·4	8000·0	Heavy trace.	Saline water.
34	Pointe de Bute, N.B.	C. F.	" 22	·18	·225	·326	5·0	50·0	18·0	32·0	None	Seriously contaminated.
35	Indian Head, Sask.	R. M. B.	" 29	·665	·71	2·818	800·0	8434·0	6399·0	2035·0	Trace.	Saline water.
36	Maitland, N.S.	G. L. S.	Aug. 10	Free.	·04	·823	7·0	856·0	676·0	180·0	Traces	Suspicious.
37	Cassel, Ont.	H. B.	" 21	·17	·07	·09	2·8	514·8	400·8	114·0	"	"
38	Disley, Assa	W. T. A.	" 24	·29	1·44	1·103	365·0	13810·4	10987·2	2853·2	None	Saline water.
39	Ingonish, N.S	H. C. C.	" 28	·235	·06	·07	25·0	2377·6	1910·0	467·6	Slight trace.	"
40	Mather, Man.	J. A. F.	" 29	4·355	·415	1·062	320·0	5950·0	4644·0	1306·0	Traces	"
41	Ottawa East, Ont.	J. B. No. 1.	" 31	·67	·215	·346	2·8	200·0	140·0	60·0	Trace.	Seriously polluted.
42	"	" No. 2.	" 31	·01	·185	·37	1·5	196·4	107·6	88·8	Free	A good water.
43	Ottawa, Ont.	N. J. K. No. 1.	" 31	·01	·22	·1	·6	62·9	36·4	26·5	V. S. trace.	Free from contamination.
44	"	" No. 2.	" 31	·01	·215	·115	·6	59·6	34·4	25·2	"	" "
45	"	" No. 3.	" 31	·01	·22	·107	·5	56·0	36·0	20·0	"	" "
46	"	" No. 4.	" 31	·01	·255	·108	·6	57·6	32·4	25·2	"	" "
47	Ottawa East, Ont.	J. B. No. 1.	Sept. 5	·65	·225	·292	2·5	227·6	153·6	74·0	"	Unfit for drinking purposes.
48	"	" No. 2.	" 5	·635	·205	·416	2·5	206·4	134·4	72·0	Slight trace.	" "
49	Cheneville, Que.	J. F.	" 8	·42	·26	3·42	14·5	135·0	92·0	43·0	Trace.	Seriously polluted.
50	L'Ange Guardien, Que.	F. A.	" 9	None.	·45	3·23	1200·0	2848·0	2555·0	293·0	V. H. trace.	Saline water.
51	Brooklin, Ont.	H. B.	" 14	·01	·16	1·45	39·5	497·6	310·0	187·6	Traces	Very suspicious.
52	Kingsmere, Ont.	J. G. G. No. 1.	" 20	None.	·07	1·51	·25	134·0	76·4	57·6	"	Free from pollution.
53	"	" No. 2.	" 20	"	·22	·813	·66	36·0	.....	.....	None	Excellent water.
54	Summerside, P.E.I.	J. S. A.	" 21	·01	·095	8·71	52·5	412·4	318·4	94·0	Traces.	Very suspicious.
55	Enderby, B.C	G. H. No. 1.	" 26	None.	·16	None.	None.	280·0	176·0	44·0	V. S. trace.	Wholesome.
56	"	" No. 2.	" 26	·39	·185	"	12·0	1392·0	1104·0	288·0	Traces	Seriously polluted.
57	"	" No. 3.	" 26	·01	·095	·012	4·0	673·0	453·0	218·0	None	Excellent water.
58	Richmond, Ont.	W. A. H.	" 29	·20	·14	1·111	50·0	524·0	300·4	223·6	Traces	Seriously polluted.
59	Edmundston, N.B.	C. G. M.	Oct. 2	Free.	·185	·0823	1·0	72·8	35·2	37·6	None	Free from pollution.
60	Pamnure, Ont.	T. O'K.	" 5	·195	·135	None.	41·0	472·0	399·0	73·0	"	Contaminated.
61	Carleton Place, Ont.	M. A. McF.	" 7	Free.	·095	3·08	12·75	325·2	225·6	99·6	Heavy trace.	Probably contaminated.
62	Cobden, Ont.	T. B.	" 12	·09	·17	10·22	155·0	1031·2	529·6	501·6	Traces.	Extremely bad water.
63	"	R. A. B.	" 12	·01	·195	9·61	20·0	402·8	248·4	154·4	"	Unfit for drinking purposes.
64	"	J. A.	" 12	·03	·13	12·15	202·5	1025·2	661·2	364·0	Heavy trace.	Very seriously polluted.

65	"	.....	Dr. McL.	"	12	·13	·11	4·19	31·0	428·0	248·0	180·0	Traces..... Dangerously polluted.
66	"	.....	A. McB.	"	12	·135	·185	45·32	182·5	1180·0	681·6	498·4	Heavy trace. Extremely bad water.
67	Port Perry, Ont.	.....	J. W.	"	16	·215	·38	·0618	118·0	794·4	562·4	232·0	Traces..... Exceedingly bad water.
68	Alexander, Man	.....	A. G. G.	"	19	·87	1·19	·214	132·5	20663·0	15885·0	4718·0	Heavy trace. Saline water.
69	Cobden, Ont.	.....	J. M. C.	"	27	·96	·255	6·905	60·0	.....	.....	.....	..... Seriously polluted.
70	"	.....	R. A.	"	27	·08	·06	·098	5·0	.....	.....	.....	..... Unpolluted.
71	"	.....	J. P.	"	27	·04	·37	33·15	210·0	.....	.....	.....	..... Unpolluted.
72	"	.....	A. McD.	"	27	·11	·40	28·07	150·0	.....	.....	.....	..... Seriously polluted.
73	"	.....	C. B. M.	"	27	Free.	·055	15·77	40·0	.....	.....	.....	"
75	"	.....	W. B. D.	"	27	·05	·28	40·95	110·0	.....	.....	.....	"
76	"	.....	C. L. T.	"	27	·02	·251	43·63	210·0	.....	.....	.....	"
77	"	.....	J. H.	"	27	·05	·25	28·61	45·0	.....	.....	.....	"
78	"	.....	F. S.	"	27	·044	·105	36·86	110·0	.....	.....	.....	"
79	"	.....	A. McL.	"	27	Free.	·11	17·29	25·0	.....	.....	.....	"
80	"	.....	W. B.	"	27	·215	·24	38·12	110·0	.....	.....	.....	"
81	"	.....	E. T.	"	27	Free.	·24	39·15	150·0	.....	.....	.....	"
82	Fallowfield, Ont.	.....	J. M.	Nov.	5	·13	·225	9·313	17·0	434·8	320·8	114·0	Traces..... Seriously contaminated.
83	Rockliffe, Ont.	.....	R. H. C. No. 1.	"	23	·22	·18	3·92	7·0	282·8	161·8	158·0	Heavy trace. Seriously polluted.

REPORT

OF THE

ENTOMOLOGIST AND BOTANIST

(JAMES FLETCHER, LL.D., F.L.S., F.R.S.C.)

1905.

OTTAWA, December 1, 1905.

DR. WILLIAM SAUNDERS, C.M.G.,
Director of Dominion Experimental Farms,
Ottawa.

SIR,—I have the honour to hand you herewith a report on some of the most important subjects which have been brought officially under my notice during the past season.

There is a satisfactory and ever increasing evidence of the appreciation of the value of the investigations carried on by the officers of the Division. This is indicated by the large number of letters received from farmers, fruit growers and others in all parts of Canada and by the constant demand for the services of the officers at various meetings.

The work of the Division has been during the past year of the same nature as that of previous years. Investigations have been continued of the life-histories of various insect pests, together with practical tests of the most effective remedies. In the botanical branch, the experiments with fodder plants of all kinds have been carried on as heretofore and have proved of great interest to visitors. The past season in the Ottawa district was particularly propitious for the development of grasses, clovers and other fodder plants. As some of the old plots had gradually become unproductive, it was thought well to plough up one-third of the experimental grass garden and clean it by sowing to rape. This was done early in July, and at four successive dates portions were sown and notes kept upon the crops. Next year another third of the grass garden will be treated in the same way and that part cleaned this year will be again used for grass plots. The following year the remainder will be treated.

Correspondence.—The correspondence of the Division has again during 1905 shown a considerable increase in the number of letters both received and despatched. From December 1, 1904, to November 30, 1905, the number of letters, exclusive of circulars, registered as received was 3,406 and the number despatched 3,291.

Meetings attended.—Meetings of farmers' institutes and agricultural associations of various kinds have been attended whenever other official duties would allow of absence from Ottawa.

December 7 to 9, 1904: Windsor, N.S.—The Fruit Growers' Association of Nova Scotia: 'Insects Injurious to Fruits in Nova Scotia.'

December 12: Amherst, N.S.—Maritime Winter Fair: 'Insects Injurious to Live Stock.'

December 29: Philadelphia.—Association of Economic Entomologists and Society for the Promotion of Agricultural Science, Annual meetings: 'Injurious Insects of 1904 in Canada'; 'A destructive Ptinid new to North America.'

February 3, 1905: Guelph.—Address before the students of the Agricultural College on 'Methods in Nature Study.'

February 4: Toronto.—Address on Nature Study and Natural History before Toronto University (Saturday afternoon Popular Lecture).

May 26: Ottawa.—Union Teachers' Convention: 'The Use of Insects in Nature Study.'

May: Ottawa.—Two addresses before the Normal School; 'Nature Study—Birds.'

June 6: Toronto.—Address before Toronto Horticultural Society on 'Insect Pests and How to Exterminate them.'

June 7: Hamilton, Ont.—Hamilton Horticultural Society: 'The Gardeners' Insect Enemies in June.'

June 8: Guelph.—Ontario Agricultural College: 'What the Experimental Farms are doing for Canada.'

June 8: Guelph.—Macdonald Institute: 'The True Place of Nature Study in Education.'

June 30: Ottawa.—Dominion Seed Growers' Association: 'Co-operation between Seed Grower and Entomologist.'

June 27: Ottawa.—Ottawa Horticultural Society: 'What Plants do.'

July 5 and 10: Ottawa.—Two addresses on Birds before Ottawa Normal School, Summer School of Science.

July 13 and 14: Ottawa.—Two addresses on Insects before Summer School of Science, Ottawa.

August 21 to Sept. 23.—Manitoba, North-west Territories and British Columbia: Holding meetings, making investigations and inspecting Fumigation Stations.

October 18 and 19: Guelph.—Attending Annual Meeting of the Entomological Society of Ontario: 'Injurious Insects of Ontario, 1905'; 'Entomological Record, 1905.' At this meeting a paper was also read by Mr. Arthur Gibson upon 'Injurious Insects of the Flower Garden.'

Mr. Gibson also attended the County of Carleton Annual Exhibition at Richmond on September 26, and judged the Natural History exhibits made by the school children of the county. These exhibits were on the whole satisfactory and showed careful work, particularly on the part of the teachers.

Collections.—The collections of insects and plants in the Division have been largely increased during the past year. Mr. Gibson, who has charge of the insect cabinets, has mounted and placed a large number of specimens. The collection of lepidoptera is now in excellent working order. Efforts will be made to build up the reference collections of the other classes of insects as quickly as possible, as information is being constantly sought for from the Division by the large number of students in all parts of the Dominion who are giving so much attention to Nature Study. Mr. Guignard has also added several hundred sheets of mounted plants to the herbarium and a large number of defective specimens have been replaced by better. Several valuable donations have been received from correspondents, of which the following are worthy of special mention:

Anderson, J. R., Victoria, B.C.—Many specimens of rare British Columbian plants.

Bilodeau, Arthur, Ottawa University.—Botanical specimen of *Hieracium murorum.*

Bush, A. H., Vancouver, B.C.—Some rare and much desired British Columbian lepidoptera.

Cockle, J. W., Kaslo, B.C.—Eggs and larvæ of interesting mountain lepidoptera.

Criddle, Norman, Aweme, Man.—Several rare western plants and moths; also seeds of weeds.

Denny, Edward, Montreal.—A beautiful series of *Apantesis vittata,* and living larvæ.

Dod, F. H. Wolley, Hillarville, Alta.—Eggs of rare western lepidoptera.

Dupret, Rev. Father H., Montreal.—Botanical specimens of the rare orchid *Epipactis viridiflora,* found at Montreal; and of *Sibbaldia procumbens,* from Mount St. Hilaire, Que.

Fraser, George, Ucluelet, B.C.—Several living plants of western ferns and other rare species of British Columbian plants, including *Apargidium boreale,* first found in Canada by Mr. Fraser.

Freeborn, J. J., Dundas, Ont.—Several samples of interesting seeds.

Gellatly, D., Gellatly, B.C.—Seeds of cut-leaved variety of *Sambucus melanocarpa* and *Ribes viscosissimum,* and specimens of the fungi which are stored by the mountain squirrels as food in winter.

Harrington, W. H., Ottawa.—Several specimens of rare Ottawa plants, some of them new to the Ottawa list.

Harvey, R. V., Vancouver, B.C.—Two specimens of *Thecla johnsoni,* a new species recently described from British Columbia; also named specimens of rare flies and other insects.

Keen, Rev. J. H., Metlakatla, B.C.—Specimens of unmounted lepidoptera.

Marmont, L. E., Rounthwaite, Man.—Larvæ of *Apantesis incorrupta* and specimens of several species of moths.

Miller, H. H., Guelph, Ont.—A beautiful collection of mounted specimens of the principal weeds with their seeds, prepared specially for seedsmen and showing all species mentioned in the Seed Control Act, 1905.

Perrin, Jos., MacNab's Island, Halifax, N.S.—A series of local forms of *Satyrus alope* and a pair of *Argynnis aphrodite.*

Stoker, Mrs., Cowichan Lake, B.C.—A collection of seeds of 130 species of British Columbian wild plants.

Venables, E. P., Vernon, B.C.—Noctuid moths from the Okanagan valley.

Willing, T. N., Regina, N.W.T.—Specimens of western moths and botanical specimens from various localities in the North-west Territories.

Young, C. H., Hurdman's Bridge, Ont.—A collection of specimens of beautifully mounted microlepidoptera, all taken at Ottawa.

I have the honour to be, sir,

Your obedient servant,

JAMES FLETCHER,

Entomologist and Botanist.

DIVISION OF ENTOMOLOGY.

CEREALS.

Cereal crops in all parts of the Dominion have been heavy and of excellent quality in 1905. The unprecedented crop of about 85 millions of bushels of wheat in Manitoba and the North-west has bountifully confirmed the sanguine anticipations of those who justly have such confidence in the Great West. Oats, barley and other grains have been equally satisfactory with the staple crop, wheat. There has been an enormous increase over 1904 in the amount of fall wheat harvested in the rich lands of south-western Alberta. Weather conditions, although such as to cause considerable anxiety at times, from cool weather during growth, with frequent rains, proved to be most propitious for the production of high quality grain. The long open autumn allowed the enormous crop to be safely garnered.

There were few adverse influences. Rust, although locally present, had little effect on the main crop. Two weeks of hot weather just before harvest caused the grain to ripen up all at once and rather prematurely; but Mr. Willing writes at the end of the season: 'Weeds were too abundant in many places, but I have heard of no serious damage to grain crops by pests except in the early part of the season, by cutworms in Alberta and parts of Assiniboia.' In Ontario, 'while a majority of correspondents describe fall wheat as of good quality, some speak of the grain as being rather shrunken and light in weight.' 'Very little harm to the crop was reported from Hessian Fly or other insects.' (Ontario Crop Report No. 90, for Nov. 1905). In Quebec, crops were well up to the average. In New Brunswick a protracted summer drought in some parts reduced crops of all kinds, but early sown wheat threshed out a good yield.

In Nova Scotia the Secretary of Agriculture writes: 'On the whole, I think the province may be congratulated upon having received a bountiful harvest. Hay, oats, wheat and potatoes are the most important crops and have reached a high average.' In Prince Edward Island Rev. A. E. Burke reports: 'No rust of any account on grain. Wheat, oats and other grains, a bumper crop. In a very restricted circle Hessian Fly and Joint Worm attacked the wheat.' Prof. Readey writes in the August Crop Report: 'The wheat crop is above the average. In the vicinities of New London, Stanley Bridge and Cavendish, the wheat Joint Worm is reported as doing considerable damage.'

The Hessian Fly (*Cecidomyia destructor*, Say).—There is little mention of injury by the Hessian Fly in Ontario during 1905, although in Prof. James's November Crop Report it is stated that a few complaints were sent to his Department; but in no case was there serious damage. Slight attack was also noticed in Prince Edward Island. A rather more considerable injury to the spring wheat crop occurred in Manitoba. Several correspondents estimate the loss at about 5 per cent. All evidence so far at hand indicates that the Hessian Fly in Manitoba is single-brooded, a fortunate fact in this country, where such a large area is devoted to wheat. In Alberta there has recently been an enormous increase in the acreage devoted to fall wheat; and, fortunately, up to the present time, no trace of the Hessian Fly has been found in that province. It will be well, however, for the fall wheat growers in the country to the south of Calgary to be on the look out for this insect and be prepared to adopt the methods of controlling it which have been so successful in the older provinces. Reports of the presence of Hessian Fly began to come in at the end of August, and through the courtesy of Mr. Geo. Batho, of the *Nor-west Farmer*, Winnipeg, I have been allowed to

consult the correspondence which was sent in to his paper on the subject. The district over which the Hessian Fly injured wheat crops to some extent, was the whole south of the province, west of the Red River, and a short way into the North-west Territories. Mr. Batho, writing on October 9, says:—

'There was some loss due to the Hessian Fly over a large area in the southern part of the province; some fields about Morden, Roland and Carman were badly struck; but the attack was not general in all fields in any other part of the country. From most of our reports it would appear that the heavy crops escaped, but the light ones were always likely to be attacked. It seems to me that this can be explained by the heavy crops occurring on land which had been summer-fallowed, and where consequently no flies had wintered over, while the light crops were on stubble land that had been cropped last year and which might have been affected to some extent, although the injury was not noticed.'

'Nov. 22.—I have found out since I last wrote, that the loss from the Hessian Fly is probably greater than one might suppose from any reports that have been published. A farmer at Griswold told me the other day that there was considerable loss in that district. At Portage la Prairie there was heavy loss, and one farmer stated his belief that there was a small amount of loss every year and had been for several seasons past.'—GEO. BATHO.

There is little doubt that loss from the Hessian Fly was larger than was generally recognized; but, owing to the heavy crop of wheat all through the country, little attention was paid to this matter. Unfortunately, many of the farmers of the West take the mistaken view of the subject that is expressed in a letter upon this outbreak, published in the *Nor-west Farmer* of September 5 last, where the writer says: 'I think the estimate of 5 per cent not too high for the loss. Where I am cutting, I expect 35 or 40 bushels per acre, so I do not kick about a little loss.' The writer evidently does not appreciate that the little loss of this year may multiply, under favourable circumstances, into an enormous one next year. The article referred to in the *Nor-west Farmer* was very timely, and stated the facts of the case plainly and well, giving the life history of the insect, the best remedies, and concluding with the following wise statement:—

'The principal reason why care should be taken to destroy the pupæ of the Hessian Fly this fall, is of course to prevent the possibility of a much more serious attack next year.'

The following extracts from correspondence show how widespread the attack was in Manitoba, and the probable loss:—

'Aug. 28, Virden, Man.—Crops are apparently good; but, when the binder goes into the field, they do not show up so well. We are able, by lowering the binder, to pick up most of the grain; but the sample is not as good as the rest of the field.'—A. P. POWER.

'Aug. 29, Pilot Mound, Man.—It seems to be all through the crop of wheat this year.'—J. S. MOFFATT.

'Sept. 2, Wellwyn, Sask.—The insects are located between the sheath and the straw itself. The damage will amount to from two to three bushels to the acre, as it is impossible to pick up all heads with the binder.'—F. J. COLLYER.

'Sept. 7, Reston, Man.—I first noticed the Hessian Fly at Roland. Most farmers showed no interest in the matter, saying that the trouble occurred to the same extent every year. One old Ontario farmer, however, who knew the Hessian Fly, deplored its appearance, remembering the harm that it had done in Ontario. At Miami I found a few flax seeds in a late crop and a few at Belmont and Reston. The field at Roland would average 5 per cent injury all over; but in some patches it would be more than double that.'—JOHN MCBEAN.

'Sept. 7, Portage la Prairie, Man.—I noticed damage from Hessian Fly seemed to be much worse after two days of heavy wind towards the last of cutting. Crops on

some of the older land were injured to the extent of 5 per cent or more These summer-fallows on new land did not seem to be so bad.'—D. W. McKirdy.

'Oct. 31, Cartwright, Man.—We have a little Hessian Fly here, but some miles away further south it was very bad. I put a letter in the local paper, advising farmers to burn straw even more liberally than they have been in the habit of doing.'—E. F. Heath.

'Sept. 7, Wellwyn, Sask.—Hessian Fly has done great harm to the wheat crop here this year.'—John Hislop.

There seems to have been no uniformity of opinion as to the crop conditions which attracted the females when they were laying eggs, some farmers stating that the heavy crops on summer-fallowed land were worst attacked, while others claimed that exactly the opposite was the case. The following letter from Mr. L. E. Marmont, who has made a study of insects and their habits is of interest:—

'Nov. 28. Rounthwaite, Man.—I regret to say that the damage in this neighbourhood from Hessian Fly during the past summer was the worst since 1902. On summer-fallows, where the wheat was heaviest, there were so many broken down straws that it interfered with the proper working of the binder. Cutting had to be done so low down to get the bent over stuff, that it resulted in long ragged sheaves and an amount of straw which made an appreciable difference in the time taken in threshing. I examined straws in many fields and found from three to five flax-seeds at a joint. Many of these, I found, were very light and apparently dead. We had some extremely warm days during harvest, and this may have affected some of them. The wheat itself in injured stems was almost as plump as the unaffected; so, we cut as low as possible so as to get it. I have urged all my neighbours to try and burn their stubble, if possible; but the fall has not been very favourable in this way, still a good deal has been burned over, and, if the spring is dry, more will be done then. Threshing was so slow and the ground was frozen up so early that the area of fall ploughing is the smallest ever known; consequently, little has been done in this way against the fly, and I fear we shall have a repetition of the spring damage to the young wheat, such as we had in the spring of 1903, unless the stubble is burnt over or turned down early. I think that from three to five bushels per acre would be a conservative estimate of the damage round here.'

'Dec. 8.—My son and I think that in Blyth and the surrounding district, the damage to wheat from the Hessian Fly would be about five per cent. The early sown grain would be less and the late a little more.'—G. S. Charleson.

The Location of the Injury.—The larvæ of the Hessian Fly attack the stems of wheat, barley and rye, either in the root shoots of fall-sown grain, in autumn as well as in spring, before the stems are formed or of spring grain in the root shoots or at the second joint above the root. The minute red eggs are laid on the leaves by very small gnats half the size of an ordinary mosquito, during June or soon after the young plants appear above the ground. The appearance of the flies and the hatching of the eggs are, however, very much influenced by weather conditions. Both of these may be accelerated by warm damp weather, or the emergence may be delayed by dry cold weather. After emerging, the mature flies pair at once, lay their eggs, and in a very few days disappear. It is claimed that the Hessian Fly does not travel very far from the field where it develops from the puparia or flax-seeds. This is an important point, indicating the necessity of treating fields which are known to have been infested to a certain extent. As soon as the little maggots hatch from the eggs, they work their way down to the base of the leaf sheaths and attack the young stem at its junction with the leaf. Frequently the stem is prevented from forming and the shoot is destroyed; but a very few days' delay in the time of the laying of the eggs or of the hatching of the larvæ, enables the stem to begin to shoot up; and, when this takes place, they nearly always develop and form an ear. In this latter case, the injury is of course much less than when the shoot is destroyed. The larvæ lie at the base of the leaf and attack the succulent tender straw just above the joint, sucking the sap and gradually forming a

more or less noticeable depression in the soft stem inside which they lie. When only one or two maggots occur on a straw the injury is not very severe and attacked stems when not knocked down by high wind at harvest time may produce fairly heavy grain. Sometimes, however, the maggots suck the sap to such an extent that the stem is killed at the point of injury and the tissues separate, when the stem falls over, displacing the flax-seeds and making them appear as if they had formed inside the stem. This was the case last season in Manitoba and caused uncertainty on the part of some observant farmers as to the identity of the insect which had done the injury. I am obliged to my correspondent, Mr. Sanford Manson, for calling my attention to this matter; for it should certainly be mentioned when describing the nature of the attack of the Hessian Fly. He writes:—

'Nov. 23, Sperling, Man.—I send a few wheat stems that have suffered from insect attack this summer. I have just received a very welcome bulletin (No. 52) which treats of insects; but I cannot find anything which resembles it nearer than the Hessian Fly; only the description of that insect states that it is found on the outside of the stem beneath the sheath of the leaf. You will notice that this pupa is inside the stem. I spoke to a number of farmers about the matter, and they all agreed that the pupa was inside the stem. It did not seem to affect the wheat very much, as the broken down heads were as well filled as the standing ones; but in some fields the loss from breaking down so low was that the binders could not pick it up. This made considerable loss, variously estimated at from two to five bushels per acre. It seems to have been general in this district. About the last of September it was found that the pupa had developed and the grub had eaten its way out. Therefore, it is only the deserted shell, which I am sending you. Both early and late sown wheat suffered.'

The material sent showed that some of the flax-seeds were as stated inside the straw; but in these cases the injured straw was blackened from decay, and shreaded and broken up by the twisting of the straw at the time it bent and fell over. By softening the stems in water and examining them carefully, the cavity in which the larvæ had lain while active could always be traced; and, although this depression was deeply dented into the stem, it was actually on the outside of it, beneath the base of the leaf sheath. Mr. Manson and some other correspondents have referred to empty flax-seeds being found on the stems in autumn. This is an important matter as it indicates the probability that parasites or other natural enemies have been at work, and it is therefore a very hopeful sign for the future.

There are several parasites which prey upon the Hessian Fly, and their good offices in the past have been the chief cause of the sudden disappearance from infested districts of this serious enemy of the farmer. When emerging naturally, the pupa of the Hessian Fly works its way out of the brown flax-seed-like puparium and the gauzy, empty, pupa-case is left, protruding conspicuously from the end. A parasite on leaving the puparium gnaws a ragged hole which may be in any part of the puparium. In Manitoba there is only one brood of the Hessian Fly. The puparia are found in the late summer. By harvest time all the larvæ have turned to the flax-seed stage, and the flies do not emerge until the following June. A knowledge of the habits of the insect in Manitoba suggests the best remedial measures. The puparia of all the maggots which attack the root shoots in early summer, and most of those on the straw are left in the stubble fields after the wheat is cut. An effective way of disposing of these is, when it is conveniently possible, to burn over the stubbles before the following year and to plough down the land deeply before the next crop is sown. The burning will destroy a great many of the insects, and the ploughing will put them so deep down that the delicate flies, when they emerge, cannot reach the surface. In years of bad infestation a great effort should be made to get as much fall ploughing done as possible, so as to reduce the danger of infested stubble fields being left for summer-fallowing, owing to the pressure of spring work. As it is necessary to cut low to pick up fallen grain, many of the flax-seeds will be carried with the straw. At threshing

time most of these will fall with the rubbish beneath the machine, or will be left in the straw. All dust and screenings, therefore, should be destroyed, and all straw and small seeds should either be used up during the winter or burnt before spring. In Ontario and the eastern provinces there are two annual broods of the Hessian Fly. The flies of the first brood appear in June and lay their eggs on spring and fall wheat and on rye and barley. Of the second brood the flies appear in September and lay their eggs on fall wheat and fall rye. Wheat, barley and rye are the only known food plants of the Hessian Fly in America, and neither oats nor the grasses are attacked.

The remedies which have given the best results against the autumn brood are late sowing and careful preparation of the land, so as to induce a vigorous growth.

The Western Wheat-stem Sawfly (*Cephus occidentalis,* Riley & Marlatt).—For several years the larva of a wheat-stem sawfly has done some injury to growing wheat at different places in Manitoba and the North-west Territories. It was at first supposed, from the similarity of the attack and from a few reared specimens, that the insect was the European species, *Cephus pygmæus,* L., which had appeared suddenly in injurious numbers at Ithaca, N.Y., in 1889. This attack was treated of at length by Prof. Comstock in Cornell Agricultural College Bulletin No. 11, 1889. The following year the insect disappeared entirely, and nothing has been seen of its work from that time. In previous reports I have referred to this western sawfly as *C. pygmæus,* but recently specimens of our North-western insect have been submitted to Prof. A. D. MacGillivray, of Cornell University, who has identified them as *Cephus occidentalis,* Riley and Marlatt. The insect has been studied by Mr. Norman Criddle, of Aweme, Man., and he has added very materially to our knowledge of the species and its work. He has discovered its native food plants and also that these are far more attractive to it than the wheat plant, which it occasionally infests.

'July 10, Aweme, Man.—I collected several specimens of the Cephus yesterday. They were all resting on *Agropyrum caninum.* So far, I have been unable to find them elsewhere; and, though they are always found rather plentifully around the edges of wheat or indeed anywhere, infesting the above grass, I have very seldom been able to find wheat plants attacked by them. I have not yet been able to get hold of the species which breeds in *Ammophila longifolia;* but I am confident that it will prove to be a distinct species, as the larva is very different, being quite yellow in colour, while that of the Agropyrum species, *C. occidentalis,* is white.'

'July 30.—I found to-day two stalks of wheat infested by Cephus and several stems of *Agropyrum* were found also attacked within a few feet of them. I afterwards hunted over a large area of wheat, but was unable to find another wheat plant which was infested, though any amount of *Agropyrum caninum* was found which had been attacked. In several cases the grass was in the wheat fields. I think, therefore, that the wheat being attacked must be considered an accidental occurrence. At the same time, if the grass failed for any reason to form heads, these insects might possibly develop into a pest of some magnitude.'

'Aug. 4.—Two more stalks of wheat have been found attacked by the Agropyrum Cephus in a place where that plant was rare. I also found it quite numerously yesterday infesting our native quack grass, *Agropyrum glaucum,* R. & S., var. *occidentale,* V. & S.'

'Aug. 6.—Cephus occidentalis has now been found here, feeding in the following grasses: *Agropyrum caninum, A. glaucum,* var. *occidentale,* and *A. tenerum,* and also in rye and wheat, the first named and possibly the second being the native food plants, the others being only occasionally attacked.'—Norman Criddle.

From the above it is evident that several native grasses are more attractive to the Western Wheat-stem Sawfly than is wheat. Some of the above species of grasses are common in almost all parts of the West, and their occurrence may be hoped to protect wheat from serious attack under ordinary circumstances. Should the larvæ, however,

at any time occur in noticeable numbers in a growing crop of wheat, it may be remembered that they pass the winter on the fields in the bases of straws, which they have cut off before spinning the silken cocoons in which they winter over, close to the surface of the ground. The stubbles in fields which have been infested, should, therefore, be burnt over in autumn or spring, or should be ploughed down deeply before the middle of June, so as to make it impossible for the flies to work their way up to the surface. Stubble fields left for summer-fallowing should be turned down early in June; and, should the insect at any time become more destructive than it has in the past, early summer-fallowing should be practised every other year.

THE JOINT WORM (*Isosoma tritici,* Fitch).—Injuries to grain crops in Canada by Joint Worms are seldom complained of; but during the past summer there have been a few outbreaks which have been serious, although restricted as to area. These were in western Ontario and in Prince Edward Island. Mr. T. D. Jarvis, of the Agricultural College, at Guelph, reports that the Joint Worm was abundant and destructive at Guelph. Mr. D. C. Dewhurst also reported it from Cottam in Essex county, and Mr. R. J. Doake from Millbrook, Durham county. Notwithstanding these local occurrences there were few references to Joint Worms in correspondence. In Prince Edward Island the loss from Joint Worms seems to have been more severe. Through the kindness of the Rev. Father Burke I learnt of the occurrence and obtained particulars. The Joint Worm was frequently found in the same fields with the Hessian Fly and the Wheat Midge. The two last, however, were in much smaller numbers than the first.

'Aug. 22, Bayview, P.E.I.—Find inclosed sections of wheat straw with diseased joints. There is considerable damage to wheat in this locality. The disease is always in the top joint. If this increases here, I fear very much for our wheat crop another year.'—WALTER SIMPSON.

'Sep. 17, Darnley, P.E.I.—Herewith I send samples of injured wheat straw. What is the cause of the swollen and bent stem? Many fields are affected with these distorted joints and short straw. Some fields are half gone.'—WILLIAM BASSETT.

'Aug. 22, Park Corners, P.E.I.—I send sample of my wheat. The whole crop was destroyed by some kind of vermin which has also destroyed all wheat about here.'—ALEX. CAMPBELL.

'Nov. 17, Kensington, P.E.I.—I learn by inquiry that the Joint Worm has been troublesome in lots 18 and 19 in Prince county, and on lot 20 in Queen's. There are also a few other places. Where the crop was light, the damage was almost complete. In strong growing grain there was only slight loss.'—JOHN ANDERSON.

'Aug. 14, Malpeque, P.E.I.—I send you samples of wheat which have been affected while growing, by two different enemies. You will notice that some stalks have a swollen joint just below the head, which has turned it at about a right angle to the stalk. I have opened some of these and find small maggots. Another trouble seems to be that the stalk is eaten almost off very near to the base, so that it dies. These two troubles are causing great damage in this vicinity. Some of our wheat fields in this vicinity, especially in Long River and French River, are much injured, so that some farmers are cutting down their grain for feed.'—REV. E. J. RATTEE.

Upon examining these samples, it was found that they were badly attacked by the Joint Worm and also by the Hessian Fly. There were also a few specimens of the red larvæ of the Wheat Midge clustered round the kernels of the wheat in the ear.

Mr. Rattee was informed what the insects were, and it was suggested that the stubble should be ploughed down deeply directly the crop was cut. In his reply, he points out that there would be difficulty in getting farmers to do this because of the prevailing practice of seeding down with a wheat crop, for hay the following year. This, of course, would be a difficulty everywhere; but, as the Joint Worm distorts the stems so that a large number of the hardened joints occur so close to the ground that they are left on the fields with the stubble, it will be found a paying practice even to plough down these new meadows after a single year's growth, rather than to leave them

for hay while there is any risk of allowing the Joint Worm to increase. Moreover, if a few pounds of clover seed are mixed with the grass seed at the time of sowing, the growth of clover will much more than pay for the seed used by the extra fertility thus added to the soil. Mr. Rattee states that the areas specially infested in his district were the western portion of Queen's county and the eastern part of Prince county.

The standard remedies for Joint Worms are deep ploughing or the burning over of stubble before the insects emerge in spring, the destruction of straw and screenings, and a short rotation of crops, with high farming to keep up the fertility of the soil. Prof. F. M. Webster, who has made a special study of the insect enemies of small grains, writes on this subject in Circular No. 66, U. S. Bureau of Entomology, as follows: 'There are no known remedies for Joint Worms; but there are several preventive measures that are not impracticable and are reasonably efficient. The Joint Worm Convention which was held many years ago at Warrenton in Virginia, recommended officially that a better system of farming be adopted, with the use of guano and other fertilizers, to promote a rapid growth and early ripening of the grain, and also the burning of stubble, all of which are as advisable to-day as they were at that time. The most serious ravages are observed on thin or impoverished soils, especially along the margins of the fields infested. Anything, then, that tends to add vigour to the young growing grain, will constitute a preventive measure. Burning the stubble where this is practicable, is, of course, most efficacious; but, over the larger portion of the territory ravaged by this pest, it is customary to seed for grass after wheat, and under this condition burning over the stubble fields is impossible. Such fields should be raked over with an ordinary hay rake and the loosened stubble removed and burned before the adults emerge in spring.'

If the straw can be cut low enough to carry the larva-bearing joints from the field with the crop, the using up of this straw before spring would dispose of the insects in a satisfactory manner. It must not be forgotten that at threshing time many of the broken off hardened pieces of straw become separated and are carried through with the grain or with the rubbish. These, therefore, must be attended to in some way which will destroy the larvæ or prevent them from hatching in the spring. All screenings are far better for feed when crushed, and the larvæ in the refuse might be destroyed by placing this in a cattle yard, where it would be trodden into the sodden earth, or into a fresh manure pile, where the insects would be destroyed by the heat of fermentation or by being saturated with the ammoniacal liquids.

The Wheat Midge (*Diplosis tritici*, Kirby).—In my last year's report I referred to an outbreak of this old enemy of the wheat grower, in the Chilliwack valley of British Columbia. As it was thought possible that the injury might recur this year, a full account of the life history was then given, with a list of the best remedies. During the past summer the Wheat Midge again appeared and was the cause of much loss. Mr. Thomas A. Sharpe, the Superintendent of the Experimental Farm for British Columbia, reports as follows:—

'Agassiz, July 19.—Our spring wheat is badly infested with weevil (= Wheat Midge). Last year it took a large share of Chilliwack spring wheat and some late patches on this side. This year it is taking every one's crop so far as I can hear.'

In 1904 the British Columbia outbreak was the only one reported; but during the season of 1905 I have received reports that the Wheat Midge has been detected at one or two localities in Ontario and in Prince Edward Island. Undoubted specimens were received from the Rev. E. J. Rattee, of Malpeque, P.E.I., and Dr. Charles E. Saunders handed me a specimen found at Ottawa in wheat grown on the Experimental Farm. He further tells me that he found a few of the larvæ last year, when examining hybrid wheats produced in the experimental plots. He also gave me grains of wheat showing the characteristic injury of this insect. In the Ontario Crop Report for August last it is stated that, although all correspondents are silent as to the presence of Hessian Fly, three or four mention injury from either Midge or Joint Worm.

As this minute insect is capable of causing enormous losses in the wheat crop, should it increase in numbers, it seems well to repeat the remedies which have given the best results.

Remedies.—The remedies for the Wheat Midge depend largely upon the way it passes the winter. The methods which have given the best results are as follows:—

(1) Deep ploughing directly the crop is carried, so as to bury the larvæ so deep that the flies cannot work their way out through the soil.

(2) The burning of all chaff, dust or rubbish known as 'screenings' or 'tailings' from beneath the threshing machines, as these contain many of the larvæ which are carried with the crop. If fed to chickens or domestic animals, this should be done in a place where none of the puparia can escape destruction.

(3) Clean farming, including the cutting of all grasses along the edges of fields and the ploughing down of all volunteer crops found in wheat fields before winter sets in, so as to destroy an autumn brood where one exists.

(4) The cultivation of such varieties of wheat as experience has shown are least affected by this insect.

CUTWORMS IN GRAIN.—There have been rather extensive injuries by cutworms in grain fields in some parts of Manitoba and the North-west Territories during 1905. The worst of these were in the Edmonton district and other points in Northern Alberta, and in Northern Manitoba. Very few specimens were sent with these complaints of injury, farmers for the most part failing to see the importance of forwarding samples of what they consider such a well known pest. This, however, is far from being the case, and it would help most materially in many instances toward getting prompt and useful advice if specimens were sent. There are a great many kinds of cutworms, all of which vary somewhat in their habits. The points of value to a specialist when advising farmers how to avoid loss, are the exact identity of the species at work, because the habits, the ordinary food plant, usual time of attaining full growth, when power to do injury to crop ceases, and many other points which bear on the choice of the most practical remedy to be recommended, are already known for many species of cutworms. A glance at specimens of the insects is of far more use than the longest descriptions of the cutworms by those who are not used to describing insects. From such specimens as were sent, it is evident that the greater part of the loss in many different kinds of crops was due to the Red-backed Cutworm (*Paragrotis ochrogaster*, Gn.). This is a very wide-spread species, occurring from Nova Scotia to British Columbia. The caterpillar, when full grown, is nearly two inches long; it is very voracious, and will attack almost all succulent vegetation. It is the species which has been the cause of by far the greater part of the loss in grain fields of the West during recent years.

The following letters, chosen from many received, indicate the nature of the infestation:—

'June 10, Regina.—Cutworms, mostly *P. ochrogaster*, are making havoc in wheat and oat crops up the Edmonton line.'—T. N. WILLING.

'June 12, Edmonton.—I send specimens of worms that have been destroying the grain about a month. They seem to be most destructive on summer-fallow, although they are now working on spring ploughing and new breaking. They have completely destroyed about ten acres of oats and barley for me, and partly destroyed some wheat. They have destroyed grain over a large part of this country, some having lost from one-third to one-half of their crop. They are now crawling over the ground by the thousand and are working on grain that is ten inches high.'—JOHN N. KERR.

'June 12, Winnipeg, Man.—I have just returned from a week's farmers' insitute work in the Swan River and Dauphin districts in Northern Manitoba. At Dauphin a number of the farmers were complaining that considerable damage had been done

to the crops by cutworms. One farmer, Alex. Birrs, of Dauphin, had had about ten acres of his oat field entirely cleaned out by this pest.'—GEO. BATHO.

'June 20, Dauphin, Man.—I have sent by this mail a pill-box containing about ten cutworms gathered from my barley field, together with a few of the stems cut off by them, including a sunflower stem, which was not cut through entirely, but so nearly so that the plant had fallen to the ground. When I last wrote, the cutworms were working in my neighbour's wheat; but on Friday last they appeared in my barley, although half a mile intervenes, which is sown to wheat. These pests are very prevalent in the Dauphin district. I had an idea that their spreading arose from allowing fallows to grow up in weeds. Their appearance in my barley confirms this idea, as my barley field was not ploughed until spring. A part which was fall-ploughed is free of cutworms. I will be glad of your opinion of this matter.'—THOMAS C. ROBSON.

'November 21, Winnipeg, Man.—Cutworms have been noticeable in some districts during the past season. Reports in a few cases indicated that crops of oats and wheat had to be ploughed up; but the extent of the damage from this pest could not be considered in general to be alarming. It is sufficient, however, to show that in future this insect will have to be considered by the agriculturists of Manitoba, and perhaps, in some districts, a system of cultivation, adopted that will tend to retard its reproduction.'—W. J. BLACK.

The poisoned bran remedy for cutworms is so remarkably effective that I cannot understand how it is farmers who suffer year after year from these enemies, do not remember about it and save their crops. On the whole, I know of no remedy for any injurious insect which has given better results. I can only suppose that the reason why it is not more used, is that, owing to the large size of grain fields, added to the fact that the cutworms do their injury at night, farmers do not at first notice them and then give up in despair, thinking that nothing can be done. A noticeable feature in nearly all the letters received was that these outbreaks occurred on land where vegetation had been left standing the autumn before, either in stubble fields or upon so-called summer-fallows which had been allowed to grow up to weeds late in autumn, because it was thought that, as the weeds could not ripen seeds after the last harrowing, they could do no harm. The presence of vegetation on land in autumn, however, attracts the female moths which lay the eggs from which cutworms are produced. Therefore, all summer-fallows should be kept thoroughly clean right up to cold weather in autumn. Another noticeable fact with regard to the habits of the Red-backed Cutworm is its tendency, when occurring in large numbers, to take the habit of the true Army Worm and march from field to field in search of food. This enables farmers who are alert to head off their advance by placing poisoned bait in their way, which they will eat as soon as they reach it and will be killed in large numbers. If bran cannot be conveniently obtained, any kind of coarse vegetation may be used,—lamb's-quarters, grass, or weeds tied in loose bundles—taking as much as can be grasped in the hand at one time for each bundle, and then dipping these into water containing about an ounce of Paris green to 5 gallons of water. These bundles should be placed about six or eight feet apart, in advance of the army of caterpillars. If bran can be obtained, the mixture should be made dry enough to be broadcasted lightly through the grain or in such places where the cutworms are most abundant. The food habits of the Red-backed Cutworm are remarkable and differ in this respect from almost any other insect known to me. Sometimes a horde of these caterpillars will attack by preference some particular kind of plant and leave other things untouched. They have been found to occur in weedy wheat fields and confine their attention entirely to the lamb's-quarters and other weeds. In other places they will attack oats and leave everything else untouched, and, even when an oat field joins a wheat field, they will stop when they reach the wheat and wander on long distances in search of other food. At other places it will be the wheat that is destroyed and oats will escape. From the above, it is plain that some little observation and thought will be of advantage when an attack is noticed, and it may even

be found wise on special occasions to leave a horde of cutworms alone all the time they are confining themselves to weeds, but to watch them carefully and have everything ready to apply the poisoned baits, should they change their taste and turn to the farmer's crops. What I wish to point out to farmers now, is that in outbreaks of cutworms, both in gardens and also in field crops, the poisoned bran is a practical remedy which they will do well to try, over a small space, at any rate, whether they believe in its efficacy or not. I have occasionally met people at farmers' institute meetings who jeered at this remedy and declared that it was of no use. In every instance, however, I have found, upon pressing the matter, that it had never been tried by those who condemned it. In field practice, then, it is plain we have two good remedies for cutworms, first the keeping down of all weeds in the autumn, so that the egg laying female moths may not be attracted to the fields, and the poisoned bran or poisoned bait in spring, when the cutworms are found at work.

GRASSHOPPERS OR LOCUSTS.—The same satisfactory report which was made last year with regard to the injurious occurrence of locusts in Manitoba can be repeated for 1905. The only injuries by these insects which were brought to my notice in 1905, were in Manitoba, and were of a trifling nature. This was probably largely due to the nature of the season in those districts, where in the past they have done so much harm. Mr. W. J. Black, the Deputy Minister of Agriculture for Manitoba, writing on this subject, says: 'That celebrated Manitoba intruder, the grasshopper, was not in evidence during the past year to the same extent as previously. A few farmers in the municipality of South Cypress found it necessary to use Paris green to destroy the insects during the early summer; but, owing no doubt to an abundant rainfall in the season when crops were growing, no serious damage has resulted.

Mr. Norman Criddle, of Aweme, Man., says:—'Locusts are no longer troublesome here. In the Stockton district a strip of wheat on light soil was noticed which had been eaten into for about fifteen feet. This was the only place that I have heard of where any damage was done, and, so far as I could see, no effort had been made to stop their depredations.

THE PEA MOTH (*Semasia nigricana*, Steph.).—The caterpillars of the Pea Moth were abundant in Nova Scotia and New Brunswick, and also in some parts of Quebec province and in northern Ontario. In the past there is no doubt that injury by this insect has been confused with that of the Pea Weevil. This is largely due to the foolish and widespread use of the word 'bug,' for every kind of insect; but in this case I find that it has been the cause of the useless expense and trouble in treating a large number of seed peas for an insect which was nowhere near the seed but was passing the winter safely in the fields where it had destroyed a crop the previous year. The Pea Moth has come much more into prominence during the past two seasons, owing to the almost total absence from our Canadian pea fields of the Pea Weevil (*Bruchus pisorum*, L.). The presence of the Pea Moth in Canada as an enemy of cultivated crops may be said to be a regular occurrence in all the eastern provinces, from the Atlantic seaboard as far as the eastern counties of Ontario. In the province of Ontario, although sometimes widespread and serious outbreaks occur, they are of a very intermittent nature and for many years no injury can be detected in cultivated peas. There is, however, in wild leguminous plants a native insect with a very similar caterpillar, which is widely distributed through most parts of Canada. Although the work of this insect has been detected many times, up to the present the moths have not been reared.

Owing to the importance of the injury by the Pea Moth, I have, when occasion arose, tried experiments to see whether spraying the peas immediately after the pods were formed with a poisoned soap mixture might not be effective in the same way that a similar treatment is for the Codling Moth. The insect occurs so seldom at Ottawa that it is difficult to arrange experiments. Some years ago Mr. J. E. Wetmore,

of Clifton, N.B., kindly carried out for me some experiments which seemed to indicate that this might be a useful remedy; but I regret to say that some careful investigations recently made by Mr. Saxby Blair, at the Experimental Farm at Nappan, Nova Scotia, have not confirmed these good results. The exact history of our American Pea Moth has never yet been traced; but it is to be presumed that the eggs are laid on the young pods as soon as these are formed, and that the caterpillars eat their way into them and attack the forming seeds. It was hoped that, by distributing a thin film of poison over the plants and pods, the young caterpillars would be poisoned when eating their way in. On account of the waxy covering on the surface of all parts of the pea plant, whale-oil soap was added to the poison mixture to make it adhere. For early peas the application was Paris green ¼ lb., whale-oil soap 1 lb., water 40 gallons. The plots were sprayed just after the pods were formed, and one application only was made. The early varieties of peas used were the Alaska, Gradus and American Wonder. The pods were gathered about 10 days after the spraying, and, when the treated and untreated lots of 500 pods each were examined, it was found that there was practically no difference in the amount of infestation, which ranged from 3 to 11 per cent. For late peas, the amount of Paris green was doubled for a second application, that is, these peas received two sprayings, the first on July 20, with the ¼ lb. mixture of Paris green, and the second on July 29, with half a pound. The pods were not gathered until August 17, and the results were no better than in the other experiments. Where the poison was used, 22 per cent of the pods were wormy; and where none was used, there were a few more, i.e., 27 per cent. It is possible that a knowledge of the full life history of this insect may give a suggestion as to a practical remedy, and efforts will be made to obtain these data as soon as possible.

The remedies which have given the best results, are the planting of peas as early as possible and sowing the earliest ripening varieties. For table use any variety which can be grown ready for the table by the first week in July, will be free from attack. As this insect passes the winter as a caterpillar inside a silken cocoon spun in the ground beneath the plant upon the seeds of which it had fed, it is of course advisable to adopt the common sense practise to use land for the new crop as far as possible removed from fields which have been used previously for the cultivation of seed pease. As soon as the crop is picked, all pea vines should at once be burnt so as to destroy small and imperfect pods which frequently contain the larvæ of the moth.

The perfect insect which lays the eggs from which the 'pea worms' hatch is a small gray moth three-eighths of an inch in length when the wings are closed, which is able to fly a considerable distance. A correspondent was good enough to give me the following information which may be of use in working out the complete life history of this insect. Mr. W. E. Taylor, writing from Beaverton, Ont., on Nov. 25, says:

'I wish to ask you about the statement in Bulletin 52, where you recommend to sow pease as far as possible from the previous year's pea field. I sowed my pease this year more than a mile from any other pea field and pease have not been grown near here for three years. The crop was wormy. We have no 'Bug' or true Pea Weevil here, so they were the caterpillars of the Pea moth. The seed was sown about May 20, and it was an early kind, the June or Dan O'Rourke. How did the pest get here? Do the moths lay eggs on the dry pease and gum them over?'

In the above instance the moths must have flown from a distance to lay their eggs. These, as stated above, are laid outside the pea pods, while these latter are green and soft.

FODDER CROPS.

Fodder crops were, on the whole, very satisfactory. Large crops of hay were secured in the west, and the prairies provided good pasture all through the summer. Brome grass and Western Rye grass are being more grown every year. 'Pastures (in

Ontario) were in from fair to good condition during the summer and fall, and this favoured all classes of live stock. Cold, wet weather at time of planting gave corn a set back; but midsummer conditions were so favourable that corn picked up in a wonderful way. Most returns show an average yield.'—C. C. JAMES, *Nov. Crop Bull.*

The same conditions and results as prevailed in Ontario, were also found in Quebec and parts of New Brunswick. For the last named province, generally speaking, the crop of hay was good; some counties cut more than ever before, but a cold, wet spring followed by a long drought was severely felt in some places. The returns from Nova Scotia in all but two or three counties show fodder crops were well above the average. 'We have had a better season for the growth of crops than for several years, that is, if we except apples.' (B. W. Chipman.) In Prince Edward Island 'Hay crops were almost up to the average. Clover and timothy were somewhat light owing to the drought of last year. Hay was saved in good condition. In very few places is corn reported below the average.' (J. C. Readey.) There was no serious loss in fodder crops from insects. Cutworms, as is the case every year, were troublesome in some places early in the season, but the season allowed of gaps being filled by resowing. Near Montreal the Corn Root Maggot was reported in corn fields where germination of the seed had been delayed by cool, dry weather. Clover, although very much attacked by the Clover-seed Midge in Ontario, gave very heavy crops of hay in all the eastern provinces of the Dominion. The Clover Leaf Weevil and the Green Clover Weevil were reported from the Ottawa district, the former for the first time, and the Red-headed Flea-beetle (*Systena frontalis,* Fab.) from Ottawa and Guelph; but no appreciable injury was wrought. Clover Dodder was frequently inquired about from the abundance of the seed in clover seed sold. In one instance a crop of alfalfa at St. Mary's, Ont., was much injured.

THE ROSE CHAFER (*Macrodactylus subspinosus,* Fab.).—This well known enemy of the fruit grower and flower gardener has this year appeared in a new role. Towards the end of June last the Steele, Briggs Seed Co., of Toronto, sent me several specimens of the Rose Chafer beetles, with the surprising statment that they had been taken from a 20-acre field of fodder corn, growing near Priceville, Ont., which they had been attacking for two days. The corn at the time was about eight inches high, and growing very thriftily. There was no appearance whatever of any trouble four days before the letter was written; but the beetles appeared in vast numbers on June 26, and covered about two-thirds of the field, averaging about twenty insects to a plant, and began to devour the leaves. Naturally a remedy was asked for as soon as possible, as it was claimed that no one there knew the insect or had ever seen anything like it before on corn. It was suggested to the owners, Messrs. S. Price & Sons, of Toronto, to spray the fields at once with a whale-oil soap solution of one pound of soap in five gallons of water, this application having been found very effective against the Rose Chafer by Prof. Webster, in Indiana, the spray killing every beetle it fell upon. It was also suggested to dust the crop with a mixture of one pound of Paris green in 20 pounds of freshly slaked lime. Fortunately, the visitation was of very short duration, and the crop subsequently outgrew all traces of the injury. Messrs. Price & Sons wrote with regard to this outbreak on July 19, as follows: 'We are glad to say that the Rose Chafers which were injuring our corn field a few weeks ago, have all gone. They all went inside of 24 hours after we had written to you. They stayed with us for three days and did considerable injury; but the corn now seems to have outgrown it, and to be all right. They all flew away before we had a chance to spray them.'

ROOTS AND VEGETABLES.

Root crops in most parts of the Dominion gave heavy returns. Potatoes in Ontario and in parts of Manitoba were materially reduced by the Potato Rot. Turnips were,

generally speaking, poor and far less satisfactory than mangels. The Turnip Aphis was reported as in greater numbers in western Ontario than for many years. In the eastern counties of the province the reverse of this was the case. Cutworms did some harm and the Turnip Flea-beetle was stated to be very destructive in Pictou county, N.S. The Colorado Potato Beetle was less destructive than usual in the Maritime Provinces, but was mentioned as unusually abundant in Manitoba. Mr. W. J. Black, of Winnipeg, writes:—'The Potato Beetle has this year been much more in evidence than ever before; and, in many cases, those who have not been previously familiar with this insect and its method of destroying the potato plant, have had their crops literally consumed before they were aware of what was taking place. The greatest damage from this pest has been in the Red River valley; but it would appear that it is gradually working its way westward. It was noticeable as far west as Portage la Prairie; but at Brandon it has not yet become destructive. Cutworms, chiefly the Red-backed Cutworm, did much injury at several places, in gardens as well as in fields. Where attended to promptly with the poisoned bran remedy satisfactory results were invariably secured. Two new pests of cultivated plants were reported from Manitoba by Mr. Norman Criddle. The Knot-weed Beetle (*Gastroidea polygoni,* L.) did considerable harm to rhubarb by eating holes in the leaves, and *Galeruca externa,* Say, a chrysomelid which feeds naturally on *Lepidium apetalum,* an indigenous member of the cress family, turned its attention to cabbages and turnips.

The Stalk Borer (*Papaipema nitela,* Gn.).—In the past all references to injury by stalk borers in potatoes, corn and other crops in Canada have been for the most part attributed to the caterpillars of the Stalk Borer (*Papaipema nitela,* Gn.), sometimes referred to as the Potato Stalk Borer. At Ottawa many years ago I found that nearly all injuries by stalk borers to plants in vegetable and flower gardens were by the Burdock Borer (*Papaipema cataphracta,* Grt), and I could find no specimens of *P. nitela* in collections, which had been reared from cultivated plants in Canada. During the past summer, however, *P. nitela* was very abundant and destructive in the western counties of Ontario and in the State of Michigan. Through the kindness of Professor Lochhead, I learnt of localities where I could obtain specimens for study. Mr. G. W. Riseborough, of Fargo, Ont., helped me very much in this investigation and kindly sent me several consignments of the caterpillars and the plants they were attacking, as well as some parasites which he had found with the larvæ. Although, on the whole, this abundant occurrence of the Stalk Borer in Ontario had little effect on the crops attacked, it was very interesting and worthy of record.

'Fargo, Ont., July 3.—I was examining to-day some of my corn fields and find that the borer has left them very thin in some places. The injury is more noticeable in corn than in other plants, because the top fades quickly. I have found several other fields besides my own affected by this insect. The good corn weather which we have had recently, has pushed the plants on so fast that the effects of the borer are not nearly so apparent now as they were, and, apart from one or two pieces, the damage does not seem to be very great. Many other plants were affected in this neighbourhood besides the corn. I have found the caterpillars in potatoes, tomatoes, Canada Thistle, elder, lamb's-quarters, garden beans, ragweed and a few kinds of garden flowers.'

'July 7.—I was looking at 30 large tomato plants to-day which are just beginning to blossom, and I find 8 of them with borers in them.'

'July 13.—I found a worm yesterday just beginning to bore into a pigweed stem. When discovered, only his head was buried. In fifteen minutes he had buried in his whole length. I was surprised, too, to find a plant of sweet clover which as you know has a very tough stem, with three holes in it and two worms. They cleaned out the centre of the stem for about two feet. The early potatoes, tomatoes and most flowers and weeds do not show the effect of the borers so quickly as the corn does, because they do not fade so easily. The corn in this section never grew more quickly than during

the last two weeks. The effects of the worm are not so noticeable as they were a little while ago.'—G. W. RISEBOROUGH.

'Mount Brydges, Ont., June 30.—I send you specimens of a grub which is playing havoc with the potato and the tomato crop. They bore into the stalk and eat the heart out. I have taken dozens of them out of potato and tomato plants and of course the plant is done when the trouble is noticed.'—W. B. DUNN.

It is very seldom that a remedy is required for stalk borers in Canada. The number of specimens which occur in any one locality is, as a rule, small, and no remedies need to be applied. Whenever an injured plant is noticed, the borer should be sought for and destroyed; but I know of no treatment by which their outbreaks could be prevented. The presence of the larvæ in many kinds of weeds points to the advantage of keeping down all such useless and unnecessary vegetation.

THE CORN WORM (*Heliothis obscura*, Fab., =*H. armiger*, Hbn.).—This insect which always occurs in Canada in an irregular manner did no harm in the eastern provinces and in Ontario, but for the first time was complained of from Manitoba. The species was known to occur in the prairie provinces from moths which had been collected, but up to the present so little sweet corn has been grown for table use that no one had noticed its injury before this year. The first mention came to me through the *Nor-west Farmer*, early in September. The samples sent were grown by Mr. Neil Bayne, at Pipestone, Man., who sent several ears injured in the ordinary way, and also some of the caterpillars at work in them. Both the green and the brown colour varieties were represented. The brown were stated to have been much more abundant in the early ears of corn, to which they had done a great deal of damage. The attack came to an end about September 20.

Under date September 11, Mr. W. C. Hall, wrote from Headingly, Man.:—'I send an ear of sweet corn (Cory) and shall be obliged if you can let me know what grub this is, which is infesting a great part of the corn this year for the first time. Many ears are destroyed, the injury begins at the top.'

The most westerly occurrence was at Fairy Hill, Sask., from which place Mr. Robert Mollard writes: 'Sept. 4.—Inclosed you will find a cob of corn eaten by a grub, which is also in its place in the cob. This is the first year I ever saw corn affected in this way, and most of the cobs are similarly affected.'

It is only recently that the farmers on our prairies have discovered that they can grow excellent sweet corn for table use, and it will be most unfortunate if this troublesome pest should develop in such numbers as to induce growers to give up the culture of such a popular and wholesome vegetable.

The remedies which have been recommended, are the hand-picking and destruction of the caterpillars as soon as their presence is detected by the premature discoloration of the silk. It is also claimed that many moths may be taken at night in lantern traps consisting of a lighted lantern placed in an open pan containing water with a little coal oil on the top of it. When a crop is known to have been attacked by the Corn Worm, the old stems should be removed from the field as soon as the crop is gathered, and the land ploughed deeply in autumn so as to break up the cocoons and expose the pupæ to the weather and their various enemies among the small birds and mammals.

THE VARIEGATED CUTWORM (*Peridroma saucia*, Hbn.).—In 1900 this large and late occurring species of cutworm did a great deal of harm to all kinds of vegetation on the Pacific coast, extending from Northern British Columbia as far south as Oregon. Very little injury has been recorded against it since that time; but during the past summer the caterpillars were found in noticeable numbers at several places in British Columbia, reports having been received from Mr. J. W. Cockle, of Kaslo, Mr. W. A. Dashwood-Jones, of New Westminster, Mr. R. V. Harvey, of Vancouver, and from Mr. J. R. Anderson, the Deputy Minister of Agriculture of British Columbia, who writes under date July 26:—'I regret to say that *Peridroma saucia* is again bad this year,

not as numerous as in 1900, nor, as far as I can make out, so widely distributed. It is sufficiently bad, however, to induce me to send out the emergency bulletin, of which I send you a copy. It is remarkable how soon people forget what has been told them, and I have constant applications for information as to the best remedy. I am again recommending the Paris green and bran which did such excellent work in the last outbreak.'

Mr. T. N. Willing, of Regina, N.W.T., in reporting on the injurious insects of the year, states that the larvæ of this moth were very abundant during August at Regina, and he sent several of the moths, which he had reared from caterpillars in gardens at Regina.

The comparative abundance of the species in British Columbia should be turned to advantage by gardeners in that province to prepare themselves before next season with materials for poisoning the caterpillars, should they appear again in numbers next summer. If this is done there should be no great loss.

The Turnip and Cabbage Aphis (*Aphis brassicæ*, L.).—Reports relating to the Turnip Aphis from our own correspondents during the past summer were very few; but it is stated by Prof. James in his November Crop Bulletin as follows:—'The aphis popularly known as the turnip louse appeared in greater force (in Ontario) than for years and hindered the development of the bulbs, which several correspondents describe as being rather small and rooty. The cabbage worm or an insect resembling it also attacks the plant in different parts of the province. Favourable reports regarding the crop were rare.'

'Manilla, Ont., Dec. 1.—I started on an institute trip at Shelburne, Grey county, Ont., and came south and east. We heard great complaints about the Turnip Aphis destroying the turnip crop west of Toronto, but not much damage appeared to have been done east of that city. The early sown fields suffered most, and, so far as I could learn, those fields that were sown after June 20 appeared to be almost free from aphis. I have made it a point to sow my turnips for many years past from June 20 to 22, and we have never had any serious trouble with the aphis. Sometimes we could find a few plants in a place with some on, but not enough to injure even those to any great extent.'—Hy. Glendinning.

There were also restricted but very serious outbreaks in some parts of British Columbia.

'St. Mary's Creek, Gang Ranch, B.C., June 12.—Kindly give me a cure for the lice that settle on cabbages and turnips, completely destroying them. They accumulate by millions. Last season was our first experience. They completely destroyed our whole cabbage plot. I have been in this country 47 years but I never saw them before.' —W. W. Wycott.

'Monte Creek, B.C., Aug. 16.—I send you a few leaves of Swede turnips covered with a pest which has spread terribly quickly and is now going from the turnips to the cabbages. Last year we had some of these, but they were not nearly as bad. It would seem as if the very hot weather and scarcity of water for irrigating is favourable to their increase.'—Hewitt Bostock.

'Cash Creek, B.C., Sept. 23.—I send specimens of a pest which destroyed my turnip crop last year and threatens them again this. Kindly give me the name and some remedy if you know one. If there is none, we must give up trying to grow turnips.'—C. A. Semlin.

Reports of injury by this insect to rape came from Mr. George Wright, of Elora, Ont., and from Ottawa. Dr. Hamilton, of Mahone Bay, N.S., writes of its injuries in his locality as follows:—

'The turnip aphis was abnormally abundant this year, specially on cabbage. I heard of patches in which nearly every plant was affected. We have these insects in some numbers every year, but it is only at intervals and in special localities that the damage is very severe. Perhaps to this is due the fact that hardly anybody here seems

to know of or apply the proper aphis-destroying mixtures which answer well for this as for other species.'

The Turnip Aphis and Cabbage Aphis are the same species. It was probably imported from Europe many years ago and is now a pest right across the continent. In British Columbia it is as a rule much more destructive to early cabbages and cauliflowers in gardens than is the case in the East, where its chief depredations are in turnip fields.

The remedies which have given the best results are the prompt spraying of the first colonies of the season as soon as they appear, with kerosene emulsion or whale-oil soap solution. Of great importance as a means of destroying large numbers of the eggs or of the plant-lice which may possibly winter over as such in Canada (they certainly do so in some parts in the egg condition) is the ploughing down deeply, the feeding off, or the removal from the fields of all leaves of turnips and cabbages as well as remnants of those crops.

The Red Turnip Beetle (*Entomoscelis adonidis*, Fab.).—The usual accounts of slight injury to cabbages and turnips have come in from points in the North-west Territories and Manitoba. Mr. Norman Criddle reports the beetles as rather common at Aweme, Man., on radishes in gardens and on a native food plant, *Erysimum parviflorum*, on the open prairie. For the first time, however, injury by these insects has been reported from British Columbia, from Mr. H. E. Church, of Hanceville, and Mr. C. H. Norris, of Hazleton. The latter writes that it had given great trouble attacking turnips, cabbages, &c., and was worst on young turnips of which it stripped the leaves clean, leaving only the ribs. Specimens were even sent from Dawson, Yukon Territory, by Mr. W. J. Reynolds, who said that they had destroyed cabbages entirely, eating them right down to the stump, and were at the time of writing, July 26, eating the turnips to rags.

Any of the ordinary arsenical poisons for leaf-eating beetles have proved effective against the Red Turnip Beetle. It has been found that dry mixtures are more convenient for use on cabbages and smooth-leaved turnips, owing to their waxy covering. Should it be more convenient to use liquid mixtures, these can be made to remain on the surface of the leaves by adding about a pound of soap to every ten or fifteen gallons of wash.

The Carrot Rust-Fly (*Psila rosæ*, Fab.).—It is some years since we have had a severe attack of Carrot Rust-fly as far east as Ottawa; but early last summer several occurrences were brought to my notice around Ottawa. Some of these were only slight attacks, but in other cases whole crops were destroyed. Strange to say, although so severe in early carrots, there was no appearance of injury when the roots were dug in the autumn. In Nova Scotia and New Brunswick this is a much more troublesome pest of the market gardener than it is further to the west; but even there it is intermittent in its attacks. Dr. C. A. Hamilton writes that in 1902 and 1903 one-half to three-quarters of his carrots at Mahone Bay, N.S., were destroyed by it. In 1904 and 1905 he did not see a single damaged root, although the carrots were sown in the same garden. Notwithstanding this immunity in his garden in 1904, several of his neighbours suffered severely. During 1905 there was practically no injury.

The treatment which has given good results in preventing injury by the Carrot Rust-fly, is to sow as late as possible and when thinning out carrots, to do this late in the day and then spray the rows at once with a deterrent wash such as kerosene emulsion or a carbolic wash. The time when most injury is done is in June and July, so that two or three sprayings, a week apart, will generally protect the crop from injury in ordinary years. Should maggots be found in stored carrots, the sand in which these roots have been kept for the winter should in spring be treated in some way that will insure the destruction of the puparia or will at any rate prevent the emergence of the flies. This may be done either by burying it in a deep hole or by throwing it into a pond or into a barnyard, where it will be thoroughly trampled by stock.

THE DIAMOND-BACK MOTH (*Plutella maculipennis*, Curtis).—The small active caterpillars of this moth were abundant and destructive in many places during 1905. They did considerable harm in rape fields and on Swede turnips and cabbages, and occurred at various places from Nova Scotia to British Columbia. I have no record of widespread or very serious damage in the East, but there is every indication that, if the summer had been a hot and dry one, the loss would have been very great. As it was, the frequent and copious rains in those places where the outbreaks occurred, enabled the plants to make such vigorous growth that the attacks of the caterpillars were of small moment. It is well known that moisture and continued damp weather are detrimental to this insect. Dr. C. A. Hamilton found the species very abundant for several miles round Mahone Bay, N.S. It also occurred in Prince Edward Island, at Youghall, near Bathurst, N.B., at Ottawa, and at several places in Manitoba, the North-west Territories and British Columbia.

The remedies for this insect are dusting the plants infested with a dry Paris green mixture consisting of one pound of Paris green in twenty-five of lime or wood ashes, or spraying them with kerosene emulsion or a whale-oil soap solution. To allow of the mixture being thrown well up under the leaves such a convenient implement as has been given to me by Mr. Geo. E. Fisher, of Freeman, Ont., should be used. This consists simply of a short length of metal pipe bent in the middle to the required angle and having the nozzle attached to one end. As a supplementary treatment inducing a vigorous growth, light dressings of some quick acting fertilizer such as nitrate of soda, hoed in round the roots of the plant, are of great advantage.

THE CUCUMBER AND POTATO FLEA-BEETLE (*Epitrix cucumeris*, Harr.).—A serious enemy to potatoes, but one which is frequently overlooked, is the so-called Cucumber Flea-beetle. This minute dusky-black hopping beetle, about one-twelfth of an inch in length, appears early in spring and again about the beginning of August, and sometimes in such numbers that it becomes a serious check to potatoes, tomatoes and all kinds of cucurbits or members of the Gourd family. A remarkable outbreak of this beetle occurred in Nova Scotia last August.

'Mahone Bay, N.S., August 14.—We have the Cucumber Flea-beetle here on potatoes more or less plentifully every year especially in June; this spring, however, I thought they were not as abundant as usual. On August 3 I looked over my potatoes for the Colorado Potato Beetle and do not remember seeing any flea-beetles at all. On August 5 one side of the patch was simply alive with them, and by the next day they had spread over the whole patch. I partly counted and partly calculated the number and found them to average about 800 to each plant. By the 9th they had destroyed between a quarter and a half of the leaf surface of the side of the patch first attacked. That afternoon I gave them a dose of poisoned Bordeaux mixture. On the 11th they had practically disappeared. A neighbour's potatoes about 150 yards away were nearly as badly infested as my own. I have an idea that the poisoned Bordeaux mixture may act rather by driving the beetles to adjacent vegetation than by killing them. After they left the potatoes they turned their attention to cucumbers, beans, pumpkins, squashes and tomatoes which were badly eaten. On account of this troublesome pest it is almost impossible, without the most careful attention, to raise tomatoes here from seed sown in the open, because they sweep away the young plants as soon as they appear above the ground.'—C. A. HAMILTON.

The efficacy of the poisoned Bordeaux mixture for this insect was discovered by Prof. L. R. Jones, of Vermont, in his very thorough experiments with Bordeaux mixture against the Potato Rot. It is probable that the copper sulphate in this composition does have much effect in rendering the foliage distasteful to the beetles; but there is also little doubt that great numbers of the beetles eat the foliage and are poisoned. This useful remedy is suitable for application to all of the plants mentioned above and is also useful upon them in preventing fungous diseases which regularly attack them.

THE SUGAR BEET WEBWORM (*Loxostege sticticalis,* L.).—In my report for 1903 I referred to an outbreak of the Sugar Beet Webworm in the West and treated it at some length, so that in case of a future outbreak those who are now turning so much attention to the cultivation of the sugar beet in the Cardston district of Alberta, might be prepared. During the past autumn I received an account of a local occurrence in that district. Mr. J. B. Merrill, who is a most progressive farmer and fruit grower at Magrath, Alta., writes on August 25:—'I send you by this mail specimens of worms which are destroying our beet crops here at an alarming rate. I take them to be the Sugar Beet Webworm of your 1903 report. What had we better do to control them? We are spraying them with Paris green now, but the beets are stripped of their leaves. Do you think that they will survive the attack and be of any use?'

Mr. Merrill was written that he had applied the right remedy and that the plants would certainly revive, but would be injured to the extent that the leaves had been destroyed, and that, although the roots would be reduced in size, they would probably still give a paying crop. That this proved to be the case is shown by a later letter from Mr. Merrill:—

'Magrath, Alta., Nov. 3.—I have to day delivered the last load of my beets on the cars, so am now in a position to answer your questions. I had a very good stand of beets on my 17 acres. Towards the end of August, after a three days' absence, I was surprised to find the plants covered with worms. Part of the field had been irrigated. Here the plants were not as badly affected as where they had no water. These latter were swept clean, but they afterwards started a new growth of leaves, and from this part of the field I harvested only four tons to the acre; but the watered beets yielded 13 tons to the acre. When ploughing up the beets, we found enormous numbers of the worms about two inches under the surface of the soil. These we hope to destroy by winter cultivation. I think that the moths must have come from an adjoining lucerne patch.'

THE SPINED RUSTIC (*Barathra occidentata,* Grt.).—During the month of July a great many different kinds of plants in gardens were attacked at Ottawa by large, smooth, cutworm-like caterpillars, which were at first greenish in colour, having the body divided into two equal areas above and below the spiracles. The upper of these areas, or the back of the caterpillar, was darker by reason of some black patches, and the under side of the body was of a yellowish hue. These rather inconspicuously marked caterpillars were largely nocturnal in habit, coming out at night and feeding singly on nearly all kinds of vegetation, but being particularly destructive to the seed pods of larkspurs and to the foliage of the bleeding-heart (*Dielytra spectabilis*). In the vegetable garden, spinach and cabbages were most attacked. After the last moult, about the middle of July, these caterpillars were much more conspicuously marked, presenting a handsome Mamestra-like appearance, with three lines down the back and with each segment ornamented with large velvety black patches; the head is honey-coloured and mottled. When full grown these caterpillars are very voracious. They are about two inches in length, cylindrical in shape like cutworms and attain a diameter of nearly $\frac{1}{4}$ of an inch. There is great variation in their colours, some specimens appearing to be almost black while others have a dark olive green aspect; but all specimens show a distinct band along the sides below the spiracles, which is clear yellow in colour, marked centrally with red. These caterpillars were the progeny of a noctuid moth which up to the present time has been a very rare species in all collections of insects. It has been identified for me by Dr. J. B. Smith, as *Barathra occidentata,* Grt., an insect which is so rare that the only two specimens I had ever seen were two reared by Mr. Guignard from larvæ which he had found upon larkspurs in his garden in 1898. Mr. C. H. Young, of Ottawa, an energetic collector of moths, also took a single specimen on June 6 of the same year, and another one the following year on

June 19. During last summer, while collecting moths at Ottawa, we found that this species was well represented among captures which we made during the month of June around electric lights; and several more specimens were collected hiding away in dark corners of offices and out-buildings. A few weeks later than this, caterpillars were found in great abundance out of doors on various kinds of plants. These we were able to identify by comparing them with specimens which we had reared from eggs laid by captured females. We were fortunate enough to work out the whole life history of the species. There is only one brood in the year, the eggs being laid in June and July and the caterpillars feeding through July and into August. When full grown they bury a few inches beneath the surface of the ground and change to shining brown chrysalids, from which the moths do not emerge until the following June. The moth is a handsome insect, expanding over an inch and a half when the wings are open. The upper wings are a dark silvery gray, so thickly checkered and marked with waved blackish lines as almost to hide the ground colour; hind wings silvery gray clouded with fuscous on the outer half. Near the end of the upper wings is a waved white line. The outer or kidney-shaped of the two marks which are characteristic of noctuid moths, is margined with black and is boldly marked with white; but the other, the orbicular, is hardly perceptible from the other marks of the wings. On each of the upper wings are three rather large suffused pale, bronzy areas, one close to the base, and the other two towards the upper and lower angles. The upper of these lies beyond the kidney-shaped mark and just inside the waved white line which runs down inside the outer margin. The thorax and abdomen are crested and of the same colour as the general tone of the wings. The genus *Barathra* to which this moth belongs, is easily distinguished from its near relatives by the presence of a long curved claw on the outer side of the tibiæ of the front pair of legs.

Not only did this insect occur in abundance at Ottawa, but specimens were sent from Mahone Bay, N.S., where my energetic correspondent, Dr. C. A. Hamilton, makes many very valuable observations for me. Dr. Hamilton found the caterpillars when they were quite small, upon cabbages, turnips, cauliflowers, corn and sweet pease. They were, at the time he first wrote, July 23, quite small, and were of the green colour which characterizes the first stages. Like the larvæ of many other noctuids, while very young, they resemble in shape and manner of moving those of the geometer moths. Dr. Hamilton writes:—'Aug. 11.—I am sending you some more of the caterpillars which I find on my cabbages and cauliflowers. I have also found them on sweet peas and on one small patch of Kohlrabi. I also send a few from corn. I have examined nearly all the patches of these vegetables about this village and from one to six miles out in various directions, and have found them present in all but a few cases. The damage, on the whole, is not very great, the worst perhaps being in a small patch of cabbage in which I counted 14 out of 70 plants, so badly eaten as to be worthless. A few other patches were nearly as badly injured, but most had only from one to five per cent noticeably affected. Turnips were infested to about the same extent. Cauliflowers are not much grown here, but I saw many plants almost ruined. The attacks were confined almost entirely to the cultivated Cruciferæ. Fresh batches of young were being hatched from the egg until up to about August 1.'

Moths of this species were taken at Lévis, Que., by the Rev. Dr. Fyles, and I found the caterpillars in great numbers stripping a patch of cabbages in the garden of Mr. W. McKirdy, at Nepigon, Ont., on August 21. These were very much later than at Ottawa, where most of the larvæ had attained full growth two or three weeks sooner.

As a remedy for this insect, almost any of the ordinary applications for leaf-eating insects would answer; but I found them less susceptible than I supposed would be the case, to an application of pyrethrum insect powder. There is, of course, the possibility that the powder may not have been good; but it did not kill the caterpillars as quickly as is the case of most other similar caterpillars upon which I have tried it. The poisoned bran mash answered well at Ottawa.

FRUIT CROPS.

The fruit crops from one cause or another were somewhat irregular, except in British Columbia, where they were well up to the average and of high quality.

In Ontario, although a good crop of apples was marketed, there were districts where they were poor. This was thought to be largely due to the severe winter of 1903-4, followed by the very heavy crop of last year, followed again by the hard winter of 1904-5. Apples in the Ottawa district, where the orchards had been sprayed, were of high quality and abundant. Heavy wind storms in October reduced the yields of first-class fruit to some extent.

The St. Lawrence and Ottawa valleys and the Eastern Townships of Quebec gave good crops of autumn and early winter apples, but very light crops of winter varieties.

Mr. A. McNeill, Chief of the Fruit Division of the Department of Agriculture, in summing up the apple crop for the year says:—'The Dominion, as a whole, will produce about one-third as many apples as last year. The fruit will be freer from scab, but somewhat more injured by Codling Moth. The favourable weather of autumn allowed the numerically small crop of apples on the trees to fill up better than usual; and, although the apples are on the whole rather small, they are clean and of good quality, and probably the final result will give average paying returns to the growers.'

The apple crop in Nova Scotia is reported as being below the average on account of a heavy frost in June, which injured the blossoms; nevertheless, it is estimated that there were probably four hundred thousand barrels for export and the local market, worth at current prices close to one million dollars.

Mr. S. C. Parker, Secretary of the Fruit Growers' Association of Nova Scotia, reports on the crops of the celebrated Annapolis Valley, N.S.—'Apples: crop fair, probably 75 per cent of average, quality varying from good to very poor; fungi quite bad although thorough spraying gave some clean orchards. The pear crop was large, but of rather poor quality. Plums and small fruits gave good crops. A severe frost on June 6 did much injury to blossoms, and perhaps easterly winds and dull weather during the blossoming period did more. Early fall frosts injured the cranberry crop somewhat. A sharp freeze on October 26 ruined many hundred barrels of unpicked apples. Season was very favourable except for one or two frosts.'

Losses from the attacks of injurious insects were less than usual in all parts of the Dominion, owing to the much greater attention which is now being given by fruit-growers to spraying and other advanced methods of orchard management. Peaches in the Niagara district and in British Columbia, where grown, were a heavy crop. Much the same may be said of pears and plums. Plum rot and curculio are mentioned in Northern Ontario reports. The grape crop of Ontario was heavy, and as there were no killing frosts till very late, the fruit ripened well.

Small fruits almost everywhere gave fairly good crops. The insects which were oftenest mentioned as injuring fruit crops were the San José Scale, the Codling Moth, the Apple Woolly Aphis, which has been more abundant than for many years, the Apple Aphis, the Oyster-shell Scale, and the Cherry Slug. The Apple Maggot mentioned in my last report as present at Como, Que., was this year much more prevalent in that locality, and a special effort was made to apprise the fruit growers of the best remedial measures and the danger of neglecting to attend to the matter at once.

Notwithstanding the magnificent crop of fruit gathered in British Columbia, there was considerable injury done by regularly occurring insect pests. The Woolly Apple Aphis and the Green Apple Aphis were very abundant in some places and did noticeable injury. According to Mr. R. M. Palmer, who has excellent opportunities for examining the crops throughout the province, the Eye-spotted Bud-moth has been worse than for many years in the Victoria district. The injury of this caterpillar was also much augmented by a late frost in May. Mr. Thos. Cunningham, the In-

spector of Fruit Pests, reports the Lesser Apple Worm as abundant and destructive at Kamloops and Trail.

THE SAN JOSÉ SCALE (*Aspidiotus perniciosus,* Comstock).—Much has been written recently in newspapers and magazines on the San José Scale injury in Ontario, but there is, as a matter of fact, little change in the condition of our orchards in Ontario since last year. This in itself is not satisfactory, because, where careful commercial growers have attended to their orchards properly, and have used the recommended remedy, good clean crops have been harvested. There are, however, a great many small growers and private individuals who do nothing at all against the scale, and consequently it holds its own. The Federal Government still maintains at considerable expenditure fumigation stations, by which any danger of the introduction of infested stock is prevented. The Provincial Government of Ontario and the leading nurserymen are making every effort to avoid the distribution of infested nursery stock, and, if a greater effort were put forth by all concerned, this dire enemy of the fruit grower could certainly be reduced very much in numbers.

I regret to have to state that I have this year received specimens of the San José Scale from two localities in British Columbia. The attention of the Provincial Government has been drawn to the matter, and the few trees which are infested in both cases will be destroyed before another season opens. The first of these was discovered by Mr. J. W. Cockle, of Kaslo, B.C., a keen entomologist and one therefore well able to detect the enemy and give advice to the owner of the trees. It is satisfactory to find that in both of these cases the trees have been planted for a long time and date back previous to the enforcement of the San José Scale Act and the establishment of the fumigating stations.

For the San José Scale more careful treatment and persistent effort is necessary than for many other insects the fruit grower has to deal with. The standard remedy is the lime and sulphur wash which has so often been mentioned in these reports and for the making of which and instructions in its application, necessary information will be given to any one who applies for them. Prof. J. B. Smith of New Jersey recommends very highly two recently sent out proprietary mixtures : Kil-o-scale and Scalecide, which have given good results with him. They are petroleum preparations which have been prepared largely under Dr. Smith's supervision.

THE CODLING MOTH (*Carpocapsa pomonella,* L.).—The Codling Moth, which on the whole, perhaps, is the worst enemy of the fruit grower, has levied a heavy toll as usual in unsprayed orchards; but, wherever thorough work has been done in spraying regularly with the poisoned Bordeaux mixture, good results have almost invariably followed. In every part of eastern Canada where apples are grown, reports speak of injury by this insect and, as is pointed out by the Rev. Father Burke, possibly the comparative scarcity of fruit this season makes the injury by the Codling Moth seem more apparent. There is now not the slightest doubt that in all parts of Canada east of Toronto spraying orchards regularly with poisoned Bordeaux mixture, three or four times in spring, the first application to be made within a day or two after the blossoms fall and the subsequent sprayings, each ten days apart, is a satisfactory and well paying remedy for the Codling Moth. A striking instance of the value of regular spraying, year after year, was this year to be seen in the orchard of the Central Experimental Farm at Ottawa, where not an apple injured by the Codling Moth was to be found, whereas, on the other hand, in orchards just close by, where no spraying had been done, more than half the crop of apples was destroyed, also in the Botanic Garden, which lies about half a mile on the opposite side of the orchard, in the collection of wild apples and crabs, the fruit was severely infested. These it had not been considered worth while to spray, as the trees are merely grown for ornament.

The Codling Moth is normally single brooded at Ottawa and the double brooded habit of the species is not general east of Toronto. In 1905 I had an opportunity of

rearing a considerable number of the larvæ and was much surprised to find that some of these after spinning their cocoons changed at once to pupæ and gave forth the moths soon afterwards. These, however, formed only a small percentage of the whole, for by far the larger number remained in the larval state and will not pupate until next spring. The above larvæ were full grown and began to spin up July 25, and I am of the opinion that not only at Ottawa, but at some other places in eastern Canada where a partial second brood was this year noticed, this premature development of the moths was due to about a fortnight of excessively and exceptionally hot weather in July as they were nearing full growth.

West of Toronto, in addition to regular spraying, banding the trees with burlap bands to catch the larvæ of the first brood when they spin up is necessary.

It has long been a matter of wonder that the Codling Moth, which is so abundant in the States of Oregon and Washington, should not have established itself as an injurious fruit pest in British Columbian orchards. Although carefully sought for, no instance of apples infested by this insect have been detected until the present season. An insect which causes a somewhat similar injury, the Lesser Apple Worm [*Enarmonia* (Grapholitha) *prunivora*, Walsh] has frequently in the past been mistaken for the Codling Moth in British Columbia; but, with the exception of a single specimen of the moth sent to me by the Rev. J. H. Keen, from Metlakatla, B.C., where no apples are grown, and which he had found in his house, I have never been able to learn of the occurrence of this insect in British Columbia until Mr. J. W. Cockle, of Kaslo, B.C., sent me this autumn an undoubted specimen of the Codling Moth, which he had reared from infested apples growing in an orchard at Kaslo. It is deeply to be regretted that this insect has found a foothold in British Columbia, although this at some time was almost inevitable, from its abundance in orchards to the south. It is well for the province that Mr. Cockle, being a trained entomologist, should have been able to detect both this insect and the San José Scale before they had spread further. The matter has been brought to the attention of the Provincial Government and it is their intention to deal with both of these occurrences before another season opens.

The Woolly Aphis of the Apple (*Schizoneura lanigera*, Hausmann).—An insect which has been strikingly more abundant during 1905 than it has been for many years, is the Woolly Aphis of the Apple. This has been noticed all through Ontario and Quebec, and Mr. R. M. Palmer tells me that it has been more destructive in British Columbia than for many years. The injury by the Woolly Aphis is sometimes very severe in the United States, particularly by the root-inhabiting form of the species; but it has never been a very serious pest in Canada; even in British Columbia, where it is regularly much more abundant than in the East, it is less destructive than the Apple Aphis and some other well known enemies of the fruit grower. The eradication of this pest when it has established itself upon the roots of apple trees in an orchard, is a difficult matter. The methods which are usually adopted, are the uncovering of the roots and pouring in hot water almost at the boiling point, or the injection into the soil of bisulphide of carbon. Another method which has been highly praised, is digging in tobacco dust around the roots. This material can be purchased, it is claimed, from cigar factories at a reasonable amount, and, when this does not exceed one cent per pound, the tobacco is worth fully that price as a fertilizer. The form which occurs in Canada most widely, is that which may be seen during the summer and autumn gathered together in white woolly clusters on the shoots from the base of the trunks of neglected trees and upon the branches, where they cause swellings in the bark by sucking the sap and at the same time poisoning the tissues. In the vicinity of Ottawa the wild hawthorns were even more seriously attacked than apple trees in orchards, although some of these latter were so infested that one correspondent spoke of them as presenting the appearance of having been whitewashed.

The remedies for the form which occurs on the branches, are the same as are used for ordinary plant-lice; but, as these are protected by a waxy covering, it is well to

apply the liquid with considerable force and also to have it mixed with hot water which gives it greater penetrating power. A kerosene emulsion may be made for this purpose, of the standard Riley-Hubbard emulsion diluted with six, instead of nine parts of water. Whale-oil soap solution should be applied hot and one pound in five gallons of water.

THE APPLE MAGGOT [*Rhagoletes* (Trypeta) *pomonella*, Walsh].—In the autumn of 1904 an outbreak of the Apple Maggot, known also in the New England States as 'the railroad worm,' was detected in some of the apple orchards at Como, Que. During the past season it has been found that the insect has established itself in many other orchards surrounding the first point of injury.

As there are several large and valuable orchards in this locality, much anxiety was felt by the owners of these, that the habits of the insect and the best remedial treatment should be made known to all apple growers of the district, so that by concerted action the outbreak should be controlled before more loss accrued. With this object in view, I visited Como early in October, and examined several of the orchards under the guidance of Mr. R. W. Shepherd, who kindly put himself at my disposal and accompanied me, and also helped me in many other ways to get into touch with the owners of several orchards.

One of Mr. Shepherd's own orchards had been affected last year, and this summer he had faithfully carried out suggestions of control based on the experience of those who had suffered from the Apple Maggot in other places.

All windfalls had been fed to cattle, and a herd of pigs had been kept in the orchard throughout the summer. It may be well, however, to point out, as the experiment will be anxiously watched by his neighbours, that some badly affected crab apple trees were in a sense overlooked, the fruit of which was thoroughly infested at the time of my visit. It would appear that the fruit of this class of apples does not fall from the trees when attacked, to the same extent as the larger apples. At that time, however, Mr. Shepherd at once had the fruit of these trees threshed from the boughs and destroyed. A circular letter giving the nature of the pest and advice as to the best treatment of infested orchards was at once prepared and a copy sent to every apple grower in the district. Notwithstanding the severity of the outbreak, the experience of others who have suffered loss from the Apple Maggot, would seem to give reasonable ground for hope that much may be done to reduce loss. The following letters from the State Entomologists of Maine and New Hampshire respectively, show that good results have followed the adoption of the best, so far, recognized method of prevention. The insect has been present in these States for some years.

'Agricultural Experiment Station, Orono, Me.—Your letter concerning the Apple Maggot is received. There seems to be no marked change from year to year in the occurrence of this pest here. We have in the State numerous orchards in which the trees have not been pruned for a generation at least and in which the windfalls lie ungathered. The owners of such orchards frequently complain that the trees might as well be cut down, for the "Railroad Worm" gets all the apples. On the other hand, *none of the leading orchardists seem to feel that the case is hopeless.* They recognize the Apple Maggot as a pest to guard against and believe that care in putting the windfalls out of the way is the only practical method of doing it. Thus, it is no uncommon situation to have well cared for orchards where infestation by *R. pomonella* is almost unknown, while within a few miles the owners of neglected trees say that for years they have not gathered a crop. There is one notable case of this sort in the southern part of the State, where in the midst of an infested area a very large orchard ships perfect apples every fall and no loss is caused by the maggot.

'A few successful orchardists think it pays to keep a few sweet apple trees scattered about as traps, as the flies seem always to deposit in these by preference; and the whole situation is sometimes handled by sacrificing some sweet fruit and subsequently destroying this infested lot. I trust that the outbreak near Montreal will not prove so serious as it seems at present.'—EDITH M. PATCH.

'New Hampshire College of Agriculture and the Mechanic Arts, Durham, N.H.—I have not heard of any serious trouble from the Apple Maggot this year, although it is quite common in our summer apples. I think it is somewhat worse this year than last year; but it has not caused any very serious injury, so far as I have heard. It becomes seriously injurious periodically.'—E. D. SANDERSON.

THE BUFFALO TREE-HOPPER (*Ceresa bubalus*, Fab.).—A great many specimens of rough and gnarled twigs of apple trees have been sent in from time to time, but more frequently during the last year or two, which were due to the injuries caused by small grassy-green homopterous insects that bear on the thorax two horns which are supposed to give it a resemblance to the buffalo. The only harm done by this little insect to orchard trees is by the egg-laying females, which cut two semi-circular gashes right through the bark deeply into the wood, and into each of which they insert from five to ten eggs. Each female lays between one and two hundred eggs, and consequently makes several of these gashes before she has deposited her whole supply. The eggs remain in the wood and do not hatch until the following June; each egg is about one-sixteenth of an inch long, slightly curved and yellowish white in colour. When the young hatch, they crawl out of the egg-shell which remains in the wood and prevents the wound from healing up for a long time. Young twigs of two or three years old are frequently selected by the females for ovipositing, and, if there are only a few of the scars, little injury is done; but it seems to be a habit of this insect to work somewhat in company, and frequently a single tree may be found with a great many egg-deposits in the wood, while others close by are untouched. The two slits almost meet each other but do not quite touch at the top and bottom, but the small piece of wood and bark between them dies and, together with the empty egg-shells, prevents the healing of the wound, so that, where there are many deposits on the same tree, the injury is serious and a check is sometimes given to young trees, which they do not get over.

The Buffalo Tree-Hopper while young lives chiefly upon the sap of weeds and other coarse vegetation, and very little of its food is derived from the apple trees where the young larvæ are first hatched. For a few days, at any rate, after they have first hatched, they may be seen on the trees running quickly round the branches and hiding whenever looked at. At this time, which, however, does not last for many days, good work may be done by spraying the infested trees with kerosene emulsion or whale-oil soap. It is very difficult to reach the eggs by any winter treatment, but probably spraying with crude petroleum or an emulsion of that oil might be applied without injury to the trees. The remedy recommended by Mr. C. L. Marlatt, the First Assistant United States Entomologist, is the limiting of the amount of foreign vegetation about and in orchards and nurseries. He thinks that little damage may be anticipated where the ground between the trees is kept clean and constantly cultivated. Vigorous pruning in winter, by which as many as possible of the egg clusters are removed, is also advised. The mature insects seem to be attracted by beans and some other low-growing vegetables. These then might be planted in orchards between the trees as trap plants to be afterwards sprayed with strong mixtures of kerosene emulsion or whale-oil soap, when the larvæ, nymphs or adults are seen to be numerous enough upon them to make it worth while. The time recommended by Mr. Marlatt is about July 1.

THE WESTERN HARVEST-FLY [*Cicada* (Platypedia) *putnami*, Uhler].—An extremely common insect in most parts of British Columbia, is a species of Cicada of about the same size as the well known *Cicada septendecim*, L., of the United States. This latter is known under the erroneous name of Seventeen-year Locust, but, so far as I can learn, has been never or very seldom taken in Canada. The Western Cicada is enormously abundant nearly every year in Vancouver Island in June; and I have found it in like numbers in the Kootenays, particularly at Nelson, where in the begin-

ning of July in 1896 the shrilling of the males among the aspen poplars and willows on the mountain side above the town was almost deafening. The species occurs right across the mountains, as I have specimens from Banff, and last year Mr. Dalton Tipping sent me a specimen which he had taken at Blackfalds, in Alberta.

Up to the present season no injury to cultivated trees had been complained of in British Columbia, but on July 3 last, Mr. E. Hulme, of Rock Creek, in the Boundary District, B.C., sent me samples of apple branches which had been punctured by the egg-laying females. As in the case of the other species of the genus, *C. putnami* lays its eggs in deep slits made into the wood of various trees; but the young do not feed on the wood or foliage of the trees where the eggs pass the winter; on emerging, they fall to the ground and burrow into the earth, where they attack the roots. Mr. Hulme stated that his young apple trees had been planted four years, and he had not previously noticed any injury; but this year some of the branches had been cut in four or five places.

It is hoped that this may be only an accidental injury to apple trees; but British Columbia is now becoming such an important fruit producing country and such large areas are yearly being cleared and planted to orchards, that any insect which is likely to develop into an enemy of the fruit grower is worthy of attention.

The Sleepy Weevil (*Otiorhynchus ovatus,* L.).—In my last report reference was made to the attacks of the larvæ of this weevil on the roots of strawberries. The insect occurs right across the continent and is frequently sent to the Division for information concerning its habits; but this is usually on account of the frequency with which it is found crawling about inside houses. Complaints of injury to vegetation are seldom made; but occasionally the damage done by the larvæ is considerable. Mr. E. McTaggart, of Hatzic, B.C., wrote as follows last spring:—'May 3.—I am sending a box containing a number of small white grubs. This insect has been working for the past three or four years in our strawberries, feeding on the small white root feeders. They bid fair to put us out of the strawberry business, unless we can find some way to control them. This will be a serious loss; for strawberries are our most important crop.'

Specimens sent from British Columbia previously, showed that the larvæ of the Sleepy Weevil have also the habit of boring cavities into the caudex or short underground stem of old strawberry plants, in the same way as, and frequently in company with, the larger larvæ of the Black Vine Weevil (*Otiorhynchus sulcatus,* Fab.). Mr. McTaggart was advised to adopt the 'one-crop method' of growing his strawberries, by which finer berries are produced and the beetles are prevented from increasing. I find also that large numbers of the mature beetles may be trapped by putting shelters, such as small flower-pots with a little hay in them, inverted and raised from the ground on short pegs, about the beds. The beetles are largely nocturnal in habit and will make use of these shelters for hiding in by day. They can be easily cleared out by taking each pot off the peg and shaking the hay over a pan or pail with a little water and coal oil in it. They are remarkably sluggish insects and make no effort to crawl away by day.

Father Burke sent specimens from Alberton, Prince Edward Island, which he had found eating cavities into low growing apples; many fruits trailing on the ground were damaged. He had also found the beetles in the blooms of dahlias and eating the leaves of the wild buckwheat.

Mrs. Thomas Sharpe, writing from the Experimental Farm at Agassiz, B.C., on August 9, sent specimens of the Black Vine Weevil which had been found very plentifully on the raspberry bushes, and also several Sleepy Weevils which she said 'we find all over the house. Do we carry them in on our clothes from the garden or are they some destructive house insect? We are quite alarmed at the numbers of them which we find about the floors.'

It is probable that some of these may have been carried into the house from the garden; but these insects have a well marked penchant for crawling into houses and

other places where they are decidedly objected to by housekeepers. Neither the Black Vine Weevil nor the Sleepy Weevil have wings; so they cannot fly like most other beetles and can only move from place to place by crawling.

THE STRAWBERRY WEEVIL (*Anthonomus signatus*, Say).—It is some years since a bad outbreak of the Strawberry Weevil has occurred in Canada; but in June last I learnt from Mr. Sydney H. Preston, of Clarkson, Ont., which is a few miles west of Toronto and an important strawberry producing district, that a great deal of damage was being done in the extensive strawberry plantations of that locality. Mr. Preston writes:—

'Clarkson, June 9.—I inclose some strawberry blossoms cut by the insects which are sent with them in the box. They are doing a great deal of damage in this locality.'

'June 17.—I grow only a few strawberries for my own use and have not seen the weevils on my own place, though I find many buds and blossoms and small berries cut through the stem, as in the inclosed sample; but my neighbours are all large growers and the complaint of damage is general. The cutting of the fruit stems is also attributed to this insect, but possibly that may be a mistake. Last season was the first in this locality that the injury was noticeable, and many growers then feared that their crops would be ruined. However, there seemed to be an abundance of fruit in spite of this.'

The habits of the Strawberry Weevil are interesting. It passes the winter in the mature beetle form, and, just before the flowers of the strawberry unfold, the insects fly to the strawberry beds and may be found in large numbers upon the flowering stems. When the female lays her eggs, she punctures a closed bud, for which purpose she generally chooses the earliest and largest. This is done with her sharp and slender beak, and the hole penetrates to the centre of the bud. She then deposits a single egg, pushing it down into the hole. Having done this, she crawls to the stem of the flower and gnaws it nearly through, so that the bud hangs down and eventually drops to the ground. Inside the cut off bud the young grub hatches and passes through all of its stages, the dead flower remaining closed around it as a protection. When the grub is full-grown, it forms a brittle cocoon of the debris, and in about a month from the time the egg is laid, the perfect beetle eats its way out. The new generation of beetles may frequently be found at Ottawa in the latter half of July and early in August. There is only one brood of this beetle, as far as known, and, as all the beetles disappear suddenly in the beginning of August, it is supposed that they go into hibernation at that time, hiding away beneath moss or among bushes and perhaps in woods, where they remain in a lethargic condition until the following spring. The varieties of strawberries chosen by the females for egg-laying are always those which produce pollen in considerable quantities, and it is chiefly upon the pollen that the larvæ feed. Varieties of strawberries with entirely pistillate flowers are not attacked; consequently, when the Srawberry Weevil is abundant, growers will do well to plant pistillate varieties as much as possible, and only enough plants of varieties which produce perfect flowers (which have both stamens and pistils) as will ensure the proper fertilization of the fruit. The number will to a large measure depend upon the variety grown and the number of flowers produced. Among the standard varieties of strawberries most highly recommended by Mr. W. T. Macoun, the Horticulturist of the Central Experimental Farm, the following may be mentioned as having proved the most satisfactory for general purposes, after being tested for several years:—

Pistillate.	Perfect.
Sample.	Glen Mary.
Buster.	Beder Wood.
Bisel.	Enhance.
Greenville.	William's.
Marie.	Lovett.
Warfield.	Pocomoke.

A reference to the good qualities of each of these varieties is made in the Report of the Horticulturist for 1904 at page 121.

Many experiments have been made to discover a practical remedy for this troublesome insect, which at different times has done a great deal of harm in Canada. Many years ago I suggested covering the plants just at the time the beetles appear, with gauze, cheese cloth, or even paper; but these methods all have the very great disadvantage of excluding the swarms of flies, bees and other insects which frequent the flowers and aid in the fertilization. Trapping the mature beetles when they fly to the plants, it is claimed, has produced good results. For this purpose the pollen-bearing plants should be planted in rows so that they may be sprayed when found to be covered with the beetles, either with a whale-oil soap solution or a kerosene emulsion. As has been pointed out by Mr. F. H. Chittenden, in an excellent bulletin on this subject (U. S. Div. of Ent. Circular 21, 2nd series, 1897), 'for the complete success of this method, it is essential that the non-fertilizing plants (the main crop) should be perfectly pistillate and bear no pollen at all.'

The Currant Maggot (*Epochra canadensis,* Loew.).—Injury to currants both black and red by the larvæ of the Currant Fly are somewhat frequent in the West, and, unfortunately, up to the present time no very satisfactory remedy has been devised. The only treatment which has given any results, is the laborious one of removing about three inches of the soil from beneath bushes which had been infested, replacing this with fresh soil, and then treating the infested soil containing the puparia, in such a way that when the flies mature they cannot emerge. The following letters were received during the past summer:—

'Rock Creek, B.C., June 27.—I send to-day samples of gooseberries and currants which are affected with white maggots. I should like very much to know what we can do to avoid this pest. Last year we tried spraying with quassia chips and whale-oil soap solution, from the time the blossoms opened out; but it did no good whatever. The fly seems to lay her eggs when the berry is almost full grown. We have over 100 bushes and all are a complete loss. We have tried putting unslaked lime under the bushes, and we keep them well trimmed up; in fact, some of our currant trees are two and a-half feet high, but all are affected in the same way.'—Mrs. Bart Inghram.

'Indian Head, N.W.T., July 3.—I send you a few currants to show you how badly affected they are. At least half the crop was stung early in the season and fell off. Those that remain on the bushes, are in the condition of these I send you. In a recent trip through Kinistino, Melfort and the other districts around Prince Albert, through which we travelled together five years ago, I noticed that the currants were all affected in the same way. It would be of advantage, I think, if you could advise farmers what to do to save their fruit.'—Angus Mackay.

'McLean, Assa., July 3.—I am sending a few currants which are infested with some insect. They are beginning to fall off now. This is the third year they have been infested; but I can't find out what kind of insect it is, although I often hunt for it.'—W. J. Fanning.

The maggots are very hard to recognize when at work in the currants, and many correspondents, like Mr. Fanning, have had difficulty in detecting them. They were however, present in the specimens which he forwarded. In addition to the measure suggested above, of removing the earth from beneath infested bushes, it is claimed that much good has been done by allowing poultry to run in a plantation where the Currant Maggot is known to be infesting fruit. The birds scratch beneath the bushes and destroy large numbers of the puparia. It is probable that the eggs are laid by the female flies when the currants are quite small, as freshly emerged flies were sent to me from Vancouver Island under the date May 20.

FOREST AND SHADE TREES.

No extensive injury to forest or shade trees by insects has come under my notice during 1905, but there have been local outbreaks of some importance. In Alberta the Forest Tent Caterpillar has again stripped aspen poplars, and mention has been made of its work on maples and in orchards in Nova Scotia. There are also indications that Tent Caterpillars are again on the increase in Ontario and Quebec. The Larch Sawfly (*Nematus erichsonii,* Hartig), which appeared in a few places last year upon the native tamaracks and imported European larches, was this year much more abundant, and for some hundreds of miles along the Canadian Pacific Railway between Ottawa and Lake Superior had stripped the young tamaracks growing in the swamps along the railway. Occasional mention was also made by correspondents of the work of this insect in the Maritime Provinces. An insect which has not previously been recorded as doing harm in Canada, the Larch Case-bearer, has this year been found in considerable numbers at Ottawa on the European larch. The Negundo Plant-louse which has occasionally been so numerous upon the cultivated and wild Ash-leaved Maples in Manitoba and the North-west Territories, was again extremely abundant in some places this year. The Cottony Maple Scale (*Pulvinaria innumerabilis,* Rathvon), which for several years has been abundant on the shade trees in some of the cities of western Ontario, was during 1905 even more so than in previous years. The outbreaks of the White-marked Tussock-moth, which in previous reports have been referred to in some Ontario cities, and in Montreal, have attracted much public attention, and at last efforts are being put forth by the municipal authorities in various cities to control these destroyers of the public shade trees. In Vancouver Island, the oak-looper *Therina somniaria,* Hulst, which was complained of as being abundant last year, during 1905 swarmed in countless numbers over the oak trees in the vicinity of Victoria, B.C., and stripped them of their leaves. The Spruce Gall-louse was exceptionally abundant in 1905, and requests for information as to its life habits and the possibility of its becoming a destructive enemy of Canadian spruces, came in from many correspondents in all parts of the country. The ornamental cedars on the Central Experimental Farm were very much disfigured by the mining larvæ of a very small moth belonging to the genus *Argyresthia.* The moths appeared at the end of June and were found flying in clouds around all varieties of the American Arbor-vitæ, or so-called White Cedar. The full life history and the exact identity of the species are not yet worked out; but young larvæ were found in the twigs early in spring, the moths emerged in the latter half of June, and the young larvæ are at present in enormous numbers passing the winter inside the small twigs. As yet, no parasites have been bred. What was apparently this same species, was sent to me in 1899 by Mr. Thos. Ware, from Plattsville, Ont., Writing of this occurrence, Mr. Ware says: 'The insects did my cedars considerable damage in 1899; and not only mine, but whole cedar swamps lost their green and looked quite brown. The trees have since been slightly affected each year, but not to any great extent. I saw a few of the insects this summer but the hedge has not suffered.' The injury to ornamental shrubs, and there are many varieties of the white cedar grown as such, has certainly been serious this year at Ottawa. So far, no remedies have been tried. The Fir Sawfly, *Lophyrus abietis,* Harr., appeared upon cultivated White Spruces in two or three places in Manitoba. Mr. T. C. Court sent specimens from Petrel, Manitoba, and their work was noticed upon cultivated spruces around the government offices in Winnipeg as well as in the sand hills south of Douglas, Man. This insect occurs in troublesome numbers from time to time in Manitoba, but is easily controlled by poisonous sprays if promptly applied as soon as the larvæ are noticed. A very similar larva, but probably of another species of sawfly, was sent to me by Mr. H. H. Miller, M.P., from Hanover, Ont., where it had been found in destructive numbers upon a cedar (arbor-vitæ) hedge which was much valued by its owner.

THE SPRUCE GALL-LOUSE (*Chermes abietis,* L.).—An insect which is spreading widely through the Dominion and which of late years has been the cause of much anxiety among the growers of ornamental spruces and even of lumbermen, is the Spruce Gall-louse. This is the insect which causes the elongated green cone-like galls on the twigs of the native Black and White Spruces and of the imported Norway Spruce. These galls have been more than usually abundant during the summer of 1905, particularly upon young transplanted trees. Specimens have been sent in from many places.

Although undoubtedly the Spruce Gall-louse does injure trees to a serious extent when present in large numbers and also gives them a very unhealthy and unsightly appearance, still I do not know of any actual instances where it has killed trees outright.

About the end of July the galls begin to dry up, and the cavities at the base of the leaves open slightly and allow the young gall-lice, of which there are several in each cavity, to escape. These then crawl out and rest upon the leaves, and after a short time they moult and appear with wings. This is the time when the insect spreads from tree to tree; for these mature females fly to fresh trees or to fresh branches on the same tree and begin to lay small, pale yellow eggs, which are in clusters of from 20 to 50 together. From these eggs young plant-lice hatch, which remain on the twigs and at the base of shoot buds until the following spring. Many of these young lice, however, die before spring, and those which do survive the winter, may be found at the bases of the buds in May, enveloped in a coat of white waxy threads. These young plant-lice are very small when winter sets in; but in spring they grow rapidly, and, after moulting the old winter coat, they secrete another of much finer texture and much more conspicuous, of long woolly threads. When full grown these insects, which are all females, lay clusters of upwards of 300 eggs at the bases of the young shoots just about the time the spruces are beginning their new spring growth. The eggs are light yellow in colour, extremely small, about one-sixtieth of an inch in length, and each one is attached by a slender thread-like stem about twice the length of the egg. In about a week the very minute nymphs crawl out from beneath the woolly mass consisting of the dead body of their mother, and crawl on to the young shoots, where they take up their position at the bases of the leaves which have already begun to swell and form galls before their arrival, owing to the presence of their mothers during the winter. The green cone-like gall grows rapidly during June; the base of each leaf swelling and expanding so as to form a cavity which gradually develops and covers in some of the young insects. In time this cavity is closed all but a narrow semi-circular slit at the top. It is claimed by Prof. R. A. Cooley, who did very careful work on this insect while at the Massachusetts Agricultural College, that, in general, all of the nymphs which enter one gall, arise from the egg cluster laid by one female. As the gall grows in size, these cavities are enlarged, this leaves room for the increased growth of the insects which it contains.

As stated above, these insects do not become full grown and emerge from the galls until the end of July or during August. The remedies for the Spruce Gall-louse, unfortunately, cannot be applied when the insects occur on very large trees and in forests; but, upon hedges and in ornamental grounds good work has been done by spraying the trees at the time the young plant-lice are exposed on the trees, viz., in May, and after they emerge from the galls in August. Good results were secured by spraying with a tobacco and soap wash made by soaking ten pounds of tobacco leaves in 3 or 4 gallons of hot water for six hours, the liquid strained off and two pounds of whale-oil soap added. When the soap is all dissolved, the mixture can be diluted to 40 gallons. Two or three applications should be made at short intervals.

THE LARCH SAWFLY (*Nematus erichsonii,* Hartig).—About 20 years ago the Larch Sawfly was imported into America, probably with trees sent to the Harvard Arboretum and Botanic Garden at Cambridge, Massachusetts. From that point it seems to have

spread widely and very rapidly northward. In 1882 it reached Canada, and for three or four years after that did an enormous amount of injury by stripping the leaves from the tamaracks, or American larches. The attack was very severe, and, although from the injury being done comparatively early in the season, the trees were able to push forth a certain amount of foliage; after three or four years of being stripped, the larches over millions of acres, and practically over the whole of eastern Canada, were almost wiped out. With this large destruction of its food plant the insect practically disappeared, and little has been heard of it until last year, when it again became noticeable upon ornamental European larches and in a few places was observed on the young growth of larches in swamps. During the past summer there has been a marked increase in the numbers of the larvæ or false caterpillars. The injury is mentioned incidentally in correspondence from many points. Rev. Father Burke writes from Prince Edward Island:—'I am sorry to say the Larch worm is again appearing on the new growth, and I fear we may have it much more abundantly next year.' In the Nova Scotia Crop Report for November, 1905, a correspondent writing from Richmond county says:—'Insects have again been destroying juniper trees.' This is a reference to the Larch Sawfly. The American larch, known also extensively in this country under its Indian name of the *tamarack*, is called in the Maritime Provinces by the inaccurate name of 'juniper,' a name which is also curiously, and with equal inaccuracy, given in the upper Ottawa country to the Banksian or Jack Pine. In New Brunswick I saw evidences of the work of the Larch Sawfly at several places along the Intercolonial Railway and in Ontario for hundreds of miles along the Canadian Pacific Railway between Ottawa and Lake Superior. The larches at Nepigon, Ont., north of the lake, showed no injury, and I am under the impression that so far this new outbreak of the Larch Sawfly has not as yet reached west of Lake Superior. The tamarack swamps west of Nepigon were scanned carefully in passing along the railway, and a large swamp was examined more critically near Douglas, Manitoba, but no trace of the larvæ was seen. Specimens of the larvæ were sent from Burlington, Ont., by Mr. R. C. Cummins at the end of June.

A feature of the last outbreak of 1882 to 1885 was the rapidity with which the attack spread and the suddenness with which it disappeared. Occasional specimens of the sawfly or of the colonies of larvæ have been seen from time to time since 1885; but there has been no noticeable destruction until the present year. The territory over which this insect is known to have spread in the old outbreak, is all through Ontario, Quebec and the Maritime Provinces, right up to Labrador (*teste* Dr. Robert Bell and Mr. A. P. Low). We have no information relating to the vast tamarack swamps north of Saskatchewan and Alberta; but there is little doubt that this enemy spread through all districts where the American larch grew naturally, and that the depredations of this one insect resulted in an enormous loss to the Dominion in one of its valuable assets. Unfortunately, no remedy can be applied over the vast areas of forest where the insect is likely to occur, should it increase again; but upon ornamental grounds small groups of trees can be easily protected by the ordinary spraying methods. The best poison probably for this insect would be a spray of Arsenate of lead 1 lb. in 40 gallons of water.

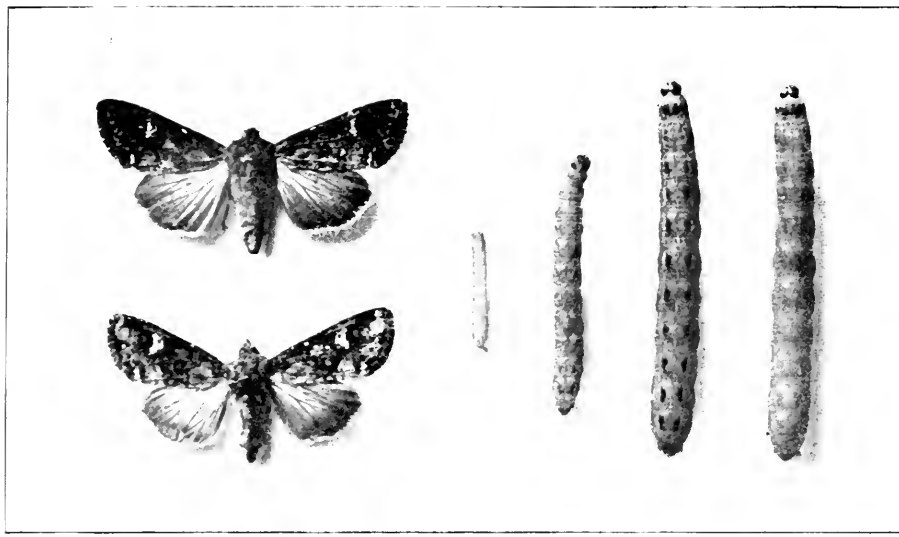
The Larch Case-bearer (*Coleophora laricella*, Hbn.).—In the month of May last the young leaves of the European and other larch trees on the lawns and in the Botanic Garden of the Central Experimental Farm, were seen to present a bleached white appearance; and, upon examination, it was found that the upper ends of the leaves had been hollowed out and were shrivelled. It was then found that this work had been done by large numbers of the small European Elachistid moth *Coleophora laricella*, Hbn. Although this insect has been recorded as injurious to larches in America on a few previous occasions, this, I believe, is the first occurrence of the Larch Case-bearer in Canada. Dr. Howard has kindly referred me to the American literature of the subject and tells me that he himself saw the larvæ very abundant some years ago in a

larch plantation near North Andover, Mass. In 1886 Dr. H. A. Hagen published in the *Canadian Entomologist,* an article on its injuries to the European larch in Massachusetts. In 1892 Mr. J. G. Jack, as related in Insect Life, vol. IV., p. 105, states that the insect had been introduced into Massachusetts for a number of years, and that its ravages had sometimes been quite noticeable in the Arnold Arboretum. Mr. Jack wrote from Berlin in an article entitled 'Notes of a Summer Journey in Europe,' which appeared in *Garden and Forest* for February 24, 1892, p. 87, and says of this insect that 'the European larch is sometimes seriously injured and is often killed by the larvæ of this moth, which eat out all the interior of the leaves, leaving only the dry, hard, shrivelled epidermis.' He also points out that the Japanese larch, both in Germany and at the Arnold Arboretum, is not attacked by the insect.

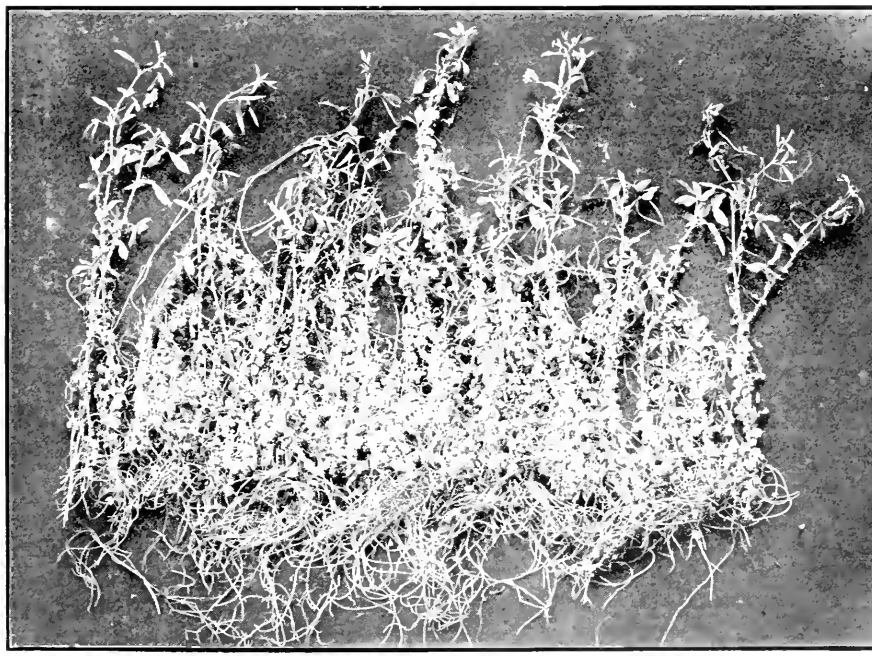
The numbers of the larvæ upon the trees at Ottawa in May last were not large enough to have any serious effects upon either the growth or appearance of the trees; but I regret to find this autumn that the small cases of the larvæ are enormously more abundant than they were last spring. The winter cases are very slender and vary from 2½ to 4 millimetres in length by about half a millimetre in diameter. They are open at the end and are almost cylindrical in shape, like a cut off leaf. For that reason they are easily overlooked. There were among these larval cases a very small percentage which were curved after the manner of the winter cases of the Cigar Case-bearer of the Apple; but it is possible that these may have been the cases of another species. The cases of the full-grown larvæ of the Larch Case-bearer are after the same pattern as the winter cases, but are thicker and resemble more nearly those of the Cigar Case-bearer by being tapered slightly to each end. They are very little longer than the winter cases but have a much larger diameter, being over one millimetre at the widest part; and the end is somewhat pinched in. The colour is pale drab. The caterpillars have a curious habit, when full grown, of fastening themselves in the centre of a fascicle of leaves, where they are very difficult to detect. There is only one brood in the year, the moths of which appear in June. They are very small, not expanding more than one third of an inch when the wings are opened, of an ashy satiny gray colour, with long, slender antennæ. After pairing, the females lay their tiny yellow eggs on the needles of the larch. These soon hatch, and the larvæ eat their way into the slender needles of the empty skins of which, subsequently, they make the slender cases in which they pass the winter, attached to the twigs of the trees. As soon as the buds begin to swell in spring, these minute caterpillars revive and feed upon the young leaves. When a caterpillar attacks a leaf, it eats a hole in the side, and, as it consumes the interior portion, it protrudes its body from the case until it can reach no further without leaving the case. In spring the young caterpillar grows rapidly, and its winter case soon becomes too small for it; so, it is split down the side, and the empty skin of another leaf is inserted. This operation is repeated from time to time when necessary, until full growth is reached. Some cases from successive additions have a ridged or striated appearance. Pupation takes place inside the case, and the moths emerge from the upper end. Up to the present time nothing in the shape of a practical remedy is recorded.

Through the kindness of Mr. A. Scheek, of the German Consulate, in Montreal, I have received the following interesting account of the habits of this insect, in Germany, from Mr. Rudolph Japing, Forest Assessor, Muenden, Hanover, Germany:

'The moths of *Coleophora laricella,* Hbn., fly during the day time in May and June. The females lay yellow eggs on the needles, which in 6-8 days turn to a grayish colour. Upon hatching the young caterpillar eats its way into a needle, consumes the interior, and from the empty skin makes a small bag in which it lives until September. During winter the caterpillar remains in this bag, generally on the top of the branches, more seldom in crevices of the bark. In spring it is again found mining in the new needles, and soon has to enlarge its bag, which it does by joining to it a part of a newly hollowed out needle. In this bag the insect changes to a chrysalis in April and May, the moth emerging at the end of May.



The Spined Rustic (*Barathra occidentata*, Grt.)
Moths (the lower, typical), and caterpillars, young, half grown and full grown.



Clover Dodder on Alfalfa.
(*Figure kindly lent by "Farmers' Advocate," London, Ont.*)

'The injury to the trees from these insects can be very great, especially in spring. The growth stops and the trees become feeble and are thus susceptible to canker, which often follows the damage done by the insect. The Larch Case-bearer is mostly found on trees from 10 to 40 years old.

'In nature the insects are devoured by many birds, and in autumn they are often destroyed by protracted rains and by early frosts.

'Trees badly infested by these insects should be cut down from the middle of June till the end of August. This causes the leaves to dry up and the caterpillars die of starvation. It would be better to burn the needles, but this is possible only in nurseries. In the extensive forests of Canada it would be difficult to do anything effective to destroy the insects.'

The White-marked Tussock-moth (*Hemerocampa leucostigma*, S. & A.).—Of recent years the shade trees in several of our Canadian cities have been very much disfigured by the caterpillars of this well known native insect. Energetic measures have been taken by the local newspapers and the civic authorities, particularly in Toronto and Montreal, to reduce this quite unnecessary injury to the fine shade trees in these beautiful cities. Public meetings have been called, and the advice of specialists has been taken. There is nothing of any importance which is still unknown of the habits of this insect, and all that is now necessary is the prosecution of a vigorous campaign at once, so as to control as soon as possible, if not actually to wipe out, this unwelcome guest which has done so much harm. The subject was treated of at some length at a public lecture which I had the honour of delivering before Toronto University in February last, and again before the Toronto Horticultural Society in June. The discussions were reported at length with further comments by the Toronto *Globe* and other newspapers. A similar action was taken in the city of Montreal where a conference was summoned by the Montreal Natural History Society, and a thorough discussion of the subject took place. The *Montreal Star, La Presse*, and other newspapers, published several articles in their daily editions, and at request I prepared a full article for the *Weekly Star and Family Herald*. The course of action recommended by me at all of the above meetings was to destroy the caterpillars by spraying the trees while the caterpillars were young, with arsenites or other active poisons, and the collection of the conspicuous egg masses during winter. Prof. D. P. Penhallow, of McGill University, has taken an active and useful part in distributing information on the subject, and in drawing the attention of the public of Montreal to this important matter, and his efforts have been ably supplemented by Mr. H. H. Lyman, who has materially assisted with expert advice as to the correct natural history of the insect. It is to be hoped now that public attention has been drawn to this matter, vigorous measures will be adopted, and that private citizens will second the efforts of the municipal authorities by attending to their own trees and gardens, which cannot be well reached by officials. In this way this insect may be very much controlled. Its possibilities for injury are only too well known by what it has done in New York, Rochester, Cleveland and other cities in the United States.

The Vancouver Island Oak-looper (*Therina somniaria*, Hulst).—The beautiful oak trees which form such an attractive feature of Victoria, Vancouver Island, have again this year suffered severely from the attacks of the caterpillars of this geometrid moth. It was hoped from the large numbers of parasites which were reared from the pupæ last autumn, that the injury during 1905 would have been less than in the preceding season. These hopes, however, were doomed to disappointment, for the caterpillars occurred last spring in countless myriads and stripped every vestige of foliage from most of the oaks around the city and for several miles out into the country. Mr. J. R. Anderson wrote under date June 23:—

'*Therina somniaria* is already at its deadly work worse than ever. The oaks in some places are already stripped of their leaves, and other plants are being attacked

by the famished larvæ, which are as yet only half grown. What is to be done, I do not know, unless the parasites increase. Treatment of the trees with poisons over miles of country is of course out of the question.'

There is some doubt among entomologists as to the exact status of *T. somniaria* as a species. It has usually been considered that it is a form of *Therina fervidaria,* Hbn., but the difference in the food plant, *fervidaria* having been found in nature, here at Ottawa and in other places, feeding on conifers, seemed to indicate, more perhaps than the slight differences in markings on the mature insects, that the western form would probably prove to be a different species. Having received eggs from Mr. Anderson early in the spring, as soon as the young larvæ hatched, they were placed upon fresh twigs of the hemlock spruce (*Tsuga Canadensis*), and, although it cannot be said that at any time they fed upon the hemlock with avidity, nevertheless some specimens were carried through upon this food plant alone and gave moths at the usual time. Moreover, on Vancouver Island, when travelling with the Rev. G. W. Taylor, in September last, a few miles out of Victoria, we observed one instance where the larvæ, after having stripped the oak trees, had spread for a short distance into a grove of Western Hemlock Spruce and Douglas Fir, the leaves of which to some extent had been eaten by them. Mr. Taylor, who is a specialist upon the Geometridæ considers it more probable that *Therina* (Ellopia) *somniaria* of Hulst is a variety of *Therina fiscellaria* of Guenee, which is a segregate from the old composite species *Therina fervidaria* of Hubner, than that it is identical with the type species *T. fervidaria,* Hbn. He says:—'It may be said that *T. fiscellaria* and *T. somniaria* feed as larvæ on deciduous trees, while true *T. fervidaria* feeds on conifers.' It would appear from experiments which I have carried on at Ottawa, that this generalization is accurate, and, although eggs of *somniaria* from Vancouver Island gave larvæ which under compulsion fed on hemlock spruce, a conifer, others from the same batch of eggs ate oak, their natural food plant, much more readily. *T. fervidaria* at Ottawa feeds naturally on hemlock spruce.

From pupæ received from Mr. J. R. Anderson, which had been collected at Victoria, several specimens of *Pimpla scriptifrons*, Cress., were reared, thus adding one more species to the many parasites which are already known to prey upon this insect. I saw the mature moths and the parasites emerging in enormous numbers in Victoria on September 18 last. Trees, fences, and sides of houses were swarming with the pretty soft brown, large-winged moths.

THE APIARY.

The Apiary, as in the past, has been under the management of Mr. John Fixter, the farm foreman, whose report I append herewith. The same experiments which have been carried on for some years have most of them been repeated on account of the large amount of interest which has been evinced in the subject by correspondents and visitors to the Central Experimental Farm. The services of Mr. Fixter have been asked for at a great many meetings of bee-keepers, and, whenever his duties at the Central Experimental Farm would permit of it, he has attended these metings and given addresses.

REPORT OF MR. JOHN FIXTER.

Season of 1905.

The season of 1905 has been a fairly good one; especially in western Ontario the honey crop has been excellent, both as to quality and quantity; parts of Quebec report medium crops, while other sections report heavy crops. Correspondents from New Brunswick, Nova Scotia, Prince Edward Island, Manitoba, the North-west Territories,

also British Columbia, report medium to heavy crops and that bee-keeping is on the increase in each of those provinces.

The season opened very late in the Ottawa valley, there being so much cold wind at the end of March and up to April 11. It was necessary to keep the bees in their winter quarters until this latter date when the colonies were placed on their summer stands after being confined in their winter quarters for 139 days. The temperature, 52 degrees, and the weather bright and mild on April 11 were most favourable for the cleansing flight of the bees. Then followed many days of cool and windy weather, which kept the bees confined to their hives; this continued the greater part of April, the average temperature for April being 41·14. May set in warmer, the bees gathered pollen freely, and built up fairly well. During the long cold spell in April it was found necessary to feed the bees to keep up brood rearing and to prevent spring dwindling.

The number of colonies on November 23, 1904, was 50, all of which came safely through the winter. Of these two were sent to the Experimental Farm at Nappan, N.S. Eight colonies being rather weak were doubled with others, leaving 40 strong colonies to begin the season of 1905. These were again increased by swarming to 50 colonies, when the hives were put into their winter quarters on November 7, 1905. They all weighed then over 50 pounds each. The honey crop at the Experimental Farm Apiary has been a fairly good one, the average yield being 73 pounds per colony, spring count.

EXPERIMENTS ON HOW TO PREVENT SWARMING.

I.—*H. G. Sibbald's Plan.*—For this test six colonies of bees in eight-framed Langstroth hives were selected weighing on an average 48½ pounds each. All were examined from time to time for swarming. On June 10 there was no sign of swarming. At that date each colony had abundance of brood and a considerable amount of new honey. On June 15 they were again examined. Three colonies were found preparing to swarm. Those three colonies were set off their old stands on other stands a little to one side. New hives were placed on the old stands thus left vacant. Each one of these contained two empty combs and five empty frames with two inch starters of foundations. Next, one frame of brood with queen-cells on it, was taken from each one of the old colonies that had been set to one side, making sure that we did not get the queen, and placed with the adhering bees in the hive between the two empty combs. The extracting super that had previously been removed from the old colony, was placed on the new hives with all the bees it contained. On June 19 a second examination was made. One more colony was preparing to swarm; this one was treated the same as the former three. The old colonies that had been manipulated, were examined, and all queen-cells were found to be destroyed. The old colonies were then placed on their original stands, removing the one frame of brood from the new hive, destroying all queen-cells on it and placing it in the old colony. Any bees that remained on the starters were transferred to the old colony. The extracting super that was taken off the new hive was again placed on the old colony along with the bees it contained, making one very strong colony. The fourth colony that was found preparing to swarm, was treated after four days in the same manner as the three former colonies. The other two colonies did not swarm during the season. At the close of the season we had six very strong colonies, with plenty of stores for winter and 468 pounds of extracted honey.

II.—*Forced or Shaken Swarms.*—For this test six colonies of bees in 8-framed Langstroth hives were selected, weighing 49¾ pounds each. Examined on June 10 they showed no sign of swarming; there was abundance of brood and considerable new honey. June 15 a second examination was made; four colonies were preparing to swarm. The two remaining colonies did not swarm during the season.

Six other hives are previously prepared for swarms, each containing, in the order named from left to right: four dummies, one starter, one worker comb and two starters. One of these hives is brought and set on a stand directly behind one of the hives to be treated. The operator removes the first two dummies (Nos. 1 and 2) from the left or nearer side of the new hive, and puts them on one side. He then lifts from the brood chamber of the old hive the comb nearest to him, shakes it almost free of bees, and places it in the new hive next the left wall. The next comb in the old hive has a double space for shaking off. After being shaken it is placed beside the first, and the return motion of the hand carries the dummy (No. 3) from the new hive to the old one. Comb No. 3 is shaken, carried to the new hive, and dummy No. 4 is brought back. The fourth comb changes place with the first starter, and so on. When the eighth comb has been shaken in its own hive and transferred to the new, the brood chamber of the old hive is filled up with the remaining two dummies, Nos. 1 and 2. We then put supers on again, close the hive and the bees have been swarmed.

On the seventh day after shaking, the four old colonies were removed to another location. Most of the bees that were flying went with the shaken swarm, leaving the old colony so weak that it did not have any inclination to swarm, and only made sufficient honey to carry it over winter.

At the close of the season we had from this test 10 colonies and 432 pounds of extracted honey.

EXPERIMENTS IN IMPROVING STOCKS OF BEES.

Every farmer knows that there are great differences in his cows, hens, &c., but there is too often an idea that all bees are alike, and that bee-keeping is all a matter of luck. If you observe closely, you will find that one colony of bees may give you good returns, while another just beside it, does nothing in the surplus chamber. Bees are by no means all alike. They differ in disposition, temper, industry, and in other ways. It is worth while for you to have the best. Fortunately the change from poor to good stock may be made more rapidly than with other stock, and at less expense. By paying out a dollar or two for a queen, you may change a colony of poorest black bees to Italians. All you need to do is to send off your order to a reliable queen-breeder, such as advertise in our bee journals and agricultural papers, and the queen will come by mail, with directions for introducing it, which are easily followed. As a worker bee only lives about six weeks in the honey season, and, as the new queen will be laying from one to three thousand eggs in a day, you will see that, if you get an Italian queen into a colony, it will not be a great while until all the bees in the hive are Italian. Even if you do not change from one kind of bees to another, it is generally a matter of advantage to introduce fresh blood occasionally. In any case, whether you get fresh stock from outside or not, whether your bees are Italians or hybrids, there is always something to be done in the way of improving your stock, so long as any one of your colonies is better than the others.

How are you to know which are your best colonies? By keeping track of their performance, and putting it down in black and white. You can keep account of the amount of surplus honey you take from each colony, and set it down at the time. The next year you can select the best colony for your queen-breeder, and a certain number of the next best colonies for drone rearing. One thing, however, must be taken into consideration, and that is, whether there has been no change of queens in any of these colonies. The colony that gave you the largest amount of surplus last year, may have got a new queen last fall or this spring; the young queen may also have met a drone of poor stock, and from this you do not wish to breed. You can, therefore, count only on those colonies that have made a good record and still have the same queen with which they began the season last year. You must also take into account any special advantages or disadvantages. For instance, if from colony No. 1 you took two frames of brood in the spring to give to No. 2, and you then found that No. 2 stored just a

little more surplus than No. 1, it would not be fair to rate No. 2 as better than No. 1. The matter of swarming also comes in. A colony that has cast no swarm throughout the season, will be expected to store more surplus than either the swarm or the mother colony, generally it will store more than both together. Nearly always, however, it will be found that the bees that do the most work, are the least given to swarming; so, the swarming of a colony counts against it in making out its character.

In the ordinary course of management, where bees are left to their own way, and all the increase is through natural swarming, there will, of course, be the most increase from the colonies most given to swarming, which means that the general character of the Apiary will run toward swarming rather than storing. We want, however, to have the tendency not to swarm. There is a way in which a good deal can be done in the way of improvement, even by those most skilled in the management of bees.

Having decided which one, or two, or three, are the best colonies you have, watch for the first one that swarms. Suppose Nos. 1, 2 and 3 are your best, that No. 4 is the next strongest, and the rest follow in the order of their strength, 5, 6, &c. Suppose No. 2 swarms; hive the swarm and put it on the stand of No. 2. At the same time, put the old No. 2 in place of No. 4, and put No. 4 in a new place. All the field bees that were in No. 2 will join the swarm, making it good for work. The old No. 2 (now No. 4) will thus be deprived of its field bees, but on the other hand it will get all the field bees that belonged to old No. 4. In about eight days No. 2 will have a young queen matured, and will send out a swarm. You will now proceed much as you did before. Hive the swarm and put it in the place of No. 2, and put No. 2 in place of No. 5, putting No. 5 in a new place. The field bees of old No. 5 will strengthen No. 2, now on No. 5 stand, and in a day or two it will send out another swarm. Proceed as before, putting No. 2 in place of No. 6, and so on as long as swarms issue. In this way you have, perhaps, no swarms from old Nos. 4, 5, &c., but in their place you have swarms from No. 2, all of them having queens of your best stock. When No. 1 swarms, or No. 3, you can treat them the same way.

There is, of course, the possibility that No. 1 or 2 may not be among the first to swarm. Take frames of sealed brood from colonies that you do not want to swarm, and give them to one of your best colonies, while delaying the swarming of those from which the brood was taken. Of course, when you take these frames of sealed brood, you will merely exchange them for frames that have little or no sealed brood in them.

QUEEN REARING.

Rearing queens has become a regular trade, and some bee-keepers make a business of shipping queens by mail to those who wish to purchase. Although it may not be desirable for the farmer with only a few colonies to go into the subject fully, he should know enough about it to rear the queens at times, for his own accommodation.

When a colony prepares for swarming, a number of queen-cells are started, six, eight, ten, possibly many more. As soon as the first one of these is sealed, the colony is likely to throw off a prime swarm. Six or seven days after this swarm has issued, the mother colony may divide up into two or more parts, each part being called a nucleus, the word 'nucleus' merely meaning a very small colony. You will generally have enough queen-cells in each nucleus without any attention on your part, but not always. Sometimes you will find a large number of queen cells on one comb, and some combs without any. So, it might happen that if you give the matter no attention you might have a nucleus without any queen cell.

Another thing must be considered. A large proportion of the queen cells are built on the lower or outer edges of the combs. If these were left in the old colony without dividing, they might be all right; but when these combs are used as nuclei,

it is harder for the smaller number of bees to keep them warm, and when a cool night comes, the bees will shrink away from the edges of the combs, and the queen cells will be chilled. Hence, you must see that each nucleus has at least two or three good queen cells where they will be sure to be inside of the cluster of bees in the coolest nights. So you will cut away cells from the edges of the combs and from combs that have them to spare, and fasten them where required. To cut out the cells, you may use a pocket knife with a very sharp, thin blade that is more than an inch long. You need not cut away more than enough to get all the cell; but be very careful not to cut into the cell; also not to let one of the cells fall, for while the young and tender queen is in the cell, a fall may cause a defective wing or leg.

To fasten a queen-cell where you want it, use a very slender wire nail an inch and a half long. Push the nail through the base of the cell, but be sure it does not enter the cavity of the cell. Nail the cell right over some of the brood, for it will be more surely taken care of there than if separate from the brood.

It may be noticed that the bees build queen-cells with the points hanging downward, but it is not important that you should have them in exactly the same position. A still better plan than a nail to fasten a cell, is a staple, the staple being an inch and a half wide with points one inch long. Lay the cell against the comb, put the staple over it so that the cell is at one side of the staple, and then sink into the comb the staple point that is farthest from the cell. Possibly you may be inclined to think that because only one queen is to be reared in a nucleus, there is no need to have more than one queen-cell. That would be a mistake. While most of the cells reared by a colony preparing to swarm may be of the very best that colony can rear, it is not safe to assume that all are equally good. Some cells may contain poor queens, and some cells may contain nothing but a dead larva. So it is wise to have a number of cells in a nucleus, at least two or three. The bees will be likely to use the best. You will be able to see a difference in the appearance of the cells, and while you are dividing the cells among the nuclei, you may as well see that each nucleus has its fair share of the best-looking cells. The best cells are generally among the largest and longest, and are deeply pitted over the surface. A stubby cell that is not pitted but has a smooth surface, is not likely to be good. When the young queen is five to eight days old, she will fly out on her wedding trip, and about three days later she will begin laying. It may be well not to look for eggs till the queen is perhaps two weeks old, for at first the eggs are few, and not easily found. If you do not find eggs when the queen is two weeks old, you are not likely to find any later—the queen has been lost on her wedding trip or there is some other trouble. It is a good plan to give a nucleus a frame of eggs or unsealed brood from a choice colony when the young queen is four or five days old. If some ill has befallen the queen on her wedding trip, or if she has entered the wrong hive, the bees will start queen-cells from this young brood. This young brood seems also to have a sort of stimulating effect on the bees, and it is believed it may hurry up the young queen in her work of laying.

CARE OF EMPTY COMBS.—REMEDY FOR BEE MOTH.

Almost any bee-keeper will have honey-combs that are for a time unoccupied by bees; even if through no other cause, colonies may have died in winter, leaving combs empty or containing honey or pollen. Such combs are valuable property and will repay the care required to preserve them. The three principal enemies of unoccupied combs are mould, mice and moths.

Combs kept in a damp, close cellar are likely to be affected by mould. This cannot be entirely prevented where bees are wintered in the cellar; for, even if no colonies die, it may happen that some of the outer combs unoccupied by bees will be covered with mould. Fortunately, the remedy is not difficult. Put a mouldy comb next the brood-nest of a prosperous colony in the working season, and you will be surprised to

find how soon the bees will clean it up so that you will hardly recognize it as the same comb.

Mice must be kept away from combs by shutting these up in hives or in such other place where the mice cannot enter. But be careful that you do not pen the mice in with the combs.

The chief enemy of the apiarist is the Wax Moth. If a colony dies in the spring and the hive remains unnoticed on its summer stand, it is almost certain that, before the summer is over, you will find it containing a solid mass of webs and cocoons, with perhaps not a vestige of comb left. You may have sealed up the hive moth-tight before it is warm enough for a moth to fly; the result will be the same; for the eggs of the moth by some means have been laid, during the previous fall, in the hive, notwithstanding the presence of the bees. It is, however, not an easy thing to make a hive moth-tight, for a moth will squeeze through a much smaller crack than a bee. The right thing to do with a hive full of combs upon which a colony has died, is to get the combs as soon as possible in the care of a strong colony of bees. Especially if of Italian blood, the bees will make short work of cleaning out the worms before they are large enough to do much harm.

There will be little danger to the combs from the moth until the weather has become warm and bees have been flying for some time, say about the time of apple bloom. When a hive is noticed with unoccupied combs, clean out all dead bees, and put it under a hive occupied by a strong colony. If there should be any entrance directly from outside into the upper hive, close it up, so as to oblige the bees to pass through the lower hive in going in and out. Keep the entrance very small the first few days, for fear of robbers. After the colony has had this lower hive in charge for about a week, so as to get it cleaned out and get used to the work, you can give it a second hive of combs to clean out, putting the second in the place of the first.

If colonies have died in hives in the cellar, there will not be the same need of haste as to getting them in care of the bees. Indeed, it may not be a bad plan to take into the cellar hives whose bees have died on the summer stand; for in the cellar the worms will hardly get a fair start until the next spring, when the unoccupied combs will be needed to form swarms. It is well, however, to look at them occasionally to see that they are all right, for it is not difficult to see where the worms have run their silken galleries. The question is often asked whether it will do to hive a swarm in a hive in which a colony has died. Unless such a hive is exceedingly filthy, the bees will promptly clean it up, at the same time being saved much labour in building new combs.

It is well to know that freezing destroys the worms. So a hive of combs that has been left out all winter, is in no danger of worms until well along in warm weather, when moths have had time to mature and to lay eggs. If such combs are hung up in an airy place with a space of an inch between them, they will almost surely be safe from worms throughout the summer, and indeed worms may not trouble them all summer if left in the hive in their usual position.

If for any reason it is desired to kill worms in combs, sulphur is the material usually resorted to. A very little of the fumes of burning sulphur will finish the worms when they are quite small; but, when full grown, it takes a very heavy dose; so it is well first to pick out the larger ones by hand. For this take a sharp pointed knife and pick open the comb at one end of the silken gallery for half an inch, then commence at the other end and tear it open the whole length. This will drive the worm along till it comes out of the hole you first made. You can end its existence by what means may seem best. To fumigate a hive with sulphur, set into a pan or kettle partly full of ashes a smaller vessel of *iron*. In this put the sulphur and throw on it a shovelful of live coals or a red hot iron. This must be in an empty hive or some tightly closed box or chamber so that the fumes cannot escape. Great care must be exercised so that the fire does not extend to the surrounding wood. The combs placed over the burning sulphur may be prevented from catching fire by means of a

piece of old sheet-iron placed under them. It must be further remembered that burning sulphur destroys only the worms, not the eggs. So, it may be necessary to treat the combs a week or two later, when any eggs laid will have hatched. Combs of honey for table use are not likely to be infested with worms; but in the case of black bees, especially if the combs are left too long in the hives, there might be some worms. The dose of sulphur for these may be lighter than for brood combs; if the dose is too heavy, the white combs will assume a greenish colour, which, however, does not hurt them for eating.

When extracting combs are extracted for the last time in the season, it is the practice of most bee-keepers to allow the bees to lick them dry. A hive full of such combs may be placed over a colony, a propolis quilt with a small opening through it, having first been placed over the brood frames, and this allowing but one or two bees to pass at one time. Thus, the bees are not so apt to break down the combs and there is less danger of robbing; but a surer way is to set the hive at some distance from the apiary and let the bees have free play at it. After being thoroughly cleaned, all hives containing combs should be removed to a dark room until late in the autumn, and then to a building where they will get the full benefit of frost during the winter.

UNFINISHED SECTIONS.

At the close of the honey harvest there will always be more or less of the sections unfinished, the number varying greatly in different years. It will happen some years when the season is poor, that none will be finished. Even in the best of years there will be a considerable portion left unfinished, varying all the way from those the bees have not started at all, up to those that are filled with honey, but have a few cells unsealed. Those that have not been worked at by the bees, having no honey at all in them, may be put away until the next year, when they can be used. Be very careful, however, that you do not make the mistake of leaving such sections too long on the hives. When the harvest is over, they should come off at once, for the bees will only daub bee-glue upon them, and sometimes to such an extent that the sections will not be accepted by the bees the following year. Some make a practice of taking off all sections at the close of the clover and linden harvest, so as to have none of the dark honey in them and to avoid the bee-glue being put on them while the bees have nothing to do between the early and late harvests. If a fall flow comes, sections can be again put on, or, better, extracting combs.

Sections that are not entirely finished, will, of course, do for the table, and if they are to be sold, they must be sold at a lower price. Any that are less than half filled with honey, should be fed to the bees. If you set out a super of such sections where the bees can get at them, they would promptly carry out the honey, but would be so eager at this work that they would tear down the tender comb so as to ruin it. Extracting combs are not in the same danger unless they are new. To avoid having the sections ruined for future use, cover them up so as to leave a passage for only one bee at a time to get at them. It is better to set them 10 or 12 rods away from the apiary.

These sections, after being cleaned out by the bees will be valuable for use the next year, and one or more of them, if put in each super that is first placed on the hives, will start the bees promptly at work. If the sections were not cleaned out, the particles of honey remaining would candy and affect the new honey put in them the next season.

JOHN FIXTER.

SESSIONAL PAPER No. 16

DIVISION OF BOTANY.

CLOVER OR ALFALFA DODDER.

From time to time inquiries are made by farmers concerning curious leafless, thread-like, fleshy parasitic plants which they find climbing over clover and alfalfa in their fields. The latter plant is also known as lucern. The parasite injures the host plants very much. As a rule only a few patches will be found in a field; but occasionally, as in an instance referred to below, the dodder parasite increased to such an extent that the crop of alfalfa was practically ruined. Specimens of the parasites having been procured through the kindness of Mr. H. H. Miller, of Guelph, Ont., upon examination they proved to be the Clover Dodder, which in this country is more generally known under the name of Alfalfa Dodder. Formerly this species was known as *Cuscuta trifolii,* Bab., from the frequency with which it occurred upon clover (*Trifolium*) in Europe, but it seems to be now generally conceded that it is the same species as was described from plants growing parasitically upon the wild thyme, and for which reason it had been named *Cuscuta epithymum.* There are several kinds of dodders growing in North America; but in Canada it is a small genus consisting of only a few species. Of these there are only one or two which cause injury to crops; and by far the larger number of cases reported are by the Clover or Alfalfa Dodder; this is a European species which has doubtless been brought into this country with the seeds of alfalfa or clover. It does not confine itself to the different kinds of clover, or even to plants of that natural order, but has been found upon a great many different kinds of plants. It is an annual coming up from the seed every year, and in the past the injuries from this parasite have been so small that it would appear as if in many seasons the seed did not ripen sufficiently to allow the plant to increase and become very destructive. It must be remembered, however, that very little alfalfa, which is a long-lived perennial, has up to the present time been grown in Canada, and consequently the only chance which the dodder had to establish itself, was upon Red Clover, which is a much shorter-lived plant and, as a rule, at any rate, is ploughed down after the second year's crop has been taken.

The seeds of dodder would hardly be ripe before the first crop of clover was cut, and its only chance for ripening seed and perpetuating itself would be in those pods which formed low enough to be left on the stubble, or such as were ripe before the second crop of clover was cut in the autumn. The fleshy pods seem to take a long time to ripen; and among those I have examined, there were very few which seemed dry enough to withstand the September frosts without injury. This, however, is only conjecture, and doubtless in some places further west than Ottawa seed may have ripened this year as it has in previous years to some extent. That this is the case, is shown by the persistence of the plant for two or even three years in a field after it had first been observed. However, such plants may come from seed sown with the clover, of which the germination was delayed; for Mr. H. H. Miller, in a good article upon this subject which was published in the *Farmer's Advocate* for Nov. 23 last, states that 'the seeds will retain their vitality in the soil for five years or longer under favourable conditions. Tests as to vitality have shown that the half-ripe seed of this species will retain sufficient vitality to germinate almost as readily as the fully ripe seed. In some cases, they germinate more quickly; and, when the seeds have been found in their capsules, the percentage of germination was but little inferior to that of well ripened seed.'

The injury done to clover and alfalfa by the dodder is by actually sucking their elaborated sap from them. When the young seed first germinates, a slender yellow thread is pushed up from the soil, which swings round slowly as it grows, and, as soon as this thread touches a living plant, it twines itself around it and throws out from the surface which touches its host, many rootlets or suckers which grow into the tissues of the host plant and draw from it its sap. The host soon becomes dwarfed and in time dies. The dodder plant, however, in the meantime has thrown out a very much branched tangle of fine stems which have spread to other plants in the neighbourhood, from which it is also drawing its nutriment. As soon as the young dodder plant has attached itself to a suitable host, its connection with the soil dries up and ceases. The flowers of the dodder are not produced until the plant has attained a considerable size, when it may form a thick mat from two to four feet across. The flowers are borne in thick conglomerate clusters along the stems and are sometimes so abundant that they almost hide the yellow or reddish stems. Although the plant belongs to the Convolvulus family, the tiny five-lobed corolla does not very much resemble the well known shape of the flowers of the Morning Glory. The seed pod, however, and the shape of the contained seeds show the relationship. The separate seeds found in clover seed are variable in size, some being about the same size as Red Clover seed, others much smaller. They are obtusely triangular, of a pale greenish or yellowish brown colour, with the surface finely granulated.

It is probable that the large seeds, nearly as large as those of clover are of a different species from those usually found, which I take to be *Cuscuta epithymum*. Mr. G. H. Clark, Seed Commissioner of the Department of Agriculture, tells me that 'owing to the shortage in the clover seed crop of last year some of our seed merchants imported a lot of clover seed which had originally come from Chili, but was procured through European merchants. This seed was badly infested with Clover Dodder and Wild Carrot. The supply of lucern seed sold in Canada usually comes from Utah, and generally contains some dodder seed. If properly cleaned, however, lucern can be made practically free from dodder seed.'

Mr. Clark also writes me as follows: 'Since discussing the matter of the identity of the different-sized dodder seeds found in clover and alfalfa seed, I have gone more carefully into it and now believe that this recently introduced large dodder seed is *Cuscuta racemosa*, Mart., var. *chiliana*, Eng., of which you will note considerable reference made in the reports of French, German and Swiss botanists as a species of dodder found in clover seed imported from South America. We have been able to secure a specimen of seed that was grown by Dr. Stebler, of Zurich, which he classifies as *racemosa*, and which we believe to be almost identical with the dodder imported into Ontario during the past season. We have yet to learn whether this dodder will stand our Canadian winters, but it seems that *C. epithymum* may become a nuisance in the south-western part of the province of Ontario.'

The following is cited from Mr. Miller's article in the *Farmer's Advocate* and refers probably to the worst occurrence of the Alfalfa Dodder which has ever been noted in Canada:

'As a good example of the injury this weed may accomplish when it once becomes established, let me mention a case in St. Mary's, Ont., where a fifteen acre field of alfalfa was in two years practically destroyed by this weed. The writer had the opportunity of visiting this field several times during the past summer, and through the courtesy of the owner secured the following information: The field was seeded down in 1902 with alfalfa, oats being used as a nurse crop. Conditions being favourable, it gave a beautiful stand in 1903, being cut twice and giving a total yield of about six tons per acre. The first indication of dodder was noticed June 1, 1903, when the owner found about a dozen small round yellowish patches, which he attributed to the bursting of drainage tiles. In about two weeks, however, these had spread so as to attract special attention, and, upon examination, he found masses of tendrils. In 1904 it had spread so as to produce a blight throughout the field. The alfalfa was

cut once and gave a yield of one and a half tons per acre. In 1905 six acres were cut and gave a yield of about one ton of dodder stems and alfalfa per acre. The remainder of the field was not considered worth harvesting, as the dodder had taken entire possession of the crop.'

The question has been raised as to whether alfalfa badly infested with dodder is fit for food for various kinds of stock. Hearing that Mr. T. Murray Bell, of Otterburn Farm, St. Mary's, had some dodder on his alfalfa, which he had fed to sheep, I asked him to let me know the particulars, which are given in the following letter:—

'St. Mary's, Aug. 13.—I have your favour of the 8th, and as requested I send you three samples of alfalfa with and without the parasite. You ask if this crop is grown for seed here, or merely for hay. In reply, as far as I know, it is merely grown for hay and is cut twice in the season. Yes, we fed our parasitized clover to our breeding ewes all last winter without any evil results, two-thirds of them having twins and an abundance of milk with little or no other feed. We intend doing the same thing this winter. The above mentioned hay was fully mixed with dodder when housed; and, when all was fed up this spring, there was no dodder to be seen anywhere. I believe that, if a field infested with dodder were depastured with sheep after the hay was taken off, little or no dodder would be left afterwards, provided of course that it had not already seeded itself.'

In August last I had an opportunity of discussing with Mr. Miller the occurrences of dodder at St. Mary's, and he obtained for me some heavily infested samples of alfalfa, and also, from the same field and grown on the same soil and under similar conditions, a sample of normal alfalfa which had not been attacked by dodder. These were submitted to Mr. F. T. Shutt, the Chief Chemist of the Dominion Experimental Farms, who has kindly furnished me with the following report, from which it will be seen that, as far as the chemical food constituents are concerned, the dodder-infested hay is of about equal value with the unattacked hay; but it must not be forgotten that the crop per acre is very much less, and above all, that the plants in an infested field are destroyed. This analysis is of value in showing that, when hay is found to be infested, there is no need to follow the general course and burn it, unless it is only occurring in very small patches through a crop.

ALFALFA AFFECTED WITH DODDER.

We received from Mr. H. H. Miller, O.A.C., Guelph, on August 16, three samples of alfalfa, as follows.—No. 1 free from dodder, No. 2 slightly affected with dodder and No. 3 very badly damaged, indeed, practically destroyed, with dodder. All the samples were in good condition.

At the suggestion of Dr. Fletcher, the Botanist, we submitted to analysis Nos. 1 and 3, with the object of ascertaining how far the feeding value of the alfalfa, as revealed by chemical analysis, might be affected by this parasite. In the following table the composition of the alfalfa is given, the results being presented as calculated both on the fresh and water-free material:—

Analysis.

	No. 1. Unattacked.	No. 3. Very seriously affected.
Fresh material—		
Moisture	73·41	72·24
Protein	4·91	4·77
Fat or oil	·67	·95
Carbo-hydrates	10·76	13·15
Fibre	7·84	6·81
Ash	2·41	2·08
	100·00	100·00

Water-free material—	No. 1. Unattacked.	No. 3. Very seriously affected.
Protein	18·49	17·19
Fat or oil	2·51	3·41
Carbo-hydrates	40·35	47·35
Fibre	29·50	24·55
Ash	9·15	7·50
	100·00	100·00

Presuming that the stage of growth of the alfalfa is practically the same in both cases, a comparison of the data should enable us to learn what effect or influence, if any, the dodder has had upon the host plant—alfalfa.

In respect to the most important nutrient, protein, the unattacked alfalfa is somewhat the richer; but the difference is by no means a marked one. The fat, or rather ether extract, includes a certain amount of chlorophyll, so that the slightly higher percentage in the affected alfalfa can scarcely be construed as indicating any superiority. The percentages of fibre and ash are slightly lower in the dodder-affected alfalfa.

It might scarcely be warrantable to draw any conclusion from so few data as to the physiological effect of the dodder; but I think we may safely infer that no great difference in feeding value exists between the dodder-free and dodder-affected alfalfa.

FRANK T. SHUTT,
Chemist, Dom. Exp. Farms.

Eradication.—The chief safeguard against dodder injuring a crop of clover or alfalfa, is to examine carefully all seed purchased and clean out thoroughly all weed seeds before sowing. The dodder seed, when once known, can easily be recognized by its dull surface and triangular shape. When dodder plants are found to be growing in a field the patches should be cut at once and the ground hoed so that no low-growing plants may ripen seed. Burning small areas by putting straw or coal oil over them is said to be effective, but would be less convenient than hoeing out the infested plants. Where a whole field has been thoroughly infested, it should be put under a short rotation in which clover for hay is omitted for at least two rotations, as it is claimed that the seeds will remain in the soil for five years without decaying; therefore, some of the seeds of the original sowing, particularly if these were rather dry, might be delayed in germinating for that time. As stated above, it is only quite recently that dodder has occurred in Canada in sufficient quantity in crops to do extensive harm; but, with the increasing cultivation of alfalfa, it is of course possible that it may become a more frequent enemy of farmers. It is therefore important that its habits and appearance should be known as soon as possible.

REPORT OF THE CEREALIST.

CHAS. E. SAUNDERS, B.A., Ph. D.

DR. WM. SAUNDERS, C.M.G.,
Director Dominion Experimental Farms,
Ottawa.

SIR,—I have the honour to submit herewith the third annual report of the Cereal Division.

The various problems in connection with the growing of wheat in this and other parts of Canada have occupied the greater part of my time during the past year. Attention has also been given to the other cereals as well as to the fodder crops included in the scope of this Division.

The winter months were occupied chiefly in the selecting of grain and in making milling and baking tests of important varieties and commercial mixtures of wheat. With the co-operation of the Chemical Division, a careful and thorough study was made of the milling and chemical value of the different grades of wheat in the Manitoba Inspection Division, using the crop of the previous year (1904). The results of this investigation were published in the form of a bulletin (No. 50) last June.

In February I attended the annual meeting of the American Breeder's Association, held at Champaign, Illinois, and presented a paper on 'A Natural Hybrid in Wheat.'

After the close of this meeting I visited wheat-testing laboratories in Chicago and Minneapolis, and spent part of a day at the Minnesota State Agricultural Experiment Station at St. Anthony Park. From this point I travelled to Brandon to attend the sessions of the Manitoba Grain Growers' Association. At this meeting I gave an address on the breeding and testing of wheats as carried on at the Experimental Farms.

The work of cross-fertilising in cereals was continued this year as usual, although the number of crosses made was not very large, owing to the fact that the work of previous years has given rise to such quantities of material as it is almost impossible to manage.

The study of these new types, and the selection from them of the most desirable sorts for propagation occupied much time during the summer.

Attention was also given to the second of the new races of hardy apples which are being produced at this Farm. Six crosses were made between hybrids of the first race and some of the standard apples, 121 seeds being obtained.

As soon as the cereal harvest was over I made a journey westward, visiting some of the more important wheat growing districts of Manitoba and Saskatchewan, for the purpose of studying the variations produced in wheat by differences in soil and climate, and to see to what extent the Red Fife wheat is mixed with other sorts. Many interesting observations were made, and important specimens collected on this trip.

I acknowledge with pleasure the valuable assistance rendered to me by Mr. George Fixter, foreman in charge of the field work of this Division, and by Miss M. Hager, who has aided me in the diverse kinds of work carried on in the office.

For samples of seed grain I am indebted to Prof. C. A. Zavitz, of Guelph, who sent to me Mandscheuri barley and Early Ripe oats, to Prof. Ten Eyck, of the Kansas Experiment Station, and Prof. M. A. Carleton, of the Department of Agriculture at

Washington, from both of whom were received samples of Turkey Red winter wheat, to Mr. A. Kirsche of Pfiffelbach-Apolda, for new varieties of cereals and to Mr. Wm. Farrer, of Lambrigg, N.S.W., for samples of some new Australian wheats of his own breeding.

I have the honour to be, sir,

Your obedient servant,

CHARLES E. SAUNDERS,

Cerealist.

CROSSING AND SELECTION OF CEREALS.

Increased care is being exercised every year in the selection of seed for the small groups of plants grown for breeding purposes. The improved, selected strains now being grown at this Farm furnish excellent material for this work of originating new sorts.

As the number of cross-bred kinds now on hand is so large, only a few new crosses were made this year. The conditions, as to weather, were quite favourable, and good results were obtained. In barley one cross was made, giving 14 seeds, and in wheat seven crosses, giving 80 seeds. The number of wheat flowers operated on was 104, the percentage of success being therefore nearly 77. Judging by the experience of former years this should represent nearly 75 per cent of true cross-bred kernels. It seems impossible to avoid entirely the production of self-fertilised grains.

The work of cross-fertilising was begun on June 27th and finished on July 8th.

The cross-bred seeds obtained in 1904 were sown about a foot apart each way. Most of the seeds germinated. The plants made vigorous growth and matured large quantities of seed in nearly all cases. About 90 plants were harvested, among the most interesting being some beardless types of two-row barley, and some strong, early kinds of wheat produced by crossing Aurora with Red Fife and Riga with Pringle's Champlain.

The grain obtained from the mother plants raised from the cross-bred seeds of 1903 was sown in groups, the seed from each mother plant being carefully kept separate. As every seedling in each group can fairly be regarded as a distinct variety there were in this plantation approximately 40,000 varieties of wheat, 4,000 of oats, 5,000 of barley and 1,000 of peas, a total of about 50,000 new varieties. The great majority of these were rejected before or during the harvest, but several thousand of the more promising plants were retained for more thorough examination during the winter.

In addition to these unfixed sorts there were sown about 100 other new varieties or new selections, chiefly of wheat, in small plots. These are now quite fixed in type and they presented a most striking and beautiful appearance as they ripened. A few sorts were rejected for weakness of straw or for other reasons, and the remainder will be subjected to further careful study before being tested in the larger plots. The heavy storms which occurred during the ripening season made the observations on strength of straw particularly valuable. Among the most interesting new varieties and strains in this collection may be mentioned several selections from Red Fife, which are of the highest gluten strength and some of which ripen somewhat earlier than ordinary Red Fife. There are also some superior strains of Preston, Stanley, Percy, Huron, Riga and other cross-bred sorts produced in the first few years after the establishment of the experimental farms, as well as strains of other varieties which have not yet been described. Some crosses between Colorado wheat and Common Emmer and between Red Fife wheat and wheats of the durum or macaroni class are showing desirable qualities and may prove useful for those farmers who raise wheat for chickens. One of these new sorts (known for the present under the record number of

8 C) was subjected to a partial analysis by the chemist of the experimental farms and showed the remarkably high protein content of 17½ per cent. Another variety (9 J 3) showed more than 17 per cent of protein.

Among the new sorts of wheat recently obtained from other countries the variety called 'Bobs,' which is of high quality, was watched with special interest this season. A few seeds of this wheat were sent to this farm by the originator, Mr. Wm. Farrer, of New South Wales, who states that in the warmer districts of that colony it shows considerable power to resist rust. It did not, however, withstand the attacks of rust in the climate of Ottawa, this season, so well as several of our standard sorts.

Another very interesting variety, which has been named Aurora, may also be mentioned. It was obtained by the selection of a very early and strong plant obtained by growing some mixed wheat imported from India. The amount of seed of Aurora on hand did not permit the sowing of one-fortieth of an acre this season, but the small plot sown ripened on July 21st, having matured in the remarkably short time of 87 days. This is our earliest wheat. It produces hard red kernels of good quality, but appears to be only moderately productive and has short straw. It will be further tested. It was crossed with Red Fife in 1904 and the plants raised this season from the cross-fertilised seeds were vigorous and early. They seem likely to give rise to some important new wheats.

VISIT TO MANITOBA AND SASKATCHEWAN.

About harvest time the writer travelled through portions of Manitoba and Saskatchewan for the purpose of studying the wheat fields in those provinces as well as to inspect the uniform test plots of cereals on the branch experimental farms. The principal points visited were Indian Head, Brandon, Neepawa and Dauphin. Much information of value was obtained and many interesting samples of grain were collected. The wheat fields in both of the provinces visited were found almost invariably to contain a noteworthy proportion of varieties other than true Red Fife, amounting in some instances to about 50 per cent. Many of these sorts are easily distinguishable from Red Fife, and could be eliminated by any farmer who would take pains to purify his seed. The commonest kind is a bearded wheat with red chaff which has been known in some localities under the name of Assiniboia wheat. There are perhaps two or three slightly different varieties included under this name, but it may conveniently be used for them all as they are very much alike. Altogether there were found about fifteen varieties mixed with Red Fife. The study of these is not yet completed, but it appears that, with the exception of White Fife, which is seldom met with, they are all inferior to Red Fife for the production of strong flour, and are, therefore, a menace to the reputation of the wheat of these provinces. The varieties with very short heads (club wheats) are especially poor and should be regarded in almost the same light as noxious weeds.

CEREALS IN THE PEACE RIVER COUNTRY.

Samples of such varieties of grain as seem likely to be of value to settlers in the district drained by the Peace River are sent to them from time to time from this farm. Some reports and samples have been received back from these settlers.

Mr. Allan Brick, of Peace River Landing, sent very good samples of Stanley and Preston wheat and Tartar King oats from the crop of 1904.

Mr. Charles Bremner, of Spirit River, reported concerning the season of 1904: 'The barley (Odessa) produced good samples, also the oats (Tartar King), but the wheat was badly frozen in July and August.'

The Rev. Father Josse, O.M.I., of Spirit River, reported: 'The samples you sent us have succeeded very well. Both the wheats ripened all right (Stanley and Gehun). Odessa barley and Flying Scotchman oats have succeeded perfectly well. This year was a pretty dry one.'

The Rev. Robert Simpson, of Spirit River reported: 'The season was against us. We sowed on April 27th and all were ripe by August 25th. The Preston wheat and Tartar King oats yielded heavily. Of course the straw was shorter than it would have been had we had rain.'

The Rev. Brother Laurent, O.M.I., of the St. Bernard Mission, Little Slave Lake, reported that the Tartar King oats did very well, but that the varieties of wheat sent to him (Stanley, Preston and Early Riga) did not do so well as the Red Fern which has been grown there for four years. Odessa and Clifford barley did not suit the conditions in that section so well as the barley which was introduced several years ago.

Only one report on the results of the season of 1905 has thus far been received:

Mr. William Smith, of Fort Vermilion, reports that his samples were sown on June 6th and cut August 15th. The quantities sown were 1 lb. each, and the amounts harvested were: Preston wheat, 26 lbs.; Harold wheat, 11 lbs., and Flying Scotchman oats, 12 lbs. He says: 'The Preston wheat ripened fully as early as the Harold. The oats came to maturity about the same date as the wheat, and the kernels were plump and good.'

It is evident, from these reports, that great differences exist in the various sections of country drained by the Peace River, and that much further experimental work with cereals will be necessary before the possibilities in regard to grain growing there can be fully understood.

GRADES OF WHEAT IN THE MANITOBA INSPECTION DIVISION.

The results of the study of the various grades of wheat in the Manitoba Inspection Division (crop of 1904) have already been published in Bulletin No. 50 of the Experimental Farm series. For the purpose of making further observations on the character of the wheat some of the seed in each grade from No. 1 Hard to No. 5 was sown on this farm last spring, and observations were made, later in the season, on the character of the grain produced from each grade.

The proportion of heads not of the Red Fife type was determined for each grade with the following results:—

	Per cent.
No. 1 Hard	8·4
No. 1 Northern	9·8
No. 2 "	6·9
No. 3 "	6·2
No. 4 Extra	7·1
No. 4	9·3
No. 5	9·7

As the samples sown were thoroughly representative of the averages of the grades, the above figures show clearly that the lower grades contain, as a rule, about the same proportions of Red Fife as the higher grades. The figures given do not represent the total quantities of other varieties present, but only those which could be distinguished from Red Fife without much difficulty.

The weight of crop produced from the plot of each grade was not determined but was certainly greatest in the plots where good seed was sown.

The quality of the different samples of grain harvested was carefully observed. The differences found were, however, quite insignificant in most respects. Each sample contained about 98 per cent of hard kernels; but while practically all the kernels

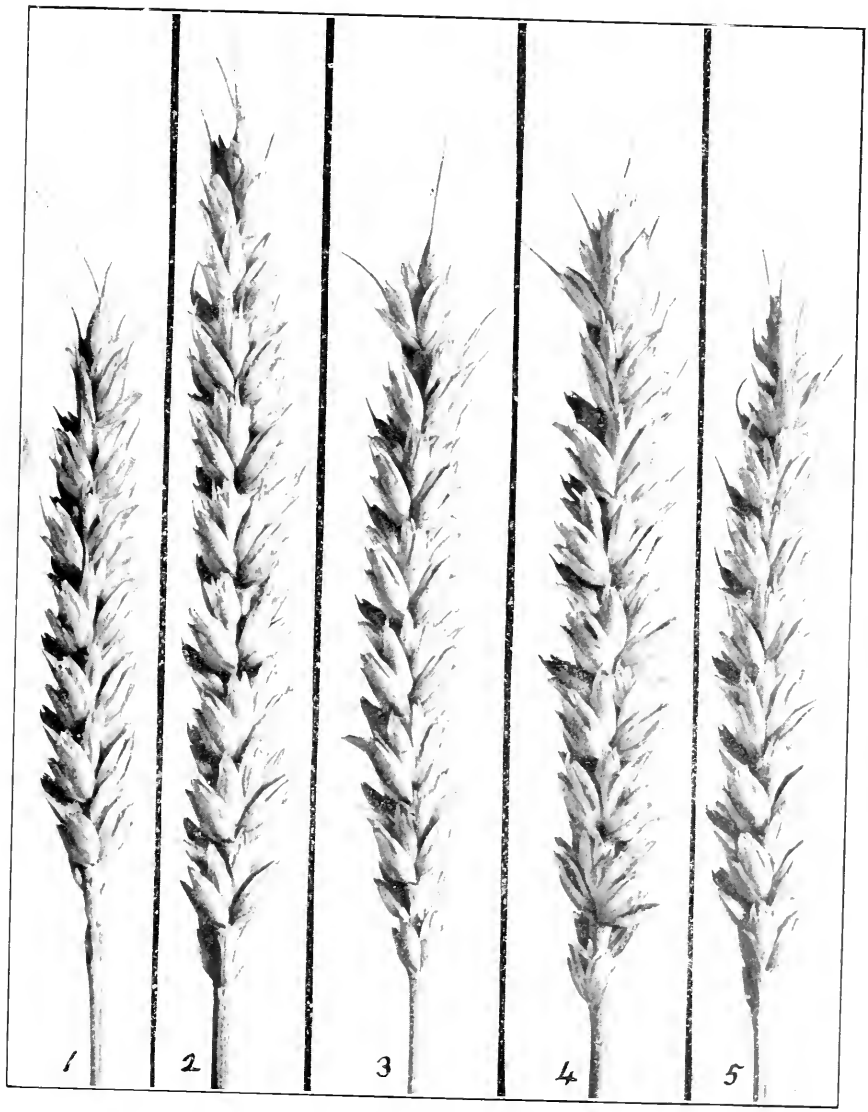


Photo by C. E. Saunders.

1, 2 AND 3 ARE TYPICAL HEADS OF RED FIFE, (ACTUAL SIZE.)
4 AND 5 ARE TYPICAL HEADS OF WHITE FIFE, (ACTUAL SIZE.

produced from the highest grades of seed had a red skin, the crop from No. 2 Northern and the grades below this showed a small proportion of kernels with a yellow skin. These are, of course, not necessarily inferior in quality, though less popular at present. In plumpness there was a very slight difference in favour of the crop from the higher grades.

The red chaff, bearded heads ('Assiniboia' wheat), which were the most conspicuous type present other than Red Fife, gave grain quite as free from soft kernels as the Red Fife and of a richer red colour. The Assiniboia did not ripen appreciably earlier than the Red Fife. These observations, as well as those made by the writer in the wheat fields of Manitoba and Saskatchewan, show clearly that the prevailing idea that this Assiniboia wheat is an early, soft variety of poor colour is quite erroneous. Though undoubtedly inferior to Red Fife for the production of strong, pale-coloured flour, the appearance of the grain is better than Red Fife if judged by the ordinary standards. This serves to show that colour and hardness alone are very poor indications of actual milling value.

DESCRIPTIONS OF VARIETIES OF WHEAT.

So far as the writer is aware no careful descriptions of the most important varieties of wheat which have been long under cultivation in Canada have ever been published. It seems necessary therefore to describe a few of our best known sorts, in regard to some of which considerable confusion and misunderstanding exist.

Red Fife (Scotch Fife).—Kernels red, inclined to pale rather than dark red, of medium size but somewhat short. Heads of medium length, averaging about 3¾ inches long at Ottawa, tapering, essentially beardless, but having, as a rule, a few elongated awns (generally from 3 to 7) towards the tip. In rare cases some of these awns may be as much as 1½ inches in length, but they are usually less than an inch long. In some instances the heads are devoid of conspicuous awns. Chaff smooth and usually of a straw-yellow colour, though in some climates it takes a faint reddish tinge, not sufficient however to cause any difficulty in separating the heads from those of other sorts with true red chaff. The spikelets are set at moderate distances apart, there being usually not less than 16 spikelets in head 3½ inches long and not less than 17 in a head 4 inches long. Straw stiff and of good length, usually about 46 inches long at Ottawa. Ripens rather late and gives a good yield. It makes exceptionally strong flour of a rich cream colour (not essentially white as is often supposed).

Red Fife was introduced into Canada by Mr. David Fife (not Fyfe), who happened to obtain one kernel of it mixed with a quantity of wheat which came to him from Dantzic by way of Glasgow. Red Fife is still grown in central Europe under the name of Galician. The variety from Hungary, known as Hungarian Mountain, appears also to be identical with Red Fife.

The annexed plates show some typical heads of Red Fife and of other similar varieties, and also some unusual heads of Red Fife. Owing to the similarity which exists between Red Fife and some other sorts any attempt at hand selection of the heads of Red Fife should be made only in fields of *known purity*. Any heads of White Russian which might be present would be almost sure to be picked out on account of their unusual length, and thus in the course of a few years by repeated selections of the largest heads a serious proportion of this poorer variety would inevitably be present. In the opinion of the writer it is unsafe as a rule to select Red Fife with a view to saving seed from specially large heads. The selection of *typical* heads should be the first aim.

White Fife.—A full description of this wheat is unnecessary as it is practically identical with Red Fife in all respects except in regard to the colour of the skin of the

kernel. Repeated tests at the experimental farms have shown that this wheat gives practically the same yield as Red Fife, and ripens at the same time, notwithstanding that many farmers believe the White Fife to be earlier and more productive. As found in commerce, White Fife seldom contains less than 20 per cent of red kernels, probably Red Fife and White Russian, but the kernels of true White Fife have a yellowish skin, quite distinct from the reddish skin of Red Fife. It is generally supposed that White Fife is inferior to Red Fife for milling purposes, but careful tests made by the writer showed that (using *pure* White Fife) the two varieties behaved in the same manner when milled and gave flour which was practically identical in colour, in power to absorb water, and in ability to produce a large, high loaf. The present prejudice against White Fife is clearly without just grounds, and arises from confusing soft starchy samples of Red Fife (which are unpopular among our millers) with White Fife. However, as the colour of the skin of each variety is constant, there is no difficulty in distinguishing soft Red Fife from either soft or hard White Fife. White Fife is not, as is sometimes supposed, essentially a soft wheat, but usually shows about the same degree of hardness as Red Fife grown in the same soil and climate.

White Russian.—Kernels red, rather large and inclined to be starchy. Heads tapering, essentially beardless (but usually with a few prominent awns at the tip), and above medium length, being as a rule about 4 inches long at Ottawa. Chaff yellowish, smooth. In typical heads the spikelets are set rather far apart. A head 4 inches long generally has 16 or fewer spikelets. Straw stiff and of good length, usually about 47 inches long at Ottawa. Ripens rather late and gives a good yield. This variety makes flour of a less pronounced cream colour than Red Fife, but the flour has distinctly less strength. White Russian should not be grown in those districts from which wheat is sold for export, as its production would tend to lower Canada's present enviable reputation for strength in wheat.

Wellman's Fife.—A prolonged and careful study of this wheat has satisfied the writer that it is the same as White Russian, mixed, however, as a rule, with a varying proportion of Red Fife. Its cultivation should be discouraged wherever the production of wheat of the highest quality is aimed at. It was obtained by Mr. D. L. Wellman, of Minnesota, who selected the best looking beardless heads out of a field of mixed wheats, obtained by him under the name of Saskatchewan Fife. Under such circumstances it was natural that the selection should consist chiefly of White Russian, the heads of which are above medium length. The average yield given by Wellman's Fife is practically identical with that obtained from White Russian.

Monarch.—This wheat is also a strain of White Russian, varying somewhat in its purity, and giving about the same average returns as that variety.

McKendry's Fife, which was re-selected at the Minnesota Experiment Station and was given the name 'Minnesota No. 181,' is another strain of White Russian. It gives a good yield, but shows as a rule little or no superiority over the original variety as grown at the Dominion Experimental Farms.

Minnesota No. 163 also appears to be identical with White Russian. In productiveness it has shown itself inferior to Minnesota No. 181.

Powers' Fife re-selected and sent out by the Minnesota Experiment Station under the name 'Minnesota No. 149,' is a pure strain of Red Fife of excellent quality, but it has proved somewhat less productive than the parent variety at all of the Dominion Experimental Farms except Indian Head, Sask.

Club.—This variety was obtained from a district in Manitoba, where it is being grown to some extent. It is not being tested in the larger plots at this farm on

account of its poor quality. Kernels rather dark red, of about medium size. Heads short, compact, thickened towards the tip, essentially beardless, but often having at the tip a few awns about half an inch long. Well-developed heads are about $2\frac{3}{4}$ inches long. Chaff reddish, smooth. Straw moderately stiff and of medium or below medium length. Ripens a few days before Red Fife. Rusts rather badly, as a rule, at Ottawa, but produces good kernels in some parts of Manitoba. In spite of the excellent appearance of this wheat, when grown under favourable conditions, it is to be *entirely condemned* for purposes of export or for the production of strong, pale flour at home. The colour of the flour made from Club wheat is a dark unattractive yellow—not at all to be compared with the fine cream colour of Red Fife flour. In gluten also the Club shows itself very deficient, having a much smaller quantity than the Red Fife and the gluten being of inferior quality. In making dough from Club wheat flour it was found that less water was taken up than in making dough from Red Fife, and the volume of the loaf produced was smaller. The general appearance of bread made from Club wheat flour is extremely poor, and there is no doubt that if this wheat were grown to any large extent in Manitoba it would seriously injure the present high reputation of the wheat of that province.

Unfortunately, owing to the fact that the market value of Manitoba wheat is determined by colour and hardness rather than by quality for flour production, Club wheat commands a good price, being generally quite hard and of a rich red colour. Indeed, the writer has been informed that it sometimes commands a higher price than pure Red Fife.

Hungarian White.—This variety was obtained from a seedsman in Germany. It is a promising sort, being fairly early in ripening and of good quality. Kernels red, of about medium size, but somewhat elongated. Heads bearded, tapering, of about medium size. Chaff yellowish, smooth. Straw moderately stiff and of good length. Ripens a little before Red Fife. Makes excellent, strong flour. This wheat resembles Red Fern in many respects, but is distinguished from that variety by the greater length of kernel in the Hungarian.

FIFE WHEATS.

Having endeavoured to give a satisfactory definition of true Red Fife and of some of the other so-called Fife wheats, it would seem desirable to state if possible the distinguishing characters of the Fife group, especially since the Grain Inspection Act of 1904 is so worded as to require certain proportions of red wheat of the Fife class in all but one of the higher grades in the Manitoba Inspection Division. It would have been convenient to reserve the name Fife for varieties similar to true Red Fife or White Fife in general appearance and quality, but the term is already in use, as we have seen, for different strains of White Russian, a wheat which produces flour having distinctly less strength than that made from Red Fife. It seems impossible, therefore, at present to give any narrow limitation to the term. The effect of the Grain Inspection Act is, naturally, to broaden the meaning of the word Fife (in the absence of any legal definition of it) to include all varieties of spring wheat grown in the prairie provinces.

CEREALS IN SMALL PLOTS.

An alphabetical list of the principal varieties of the different cereals grown in small plots during the past season is here given. The total number of these plots was 216. Those varieties which are given under letters and numbers are new sorts produced at this Farm, but not yet named.

Spring Wheat

3 B 3 (Dawn × Red Fife).
6 F 2 (Red Fife × Polish).
6 T " "
7 D (Red Fife × Roumanian).
7 E " "
8 C (Red Fife × Goose).
9 G (Common Emmer × Colorado Wheat).
9 J 3 " "
10 F (Colorado Wheat × Common Emmer).
Advance (2 strains).
Alpha (selected).
Aurora.
Banat.
Bearded March.
Beaudry
Bishop (6 strains).
Bobs.
Burkinshaw's Early.
Campbell's White Chaff,
Cape.
Chester (selected).
Club.
Countess (selected).
Downy Riga (5 strains).
Early Haynes' Blue Stem.
Early Sonora.
Ebert (selected).
Eurasian.
Fraser Red.
Grant (3 strains).
Gurke.
Herisson Beardless.
Hindoo.
Hungarian Mountain.
Huron (4 strains).
Japanese.
John Brown.
Ladoga (Black Sea).
Liberty.
Markham (2 strains).
Miller.
Moscow.
Naples.
Nixon A.
Onegafife.
Onegagehun.
Outlook.
Percy (2 strains).
Persian Black.
Preston (10 strains).
Pringle's Champlain (3 strains).
Pringle's Defiance.
Prospect (2 strains).
Red Bearded.
Red Fife (12 strains).
Red Preston.
Red Riga (3 strains).
Red Swedish.
Riga (2 strains).
Robin's Rust Proof.
Sicilian.
Spence Yellow.
Stanley (3 strains).
Strubes.
White Fife (5 strains).
Yellow Cross.
Yellow Fife.

Macaroni or Durum Wheat.

Adjini Red.
Arneutka.
Italian.
Madonna.
Mahmoudi Yellow.
Polish.
Red Indian.
Sleaford.
Sorentino.

Emmer and Spelt.

9 H 2 (Common Emmer × Colorado Wheat).
9 K 2 " "
Black Bearded Spelt.
Double Emmer.

Oats.

Abyssinia.
Aitken Black.
Australian.
Banner (2 strains).
Bayonet.
Bergs (black).
Beseler.
Black Mesdag.
Bonanza.
Brown Algerian.
California Prolific (black).
Clydesdale.
Cream Egyptian.
Doncaster Prize.
Early Archangel.
Early Blossom.
Early British.
Early Maine.
Early Ripe.
Eureka.
Flying Scotchman.
Leutenwitzer.
Liberty.
Longhouton.
Newmarket.
Norwegian Black.
Oderbruch.
Prince Royal.
Rennie's Prize White.
Salines.
Scottish Chief.
Selchower.
Selected Columbus.
Selected Daubeney.
Selected White Giant.
Sheffield Standard.
Tobolsk.
Tunis (brown).
Victoria Prize.
White Russian.
White Schonen.
White Wonder.
Zhelannii.

Six-row Barley.

Blue Short Head.
Hulless White (beardless).
Petschora.
Phœnix.
Small Blue Naked.
Success (beardless).
Surprise.
Taganrog.
Vanguard.

Two-row Barley.

Black Two-row.
Early Chevalier.
Erfurt White.
Gambrinus.
Hofbrau.
Improved Thanet.
Jewel.
Kinver Chevalier.
Large Naked.
Prize Prolific.
Triple Naked (beardless).

Peas.

Alma.
Arthur (2 strains).
Bright.
Bruce.
Centennial.
Creeper.
Elder.
Elephant Blue.
Fergus.
Forrest.
French Canner.
Green Marrowfat.
Harrison's Glory.
Maple.
Multiplier.
New Potter.
Norwegian Grey.
Oddfellow.
Perth.
Trilby.

Rye.

Ottawa Select (spring).
Dominion (winter).

UNIFORM TEST PLOTS OF CEREALS, FIELD ROOTS AND FODDER CORN.

The standard and new varieties of cereals which are obtainable commercially are annually grown in plots of one-fortieth of an acre, along with the cross-bred sorts produced at the Farms and a number of other varieties obtained from various sources. The field roots and fodder corn are grown in similar plots, and the yield per acre is usually estimated from the crop obtained from one-hundredth of an acre. The object of these tests is to determine the relative productiveness, earliness, &c., of the different varieties. Those which for a series of years are found to be distinctly inferior are rejected, and strong efforts are made to keep the list within as small bounds as possible without omitting anything which may ultimately prove of value.

The number of these larger plots grown during the past season was as follows:—Spring wheat, 59; macaroni wheat, 11; winter wheat, 19; emmer and spelt, 10; oats, 79; six-row barley, 41; two-row barley, 25; winter barley, 1; peas, 33; spring rye, 1; winter rye, 4; mixed grain, 6; soja beans, 2; field beans, 4; flax, 7; millet, 6; turnips, 20; mangels, 17; carrots, 11; sugar beets, 8; Indian corn, 33; making a total of 397 plots. These represent about 340 varieties.

Some of the varieties mentioned in the Report of the Experimental Farms for 1904, have been discontinued on account of lateness, small yield, or for other defects.

PREPARATION OF LAND FOR THE UNIFORM TEST PLOTS.

The system of cultivation adopted for the land devoted to the experimental plots is necessarily somewhat different from that which is generally considered advisable in ordinary farming; but it is worthy of mention that abnormally large quantities of fertilising material are not employed. The land used for the plots consists of three separate fields, and a three-year rotation is practised. Each field receives every third year a dressing of fresh barn-yard manure. This has been applied in the past at the rate of only twelve tons per acre, but this amount has been found insufficient whenever the manure has not been of the highest strength. The quantity is therefore being increased to 18 tons per acre. This is at the rate of 6 tons per acre for each year. While this is a somewhat larger quantity of barn-yard manure than is used in ordinary farming, it must be remembered that there is no opportunity in this case for the ploughing under of sod or for allowing the land to be used sometimes for pasture, as is the common practice. For these reasons it seems necessary to apply the manure in somewhat greater quantities than usual, though it cannot be fairly claimed that the land is unduly enriched by this method. The manure is spread on the ground and ploughed under in spring. The field is then used for roots, fodder corn and other

hoed crops. In the autumn, after the harvest is over, the land is ploughed about seven inches deep, and is left in that condition until the following spring, when it is cultivated twice with a two-horse cultivator and harrowed twice with a smoothing harrow. Cereals are then sown. After the grain is harvested the land is ploughed about three or four inches deep, to start the shed grain and any weed seeds present, and is again ploughed a few weeks later about seven inches deep. In the following spring it is prepared as before and cereals are again sown. It is not, however, the practice to sow the same cereal twice in succession on the same piece of land.

SELECTION OF SEED FOR UNIFORM TEST PLOTS.

In order to obtain the seed for the uniform test plots in the best condition, and as nearly as possible in a state of absolute purity, selected heads are gathered by hand from the plots just before the grain is cut. About eight pounds of heads are harvested in this way. During the winter these selected samples are carefully threshed and cleaned by hand; and the grain to be sown the next season is thus brought to a very high standard of purity. This method has been used for several years with wheat and barley; and is being continued with these grains. In oats, however, the selection of heads is not usually carried out unless the grain in the plot shows signs of being mixed. It is much more difficult to select the heads of oats; and the plots are always injured more or less while the work is being done, on account of the growth of the oats being very thick.

In all cases, when the seed for the plots is not obtained by hand selection in the field, the crop is thoroughly screened and carefully hand-picked before any of it is sown.

IMPORTANCE OF EARLY SOWING OF CEREALS.

Repeated tests have been made at this Farm to ascertain the best time in spring for the sowing of cereals in order to obtain the largest possible yield. The experiments have proved that in this climate cereals should generally be sown about as soon as the land can be brought into proper condition. The reduction in yield due to delay in seeding is usually considerable, even when the delay is only a week long. The loss is especially serious with wheat and oats, and is sometimes quite disastrous in seasons when rust is abundant. The comparatively large yields obtained in the experimental plots on this Farm are due in part to early sowing.

The best time for sowing cereals on this Farm has been found to be from about April 20th to 26th in an ordinary season.

WEATHER.

The past season was on the whole very favourable for crops. The weather during the spring and early summer months was about normal in character, but in July and August there were some heavy storms which caused the grain to lodge to a considerable extent. Such severe tests of the strength of straw are, however, of great value in experimental work. Rust on cereals was prevalent, but did less damage than in the previous season. Field roots and Indian corn gave good yields owing to the abundance of moisture throughout the season, and would no doubt have done even better had not the general character of the season been somewhat cool.

SPRING WHEAT.

The following varieties of spring wheat were added to the uniform test plots this season:—

Hungarian White.—See 'Descriptions of Varieties of Wheat.'

Kirsche.—This wheat was received from Mr. A. Kirsche of Pfiffelbach-Apolda. It produces large red kernels. The head is short and beardless, slightly tapering, and with the spikelets set very close together. The chaff is smooth and somewhat reddish. As this wheat is late in ripening, is badly affected by rust and shows very distinct lack of strength in its gluten it seems unnecessary to further test it in this country.

The plots of wheat were sown on April 24th, and were all one-fortieth of an acre in extent. The seed was used at the rate of 1½ bushels to the acre. The soil was a loam of good quality.

The yield per acre is expressed in 'bushels' of 60 pounds.

*Varieties produced at the Central Experimental Farm are marked with an asterisk.

SPRING WHEAT—TEST OF VARIETIES.

Number.	Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw including Head.	Character of Straw.	Length of Head.	Yield per Acre.		Weight per measured bushel after cleaning.	Rusted.
				Inches.		Inches.	Bush.	Lbs.	Lbs.	
1	Australian F	Aug. 3	101	46 to 48	Stiff	3½ to 4	39	40	60	Badly.
2	Chester*	July 29	96	49 " 51	Medium	3¼ " 3¾	37	40	60	Considerably.
3	Wellman's Fife	Aug. 5	103	50 " 52	Stiff	3½ " 4	36	20	60	Slightly.
4	Advance*	" 3	101	52 " 54	"	3½ " 4	36	..	60⅛	"
5	Australian No. 12	" 2	100	47 " 49	"	3 " 3½	35	20	57¼	Considerably.
6	Early Riga*	July 27	94	45 " 47	Medium	2¾ " 3¼	35	..	60¼	"
7	Preston*	Aug. 2	100	47 " 49	Stiff	3½ " 4	34	20	61	"
8	Pringle's Champlain	" 1	99	45 " 47	Weak	3¼ " 3¾	34	20	60	"
9	Gehun	July 26	93	45 " 47	Medium	2¾ " 3¼	34	20	59	"
10	Dawn*	Aug. 3	101	47 " 49	Stiff	3½ " 4	34	20	59½	"
11	Huron*	" 5	103	50 " 52	"	3¼ " 3¾	33	30	59	Slightly.
12	Red Fife	" 7	105	48 " 50	"	3 " 3½	33	20	59	Badly.
13	Red Fern	" 3	101	52 " 54	"	3½ " 4	33	20	62¼	Slightly.
14	McKendry's Fife (Minn. 181)	" 5	103	50 " 52	"	3¼ " 4	33	..	61	"
15	Hungarian White	" 5	103	47 " 49	Medium	3½ " 4¼	33	..	60¾	"
16	Riga*	July 27	94	46 " 48	Stiff	3 " 3½	33	..	60	Considerably.
17	Downy Riga*	" 27	94	45 " 47	Medium	2¾ " 3¼	32	50	60	"
18	Laurel*	Aug. 7	105	47 " 49	"	3¼ " 3½	32	40	58¾	Slightly.
19	Stanley*	" 2	100	47 " 49	Stiff	3½ " 4	32	20	59	Considerably.
20	White Russian	" 14	112	51 " 53	Weak	3½ " 4	32	20	56½	Badly.
21	Australian No. 9	" 2	100	41 " 43	Medium	3¼ " 3½	32	20	59½	Considerably.
22	Monarch	" 8	106	47 " 49	Stiff	3¼ " 3¾	31	40	59½	Slightly.
23	Ebert*	July 29	96	44 " 46	Medium	3 " 3½	31	20	59¼	Badly.
24	Colorado	Aug. 5	103	48 " 50	"	3 " 3½	31	..	58	Considerably.
25	Bishop*	" 1	99	46 " 48	"	3¼ " 3⅝	30	40	56¾	"
26	Clyde*	" 7	105	46 " 48	Weak	3¼ " 3½	30	40	59	Badly.
27	Minnesota No. 163	" 8	106	51 " 53	Stiff	3 " 3½	30	20	60	Slightly.
28	Australian No. 28	" 3	101	44 " 46	"	3 " 3½	29	40	60	Considerably.
29	Herisson Bearded	" 8	106	48 " 50	Medium	1½ " 2	29	20	61	"
30	Countess*	" 2	100	47 " 49	"	3¼ " 3⅝	29	..	59	"
31	Percy*	" 2	100	47 " 49	Stiff	3½ " 4	28	40	59½	"
32	White Fife	" 8	106	47 " 49	"	3¼ " 3⅝	27	20	60	Slightly.
33	Nixon*	" 8	106	48 " 50	"	3 " 3½	27	..	60½	Considerably.
34	Haynes' BlueStem(Minn. 169)	" 7	105	51 " 53	Medium	3½ " 4	27	..	57½	"
35	Marvel	" 14	112	52 " 54	Weak	3⅝ " 4¼	26	40	55	Badly.
36	Power's Fife (Minn. 149)	" 8	106	47 " 49	Stiff	3¼ " 3⅝	26	40	60½	Slightly.
37	Weldon*	" 5	103	48 " 50	Medium	3 " 3½	26	20	59	Badly.
38	Blue Stem	" 14	112	51 " 53	"	3½ " 4	25	20	56	"
39	Saumur	" 14	112	43 " 45	Weak	2½ " 3	25	20	56	"
40	Pearl	" 14	112	51 " 53	Stiff	3 " 3¼	23	40	58	"
41	Kirsche	" 15	113	47 " 49	"	2 " 2½	20	20	57	"

Most Productive Varieties of Spring Wheat.—Excluding the macaroni wheats, which are considered separately, the most productive varieties of spring wheat at this Farm for the last five years have been Preston, Herisson Bearded, Advance and Pringle's Champlain. Huron and Red Fern have given almost as large yields. All of these are bearded wheats, Pringle's Champlain and Red Fern being probably the best for milling purposes.

Among the most productive beardless varieties may be mentioned Red Fife, White Fife, White Russian and Laurel. Of these Red Fife and White Fife are the best for making strong flour.

Earliest Varieties of Spring Wheat.—The earliest variety of spring wheat grown on this Farm during the past season was Aurora. Only a very small amount of seed of this wheat is on hand, and it is not yet available for distribution. The earliest varieties grown in the regular plots were Early Riga, Ebert, Riga, Downy Riga and Gehun. These ripen as a rule about two weeks before Red Fife or White Fife at this Farm. The variety called Bishop, which was described in the report for last year, ripens about 4 or 5 days later than the earliest group, and the well-known sorts, Preston and Stanley, ripen about 2 or 3 days later than Bishop.

The very early sorts mentioned are being selected and propagated, but thus far an extremely limited distribution of one or two of them is all that is possible. Such samples are only sent when there is good reason to believe that they will be of real value to the farmers applying for them. It should be kept in mind that extreme earliness is usually associated with a rather low yield and short straw. It is therefore often unwise to grow such wheats in districts where the ripening season is long enough to mature the more vigorous sorts such as Preston, Stanley, Pringle's Champlain or the still later varieties Red Fife and White Fife.

The earliest kinds of wheat which are as yet included in the regular distribution enough to mature the more vigorous sorts such as Preston, Stanley, Pringle's Champlain. Stanley and Percy are beardless sorts.

MACARONI OR DURUM WHEAT.

The term 'macaroni' wheat is generally employed to designate those extremely hard varieties with large kernels of which 'Goose' or 'Wild Goose' is the best-known example in Canada. The different sorts of macaroni wheat are by no means identical in quality, though they are usually considered to be so. They are looked upon with disfavour by millers; and farmers who grow any wheat of this class should exercise great care to prevent it from becoming mixed with wheat which is to be sold for flour-making.

As a rule, these wheats suffer less from drought and from rust than other sorts. They may, therefore, in some cases, be grown to advantage, especially in any rather dry district where rust is apt to be severe. They are not, however, to be generally recommended for damp climates. It should also be borne in mind that the market price of macaroni wheat is usually lower than that paid for varieties of wheat which are popular for milling purposes.

The plots of macaroni wheat were one-fortieth of an acre in extent. The seed was sown on April 20th at the rate of 1¾ bushels to the acre. The soil was a sandy loam.

The yield per acre is expressed in 'bushels' of 60 pounds.

MACARONI WHEAT—TEST OF VARIETIES.

Number.	Name of Variety.	Date of Ripening.	No. of Days maturing.	Length of Straw, including Head.	Character of Straw.	Length of Head.	Yield per acre.		Weight per measured bushel after cleaning.	Rusted.
				Inches.		Inches.	Bush.	Lbs.	Lbs.	
1	Roumanian	Aug. 3	105	48 — 50	Stiff	2½ — 3	40	29	62½	Slightly.
2	Beloturka	" 3	105	46 — 48	Medium	2¼ — 2⅞	39	..	64½	Considerably.
3	Yellow Gharnovka	" 3	105	49 — 51	Stiff	2⅝ — 3¼	37	..	62½	"
4	Gharnovka	" 3	105	49 — 51	"	2¾ — 3½	32	20	61½	"
5	Black Don	" 7	109	48 — 50	Medium	2¼ — 2⅝	28	40	59½	Slightly.
6	Velvet Don	" 5	107	48 — 50	Stiff	2¼ — 2⅝	28	20	59¼	Considerably.
7	Kahla	" 4	106	45 — 47	"	2¼ — 2⅝	26	20	57	"
8	Kubanka	" 8	110	50 — 52	"	2 — 2½	25	40	62	Slightly.
9	Goose	" 7	109	46 — 48	"	2¼ — 2⅝	20	40	63	"
10	Mahmoudi	" 7	109	42 — 44	Medium	2¼ — 2⅝	20	20	58	Considerably.
11	Medeah	" 4	106	44 — 46	Stiff	2½ — 3	19	.	59	"

Roumanian, which stands at the head of the list this year, has also given the highest average yield during the past five years.

WINTER WHEAT.

The plots of winter wheat were sown on September 8th, 1904. All the plots were one-fortieth of an acre, and the seed was used at the rate of 1¾ bushels to the acre. The soil was a clay loam.

Owing to the cool weather which prevailed in September and October the growth on the plots was less vigorous than usual when winter set in. The ample covering of snow, however, prevented serious injury during the cold weather, and the plots made good growth in the spring and early summer. An unusually heavy crop of grain was harvested.

The well-known variety, Turkey Red, is omitted from the plots this season, owing to the fact that the seed was not in a satisfactory condition. Two new strains of selected Turkey Red were obtained this past summer, one from the Kansas Experiment Station (Turkey Red No. 380), and the other through the Department of Agriculture at Washington. These were sown in the plots this autumn.

WINTER WHEAT—TEST OF VARIETIES.

Number.	Name of Variety.	Date of Ripening.	No. of Days maturing.	Length of Straw, including Head.	Character of Straw.	Length of Head.	Yield per acre.		Weight per measured bushel after cleaning.	Rusted.
				Inches.		Inches.	Bush.	Lbs.	Lbs.	
1	American Banner	July 21	316	49 — 51	Stiff	2⅜ — 3¼	50	..	60	Considerably.
2	Gold Coin	" 20	315	49 — 51	"	2¼ — 3¼	49	..	60	"
3	Jones' Winter Fife	" 20	315	51 — 53	"	3¼ — 3⅝	45	20	61	"
4	Abundance	" 21	316	50 — 52	"	3 — 3¼	43	40	59	"
5	Early Red Clawson	" 21	316	54 — 56	Weak	3 — 3⅝	43	..	60	Badly.
6	Dawson's Golden Chaff	" 20	315	49 — 51	Stiff	3 — 3¼	42	20	60	Considerably.
7	Prosperity	" 21	316	51 — 53	"	3¼ — 3⅝	42	20	61	Slightly.
8	Kharkov	" 23	318	46 — 48	Medium	2¼ — 2⅝	41	..	61½	Considerably.
9	Red Chief	" 21	316	51 — 53	"	2½ — 3¼	40	40	57⅝	"
10	Buda Pesth	" 20	315	52 — 54	"	3 — 3⅝	39	40	60¾	Slightly.
11	Early Windsor	" 21	316	46 — 48	Stiff	2⅜ — 3¼	39	20	60	"
12	Invincible	" 21	316	48 — 50	"	3⅜ — 4	37	40	60¾	"
13	Egyptian Amber	" 24	319	50 — 52	"	3 — 3⅝	36	20	60	Considerably.
14	Red Velvet Chaff	" 20	315	45 — 47	"	3 — 3⅝	35	40	60½	"
15	Silver Sheaf	" 20	315	55 — 57	"	3⅜ — 4⅛	35	40	60½	Slightly.
16	Imperial Amber	" 24	319	55 — 57	"	3⅜ — 4⅛	34	..	62	Considerably.
17	Padi	" 22	317	44 — 46	"	2¾ — 3¼	31	40	59	Slightly.
18	Reliable	" 25	320	46 — 48	"	3¼ — 3½	30	..	60	Considerably.

EMMER AND SPELT.

The plots of emmer and spelt were one-fortieth of an acre. The grain was sown on April 20th, at the rate of about 120 lbs. per acre. The soil was a clay loam.

Long Emmer and Single Emmer will be rejected from the plots next year on account of their extreme lateness in ripening.

EMMER AND SPELT—TEST OF VARIETIES.

Number.	Name of Variety.	Date of Ripening.	No. of days maturing.	Length of Straw, including Head.	Character of Straw.	Length of Head.	Yield per Acre.	Weight per measured bushel after cleaning.	Rusted.
				Inches.		Inches.	Lbs.	Lbs.	
1	White Spelt	Aug. 11	113	49 — 51	Stiff	4½ — 4¾	2,400	27½	Considerably.
2	Smooth Spelt	" 15	117	44 — 46	"	3¾ — 4¼	2,120	28	Slightly.
3	Common Emmer	" 1	103	46 — 38	"	1½ — 2	2,060	36½	"
4	Thick Emmer	" 3	105	43 — 45	"	2½ — 3	2,060	30½	Considerably.
5	White Emmer	" 8	110	45 — 47	"	2½ — 3	1,920	30	Slightly.
6	Red Emmer	" 8	110	41 — 43	"	2¼ — 2¾	1,880	32	"
7	Long Emmer	" 23	125	47 — 49	"	3¾ — 4¼	1,660	27	"
8	Red Spelt	" 14	116	46 — 48	"	3½ — 4	1,620	29	"
9	White Bearded Spelt	" 14	116	47 — 49	"	3¾ — 4¼	1,620	27½	"
10	Single Emmer	" 30	132	34 — 36	"	2½ — 3	1,380	24½	"

OATS.

The varieties added to the plots this season are:—

Dinauer and *Fichtel Mountain*.—These were obtained from Germany. They are white oats with loose, open heads.

Kirsche.—This was obtained from Mr. A. Kirsche, of Pfiffelbach-Apolda. It is a white oat with a loose, open head.

Green Russian.—This variety is grown in some parts of Manitoba, but had not been tested, previously, at this Farm. It is a mixture of at least two sorts, white and yellow, both having loose, open heads.

The plots were sown on April 26th and 27th; the seed being used at the rate of two bushels per acre for most varieties, but in somewhat greater quantities whenever the oats were of unusually large size. The plots were one-fortieth of an acre. The soil varied from a sandy loam to a clay loam.

The yield per acre is expressed in 'bushels' of 34 pounds.

*Varieties produced at the Central Experimental Farm are marked with an asterisk.

OATS—TEST OF VARIETIES.

Number.	Name of Variety.	Date of Ripening.	No. of days maturing.	Length of Straw, including Head.	Character of Straw.	Length of Head.	Yield per Acre.		Weight per measured bushel after cleaning.	Rusted.
				Inches.		Inches.	Bush.	Lbs.	Lbs.	
1	Banner	July 31	96	40 — 42	Medium	7½ — 8¼	84	4	32¾	Considerably.
2	White Giant	Aug. 1	97	41 — 43	"	7 — 7¾	84	4	33½	"
3	Uberfluss	July 31	95	45 — 47	Weak	7½ — 8½	80	..	31½	Badly.
4	Bavarian	Aug. 1	96	42 — 44	Medium	8 — 9	77	22	32	Considerably.
5	Improved American	" 1	97	42 — 44	Stiff	7¾ — 8¼	77	22	33½	"
6	Danish Island	July 31	95	44 — 46	"	8¼ — 8¾	75	10	34½	"
7	Golden Tartarian	Aug. 6	101	41 — 43	"	9 — 10	75	10	30	Badly.
8	Pioneer (black)	July 26	90	41 — 43	"	7½ — 8½	74	24	33	"

OATS—TEST OF VARIETIES—*Concluded.*

Number.	Name of Variety.	Date of Ripening.	No. of Days maturing.	Length of Straw, including Head.	Character of Straw.	Length of Head.	Yield per Acre.	Weight per measured bushel after cleaning.	Rusted.
				Inches.		Inches.	Bush. Lbs.	Lbs.	
9	Probstey	Aug. 1	97	47 — 49	Medium	7¼ — 8	74 24	34	Badly.
10	Fichtel Mountain	July 26	91	38 — 40	"	7 — 8	74 4	34½	"
11	Lincoln	" 31	96	45 — 47	Stiff	7¼ — 7⅞	73 18	35	Considerably.
12	Abundance	Aug. 1	97	40 — 42	"	7½ — 8¼	72 32	31	Badly.
13	Welcome	July 30	94	44 — 46	Medium	7 — 8	72 32	35	"
14	Twentieth Century	" 27	92	44 — 46	Stiff	7 — 8	72 32	36	"
15	Kirsche	" 31	95	40 — 42	Medium	7½ — 8¼	72 32	35	Considerably
16	Mennonite	" 26	91	38 — 40	Stiff	6 — 7	72 12	33	Badly.
17	Early Golden Prolific	Aug. 1	97	42 — 44	Medium	7½ — 8¼	71 26	33½	Considerably.
18	Goldfinder	" 2	98	44 — 46	Stiff	7 — 8	71 26	32½	Badly.
19	Holstein Prolific	" 1	96	43 — 45	Medium	7 — 8	71 6	33½	"
20	Golden Beauty	July 30	94	44 — 46	Stiff	7½ — 8½	70 20	33	"
21	Thousand Dollar	" 26	91	42 — 44	"	6½ — 7½	70 20	35½	"
22	Bell (black)	Aug. 1	96	45 — 47	Weak	8 — 9	70 20	32	"
23	American Triumph	" 1	97	40 — 42	"	7 — 8	70 ..	34	"
24	Dixon*	" 1	96	44 — 46	Medium	8 — 9	70 ..	34¾	Considerably.
25	American Beauty	July 26	91	43 — 45	Stiff	7½ — 8½	69 14	35	"
26	Improved Ligowo	" 30	94	45 — 47	Medium	7½ — 8½	68 28	36	"
27	Black Beauty	" 31	95	41 — 43	"	7½ — 8¼	68 28	31	Badly.
28	Whiting	" 30	94	41 — 43	"	7 — 8	68 28	35	Considerably.
29	Waverley	" 30	94	42 — 44	"	7½ — 8¼	68 8	34¾	"
30	Virginia White Abundance	Aug. 1	97	40 — 42	Stiff	7½ — 8⅜	68 8	36	Badly.
31	Excelsior (black)	July 25	89	41 — 43	"	7¾ — 8⅝	68 8	34	Considerably.
32	Milford White*	" 30	94	39 — 41	"	7 — 8	68 8	32½	Badly.
33	Gold Rain	Aug. 1	96	42 — 44	Stiff	8 — 8⅜	68 8	35½	Badly.
34	Irish Victor	July 30	95	47 — 49	Medium	8 — 8⅝	67 22	32	"
35	Kendal Black*	Aug. 1	96	38 — 40	Stiff	7½ — 8¼	67 22	33	Considerably.
36	Olive Black*	" 1	96	40 — 42	"	8 — 8¾	67 22	35	Badly.
37	Wide Awake	July 31	95	42 — 44	"	6¾ — 7½	67 2	35	"
38	Swedish Select	" 30	94	45 — 47	Medium	7 — 8	67 2	35	"
39	Scotch Potato	Aug. 1	96	39 — 41	Stiff	8 — 9	67 2	34	"
40	Green Russian	July 26	91	40 — 42	"	7 — 8	67 2	31	Considerably.
41	Golden Fleece	" 31	96	43 — 45	Medium	7½ — 8½	67 2	34½	"
42	Tartar King	" 26	91	42 — 44	Stiff	8 — 9	65 30	32½	Badly.
43	Forbes*	Aug. 7	103	42 — 44	"	9¼ —10½	65 30	28	"
44	Hazlett's Seizure	July 31	96	38 — 40	"	7¾ — 8⅝	65 10	33	"
45	Atlantic	" 30	94	42 — 44	"	8 — 9	64 24	35½	Considerably.
46	Columbus	" 30	95	44 — 46	Weak	7⅜ — 8¼	64 4	32	Badly.
47	Joanette (black)	Aug. 1	96	34 — 36	Stiff	6½ — 7½	63 18	33½	Considerably.
48	Siberian	July 30	94	40 — 42	"	8 — 9	62 32	34	Badly.
49	Bestehorn's Abundance	Aug. 1	97	49 — 42	"	7½ — 8⅝	62 32	32½	"
50	Big Four	" 2	97	42 — 44	"	7½ — 8⅝	62 32	32	Considerably.
51	Daubeney	July 19	84	37 — 39	"	5¾ — 6⅝	62 32	32½	"
52	Great Northern	Aug. 1	97	39 — 41	Medium	7¼ — 7⅝	62 32	35	"
53	Kendal White*	July 31	95	41 — 43	Stiff	6¾ — 7⅝	62 32	34	Badly.
54	Sorgenfrei	" 27	91	36 — 38	"	6½ — 7½	62 12	35¼	Considerably.
55	Buckbee's Illinois	" 30	94	42 — 44	Medium	7 — 8	62 12	39	Badly.
56	Milford Black*	" 31	95	46 — 48	Stiff	8 — 9	61 26	36½	"
57	Storm King	" 31	95	47 — 49	Weak	8 — 9	61 26	33½	"
58	Garton's Abundance	Aug. 1	97	40 — 42	Stiff	7½ — 8½	60 ..	35½	"
59	Swedish Ligowo	July 27	91	44 — 46	"	6½ — 7¼	60 ..	37½	"
60	Dinauer	" 31	96	41 — 43	"	7½ — 8⅛	58 8	32½	"
61	Colossal	" 27	92	48 — 50	"	8 — 9	54 4	28	"
62	Early Angus	Aug. 7	102	45 — 47	"	9½ —10½	54 4	34	"
63	Sensation	July 31	95	42 — 44	"	7 — 8	52 32	36	Considerably.
64	Golden Giant	Aug. 7	103	38 — 40	"	8 — 9	52 12	28	Badly.
65	Tiola	July 20	84	41 — 43	Medium	7¾ — 8½	49 14	31	Considerably.
66	Anderbecker	" 31	95	42 — 44	Stiff	6½ — 7½	49 14	35¾	"
67	Chinese Naked	" 30	94	43 — 45	Medium	7½ — 8½	45 10	45½	Badly.

Most Productive Varieties of Oats.—Among the most productive varieties of oats grown for the past five years at this Farm the following white varieties deserve special notice:—Banner, White Giant, Lincoln, and Virginia White Abundance. Among the mixed sorts (white and yellow), Uberfluss and Holstein Prolific have given large re-

turns. The most productive of the pure yellow oats have been Mennonite and Columbus. The most productive black oat has been Black Beauty.

Earliest Varieties of Oats.—Among the earliest varieties of oats should be mentioned Tartar King, Welcome and Daubeney. These are all white oats and give a fair crop, but farmers are advised not to grow them except in cases where earliness is of very great importance. The white oats mentioned in the preceding paragraph will generally be found more profitable.

SIX-ROW BARLEY.

The *Mandscheuri* barley introduced into the plots this year is a strain obtained from Prof. Zavitz, of the Ontario Agricultural College. Mandscheuri and Mensury are probably different strains derived from the same original Manchurian barley. While it is to be regretted that such remarkable names are in use, we must accept them as they are. The two strains of this barley were grown side by side this year, and are being carefully compared to determine, especially, which of them gives the larger average yield in the climate of Ottawa. The results of the present season are very striking, but, of course, a single test cannot be considered here as conclusive.

The plots were all one-fortieth of an acre. The seed was sown on April 26, at the rate of $1\frac{3}{4}$ bushels to the acre. An unusually heavy crop was obtained. The soil was a clay loam.

The yield per acre is expressed in 'bushels' of 48 pounds.

* Varieties produced at the Central Experimental Farm are marked with an asterisk.

SIX-ROW BARLEY—TEST OF VARIETIES.

Number.	Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw, including Head.	Character of Straw.	Length of Head.	Yield per Acre.		Weight per measured bushel after cleaning.	Rusted.
				Inches.		Inches.	Bush.	Lbs.	Lbs.	
1	Nugent*	July 24	89	42 — 44	Stiff	$2\frac{3}{4}$ — $3\frac{1}{4}$	72	24	46	Slightly.
2	Mensury	" 21	86	39 — 41	Medium	3 — $3\frac{1}{2}$	71	12	46	"
3	Albert*	" 24	89	40 — 42	Weak	$3\frac{1}{4}$ — $3\frac{3}{4}$	70	40	$47\frac{1}{2}$	"
4	Trooper*	" 22	87	41 — 43	Stiff	$2\frac{3}{4}$ — $3\frac{1}{4}$	69	8	47	"
5	Oderbruch	" 24	89	43 — 45	"	$2\frac{3}{4}$ — $3\frac{1}{4}$	68	16	$46\frac{1}{2}$	"
6	Odessa	" 21	86	42 — 44	Medium	$3\frac{1}{4}$ — $3\frac{3}{4}$	66	12	46	"
7	Common	" 20	85	39 — 41	Weak	3 — $3\frac{1}{2}$	65	20	49	"
8	Summit*	" 20	85	42 — 44	Medium	$3\frac{1}{4}$ — $3\frac{3}{4}$	63	36	$45\frac{1}{2}$	"
9	Claude*	" 22	87	43 — 45	Weak	3 — $3\frac{1}{2}$	62	24	$47\frac{1}{2}$	"
10	Brome*	" 24	89	38 — 40	Medium	$2\frac{3}{4}$ — $3\frac{1}{4}$	61	12	48	"
11	Mandscheuri	" 23	88	42 — 44	"	3 — $3\frac{1}{2}$	61	12	46	"
12	Black Japan	" 29	85	32 — 34	"	$1\frac{3}{4}$ — $2\frac{1}{4}$	60	40	45	Considerably.
13	Silver King	" 21	86	40 — 42	"	$3\frac{1}{4}$ — $3\frac{3}{4}$	58	36	$47\frac{1}{2}$	Slightly.
14	Escourgeon	" 23	88	39 — 41	Weak	$2\frac{1}{2}$ — 3	57	24	$48\frac{1}{2}$	"
15	Argyle*	" 24	89	43 — 45	Medium	$2\frac{1}{2}$ — 3	56	12	48	"
16	Stella*	" 24	89	44 — 46	Stiff	3 — $3\frac{1}{2}$	55	20	47	"
17	Royal*	" 22	87	40 — 42	Medium	3 — $3\frac{1}{2}$	54	28	$46\frac{1}{2}$	"
18	Sisolsk	" 20	85	40 — 42	"	3 — $3\frac{1}{2}$	51	32	47	"
19	Hulless Black	" 19	84	37 — 39	Weak	$1\frac{3}{4}$ — 2	50	..	62	Considerably.
20	Yale*	" 25	90	42 — 44	Stiff	$2\frac{3}{4}$ — $3\frac{1}{4}$	49	28	$48\frac{1}{2}$	Slightly.
21	Mansfield*	" 24	89	41 — 43	"	$2\frac{3}{4}$ — $3\frac{1}{4}$	46	32	$46\frac{1}{2}$	Considerably.
22	Bere	" 19	84	34 — 36	Medium	$2\frac{1}{2}$ — 3	45	40	48	Slightly,
23	Blue Long Head	" 24	89	36 — 38	"	$2\frac{1}{4}$ — $2\frac{3}{4}$	43	36	40	Considerably.
24	Chinese Hulless	" 27	92	28 — 30	Weak	2 — $2\frac{1}{2}$	43	36	58	"
25	Rennie's Improved	" 23	88	37 — 39	Stiff	$2\frac{1}{4}$ — $2\frac{3}{4}$	43	16	49	Slightly.
26	Empire*	" 24	89	39 — 41	"	$2\frac{1}{2}$ — 3	42	4	47	Considerably.
27	Norwegian	" 21	86	41 — 43	Weak	$2\frac{1}{4}$ — 3	42	4	$47\frac{1}{2}$	Slightly.
28	Eclipse	" 27	92	43 — 45	Stiff	$2\frac{3}{4}$ — $3\frac{1}{4}$	42	4	49	Considerably.
29	Champion (beardless)	" 19	84	45 — 47	"	3 — $3\frac{1}{2}$	40	..	39	Slightly.

Most Productive Varieties of Six-Row Barley.—Taking the average of the returns for the last five years, the varieties of six-row barley found to be the most productive at this Farm are Stella, Odessa, Nugent, Mensury and Blue Long Head.

Earliest Varieties of Six-Row Barley.—The differences in earliness to be observed among the varieties of six-row barley are not very striking. Among the earliest sorts are Odessa and Mensury.

Beardless Six-Row Barley.—The tests carried on at this farm indicate that Champion is the best variety of beardless barley that has been grown here. It ripens early but gives a poor yield and is not to be recommended.

Hulless Six-Row Barley.—The most productive variety of hulless barley which has been tested at this farm is Hulless Black. This is a bearded sort. It ripens early but has weak straw and gives a small yield.

TWO-ROW BARLEY.

Archer Chevalier is a strain of the well-known Chevalier barley. It was obtained from Ireland and was sown in the plots for the first time this year.

The plots of two-row barley were sown on April 25th, the seed being used at the rate of two bushels to the acre. The plots were one-fortieth of an acre. The soil varied from a light loam to a clay loam.

The yield per acre is expressed in 'bushels' of 48 pounds.

*Varieties produced at the Central Experimental Farm are marked with an asterisk.

TWO-ROW BARLEY—TEST OF VARIETIES.

Number.	Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw, including head	Character of Straw.	Length of Head.	Yield per Acre.		Weight per measured bushel after cleaning.	Rusted.
				Inches.		Inches.	Bush.	Lbs.	Lbs.	
1	Swan's Neck	July 22	88	38 to 40	Medium	2½ to 3	65	..	49½	Slightly.
2	Danish Chevalier	" 25	91	45 " 47	Stiff	3½ " 4	62	44	49	Considerably.
3	French Chevalier	" 25	91	44 " 46	"	3¼ " 3¾	60	..	51	Slightly.
4	Hannchen	" 24	90	33 " 35	"	3¼ " 3¾	58	16	50½	Considerably.
5	Fichtel Mountain	" 25	91	39 " 41	"	3½ " 4	56	12	50½	Slightly.
6	Standwell	" 27	93	37 " 39	"	2¾ " 3¼	54	8	49½	"
7	Bestehorn's Kaiser	" 31	97	41 " 43	Medium	2¾ " 3¼	53	36	48	"
8	Clifford*	" 26	92	47 " 49	Stiff	3¼ " 3¾	53	16	49½	"
9	Archer Chevalier	Aug. 1	98	34 " 36	Weak	3 " 3½	52	4	48	Considerably.
10	Swedish Chevalier	July 26	92	36 " 38	"	3 " 3½	50	40	47	Badly.
11	Harvey*	" 26	92	46 " 48	Medium	3½ " 4	50	..	50	Slightly.
12	Logan*	" 26	92	47 " 49	"	3¼ " 3¾	50	..	51	Considerably.
13	Primus	" 31	97	38 " 40	Stiff	2½ " 3	47	44	51	Slightly.
14	Beaver*	" 25	91	50 " 52	"	4 " 4½	47	24	49½	"
15	Jarvis*	" 25	91	50 " 52	"	4 " 4½	46	12	56¾	"
16	Princess	Aug. 1	98	35 " 37	Weak	3¼ " 3¾	45	20	46½	Considerably.
17	Invincible	July 31	97	40 " 42	Medium	3 " 3½	45	..	48½	Slightly.
18	Maltster	" 31	97	40 " 42	Weak	3 " 3½	43	16	44½	Considerably.
19	Canadian Thorpe	" 31	97	41 " 43	Stiff	2¾ " 3¼	42	24	48½	Slightly.
20	Sidney*	" 27	93	44 " 46	"	3 " 3½	42	24	50	"
21	Princess Svalof	" 31	97	36 " 38	Weak	3 " 3½	42	24	45	Considerably.
22	Gordon*	" 27	93	45 " 47	Stiff	2½ " 3	41	12	49	"
23	Dunham*	" 27	93	44 " 46	"	3 " 3¾	40	40	49¾	"
24	Newton	" 31	97	39 " 41	Medium	2¾ " 3¼	33	16	49½	"
25	Brewer's Favourite	" 31	97	36 " 38	Stiff	3 " 3½	31	32	48	Slightly.

Most Productive Varieties of Two-row Barley.—Taking the average of the returns for the past five years, the varieties of two-row barley found to be the most productive at this Farm are: French Chevalier, Danish Chevalier and Canadian Thorpe. Other very productive sorts are Standwell, Beaver and Princess Svalof. The latter is, however, late in ripening.

Earliest Varieties of Two-row Barley.—The earliest variety among the more productive sorts tested for the past five years is Beaver. It ripens about two or three days before French Chevalier.

Beardless and Hulless Two-row Barley.—The varieties of beardless and hulless two-row barley which have been tested at this Farm are so deficient in strength of straw that it has not been thought necessary to grow them in the larger plots.

WINTER SIX-ROW BARLEY.

The variety of winter six-row barley known as Zero which was mentioned in the report for last year was tested again. A plot of one-fortieth of an acre was sown on September 8th, 1904. The soil was a clay loam. It made good growth in the autumn, stood the winter pretty well, and gave a fair yield of grain. It did not, however, produce nearly so large a crop as the best sorts of spring six-row barley, and did not ripen remarkably early. The date of ripening was July 22nd, and the yield per acre was 43 bushels 16 lbs.

PEAS.

The plots of peas were one-fortieth of an acre each. The soil was a sandy loam. The seed was sown on April 28th, at the rate of two or three bushels per acre, according to the size of the pea. A large crop was obtained.

Three varieties, Crown, Mummy and Paragon have been withdrawn from the plots, but will be re-introduced as soon as satisfactory strains of seed shall have been obtained.

The yield per acre is expressed in 'bushels' of 60 pounds.

PEAS—TEST OF VARIETIES.

Number.	Name of Variety.	Date of Ripening.	No. of days Maturing.	Character of Growth.	Length of Straw.	Length of Pod.	Yield per Acre.		Weight per measured bushel after cleaning.
					In.	In.	Bush.	Lbs.	Lbs.
1	White Wonder	Aug 8..	102	Medium	26–30	2 –2½	48	40	63
2	Gregory*	" 15..	109	Strong..	65–69	2½–3	41	40	62½
3	German White	" 9..	103	" ..	64–68	2 –2¼	41	20	63½
4	Canadian Beauty	" 10..	104	" ..	66–70	2¼–2¾	40	40	62
5	Golden Vine	" 10..	104	" ..	68–72	2 –2½	39	40	63
6	Picton*	" 12..	106	" ..	58–62	2¼–2¾	39	..	63½
7	Agnes*	" 12..	106	" ..	66–70	2½–3	38	20	63½
8	Chancellor	" 12..	106	" ..	66–70	1¾–2¼	38	20	63
9	Victoria*	" 18..	112	" ..	66–70	2¼–2¾	38	..	63½
10	Pearl*	" 9..	103	" ..	64–68	2 –2½	37	20	62
11	Early Britain	" 15..	109	" ..	64–68	2 –2½	36	40	60½
12	Cooper*	" 10..	104	" ..	66–70	2¼–2¾	36	20	62
13	Prince*	" 9..	103	" ..	60–64	2¼–2¾	35	40	62
14	English Grey	" 16..	110	" ..	64–68	2 –2½	35	40	63½
15	Duke*	" 15..	109	" ..	66–70	2¼–2¾	35	..	63
16	Mackay*	" 16..	110	" ..	64–68	2 –2½	34	..	63½
17	Prussian Blue	" 10..	104	" ..	62–66	2¼–2¾	34	..	63
18	Black-eye Marrowfat	" 18..	112	" ..	68–72	2¼–2¾	31	..	62½
19	Carleton*	" 15 .	109	" ..	68–72	2¼–2¾	30	..	63½
20	Daniel O'Rourke	" 14..	108	" ..	70–74	1¾–2¼	29	40	64
21	Wisconsin Blue	" 10..	104	" ..	68–72	2 –2½	29	40	63½
22	White Marrowfat	" 15..	109	" ..	66–70	2¼–2¾	29	..	63
23	Arthur*	" 7..	101	Medium	50–54	2 –2½	27	40	63
24	Macoun*	" 14..	108	Strong..	70–74	2 –2½	27	..	63½
25	Kent*	" 15..	109	" ..	70–74	2¼–2¾	27	..	62½
26	Prince Albert	" 15..	109	" ..	66–70	2¼–2¾	25	20	61½
27	Archer*	" 16..	110	" ..	68–72	2 –2½	25	..	63
28	Field Grey	" 8..	112	" ..	68–72	1¾–2¼	24	40	63½
29	Nelson*	" 6..	100	Medium	47–51	2¼–2¾	22	40	62

* Varieties produced at the Central Experimental Farm are marked with an asterisk.

Most Productive Varieties of Peas.—Among the most productive sorts of peas grown for the past five years at this Farm are Golden Vine, Victoria, Mackay, White Wonder, Prince, Canadian Beauty and Prussian Blue.

Earliest Varieties of Peas.—Chancellor is perhaps the earliest ripening variety at this Farm. It ripens as a rule about four days before Golden Vine, and gives a good yield.

SPRING RYE.

One plot of spring rye (one-fortieth acre) was sown on April 26th, the seed being used at the rate of 1½ bushels to the acre. The soil was a clay loam. The grain was ripe August 1st (97 days). The straw was stiff, its length (including the head) being 56 to 58 inches. The heads were from 3 to 3½ inches long. The yield, expressed in 'bushels' of 56 lbs., was 40 bushels per acre; and the weight of the grain (after cleaning) was 56½ lbs. to the measured bushel.

WINTER RYE.

Four varieties of winter rye were sown on September 8th, 1904. The plots were one-fortieth of an acre, and the seed was used at the rate of 1½ bushels per acre. The soil was a clay loam. All the plots made good growth in the autumn, but in the spring the plots of Emerald and Giant were found to be rather badly winter-killed. These two varieties have been discontinued on account of their lack of hardiness.

The yield per acre is expressed in 'bushels' of 56 pounds.

WINTER RYE—TEST OF VARIETIES.

Number.	Name of Variety.	Date of Ripening.	No. of days Maturing.	Length of Straw including Head.	Character of Straw.	Length of Head.	Yield per Acre.		Weight per measured bushel after cleaning.	Rusted.
				In.		In.	Bush.	Lbs.	Lbs.	
1	Mammoth White	July 21	316	62-64	Stiff	4-4¾	36	4	56	Considerably.
2	Thousandfold	" 24	319	70-72	"	4-4½	35	20	57	"
3	Emerald	" 26	321	54-56	"	4-4½	28	12	56	"
4	Giant	" 27	322	54-56	"	4-4¾	28	12	56	"

GRAIN SOWN IN DIFFERENT QUANTITIES PER ACRE ON SANDY LOAM.

These experiments were all conducted on plots of one-fortieth of an acre each. The wheat was sown April 29th and was ripe August 8th. The oats were sown April 29th and were ripe August 3rd. The barley was sown April 29th and was ripe July 22nd.

Though these tests have now been carried on for five years the results appear somewhat contradictory and do not yet permit the drawing of definite conclusions. The yields obtained this season are here given:—

Name of Variety.	Quantity Sown per Acre.	Number of Days from Sowing to Harvesting.	Yie'd per Acre.	
	Bush.		Bush.	Lbs.
Preston Wheat	1	101	32	20
"	1¼	101	31	20
"	1½	101	25	..
"	2	101	28	40
"	2½	101	26	40
"	3	101	27	..
Banner Oats	1½	96	45	30
"	2	96	72	32
"	2½	96	56	16
"	3	96	64	24
"	3½	96	77	2
"	4	96	64	24
Mensury Barley	1½	84	32	24
"	2	84	37	44
"	2½	84	28	36
"	3	84	35	20
"	3½	84	53	36
"	4	84	50	..

GRAIN SOWN IN DIFFERENT QUANTITIES PER ACRE ON CLAY LOAM.

These experiments were all conducted on plots of one-fortieth of an acre each. The wheat was sown April 28th and was ripe August 7th. The oats were sown April 28th and were ripe August 2nd. The barley was sown April 28th and was ripe July 22nd.

The results obtained this season are here given:—

Name of Variety.	Quantity Sown per Acre.	Number of Days from Sowing to Harvesting.	Yield per Acre.	
	Bush.		Bush.	Lbs.
Preston Wheat	1	101	25	..
"	1¼	101	32	..
"	1½	101	29	20
"	2	101	30	20
"	2½	101	32	..
"	3	101	30	40
Banner Oats	1½	96	80	20
"	2	96	82	12
"	2½	96	70	20
"	3	96	69	14
"	3½	96	75	10
"	4	96	83	18
Mensury Barley	1½	85	62	24
"	2	85	56	32
"	2½	85	46	32
"	3	85	37	4
"	3½	85	49	8
"	4	85	53	36

Photo. by C. E. Saunders.

6 AND 7 ARE UNUSUAL HEADS OF RED FIFE, (ACTUAL SIZE.)
8 IS A TYPICAL HEAD OF WHITE RUSSIAN, (ACTUAL SIZE.)
9 IS A SMALL HEAD OF WHITE RUSSIAN (EASILY MISTAKEN FOR RED FIFE).

Taking the average results for the five years during which these experiments have been carried on we find that the best quantity of Preston wheat to sow on clay loam is 1½ bushels to the acre, either a smaller or a larger amount of seed giving a reduced yield.

1¼ bushels per acre gave an average yield of 27 bushels 44 lbs. per acre.

1½ bushels per acre gave an average yield of 28 bushels 48 lbs. per acre.

2 bushels per acre gave an average yield of 27 bushels per acre.

The other quantities of seed used also gave smaller returns than were obtained from 1½ bushels.

The results with Banner oats do not form a regular series and it is evident that further tests must be made.

While the average returns for Mensury barley are not free from irregularities they permit definite conclusions to be drawn. About two bushels per acre is the best quantity to sow on clay loam.

1½ bushels per acre gave an average yield of 53 bushels 19 lbs. per acre.

2 bushels per acre gave an average yield of 54 bushels 39 lbs. per acre.

The larger quantities of seed sown gave somewhat smaller returns than those obtained from 2 bushels per acre. In addition to the reduced yield the extra cost of the larger amounts of seed must also be considered.

PLOTS OF MIXED GRAIN.

In choosing the varieties for these plots the greatest care is exercised to sow together only such sorts as are known to mature in almost the same number of days, so that they may both be ready for cutting at the same time. Only one column is given for the number of days maturing, as in every case the mixtures ripened with great uniformity.

The plots were one-fortieth of an acre and the seed was sown on April 26th. Wheat was used at the rate of 60 lbs. per acre, oats 40 lbs. per acre, barley 50 lbs. per acre, and emmer 70 lbs. per acre. The soil was a clay loam.

Varieties.	Date of Ripening.	No. of Days Maturing.	Yield per Acre.	Proportions in Crop Harvested.
			Lbs.	
Wheat and Oats—				
Pringle's Champlain wheat and American Triumph oats	Aug. 1..	97	2,580	37 per cent wheat = 955 lbs. per acre. 63 " oats = 1,625 "
Preston wheat and White Giant oats	" 1..	97	2,500	39 " wheat = 975 " 61 " oats = 1,525 "
Wheat and Two-row Barley—				
Gehun wheat and French Chevalier barley	July 29..	94	2,060	40 " wheat = 824 " 60 " barley = 1,236 "
Oats and Two-row Barley—				
American Beauty oats and Princess Svalof barley	" 30..	95	2,740	53 " oats = 1,452 " 47 " barley = 1,288 "
Welcome oats and French Chevalier barley	" 30..	95	2,560	42 " oats = 1,675 " 58 " barley = 1,485 "
Oats and Emmer—				
Banner oats and common emmer	Aug. 2..	98	2,560	76 " oats = 1,946 " 24 " emmer = 614 "

SOJA BEANS.

Two plots of the common soja bean were sown on May 25th and were cut on October 6th. The size of the plots was one-fortieth of an acre. The soil was a sandy loam. As the beans did not ripen the weight of green crop only was determined.

Plot 1.—Sown in rows 21 inches apart; growth strong and even, leafy; average height 43 to 45 inches; total yield of green crop 9 tons 1,600 lbs. per acre.

Plot 2.—Sown in rows 28 inches apart; growth strong and even, leafy; average height 45 to 47 inches; stalks considerably stiffer than in plot 1; total yield of green crop 10 tons 800 lbs. per acre.

The returns this year agree with those of previous years, showing a decided advantage in sowing the beans in rows 28 inches apart rather than 21. Taking the average of the results for the past five years the plots in which the rows of beans were 28 inches apart gave a yield of 11 tons 1,000 lbs. per acre, while those in which the rows were 21 inches apart gave 10 tons 744 lbs.

FIELD BEANS.

Four plots of field beans, one-fortieth of an acre each, were sown on May 26th. The soil was a loam of good quality.

The yield per acre is expressed in 'bushels' of 60 lbs.

FIELD BEANS—TEST OF VARIETIES.

Number.	Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Length of Pod.	Yield per Acre.		Weight per Measured Bushel after Cleaning.
				Inches.	Inches.	Bus.	Lbs.	Lbs.
1	California Pea Bean	Sept. 12..	109	18-22	3½-4	42	20	64¾
2	White Field	" 21..	118	20-24	4 -4½	32	20	64
3	Marrowfat	" 23..	120	24-28	3¾-4½	27	20	63
4	Norwegian Brown	Aug. 29..	95	9-13	4¼-4¾	27	..	60¼

FLAX.

The plots of flax were one-fortieth of an acre. The seed was sown on May 25th, at the rate of 60 lbs. to the acre. The soil was a loam of good quality. The yield per acre is expressed in 'bushels' of 56 lbs.

FLAX—TEST OF VARIETIES.

Number.	Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Plants.	Weight of Seed per Measured Bushel.	Yield per Acre.	
				Inches.	Lbs.	Bush.	Lbs.
1	Riga	Aug. 18..	85	31-33	54	10	40
2	Russian	" 17..	84	35-37	53	9	30
3	Novarossick	" 29..	96	32-34	52	9	10
4	White Flowering	" 18..	85	31-33	54¼	8	..
5	Yellow Seed	" 22..	89	34-36	52	7	10
6	Common	" 18..	85	34-36	53½	4	20
7	La Plata	" 31..	98	31-33	52	4	..

MILLET.

The plots of millet were one-fortieth of an acre. The soil was a good rich loam. The seed was sown with a hand seed drill on May 12th. The plots were cut when the seed was in the doughy state.

MILLET—TEST OF VARIETIES.

Number.	Name of Variety.	Date of Cutting.	Length of Straw.	Character of Growth.	Weight per Acre, Green.	Weight per Acre, Dry.
			Inches.		Tons. Lbs.	Tons. Lbs.
1	Italian or Indian	Aug. 19..	59–63	Strong	14 1,840	6 1,360
2	Pearl or Cat-tail	" 19..	50–54	"	14 160	8 1,040
3	African	" 19..	70–74	"	13 480	7 1,120
4	Green Californian	" 19..	43–47	"	11 ..	6 240
5	White Round French	" 19..	60–64	"	10 1,280	5 1,200
6	Moha Hungarian	" 19..	48–52	"	8 1,200	4 1,680

FIELD ROOTS.

The advantage of late pulling for field roots having been clearly proved by the experience of several years, comparative tests, by pulling on two different dates about two weeks apart, were discontinued this season. All the roots were harvested at the one time, but the harvesting was left until quite late so as to enable the roots to make as large a growth as possible.

The yield per acre of the field roots is calculated from the weight of the crop gathered from one-hundredth of an acre.

The soil on which the field roots were grown was a good rich loam.

It is probable that in some instances varieties which are mentioned in these tables under different names are identical in all essential respects.

In Canada the ton contains 2,000 pounds.

TURNIPS.

Two sowings were made of each variety, the first on May 10th and the second on May 23rd. The seed was used at the rate of about four pounds per acre. Before sowing, the land was made up in drills two feet apart and rolled with a heavy land roller, which flattened the drills nearly one-half, leaving a firm seed bed. When the young plants were about three inches high they were thinned out, leaving them about seven inches apart in the rows.

The roots were pulled on October 25th.

TURNIPS—TEST OF VARIETIES.

Number.	Name of Variety.	Yield per Acre from 1st Sowing.		Yield per Acre from 2nd Sowing.	
		Tons.	Lbs.	Tons.	Lbs.
1	Perfection Swede	36	500	19	400
2	New Century	34	1,900	19	1,200
3	Jumbo	34	1,100	18	100
4	Kangaroo	34	800	20	200
5	Mammoth Clyde	33	1,700	16	1,500
6	Emperor Swede	32	1,400	15	1,300
7	Hartley's Bronze	32	1,300	17	1,600
8	Sutton's Champion	31	1,400	17	300
9	Magnum Bonum	31	500	23	1,500
10	Selected Purple Top	30	1,900	14	1,200
11	Carter's Elephant	30	1,600	15	700
12	Good Luck	29	1,700	16	100
13	Elephant's Master	29	1,000	11	300
14	Halewood's Bronze Top	29	600	14	600
15	Skirvings	28	1,700	11	100
16	East Lothian	27	1,300	13	900
17	Hall's Westbury	27	1,100	14	600
18	Bangholm Selected	26	1,100	10	1,700
19	Drummond Purple Top	24	400	13	..
20	Imperial Swede	23	200	16	750

The average yield from the 1st sowing was 30 tons 1,060 lbs. per acre.
The average yield from the 2nd sowing was 15 tons 1,852 lbs. per acre.

MANGELS.

Two sowings were made of each variety, the first on May 10th, and the second on May 23rd. The seed was used at the rate of about six pounds per acre. Before sowing, the land was made up in drills two feet apart and rolled with a heavy land roller to make a firm seed bed. When the young plants were about three inches high they were thinned out, leaving them about seven inches apart in the rows. The roots were pulled October 25th.

MANGELS—TEST OF VARIETIES.

Number.	Name of Variety.	Yield per acre from 1st sowing.		Yield per acre from 2nd sowing.	
		Tons.	Lbs.	Tons.	Lbs.
1	Half Long Sugar White	52	600	32	800
2	Prize Mammoth Long Red	46	700	25	1,500
3	Mammoth Yellow Intermediate	45	950	27	..
4	Prize Winner Yellow Globe	45	200	30	1,100
5	Leviathan Long Red	40	1,400	25	300
6	Giant Yellow Intermediate	40	1,250	24	1,600
7	Giant Sugar Mangel	40	900	26	300
8	Lion Yellow Intermediate	39	600	23	800
9	Ideal	37	900	29	600
10	Giant Yellow Globe	37	800	27	700
11	Selected Yellow Globe	37	800	21	1,400
12	Mammoth Long Red	37	700	23	800
13	Half Long Sugar Rosy	36	....	22	1,950
14	Yellow Intermediate	35	1,300	27	400
15	Gate Post	35	.. ..	31	....
16	Triumph Yellow Globe	29	500	28	1,500
17	Selected Mammoth Long Red	28	1,200	16	1,800

The average yield from the 1st sowing was 39 tons 165 lbs. per acre.
The average yield from the 2nd sowing was 26 tons 29 lbs. per acre.

CARROTS.

Two sowings were made of each variety, the first on May 10th, and the second on May 23rd. The seed was used at the rate of about six pounds per acre. Before sowing, the land was made up in drills two feet apart and rolled with a heavy land roller to make a firm seed bed. When the young plants were about three inches high they were thinned out, leaving them about five inches apart in the rows. The roots were pulled October 25th.

CARROTS—TEST OF VARIETIES.

Number.	Name of Variety.	Yield per acre from 1st sowing.		Yield per acre from 2nd sowing.	
		Tons.	Lbs.	Tons.	Lbs.
1	Mammoth White Intermediate	32	500	19	300
2	Improved Short White	30	1,700	19	1,300
3	New White Intermediate	30	1,600	21	1,400
4	Giant White Vosges	30	600	17	1,000
5	Ontario Champion	28	1,000	21	500
6	Carter's Orange Giant	24	600	20	600
7	Early Gem	23	1,200	23	300
8	White Belgian	21	1,100	18	300
9	Long Yellow Stump Rooted	21	600	18	500
10	Kos Kirsches	19	1,600	13	600
11	Half Long Chantenay	14	200	11	1,300

The average yield from the 1st sowing was 25 tons 427 lbs. per acre.
The average yield from the 2nd sowing was 18 tons 1,100 lbs. per acre.

SUGAR BEETS.

Two sowings were made of each variety, the first on May 10th, and the second on May 23rd. The seed was used at the rate of about six pounds per acre. Before sowing, the land was made up in drills two feet apart and rolled with a heavy land roller to make a firm seed bed. When the young plants were about three inches high they were thinned out, leaving them about five inches apart in the rows. The roots were pulled on October 25th.

Though all the varieties mentioned here are commonly classed as sugar beets, it should be noted that the only ones recommended for use in the manufacture of sugar are Wanzleben, French Very Rich, and Vilmorin's Improved.

SUGAR BEETS—TEST OF VARIETIES.

Number.	Name of Variety.	Yield per acre from 1st sowing.		Yield per acre from 2nd sowing.	
		Tons.	Lbs.	Tons.	Lbs.
1	Danish Red Top	40	1,300	25	200
2	Danish Improved	38	1,900	25	1,500
3	Red Top Sugar	36	900	17	1,300
4	Improved Imperial	32	1,600	20	600
5	Royal Giant	29	600	24	1,500
6	French Very Rich	29	....	17	300
7	Vilmorin's Improved	26	900	15	1,500
8	Wanzleben	25	600	14	400

The average yield from the 1st sowing was 32 tons 725 lbs. per acre.
The average yield from the 2nd sowing was 20 tons 162 lbs. per acre.

INDIAN CORN.

The corn was sown with the seed drill in rows thirty-five inches apart, and was also sown in hills thirty-five inches apart each way. When the plants were about six inches high they were thinned out, leaving them from six to eight inches apart in the rows, and leaving four or five plants in each hill. The seed was sown May 22nd, and the corn was cut green for ensilage September 11th. The yield has been calculated from the weight of crop cut from two rows, each 66 feet long. The soil was a rather heavy loam.

For the making of ensilage the corn should be cut when the kernels are in the late milk or doughy stage; but the summer at Ottawa is not always warm enough to bring the later varieties to this state of maturity before it is necessary to cut the crop to avoid frost.

In Canada the ton contains 2,000 pounds.

INDIAN CORN—TEST OF VARIETIES.

Number.	Name of Variety.	Character of Growth.	Height.	Leafiness.	Condition when Cut.	Weight per Acre grown in Rows.		Weight per Acre grown in Hills.	
			Inches.			Tons.	Lbs.	Tons.	Lbs.
1	Eureka	Very strong.	115 to 120	Leafy	Early milk.	37	1,130	36	380
2	Pride of the North	Strong	100 " 105	Very leafy	"	33	1,650	31	700
3	Thoroughbred White Flint	"	100 " 105	"	"	33	880	35	180
4	Red Cob Ensilage	Very strong.	125 " 130	Medium	"	32	1,450	27	560
5	Cloud's Early Yellow	Strong	105 " 110	"	Late milk.	32	1,340	27	340
6	Superior Fodder	"	115 " 120	Very leafy	No cobs.	32	900	33	1,100
7	Wood's Northern Dent	"	110 " 115	"	Early milk.	31	1,360	29	1,950
8	Longfellow	"	80 " 85	Leafy	Late milk.	31	920	24	730
9	Selected Leaming	"	115 " 120	Very leafy	Early milk.	31	700	26	1,900
10	King Philip	Medium	100 " 105	"	"	30	940	27	1,330
11	Early Mastodon	Strong	105 " 110	"	"	30	60	26	1,020
12	Giant Prolific Ensilage	"	110 " 115	"	No cobs.	29	1,620	26	1,900
13	Salzer's All Gold	"	105 " 110	"	"	29	1,620	31	1,800
14	Evergreen Sugar	Medium	95 " 100	Leafy	Late milk.	29	520	29	300
15	Early Butler	Very strong.	110 " 115	"	Early milk.	28	1,750	29	1,620
16	Compton's Early	Strong	80 " 85	"	Late milk.	28	1,310	25	710
17	Champion White Pearl	Very strong.	110 " 115	Medium	Early milk.	27	1,880	24	400
18	Angel of Midnight	Medium	95 " 100	Very leafy	Early milk.	27	450	26	360
19	White Cap Yellow Dent	Strong	100 " 105	"	"	27	450	27	780
20	Mammoth Cuban	"	105 " 110	Leafy	"	26	1,900	27	1,550
21	North Dakota White	Medium	94 " 100	Very leafy	"	26	1,900	26	30

The average yield from the rows was 30 tons 987 lbs. per acre.
The average yield from the hills was 28 tons 1,221 lbs. per acre.

INDIAN CORN SOWN AT DIFFERENT DISTANCES.

Three varieties were chosen for this test: Champion White Pearl, Selected Leaming, and Longfellow. The seed was sown May 22nd, and the corn was cut for ensilage September 11th. Sixteen rows of each variety were sown, that is, four rows at each of the distances mentioned, and the yield per acre has been calculated from the weight of crop obtained from the two inner rows in each case. The length of the portions of the rows cut for weighing was 66 feet.

Name of Variety.	Distance between the Rows.	Character of Growth.	Height when Cut.	Condition when Cut.	Yield per Acre.	
	In.		In.		Tons.	Lbs.
Selected Leaming	21	Very strong.	95—100	Early milk..	30	1,992
"	28	"	100—105	" ..	32	1,706
"	35	"	100—105	" ..	27	1,660
"	42	"	100—105	" ..	30	912
Champion White Pearl..	21	"	110—115	" ..	29	590
" "	28	"	115—120	" ..	30	66
" "	35	"	115—120	" ..	32	900
" "	42	"	115—120	" ..	29	280
Longfellow	21	Medium....	90— 95	Late milk ..	26	1,676
"	28	"	95—100	" ..	24	504
"	35	"	95—100	" ..	27	340
"	42	" ...	95—100	" ..	27	1,736

FIELD PLOTS OF POTATOES.

As the experimental plots of field roots and fodder corn do not occupy the whole of the field in which they are placed, the remaining space is usually filled with potatoes, such varieties being grown as are likely to be of service in the annual distribution of samples from this Farm.

The area devoted to the different varieties varies considerably. This season the plots were from about one-quarter to three-quarters of an acre in size.

The potatoes were planted May 15th, and were dug September 29th.

In spite of repeated sprayings with Bordeaux mixture, those varieties which were grown in rather heavy soil were considerably affected by rot. The varieties grown in rather light soil were not much affected.

The yield per acre is expressed in 'bushels' of 60 lbs., and includes only the sound potatoes.

Number.	Varieties Grown in rather Light Soil.	Yield per Acre.
		Bushels.
1	Dr. Mærker	274
2	Early White Prize	241
3	Money Maker	225
4	Everett	217
5	Reeve's Rose	207
6	Rochester Rose	206
7	Burnaby Mammoth	182
8	Canadian Beauty	157
9	Late Puritan	140

Number.	Varieties Grown in rather Heavy Soil.	Yield per Acre.
		Bushels.
1	Swiss Snow Flake	202
2	Uncle Sam	166
3	American Wonder	162
4	Bovee	149
5	Carman No. 1	145
6	Vick's Extra Early	143
7	State of Maine	94

REPORT OF THE POULTRY MANAGER.

(A. G. GILBERT.)

OTTAWA, December 1, 1905.

To Dr. WM. SAUNDERS, C.M.G.,
Director Dominion Experimental Farms,
Ottawa.

SIR,—I have great pleasure in submitting to you the eighteenth annual report of the Poultry Division of the Central Experimental Farm.

Whether discussing some of the more recent phases of poultry development or giving detailed account of the experimental work carried on during the past year, there was always the intention of conveying to the farmers of the country and others interested such information as would be found of practical benefit to them.

With this object in view the first portion of the report is devoted to the consideration of certain changes which have lately taken place in the home market, the requirements of which, while they have become more exacting, have also become more valuable.

A number of extracts are quoted from letters written by farmers who not only show in these quotations large margins of profit made by them in catering, with poultry products of the best quality, to the more exacting demands referred to; but also describe their methods of management and the rations used by them in bringing about these profitable results.

The second part of the report gives detailed account of the experimental work of the year which, for the most part, was carried on under the immediate supervision of my assistant, Mr. Victor Fortier. To his careful and systematic recording of the *data* relating to the different experiments in combination with a thorough knowledge of the details of poultry breeding, much of the interesting experience gained is to be attributed.

I have pleasure in acknowledging the attention and correctness shown by Mr. Summers in securing results of the trap test, and other experiments entrusted to his care. Mr. George Deavey has been active and regular in the performance of the work allotted to him.

During the latter part of the season a small poultry house of new pattern with scratching shed attachment was erected and will be used in promoting the work of building up hardy and prolific winter egg laying strains of fowls.

Addresses were given by the writer during the year at different points throughout the country.

Mr. Fortier addressed meetings, or attended poultry shows at St. Therése, Cowansville, St. Hyacinthe, Three Rivers, Quebec City, Rivière du Loup and St. Justin, in the province of Quebec, and Ottawa, later in the year.

An exceedingly useful and instructive exhibition was made by our Division at the Central Canada Exhibition held during the second and third weeks of the month of September last. The display showed the methods adopted and appliances used in the prosecution of the work of our department as well as a number of birds of very fine type and quality, which received much appreciative comment.

The letters received during the year numbered 2,993, and those sent away, 3,043. Besides a large number of reports were despatched in response to requests for them.

For further particulars relating to the work of the past year, I beg to refer you to the following report.

I have the honour to be, sir,

Your obedient servant,

A. G. GILBERT.

REPORT OF THE POULTRY DIVISION.

There are certain features in connection with the work carried on by this Division during the past year that warrant more than passing notice. A brief discussion of these features, which not only mark distinct advance in the poultry branch of farm work but directly affect the production and consumption of poultry and eggs, will doubtless be of interest to producers, purveyors and consumers.. Among the subjects considered are:

1. Continued high prices for midsummer eggs, but which must be strictly new laid.
2. Decreased exports notwithstanding increased production.
3. Has the cost of production kept pace with increased prices?
5. Is the home production of the better quality of poultry and eggs equal to our local demands?
6. Some difficulties in the way of placing strictly new laid eggs and the desirable type of chickens on the market.
7. Letters from farmers showing large margins of profit made by the sale of reliable eggs and the superior quality of poultry.

A marked feature of the year was the greatly increased demand from all parts of the country, but chiefly from farmers, for information as to the most suitable breeds of poultry and their proper management, and for the fowls themselves for laying, market or breeding purposes, far beyond the capacity of our department to supply.

While these are all gratifying instances of growing interest in this branch of farm work, that there is great room for further development is proved by the fact that the supply of the better quality of poultry and eggs is yet far short of the demands of the home and British markets. Another sign of the rapidly growing value of our home market is the continued high value of eggs laid in the midsummer months. To find a reason for these high prices is the subject of much speculation among those who cannot see why summer eggs should be worth more now than heretofore.

CAUSES OF THE HIGH PRICE OF SUMMER EGGS.

One likely reason for the continued high price of midsummer eggs was said in report of last year, 1904, to be the more general practice on the part of farmers and poultry fanciers of having their fowls moult in summer. As the moulting period is one of comparative non-production and usually occupies from 8 to 10 weeks, its effect on the heretofore large midsummer egg supply, will readily be appreciated. More recent investigation shows another likely cause for the midsummer shortage of eggs to be the practice on the part of dealers or their agents of purchasing during the summer months from farmers or village storekeepers large numbers of eggs for the purpose of preservation in cold storage or by other means.

These eggs are purchased at the lowest price and held over for sale in the city markets when values are at their highest.

WHY SHOULD EXPORTS OF POULTRY AND EGGS DECREASE IN THE FACE OF INCREASED PRODUCTION?

As compared with the exports of poultry and eggs for the year 1904, amounting to $1,250,197, those of the succeeding year 1905, valued at $858,289, show a considerable falling off. The first inclination on reading these figures would be to attribute the decline in value to a lessened demand on the part of the English consumers. But the reverse is actually the case, for Canadian poultry and eggs were never in greater request or better repute than they are at present. What then is the cause of the decrease in the export value of these articles? This question is frequently asked. There is an explanation therefor. Close observation of and experience in the different phases of poultry and egg production suggest the following influences as likely to have brought about the present state of affairs, viz.:—

1. Increased home consumption with increased prices.
2. The higher price of meat which has resulted in a greater consumption of eggs.
3. A greater and growing appreciation of the better class of poultry and eggs which can only come from carefully reared chickens and cleanly fed hens.
4. The extra care and effort required in obtaining the 'selected' article, which as a result is calculated to be in lesser than greater supply.
5. A popular opinion that there is less waste in a dozen eggs even at advanced prices than there is in meat of the same value.
6. The convenience and despatch with which eggs may be prepared as food under many varied conditions.

HAS THE COST OF PRODUCTION INCREASED WITH ENHANCED VALUES?

This is another question that frequently occurs in connection with the increased values of poultry and eggs. In reply it may be said that experience tends to show that there should be lessened rather than increased cost of production to the different classes of producers, who are acquainted with up to date poultry management and in this way:—

To the farmers of the country in the more general use of many forms of waste, convenient to them, and which hitherto may have been unthought of or neglected factors as applied to poultry keeping. Among these forms of waste may be classed refuse of table and kitchen; unmarketable roots or vegetables; small grains which may be ground up and made into mash; chaff or short straw or hay, which can be used for litter or scratching material on the floor of the pens, heads, livers or other forms of meat waste; skimmed milk, curd, whey, &c., which can be used to good purpose in the fleshing of chickens and in egg production; and farmers have their grain at cost.

To specialists and other poultrymen, many of the aforementioned forms of waste will doubtless be available, as well as numerous preparations of meat, meals and clover —the by-products of farm, factory and packing house. These and other preparations of grit, and broken oyster shells are put up in convenient packages and sold at reasonable prices by poultry supply houses, or their agents throughout the country.

Until recent years the use of these essentials was little understood nor were they easy to procure, but the development of poultry keeping created a demand for them and in response the supply came.

The better appreciation and more general use of these varied forms of waste and by-products—so long as the latter are cheap and effective—should tend to prevent an increase in the cost of production, if not to actually lessen it.

HAS THE PRODUCTION OF THE BETTER QUALITY OF POULTRY AND EGGS KEPT PACE WITH THE HOME DEMAND?

This is a question that is the subject of much interesting speculation. It is one that presents itself in connection with the growing value of the home market for the

better quality of poultry and eggs. Increasing prices show that the supply is yet short of the demand. There can be no doubt that the home requirement for both these products is far greater to-day than ever before and equally true is it that the taste of our home consumers for the better quality was never more exacting than it is to-day. This is instanced in the increased demand in summer for the 'strictly new laid egg' with the flavour peculiar to it. The leading purveyors of the cities do not hesitate to say that their customers are no longer content with the vague assurance 'that the eggs are probably fresh.' If after they are bought the eggs turn out to be bad the seller is sure to hear about it. So the city or town grocers, like their customers, become more exacting, and the farmers or collectors in turn have to be more cautious as to the freshness of the eggs and quality of the poultry they sell.

Perhaps the exacting nature of these demands is a cause for the apparent difficulty in meeting them. It has already been remarked that 'increased care and effort' are required to produce the 'selected' article. This at once means higher value for the greater labour expended. Certain it is that these are causes for the comparatively slow response on part of producers to remunerative margins of profit. These profits are shown in a later page by the farmers who made them by catering to the 'exacting' demands referred to with high class products. Long experience has shown that there are certain conditions which govern the production of the high priced article. These conditions must be unflinchingly observed by farmer, amateur, or professional manager of a poultry plant before they can place the 'selected' or 'guaranteed' eggs and plump chickens—which will bring the highest prices—into the hands of leading city purveyor or private customers. These conditions are named as follows:

CONDITIONS TO BE OBSERVED IN THE PRODUCTION OF 'SELECTED' EGGS AND POULTRY.

SUMMER EGGS of undoubted freshness and flavour must be—

(*a*) Strictly new laid when sent to city dealer or sold to private customer.

(*b*) They should reach the consumer within one week of being laid.

(*c*) Non-fertilized.

(*d*) After being taken from nests—until shipped or sold—should be kept in a sweet smelling cellar or cupboard.

WINTER EGGS—

(*a*) Should be collected before being frozen.

(*b*) Sent to city dealer, customer or sold on market within ten days of laying.

(*c*) Kept meanwhile in clean, sweet smelling storing place.

(*d*) Preferably non-fertilized, but this is not so strictly insisted on as in the case of summer eggs, for in winter there is not the same risk of germ development.

EGGS OF BOTH SEASONS.—In order to have the desirable flavour at all seasons eggs should come from cleanly fed and kept hens. The fowls should not have access to decaying animal, or, vegetable matter. This particularly applies to summer. The nests at all times should be clean, comfortable and free from lice. The largest eggs will be laid by hens. Pullets may yield a greater number but their eggs will be found to be of smaller size. Whether laid by hens or pullets the eggs to be of large size and good quality must come from generously fed birds.

POULTRY OF BEST QUALITY.—To have chickens of the desirable type and quality they require to be:—

(*a*) Of correct market type. This is brought about by breeding from parent stock of like type.

(*b*) They should be carefully housed and regularly fed from time of hatching until saleable age.

(*c*) They should not be expected to 'pick up all their own living.' This practice is too common. Chickens so treated or in any other way neglected are not likely to make good market specimens, breeding stock or show birds.

(*d*) Chickens, their coops and colony houses should be kept free from lice. Lice-infested chickens do not thrive.

(*e*) A thriving chicken should be a hearty eater, an industrious forager and quick grower.

The faithful observance of the foregoing conditions is likely to be followed by the best results in the rearing of the better class of table poultry and the obtaining of reliable eggs. The proper food and treatment for chickens will be found in a following page.

APPRECIATION OF THE BETTER QUALITY.

Farmers and others who contemplate going into poultry and egg production will find it to their advantage to correctly size up the requirements of the present day markets. They should, from the outset, make it a rule to produce none but the best quality of poultry and eggs. That the better quality receives the highest price is shown in the following letters from farmers, their wives or daughters:—

PETROLEA, November 20, 1905.

DEAR SIR,—I am offered by Mr. Gatehouse, of Dorchester street, Montreal, to whom you referred me, the following prices:

Eight to 10 cents per lb. for ordinary farm chickens; 10 to 14 cents per lb. for fattened chickens *according to quality*.

Fresh eggs 40 cents per dozen, with the prospects of an advance in a few days. I received his letter a week ago (November 13).

The poultry prices I did not consider high enough to tempt me to ship. Eggs at prices named would pay me well. As a result I may keep one hundred pure bred hens. Those I have are mixed.—HATTIE E. S.———.

In reply, the above correspondent was advised to carry out her intention of keeping none but pure bred Plymouth Rocks, which would not only give her eggs, but chickens of the most acceptable market types. In this way she would have opportunity to receive the highest values for both articles.

The following is an instance where the best quality poultry, properly plucked and dressed, received the highest prices:

MYRTLE, ONT., October 23, 1905.

DEAR SIR,—We sent our poultry to Mr. H. Gatehouse, Dorchester street, Montreal, and received the following prices for them: Barred Plymouth Rock cockerels (dressed) 15 cents per lb. Ducks—Pekin and Rouen—of large size and good quality, 16 cents per lb.

It cost one cent per lb. for express charges to Montreal. The cockerels were dressed in the same manner as were the poultry shown by the Central Experimental Farm at the Central Canada Exhibition in Ottawa last month (September). They were plucked but not drawn, with feathers on wing tips, and their heads placed under their wings. We send all our poultry to Mr. Gatehouse.—(Sgd.) MRS. F. LEA.

The following is another instance of the better quality receiving best prices:

ELMHURST, RAMSAY, November 14, 1905.

DEAR SIR,—In July last I sold April hatched chickens at 20 cents per lb. In August the May chicks at 16 cents per lb. Live weight in both cases. Up to this date I have sold 90 cockerels.—MRS. JOS. YUILL.

MARGINS OF PROFIT MADE BY FARMERS. INSTANCES OF SUCCESSFUL MANAGEMENT.

The question as to possible margins of profit in poultry keeping is frequently asked. For many years past it has been the contention of enthusiastic advocates of

poultry culture that, when properly managed, no branch of farm work should pay a better margin of profit. In reports of this department for many years past it has been held that, by obtaining eggs in winter and selling them at city prices, in combination with the rearing of the best types of market chickens in early summer, a margin of from one to two hundred per cent profit should be made by farmers, according to their near location to or distance from a city market. That these calculations, made after long experience, were not over-estimated is shown by the following instances of successful poultry management, and related by farmers over their own signatures, in leading agricultural papers of recent date. These statements are doubly valuable for they not only show large margins of profit, but the methods of feeding and management whereby they were made:—

STATEMENT 1.—Made by Mr. J. R. Henry, of Wentworth County, in *Farmers' Advocate* of March 9, 1905: 'Have had eggs all fall and winter in good supply. Have kept account, and have sold more than $2 worth of eggs for every $1 worth of feed consumed. And in growing early chicks for market, have made $3 for $1 cost. I find I can raise chicks to eight weeks for $8 per hundred, and make them ready for market. Yes, my hens pay and pay well.

'In feeding, I try to follow, in part, Ottawa Experimental Farm teachings. Morning, first thing, a little tasty mash, but not more than a pint to twenty-five hens. Then stir up the litter, and scatter a half pint of screenings; this again at noon. Open up the windows and doors, unless storm beats in. During day, clover leaves in trough, also apples and apple peelings. I like to hang cabbage and mangels for them to pick at high enough that they have to reach or jump for them. I think it best to feed the green bone or other animal food about two hours before sundown each day, about one-half ounce to each hen. Then give a final feed of grain in the straw, about two quarts to twenty-five hens. Then, at sundown give a mash composed of cooked potatoes and peelings, with any kitchen scraps, with chop and shorts stirred in until stiff—all they will eat. Water, grit and oyster-shell at will. I think wheat the best all-round grain, if we were compelled to use only one kind. Always, when wheat is high, eggs are dear also, so we can draw a safe conclusion.'

STATEMENT No. 2.—By Mr. J. F. Riddle, of Norfolk Co., Ont., in the *Farmers' Advocate* of March 2, 1905, and which shows a large margin of profit from his hens and his manner of feeding them, viz.:—

'In the year 1903 I kept 40 females (Barred Plymouth Rocks) and they netted me $34 over and above the feed bill. In 1902 my sales amounted to $101.40, with net profit of $43.36. In 1901 receipts were $103.50, my profit being $52, but I cannot say how many I kept these two years.

'I have always fed a variety of grains—wheat and buckwheat forming the principal part—with very little corn or oats. I give one or two messes of cooked vegetables, mixed with shorts, each week, with cabbage or mangolds for a change. They get green-cut bone or liver two or three times a week; also clover leaves, either dry or in the mash. They get a warm mash nearly every day, either night and morning. I strive to keep them busy and contented the whole day long.

STATEMENT No. 3.—By Mr. E. C. Parker, Compton, Que., March 16, 1905.—An estimate of the profit to be made from selling eggs during the summer and winter months may fairly be had by calculating that it costs during summer 5 cents to produce a dozen eggs, which sell for 16 cents, a moderate value at that season. Allowing that it costs twice as much to produce a dozen eggs in winter, when they sell in Montreal at 35 to 50 cents per dozen, as I show later on, we still have a profit of from 25 to 35 cents per dozen. From 100 April and May hatched White Wyandottes (50 of each), I got $14.30 worth of eggs in November, 1903. In December of same year they laid 1,141 eggs. In January, 1904, they laid 1,385, about 115 dozen. In February they laid 1,393 eggs. The prices received per dozen were: Novem-

ber, 40c.; December, 50c.; January, first two weeks, 45c., last two weeks, 40c.; February, 40c. for the first three weeks, 35c. for the last week. The total amount received by me from Mr. Graham, of Montreal, was $149.41. This record is to March 1. My methods of management are and have been as follows:—By selecting the best I have now no poor egg layers. I keep 6 to 8 inches of straw on the floors of the pens, and change it about once per week. The whole grain is fed in the litter during the winter. Rations are:—

Morning (early).—Cracked corn.

About 11 a.m.—Mangels or cabbages.

Noon.—Wheat.

P.M. ration.—Mash composed of second crop clover hay (cut), bran, middlings, ground oats, cornmeal and a small part of meat meal.

Any spare skimmed milk is also given to the fowls. I am a great believer in fresh air, and my houses are open every fine day during winter, and as a result they are always dry, and I have few cases of sickness. I do not believe that hens kept in the manner outlined, and if of a good egg-laying strain, get too fat to lay, so I feed them all they will eat up clean. I never could get hens to lay well unless they were fat and well fed.'

The last statement is most important, as the experience gained in our department in the winter feeding of the laying stock in cold quarters leads to the same conclusion.

STATEMENT No. 4.—By Mrs. Joseph Yuill, of Ramsay, Ont., near Carleton Place. 'I never had such good results from my fowls as I have had during the past year. I have cleared $17 per month from 35 hens from December 1, 1904, to end of March last. This from eggs only.'

STATEMENT No. 5—By Mr. John Nadeau, East Montmorenci, Que.: 'Last fall I began with 15 hens of different kinds. They were put into a poultry house 15 x 17, with a scratching shed attached 10 x 18. I fed as follows :—

'Morning Ration.—Warm mash composed of bran, ground oats and ground barley.

'Noon.—Oats and barley mixed. Sometimes buckwheat or wheat replaced the barley. This was thrown into the litter on the floor of the scratching shed to cause the hens to search for it.

Afternoon.—Oats and barley, or wheat or buckwheat mixed in lieu of the latter. This was always thrown into the litter. Every effort was made to keep the fowls busy.

'On May 2 last, I set three hens (old) on 39 eggs, and from them received 32 strong and vigorous chickens. I attribute the fertility of the eggs and the strength of the germs to the exercise, fresh air and plenty of room.

'Between the fall of last year and October 2 of this year (1905), I sold eggs and chickens which made me $26.79 above all expenses. This may seem a small amount of profit, but I have on hand 44 hens and a cockerel.'

EXPERIMENTAL WORK.

The experimental work of the year began in the latter part of October, 1904, when the following work—preliminary to the birds going into winter quarters—was performed, viz.:—

The pullets were removed from the cockerels into their future winter quarters. This was done for the reason that the pullets at this season are apt to be annoyed with the attentions of the more precocious cockerels—particularly those of the Mediterranean breeds.

The pullets were placed by themselves so that they could be better cared for and more generously fed in order to induce early laying. This method of treatment will be found decidedly beneficial.

Care was taken by judicious feeding to prevent the older hens from going into winter quarters over-fat, which they are likely to become if heavily fed before beginning

to lay again. To still further prevent any risk of becoming over-fat the hens were not kept in the same pens with pullets. Experience has shown that pullets will lay well and keep in good condition on rations which are likely to make older hens too fat.

COMMENCEMENT OF WINTER LAYING.

The fowls were well over their moult and in good condition when they went into winter quarters, towards the end of November. Winter laying commenced at the beginning of December. The first hens to lay were Barred Plymouth Rocks, Buff Orpingtons, Silver Grey Dorkings, Buff Leghorns and Silver Laced Wyandottes. Egg laying was fairly general by the third week of the month. As at a similar period during the previous year the weather was extremely cold, and new laid eggs were in limited supply and high in price, especially during the Christmas season.

BUILDING UP PROLIFIC EGG LAYING STRAINS OF FOWLS BY MEANS OF TRAP NESTS. DETAILS OF FIRST YEAR'S RESULTS.

In January, 1904, the work of building up prolific egg laying strains of fowls was commenced. There are two methods by which this purpose may be accomplished. One is by 'observation' of the birds, and the other by 'trap nests.' The latter method was adopted as likely to prove most correct. The manner of operating the trap nests, may be described as follows: Each fowl, in the different laying pens, bears a number affixed to one of its legs. On entering a nest to lay the hen involuntarily releases a hinged door which falls and closes the exit and also prevents another fowl from making her way into the nest. After the hen in the nest has laid she is released by the attendant, who notes her number and marks it on a card conveniently situated in each pen. A complete history of each individual hen is so secured. The following tables show the results from the use of the trap nests for the first year and their value in making plain the good and bad qualities of the individual members of the laying pens. Additional information shows the composition and cost of the rations used, the value of the eggs sold and the profits made by each group of fowls.

TABLE 1.—Individual hen records shown by trap nests. 12 Barred Plymouth Rock hens, 3 years old. Pen 1.

FROM DECEMBER 1, 1904, TO NOVEMBER 1, 1905.

Hen No.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total of Eggs laid.	Remarks.
	1905											1904		
1	1	0	0	17	24	10	4	14	5	0	....	9	80	Broody and broken up twice during season.
19	0	0	23	19	16	13	7	4	3	0	...	0	85	" "
36	16	20	16	10	0	10	0	0	0	0	....	0	72	Used for setting from April 19 to May 12.
37	0	0	12	20	11	18	12	0	0	0	....	0	73	Broody twice during season, but broken up.
*41	0	1	15	14	0	0	0	0	0	0	...	0	30	Used for setting from Apl. 29 to July 1.
49	5	16	19	2	0	0	10	3	8	0	....	0	63	Setting from Apl. 7 to June 1.
62	2	10	0	16	...	...	....	....	....	....	....	0	28	Died April 28, '05.
*71	1	1	4	12	9	18	0	0	0	0	....	0	45	Broody once, but broken up.
89	11	19	24	17	0	0	17	6	10	19	....	0	125	Setting from Apl. 20 to July 3.
*86	7	5	1	3	8	1	0	0	0	0	....	0	25	Broody 3 times, but broken up.
*96	0	6	19	13	0	...	...	....	....	....	....	0	38	Died June 5, 1905.
100	0	1	20	17	21	7	0	0	0	0	....	0	66	Showed no inclination to set.
						1							1	This egg was laid in the straw on the floor of the pen.
Total.	43	77	158	159	89	78	50	23	26	19	....	9	731	

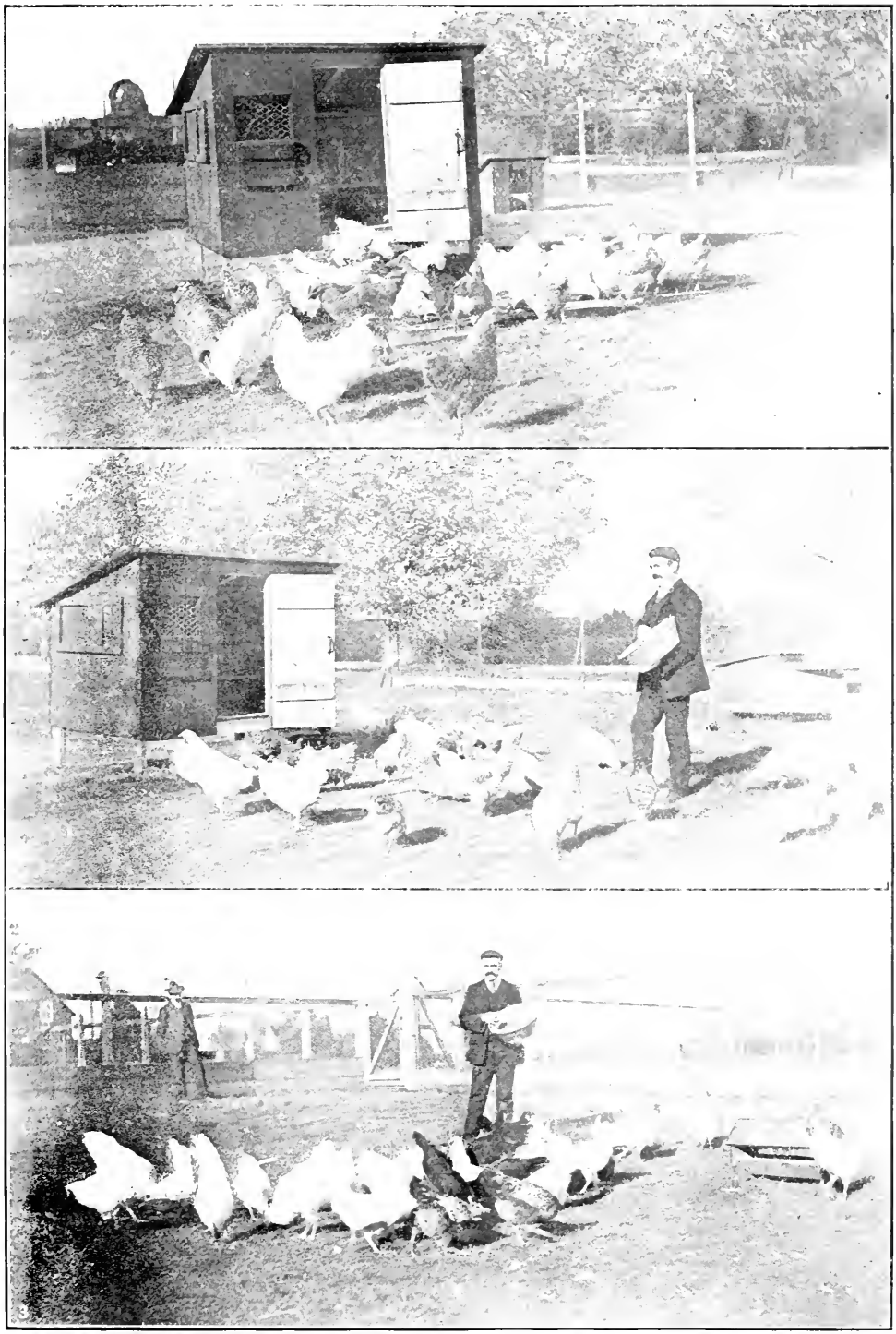


Photo. by F. T. S. W.

1.—Chickens from Fowls kept in Unheated Houses with Scratching Shed attachment.
2.—Chickens from hardy strains. Colony House on the left; Brooder on the right.
3.—Pullets and Cockerels from good egg-laying fowls.

Hens marked * were the poorest layers, and were neither used for breeding stock in our department nor were they sold for a like purpose.

RATIONS.

The rations used in feeding the above fowls were of the following composition: Whole grain ½ wheat ½ oats mixed, 1½ lbs. to each pen per day. Mash (wet) 1 lb. per day, composed of 2 parts shorts, 1 part ground oats, 1 part ground barley. Grit and oyster shells in regular supply. No meat, bone or roots were given to the fowls in this pen.

EXPENDITURE AND RECEIPTS.

Value of grain consumed, 435 lbs. at 1¼c. lb	$5 44	
" mash consumed, 178 lbs. at 1c. per lb	1 78	
" grit and shell consumed, 30 lbs	0 25	
" 15 egg boxes for shipping at 8c. each	1 20	
		$8 67

RECEIPTS.

Value of 506 eggs sold for eating	10 55	
" 15 settings of eggs of 15 each	15 00	
		$25 55

or, $1.40⅔ per hen. Gain by this pen of $16 88

Eggs for eating purposes were sold during the year at the following prices, viz.:—Dec., 1904 and Jan., 1905, at 40c. per doz.; Feb., 35c.; March, 22c; April, May, June and July, 18c.; Aug., 20c.; Sept., 25c.; Oct., 30c.; Nov., 30c. These prices apply to all following cases where eggs were sold for eating.

The above table also shows that the average time taken to 'break up' a hen when broody was 6 days and it was 6 days more before she began laying again.

In the cost of the rations is included the feeding of the male bird from January to July. It is the same in following tables.

TABLE 2.—Individual Hen Records shown by Trap Nests, Barred Plymouth Rock hens, 3 years of age. Pen No. 2.

FROM DECEMBER 1, 1904, TO NOVEMBER 1, 1905.

Hen No.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total of Eggs laid.	Remarks.
	1905											1904		
**4	0	0	2	18	14	10	0	0	0	0	....	0	44	Showed no broodiness.
**5	0	0	0	3	1	0	0	0	0	0	....	0	4	"
*20	0	1	0	10	10	4	11	0	0	0	...	0	36	Broody once, and broken up.
25	2	14	18	18	19	8	3	0	0	0	....	3	76	" "
30	0	1	16	13	9	5	7	5	1	0	....	0	57	Broody 5 times, but broken up.
*35	0	0	5	15	13	8	1	0	0	0	....	0	42	Broody once "
37	0	0	0	19	10	9	13	6	5	0	...	0	62	" four times "
67	1	15	5	12	12	9	2	4	2	0	....	0	62	" six " "
77	9	19	8	9	11	12	12	4	5	8	...	11	108	Broody in Mch. Used as setter from Apl. 7 to May 7. Broody but broken up four times after this.
78	0	0	16	6	2	10	11	1	0	0	....	0	46	Broody but broken up 3 times.
91	17	17	20	25	24	7	19	10	3	14	....	16	172	" once but broken up.
*98	0	0	10	15	13	2	0	0	0	0	....	0	40	" " "
						1			1				2	These eggs were laid in the straw on the floor.
Totals	29	67	100	163	129	85	79	30	17	22	....	30	751	

* Hens marked with an asterisk were the poorest layers, and were neither used nor sold for breeding purposes.

RATIONS.

Rations and their composition used in feeding above pen of fowls were as follows:—

Whole grain ration. ½ wheat, ½ oats, fed in quantity of 1½ lb. per pen per day.

Mash—same as in Table I, but fed once every three days and in quantity of ¾ lb. instead of 1 lb. per pen.

Cut bone and roots three times per week.

Grit, oyster shells, drink water in regular supply.

EXPENDITURE AND RECEIPTS.

Cost of grain, 450 lb. at 1¼c. per lb.	$5 62	
" mash, 130½ lb. at 1c. per lb.	1 31	
" cut bone, 34 lb. at 2c. per lb.	0 68	
" roots (in winter), 52 lb. at ½c. per lb.	0 26	
" grit and shell, 29½ lb.	0 20	
" 18 egg boxes for shipping at 8c. each	1 44	
		$9 51

RECEIPTS.

Value of 481 eggs sold for eating	$9 87	
" 270 eggs for breeding, 18 settings of 15 eggs each	18 00	
		$27 87
Gain of		$18 36

or $1.53 per hen.

TABLE No. 3.—Individual Hen Records shown by Trap Nests, White Plymouth Rocks, three years of age. Pen No. 3.

FROM DECEMBER 1, 1904, TO NOVEMBER 1, 1905.

Hen No.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total of Eggs laid.	Remarks.
	1905											1904		
*3	0	0	0	0	0	0	0	....	....	....	....	0	00	Died August 15, 1905.
*10	0	0	0	14	18	0	0	0	0	0	....	0	32	Did not become broody.
32	21	22	13	18	24	5	10	0	0	15	....	17	145	Broody 3 times but broken-up.
68	0	7	7	14	22	13	0	4	0	0	....	0	67	Did not become broody.
76	1	0	....	....	....	....	....	....	....	....	....	0	1	Died Feb. 16.
86	0	2	....	....	....	....	....	....	....	....	..	0	2	Died March 7.
93	0	5	13	10	16	11	8	0	0	0	....	0	63	Did not become broody.
*95	0	0	4	19	9	0	1	0	0	0	....	0	33	" "
30	0	3	6	25	22	22	11	5	0	0	....	0	94	Broody once; broken up.
46	0	....	....	....	....	....	....	....	....	....	....	0	00	Died Jan. 23.
55	0	0	10	23	23	20	11	0	9	0	....	0	96	Did not become broody.
100	2	13	7	24	24	21	10	0	10	17	....	0	128	" "
Totals..	24	52	60	147	158	92	51	9	19	32	....	17	661	

Hens marked thus * were poor layers, and were neither used nor sold as breeding stock.

RATIONS.

Rations fed to above pen of fowls were:—
Wheat 1½ lbs. per diem.
Cut bone, ¾ lb. to 1 lb. every second day.
Roots, ¾ lb. every second day.
Mash was given in summer time to replace the cut bone and in the same quantity, viz., 1 part shorts, 1 part meat meal.

EXPENDITURE AND RECEIPTS.

Value of grain, 398 lbs., at 1¼c. per lb.	$4 98
" mash, 125 lbs. at 2c. per lb.	2 50
" roots, 137 lbs. at ½c. per lb. (in winter)	0 68
" grit and shell, 24 lbs.	0 20
" 11 egg boxes for shipping at 8c. each	0 88
	$9 24

RECEIPTS.

Value of 503 eggs sold for eating	$10 08
" 158 eggs sold for breeding, 10½ settings of 15 eggs each	10 50
	$20 58
Gain of	$11 34

or $1.13 per hen (10 birds in pen).

Nos. 30, 55 and 100 which were pullets were selected with other good layers for breeders. It will be noticed that several hens in this group did not become broody. Their selection for breeding stock might be the first step in building up a non-setting strain of White Plymouth Rocks.

TABLE No. 4.—Individual Hen Records by Trap Nests, Buff Orpington Hens, two years of age. Pen No. 4.

FROM DECEMBER 1, 1904, TO NOVEMBER 1, 1905.

Hen No.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total of Eggs laid.	Remarks.
	1905										1904			
*1	0	1	5	2	0	0	0	0	0	0	....	0	8	Showed no desire to sit.
7	7	20	12	12	10	6	4	6	0	0	...	0	77	Broody 3 times; broken up.
12	18	10	11	0	0	0	12	4	3	0	....	2	60	Broody 4 times and set from June 2 to 23.
17	9	1	25	0	18	4	12	0	5	0	....	12	86	Broody 3 times; broken up.
23	4	5	15	0	13	0	9	5	0	0	...	15	66	Broody 3 times; set May 23 to June 17.
47	18	13	9	2	0	0	5	2	0	0	....	0	49	Broody twice; set and raised chicks from April 17 to July 13.
53	14	15	16	5	13	6	5	6	1	8	...	13	102	Broody 6 times; broken up.
63	0	2	21	3	0	12	6	3	7	0	....	0	54	Set from April 7 to May 3; Broody twice afterwards.
66	7	8	19	6	15	12	8	1	9	0	....	6	91	Broody 4 times; broken up.
76	16	7	12	14	0	14	10	0	3	6	....	15	97	" 5 "
*86	0	1	5	5	10	9	3	5	1	0	....	0	39	" 1 "
*90	0	0	0	0	0	13	1	0	0	0	...	0	14	" 1 "
	....	....	....	....	1	1	....	....	....	....	....	....	2	These two eggs were laid in the
Totals .	93	83	150	49	80	76	75	32	29	14	...	63	745	straw on the floor.

The three hens marked * were neither used nor sold for breeding stock.

RATIONS TO ABOVE GROUP.

Whole grain ration composed of ½ wheat and ½ oats, 1½ lbs. per day.
Mash, twice per week.
Cut bone and roots, twice per week.
Grit, oyster shells and drink water in abundant supply.

EXPENDITURE AND RECEIPTS.

Cost of grain, 456 lbs. at 1¼c. per lb.	$ 5 70	
" mash, 135 lbs. at 1c. per lb.	1 35	
" cut bone, 35 lbs. at 2c. per lb. (in winter)	0 70	
" roots, 50 lbs. at ½c. per lb. (in winter)	0 25	
" grit and oyster shell, 35 lbs.	0 25	
" six egg boxes for shipping at 8c. each	0 54	
		$ 8 79

RECEIPTS.

Value of 655 eggs sold for eating	$14 63	
" 90 eggs sold for breeding, 6 settings of 15 eggs each	6 00	
		20 63
Gain of		$11 84

Or $0.99 per hen. It will be noticed from the table that hens Nos. 1, 86 and 90 laid very few eggs. They were not only non-profitable, but partly ate the profits made by others. This is a striking instance of the value of the trap nest in discovering non-layers.

TABLE No. 5.—Individual New Records by Trap Nests—White Leghorn Pullets. Pen No. 5.

FROM DECEMBER 1, 1904, TO NOVEMBER 1, 1905.

Hen No.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total No. of Eggs laid.	Remarks.
10	17	6	9	23	19	13	8	0	0	0	....	6	95	
11	17	16	16	22	21	14	4	5	0	0	....	0	115	
34	4	6	9	10	11	9	2	0	0	0	....	0	54	
50	5	1	4	8	10	13	6	0	0	0	....	5	52	
53	16	12	13	16	12	9	3	0	0	0	..	9	90	
58	0	1	11	15	17	13	1	0	0	0	....	6	58	
63	14	15	18	18	21	17	4	0	0	0	....	0	107	
65	1	0	2	14	20	12	4	0	0	0	....	0	53	
69	0	1	6	13	16	16	9	5	3	0	....	0	69	
77	3	6	6	17	19	20	2	0	0	0	....	3	76	
84	7	12	9	20	16	9	0	....	....	....	....	0	73	Dead, August 26.
90	16	19	16	16	21	14	0	4	1	0	....	4	111	
97	11	6	8	19	1	10	1	0	1	0	....	0	57	
99	18	8	15	19	23	15	0	4	7	2	....	8	119	
Totals..	129	109	142	230	230	184	44	18	12	2	....	29	1,129	

Two pens were selected from the above group of fowls, one composed of good and the other of bad layers. The good layers were selected from hens Nos. 11, 53, 63 and 90, which represented an average of 105 eggs per hen per year. The poor egg layers

chosen were 34, 50 and 65, representing the small average of 53 eggs each per year. Results from these two widely differing pens will be noted with interest after another season.

RATIONS FED TO ABOVE PULLETS.

Whole grain ration, one-half oats one-half wheat, twice per day.

Mash composed of two parts shorts, one part ground oats and one part ground barley, three times per week.

Cut bone three times per week.

Roots three times per week.

Grit and oyster shells in abundance.

EXPENDITURE AND RECEIPTS.

Cost of grain, 440 lbs. at 1¼c. per lb.	$ 5 50	
" mash, 143 lbs. at 1c. per lb.	1 43	
" cut bone, 38 lbs. at 2c. per lb.	0 76	
" roots, 50 lbs. at ½c. per lb.	0 25	
" grit and shell.	0 25	
" 30 egg boxes for shipping at 8c. each	2 40	
		$10 59

Receipts.

Value of 679 eggs sold for eating	$15 21	
" 450 eggs sold for breeding, 30 settings of 15 eggs each	30 00	
		$45 21
Gain of		$34 62

or $2.88 per hen. For price of eggs sold at different periods see Table I.

TABLE No. 6.—Individual Hen Records by Trap Nests.—Cross-bred Pullets. Pen 26.

FROM DECEMBER 1, 1904 TO NOVEMBER 1, 1905.

Hen No.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total No. of Eggs laid.	Remarks.
8	11	9	0	0	0	3	....	....	....	....	....	0	23	Dead June 16.
30	21	20	8	22	18	6	3	0	0	0	....	8	166	Showed no inclination to sit.
38	7	6	1	17	21	1	0	4	1	0	....	0	58	" "
39	7	9	21	14	14	7	0	0	0	0	....	0	72	" "
48	13	8	5	14	18	3	0	0	0	0	....	0	61	" "
74	14	20	23	13	0	....	....	....	....	....	....	0	70	Dead May 3.
75	10	5	5	13	10	6	1	0	0	0	....	0	50	Dead October 3.
76	7	18	10	15	23	7	0	0	0	6	....	0	86	No inclination to sit.
87	11	9	8	15	16	2	0	0	0	0	....	1	62	Broody once; broken up.
94	0	1	6	6	9	13	0	9	0	0	....	0	44	" "
Totals..	101	105	87	129	129	48	4	13	1	6	....	9	632	

RATIONS FED TO ABOVE PEN 26.

Whole grain ration ½ wheat ½ buckwheat ...	20 ozs.	per day.
Mash—2 parts shorts, 1 part oats ground, 1 part ground barley..	10 "	every 3 days.
Cut green bone..	10 "	"
Roots..	10 "	"

Grit and oyster shells in sufficient quantity.

COST OF RATIONS.

Grain, 370 lbs. at 1¼ cents per lb..	$4 63	
Mash, 122 lbs. at 1 cent per lb.	1 22	
Cut bone, 24 lbs. at 2 cents per lb..	0 48	
Roots, 35 lbs. at ½ cent per lb..	0 18	
Grit and shell, 30 lbs..	0 25	
		$ 6 76

RECEIPTS FROM SALE OF EGGS.

Value of eggs sold during the year..	13 37
Gain made..	$ 6 61

or 66 cents per hen.

TABLE No. 7.—Individual hen records by trap nests. Cross bred pullets. Pen No. 27.

FROM DECEMBER 1, 1904 TO NOVEMBER 1, 1905.

Hen No.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total of Eggs laid.	Remarks.
	1905											1904		
2	6	18	21	26	22	12	2	4	0	0	....	0	111	Showed no desire to sit.
35	3	10	3	10	2	14	4	5	0	11	...	0	62	Broody once ; but broken up Sat from April 19 to May 27.
36	0	1	1	1	17	11	3	0	0	0	....	0	34	Broody 3 times after this.
40	4	13	5	21	5	16	10	6	0	0	....	0	80	Broody 4 times ; broken up.
46	0	7	12	15	16	14	7	6	4	0	...	0	81	Showed no broodiness.
51	3	5	8	15	19	10	7	3	6	0	....	0	76	Broody once ; broken up.
60	2	10	13	19	21	11	11	1	0	0	...	0	88	" "
62	8	6	8	9	12	3	0	0	0	0	....	0	46	Did not sit.
69	6	0	1	13	21	19	8	4	0	13	....	0	79	"
70	2	6	2	17	19	17	5	0	4	0	....	0	63	Broody once ; broken up.
Totals..	28	76	74	146	145	127	57	29	14	24	...	0	720	

RATIONS FED TO ABOVE PEN 27.

Whole grain—Oats only..	20 ozs.	per day.
Mash..	8 "	"
Roots..	1 lb.	"

Grit and oyster shells in regular supply.

COST OF RATIONS.

Oats, 408 lbs. at 1 cent per lb..	$ 4 08	
Mash, 178 lbs. at 1 cent per lb..	1 78	
Roots, 154 lbs. at ½ cent per lb..	0 77	
Grit and oyster shells, 30 lbs..	0 25	
		$ 6 88

RECEIPTS FROM SALE OF EGGS

Value of eggs sold during the year..	$11 59
Gain made by this pen..	$5 71

or 57 cents per hen. Average number of eggs laid per hen, 72.

ESTABLISHING STRAINS OF PROLIFIC WINTER LAYERS COMBINED WITH CORRECT MARKET TYPE.

SELECTION BY MEANS OF TRAP NESTS.

With the object of establishing strains of fowls which would make good winter layers in unheated quarters, combined with correct market types, 23 Barred Plymouth Rock and a similar number of White Wyandotte pullets were placed, during the fall of last year, in a new poultry house of most approved pattern, a full description and illustration of which appeared in report of 1904. Both varieties of the fowls named are well known as most acceptable market types and particularly suited to make excellent layers in cold quarters. Trap nests were used to distinguish between the good and the bad layers. The results of the first year's experience in the prosecution of this work is given in the following tables, which with calculations based thereon convey useful and instructive information.

TABLE 1.—Barred Plymouth Rock pullets. Individual records shown by trap nests. Pen 34.

FROM DECEMBER 1, 1904 TO NOVEMBER 1, 1905.

Hen No.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total of Eggs laid.	Remarks.
	1905											1904		
2	0	2	0	11	12	15	5	0	0	0		0	45	Showed no inclination to set.
3	0	0	18	25	17	15	8	0	0	0		0	83	Broody twice; broken up.
4	0	0	3	12	21	16	12	2	7	0		0	73	" once "
*9	0	0	2	0	0	0	0	1	0	0		0	3	" 3 times "
15	0	2	24	17	18	6	1	0	0	0		0	68	Dead, Aug. 17.
21	0	0	3	18	12	9	8	3	0	0 .		0	53	Broody twice; broken up.
*26	0	0	0	8	8	7	7	0	0	0 ...		0	30	" 4 times "
33	0	12	19	15	0	7	4	0	0	0		0	57	" twice "
34	0	0	9	14	15	12	10	1	0	0		0	61	Showed no broodiness.
39	0	2	13	18	22	5	14	0	0	0		0	74	Broody twice; broken up.
46	0	0	9	16	20	6	6	0	0	0 ..		0	57	" once "
53	0	3	18	18	16	8	7	5	0	0 ..		0	75	" " "
56	0	0	9	14	17	9	6	6	2	0		0	63	" 4 times "
61	0	0	19	17	16	12	11	0	0	0		0	75	" 3 "
66	0	1	0	1	0	0	0	0	0	0		0	2	Dead, May 24.
72	0	0	14	18	19	12	8	0	0	0		0	71	Broody 3 times; broken up.
74	0	1	16	11	15	10	7		4	14		0	78	" 4 "
75	0	10	11	6	0	0	10	0	0	0		0	37	" 3 "
85	0	5	13	21	10	22	13	5	0	8		0	97	" 3 "
94	0	6	14	19	18	15	8	2	0	0		0	82	" 3 "
95	0	6	23	23	17	12	18	1	0	0		0	100	" once "
96	0	0	17	26	11	11	13	9	0	0		0	87	" " "
98	0	0	13	21	16	18	12	0	0	0		0	80	" 3 times "
Totals..	 0	 50	 267	 349	 360	1 228	 188	1 36	 13	 22	....	 0	2 1,455	These eggs were found on floor in straw.

None of the pullets in this or the following pen were used for sitters.
The cock bird died during first week in May, but was replaced.
The average egg production of the birds in this pen was 63¼ eggs per hen per year.

TABLE 2.—White Wyandotte Pullets. Pen 35.

FROM DECEMBER 1, 1904, TO NOVEMBER 1, 1905.

Hen No.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total of Eggs laid.	Remarks.
	1905											1904		
1	0	6	22	20	18	15	13	0	0	0	...	0	94	No inclination to set.
3	1	18	20	20	19	19	13	4	0	0	....	0	114	"
5	0	0	12	10	12	15	9	0	0	0	....	0	58	"
15	0	0	18	23	12	20	12	0	0	0	....	0	85	Broody once. Broken up.
* 16	0	0	0	0	2	22	14	0	0	0	...	0	38	No inclination to set.
19	0	7	11	9	14	12	12	2	0	0	....	0	67	Broody 4 times. Broken up.
24	6	18	16	18	13	16	19	1	0	0	....	0	98	" 3 " "
* 32	0	0	0	8	15	14	12	1	0	0	..	0	56	No inclination to set.
41	0	7	14	18	13	10	14	0	0	0	..	0	76	"
* 43	0	0	2	6	5	17	7	0	0	0	...	0	37	Broody once. Broken up.
* 48	0	0	1	4	13	8	7	0	0	0	.	0	33	" "
* 49	0	0	1	17	18	16	3	0	0	0	...	0	55	" "
67	0	2	14	13	9	7	8	4	0	0	...	0	57	Broody 4 times. "
68	0	0	13	15	9	8	4	1	0	0	...	0	60	" 3 " "
* 69	0	3	0	13	14	7	8	0	0	0	....	0	45	No inclination to set.
73	0	0	13	20	12	7	11	0	0	0	...	0	63	"
* 77	0	0	7	9	13	12	7	1	0	0	....	0	49	Broody twice. Broken up.
* 79	0	0	9	6	11	13	5	0	0	0	....	0	44	" 3 times. "
83	4	4	21	19	16	11	11	0	0	0	....	0	86	No inclination to set.
* 84	0	0	0	15	18	10	4	0	0	0	....	0	47	"
85	0	4	10	6	12	10	8	0	0	0	....	0	50	Broody 3 times. Broken up.
88	3	4	11	18	13	7	4	0	0	0	....	0	60	" once. "
92	0	0	9	14	10	13	5	0	0	0	....	0	51	" " "
	0	0	10	5	3	3	1	3	0	0	....	0	25	These eggs were laid in the straw on the floor.
Totals..	14	73	234	306	304	292	202	17	0	0	....	0	1,442	

The egg production per hen per year of the above pen was $62\frac{3}{4}$.

The fowls of both pens had opportunity to run outside on a manure heap on and after February 26. The pullets in neither pen laid early for the reason that they were hatched late.

RATIONS AND HOW FED TO ABOVE PULLETS.

The rations fed to the fowls in the foregoing pens 34 and 35, and manner of feeding them was as follows:—

Whole grain—$\frac{1}{3}$ wheat, $\frac{1}{3}$ buckwheat, and $\frac{1}{3}$ oats. This was thrown in the straw on the floor of the scratching sheds, morning and evening, in quantities of 6 to 10 lbs., according to the weather. It was found that the most grain was consumed during the colder weather.

Mash.—Was composed of two parts shorts, one part ground oats, one part ground barley. This was fed at noon in quantity of 3 lbs. per day in a trough in the roosting room.

Cut bone.—Fed in quantity of $2\frac{1}{2}$ lbs. every 3 days.

Roots.—About 3 lbs. every 3 days.

Grit, ground oyster shells and drink water were in regular supply.

REVENUE AND EXPENDITURE IN CONNECTION WITH FOREGOING PENS 34 AND 35.

It will be noticed that the receipts in the following calculations are arranged to show in:—

No. 1 Table.—Revenue from sale of eggs only.

No. 2 Table.—Cost of rearing 100 chickens from May 1 to July 21, 1905, and then the cost of feeding the same chickens from July 21 to September 1 (4 months in all). These details show that if sold at end of July the chickens would have been worth more than at the later period.

No. 3 Table.—Value of the combination of egg layers and market types.

No. 4 Table.—Revenue made by C. E. F. Poultry Department by sale of eggs and stock for breeding pruposes.

TABLE 1.

Revenue from sale of Eggs for eating and hatching purposes with value of Birds and cost of feeding.

Value of 46 pullets at $1 each	$46 00
" 2 cockerels at $1 each	2 00
" grain, 272 lbs. at 1¼ cents per lb.	34 05
" mash, 680 lbs. at 1 cent per lb.	6 80
" cut bone, 178 lbs. at 2 cents per lb.	3 56
" beets, 174 lbs. at ½ cent per lb.	0 87
" grit and oyster shell	1 00
" 66 egg boxes for shipping at 8 cents each	5 28
	$99 56

Receipts from sale of Eggs.

Value of eggs sold during the year	$33 00
" " for breeding purposes, 66 settings, 15 eggs each	66 00
" 44 hens on hand, at $1	44 00
" 1 cock on hand, at $1	1 00
	$144 00

Lost during the year, 3 birds; gain, $44.44, or 96 cents per hen.

TABLE 2.

Showing cost of rearing 100 chickens from birth to the age of 2 months and 21 days (May 1 to July 21).

Chickens in lot: Barred Plymouth Rocks and White Wyandottes (45 cockerels and 55 pullets).

Cost of production—	
250 eggs for incubation, at 2 cents each	$5 00
Coal oil, 4 galls., at 25 cents, $1; interest on machine, $1.25	2 25
Food consumed—	
38 eggs, at 2 cents, cut up for mash	0 76
13 lbs. bread, at 3 cents	0 36
5½ lbs. rice, at 5 cents	0 27
5 lbs. oatmeal, 2½ cents	0 13
118 lbs. wheat, at 1¼ cents	1 48
17 lbs. ground barley, at 1 cent	0 17
10½ lbs. meat meal, at 2½ cents	0 26
12 lbs. ground oats, at 1 cent	0 12
Total cost of production	$11 80
Total weight of lot at age of 2 months and 21 days, 148½ lbs.	
Value of lot, 148½ lbs., at 25 cents per lb.	$37 12
Net profit	$25 32

Cost of feeding 100 chickens during 1 month and 10 days (July 21 to September 1).

Food consumed—

12 lbs. meat meal at 2½ cents	0 30
5 lbs. barley, at 1 cent	0 05
30 lbs. shorts, at 1 cent	0 30
34 lbs. ground oats, at 1 cent	0 34
128 lbs. wheat, at 1¼ cents	1 60
25 lbs. oats, at 1 cent	0 25
Total cost of feeding	$2 84

Total weight of lot at age of 4 months, 272 lbs.
Total gain in live weight during feeding period, 123½ lbs.
Value of increased weight, 123½ lbs., at 13 cents ... $16 06

Net profit ... $13 22

Total weight of chickens at age of 4 months, 272 lbs. at 13 cents	$34 66
Total cost of production, $11.80 and $2.84	14 64
Total net profit	20 02

TABLE 3.—Showing value of eggs sold from pens 34 and 35 for hatching, and value of chickens at 4 months from eggs from these pens.

COST OF PRODUCTION.

Value of breeding stock, 46 pullets at $1	$46 00	
Value of breeding stock, 2 cockerels at $1	2 00	
Value of food consumed by old birds	46 28	
Cost of rearing 100 chickens, at 4 months of age (Sept. 1)	14 64	
		$108 92

RECEIPTS FROM EGGS AND FLESH.

Value of eggs sold during the year	$33 00	
Value of eggs sold for breeding, 49 settings at $1	49 00	
Value of 100 chickens at age of 4 months (Sept. 1), weight 272 lbs., at 13 cents	34 66	
Value of 44 yearling hens, at $1	44 00	
Value of 1 yearling cock, at $1	1 00	
Lost during the year, 3 birds.		
		161 66
Net profit		$52 74

or $1.15 by each hen.

TABLE 4.—Revenue made from sale of eggs for hatching and stock for breeding purposes. Pens 34 and 35.

Value of breeding stock, 2 cockerels, 46 pullets..	$48 00	
Value of food consumed..	46 28	
Cost of rearing 100 chickens at age of 4 months (Sept. 1)..	14 64	
Cost of 50 shipping egg boxes, at 8 cents each..	4 00	
Cost of 35 coops (shipping birds), at 25 cents each	8 75	
		$121 67
Value of eggs sold during the year..	$33 00	
Value of eggs sold for breeding..	49 00	
Value of 35 cockerels sold for breeding, at $1..	35 00	
Value of 10 pullets sold for breeding, at $1.. ..	10 00	
Value of 18 chickens sold for eating, 45 lbs., at 13 cents..	5 85	
Value of cockerel on hand, at $1..	1 00	
Value of 30 pullets on hand, at $1..	30 00	
Value of breeding stock..	48 00	
		211 85
Lost during the year, 3 birds..	$3 00	
Net profit..		$87 18

or $1.89½ by each hen.

INCUBATION.

HATCHING RESULTS FROM INCUBATORS AND HENS. CHICKENS HATCHED FROM HENS KEPT IN WARMED AND COLD HOUSES.

On the dates named in the following tables, two incubators—as described—were set in operation in the same building. Some interesting results are shown, among which will be noted the difference in the germ strength of eggs laid by fowls which were kept in houses without any artificial heat, but with scratching shed attachment, and those from hens in partially warmed compartments, but with no such opportunity for exercise or such abundance of fresh air.

Description of Eggs.	Pen No.	No. of Eggs.	Clear.	Dead Germs.	Dead in Shell.	Chickens hatched.	Percentage.	No. of Days.	Time of Cooling.	Temp. of Incubators. Hot Water.		Hot Air.		Temp. of Room. F.		Remarks.
									Minutes	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	
Test No 1.—Hot Water Incubator.								1	0	100	100	100	101	68	76	
Barred Plymouth Rock	2	81	17	29	1	34	42	2	0	103	103½	102	103	54	78	
White Plymouth Rock	3	28	11	6	0	11	39¼	3	10	103	103	103	102½	62	86	3rd day, 1st cooling and turning, a.m.
White Leghorn	5	62	14	11	2	35	56⅜	4	12	103	103	103	103	70	90	
Barred Plymouth Rock	34	38	8	4	3	23	60	5	15	103	103	103	102½	62	84	
White Wyandotte	35	61	15	6	2	38	62	6	15	102	103½	103	103	72	90	First test.
Totals	....	270	65	56	8	141	52¼	7	20	103	103	103	102½	72	88	
								8	20	103	104	103	103	70	80	
								9	25	103	102	103	103	74	90	
Test No. 2.—Hot Air Incubator.								10	30	103	103	103	103	64	86	
								11	30	102	103	103	103	68	82	
White Plymouth Rock	3	35	6	6	8	15	43	12	35	103	103	103	103	64	72	
White Leghorn	5	57	9	15	12	21	37	13	35	104	103	103	103	60	74	
Silver Laced Wyandotte	20	14	3	3	0	8	57	14	35	103	103	103	103	58	80	
Barred Plymouth Rock	34	51	16	6	4	25	49	15	35	102	103½	104	104	54	78	
White Wyandotte	35	65	19	10	8	28	43	16	40	104	102	102½	103	52	80	
								17	40	103	103	103	103	68	86	Last test.
Totals	.....	222	53	40	32	97	43½	18	45	103	104	103	103½	60	86	
								19	45	104	103	103	102½	62	82	Last cooling, p.m.
								20	0	104	103	104	104	64	87	
								21	0	103	103	102½	102	61	88	

Some results made evident from the above figures are:—

Eggs from hens in Nos. 34 and 35 pens (cold houses) showed greatest percentage of fertility and hatched the most chickens. This corroborates the experiences of previous years, as shown in reports of 1903 and 1904.

The eggs with the weaker germs were laid by hens in pens Nos. 2, 35 and 20, which were in partially warmed houses.

The birds which laid the eggs were given the same rations in both cases.

Eggs were turned once per day after cooling. During the cooling of the eggs the doors of the incubators were left open.

Neither incubator required any moisture.

TEST NO. 3.—RESULTS FROM EGGS OBTAINED FROM FARMERS AT END OF AUGUST.

For the purpose of showing the hatching of chickens by incubator during the fair of the Canada Central Exhibition held in this city from September 8 to 16 last, the following number of eggs were purchased from neighbouring farmers and placed in two incubators. The eggs which were from hens that had laid well during the season, but had free run, showed remarkable fertility and strength of germ. The incubators were placed on an inclosed platform around which a constant stream of people passed. There was much vibration, but this did not seriously interfere with results.

EGGS FROM FARMERS' FOWLS. HATCHED IN INCUBATORS.

Description of Eggs.	Kind of Incubator.	No. of Eggs.	Clear.	Dead Germs.	Dead in Shell.	Chickens Hatched.	Percentage.	Remarks.
Barred P. Rock, farmers stock...	Hot water..	220	25	25	10	160	72$\frac{2}{3}$	
" "	Hot air.....	229	20	42	15	152	66$\frac{1}{3}$	

After the usual stay of 24 hours in the nurseries of the incubators, the chickens were removed to brooders close at hand where they made good growth.

TEST NO. 4.—HATCHING EGGS BY HENS.

The following eggs, which were imported from England, were given to four hens on April 28 last. Results obtained were:—

Description of Eggs.	No. of Eggs.	Broken by Hens.	Clear.	Dead Germs.	Dead in Shell.	Chickens Hatched.	Percentage.	Remarks.
Faverolle.....	14	2	3	2	1	6	43	Strong chickens.
Buff Orpington	24	6	5	1	3	9	37$\frac{1}{2}$	"
White "	24	8	4	3	3	6	29	"
S. G. Dorkings	24	.....	18	2	2	2	8$\frac{1}{3}$	Weak chickens.
Total.....	86	16	30	8	9	23	26$\frac{1}{2}$	

TEST No. 5.—The eggs as described in following table were from Experimental Farm stock. They were set under hens on April 28 last. Particulars are:—

Description of Eggs.	Pen No.	No. of Eggs.	Clear.	Dead Germs.	Dead in Shell.	Chickens Hatched.	Percentage.	Remarks.
Barred P. Rock	2	12	1	3	2	6	50	
White "	3	12	1	1	2	8	66⅔	
" Leghorn	5	13	2	1	2	8	61⅝	53⅓ per cent.
" "	5	13	3	2	2	6	46	
S. L. Wyandotte	20	12	0	1	1	10	83⅓	
Barred P. Rock	34	13	4	2	0	7	54	
Total		75	11	10	9	45	60	

FLESHING CHICKENS IN PENS AND CRATES.

The following tables show details in connection with the fattening of chickens conducted during the months of August and September last.

TABLE No. 1.—DETAILS OF EXPERIMENT IN FLESHING CHICKENS IN PENS, AUGUST 3, 1905.

Pen or Crate.	No. of leg band on Chicken.	Breed.	Cockerel or Pullet.	Age.		Weight.																						Remarks.
				Months.	Days.	Beginning of Experiment.		1st Week.		2nd Week.		3rd Week.		4th Week.		5th Week.		Average at beginning of experiment.		Average at close of experiment.		Average total gain by chickens in 5 weeks.		Average gain by chickens in 1 week.				
						Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.			
Group No. 1—																												
Pen	11	B. Ply. R.	C	2	20	2	10	3	2	3	10	4	2	4	10	5	4											
"	15	S. L. Wy.	C	2	12	1	9	1	10	2	0	2	6	2	13	3	4											
"	23	"	C	2	12	2	1	2	0	2	5	2	12	3	5	3	12											
"	25	B. Ply. R.	C	2	20	2	5	2	11	3	0	3	8	4	0	4	9											
"	29	S. L. Wy.	C	2	12	1	7	1	10	2	2	2	10	3	1	3	8											
"	41	B. Ply. R.	C	2	20	2	5	2	10	3	0	3	6	3	14	4	6											
"	44	"	C	2	20	2	10	2	12	3	4	3	12	4	6	5	0	2	3	4	5	2	2	0	6⅗			Capons.
"	55	Crosses.	C	2	8	1	14	2	0	2	6	2	9	3	0	3	6											
"	71	B. Ply. R.	C	2	20	2	6	2	9	2	11	3	13	4	8	5	4											
"	88	Crosses.	C	2	8	2	2	2	5	2	14	3	3	3	10	4	1											
"	99	B. Ply. R.	C	2	20	2	13	3	2	3	8	4	0	4	8	4	14											
Group No. 2—																												
Pen	21	B. Ply. R.	C	2	20	2	7	2	12	3	1	3	7	3	14	4	2											
"	35	"	C	2	20	2	8	2	13	3	1	3	8	3	14	4	7											
"	50	"	C	2	20	2	10	3	1	3	4	3	10	4	2	4	8											
"	58	Crosses.	C	2	8	1	8	1	5	1	10	2	0	2	4	2	8											
"	59	S. L. Wy.	C	2	12	2	0	2	7	2	11	3	1	3	8	3	12											
"	70	B. Ply. R.	C	2	20	2	7	2	11	3	2	3	8	3	12	4	6	2	6	4	4	1	14	0	6			
"	72	"	C	2	20	2	8	2	11	3	1	3	7	3	15	4	5											
"	75	"	C	2	20	2	8	2	13	3	1	3	8	3	14	4	7											
"	83	S. L. Wy.	C	2	12	1	13	2	13	2	9	2	14	3	6	3	14											
"	88	B. Ply. R.	C	2	20	2	8	2	8	2	15	3	6	3	10	4	2											
"	90	"	C	3	2	3	2	4	1	4	8	5	7	5	15	6	8											

TABLE No. 2.—DETAILS OF EXPERIMENT FLESHING CHICKENS IN PENS AND CRATES, AUGUST 3, 1905.

Pen or Crate.	No. of leg band on Chicken.	Breed.	Cockerel or Pullet.	Age.		Weight.												Remarks.
				Months.	Days.	Beginning of Experiment.		1st Week.		2nd Week.		3rd Week.		4th Week.		5th Week.		
						Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	
Group No. 3—																		
Crate	8	B. Ply. R.	C	3	28	2	14	2	13	3	11	3	11	4	6	5	12	
"	18	"	C	3	28	2	14	3	4	3	11	4	7	4	5	5	7	
"	33	"	C	3	28	2	14	3	6	3	11	4	0	4	5	5	12	
"	34	"	C	3	28	2	14	3	10	3	12	4	5	4	0	5	8	
"	42	"	C	3	28	2	14	3	5	3	12	4	14	4	12	5	10	
"	46	"	C	3	28	2	14	3	0	3	6	4	14	4	3	5	14	
"	69	"	C	3	28	2	14	3	11	3	11	4	4	4	6	5	14	
						2	12	3		3		4		4		5		
Group No. 4—																		
Pen	26	B. Ply. R.	C	3	28	2	14	3	4	3	11	4	4	4	12	5	0	
"	57	"	C	3	28	2	15	3	7	3	9	4	5	4	10	5	2	
"	36	"	C	3	28	2	15	3	10	3	11	4	5	4	5	5	5	
"	49	"	C	3	28	2	15	3	14	4	4	4	11	4	7	5	8	
"	68	"	C	3	28	2	15	3	1	4	4	4	1	4	10	5	6	
"	80	"	C	3	28	2	15	3	13	4	4	4	12	4	6	5	11	
"	81	"	C	3	28	2	15	3	11	4	3	4	8	4	3	5	12	
"	96	"	C	3	28	2	15	3	14	4	6	4	14	4	10	5	0	
						2	15	3		4		4		4		5		

Pen or Crate.	Average gain by chickens in 1 week.		Average total gain by chickens in 5 weeks.		Average at close of experiment.		Average at beginning of experiment.		Remarks.
	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	
Group No. 3—									
Crate	0	7	2	4	5	2	2	14	
Group No. 4—									
Pen	0	7	2	4	5	2	2	14	

SUMMARY OF RESULTS.

TABLE No. 3.—WEIGHT, Development, Cost of Production, Profit from sale of Fowls.

Group No.	Pen or Crate.	Number of Chickens.	Weight. At beginning of experiment.		Weight. At close of experiment.		Total increase in 5 weeks.		Cost of Production. Chickens. Initial weight.		Cost of Production. Chickens. Value at 13c. per lb.	Cost of Production. Food. Amount consumed in 5 weeks.	Cost of Production. Food. Value at 1c. per lb.	Cost of production, one pound of increase.	Total cost of production.	Return from sale at 14c. per lb.	Profit. Labour not counted.	Remarks.
			Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	$ cts.	Lbs.	Cts.	Cts.	$ cts.	$ cts.	$ cts.	
																		Rations for each Group.
1	Pen....	11	24	2	47	4	23	2	24	2	3 13	56½	57	2 5/16	3 80	6 61	2 81	Ground oats, 3 parts; ground barley, 2 parts; mixed with skimmed milk.
2	Pen....	11	25	15	46	15	21	0	25	15	3 37	57½	58	3¼	4 05	6 57	2 51	
3	Crate...	8	22	4	39	5	17	1	22	4	2 89	51½	52	3 6/16	3 51	5 50	1 99	10c. allowed for skimmed milk, in cost of production, for each group.
4	Pen....	8	23	3	41	3	18	0	23	3	3 01	51½	52	3 4/16	3 63	5 76	2 13	

FERTILIZATION AFTER MATING.

In report of last year several instances are given with the object of showing how long after the removal of the male bird from the breeding pen, the effect of fertilization was strong enough to hatch strong chickens. The limit was found to be the eighth day. In the following table results are given to show how soon after mating the cock bird with the hens fertilization was sufficiently strong to hatch out vigorous chickens.

Hen No.	Date and Hour of First Mating. Date.	Hour.	Number of Hours between First Mating and laying of First Egg.	Number of Hours between First Mating and laying of First Fertile Egg.	Remarks.
8	May 29..	3.16 p.m..	.....	54.10 M.	A strong, healthy chicken hatched.
30	" 29..	0.00 " ..	.....	.....	The first fertile egg was laid on fifth day after mating.
38	" 29..	3.00 " ..	18.15 M.	65.40 M.	This egg was broken in turning.
39	" 29..	3.45 " ..	.....	.....	Egg fertile ninth day after mating.
48	" 29..	4.05 " ..	26.35 M.	.....	" fourth "
75	" 29..	3.18 " ..	.....	42.18 M.	Strong chickens hatched.
76	" 29..	3.53 " ..	17.05 M.	41.08 M.	" "
87	" 29..	4.45 " ..	.....	39.15 M.	" "
94	" 29 .	3.02 " ..	17.20 M.	41.50 M.	" "

In the above experiment pullets only were put into the breeding pen.

NUMBER OF EGGS LAID DURING THE YEAR.

The following number of eggs were laid during the different months of the past year:—

December, 1904	391
January, 1905	986
February	1,386
March	2,162
April	3,001
May	2,912
June	2,204
July	1,116
August	310
September	218
October	182
November	355
	15,223

EGGS LAID IN SIX MONTHS. OLD HENS VS. PULLETS.

The following table shows the number of eggs laid by old hens and pullets of different breeds during the first six months of the year. Results convey some useful and interesting lessons which are noted in a later page. The rations used and method of feeding them will be found effective in the winter production of eggs.

RESULTS OF SIX MONTHS EGG-LAYING BY PULLETS AND OLD HENS.

No.	Variety.	Age.	January.	February.	March.	April.	May.	June.	Totals for 6 months.
12	Buff Orpington	3 years old	90	80	150	49	70	71	511
11	White Leghorn	Pullets	142	116	122	185	178	135	878
12	S. G. Dorkings	2 and 3 years old	69	91	94	95	73	52	474
11	Black Minorcas	Pullets	54	53	76	136	180	119	618
11	White Leghorns	2 and 3 years old	25	16	75	129	143	111	499
11	Buff Leghorns	Pullets	62	52	58	112	112	85	481
11	Black Hamburgs	1, 3 and 4 years old	25	63	84	122	173	120	587
6	S. S. Hamburgs	1 and 2 years old	39	43	49	95	108	87	421
6	S. L. Wyandottes	2 years old	28	54	54	72	60	28	296
10	Buff Orpingtons	Pullets	85	103	85	103	38	67	482
10	White Wyandottes	3 years old	58	51	101	102	117	84	513
*23	B. P. Rocks	Pullets, late	6	50	268	349	300	228	1,201
*23	White Wyandottes	"	8	75	237	304	304	292	1,220
		Totals	692	848	1,453	1,855	1,856	1,479	8,181

* These pullets were in a poultry house with scratching shed attachment. No artificial heat. The windows of the scratching shed were open on fine days during winter.

Some deductions from the above record are noted as follows:—

Ten White Wyandotte hens, 3 years of age, laid more eggs than the same number of Buff Orpington pullets.

Eleven White Leghorn hens, two and three years of age, laid more eggs than the same number of Buff Leghorn pullets.

In both the foregoing cases it is likely that the older hens were of a better egg laying strain than the pullets. But experience has shown that it is advisable not to arrive at a hasty decision in this respect for in several instances it has been noticed that poor egg laying pullets made admirable layers the year after, when hens. In connection with this feature it is remarked on page 239 of 1904 report, under the caption, 'Are fowls as good layers one season as another?' as follows: 'Records of egg laying by pullets and hens in our department, extending over eight years, go to show that pullets which laid well during their first winter did not make as good layers the next, when hens.' It was also shown that poor egg laying pullets made admirable layers when hens the next year. It will be interesting to note if the selection by trap nests of the best layers from year to year will overcome this feature. As a further means of obtaining data on the subject two breeding pens each of 6 White Leghorn pullets and cock bird, have been placed side by side. The pullets and cock bird in one pen are from parent stock which the trap nests have shown to be poor layers, and the pullets and cock bird in the other by the same agency have been noted as excellent layers. Useful results are anticipated.

Another lesson pointed out is that the majority of 23 Barred Plymouth Rock, and same number of White Wyandotte pullets did not begin to lay until March. They were actually unproductive during the winter months of highest prices. The coldness of the house may be advanced as a reason for their non-laying, and to a certain extent it doubtless retarded their growth and rapid maturity. But these pullets should have been well developed and laying before going into winter quarters, and these results can only be attained by early hatching. Again, the pullets came from parent stock which had not been accustomed to cold quarters. This, in combination with late hatching, would certainly be deterrent to early winter laying.

Remedies for the latter and other undesirable features shown by the record are suggested as follows:—

To secure early winter layers in either cold or partly warmed houses the pullets should be hatched early and come from strong and vigorous parent stock.

To have prolific layers of large eggs in either unheated or partly warmed houses, the pullets should come from hens which have proved to be good layers of large eggs.

As a means to this end trap nests—the operations of which are described in preceding pages—are coming into more g neral use.

A WINTER EGG-PRODUCING RATION AND METHOD OF FEEDING IT.

The rations which were fed to the fowls enumerated in foregoing record, and manner of using them were as follows. Both will be found effective in the winter production of eggs, about which there are numerous and frequent inquiries:

A. M. Ration.—Wheat or buckwheat alone or mixed with oats. This should be scattered in the litter on the floor in order to incite the fowls to exercise in searching for it.

11 A.M.—Steamed lawn clippings, 3 times per week. Other days roots or vegetables.

Noon.—A few hands full of oats thrown into each pen, if necessary to keep the fowls in exercise. Three times per week cut green bones in the proportion of one pound to 15 hens, took the place of the oats.

P. M. Ration.—Mash three times per week in such quantity as would be eaten up clean. Observation has shown that when mash was fed at the morning ration there was a tendency on the part of the fowls to eat so much of it as to make them disinclined for exercise. On the other hand, where fowls are kept in unheated houses in parts of the country where the winters are cold a small quantity of mash in the morning would probably be warming, and an incentive to egg production. In our department it has been the practice to vary the composition of the rations occasionally as well as times of feeding them. As a result, it has been shown that where there is such variety there is little likelihood of egg eating or feather picking.

Fresh water, grit and broken oyster shells were before the fowls at all times, as they should always be. The mash was composed as follows:—

Shorts, two parts.
Ground oats, one part.
Gluten meal, one part.

Occasionally small potatoes were boiled and used as a part, with evident benefit.

STOCK ON HAND DECEMBER 1, 1905.

Pen No.	Breed.	Cocks.	Hens.	Cockerels.	Pullets.	Remarks.
1	Barred Plymouth Rocks			1		
2	White Plymouth Rocks		3	1	11	
3	Buff Orpingtons	1	12			
4	"			1	11	
5	White Leghorns	1	13			
6	"			1	13	
7	Black Minorcas	1			12	
8	Silver Laced Wyandottes	1	4		9	
9	Buff Leghorns	1	7		2	
10	Mixed			4		2 Wh. Leghorns, 1 Bl. Minorca and 1 Bl. Hamburg.
11	Buff Orpingtons			4		
12	White Leghorns			5		
13	Black Minorcas			4		
14	Mixed			4		2 Wh. Leghorns, 2 Wh. Ply. Rocks.
15	"			5		1 S. L. Wy., 1 Wh. Ply. R., 1 Wy. 1 Bl. Min., 1 Buff Orp.
16	Black Hamburgs	1	6		4	
17						
18	White Leghorns			1	6	
19	"			1	6	
20	Barred Plymouth Rocks			1	4	
21	Light Brahmas		3	1	2	
22	Mixed			3		1 Bl. Minorcas, 2 Wh. Wyandottes.
23	Buff Orpingtons			1	5	
24	White Orpingtons			1	6	
25	Barred Plymouth Rocks	1	5			
26	Faverolles		2	1	4	
27	Silver Grey Dorkings	1	6			
28	Black Minorcas	1	5		3	
29	Crosses	1	7		2	
30	"		9		1	
31	Mixed			8		5 Capons, 2 S. L. Wy., 1 W. Leghorn.
32	"	1	3	1	13	
33	"			12		5 Wh. Wy., 6 Wh. Orp., 1 Wh. P. R.
34	Barred Plymouth Rocks			1	24	
35	White Wyandottes		6	1	18	
36	Barred Plymouth Rocks		16			
37	White Wyandottes	1	16			
	Total	12	123	63	156	

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES.

NAPPAN, N.S., November 30, 1905.

To DR. WM. SAUNDERS, C.M.G.,
Director Dominion Experimental Farms.
Ottawa.

SIR,—I have the honour to submit herewith my annual report of operations on the experimental farm for the maritime provinces at Nappan, N.S.

The past season, although much more satisfactory than the season of 1904, has not been all that might be desired for crop growing. Spring came in rather late, with continued wet weather, although no great amount of rainfall, which, although retarding seeding operations, proved quite favourable to the growth of hay and grass. From June 20, to about the same date in July the weather was about all that could be desired, and all crops made great growth during this period. From this to the end of the growing season the drouth became more and more pronounced, reducing somewhat the apparently assured heavy grain crops, and even more so in the case of roots that usually make such a great proportion of their growth after September 15, they making practically none after this date, left only a fair crop. Aftermath and pasture was particularly poor, while the new take of clover and grass, that early in the season gave good promise, were in most places seriously damaged.

Following the custom of applying the tuberculin test to the herds from time to time at the experimental farms, it was decided to apply this test, although no symptoms had occurred to awaken suspicion that any of the animals might be affected. Accordingly tuberculin was applied for to the department, and arrangements made with Dr. F. G. Hall, V.S., Amherst, N.S., to test the herd, which was done on May 18 and 19, with the result that a very large proportion reacted or were suspicious.

This report being submitted to yourself, instructions were received to dispose of none of the products of those affected animals, to isolate those shown to be healthy, and that arrangements would be made by the department to have them tested again when a sufficient number of months had elapsed to insure reliability of second test.

Accordingly the second test was made by Dr. J. Frink, V.S., St. John, N.B., on October 11 and 12, which resulted in practically the same finding as the previous test.

As a result of both tests, out of a total of 71 head tested, only 14 were found that did not react either in one or other of the tests, 8 others reacted in the former and not the latter test, leaving 49 head reacting in both tests, May 18 and 19, and October 11 and 12.

I wish again to acknowledge my indebtedness for valuable assistance rendered by Mr. J. Thomas Coates, farm foreman, who has kept all records of crop experiments, and to Mr. R. Donaldson, herdsman, who has kept all records of live stock experiments, each doing so in a careful and painstaking manner.

WEATHER.

December commenced dull and open, followed by cool, bright weather to the middle of the month, except on the 6th and 8th, when there was a light fall of snow. The balance of the month was more or less broken with light snowstorms. A snowfall on the 18th made fairly good sleighing, and on the 26th improved the going in sleighs, which continued to the end of the month. The thermometer went to zero on the 16th, and registered below zero at night, from the 22nd to the 27th 14° below zero, the lowest for the month was on the 27th, and on the 31st the mercury fell to 8° below zero.

January commenced with sleighing, which continued until the first of April. The first part of the month was somewhat broken by light snow storms, the latter part of the month, however, was noted for many heavy storms, some of which blocked the roads

very badly. The thermometer registered below zero eleven times during the month, the lowest for some years being 31° below zero on the 15th.

The first week in February was fine, with the thermometer below zero much of the time. The remainder of February was also cold, but unusually stormy, with high winds. Roads were impassable much of the time, and railway traffic was suspended for several days. The mercury went below zero point at nine different dates during the month. Generally speaking, the month was the most stormy of any experienced here during the past 30 years.

The first of March opened mild, but was followed by cold, fine weather until the 8th. Snow then went rapidly for a few days, followed by exceptionally cold weather, the glass recording 14° and 15° below zero on the 14th and 15th respectively. The balance of March was fine, with some mild weather, and the large quantity of snow gradually went away without the usual freshets. Towards the last of the month the roads were bad and sleighing was about broken up.

The first of the month of April was fine and quite mild, with not nearly the usual amount of rain; this also assisted materially in preventing the usual spring freshets. The remainder of April was fine, with some light rains, but the sky was usually overcast, preventing many bright days. The total rainfall for the month was only 1·24 inches, of which 1·02 fell on the 21st and 22nd.

The rainfall during May was greater than usual, and was pretty well distributed over the whole month. Rain fell on eleven different dates during the month. The continued wet weather, together with a somewhat lower temperature than usual, prevented the usual amount of field work from being done, and made farm work and plant growth backward. The first seeding was done May 1. This, however, was followed by wet weather and the ground was not fit to work again until the 4th. Seeding was continued on the 5th and 6th, but on account of rain no seed was again sown until the 13th, when seeding continued uninterrupted to the 17th. The balance of May, after the 20th, was favourable for getting spring work done. Very high winds prevailed on the 25th and 26th. The thermometer registered frost on six different nights during the month.

On June 7, in the early morning, the thermometer registered 5° of frost. This frost did considerable damage to tender plants, also to fruits which were then in full bloom. The first part of June was more or less broken with showery weather. Rain is recorded on twelve different dates. Exceptionally fine weather prevailed from the 16th to 26th. The temperature was about the average during this month, and crops that had such a backward appearance early, forced rapidly ahead during the latter part of the month. Only once during the month did the temperature go above 78°, and that was on the 15th when 81° was registered.

The rainfall during July was light, and only on six dates did rain fall, which totalled only 1·56 inches. July was about as warm as usual, but was not so high in temperature as during the previous year. The crops made exceptionally good growth during the first part of the month, and the hay crop was above an average. The grain crops, however, suffered greatly for want of rain during the last of the month. The thermometer went to 80° or above on the 8th, 10th, 12th, 13th, 15th, 19th and 29th, when 81°, 82°, 82°, 80°, 80°, 83° and 81° was registered respectively.

August was unusually dry, the only rainfall during the month of any consequence, was on the 6th and 7th of ·62 inches, and on the 30th when ·59 inches fell. The total rainfall for the month was 1·53 inches. Grain crops were very materially reduced in yield, and root crops got a severe set back owing to the prolonged dry weather. The average temperature for the month was the same as the previous year. The thermometer registered 80° or above 80° on the 4th, 6th, 8th, 10th, 11th, 12th and 22nd, when 80°, 80°, 81°, 81°, 82° and 81° was registered respectively. On the early morning of the 15th the temperature fell to freezing point in some parts of the maritime provinces and did great damage to corn, potatoes, buckwheat and other tender plants. Our thermometer registered only 38°, six degrees from freezing.

The month of September was more or less broken with showery weather, the heaviest rainfalls, however, were registered on the 4th, 6th, 14th and 26th, when 1·33 inches of rain fell. The weather conditions outside of these days permitted of getting grain harvested in a satisfactory manner. No frosts were recorded here during September.

October was unusually dry and fine weather continued almost all of the month, the rainfall being only 1·29 inches in all. No frost was recorded up to the 11th and 12th, when 5° and 7° respectively were recorded. Frost was again recorded on the 23rd.

The month of November was also unusually fine most of the time, with frequent light rains up to the 15th, 16th and 17th, 2·10 inches falling on those dates. Dry weather then continued until the 29th, when 1·61 inches of rain fell. Very little frost was recorded in this month until the 15th, when the mercury fell to 5° below zero. From the 19th to 22nd slight frosts were recorded and from the 27th to the end of the month, frost was recorded each day, while on the 29th 54° was also recorded, being only one degree below the warmest record for the month.

Rainfall.

	1905.		1904.	
April	1·24	inches.	2·92	inches.
May	3·02	"	1·76	"
June	3·30	"	1·74	"
July	1·56	"	2·15	"
August	1·53	"	3·51	"
September	3·38	"	4·52	"
October	1·29	"	5·00	"
November	4·72	"	3·39	"
	20·04	"	24·99	"

METEOROLOGICAL RECORD.

The maximum and minimum thermometrical observations for the year beginning December 1, 1904, and ending November 30, 1905:—

Month.	Maximum.	Minimum.
1904.		
December	1st, 38° above zero	27th, 14° below zero.
1905.		
January	1st and 10th, 35° above zero	15th, 31° "
February	13th, 38° above zero	6th, 18° "
March	30th, 56° "	15th, 15° "
April	29th, 66° "	3rd, 26° above zero.
May	29th, 73° "	15th, 22° "
June	15th, 81° "	7th, 27° "
July	19th, 83° "	3rd, 4° "
August	12th, 82° "	16th, 38° "
September	11th, 74° "	30th, 33° "
October	5th, 68° "	27th, 17° "
November	25th, 55° "	15th, 5° below zero.

EXPERIMENTS WITH OATS.

Experiments were again continued this year with the leading sorts of oats which were grown in uniform test plots of one-fortieth acre each. Thirty-nine varieties were included in this test. The plots received the same treatment and were on soil practically uniform throughout.

The ground was a clay loam, on which clover hay was grown the previous year

(1904). Grain in 1903 and roots in 1902 for which crop 20 one-horse cart loads of barnyard manure per acre was used. The land was ploughed in the fall and a very light crop of aftermath turned under. This spring it was harrowed with spring tooth, disc and smoothing harrows until a fine tilth was made. The seed was sown on May 15 with the seed drill at the rate of 2½ bushels per acre. This ground was also seeded down to clover and timothy at the rate of 7 lbs. Mammoth Red clover, 3 lbs. alsike and 12 lbs. timothy seed per acre, by means of a grass seed attachment to the grain seeder. The grain was selected heads of the previous season's crop, being cut from the various plots at harvest time.

No fertilizer was used on these plots this season. The grain started rather slowly and in some places weeds got somewhat of a start, grass seed and clover also started fairly well; although not growing fast this grain always retained quite a deep, dark colour and from about the first of June to the middle of July made very good growth, from this time until ripe, the continued dry weather had the effect of reducing the prospects of a large crop. The straw was stiff and very clean, with no rust whatever, but quite a few heads of smut were noticed. The following yields were obtained from these plots:—

OATS—TEST OF VARIETIES.

Number.	Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw, including Head.	Length of Head.	Kind of Head.	Weight of Straw.	Yield per Acre.		Weight per measured Bushel after cleaning.	Smutted.
				Inches.	Inches.		Lbs.	Bush.	Lbs.	Lbs.	
1	Improved Ligowo	Aug. 22	99	40 to 45	5 to 8	Branching	5,600	92	32	35½	Slightly.
2	Mennonite	" 22	99	41 " 46	6 " 8	"	4,800	90	20	34	"
3	Twentieth Century	" 22	99	42 " 46	6 " 8	"	4,840	85	30	36¼	"
4	Joanette	" 22	99	40 " 44	6 " 9	"	5,400	83	18	34	"
5	Siberian	" 28	105	42 " 46	6 " 9	"	4,680	82	12	33½	"
6	Thousand Dollar	" 23	100	40 " 45	6 " 8	"	4,680	80	0	36½	"
7	Black Beauty	" 21	98	40 " 44	5 " 8	"	5,400	80	0	34½	"
8	Bavarian	" 23	100	40 " 46	5 " 8	"	4,520	78	28	34	"
9	Pioneer	" 21	98	40 " 44	6 " 9	"	5,040	77	22	35	"
10	Sensation	" 22	99	40 " 45	5 " 7	"	4,680	77	2	37	"
11	Waverley	" 22	99	42 " 46	6 " 9	"	4,720	76	16	36	"
12	Lincoln	" 23	100	42 " 46	6 " 8	"	4,600	75	30	35	"
13	Banner	" 22	99	42 " 46	6 " 9	"	4,800	75	10	34½	"
14	Swedish Selected	" 22	99	40 " 46	6 " 8	"	4,600	74	4	37½	"
15	Improved American	" 24	101	42 " 46	7 " 9	"	4,600	72	32	33½	Badly.
16	Golden Giant	" 26	103	40 " 46	8 " 11	Sided	3,520	72	32	39½	Slightly.
17	Buckbee's Illinois	" 26	103	42 " 46	6 " 8	Branching	3,640	70	20	36	"
18	Olive Black	" 28	105	40 " 45	6 " 9	Sided	3,480	70	0	36¼	"
19	Golden Beauty	" 23	100	40 " 45	5 " 7	Branching	4,280	69	14	34	"
20	Goldfinder	" 28	105	40 " 44	6 " 8	"	3,040	67	2	33	"
21	Danish Island	" 23	100	40 " 45	5 " 7	"	3,400	65	30	35	"
22	Golden Fleece	" 26	103	40 " 45	5 " 7	"	4,040	65	10	35	"
23	Holstein Prolific	" 23	100	40 " 44	6 " 8	"	5,800	65	10	34½	"
24	Kendal White	" 28	105	42 " 47	8 " 10	Sided	3,240	64	14	34¼	"
25	White Giant	" 23	100	40 " 43	5 " 7	Branching	3,520	62	32	33½	"
26	Columbus	" 24	101	40 " 45	5 " 7	"	2,520	62	32	34	"
27	Golden Tartarian	" 29	106	38 " 42	7 " 10	Sided	3,800	62	12	32	"
28	American Beauty	" 28	105	40 " 45	5 " 8	Branching	3,280	61	6	34½	"
29	Abundance	" 23	100	42 " 46	6 " 9	"	4,400	58	28	33	"
30	American Triumph	" 29	106	44 " 48	6 " 10	"	4,680	57	22	34½	"
31	Storm King	" 23	100	42 " 47	6 " 9	Sided	3,600	57	22	36	"
32	Wide Awake	" 24	101	42 " 46	6 " 8	Branching	3,680	56	16	35	Badly.
33	Irish Victor	" 23	100	40 " 44	5 " 8	"	3,600	56	16	34	"
34	Kendal Black	" 28	105	42 " 46	7 " 10	Sided	3,880	55	10	37	Slightly.
35	Tartar King	" 23	100	41 " 45	6 " 8	"	3,000	50	20	37¼	Badly,
36	Milford Black	" 26	103	40 " 46	7 " 10	"	3,000	47	2	37½	"
37	Milford White	" 26	103	38 " 42	6 " 9	"	3,920	46	16	37½	"
38	Early Golden Prolific	" 26	103	42 " 46	5 " 8	Branching	3,040	45	30	34	Slightly.
39	Scotch Potato	" 23	100	40 " 44	5 " 8	"	3,080	45	30	33½	Badly.

SESSIONAL PAPER No. 16

EXPERIMENTS WITH BARLEY.

Eighteen varieties of six-rowed and fifteen varieties of two-rowed barley were sown in uniform plots on one-fortieth acre each, on May 16. The land was a clay loam that had been in clover hay the previous year (1904), in grain in 1903 and roots in 1902, for which crop barnyard manure at the rate of 20 one-horse cart loads per acre was used. No manure or fertilizer of any kind has been applied since. This land was ploughed in the autumn and a very light crop of aftermath turned under and was worked up in the spring with spring-tooth, disc and smoothing harrows, and sown with seed selected from the previous year's crop by cutting picked heads at harvest time.

The grain was sown with the seed drill at the rate of 2 bushels per acre, and at the same time there was also sown 7 lbs. Mammoth Red clover, 3 lbs. Alsike Clover and 12 lbs. Timothy seed per acre. The grain made rather slow growth for some time, but always retained a good healthy colour. Continued dry weather caused premature ripening. There was no rust, but some heads of smut. The following yields were obtained:—

SIX-ROWED BARLEY—TEST OF VARIETIES.

Number.	Name of Variety.	Date of ripening	No. of Days Maturing.	Length of Straw, including Head	Character of Straw.	Length of Head.	Weight of Straw.	Yield per Acre.	Weight per measured bushel after cleaning.
				Inches.		Inches.	Lbs.	Bush. lbs.	Lbs.
1	Albert	Aug. 18	94	38 to 42	Stiff	2½ to 3	4,000	49 8	52¾
2	Brome	" 21	97	37 " 42	"	2 " 2½	4,120	49 8	48
3	Mensury	" 19	95	38 " 42	Medium	2 " 3	4,040	48 16	48
4	Common	" 17	93	36 " 41	Stiff	2 " 2½	3,240	47 24	50½
5	Stella	" 19	95	36 " 40	"	1¾ " 2½	3,880	45 ..	51
6	Empire	" 18	94	36 " 40	"	2 " 3	3,480	41 32	56¾
7	Royal	" 17	93	35 " 38	"	1½ " 2½	4,000	39 8	51
8	Summit	" 19	95	36 " 40	"	1¾ " 2½	3,000	38 36	51¾
9	Champion	" 17	93	40 " 44	Medium	2 " 3	4,020	38 16	44
10	Argyle	" 18	94	37 " 42	Stiff	2½ " 3	2,920	37 24	49½
11	Trooper	" 17	93	35 " 38	"	1½ " 2½	3,200	34 28	51
12	Rennie's Improved	" 17	93	33 " 36	"	1½ " 2¼	3,640	34 28	50
13	Oderbruch	" 17	93	36 " 40	Medium	2 " 3	3,620	34 8	50
14	Yale	" 17	93	35 " 38	Stiff	2 " 2½	3,080	33 16	50
15	Nugent	" 18	94	32 " 35	"	2 " 2½	2,520	31 32	49¾
16	Odessa	" 17	93	36 " 40	Medium	2 " 3	3,280	31 12	49
17	Claude	" 17	93	33 " 36	Stiff	1½ " 2	2,480	31 12	50
18	Manstield	" 19	95	37 " 39	"	1½ " 2½	2,680	30 40	51½

TWO-ROWED BARLEY—TEST OF VARIETIES.

Number.	Name of Variety.	Date of ripening	No. of Days Maturing.	Length of Straw, including Head	Character of Straw.	Length of Head.	Weight of Straw.	Yield per Acre.	Weight per measured bushel after cleaning.
				Inches.		Inches.	Lbs.	Bush. lbs.	Lbs.
1	French Chevalier	Aug. 19	95	32 to 37	Medium	3 to 4	3,880	44 28	52½
2	Beaver	" 19	95	32 " 38	"	2 " 3¼	3,200	43 16	52½
3	Danish Chevalier	" 19	95	30 " 36	"	3 " 4	4,040	42 44	53
4	Harvey	" 19	95	40 " 43	Stiff	2 " 3½	4,080	39 8	51¼
5	Newton	" 19	95	38 " 42	"	2 " 3	3,600	38 36	51
6	Logan	" 19	95	40 " 44	"	2 " 3	3,880	38 16	50
7	Jarvis	" 19	95	40 " 44	"	2 " 3	3,720	36 32	50¾
8	Gordon	" 19	95	36 " 40	"	2 " 3	3,080	35 40	50½
9	Invincible	" 21	97	30 " 34	"	2 " 3	3,160	35 20	48
10	Sidney	" 18	94	36 " 41	"	2 " 3	4,000	35 ..	52½
11	Dunham	" 19	95	36 " 41	"	2 " 3	3,800	34 28	51½
12	Canadian Thorpe	" 21	97	40 " 45	"	2 " 3	3,680	34 8	51½
13	Clifford	" 19	95	35 " 40	"	2 " 3	2,600	33 16	50½
14	Swedish Chevalier	" 21	97	26 " 30	Medium	3 " 5	3,000	25 20	50½
15	Standwell	" 21	97	36 " 40	Stiff	2 " 3	2,440	25 ..	48½

EXPERIMENTS WITH SPRING WHEAT.

Twenty-eight varieties of spring wheat were sown in plots one-fortieth acre each, on land that was a light sandy loam, and had been in clover hay the previous season, grain in 1903 and roots in 1902, for which crop 20 one-horse cart loads of stable manure was used. The land was ploughed in the autumn and a light crop of second-growth clover turned under. This spring this was well worked up with spring tooth and smoothing harrows, and sown with the drill seeder May 13, at the rate of 1¾ bushels per acre, together with Mammoth Red Clover 7 lb., Alsike Clover 3 lb., and Timothy seed 12 lb.

Owing to the continued cold and wet weather this crop made rather a poor start and weeds made fairly good headway, which had a decided influence on the result. No rust was observed but some smut was noticed. The following yields were obtained:—

SPRING WHEAT—TEST OF VARIETIES.

Number.	Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw, including head.	Character of Straw.	Length of Head.	Kind of Head.	Weight of Straw	Yield per Acre.		Weight per measured bushel after cleaning.
		1905.		Inches.		Inches.		Lbs.	Bush.	Lbs.	
1	Pringle's Champlain	Aug. 25	104	38-43	Stiff	2 -3½	Bearded	4,120	35	..	62½
2	Monarch	" 29	108	40-45	"	2½-3⅝	Beardless	3,480	34	40	61⅞
3	Preston	" 25	104	36-42	"	2½-3¼	Bearded	3,720	34	..	63
4	Bishop	" 25	104	36-40	"	2 -2½	Beardless	3,560	32	..	62
5	Colorado	" 25	104	40-43	"	2 -3	Bearded	3,880	31	20	63
6	Stanley	" 28	107	40-44	"	2½-3½	Beardless	3,640	30	40	61½
7	McKendry's Fife	" 29	108	40-44	"	2½-3¼	"	3,080	30	40	61
8	Laurel	" 29	108	40-44	"	2½-3½	"	3,600	30	..	60
9	Hungarian White	" 25	104	36-40	"	2 -3	Bearded	2,880	29	..	62
10	Hayne's Blue Stem	" 30	109	36-40	"	2 -3	Beardless	2,920	28	20	62
11	Advance	" 25	104	38-42	"	2 -3	Bearded	3,400	28	..	62
12	White Fife	" 29	108	40-44	"	2 -3½	Beardless	3,800	27	40	62
13	Clyde	" 29	108	40-45	"	2½-3½	"	3,200	27	20	61½
14	Power's Fife	" 30	109	38-42	"	2 -3	"	3,920	27	..	62
15	Wellman's Fife	" 29	108	40-45	"	2½-4	"	3,860	26	40	61
16	Australian No. 9	" 31	110	36-40	"	2 -3	"	2,400	26	..	59½
17	Countess	" 29	108	36-42	"	2 -3	"	2,520	26	..	61
18	Dawn	" 26	105	38-42	"	2 -3	"	2,800	25	20	61⅝
19	Weldon	" 30	109	39-42	"	2 -3	"	2,280	25	..	61
20	Red Fife	" 28	107	38-42	"	2 -3	"	2,560	24	40	60¼
21	White Russian	" 29	108	38-43	"	2 -3½	"	2,520	24	..	59½
22	Red Fern	" 26	105	34-38	"	2 -3	Bearded	2,280	20	40	62½
23	Minnesota No. 163	" 30	109	40-42	"	2 -3½	Beardless	2,200	20	20	60⅝
24	Percy	" 30	109	40-44	"	2 -3	"	3,080	20		60⅝
25	Chester	" 31	110	36-40	"	2 -3	"	2,520	20	..	61½
26	Huron	" 25	104	36-40	Medium	2 -3	Bearded	2,280	18	..	61
27	Early Riga	" 22	101	30-35	"	2 -3	Beardless	2,000	14	..	62
28	Herisson Bearded	" 25	104	30-35	Weak	1½-2	Bearded	2,020	13	20	63

EXPERIMENTS WITH MACARONI WHEAT.

Four varieties of Macaroni wheat were grown in plots of one-fortieth acre each, alongside of the other wheat plots. The land was similar in character and received the same treatment as in the wheat plots and was sown at the same time (May 13). These varieties are separated from the other wheats on account of their inferior milling qualities. The following are the yields obtained:—

MACARONI WHEAT—TEST OF VARIETIES.

Number.	Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw, including head.	Character of Straw.	Length of Head.	Kind of Head.	Weight of Straw	Yield per Acre.		Weight per measured bushel after cleaning.
		1905.		Inches.		Inches.		Lbs.	Bush.	Lbs.	Lbs.
1	Roumanian	Aug. 30	109	38-42	Medium	2 -2½	Bearded	2,280	22	..	62¾
2	Goose	" 29	108	34-40	"	1½-2	"	1,720	17	20	63
3	Yellow Gharnovka	" 29	108	35-41	"	1½-2	"	2,320	16	40	62½
4	Mahmoudi	" 29	108	35-38	"	2 -2½	"	1,860	14	..	62⅝

EXPERIMENTS WITH EMMER AND SPELT.

Two varieties each of Emmer and Spelt were sown May 13 in plots of one-fortieth acre each. The land was similar to that on which the other wheats were sown and received the same treatment. The yield from these plots is given in pounds, as with the

ordinary threshing the chaff is not separated from the kernels as in other grain and cannot well be compared with the other sorts which are threshed clean.

EMMER AND SPELT—TEST OF VARIETIES.

Number.	Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw, including head.	Character of Straw.	Length of Head.	Kind of Head.	Weight of Straw.	Yield per Acre.
		1905.		Inches.		Inches.		Lbs.	Lbs.
1	Red Spelt	Sept. 2..	112	38–43	Stiff	2 –3	Beardless.	3,600	2,440
2	White Spelt	" 2..	112	34–41	"	2 –4	" ..	3,000	2,360
3	Red Emmer	Aug. 31..	110	35–40	"	2 –3	Bearded..	2,200	1,120
4	Common Emmer	" 31..	108	32–38	"	1½–2	" ..	2,400	2,400

EXPERIMENTS WITH FIELD PEASE.

Thirty varieties of pease were sown in uniform plots of one-fortieth acre each, on a clay loam. This was in a poor state of fertility, having been in pasture for many years and no fertilizer having been applied for at least ten years. The land was ploughed in the fall and worked up this spring with disc and spring-tooth harrows, and sown with the drill seeder at the rate of from 2 to 3 bushels per acre, Mammoth Red clover being sown at the same time at the rate of 10 lbs. per acre.

The following yields per acre was obtained:—

PEASE—TEST OF VARIETIES.

Number.	Name of Variety.	Date of Ripening.	Number of Days Maturing.	Character of Growth.	Length of Straw.	Length of Pod.	Size of Pea.	Yield per Acre.	Weight per Bushel.
					Inches.	Inches.		Bush. Lbs.	Lbs.
1	Mummy	Sept. 9	109	Medium..	36–40	1½–2	Medium..	39 20	63½
2	Nelson	" 9	109	" ..	30–40	1½–2¼	" ..	38 ..	63½
3	English Gray	" 14	114	Good....	37–42	2 –2½	" ..	37 20	60½
4	White Marrowfat	" 11	111	"	36–42	2 –3	Large	35 40	63¾
5	Paragon	" 2	102	Medium..	30–35	1½–2	Medium..	34 20	63
6	White Wonder	" 2	102	" ..	30–36	1½–2	" ..	34 ..	63½
7	Black Eye Marrowfat	" 11	111	Good....	36–42	2 –3	Large	34 ..	62
8	Duke	" 13	113	Medium..	34–38	2 –2½	"	32 ..	62
9	Chancellor	" 12	102	" ..	29–33	1 –2	Small	31 40	64
10	Picton	" 11	111	Good....	34–38	2 –2½	Medium..	31 20	63½
11	Prince Albert	" 12	112	Medium..	35–40	1½–2	Small	31 ..	62½
12	Arthur	" 2	102	" ..	28–32	1½–3	Medium..	30 40	62¼
13	Daniel O'Rourke	" 9	109	" ..	33–37	1½–2	Small	30 ..	64
14	Golden Vine	" 11	111	Good....	33–37	1½–2	"	30 ..	63
15	Pride	" 11	111	Medium..	34–35	1½–2	Medium..	28 20	63
16	German White	" 6	106	Good....	34–38	1½–2½	" ..	28 ..	63½
17	Carleton	" 11	111	"	34–40	2 –2½	" ..	26 40	63½
18	Gregory	" 11	111	"	35–40	1½ 2½	" ..	26 40	62½
19	Mackay	" 14	114	"	38–42	2 –3	Large	26 20	63
20	Crown	" 2	102	"	30–36	1½–2	Small	26 ..	64
21	Wisconsin Blue	" 11	111	"	34–38	1½–2½	Medium..	26 ..	64½
22	Pearl	" 14	114	Medium..	30–34	2 –2½	" ..	25 40	62
23	Kent	" 11	111	Good....	36–41	2 –2½	Large	25 20	63
24	Prussian Blue	" 9	109	Medium..	33–38	1½–2	Small	24 40	63
25	Agnes	" 12	112	Good....	38–44	2 –3	Large	24 40	62¼
26	Archer	" 13	113	"	34–38	2 –2½	Medium.	24 20	63
27	Prince	" 11	111	"	36–40	2 –2½	" ..	24 ..	62
28	Early Britain	" 6	106	"	33–36	2 –3	Large	24 ..	62
29	Macoun	" 14	114	"	38–43	2 –2½	"	19 20	62¾
30	Victoria	" 12	112	"	36–40	2 –2½	"	15 20	62

EXPERIMENTS WITH BUCKWHEAT.

Five varieties of buckwheat were sown in uniform test plots of one-fortieth acre each. They were sown June 20, and cut September 1 and 2. The land was a clay loam that had been in clover and timothy the previous season. This land had received a dressing of barnyard manure in 1902, when a crop of roots was grown. No fertilizer of any kind was used since. The sod was ploughed in the fall of 1904 and worked up well this spring. The following yields were obtained:—

BUCKWHEAT.

Number.	Name of Variety.	Date of Sowing.	Date of Ripening.	No. of days Maturing.	Length of Straw.	Character of Straw.	Yield per Acre.		Weight per Bushel.
					Inches.		Bush.	Lbs.	Lbs.
1	Siberian or Tartarian	June 20	Sept. 1	73	28–32	Stiff	43	16	50
2	Rye Buckwheat	" 2	" 2	74	36–40	"	37	24	51
3	Gray Buckwheat	" 2	" 2	74	32–36	"	32	24	48
4	Japanese	" 2	" 1	73	36–42	"	25	40	43
5	Silverhull	" 2	" 2	74	32–36	"	24	28	50

FIELD CROPS OF GRAIN.

Seventeen acres of field grain was grown. Ten acres of which was in plots of two acres each, the remaining seven acres in one lot. The land was a clay loam, the previous crop having been roots and corn, for which crop barnyard manure at the rate of 20 tons per acre was used. The plots ran crosswise of the field, the roots and corn plots having been run lengthwise of the field the previous year, consequently each grain plot was on the like amount of root and corn land. The land was ploughed in the spring and well harrowed, after which the grain was sown with the seed drill and with 3 bushels in the case of oats, 2 bushels in the case of barley and 3 bushels in the case of mixed grain, Mammoth Red clover at the rate of 7 lbs.; Alsike clover, 3 lbs., and Timothy seed 12 lbs. per acre was sown with this crop. The following is the crop harvested:—

FIELD CROPS OF GRAIN.

Crops.	Yield per Acre.		Weight per Bushel.
	Bush.	Lbs.	Lbs.
2 Acres Odessa Barley sown May 29, cut Aug. 23	39	12	48
2 Acres Mixed Grain sown May 29, cut Aug. 24	53	20	40
2 Acres Sensation Oats sown May 29, cut Aug. 29	62	2	34
2 Acres Waverley Oats sown June 1, cut September 5	59	14	34
2 Blk. Tartarian Oats sown June 1, cut September 8	43	17	34
7 Acres Mixed Grain sown June 5, cut Sept. 5	42	0	40

FIELD CROPS OF MIXED GRAIN.

Eight acres was sown with mixed oats, barley and pease. The land was a clay loam in a very poor state of fertility, not having received manure or fertilizer of any kind for at least ten years. This crop was sown May 6 and cut August 23. The yield was 30 bushels, 15 lbs. per acre, weighing 40 lbs. per bushel.

Five acres mixed grain was grown. The land was a light clay loam. The previous crop was buckwheat, for which crop barnyard manure at the rate of 10 tons per acre

was spread on the surface in the winter of 1904. The land was ploughed in the fall. The crop was sown May 27 and cut August 31; Mammoth Red clover at the rate of 7 lbs., Alsike clover, 3 lbs. and Timothy seed, 12 lbs. per acre, was sown with this crop. The following is the yield obtained: 33 bushels, 6 lbs. per acre, which weighed 40 lbs. per bushel.

Three acres of mixed grain were sown on a clay loam field, that had previously been in clover a light second crop having been turned under in the fall of 1904. The ground was well worked up in the spring and sown May 17, cut August 21. With this crop was sown Mammoth Red clover at the rate of 7 lbs., Alsike 3 lbs. and Timothy seed, 12 lbs. per acre. This field gave a yield of 61 bushels per acre at 40 lbs. per bushel.

EXPERIMENTS WITH INDIAN CORN.

Twenty varieties of Indian corn were sown in rows 36 inches apart, and also in hills 36 inches apart each way. The land was a clay loam that had been manured in 1900, for a root crop grown that year, followed with grain, 1901; clover hay, 1902; grain again, 1903, and clover hay again in 1904. Stable manure at the rate of about twenty tons per acre was spread on the sod in the fall of 1904, and was ploughed under together with a heavy crop of grass. Early in June, just before planting, this was worked up into a good condition of tilth, when complete fertilizer at the rate of 300 lbs. per acre was sown broadcast and harrowed in. The corn was planted June 9, by hand machine. When the plants were about 6 inches high they were thinned out, leaving them from 4 to 6 inches apart in the rows, and from 5 to 8 plants in each hill. The land was gone over with a very light harrow before the plants came up, and three times with the Breed weeder in the next two weeks, and three times with the cultivator.

From the first this crop made very satisfactory growth, and at 60 days from coming through the ground, measured in many places 90 inches in height. The latter part of the season was not so favourable for growth. The following yields were obtained:—

INDIAN CORN—TEST OF VARIETIES.

Number.	Name of Variety.	Height.	When Tasselled.	In Silk.	Condition when cut.	Weight per acre grown in rows.		Weight per acre grown in hills.	
		Inches.				Tons.	Lbs.	Tons.	Lbs.
1	Thoroughbred White Flint	93	Sept. 1		Tasselled	30	1,600	24	1,500
2	Eureka	96			"	29	850	25	1,150
3	Red Cob Ensilage	98			"	28	1,200	26	800
4	Salzer's All Gold	98			"	27	670	24	1,170
5	Pride of the North	100	Sept. 1		"	27	450	26	1,900
6	Longfellow	80	Aug. 22	Sept. 1	Late milk	26	20	22	1,100
7	Early Mastodon	97	Sept. 1		Early milk	25	1,700	18	1,050
8	Selected Leaming	94	" 1		"	24	1,830	22	550
9	Giant Prolific Ensilage	96			Tasselled	24	950	21	130
10	Cloud's Early Yellow	100			"	24	70	20	1,470
11	Evergreen Sugar	88	Sept. 1		"	23	1,850	25	1,370
12	Early Butler	92	" 1		Early milk	23	1,520	21	570
13	Angel of Midnight	80	Aug. 22	Sept. 1	Late milk	22	1,460	21	350
14	Compton's Early	80	" 22	" 1	"	22	1,320	22	220
15	North Dakota White	82	" 26	" 5	In milk	22	1,100	23	200
16	King Philip	85	" 26	" 10	Watery	22	770	21	900
17	Mammoth Cuban	96	" 29		Tasselled	22	770	20	370
18	Superior Fodder	94	Sept. 29		"	22	250	19	1,270
19	Champion White Pearl	102	" 20		"	20	150	19	1,050
20	White Cap Yellow Dent	94	" 20		"	18	1,400	18	300

INDIAN CORN SOWN AT DIFFERENT DISTANCES APART.

Experiments were again carried on this year with corn planted at different distances apart. The land was similar to that in the uniform test plots, and had the same treatment. Three varieties were used. The corn was planted June 9 and cut September 27. The following table gives the names of the varieties used, the distances apart in the rows, and the yield obtained. The plots were one-fortieth acre each:—

Name of Variety.	Distance Apart.	Yield per acre.	
	Inches.	Tons.	Lbs.
Champion White Pearl	42	14	300
" "	35	17	200
" "	28	15	200
" "	21	13	100
Selected Leaming	42	16	200
" "	35	16	900
" "	28	16	300
" "	21	14	740
Longfellow	42	20	1,500
"	35	22	1,100
"	28	21	500
"	21	18	460

FIELD CROP OF INDIAN CORN.

Three acres of Indian corn was grown in six plots of one-half acre each. The land was a clay loam in a good state of fertility, and had been in clover hay the previous year. For five of these plots the aftermath was left growing until early in June. Manure at the rate of 20 tons per acre had been spread on the grass as early as possible in the spring, and early in June this was ploughed under along with a heavy crop of grass. One plot of one-half acre was ploughed last fall and manure spread on it at the rate of 20 tons per acre this spring, and well worked in with the spade harrow before sowing, the object being to compare the results of these two methods of treatment. The variety known as Longfellow was used for this latter plot.

To one-half acre each of Compton's Early and Dakota White was added commercial fertilizer at the rate of 250 lbs. per acre, another half acre of each was left with manure alone. After ploughing, this was well worked up with disc, springtooth and smoothing harrows and sown in rows 35 inches apart with the drill seeder on June 9. The land was gone over once with a light smoothing harrow before the corn came up and cultivated with the Breed weeder and one-horse cultivator six times throughout the summer. This crop made very satisfactory growth. The following table shows the results:—

FIELD CROP OF CORN—FERTILIZER EXPERIMENT.

Name of Variety, how Fertilized, size of Plot.	Yield per Acre. Tons.	Lbs.
North Dakota White.		
½ acre—Manure 20 tons, commercial fertilizer 250 lbs. per acre	18	1,860
½ " Manure only	17	1,460
Cost of commercial fertilizer at $30 per ton ..... $ 3.75 per acre.		
Value of gain in crop over manure only, 1 ton 400 lbs. per acre at $2 per ton ..... 2.40 "		
Loss ..... $ 1.35 "		
Compton's Early.		
½ acre—Manure 20 tons, commercial fertilizer 250 lbs. per acre	17	1,850
½ " Manure only	17	350
Cost of commercial fertilizer at $30 per ton ..... $ 3.75 per acre.		
Value of gain in crop, 1,500 lbs. at $2 per ton ..... 1.50 "		
Loss ..... $ 2.25 "		
FALL VERSUS SPRING PLOUGHING.		
Longfellow.		
½ acre—Ploughed in Fall	20	1,880
½ " Ploughed in Spring	18	200

EXPERIMENTS WITH TURNIPS.

Twenty varieties of turnips were sown this year on a clay loam soil that had been manured for roots in the season of 1900. Grain was grown in 1901, clover 1902, with the second crop turned under and grain again in 1903. Clover in 1904, the aftermath of this crop was ploughed under early last fall and cultivated twice with spade harrow. In the spring this was again cultivated with spring tooth and disc harrows. Barnyard manure was then spread on with a manure spreader at the rate of 20 tons per acre, and ploughed under and again thoroughly cultivated. Complete fertilizer at the rate of 500 lbs. per acre was then sown broadcast and harrowed in with the smoothing harrow. Rows were made 24 inches apart and the plants thinned out to one foot apart in the rows. The yield was calculated from the weight obtained from two rows each 66 feet long. The first plots were sown May 26, and a duplicate lot sown June 9, and all pulled October 16. Until about October 1 this crop appeared to be particularly good, but made little increase after that date, owing to severe and continued drouth. The following were the results obtained:—

TURNIPS—TEST OF VARIETIES.

Number.	Name of Variety.	Yield per Acre. — 1st Plot.		Yield per Acre. — 1st Plot.		Yield per Acre. — 2nd Plot.		Yield per Acre. — 2nd Plot.	
		Tons.	Lbs.	Bush.	Lbs.	Tons.	Lbs.	Bush.	Lbs.
1	Magnum Bonum	43	944	1,449	4	37	632	1,243	52
2	Perfection Swede	41	688	1,378	8	29	1,128	985	28
3	Empire Swede	41	80	1,368		29	1,888	998	8
4	Hartley's Bronze	40	1,624	1,360	24	28	1,456	957	36
5	Carter's Elephant	40	256	1,337	36	22	1,904	965	4
6	Skirvings	39	1,344	1,322	24	27	1,328	922	8
7	Good Luck	39	1,040	1,317	20	28	240	937	20
8	Drummond Purple Top	39	888	1,314	48	24	1,248	820	48
9	East Lothian	39	584	1,309	44	25	1,984	866	24
10	Selected Purple Top	39	432	1,307	12	26	440	874	
11	Jumbo	38	1,824	1,297	4	31	776	1,046	16
12	Hall's Westbury	37	1,848	1,264	8	28	696	944	56
13	Bangholm Selected	37	328	1,238	48	31	624	1,043	44
14	Kangaroo	35	1,896	1,198	16	28	392	939	52
15	Elephant's Master	35	1,592	1,193	12	31	116	1,035	16
16	Mammoth Clyde	35	1,288	1,188	8	28	1,000	950	
17	Halewood's Bronze Top	35	832	1,180	32	28	1,304	955	4
18	Imperial Swede	35	376	1,172	56	27	1,936	923	16
19	New Century	34	1,008	1,150	8	26	488	874	48
20	Sutton's Champion	34	400	1,140		28	1,000	950	

FIELD CROPS OF TURNIPS.

Two and a half acres of turnips were sown in two lots of one acre each, and one lot of one-half acre. The land was a clay loam in a good state of fertility. The previous crop had been clover hay. The sod was ploughed in the fall and well worked up; it was again well worked up in the spring, and manure at the rate of 20 tons per acre spread on and ploughed under, it was then gone over with spring-tooth and disc harrows.

Each acre was divided into three parts, to one-third was added commercial fertilizer at the rate of 500 lbs. per acre, to another third at the rate of 250 lbs. per acre, and one-third left with manure alone, this was spread on the surface and harrowed in with the smoothing harrow, after which rows were run 26 inches apart, and the seed sown June 7. This crop grew exceptionally well until the early autumn, when the continued extremely dry weather retarded the growth considerably. The crop was harvested Nov. 4 and 6, with the following results:—

FIELD CROP OF TURNIPS.

Name of Variety, how Fertilized, size of Plot, and date pulled.	Yield per Acre.		Yield per Acre.	
Kangaroo—(Pulled November 6).	Tons.	Lbs.	Bush.	Lbs.
⅓ acre—Manure 20 tons, fertilizer 500 lbs. per acre	29	1,685	994	45
⅓ " " 20 " " 250 "	29	125	968	45
⅓ " " 20 " only	28	655	944	15
Cost per acre of 500 lbs. commercial fertilizer at $30 per ton ... $7 50				
Value per acre of gain in crop over manure only 50½ bush. at 6c. per bush. 3 03				
Loss per acre. $4 47				
Cost per acre of 250 lbs. commercial fertilizer at $30 per ton ... 3 75				
Value per acre of gain in crop over manure only 24½ bush. at 6c. per bush. 1 47				
Loss per acre. $2 28				
Best of All—(Pulled November 6.)				
⅓ acre—Manure 20 tons, fertilizer 500 lbs. per acre	26	1,700	895	..
⅓ " " 20 " " 250 "	25	925	848	45
⅓ " " 20 " only	25	700	845	..
Cost per acre of 500 lbs. commercial fertilizer at $30 per ton ... $7 50				
Value per acre of gain in crop over manure only 50 bush. at 6c.. 3 00				
Loss per acre $4 00				
Cost per acre of 250 lbs. commercial fertilizer at $30 per ton ... 3 75				
Value per acre of gain in crop over manure only 3¾ bush. at 6c.. 0 23				
Loss per acre $3 52				
Hartley's Bronze—(Pulled November 4).				
¼ acre—Manure 20 tons, fertilizer 500 lbs. per acre	29	1,520	992	
¼ " " 20 " only	29	968	982	
Cost per acre of 500 lbs. fertilizer at $30 per ton $7 50				
Value per acre of gain in crop over manure only 9⅓ bush. at 6c.. 0 56				
Loss per acre $6 94				

Six acres of turnips were also grown in lots of one acre each. This land varied very much, containing heavy clay loam, black muck, and sandy loam. These varieties of soil ran across the field, while the plots ran the other way. This land was in grain, 1904, hay, 1903, and was in rather a poor state of fertility. It was ploughed in the fall, worked up well this spring, after which barnyard manure at the rate of 20 tons per acre was applied with the manure spreader, after which the land was ploughed again and worked up well and sown in drills 26 inches apart. Six varieties were used. Different quantities of commercial fertilizers were used to different parts of each acre. The following table gives the particulars:—

FIELD CROP OF TURNIPS—*Concluded.*

Name of Variety, how Fertilized, size of Plot, and date pulled.	Yield per Acre.		Yield per Acre.	
	Tons.	Lbs.	Bush.	Lbs.
Sutton's Champion—(Pulled October 30).				
⅓ acre—Manure 20 tons, bone 500 lbs. per acre	24	660	811	..
⅓ " " 20 " slag 500 "	25	520	842	..
⅓ " " 20 " no other fertilizer	24	1,080	818	..
Cost per acre of 500 lbs. bone at $30 per ton	$7 50			
Value per acre of gain in crop over manure only, 7 bush. at 6c.	0 42			
Loss per acre	$7 92			
Cost per acre of 500 lbs. slag at $21 per ton	5 25			
Value per acre of gain in crop over manure only 24 bush. at 6c.	1 44			
Loss per acre	$3 81			
Kangaroo—(Pulled October 31).				
⅓ acre—Manure 20 tons, fertilizer intense 500 lbs. per acre	24	570	809	30
⅓ " " 20 " slag 500 "	24	480	808	..
⅓ " " 20 " no other fertilizer	23	1,190	786	30
Cost per acre of 500 lbs. intense fertilizer at $35 per ton	$8 75			
Value per acre of gain in crop over manure only 23 bush. at 6c.	1 38			
Loss per acre	$7 37			
Cost per acre of 500 lbs. slag at $21 per ton	5 25			
Value per acre of gain in crop over manure only 21½ bush. at 6c.	1 29			
Loss per acre	$3 97			
Best of All—(Pulled November 1).				
⅓ acre—Manure 20 tons, fertilizer intense 500 lbs. per acre	20	1,580	693	..
⅓ " " 20 " " 250 "	20	926	682	6
⅓ " " 20 " no other fertilizer	19	1,030	650	30
Cost per acre of 500 lbs. intense fertilizer at $35 per ton	$8 75			
Value per acre of gain in crop over manure only 42 bush. at 6c.	2 52			
Loss per acre	$6 23			
Cost per acre of 250 lbs. intense fertilizer at $35 per ton	4 38			
Value per acre of gain in crop over manure only 58 bush. at 6c.	3 48			
Loss per acre	$0 90			
Hartley's Bronze Top—(Pulled November 2).				
⅓ acre—Manure 20 tons, fertilizer intense 500 lbs. per acre	24	1,440	824	..
⅓ " " 20 " " " 250 "	24	1,710	828	30
⅓ " " 20 " no other fertilizer	23	200	770	..
Cost per acre of 500 lbs. intense fertilizer at $35 per ton	$8 75			
Value per acre of gain in crop over manure only 54 bush. at 6c.	3 24			
Loss per acre	$5 51			
Cost per acre of 250 lbs. intense fertilizer at $35 per ton	4 38			
Value per acre of gain in crop over manure only 58 bush. at 6c.	3 48			
Loss per acre	$0 90			
Magnum Bonum—(Pulled October 28).				
⅓ acre—Manure 20 tons, bone 500 lbs. per acre	21	1,320	720	..
⅓ " " 20 " ashes 500 "	21	990	716	30
⅓ " " 20 " no other fertilizer	21	870	714	30
Cost per acre of 500 lbs. bone at $30 per ton	$7 50			
Value per acre of gain in crop over manure only 5½ bush. at 6c.	0 33			
Loss per acre	$7 17			
Empress—(Pulled October 23).				
1 acre—Manure 20 tons	19	1,600	660	..

EXPERIMENTS WITH MANGELS.

Seventeen varieties of mangels were sown in uniform test plots. The land was a clay loam manured in 1900 for roots, followed by grain in 1901, clover and timothy in 1902, grain again in 1903, and clover hay in 1904. It was ploughed early last fall, and a light coat of aftermath turned under, it was cultivated twice before winter and again in the spring. Barnyard manure was then spread with the manure spreader at the rate of 20 tons per acre; and ploughed under and again cultivated thoroughly. Complete fertilizer at the rate of 500 lbs. per acre was then sown broadcast and harrowed in with the smoothing harrow. Rows were made 24 inches apart, rolled down and sown with the Planet Jr. hand seed drill, in bunches, 12 inches apart in the row and from 4 to 8 seeds in a bunch. When about 3 to 4 inches high they were thinned out, leaving one plant in each spot. Two sowings were made of each variety, the first sowing was on May 25 and the second on June 8. The mangels were all pulled on October 12. The yield was calculated in each case from the weight of roots gathered from two rows each 66 feet long. The following were the yields obtained:—

Number.	Name of Variety.	Yield per Acre. 1st Plot.		Yield per Acre. 1st Plot.		Yield per Acre. 2nd Plot.		Yield per Acre. 2nd Plot.	
		Tons.	Lbs.	Bush.	Lbs.	Tons.	Lbs	Bush.	Lbs.
1	Mammoth Yellow Intermediate	31	1,992	1,066	32	26	744	879	4
2	Half Long Sugar White	31	1,688	1,061	28	21	256	704	16
3	Prize Mammoth Long Red	31	776	1,046	16	21	104	701	44
4	Lion Yellow Intermediate	30	1,104	1,018	24	19	1,824	663	44
5	Giant Yellow Intermediate	30	648	1,010	48	23	360	772	40
6	Giant Yellow Globe	29	1,888	998	8	25	8	833	28
7	Selected Yellow Globe	28	1,000	950	0	25	920	848	40
8	Yellow Intermediate	28	392	939	52	19	760	646	..
9	Prize Winner Yellow Globe	27	1,632	927	12	19	1,976	666	16
10	Half Long Sugar Rosy	27	1,328	922	8	20	280	671	20
11	Selected Mammoth Long Red	27	416	906	56	18	1,544	625	44
12	Triumph Yellow Globe	26	896	881	36	21	1,016	716	56
13	Ideal	25	8	833	28	21	560	769	20
14	Leviathan Long Red	24	1,704	828	24	15	1,920	532	..
15	Mammoth Long Red	24	1,400	823	20	18	1,848	630	48
16	Giant Sugar	24	32	800	32	17	352	572	32
17	Gate Post	23	1,272	787	52	16	72	534	32

FIELD CROPS OF MANGELS.

Two and a half acres of mangels were grown in two lots of one acre each, and one lot of one-half acre. Three varieties were used, Yellow Globe, Yellow Intermediate and Mammoth Long Red. The land was a clay loam, in a good state of fertility. The previous crop was clover hay. The sod was ploughed in the early fall and worked up twice with the spade harrow. In the spring it was again well worked up, after which barnyard manure was spread on with the manure spreader at the rate of 20 tons per acre, and ploughed under; this was then well worked up. To one-third of each acre was added commercial fertilizer at the rate of 500 lbs. per acre, to another third at the rate of 250 lbs. per acre, and one-third left with manure alone. The mangels were sown in drills 26 inches apart. They were sown June 1, and harvested October 10 to 14. The following yield was obtained:—

Name of Variety, how Fertilized, Size of Plot, Date Pulled.		Yield per Acre. Tons.	Lbs.	Yield per Acre. Bush.	Lbs.
Yellow Intermediate—(Pulled October 13).					
⅓ acre, manure 20 tons, fertilizer 500 lbs. per acre		21	1,200	720	..
⅓ " " 250 "		24	180	803	..
⅓ " " no other fertilizer		22	820	747	..
Cost per acre of 500 lbs. fertilizer at $30 per ton	$7 50				
Value per acre of gain in crop over manure only, 27 bush. at 6 cts	1 62				
Loss per acre	$9 12				
Cost per acre of 250 lbs fertilizer at $30 per ton	$3 75				
Value per acre of gain in crop over manure only, 56 bush. at 6 cts	3 36				
Loss per acre	$0 39				
Yellow Globe—(Pulled October 10).					
⅓ acre, manure 20 tons fertilizer 500 lbs. per acre		22	700	745	..
⅓ " " 250 "		21	75	701	15
⅓ " " no other fertilizer		20	1,250	687	30
Cost per acre of 500 lbs. fertilizer at $30 per ton	$7 50				
Value per acre of gain in crop over manure only, 57½ bush. at 6 cts	3 45				
Loss per acre	$4 05				
Cost per acre of 250 lbs. fertilizer at $30 per ton	$3 75				
Value per acre of gain in crop over manure only, 13¾ bush. at 6 cts	$0 83				
Loss per acre	$2 92				
Mammoth Long Red—(Pulled October 14).					
¼ acre, manure 20 tons, fertilizer 500 lbs. per acre		20	1,360	689	20
¼ " " 20 tons, no other fertilizer		19	400	640	..
Cost per acre of 500 lbs. fertilizer at $30 per ton	$7 59				
Value per acre of gain in crop over manure only, 49⅓ bush. at 6 cts	2 96				
Loss per acre	$4 54				

EXPERIMENTS WITH SUGAR BEETS.

Eight varieties of sugar beets were sown. The land was similar to that on which the mangels and turnips were sown, and it received the same treatment. Two sowings were made of each sort, the first on May 25 and the second on June 8. The seed was sown in rows 24 inches apart, in bunches 12 inches apart in the rows. When the plants were about 3 to 4 inches high the bunches were thinned out to one plant in each place. The whole crop was harvested October 13, and the yield calculated from the weight obtained from two rows each 66 feet long.

SUGAR BEETS—TEST OF VARIETIES.

Number.	Name of Variety.	Yield per Acre. 1st Plot.		Yield per Acre. 1st Plot.		Yield per Acre. 2nd Plot.		Yield per Acre. 2nd Plot.	
		Tons.	Lbs.	Bush.	Lbs.	Tons.	Lbs.	Bush.	Lbs.
1	Red Top Sugar	28	1,912	965	12	19	912	648	32
2	Danish Red Top	28	1,000	950	0	15	1,464	520	24
3	Royal Giant	27	1,176	919	36	16	1,592	559	52
4	Improved Imperial	24	336	805	36	17	960	582	40
5	Danish Improved	23	824	780	24	19	304	638	24
6	Wanzleben	16	1,592	559	52	12	168	402	48
7	Vilmorin's Improved	16	1,440	557	20	12	1,232	420	32
8	French Very Rich	14	120	468	40	11	344	572	24

EXPERIMENTS WITH CARROTS.

Ten varieties of carrots were under test. Two sowings were made of each sort, the first on May 25 and the second on June 8, in rows 24 inches apart, and thinned to about 3 inches apart in the rows. The ground was similar to that used for the turnip and mangel plots, and received the same treatment. The crop was pulled October 17. The yield was calculated from the weight of roots taken from two rows each 66 feet long. The following table gives the yield per acre obtained:—

CARROTS—TEST OF VARIETIES.

Number.	Name of Variety.	Yield per Acre. 1st Plot.		Yield per Acre. 1st Plot.		Yield per Acre. 2nd Plot.		Yield per Acre. 2nd Plot.	
		Tons.	Lbs.	Bush.	Lbs.	Tons.	Lbs.	Bush.	Lbs.
1	Improved Short White	19	304	638	24	12	1,688	428	8
2	New White Intermediate	19	0	633	20	12	320	405	20
3	Giant White Vosges	18	1,544	625	44	11	1,712	395	12
4	Mammoth White Intermediate	18	1,392	623	12	12	1,080	418	
5	Carter's Orange Giant	18	1,240	620	40	11	344	372	24
6	White Belgian	18	784	613	4	11	1,864	397	44
7	Ontario Champion	18	24	600	24	11	344	372	24
8	Long Yellow Stump-rooted	17	808	580	8	11	800	380	
9	Early Gem	17	504	575	4	10	1,736	362	16
10	Half Long Chantenay	17	200	570		11	40	367	20

EXPERIMENTS WITH POTATOES.

Forty-one varieties of potatoes were under test this year. The land was a clay loam on which potatoes had been grown last year (1904), for which crop 20 one-horse cart loads of barnyard manure had been spread on the previous autumn and ploughed under, together with a fairly good growth of clover. Last fall this land was left without ploughing after the potatoes were dug. This spring it was worked up well with spring-tooth and spade harrow; ploughed and again worked up well. Rows were run 30 inches apart and from 3 to 4 inches deep. Potato fertilizer at the rate of 400 lbs. per acre was spread in the rows before planting. The sets were planted one foot apart in the

rows and covered with the drill plough. The tubers were cut so as to have from two to three eyes in each set. The drills were harrowed down before the plants came up, to kill the weeds, and again drilled up a few days later. The cultivator was run between the rows about once a week until the vines were quite large. The field was hoed once by hand. These plots were sprayed with Bordeaux mixture and Paris green three times.

There was no blight noticeable and no rot, but a considerable quantity of scab was observed, more than has been seen here for many years.

The potatoes were planted May 31, and dug October 3 and 4. Each plot was two rows 66 feet long and 30 inches wide. The following yields were obtained:—

POTATOES—TEST OF VARIETIES.

Number.	Name of Variety.	Quality.	Total Yield per Acre.		Yield per Acre of Marketable.		Yield per Acre of Unmarketable.		Form and Colour.
			Bush.	Lbs.	Bush.	Lbs.	Bush	Lbs.	
1	Vermont Gold Coin	Good	512	36	444	24	68	12	Round, flat, white.
2	Morgan Seedling	"	484	0	413	36	70	24	Oblong, pink and white.
3	Holborn Abundance	Medium	477	24	396	0	81	34	Round, white.
4	Vick's Extra Early	Good	424	36	374	0	50	36	Long, pink and white.
5	I. X. L	Medium	418	0	363	0	55	0	" "
6	Dooley	Good	413	36	380	36	33	0	Round "
7	Empire State	"	407	0	347	36	59	24	Long, round, white.
8	American Wonder	"	407	0	341	0	66	0	" "
9	Money Maker	"	387	12	330	0	57	12	" white.
10	Late Puritan	"	360	48	303	36	57	12	" pink and white.
11	Carman No. 1	"	354	12	297	0	57	12	Round, white.
12	Delaware	"	352	0	292	36	59	24	"
13	Early Elkinah	"	352	0	281	36	70	24	Oblong, pink.
14	Enormous	Medium	345	24	305	48	39	36	Round, white.
15	Rose No. 9	"	345	24	299	42	46	12	" dark pink.
16	Early White Prize	Good	345	24	272	48	72	36	Long, white.
17	Pearce	"	338	48	270	36	68	12	Oblong, pink and white.
18	Pingree	"	330	0	272	48	57	12	" white.
19	Swiss Snowflake	"	327	48	253	0	74	48	Round "
20	Country Gentleman	Medium	327	48	237	36	90	12	" pink and white.
21	Rochester Rose	"	325	36	268	24	57	12	Oblong, dark pink.
22	Penn Manor	"	325	36	253	0	72	36	Long, pink.
23	State of Maine	Good	321	12	272	48	48	24	Round, flat, white.
24	Canadian Beauty	"	319	0	264	0	55	0	Long, pink and white.
25	Carman No. 3	"	319	0	244	12	74	48	Round, white.
26	Irish Cobler	"	308	0	248	36	59	24	"
27	American Giant	"	301	24	235	24	66	0	Round, dark pink.
28	Maule's Thoroughbred	Medium	301	24	224	24	77	0	Oblong, pink.
29	Seedling No. 7	"	288	12	222	12	66	0	" dark pink.
30	Sabean's Elephant	"	275	0	209	0	66	0	" white.
31	Burnaby Mammoth	"	272	48	213	24	59	24	" pink and white.
32	Uncle Sam	Good	270	36	209	0	61	36	Round, white.
33	Everett	"	268	24	211	12	57	12	" flat, white.
34	Cambridge Russet	"	266	12	182	36	83	36	Oblong, white.
35	Dreer's Standard	"	264	0	182	36	81	24	Round "
36	Bovee	"	257	24	184	48	72	36	Oblong, pink and white.
37	Early Rose	"	244	12	178	12	66	0	Long, pink.
38	Early St. George	"	233	12	167	12	66	0	"
39	Early Envoy	"	233	12	138	36	94	36	Oblong, pink.
40	Reeve's Rose	"	222	12	162	48	59	24	"
41	Early Andes	"	217	48	151	48	66	0	Round, pink.

EXPERIMENTS IN INOCULATING CLOVER AND ALFALFA.

These experiments were carried on with seed treated and supplied from the Central Experimental Farm, Ottawa. Two half-acre plots were used for the Red clover and two for the Alfalfa, the seed for one plot in each case being treated with the culture of

bacteria, the other untreated. The land was in a poor state of fertility and supposed to be deficient in clover bacteria, as practically no clover had been grown on this land for quite a few years. For this reason this piece was selected, the claim being made that the effect of the treatment would be more clearly manifest where these bacteria were most deficient. Careful notes were taken from time to time but there was no perceptible difference between the plots sown with treated and untreated seed. A careful examination of the roots was also made and with the same results, the clover in each case having many more nodules than were found on the alfalfa.

A similar experiment was carried on in plots of one-twentieth of an acre each, on a piece of land in a good state of fertility, that had grown a crop of beans the previous year, with similar results. At present there is a good stand of both clover and alfalfa on this piece of land and it is being left without any other cover for the winter.

EXPERIMENTS WITH ALFALFA.

(Repeated from report of 1904.)

A one-fortieth acre plot of alfalfa was sown early in June, 1902, with barley as a nurse crop. The nurse crop was cut early in August. The plants only made fair growth and during the following winter were killed out excepting a few plants. These made very poor growth during the season of 1903, and now only two weak plants remain.

In 1903 a similar plot was sown early in June, wheat being used as a nurse crop, which was left uncut and allowed to remain as a protection during the winter. The alfalfa plants made a good start and nearly all came through the winter, but made very poor growth this season. A few plants of Red clover that happened by chance to get into this plot lived through the winter and made exceptionally good growth. This plot was cut twice through the summer, at which times the alfalfa was only from 4 to 6 inches high, while the few plants of Red clover in this plot were at least three times that height. The soil of these two plots was a heavy clay, underdrained, in a fair state of fertility and was well cultivated before sowing.

This season a plot of one-tenth acre of alfalfa was sown. The soil was a heavy clay, underdrained, and in a good state of fertility. This land was ploughed May 13 and well worked up. It was again worked May 29, June 20 and 29 with the spring-tooth and smoothing harrows. On July 7 this ground was again worked with the spade, spring-tooth and smoothing harrows, and alfalfa sown at the rate of 25 lbs. per acre with the grain seed drill. One-half of the plot was sown with wheat at the rate of 2 bushels per acre as a nurse crop, and the other half with alfalfa alone. The alfalfa on the plot without a nurse crop made a much more satisfactory growth than that with the nurse crop, and was much better than that of any former year. On October 20 the growth of that sown alone averaged 10 to 12 inches, and that with the nurse crop averaged only 5 to 7 inches. The nurse crop, which made a growth of about 24 inches, was allowed to remain as a protection throughout the winter.

This spring (1905) what remained of the nurse crop was removed. No particular difference was observed in the amount killed out either on that protected by the nurse crop or that unprotected, both growing fairly well in the early part of the season, that sown without the nurse crop being always considerably the best. On June 29, one one-hundredth of an acre of the best part of that which had no nurse crop was cut and weighed green, weighing 125 lbs., this being at the rate of 6¼ tons per acre, the remainder being too light to admit of being cut. An equal measure of clover cut from an adjoining field that had been sown about the same time the previous summer, gave 236 lbs., as against 125 lbs. of alfalfa.

EXPERIMENT WITH BEANS.

Three varieties of beans were sown with a view to test their relative value as a fodder plant: Common Soja beans, early Soja beans and Velvet beans. The Velvet beans did not come up, and seemed to rot in the ground. The following was the yield of the others from plots of one-thirtieth of an acre:—

Variety.	Yield per acre.
Soja beans (green)	1,035 lbs.
Soja beans (white)	475 "
Velvet beans (did not come up).	

EXPERIMENTS WITH MILLET.

Six varieties of millet were grown in plots of one-fortieth acre each. The land was a heavy clay loam in a rather poor state of fertility, not having had any manure for some years. The ground was ploughed in the fall and well worked up in the spring, and sown June 17. The crop was cut September 22. The following is the yield per acre cut green:—

Variety.	Yield per acre. Tons.	Lbs.
Italian	10	280
Algerian	6	1,200
Green California	4	1,680
Moha Hungarian	3	680
White Round French	3	200
Pearl or Cat Tail	1	600

CLOVER EXPERIMENTS.

Experiments were again conducted for the purpose of indicating the gain, if any, from clover grown with grain crops and ploughed under as a fertilizer. These experiments have been conducted on the same land for the same three years. No fertilizer except the clover has been used. The soil was a clay loam, in a fair state of fertility. Twelve plots of one-fortieth acre each were used in this experiment, four plots each of oats, wheat and barley. In two of each (six in all) Mammoth Red clover was sown with the grain at the rate of 10 lbs. per acre. On the other six plots, no clover was sown. The plots sown with clover were the same as had been sown with clover in the previous years. The ground was ploughed in the spring and sown May 27. The following yields were obtained:—

CLOVER EXPERIMENTS.

Name of Variety and how Seeded.	Yield per acre. Bus.	Lbs.
Wellman's Fife Wheat.		
No. 1 Without clover	34	20
No. 2 With clover	40	
No. 3 Without clover	39	
No. 4 With clover	41	40
Pioneer Oats.		
No. 1 Without clover	41	6
No. 2 With clover	55	10
No. 3 Without clover	60	
No. 4 With clover	60	29
Odessa Barley.		
No. 1 Without clover	32	34
No. 2 With clover	37	44
No. 3 Without clover	38	26
No. 4 With clover	42	44

SPECIAL EXPERIMENTS WITH FERTILIZERS.

Experiments with fertilizers of different kinds were continued for five years previous to 1904, it was then decided that further fertilizing of these plots should be discontinued for a time, and the land seeded to grain to determine to what extent the fertilizers already applied would continue to supply plant food for the crop. The field was seeded entirely to grain of different sorts. Two plots of each kind was sown. In one Mammoth Red clover was sown with grain, at the rate of 10 lbs. per acre, and in the other the grain was sown alone, not seeded. This is the second year that this has been done. The plots were one-eighth of an acre each. This ground was ploughed in the fall of 1904, the growth of clover was light owing to the particularly dry summer. The following yields were obtained from these plots:—

Fertilizers used each year per acre, previous to 1904.	Waverley Oats, with Clover.		Waverley Oats, without Clover.		Colorado Wheat, with Clover.		Colorado Wheat, without Clover.		Newton Barley, with Clover.		Newton Barley, without Clover.		Mixed Grain, with Clover.		Mixed Grain, without Clover.		Golden Vine Peas, with Clover.		Golden Vine Peas, without Clover.	
	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.
1. Manure, 30 tons	76	16	72	2	41	40	46	40	54	8	59	18	51	10	53	30	37	30	41	40
2. Manure, 15 tons, fertilizer, 250 lbs	79	14	82	12	43	20	45	..	56	12	60	20	65	..	60	..	36	40	39	10
3. Complete fertilizer, 1,000 lbs.	58	28	55	30	33	20	39	10	47	44	36	22	58	30	50	..	40	..	40	50
4. " 500 lbs.	61	26	67	22	36	40	31	40	45	40	43	36	57	20	56	10	33	20	25	50
5. Check. No fertilizer used	61	26	63	8	26	40	23	20	50	..	39	28	55	..	50	..	26	40	23	20
6. Bone meal, 1,000 lbs.	67	22	63	8	37	30	36	40	38	26	37	24	60	..	62	20	31	40	30	..
7. " 500 lbs	58	28	70	20	36	40	30	..	39	28	33	16	52	20	55	..	30	50	31	40
8. Ashes, 2,500 lbs.	62	17	73	18	39	10	40	..	52	4	56	12	58	30	60	..	35	..	30	50
9. Manure, rotted, 20 tons	75	..	79	14	40	50	35	..	48	46	46	42	61	10	65	..	30	..	25	..
10. Check. No fertilizer used	38	8	38	8	15	..	15	50	33	16	28	6	32	20	37	20	11	40	10	50
11. Land plaster, 500 lbs.	41	6	44	4	15	50	17	30	25	..	29	8	35	..	40	..	21	40	18	20
12. Salt, 500 lbs.	55	30	50	..	27	30	26	40	34	18	39	28	50	..	52	20	22	30	20	..
13. Marsh mud, 100 tons	67	22	64	24	30	..	28	20	51	2	41	32	56	..	55	..	23	20	21	40
14. Manure, green, 20 tons	80	30	75	..	41	40	41	..	57	14	54	8	62	20	60	..	27	30	28	20

HAY CROP.

The crop of clover and timothy on the upland was particularly good this season. Twenty-three acres yielded 57 tons, 1,340 lbs.

The hay on the marsh, owing to the breaking of dykes in this locality for the past two autumns, and the repeated overflowing of the land with salt water, was a particularly poor crop, and is likely to be so each year until the land can be reseeded with clover and timothy. Forty-nine acres yielded 64 tons, 50 lbs.

The total hay crop was 121 tons, 1,390 lbs.

SUMMARY of crops grown exclusive of uniform test plots of grain and potatoes.

Hay.

	Tons.	Lbs.
Marsh hay	64	50
Upland hay	57	1,340
	121	1,390

Grain.

	Bush.	Lbs.	Lbs.
Mixed grain	1,007	30	40,310
Oats	364	20	12,396
Barley	102	15	4,911
Wheat	20	43	1,243
			58,860

Roots.

	Tons.	Lbs.
Turnips (field crop)	204	674
Turnips (test plots	8	1,540
	213	214
Mangels (field crop)	54	15
Mangels (test plots)	5	660
	59	675

Corn.

Corn (field crop)	60	507
Corn (test plots)	8	160
	68	667

SUMMARY OF FEED USED.

SUMMARY of feeds used in connection with stock on farms, July 1, 1904, to June 30, 1905.

——	Hay.	Grain or Meal.	Corn and Roots.
	Lbs.	Lbs.	Lbs.
Grown on farm	186,095	27,893	579,377
Purchased	144,365	142,000	
On hand July 1, 1904		7,000	
Total	330,460	176,893	579,377

The meal consumed consisted of oats, 40,172 lbs.; mixed grain (oats, pease and barley), 17,327 lbs.; gluten meal, 30,000 lbs.; oil cake, 4,000 lbs.; cornmeal, 6,000 lbs.; bran, 30,000 lbs.; middlings, 38,000 lbs.; buckwheat, 3,072 lbs.; barley, 1,322 lbs.; on hand July 1, 1904, 7,000 lbs.; total, 176,893.

DISPOSITION OF FEEDS.

Disposition of feed harvested and purchased for use of live stock on farm, July 1, 1904, to June 30, 1905:—

Class Fed.	Grain or Meal.	Corn or Roots.	Hay.	Grain or Meal.	Corn or Roots.	Hay.
	Lbs.	Lbs.	Lbs.			
8 horses	40,880		58,400	Weighed	Weighed	Weighed.
24 steers	26,160	202,400	63,360	"	"	"
10 young steers	3,550	54,100	11,290	"	"	"
21 cows (summer, 5 months)	7,875	9,029	15,750	Estimated	"	"
22 cows (winter, 7 months)	41,580	184,800	55,440	Weighed	"	"
23 dry cows, bulls and young stock	15,750	66,590	89,250	Estimated	"	"
Poultry	2,000			"		
20 sheep	3,600	2,400	7,200	Weighed	"	"
40 swine	21,000	1,000			"	"
Seed	7,000					
Total account	169,395	520,319	300,690			
Amount harvested	176,893	579,377	330,460			
Shrinkage	7,498	59,058	29,770			

GRAIN AND POTATO DISTRIBUTION.

Some of the most promising varieties of grain and potatoes were again distributed for test to farmers who made application. The following number of 3 lb. bags were sent out:—

Oats	167
Barley	89
Wheat	69
Pease	41
Buckwheat	23
Potatoes	280
Total	669

HORSES.

There are at present on the farm eight horses, consisting of six heavy team horses, one express horse and one driver. There have been no changes during the year. One horse is now 23 years old, and although in good condition, will likely have to be replaced shortly. The health and condition of the horses has been good throughout the year.

CATTLE.

The stock of cattle on the farm at present consists of 71 head, as follows:—

Guernseys	5
Ayrshires	14
Holsteins	7
Grade females	27
Steers, 1 year	10
Steer calves	8

EXPERIMENTS WITH DAIRY COWS.

This experiment was carried on as in former years, to further determine the profit or loss of a fairly good dairy herd, well fed and cared for, with the feeds consumed charged at current market prices, and receiving credit for milk produced, the value of which being established by the price received at the creamery during the season.

The different feeds were charged at the following prices:—Hay, $8 per ton (average price for last few years); roots, $2 per ton; ensilage, $2 per ton; wheat bran, $19.50 per ton; gluten meal, $27 per ton; oil cake, $34 per ton; mixed grain (oats, pease and barley), $24 per ton; making an average price of mixed meal ration, as per proportion fed to cows, of 1⅛c. per lb. The ration fed to cows in full milk was: ensilage or roots, 50 lbs.; meal, 9 lbs.; hay, 12 lbs.; making a cost of 20⅝c. per cow per day.

In summer months, while milking they were charged $2.50 per month for summer feed as hereinafter explained, and when dry $1 per month.

Different quantities were fed to different cows, according to their capacity to consume or produce, or period of lactation, and charged accordingly.

When dry in winter they were charged $1 per month. From early fall until June they were kept in the stable, except on occasional fine days, when they were allowed out in the yard.

From June 1 to October, they were put out in the field the greater part of the time, night and day, but kept in during cold or wet weather.

They were fed, watered and milked each day, at as nearly regular intervals as possible.

The summer feed was practically all summer soiling crop, rye, clover or oats, pease and vetches grown together and sown at different times. After July 15 they were fed some hay, and after August 15 some green corn.

The milk of each cow was weighed at milking twice each day, and a careful record kept of the number of pounds given. The percentage of fat in the milk of each cow was determined by the Babcock milk tester, at the average of various tests taken throughout the year, and the fat, credited to the cow, on the basis that 85 pounds of fat produces 100 pounds of marketable butter.

The milk was sent to the Nappan dairy station until April 30, and the cows were credited with the butter produced at the prices paid to all patrons of that station, which averaged for the winter months 19 cents per lb. after deducting 4 cents per lb. for manufacturing and hauling milk. After this date the milk was separated at the stable, and the cream sent for a short time to the Maritime Dairy Co., Sussex, N.B., and the price credited, 22½ cents per lb., being the average price received by this creamery for the summer months, after deducting 1½ cents per lb., being the price charged for manufacturing.

The skim milk was credited to the cows at the rate of 15 cents per hundred pounds.

Twenty-two cows were in milk during the past season.

The following will show the results obtained:—

Number.	Name.	Age.	Breed.	Date of dropping last calf.	Days in Milk.	Lbs. Milk.	Fat.	Butter.	Value Sk. Milk.	Total Credit.	Cost of Feed.	Profit.
							p. c.	Lbs.	$ cts.	$ cts.	$ cts.	$ cts.
1	Corie	8 yrs.	Ay. Grade	Apl. 3,'05	300	7,200	4·0	338·82	7·20	79 47	49 40	30 07
2	Curly	6 "	Ay. G. Grade	Feb. 15,'05	285	6,400	4·1	308·70	6·40	72 25	47 54	24 71
3	Rae	4½ "	"	Jan. 15,'05	285	6,100	4·4	315·76	6·10	71 62	47 81	23 81
4	Lida Rooker	5 "	Holstein	Mar. 25,'05	290	6,990	3·6	296·04	6·99	70 14	46 50	23 64
5	Ilda Rooker	6 "	"	" 1,'05	300	6,800	3·6	288·00	6·80	69 08	47 54	21 54
6	Lizzie	4½ "	Ay. G. Grade	Feb. 10,'05	260	5,300	4·3	268·11	5·30	60 93	43 37	17 56
7	Eva Rooker	10 "	Holstein	Jan. 1,'05	300	7,300	3·3	283·41	7·30	66 30	49 10	17 20
8	Rex's Maud	10 "	Guernsey	Dec. 30,'04	240	5,300	4 7	293·05	5·30	62 68	47 72	14 96
9	Sylva	2½ "	Ay. Grade	Mar. 1,'05	270	4,500	4·6	243·52	4·50	56 49	41 98	14 51
10	Stella	2½ "	"	Feb. 14,'05	285	4,800	4·4	248·47	4·80	57 80	43 37	14 43
11	Jesse	2½ "	"	Jan. 1,'05	270	5,500	4·1	265·29	5·50	59 00	44 60	14 40
12	Mossy	6 "	Jer. Grade	Feb. 1,'05	270	5,100	4·2	252·00	5 10	58 86	44 78	14 08
13	Maggie	4½ "	Ay. Grade	Jan. 15,'05	270	5,900	3·8	263·76	5·90	60 63	47 81	12 82
14	Minnie	2½ "	Ayrshire	Feb. 1,'05	300	5,040	4·1	243·10	5·04	56 90	44 78	12 12
15	Sarah	4½ "	"	" 1,'05	300	5,380	4·0	253·17	5·38	57 91	46 22	11 69
16	Flora	5 "	"	Sep. 30,'04	300	5,500	4·1	265·29	5·50	58 99	48 74	10 25
17	Nora	3½ "	"	Feb. 1,'04	270	5,210	4·0	245·17	5·21	56 08	46 22	9 86
18	Winnie	4½ "	Ay. G. Grade	Jan. 15,'04	285	5,540	3·8	247·67	5·54	56 93	47 81	9 12
19	Helen	2½ "	Ay. Grade	Feb. 10,'04	290	5,500	3·4	220·00	5·50	52 44	43 37	9 07
20	Polly	2½ "	"	" 1,'04	270	4,920	3·9	225·74	4·92	51 76	44 78	6 98
21	Beatrice	6 "	Ayrshire	Sep. 21,'04	210	5,100	3·6	216·00	5·10	46 14	43 50	2 64
22	Mamie	2½ "	"	Aug. 1,'05	120	3,250	3·4	130·00	3·25	32 50	32 00	0 50

EXPERIMENTS WITH STEERS.

EXPERIMENT *I.—Fed in Stalls vs. Fed in Loose Box.*

Sixteen steers were used for this test, in two lots of eight each, termed lot I. and lot II., containing four 2½ year old, and four 3½ year old steers in each lot. Lot I. were placed in loose boxes, and lot II. were tied up, and were, as nearly as possible, equal in form, features and weight (shorthorn grades).

The weights given are the weights taken after a fast of fourteen hours, that is, from 7 p.m. to 9 a.m the following morning. Both lots were fed alike from start to finish of this test.

They were kept in the stable all the time, except on occasional fine days, when they were let out for a time, averaging not more than once a week.

The feeds were charged at the following prices:—Hay, $8 per ton (average price for last 5 years); roots, $2 per ton; ensilage, $2 per ton; wheat bran, $19.50 per ton; gluten meal, $27 per ton; oil cake, $34 per ton; mixed grain (oats, pease and barley), $24 per ton; making an average cost of meal ration of 1⅓ cents per lb. as per proportion fed.

The steers were all dehorned immediately after beginning of the test, with a keystone clipper. No bad effects were noticed.

As a result of the decrease in weight from this operation, a very slight increase was obtained up to December 1, showing that an average of two weeks was required to regain this loss.

The result of this experiment again shows slightly more gain for those fed in loose box-stalls, than for those tied up.

Following are the results obtained:—

RECORD OF STEERS FED FROM NOV. 16, 1904, TO APRIL 30, 1905.

STEER EXPERIMENT I.

LOT I.—DEHORNED, FED IN LOOSE BOX.

Weight at Start, Nov. 16.	Gain, Dec. 1.	Gain, Dec. 31.	Gain, June 30,	Gain, Nov. 1.	Gain, Mar. 31.	Gain, April 30.	Weight at Finish, April 30.	Total Gains.
Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.
8,815	50	700	525	415	280	120	10,905	2,090

LOT II.—DEHORNED, TIED IN STALLS.

8,940	45	675	490	465	200	135	10,950	2,010

RATIONS AND COST PER DAY FOR ONE STEER FOR ENTIRE PERIOD.

Period.	Daily Ration.	Daily Cost.	Cost for Period.	Total.
		$ cts.	$ cts.	$ cts.
Nov. 16 to Dec. 1	Roots, 90 lbs	0 09	1 35	
	Hay, 10 lbs	0 04	0 60	
	Meal, 2 lbs	0 02⅖	0 42	
				2 37
Dec. 1 to Dec. 31	Roots, 60 lbs	0 06	1 80	
	Hay, 10 lbs	0 04	1 20	
	Meal, 3 lbs	0 03⅗	1 08	
				4 08
Dec. 31 to Jan. 30	Roots, 40 lbs	0 04	1 20	
	Hay, 10 lbs	0 04	1 20	
	Meal, 4 lbs	0 04⅘	1 44	
				3 84
Jan. 30 to Mar. 1	Roots, 30 lbs	0 03	0 90	
	Hay, 12 lbs	0 04⅘	1 44	
	Meal, 5 lbs	0 06	1 80	
				4 14
Mar. 1 to Mar 31	Roots, 20 lbs	0 02	0 60	
	Hay, 15 lbs	0 06	1 80	
	Meal, 6 lbs	0 07⅕	2 16	
				4 56
Mar. 31 to April 30	Roots, 20 lbs	0 02	0 60	
	Hay, 15 lbs	0 06	1 80	
	Meal, 7 lbs	0 08⅖	2 52	
				4 92
Cost of feed one steer, 165 days				23 81

SUMMARY OF EXPERIMENT WITH STEERS.

FINANCIAL PART.

Original weight of 16 steers, 17,755 lbs. at 4c. per lb.	$ 710 20
Weight at finish, 16 steers, 21,855 lbs. at 5 36/100 per lb.	1,171 42
Balance	$ 461 22
Cost of feed for lot, 165 days	382 56
Net profit	$ 78 66
Daily rate of gain per steer	lbs. 1·55
Cost of 1 lb. gain	cts. 9·33
Cost of feed per day per steer	cts. 14·49

Profit per steer, $4.91.

EXPERIMENTS WITH STEERS.

EX. II.—INFLUENCE OF AGE ON COST OF BEEF.

This experiment was carried on with a view to gain some data as to the influence of age upon the cost of production of beef.

Three lots of animals, of as nearly uniform type and breeding as possible, were selected for this test, consisting of eight 3-year olds, termed lot I; eight 2-year olds, termed lot II.; and eight yearlings, termed lot III.

The prices charged for feed consumed were the same as in 'Experiments with steers, Ex. I.'

They were all dehorned two weeks previous to beginning of test, and had evidently quite recovered from the effects of the operation at beginning of test, December 1.

The following tables will show the amounts fed and results obtained:—

EX. II.—LOT I.—THREE YEAR OLD STEERS.

Period.	Daily Ration.	Daily Cost.	Cost for Period.	Total Cost.
		$ cts.	$ cts.	$ cts.
Dec. 1 to Dec. 31	Roots, 60 lbs.	0 06	1 80	
	Hay, 10 lbs.	0 04	1 20	
	Meal, 3 lbs.	0 03 3/5	1 08	
				4 08
Dec. 31 to Jan. 30	Roots, 40 lbs.	0 04	1 20	
	Hay, 10 lbs.	0 04	1 20	
	Meal, 4 lbs.	0 04 4/5	1 44	
				3 84
Jan. 30 to Mar. 1	Roots, 30 lbs.	0 03	0 90	
	Hay, 12 lbs.	0 04 4/5	1 44	
	Meal, 5 lbs.	0 06	1 80	
				4 14
Mar. 1 to Mar. 31	Roots, 20 lbs.	0 02	0 60	
	Hay, 15 lbs.	0 06	1 80	
	Meal, 6 lbs.	0 07 1/5	2 16	
				4 56
Mar. 31 to April 30	Roots, 20 lbs.	0 02	0 60	
	Hay, 15 lbs.	0 06	1 80	
	Meal, 7 lbs.	0 08 2/5	2 52	
				4 92
Cost of feed 1 steer 150 days				21 54
" 8 steers 150 days				172 32

	Lbs.
Weight of 8 steers, Dec. 1, 1904	9,110
Weight of 8 steers, April 30, 1905	11,075
Gain	1,960
Daily rate of gain ..lbs.	1·6375
Cost of feed per day ..cts.	14·36
Cost of 1 lb. gain ..cts.	8·76

Ex. II.—Lot II.—Two Year Old Steers.

Period.	Daily Ration.	Daily Cost.	Cost for Period.	Total Cost.
		$ cts.	$ cts.	$ cts.
Dec. 1 to Dec. 31	Roots, 60 lbs.	0 06	1 80	
	Hay, 10 lbs.	0 04	1 20	
	Meal, 3 lbs	0 3⅗	1 08	
				4 08
Dec. 31 to Jan. 30	Roots, 40 lbs.	0 04	1 20	
	Hay, 10 lbs	0 04	1 20	
	Meal, 4 lbs.	0 04⅘	1 44	
				3 84
Jan. 30 to Mar. 1	Roots, 30 lbs	0 03	0 90	
	Hay, 12 lbs.	0 04⅘	1 44	
	Meal, 5 lbs.	0 06	1 80	
				4 14
Mar. 1 to Mar. 31	Roots, 20 lbs	0 02	0 60	
	Hay, 15 lbs.	0 06	1 80	
	Meal, 6 lbs.	0 07⅕	2 16	
				4 56
Mar. 31 to April 30	Roots, 20 lbs	0 02	0 60	
	Hay, 15 lbs.	0 06	1 80	
	Meal, 7 lbs.	0 08⅖	2 52	
				4 92
Cost of feed 1 steer 150 days				21 54
" 8 steers 150 days				172 32

	Lbs.
Weight of 8 steers, Dec. 1, 1904	8,740
Weight of 8 steers, April 30, 1905	10,780
Gain	2,040
Daily rate of gain per steer ..lbs.	1·70
Cost of feeding per day per steer ..cts.	14·36
Cost of 1 lb. gain .. "	8·44

EX. II.—LOT III.—YEAR OLD STEERS.

Period.	Daily Ration.	Daily Cost.	Cost for period.	Total Cost.
		$ cts.	$ cts.	$ cts.
Dec. 1 to Dec. 31	Roots, 60 lbs.	0 06	1 80	
	Hay, 8 lbs.	0 03½	0 96	
	Meal, 3 lbs.	0 03⅜	1 08	
				3 84
Dec. 31 to Jan. 30	Roots, 40 lbs.	0 04	1 20	
	Hay, 8 lbs.	0 03½	0 96	
	Meal, 4 lbs.	0 04⅘	1 44	
				3 60
Jan. 30 to March 1	Roots, 30 lbs.	0 03	0 90	
	Hay, 10 lbs.	0 04	1 20	
	Meal, 4 lbs.	0 04⅘	1 44	
				3 54
March 1 to March 31	Roots, 20 lbs.	0 02	0 60	
	Hay, 10 lbs.	0 04	1 20	
	Meal, 5 lbs.	0 06	1 80	
				3 60
March 31 to April 30	Roots, 20 lbs.	0 02	0 60	
	Hay, 10 lbs.	0 04	1 20	
	Meal, 6 lbs.	0 07⅕	2 16	
				3 96
Cost of feed 1 steer 150 days				18 54
" 8 steers "				148 32

	Lbs.
Weight of 8 steers, Dec. 1, 1904	7,640
Weight of 8 steers, April 30, 1905	9,740
Gain	2,100

Daily rate of gain per steer ..lbs.	1·75
Cost of feed per day per steer ..cts.	12·36
Cost of 1 lb. gain .. "	7·06

COMPARISON OF EXPERIMENTS WITH STEERS.

EXPERIMENT II.

——	Lot 1, 3-yr. old.	Lot 2, 2-yr. old.	Lot 3, year-old.
Daily rate of grain per steer	1·6375 lbs.	1·70 lbs.	1·75 lbs.
Cost of feed per day "	14·36 cts.	14·36 cts.	12·36 cts.
Cost of 1 lb. gain	8·76 "	8·44 "	7·06 "

STEER CALF EXPERIMENT.

This experiment which was started in May, 1901, with ten calves, in two lots of five each, to determine the comparative economy of feeding calves a 'full fattening ration' as contrasted with a 'limited growing ration,' was continued from November 30, 1904, with animals termed lot II., Ex. II., and lot I., Ex. III., finished and sold April 30 and May 31, 1905. Ex. IV., lots I. and II. were also continued.

The following tables show the results:—

Ex. II.—Lot II.—Calves of May, 1902, Continued from December 1, 1904.

Period.	Daily Ration.	Daily Cost.	Cost for Period.	Total Cost.
		$ cts.	$ cts.	$ cts.
Dec. 1 to Dec. 31	Roots, 90 lbs	0 09	2 70	
	Hay, 10 lbs	0 04	1 20	
	Meal, 3 lbs	0 03⅗	1 08	
				4 98
Dec. 31 to Jan. 30	Roots, 60 lbs	0 06	1 80	
	Hay, 10 lbs	0 04	1 20	
	Meal, 4 lbs	0 04⅘	1 44	
				4 44
Jan. 30 to March 1	Roots, 60 lbs	0 06	1 80	
	Hay, 12 lbs	0 04⅘	1 44	
	Meal, 6 lbs	0 07⅕	2 16	
				5 40
March 1 to March 31	Roots, 40 lbs	0 04	1 20	
	Hay, 12 lbs	0 04⅘	1 44	
	Meal, 6 lbs	0 07⅕	2 16	
				4 80
March 31 to April 30	Roots, 30 lbs	0 03	0 90	
	Hay, 15 lbs	0 06	1 80	
	Meal, 8 lbs	0 09⅗	2 88	
				5 58
April 30 to May 30	Roots, 20 lbs	0 02	0 60	
	Hay, 15 lbs	0 06	1 80	
	Meal, 10 lbs	0 12	3 60	
				6 00
Cost of feed, one steer, 180 days				31 20

Lot 2.	Weight at start.	Weight at finish.	Gain.
	Lbs.	Lbs.	Lbs.
Dec. 1 to May 30	5,475	6,800	1,325

Daily rate of gain per steer	lbs.	1·47
Cost of feed per day per steer	cts.	17·73
Cost of 1 lb. gain	"	11·77
Cost of feed for lot, 180 days		$156 00

EX. III.—LOT I.—CONTINUED FROM DECEMBER 1, 1904.

Period.	Daily Ration.	Daily Cost.	Cost for Period.	Total Cost.
		$ cts.	$ cts.	$ cts.
Dec. 1 to Dec. 31	Roots, 60 lbs	0 06	1 80	
	Hay, 8 lbs	0 03⅛	0 96	
	Meal, 3 lbs	0 03⅜	1 08	
				3 84
Dec. 31 to Jan. 30	Roots, 40 lbs	0 04	1 20	
	Hay, 8 lbs	0 03⅛	0 96	
	Meal, 4 lbs	0 04½	1 44	
				3 60
Jan. 30 to March 1	Roots, 30 lbs	0 03	0 90	
	Hay, 10 lbs	0 04	1 20	
	Meal, 4 lbs	0 04⅘	1 44	
				3 54
March 1 to March 31	Roots, 20 lbs	0 02	0 60	
	Hay, 10 lbs	0 04	1 20	
	Meal, 5 lbs	0 06	1 80	
				3 60
March 31 to April 30	Roots, 20 lbs	0 02	0 60	
	Hay, 10 lbs	0 04	1 20	
	Meal, 6 lbs	0 07½	2 16	
				3 96
Cost of feed, one steer, 150 days				18 54

Lot 1.	Weight at start.	Weight at finish.	Gain.
	Lbs.	Lbs.	Lbs.
Dec. 1 to April 30	4,820	6,535	1,715

Daily rate of gain per steer	lbs.	2·28
Cost of feed per day per steer	cts.	12·36
Cost of 1 lb. gain	"	5·40
Cost of feed for lot, 150 days		$92 70

EX. IV.—LOT I.—CALVES OF MAY, 1904, CONTINUED FROM DECEMBER, 1904.

Period.	Daily Ration.	Daily Cost.	Cost for Period.	Total Cost.
		$ cts.	$ cts.	$ cts.
Dec. 1 to Dec. 31	Roots, 15 lbs	0 01½	0 45	
	Hay, 2½ lbs	0 01	0 30	
	Meal, 2 lbs	0 02⅖	0 72	
				1 47
Dec. 31 to Jan. 30	Roots, 20 lbs	0 02	0 60	
	Hay, 2½ lbs	0 01	0 30	
	Meal, 2 lbs	0 02⅖	0 72	
				1 62
Jan. 30 to March 1	Roots, 25 lbs	0 02½	0 75	
	Hay, 4 lbs	0 01⅗	0 48	
	Meal, 2 lbs	0 02⅖	0 72	
				1 95
March 1 to March 31	Roots, 30 lbs	0 03	0 90	
	Hay, 4 lbs	0 01⅗	0 48	
	Meal, 2 lbs	0 02⅖	0 72	
				2 10
March 31 to April 30	Roots, 30 lbs	0 03	0 90	
	Hay, 4 lbs	0 01⅗	0 48	
	Meal, 2 lbs	0 02⅖	0 72	
				2 10
April 30 to May 30	Roots, 30 lbs	0 03	0 90	
	Hay, 4 lbs	0 01⅗	0 48	
	Meal, 2 lbs	0 02⅖	0 72	
				2 10
May 30 to Sept. 1	Meal, 1 lb	0 01⅕	1 11⅗	
	Pasture at		$1 per month	
				4 11⅗
Sept. 1 to Oct. 1	Green feed, 40 lbs	0 04	1 20	
	Meal, 2 lbs	0 02⅖	0 72	
				1 92
Oct. 1 to Nov. 1	Green feed, 40 lbs	0 04	1 24	
	Meal, 2 lbs	0 02⅖	0 74⅖	
				1 94⅖
Nov. 1 to Dec. 1	Roots, 40 lbs	0 04	1 20	
	Hay, 5 lbs	0 02	0 60	
	Meal, 2 lbs	0 02⅖	0 72	
				2 52
Cost of feed, one steer, 1 year				21 84

Lot. 1.	Weight at start.	Weight at finish.	Gain.
Period.	Lbs.	Lbs.	Lbs.
Dec. 1 1904 to Dec. 1 1905	2,650	4,815	2,165

Daily rate of gain per steer	lbs.	1·18
Cost of feed per day per steer (winter)	cts.	6·60
" " " (summer)	"	5·32
" " " 1 year	"	5·98
Cost of 1 lb. gain	"	5·04
Cost of feed for lot, 1 year		$109 20

EX. IV.—LOT II.—CALVES OF MAY, 1904, CONTINUED FROM DECEMBER, 1904.

Lot. II.	Daily Rations.	Daily Cost.	Cost for Period.	Total Cost.
Period.		$ cts.	$ cts.	$ cts.
Dec. 1 to Dec 31	Roots, 20 lbs	0 02	0 60	
	Hay, 2 lbs.	0 00⅘	0 24	
	Meal, ½ lb.	0 00⅗	0 18	
				1 02
Dec. 31 to Jan. 30	Roots, 25 lbs	0 02½	0 75	
	Hay, 2 lbs.	0 00⅘	0 24	
	Meal, ½ lb.	0 00⅗	0 18	
				1 17
Jan. 30 to Mar. 1	Roots, 25 lbs.	0 02½	0 75	
	Hay, 2½ lbs.	0 01	0 30	
	Meal, ½ lb.	0 00⅖	0 18	
				1 23
Mar. 1 to Mar. 31	Roots, 30 lbs.	0 03	0 90	
	Hay, 2½ lbs.	0 01	0 30	
	Meal, ½ lb.	0 00⅖	0 18	
				1 38
Mar. 31 to Apl. 30	Roots, 30 lbs.	0 03	0 90	
	Hay, 4 lbs.	0 01⅖	0 48	
	Meal, ½ lb.	0 00⅖	0 18	
				1 56
Apl. 30 to May 30	Roots, 30 lbs.	0 03	0 90	
	Hay, 4 lbs.	0 01⅗	0 48	
				1 38
May 30 to Oct. 1	Pasture at		4 00	
				4 00
Oct. 1 to Oct. 30	Roots, 30 lbs.	0 03	0 90	
	Hay, 4 lbs.	0 01⅗	0 48	
	Meal, 1 lb.	0 01⅕	0 36	
				1 74
Oct 31 to Nov. 30	Roots, 40 lbs	0 04	1 20	
	Hay, 4 lbs.	0 01⅗	0 48	
	Meal, 1 lb.	0 01⅕	0 36	
				2 04
Cost of feed, 1 steer, 1 year				15 52

	Weight at start.	Weight at finish.	Gain.
Dec. 1, 1904, to Dec. 1, 1905	2,015 lbs.	3,480 lbs.	1,465 lbs.

Daily rate of gain per steer	lbs.	·80
Cost of feed per day per steer (winter)	cts.	4·60
" " (summer)	cts.	3·82
" " 1 year	cts.	4·25
Cost of 1 lb. gain	cts.	5·29
Cost of feed for lot, 1 year		$77 60

COMPARISON OF STEER-CALF EXPERIMENTS.

Full feeding ration vs. light feeding ration, from birth to block.

Since May, 1901, experiments have been carried on each year to determine the comparative economy of feeding calves a 'full fattening ration' from the start, as contrasted with a 'limited growing ration.'

Each of the lots of 'full fattening ration' were sold when two years old, the lots on 'limited growing ration' in each case were continued until 3 years old before being sold.

Following is a summary of results obtained:—

—	Full Fattening Ration.				Limited Growing Ration.		
	1901.	1902.	1903.		1901.	1902.	
	Ex. I, Lot I. — 5 Steers.	Ex. II, Lot I. — 5 Steers.	Ex. III, Lot I. — 5 Steers.	Average of 15 Steers.	Ex. I, Lot II — 5 Steers.	Ex. II, Lot II. — 5 Steers.	Average of 10 Steers.
	Per Steer.	Per Steer.	Per Steer.		Per Steer.	Per Steer.	
Number of days fed	713·	683·	515·	637·	1108·	1108·	1108·
Weight when put on experiment	166·	191·	579·	312·	153·	121·	137·
Weight when slaughtered	1271·	1246·	1307·	1272·	1306·	1360·	1333·
Daily rate of gain	1·54·	1·54·	1·41·	1·49·	1·04·	1·11·	1·075
Amount meal eaten	1804·	1633·	1328·	1588·	1549·	1419·	1484
" hay "	2590·	2164·	2310·	2355·	3470·	4489·	3979·
" roots "	14725·	13360·	13500·	13861·	24695·	23762·	24228·
" straw "	.....	.....	.....	.....	597·	600·	598·
" skim-milk eaten	1712·	1742·	.....	1727·	2080.	2320·	2200·
" whole milk eaten	728·	698·	.....	713.	360·	120·	240·
" pas ure "	3 months.	.....	2½ months.	11 weeks.	10 months.	10 months.	10 months.
" green feed "	1240·	4300·	3080·	2873·	.....	.....	.....
Cost of feed from birth to block	$65 47	$58 35	$43 00	$55 60	$72 00	$73 91	$72 95
Cost of 100 lbs. increase live weight	$ 5 92	$ 5 53	$ 5 90	$ 5 78	$ 6 24	$ 5 96	$ 6 10

SWINE.

The herd of pigs at present on the farm consists of Yorkshires, Berkshires and their grades and crosses, in all 49 head, as follows:—1 Yorkshire boar, 3 Yorkshire sows, 2 Berkshire sows, 3 grade sows, 10 grade pigs 6 months old, 30 grade pigs 1 to 3 months old.

EXPERIMENTS WITH SWINE.

Pasture vs. feeding in pens.

This experiment was again carried on as in past years, with two lots of 10 pigs each, as evenly divided as to age and weight as possible, being equal numbers from each litter and from 1 to 2 months old.

This experiment was commenced on July 1, with lot I. on pasture and lot II. fed inside.

They were fed equal amounts of milk and meal, consisting of shorts and buckwheat.

The pasture consisted of clover, rape and hairy vetch on different parts of the field, and the pigs were changed from time to time.

A portable house was used for shelter.

From October 1 to November 15 all were fed alike in pens.

Following are the results:—

Lot 1.—Fed on pasture July 1 to October 1. Fed in pens October 1 to November 15.

Period.	Lot I.		
	Weight at Start.	Weight at Finish.	Gain.
	Lbs.	Lbs.	Lbs.
July 1 to October 1	235	925	690
October 1 to November 15.	925	1,510	585

Average daily gain on pasture, July 1 to October 1. . . . . lbs. ·74
" in pens, October 1 to November 15. . . . lbs. 1·30
" 137 days. . . . . lbs. ·93

Lot II.—Fed in pens, July 1, to November 15, 1905.

Period.	Lot II.		
	Weight at Start.	Weight at Finish	Gain.
	Lbs.	Lbs.	Lbs.
July 1 to October 1	245	1,073	828
October 1 to November 15	1,073	1,500	427

Average daily gain in pens, July 1 to October 1 . . . . . lbs. ·90
" " October 1 to November 15 . . . . lbs. ·948
" " 137 days . . . . . lbs. ·916

SHEEP.

The flock of sheep at present on the farm consists of 7 Leicesters, 11 Shropshires and 4 grades, as follows:—

1 pure bred Leicester ram.
6 pure bred Leicester ewes.
7 pure bred Shropshire ewes.
4 pure bred Shropshire ewe lambs.
3 grade ewes.
1 grade ewe lamb.

POULTRY.

The stock of poultry on hand at present consists of B. P. Rocks, White Wyandottes, White Leghorns, Black Minorcas and Buff Orpingtons.

During the month of November a number of old and undesirable birds were disposed of, and a number of cockerels of the different breeds sold to farmers for breeding purposes, leaving the stock on hand as follows:—

Breed.	Hens.	Cocks.	Pullets.	Cockerels.
B. P. Rocks	4	1	16	2
W. Wyandottes	..	..	8	1
W. Leghorns	2	..	3	1
Black Minorcas	5	..	2	1
Buff Orpingtons	..	..	8	..

All have kept quite healthy, and 75 chicks were raised during the season.

Very few eggs were laid previous to March 1, owing to the fact that the hens were all at least one year old, no pullets having been kept last season.

The number of eggs laid by the different breeds up to July 1 is as follows:—

	Eggs laid.
12 B. P. Rocks	775
4 Blk. Minorcas	225
4 W. Leghorns	250
4 White Wyandottes	199

BEES.

Bee-keeping in the maritime provinces has in the past received very little attention, and believing that they confer great benefits to the orchards from the carrying of pollen, besides their value as a revenue producer, further experiments with bees have been made.

On May 22, two colonies were received from the experimental farm at Ottawa, weighing 42½ and 38½ pounds respectively. Quite a number of dead bees were found in each, particularly in the lighter hive. One appeared to be in excellent condition, the other appeared only fairly strong, with little brood in the frames in the latter hive. As the weather continued cold and wet, and not at all favourable to honey gathering, it was considered wise to somewhat retard the stronger hive, and at the same time strengthen the weaker one by removing one frame well filled with brood from the stronger hive, and replacing it with empty frame from the weaker one. This was done on June 14.

From these, four swarms were secured, the first on June 22, second on July 5, third on July 7, and fourth on August 3.

Until after July 3, very little honey was gathered. From July 4 until August 5, all hives gained rapidly in weight, except one parent hive which had swarmed twice. This weak hive continued to dwindle until August 15, when it was completely deserted. After August 9, very little surplus honey was stored by any.

Fifty pounds of honey was taken from those hives August 25; this leaves for winter quarters five hives weighing respectively 55, 53, 54, 59 and 40 pounds.

On November 18 they were placed in the cellar of the superintendent's house, in the corner farthest from the door. This corner was partitioned off with matched lumber for the double purpose of keeping out light and keeping the temperature more uniform, which is at present from 40° to 45°.

The hives were placed on a shelf, one foot from the ground, and rested on 3 empty boxes.

A three-inch block was placed in front, between the bottom board and the brood chamber, making the full entrance three inches high across the front. The wooden covers were removed and replaced with chaff cushions four inches thick, and lapping the sides and ends four inches.

CORRESPONDENCE.

During the year 2,080 letters were received at this Farm, and 1,812 sent out, exclusive of circulars sent with grain distribution and reports.

AGRICULTURAL MEETINGS.

During the year I attended and delivered addresses at the following meetings:—Winter Fair, Amherst, N.S., December 12 to 15, 1904; Short Course Judging, Truro, N.S., February 23; Nova Scotia Farmer's Association, Truro, N.S., February 27; Dairy School, Sussex, N.B., March 6 to 25; Agricultural meetings at Pugwash, N.S., April 26; Williamsdale, N.S., April 28; Lower Millstream, N.B.

EXHIBITIONS.

An exhibit of the products of the farm was made at Nova Scotia Provincial Exhibition, Halifax, N.S., September 13 to 21; Fredericton, N.B., September 21 to 27; Yarmouth, October 4 and 5. Those exhibits have always been very much appreciated.

VISITORS.

As usual many visitors have been on the farm this year, the largest gathering being the Cumberland County Agricultural Society, July 15.

I have the honour to be, sir,

Your obedient servant,

R. ROBERTSON,

Superintendent.

REPORT OF THE HORTICULTURIST.

(W. S. Blair.)

Nappan, N.S., November 30, 1905.

To Dr. Wm. Saunders, C.M.G.,
Director Dominion Experimental Farms,
Ottawa.

Sir,—I have the honour to submit herewith a report of some of the work done in the Horticultural Department of the Experimental Farm for the maritime provinces during the year 1905.

The winter of 1905 was a severe one and the months of January and February were accompanied by an unusual fall of snow. The fruit and ornamental trees did not suffer from winter killing, but on account of snow drifting over them many were more or less injured by being broken when the snow settled. This trouble, however, was overcome in many cases by shovelling the snow away from a number of the fruit trees that were liable to injury, and in this way the branches were relieved of the heavy weight of snow. Some orchards in these provinces suffered greatly from being broken by the snow which drifted in some cases 10 to 15 feet deep around them, so that when the snow settled trees were in many instances practically stripped of branches.

The early spring was exceptionally late and backward, retarding the blossoming of fruit trees several days. The mean average temperature for May was 1° lower than the average for the past 5 years: For June 1½° lower than that of the past 5 years. The month of July was up to the average in temperature, and August was about 1° lower than the mean average for the past 5 years. September, on the other hand, was somewhat warmer than that of the past 5 years by about ½° in the mean average. The following table gives the mean average temperature for the months of May, June, July, August and September for the past 5 years as compared with that of this season. The rainfall during these months for the past 3 years is also given:—

Month.	Mean Temperature at Nappan.		Rainfall.		
	Average, 5 Years.	1905.	1905.	1904.	1903.
			Inches.	Inches.	Inches.
May	48·04°	47·07°	3·02	1·76	0·68
June	56·06°	54·52°	3·30	1·74	2·29
July	64·22°	64·25°	1·56	2·15	2·07
August	62·32°	61·41°	1·53	3·51	2·40
September	56·68°	55·53°	3·38	4·52	3·63
Total			14·03	13·68	11·07

The latter part of June and the first half of July was practically ideal weather for all crops. The summer, however, continued too dry after the middle of July and during August for crops to develop properly. Good cultivation during the early part

of the season up to the middle of July very materially controlled the moisture supply, and fruit trees so treated apparently suffered little for want of moisture.

The only frosts in May were on the 2nd, 5th, 12th, 13th, 16th, and 23rd, when 32°, 27°, 28°, 22°, 31°, and 31° were recorded, respectively. The only June frost was on the 7th, when 5° was registered. This frost did considerable damage to fruits in blossom at the time; tender plants that had been set out, and to grape vines. The apple blossoms here were not sufficiently advanced to be injured, but cherries and plums suffered so materially that no fruit set. The apples in blossom in the Annapolis and Cornwallis valleys and in other parts of the province of Nova Scotia at this time were greatly injured by the frost. We escaped the usual September frost, although in some sections of the provinces a great amount of damage was done by a frost on August 15, and also by a September frost. The first fall frost recorded here was 5° on October 1.

The apple crop on the Nappan farm was much in advance of that secured in the past. The trees produced a good crop of excellent fruit. The apples developed better than they ever had done before. Many of the trees are of Russian origin, and lack in quality. For cooking purposes most of the Russian sorts are excellent. A number of varieties, such as Scott's Winter, Winesap, Jonathan, Missouri Pippin and Occident produce fruit that averages small and is not very marketable. The Gano, Wealthy and Yellow Transparent are inclined to overbear, and should have the fruit thinned, especially when the trees are young, otherwise it will be small and the trees are liable to be broken from an overweight of fruit.

A report is herewith submitted of some of the varieties of apples that have fruited here.

The strawberry crop was fairly good. The bush fruits were a fair crop.

The ornamental trees and shrubs have made good growth. One hedge of Sea Buckthorn (*Hippophæ rhamnoides*) was set in 1905, in place of Red-leaved Rose (*Rosa rubrifolia*), which made a poor hedge and was removed.

I beg to acknowledge the following donations: From Mr. Frank G. Semple, Brule, N.S. strawberry plants of 'Nick Ohmer,' 'Sample,' 'Splendid' and 'Brandywine.' From Mr. C. W. Smith, Sand Beach, N.S., seedling strawberry plants. From Templin & Co., Calla, Ohio 1 doz. 'Cardinal' strawberry plants. From Mr. Thomas A. Peters, Deputy Minister of Agriculture, Fredericton, N.B., scions of yellow plum which originated near Fredericton. From J. C. Gilman, Esq., Fredericton, N.B., scions of Cranberry Pippin apple. From Mr. F. G. Semple, Brule, N.S., scions of Winter Rose apple. I am also indebted to Mr. W. T. Macoun, Horticulturist, Central Experimental Farm, Ottawa, for 40 additional varieties of strawberry.

I addressed several agricultural meetings in the maritime provinces during the year.

APPLES.

Aport.—Two trees of this variety were planted in 1890. This variety is of Russian origin and is identical with the Emperor Alexander. They have made strong growth, and produced the first crop of any consequence in 1904 when the trees averaged 31½ pecks each. The same trees averaged only 8 pecks in 1905.

Alexander.—Synonym, Emperor Alexander. Three trees were set in 1890. This is a well known strong growing variety. The first crop of any quantity was in 1903 when the trees averaged 8 pecks. In 1904 they averaged 12 pecks, and in 1905, 29·33 pecks. It will be noticed that these three trees are much more regular bearers than the two above called Aport.

Allen's Choice.—One tree only planted in 1893 a strong grower. Fruited in 1905, 2 pecks. The fruit is of medium size, oblate, yellow skin covered over nearly the whole surface with red and striped. Quality good; season January; too small to be of much commercial value here.

Anis.—The variety we have under this name is identical with Yellow Transparent. Two trees set in 1890. These have fruited every other year since 1894. The yield in 1904 was the first large crop, when they averaged 4 bushels each. They produced no fruit this year.

Antonovka.—Two trees of this Russian sort were set in 1897. The fruit is large, yellow, oblong, conical. It is a good cooking sort, and will keep until December. The first large crop was in 1904, when the trees averaged 2¼ pecks. In 1905, 15½ pecks per tree. This variety has no special commercial value.

Arabka.—Synonyms, Arabka Winter and Arabskoe. Two of the former and two of the latter were planted in 1897. They have made strong growth. The first crop of consequence was produced in 1903, when the trees averaged 3·75 pecks. In 1904 they produced an average of 7·94 pecks, and in 1905, 13 pecks. The fruit is large, round, conical, with a green, purplish-red skin. The flesh is greenish white. It is only valuable for cooking; season January. Useful in northern sections where fruit of better quality is tender.

Anisovka.—One tree of this variety was planted in 1890. This is a strong upright grower. The fruit drops badly just as it is about in condition to pull, which is a decided disadvantage. This tree has been top grafted. The fruit is above medium size, roundish, oblate, skin greenish-yellow, streaked and splashed with red. The flesh is crisp and pleasant. Quality good; season September and October.

Ananasnœ.—This is not true to name. It is the same as Anisovka. Two trees were set in 1890. They have fruited well during the past three years. In 1903 they averaged 11 pecks, in 1904, 4 pecks, 1905, 22 pecks. These trees drop their fruit badly just as ripe, otherwise it is a good autumn variety.

Banks.—Synonym, Bank's Gravenstein, Red Gravenstein. This apple is similar in every respect to the well known Gravenstein, except that it is more striped and splashed with red over the yellow skin. Two trees were planted in 1895, and two in 1898. Three of these have since died and the one remaining is not making strong growth. Sunscald and collar rot have been the principal cause of failure. A slight killing back of branches was noted one year. The one tree living, planted in 1898, produced 1 peck of apples this year.

Basil the Great.—Two trees supposed to be this variety were set in 1897. These have made strong growth. The fruit produced, however, show that the trees are Pointed Pipka. In 1903 these two trees averaged 2¾ pecks; 1904, 13½ pecks, and 1905, 16¼ pecks. See Pointed Pipka.

Baxter.—Synonym, La Rue, Baxter's Red. Two trees were set in 1898. They have made fairly strong growth. The trees produced a few apples in 1903-04 and 1905. The growth of this tree is very upright. The fruit is large, round, conical. The skin is yellow, covered over nearly the whole surface with red, and striped with red. This is a promising variety. The fruit is handsome and above the average in quality. Season, December and January.

Beautiful Arcade.—Two trees were set in 1898. They have made good growth. The fruit is round, oblong, with greenish yellow skin. The quality is good. Different from the majority of Russian apples. The flesh is sweet, rich, melting, juicy. Season, September. Fruited, giving only a few specimens in 1904-05.

Bell Pippin.—Two trees were planted in 1897. They have made good growth. The fruit is large, oblate, conical and ribbed; skin greenish yellow, somewhat striped with red. Flesh greenish-yellow; quality fair. Season, December and January. Fruited in 1904, the trees averaging 1 peck. In 1905 they averaged 7½ pecks.

Ben Davis.—Two trees were set in 1893. They have made strong growth, but have not produced well-matured fruit. This is a well known variety which needs no description. The trees averaged 8½ pecks in 1903; 4 pecks in 1904, and in 1905 21 pecks.

Benoni.—Two trees were set in 1890. They have made very strong growth. The tree is a vigorous upright grower. The fruit is small to medium, roundish, oblate, conical. The skin is yellow, red, striped with crimson. Quality very best. This is a variety that is inclined to produce abundantly every second year. The fruit should be thinned on the tree in order to secure a good percentage of marketable fruit. This variety is one of the best hardy dessert apples. Season, October and November. It seems to do well in northern sections, being apparently as hardy as the Duchess, and equal in quality to the Gravenstein. One tree produced ½ peck in 1903; 31 pecks in 1904, and 2 pecks in 1905. The other tree produced 5 pecks in 1903; 1½ pecks in 1904, and 30 pecks in 1905.

Bethel.—Synonym, Uncle Sam. One tree set in 1897 produced the first crop this season, giving 18 pecks. Fruit round, conical, medium to large. Skin greenish-yellow, striped with red. Quality fair. Keeps until March, but looses its character early in the winter. A very hardy strong growing tree. Useful in the colder sections as a hardy winter variety.

Bismark.—One tree planted is making poor growth. Fruit has been produced from grafts. It is medium to large, round, conical. Skin green, striped with red over part of the surface. Quality fair. Season, January. As grown here this variety is not of special value.

Blue Pearmain.—Two trees were set in 1890. These have made strong growth. The fruit is round, conical, medium to large. Skin dark purplish red, striped on crimson ground. Quality good. Season, January and February. This is a good winter variety. One yielded in 1903, 2 pecks; 1904, 9 pecks; 1905, none. The other produced in 1903, 16 pecks; 1904, 13½ pecks, and 1905, 27 pecks.

Borovinka.—This is a Russian variety identical with Duchess of Oldenburg in every particular, except that the fruit does not mature as early by one week. The fact that this variety is a few days later than Duchess makes it possible to extend the season of that apple a little longer. The yield in 1903 was 12 pecks; 1904, 17½ pecks; 1905, 1 peck.

Bottle Greening.—One tree was set in 1891. A strong grower. Fruit oblate, conical. Skin greenish-yellow, with dull red blush. Quality good. Season, January and February. Has so far only fruited lightly. In 1903, 2½ pecks; 1904, 2 pecks; and 1905, a few specimens only. Said to be a good cropper when it gets well established.

Belle de Boskoop.—Tree planted in 1897. A strong grower. Fruited first this season, yielding 4 pecks. Fruit round, oblate, medium to large. Skin yellow, shaded and obscurely striped with red, russeted over nearly the whole surface. Season February and March.

Buckingham.—One tree set in 1895. A fairly strong grower. Fruited first in 1904, yielding 9 pecks; a few specimens only this year. The fruit is oblate, conical and of medium size. Skin greenish yellow, striped, shaded and splashed with crimson. Season, January. Quality excellent. This is a promising sort and apparently quite hardy.

Canada Baldwin.—Three trees were set in 1890. These made the most promising growth at the start of any trees in the orchard. The branches and trunks became sunscalded and gradually the trees have died, until now one only remains. The trees were abundant bearers when healthy. The fruit is oblate, of medium size. Skin greenish yellow, striped and washed with dark red. Season, December and January. Quality good.

Cinnamon Pine.—Two trees were set in 1897. The fruit seems to be identical with 'Anisovka.' These trees are situated in the sheltered orchard and do not drop their fruit so badly as those do more exposed. These averaged 2 pecks per tree in 1904, and 10·75 pecks in 1905.

Crimean Bogdanoff.—One tree set in 1895. Made strong growth. Fruited 1903, 9 pecks; and in 1905, 5 pecks. The fruit is ovate, medium to small. Skin yellow, nearly covered with red, striped. Quality poor. Season, November.

Cross, No. 15 M.—Two trees were set in 1897. They fruited well this season, averaging 12 pecks each. Fruit conical, ribbed, medium. Skin yellow. Quality poor, of no special value.

Danvers.—*Synonym,* Danver's Winter Sweet. Two trees were set in 1897. The trees are strong upright growers. Fruit oblong, conical, of medium size. Skin greenish-yellow, with dull blush. Quality good, sweet. Season, February and March. Bore their first fruit in 1904, when the trees averaged 3·37 pecks. In 1905, 2½ pecks each.

Derby.—Two trees were set in 1890. Strong growers. They averaged 10 pecks in 1904, and 16 pecks in 1905. The fruit is oblate, of medium size. Skin yellow, sometimes slightly striped with red. Quality good. A good cooking and fair dessert variety. Season, January and February.

Domine.—One tree planted in 1895. Tree a fair grower. Fruited for the first time in 1904, yielding 4 pecks. Few specimens in 1905. Fruit oblate, of medium size. Skin greenish-yellow, partly covered with stripes of light red. Quality good. Season, February and March.

Duchess.—Synonyms, Oldenburg, Duchess of Oldenburg, New Brunswicker. A well known and popular variety that needs no comment. Two trees set in 1893 averaged 7 pecks in 1903, 11 pecks 1904 and 17¾ pecks in 1905.

Enormous.—One tree was set in 1897. Made strong growth. Fruited first crop of quantity this season, yielding 10 pecks. Fruit very large, round. Skin yellow; quality fair. A Russian variety. It is fit for cooking by the middle of August, when it can be picked with profit. The fruit is ripe early in September and drops easily. Valuable as a very early cooking sort.

Fameuse.—Synonym, Snow, Snow Apple. Four trees were set in 1890. These have made strong growth. They bore their first crop of any quantity in 1903, averaging 6½ pecks. In 1904 they averaged 11·62 pecks, and in 1905, 9·25 pecks. The fruit is oblate, medium. Skin greenish yellow, nearly covered with red and crimson. Quality the very best. Season, November and December. One of the best dessert apples grown. Tree, hardy; fruit very liable to attack of apple scab, which may be kept in check by spraying with Bordeaux mixture.

Fanny.—Two trees were set in 1897. These have made fair growth. Fruited last season for the first time. Average yield of tree, 1904, ¾ galls.; 1905, 2·88 pecks. Fruit medium to large, round, oblate, conical. Skin dark red and crimson. Quality fair. Season, December and January. A promising variety.

Gano.—Two trees were planted in 1897 and two in 1898. These have made very strong growth. One of those set in 1897, when carrying about 6 pecks of fruit was struck by a strong wind and broken so badly that it was removed. The other tree yielded 5 pecks in 1903, 13¼ pecks in 1904, and 29 pecks in 1905. The fruit is round, conical, medium to large. Skin greenish yellow, covered with dark red. The two trees set in 1898 averaged 3 pecks in 1904 and 2½ pecks in 1905. The fruit of these two trees is roundish, oblate and not so evenly coloured as the above, being somewhat more striped. The first set trees more closely resemble the Black Ben Davis, and the latter are more like Gano. The fruit is similar in quality and very closely resembles the well known Ben Davis. These two varieties, however, mature here much better than the Ben Davis.

Grandmother.—Two trees were set in 1897. The trees are upright and vigorous growers. Fruit oblate, conical, medium to large. Skin greenish white, streaked and splashed with light red. Quality good. Season, September; of Russian origin. Fruited

in 1905, averaging 4½ pecks. Two trees set at the same time called *Avenarius* are the same as Grandmother. A fairly good dessert variety.

Grimes.—Synonym, Grimes' Golden. This is a good growing hardy variety, coming into fruit early. The fruit, however, runs small here. The tree is a good producer and the apple an excellent dessert sort. Season, January and February. Skin, yellow. A winter dessert apple of good quality for home use or local market.

Haas.—Synonym, Fall Queen. These trees were set in 1890. One has been top grafted. A strong grower. Fruit oblate, conic, of medium size. Skin greenish yellow, nearly covered with light red and striped with darker red. Quality poor. Season December. Average yield 1903, 9¾ pecks; 1904, 10 pecks, and 1905, 22 pecks. Not a desirable variety.

Hibernal.—This is a very hardy, vigorous, Russian variety of spreading habit, and one of the hardiest for extreme northern sections. Fruit oblate, conic, large. Skin greenish yellow, with dull bronze red on the sunny side. Valuable only for cooking, for which it is one of the best. Fruit hangs to the tree well and ripens evenly. Season, November and December. Tree planted in 1896 produced 3 pecks in 1903, 12 pecks in 1904, and 16½ peeks in 1905.

Hurlbut.—Synonym, Hurlburt. The two trees set in 1897 have made fair growth They bore a good crop in 1904, averaging 8½ pecks, and in 1905, 7 pecks. The fruit is medium to large, oblate, conical. Skin yellow, splashed and striped with red. Quality good. Season, January. This is a variety that should be more largely planted.

Jonathan.—Two trees were set in 1890. They have made fair growth. They fruited in 1903, averaging 3 pecks per tree. In 1904, 4 pecks, and in 1905, 9½ pecks. The fruit as grown here is small to medium, roundish, oblong, conical. Skin yellow, nearly covered with bright red and shaded into dark red in the sun. Quality good. Season, January to April. This variety, while of excellent quality, is sometimes too small to be profitable.

Keswick.—Synonym, Keswick Codling. Three trees set in 1890. One has been top grafted. They have made good growth. The two fruited, bearing an average of 21 pecks in 1903; 12 pecks in 1904; 34 pecks in 1905. Fruit round, oblong, conical, of medium size. Skin greenish yellow, sometimes slightly blushed in sun. Valuable only as a cooking apple. Season, October and November. Inclined to run small from setting too much fruit. Should be thinned. Not recommended.

Longfield.—Three trees were set in 1890. They have made strong growth and have fruited abundantly. The fruit is round, oblong, conic, small to medium. Skin yellowish white, with blush on sunny side. Quality good. A rather pleasant eating apple and good for cooking. Very hardy. Season, November and December. Useful for extreme northern sections.

McIntosh Red.—Three trees were set in 1890. They have made fair growth. Two trees set as 'Princess Louise' in 1892 have turned out to be McIntosh Red. They have made strong growth. The first trees planted yielded in 1903 an average of 7·67 pecks per tree; in 1904, 5·33 pecks, and in 1905, 25 pecks. The last set yielded an average of 2 pecks in 1904, and 12½ pecks in 1905. This variety has done well since 1903. The fruit has developed perfectly, and this apple may be regarded as one of the very best apples growing on the farm. This variety belongs to the Fameuse group, and is liable to scab if not carefully sprayed with Bordeaux; of fine quality for dessert. Season, December and January. Tree perfectly hardy, a good grower and productive. Fruit round, oblate, slightly irregular, medium to large. Skin whitish yellow, covered over nearly the whole surface with dark, rich wine red, shading to pinkish crimson in the shade. Should be more largely grown.

McMahan.—Synonym, McMahan White. One tree was planted in 1897. A very strong, vigorous grower. Fruit large, conical. Skin whitish-yellow. A good cooking sort. Season, December. One of the best growing trees for top grafting. An excellent sort for northern sections. Yielded in 1903, 5 pecks; 1904, 13½ pecks; in 1905 a few specimens only.

Melonen.—Synonym, Melon. One tree was planted in 1897. A strong grower. Fruited in 1904, 9¾ pecks, and in 1905, 18 pecks. Fruit oblate, of medium size. Skin yellow, somewhat striped with red. Season November. Quality poor. Of Russian origin. Fruit drops badly just before it is fully matured. Of little value.

Missouri.—Missouri Pippin. Two trees were set in 1897. Made strong growth. They averaged 5 pecks of apples in 1903, 5 pecks in 1904, and 6¾ pecks in 1905. Fruit round, oblate, medium to small. Skin greenish yellow, splashed and striped with light and dark red. This variety has so far not succeeded well here, it grows too small to be profitable.

Northern Spy.—One tree planted in 1892 has made strong growth. It fruited well this season, the first good crop, yielding 12 pecks. A well known strong growing variety. One of the best winter sorts.

Northwestern Greening.—Two trees were set in 1897. They made very strong growth at the start, but have not proved a success. One had to be taken out in 1903 and the other was removed this season. The trouble seems to be that the wood is not strong enough to support the branches, which break easily with the weight of fruit; or with ice or snow lodging on the branches after a sleet storm. These trees produced good crops in 1902-03 and 1904. The fruit is large, round, conical, and of even size. Skin greenish yellow. Quality fair. Season said to be January and February; with us this fruit goes bad at the core after the last of January, or in some cases even earlier. Two other trees of this sort have been planted to give it a further test.

Ontario.—One tree was set in 1890 and one in 1897. These have made fair growth. The trees came into fruiting early. The first ones planted bore a good crop, 11½ pecks in 1903, in 1904, ¾ peck, and in 1905, 21 pecks. The last tree planted fruited, bearing 4½ pecks in 1903, a few only in 1904, and 7 pecks in 1905. This tree has been sunscalded during the past winter. It is useful principally for cooking. The fruit is oblate, conic, large. Skin whitish-yellow, red and striped. Season, January and February.

Ostrakoff.—Two trees of this variety were set in 1890. They have made strong growth. The average yield of these trees was 5 pecks in 1903, 21¼ pecks in 1904, and 12¼ pecks in 1905. The fruit is not of high quality and drops badly just before thoroughly matured. This sort is the same as the varieties planted as *Sultan* and *White Astrachan*, which have the same fault. Neither of these sorts are valuable. The fruit is oblong, conical, of medium size. Skin yellow, somewhat streaked with red. Season, September.

Patten.—Synonym, Patten's Greening, Patten's Duchess. Two trees were set in 1897. These have made strong growth. A seedling of Duchess. They come into fruit early. Average yield in 1903, 3¾ pecks; 1904, 9·37 pecks, and 1905, 8¼ pecks. Fruit large, of even size, roundish, oblate. Skin yellowish-green, with a bronze blush in the sun. A good cooking variety. Season, December and January. A good sort for northern sections. Tree very hardy.

Peter.—This variety, as grown here, so closely resembles the Wealthy apple that we consider it the same.

Pewaukee.—Three trees were set in 1890, 2 in 1891 and 2 in 1892. These have all made very strong growth, this variety being one of our best growing trees. A well known winter apple of fair quality, but of a greenish colour, which is against it for

market purposes. It is useful principally for cooking. Season, December. The fruit has the bad fault of dropping easily just before fully matured. Two trees in the orchard, protected with shelter of natural spruce, yielded in 1903 an average of 3½ pecks of dropped fruit, and 6 pecks were picked. Three trees in the unprotected orchard yielded in 1903 an average of 10 pecks of dropped fruit and 8 pecks picked. In 1905 the two trees in the protected orchard averaged 26¾ pecks picked and 1¾ pecks dropped, and in the unprotected orchard 3 trees averaged 13 pecks picked, and 2·33 pecks dropped. The season of 1904 was exceptional for winds.

Pointed Pipka.—Four trees were set in 1896. These have made very strong growth. The fruit is medium to large, oblong, conical. Skin whitish-yellow, streaked and splashed with bright red. Flesh white, good. Season last of September. A fairly good dessert apple of Russian origin. Same as the variety called Basil the Great. Tree very hardy.

Red Canada.—Synonym, Canada Red. Two trees were set in 1890. One cankered badly, made poor growth and was removed. The other has made good growth. It fruited in 1903, bearing 7½ pecks; 1904, 2¼ pecks, and in 1905, 14 pecks. The fruit is oblate, conical, of medium size. Skin greenish-yellow, covered nearly with red and striped with crimson. Quality good. Season, February and March. This is a good winter sort, and the tree is very hardy.

Russian Tyrol.—One tree was set in 1895, has made strong growth. This is identical with Longfield, already described.

Scott's Winter.—Two trees were set in 1890. They have made strong growth and came into bearing early. They averaged 13 pecks in 1903; 5½ pecks in 1904, and 6¼ pecks in 1905. The fruit is round, conical, small. Skin red striped. Quality fair. Season, February and March. The fruit of this variety is too small for general market purposes. Of value only for home use in northern sections, where other winter sorts will not succeed.

Scrinkia.—Two trees were set in 1890. They have made good growth. Fruited in 1903 averaging 13½ pecks per tree. In 1904, 2·12 pecks, and in 1905, 25 pecks per tree. The fruit is of medium size, round, oblate. Skin pale yellow, somewhat striped with red. Quality fair. Season, October. A fairly good cooking and eating fruit.

Sunbeam.—One tree was set in 1897. This is a vigorous grower, and productive. It yielded in 1904, 25 pecks, and in 1905, 25½ pecks. The fruit is of medium size, roundish, conical. Skin whitish green with a blush in the sun. The fruit drops badly just before fully matured. Quality fair. Season, November and December.

Thaler.—Synonym, Charlotten-Thaler. This seems to be identical with Yellow Transparent, with the exception that it may be a few days earlier.

Titovka.—Synonym, Titus apple. Two trees were set in 1890. They have made strong growth. Fruited in 1904, bearing 17½ pecks per tree, in 1905 a few specimens only. The fruit is large, oblate, oblong. Skin greenish-yellow, often nearly covered with deep red, striped with dark red. Quality fair. Season, September. This is a good cooking apple. The variety, Little Hat, resembles this and is probably the same.

Wellington.—Two trees were set in 1893. They have made strong growth. They averaged per tree in 1903, 18 pecks; 1904, 8 pecks, and 1905, 24½ pecks. The fruit is of medium size, round, oblate. Skin yellow with blush on sunny side. Very acid. Quality good. Season, February to April. Valuable only for cooking. Liked on the English market on account of its pleasant acidity. A valuable commercial sort. Inclined to overbear, and run small. Should be thinned.

Williams.—Synonym, Williams' Favourite, Williams' Early. Two trees were set in 1897. These have made good growth. They fruited in 1903, averaging 1 peck per tree; 1904, 3¼ pecks, and 1905, 8¼ pecks per tree. The fruit is medium to large, round,

oblong, conic. Skin light red ground, but nearly covered with a dark red, striped somewhat. Quality good. Season, September. An excellent dessert market sort, and very attractive on account of its fine colour.

York Imperial.—One tree was set in 1897. It has made fair growth and fruited first in 1902. Fruited in 1904, 2¾ pecks; 1905, 12 pecks. The fruit is medium, oblate, oblique. Skin yellow, shaded with crimson, and indistinctly striped with red. Quality fair. Season, February to April. Somewhat inclined to be undersized.

Yellow Transparent.—A well known early variety. A valuable cooking apple, useful only for local markets and home use. A good eating apple when fully ripe. Five trees set in 1890 have made fair growth. They have fruited well. The average yield from these trees is as follows:—1903, 2¾ pecks; 1904, 5·6 pecks; and 1905, 13·7 pecks. These set their first fruit in 1893. Trees hardy. Season, last of August.

SOIL MOISTURE EXPERIMENTS.

Experiments to determine the moisture contents of soils when cultivated, as compared with those cropped were again conducted this season. The experiment included six different plots, each 25 feet wide and 400 feet long. Samples of the soil from these plots were taken at intervals of two weeks during the season to a depth of 14 inches by using round galvanized iron canisters which were driven into the ground to that depth and the column of soil removed. These samples were sent to Ottawa, where they were examined in the chemical laboratory of the Experimental Farms, and their moisture contents determined. The plots were alongside each other and the soil was of a fairly uniform character.

Plot No. 1.—The soil of this plot was in strawberries in 1903-04. The ground was ploughed early in the fall of 1904. It was thoroughly worked up on May 16 with the disc and springtooth harrows, and again once worked with the springtooth harrow before seeding to oats on May 23. The grain was sown with the seed drill at the rate of 3 bushels per acre. The growth of straw was good, averaging 36 inches. The crop suffered greatly for want of rain during the latter part of its growth and as a consequence the seed did not fill out well. The crop was harvested September 2. The ground had been seeded to timothy and clover with the oats. The grass and clover seed started fairly well, but owing to the dry weather at this date, October 30, there is not sufficient growth to cover the ground.

Plot No. 2.—The ground of this plot was in oats during 1904, having been seeded to clover and timothy with the oats in the spring of that year. The growth of clover this season was good, and the crop was cut for hay July 20, having made a growth of from 34 to 38 inches, averaging 2½ tons per acre.

Plot No. 3.—This plot was also in oats in 1904, having been seeded to timothy and clover in the spring of that year. The growth of clover was similar to that on plot No. 2, which it adjoined. This plot was cut with the mower when the crop was about 12 inches high on June 16, and the crop allowed to remain as a mulch. The clover was fairly thick. The plot was cut a second time July 8, when about the same growth had been made. The clover was again left as a mulch, which was fairly thick. The intention was to cut again in two or three weeks; but owing to extremely dry weather very little more growth was made during the season, and the crop was not again cut. The material left as a mulch soon dried out and was of very little use in conserving moisture.

Plot No. 4.—The ground of this plot was in strawberries in 1902-03 and '04. The ground was well worked up with the disc and springtooth harrows on May 16, 1905. It was again harrowed on May 23 with the springtooth harrow. On June 6 and 15 this ground was again harrowed, and on the latter date crimson clover at the rate of 30 pounds per acre was drilled in with the seeder. This made a quick start and soon covered the ground. The growth averaged about 13 inches by the middle of August. Very little growth was made after that date, the ground being practically dried out.

Plot No. 5.—The ground of this plot was previously treated as plot No. 4, it having been in strawberries and was ploughed early last fall. In 1905 this ground was cultivated in the same manner as plot No. 4, during the first part of the season, viz., until June 20, when it was thoroughly worked up with a land grubber to a depth of 5 inches. The soil was again worked with the springtooth harrow on July 4 and 20, and at the latter date crimson clover at the rate of 25 lbs. per acre was sown broadcast and harrowed in with the springtooth harrow. The clover started rather slowly, but has made a thick growth of about six inches, which thoroughly covers the ground at this date, October 30.

Plot No. 6.—The ground on this plot was treated as plot No. 5 in every respect, except that no cover crop was sown, and the land was left without any cultivation whatever after July 20. A few weeds started up on this ground, otherwise no plants were growing on it.

The moisture contents of these differently treated plots is given in the following table:—

PERCENTAGE OF MOISTURE IN PLOTS.

Date when Samples were taken.	Plot No. 1.	Plot No. 2.	Plot No. 3.	Plot No. 4.	Plot No. 5.	Plot No. 6.
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
May 15	17·40	16·04	17·33	16·50	16·28	17·76
June 1	16·37	14·23	13·83	15·25	16·97	14·74
" 16	15·54	14·88	15·94	16·19	15·78	18·02
" 29	16·30	19·06	18·52	17.50	17·97	17·92
July 17	11·02	8·08	11·77	13·89	15·65	14·59
August 2	5·63	7·26	7·12	9·73	15·50	15·02
" 15	5·17	5·91	5·64	7·87	14·11	14·03
" 30	5·01	4·17	4·37	5·26	9·97	14·36
September 18	12·66	10·52	12·58	11·47	14·68	16·31
October 3	11·22	9·05	10·61	9·24	12·67	13·06
" 18	9·34	6·71	8·01	6·69	9·44	11·34

The object of this investigation was to learn to what extent the failure of fruit trees to grow properly in soils cropped with grains and grasses is due to a lack of moisture. It is a well known fact that trees growing in soil having an abundant supply of plant food may not in some seasons produce well or make satisfactory growth if grass or grain crops occupy the orchard soil at the same time. These latter crops are especially exhaustive of soil moisture, large quantities of which are used in their development, consequently the soil is, as these experiments show, rendered too dry for the proper development of trees which require the whole season for their growth.

Plot No. 4 was seeded to crimson clover to determine whether sufficient moisture would be conserved by cultivating only to the middle of June and then seeding to a cover crop in place of following the usual practice of cultivating to the middle of July and sowing a cover crop. It was also desired to ascertain if the crop of crimson clover

would shade the ground sufficiently to act as a mulch, and lessen evaporation from the soil surface, and in this way offset the loss by transpiration. It would appear in this connection, however, that the moisture taken from the ground by the plants was far greater than that conserved by them through the shade afforded by the foliage. The figures given show that this plot was too dry for proper plant development during the greater part of the season.

It will be seen that in plot No. 6 at no time during the season did the moisture fall below 10 per cent. It will also be noticed by referring to the above table that plot No. 5 only twice went below 10 per cent. This would seem to show that even in a season as dry as that of 1905, cover crops of crimson clover sown after the middle of July, on soil that has previously been properly cultivated to conserve moisture, will not dry out the ground to such an extent as to prevent a proper development of fruit and wood growth. It is apparent that the conditions prevailing in plots Nos. 1, 2 and 3, so far as moisture content is concerned, were not at all favourable for fruit tree development, and consequently the growing of grass or grain crops in the orchard is not advisable if best results are to be obtained.

The season has been exceptionally dry, especially since June. The following table gives the rainfall and the date on which the rain occurred from April 1 to November 1, 1905:—

RAINFALL, 1905.

April.		May.		June.		July.		August.		September.		October.	
Date.	In.	Date.	In.	Date.	In.	Date.	In.	Date.	In.	Date.	In.	Date.	In.
1	08	2	·76	2	·34½	2	·45	1	·06	4	1·33	9	·04
21	·40	4	·04	3	·05	3	·12	2	·10½	5	·15	11	·05
22	·62	7	·18	6	·65	15	·82	4	·12	6	·44	18	·26
25	·14	8	·40	8	·12½	26	·08	7	·62	13	·04	19	·19
.....		10	·74	12	·07	27	·03	23	·03½	14	·85	20	·19
.....		18	·50	13	·44	31	·66	30	·59	18	·04	21	·15
.....		20	·14	14	·12	.....	.....	..	.....	19	·05	22	·33
.....		21	·11	17	·04	.....	.....	.....	.....	26	·48	.....	.....
.....		23	05	18	·12	.....	.....	.....	.....	.....	.....	.....	.....
.....		30	·10	26	·11	.....	.....	.....	.....	.....	.....	.....	.....
.....		.....	.....	27	·92	.....	.....	.....	.....	.....	.....	.....	.....
.....		.....	.....	28	·31	.....	.....	.....	.....	.....	.....	.....	.....
Total..	1·24	..	3·02	..	3·30	..	1·56	..	1·53	..	3·38	..	1·29
Total Rainfall for the same period in 1904 and 1903.													
1904...	2·92	..	1·76	..	1·74	..	2·15	..	3·51	..	4·52	..	5·00
1903...	3·57	..	·68	..	2·29	..	2·07	..	2·40	..	3·63	..	5·78

EXPERIMENTS TO CONTROL THE PEA WORM.

Acting on the advice of Dr. Jas. Fletcher, Entomologist and Botanist of the Dominion Experimental Farms, Ottawa, some experiments were conducted this season to ascertain whether spraying pea vines and pods with a paris green mixture would prove a satisfactory remedy for the pea worm.

The strength of mixture used on the early plots was ¼ pound paris green to 40 gallons of water, to which one pound of whale oil soap was added so that the mixture would adhere to the plant better. One plot of the variety Heroine was treated later with a stronger solution of paris green and water, ½ pound paris green to 40 gallons of

water being used. The plots were once sprayed thoroughly just after the pods were formed, except the plot of Heroine, which in addition to being sprayed on July 20 with the ¼ pound paris green to 40 gallons of water, was again sprayed July 29 with ½ pound paris green to 40 gallons of water.

The results obtained would seem to indicate that spraying the plants with a paris green solution just as the pods are beginning to form is too early in the growth of the plant to get the best results.

It will also be seen that early varieties of pease are much less liable to injury from the pea worm that the later sorts, and pease which are fit to use from the first to the middle of August are the most injured by the pea worm.

The following results were obtained:—

Variety Treated.	Date when sprayed.	Date when pulled.	How Treated.	Number of pods shelled.	Per cent wormy.
Alaska	July 8	July 20	Paris green	500	4
			None	500	3
Gradus	" 15	" 25	Paris green	500	7
			None	500	8
American Wonder	" 20	Aug. 1	Paris green	500	11
			None	500	11
Heroine	" 20 and 29	" 17	Paris green	500	22
			None	500	27

STRAWBERRIES.

In addition to the small plots of strawberries set in the spring of 1904, several larger plots of some of the most promising varieties were planted. Each plot consisted of two rows set 3 feet apart, and one foot apart in the rows. The runners were allowed to spread and at the end of the season the two rows had made sufficient growth to cover the ground between the rows fairly well. The runners on the outside of these two rows were kept cut one foot from the rows. This made practically a matted row 5 feet wide of each plot.

The ground was a light sandy loam, which had not been manured since the spring of 1899, after which a crop of corn was taken off. The soil was well worked up and complete fertilizer and bone meal in equal parts at the rate of 800 lbs. per acre was used by sowing it broadcast and harrowing in before the plants were put out. The planting was done May 23.

The Warfield and Senator Dunlap have as usual given the best results. The Glen Mary and Clyde are two good sorts for local markets, but are too soft for shipping to any distance. The Lovett is rather small, otherwise is a good berry. The Beder Wood did not do as well as usual. The fruit was small and the plants not at all vigorous. The Howard No. 41 is not a desirable sort. The Warfield is inclined to run small towards the last pickings, and the plants are not very vigorous. The fruit stands shipment well, and as the plant is prolific and the fruit takes well in the market we consider it one of the best commercial varieties here. The Senator Dunlap is an excellent berry and may be recommended for commercial planting. The fruit is medium to large, conical, occasionally flattened slightly or ribbed; colour a dark rich crimson. Flesh firm and fine in texture, red throughout. Quality good, sprightly. Flowers perfect, having abundant pollen. The plants are strong, vigorous growers, probably the best berry we have yet tested here.

Three varieties of the Alpine, or perpetual strawberry have been tested during the past 4 years. They were St. Joseph, St. Antoine and Jeanne d'Arc. The quality of this fruit is excellent, but outside of that there is nothing to recommend them. The fruit is small. The plants are not everbearing; in fact, they have a shorter season with us than many of the commonly cultivated varieties. They are of no value from a commercial standpoint.

The size of these plots and the dates on which the fruit was picked, together with the yield per acre as calculated from the quantity produced on the plots, is given in the following table:—

STRAWBERRIES—TEST OF VARIETIES.

Variety.	Flowers.	Date when Picked.						Total Yield.	Size of Plot.	Yield per Acre.
		July 10.	July 13.	July 16.	July 20.	July 21.	July 28.			
		Qts.	Qts.	Qts.	Qts.	Qts.	Qts.	Qts.	Feet.	Qts.
Senator Dunlap	Per.	23	37	69	51	8	9	197	5 x 148½	11,557
Warfield	Imp.	22	29	82	18	24	4	179	5 x 148½	10,501
Glen Mary	Per.	.....	2	28	12	12	7	61	5 x 66	8,052
Lovett	Per.	9½	13	10	12	14	2	60½	5 x 66	7,986
Clyde	Per.	.....	7½	18	7	7½	.....	40	5 x 49½	7,040
Beder Wood	Per.	9	13	12	11	6	4	55	5 x 82½	5,808
Howard's No. 41	Imp.	4	7	13	5	.....	.....	29	5 x 49½	5,104

GARDEN PEASE.

Fifty-two varieties of garden pease were tested this year. The plots were on soil of a uniform character, and in a fair state of fertility. The seed was sown in rows 2½ feet apart, May 6, and the pease were planted about 2 inches deep and 2 inches apart in the rows. Each plot was 2 rows 16½ feet long. One row was allowed to ripen seed, and on the other row the pease were picked when fit for market, and the quantity of marketable green pods obtained. The following table gives the yield from these plots, together with other notes taken on the varieties.

The variety Early Excelsior is an exceptionally early and valuable dwarf pea. Thomas Laxton continues to give best results as a second early sort. The extra Early Leviathan about the same season as Thomas Laxton, is not as good, judging from one test. Carter's Early Morn is practically the same as Gradus. The variety Rivenhall Wonder is a fine medium late kind. Juno is the best late kind tested.

GARDEN PEASE—TEST OF VARIETIES.

Variety.	Length of Vine.	Length of Plot.	Number of Peas in Pod.	Date of Picking.				Total Yield from Plot.	
				July 24.		July 31.			
	Inches.	Inches.		Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.
Alaska	36	2¼ to 2¾	5 to 7	5	2	..	10	5	12
Station	36	2¼ " 2½	5 " 7	6	10	..	8	7	2
New Surprise	36	2¼ " 2½	5 " 7	7	..	..	9	7	9
Gregory's Surprise	36	2¼ " 2¾	5 " 7	6	8	1	4	7	12
Early Excelsior	18	3¼ " 3¾	5 " 7	5	4	4	9	9	13
Burpee's Extra Early	34	2½ " 2¾	5 " 7	5	11	2	..	7	11
Chelsea	20	3 " 3½	6 " 8	4	6	2	3	6	9
Electric Light	27	3 " 3½	5 " 8	4	..	4	9	8	9
First and Best	59	2¼ " 2¾	5 " 7	3	3	2	13	6	..
				July 28.		Aug. 4.			
Gradus	40	3½ " 4¼	5 " 8	5	10	2	2	7	12
Prosperity	40	3½ " 4¼	5 " 8	6	8	1	2	7	10
Thomas Laxton	40	3 " 3½	5 " 8	6	3	5	5	11	8
Nott's Excelsior	18	2¾ " 3	5 " 8	3	2	3	12	6	14
A I	40	3 " 3½	5 " 7	5	4	5	2	10	6
Nott's Excelsior	20	3 " 3¼	5 " 8	4	..	5	11	9	11
Philadelphia	36	2½ " 2¾	6 " 7	5	..	2	..	7	..
Claudit	42	3½ " 3¾	6 " 9	6	2	4	8	10	10
Early Morn	36	3¼ " 3½	6 " 8	4	..	1	4	5	4
William Hurst	18	3 " 3½	6 " 8	3	8	6	12	10	4
Premium Gem	22	2½ " 3	5 " 7	2	10	3	..	5	10
Dwarf Wrinkled Sugar	22	2¾ " 3	5 " 7	3	6	2	12	6	2
				July 31.		Aug. 7.			
Prolific	37	2¾ " 3¼	6 " 8	4	5	5	8	9	13
Sutton's Excelsior	20	3 " 3½	5 " 7	5	4	1	..	6	4
Sutton's Forcing	18	2½ " 3	3 " 7	3	..	1	2	4	2
Melting Marrow	20	2¾ " 3¼	5 " 7	2	4	1	5	3	9
King of Dwarfs	22	2¾ " 3	5 " 7	6	4	1	..	7	4
				Aug. 7.		Aug. 14.			
New Second Early	45	3¼ " 3½	8 " 10	6	..	2	3	8	3
Rivenhall Wonder	20	3½ " 4	6 " 9	6	4	2	6	8	10
British Wonder	20	3¼ " 3¾	5 " 7	5	4	3	12	9	..
Admiral Dewey	55	4 " 4¼	6 " 8	11	4	1	8	12	12
Boston Unrivalled	55	3¾ " 4¼	6 " 8	10	8	3	2	13	10
Improved Senator	48	4 " 4¼	6 " 8	5	0	2	1	7	1
						Aug. 17.			
Horsford's Market	30	3 " 3½	5 " 7	3	4	8	11	11	15
McLean's Advancer	30	2¾ " 3¼	5 " 7	3	4	8	2	11	6
Prodigious	55	4 " 4¼	7 " 9	9	12	2	10	12	6
Prince Edward	42	3½ " 4¼	6 " 9	9	12	2	3	11	15
Duke of Albany	42	3¾ " 4¼	6 " 8	4	10	4	13	9	7
Dwarf Champion	22	3½ " 3¾	6 " 8	2	6	2	14	5	4
American Champion	57	3¼ " 3½	6 " 8	2	8	6	14	9	6
Dwarf Telephone	20	3¼ " 3¾	6 " 8	2	3	3	9	5	12
				Aug. 12.		Aug. 17.			
Champion of England	57	2¾ " 3½	6 " 8	4	..	4	8	8	8
Duke of York	56	3½ " 3¾	6 " 8	4	6	5	..	9	6
Abundance	30	3 " 3½	6 " 8	2	..	4	8	6	8
Yorkshire Hero	34	3 " 3½	5 " 7	2	..	4	1	6	1
Stanley	41	3¾ " 4½	6 " 7	3	4	4	7	7	11
Hurst's Reliance	46	3 " 3½	7 " 8	4	8	2	6	6	14
Perfection	47	3 " 4	6 " 9	3	..	6	..	9	..
Magnum Bonum	34	4 " 4½	6 " 8	3	8	8	2	11	10
				Aug. 14.		Aug. 21.			
Daisy	24	3¾ " 4½	7 " 9	3	4	3	5	6	9
Juno	24	3½ " 4	7 " 9	6	..	5	9	11	9
Telephone	50	3½ " 4½	6 " 8	5	3	5	5	10	8
Fillbasket	24	3¾ " 4¼	7 " 9	5	..	5	..	10	..

GARDEN PEASE—SINGLE VS. DOUBLE ROWS.

Eight varieties of garden pease were sown in plots 33 feet long, each plot occupying an area 2½ feet wide. In one set of plots one row was planted down the centre of the plot, and in the other series 2 rows 6 inches apart were planted down the centre of the plot. The object of the experiment was to determine the gain, if any, of planting 2 rows of garden pease together instead of only one. The double rowed plots require much greater labour in hoeing, whereas in the single rows very little hand hoeing is necessary, the work being done with a horse and cultivator.

The yield was greater in the double rowed plots, and the general appearance of the plots for market decreased in value in proportion to the thickness of the vine growth on the double rowed plots. In the remarks on the general appearance of the pods when gathered, 10 points is taken as a standard of perfection. It will be seen that the dwarf kinds, Nott's Excelsior and American Wonder, were much more perfect in the double row plots than the variety Heroine. This was due to the much greater vine growth of the latter, which prevented proper development of pods when the vines trailed on the ground.

The yield from these plots is given in the following table:—

SINGLE VS. DOUBLE ROWS OF GARDEN PEASE.

Variety.	Kind of Row.	When Picked.				Total Yield from Plot.		Taking 10 as point of Excellence.
		July 24.		July 29.				
		Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	
Surprise	Double	12	7	3	4	15	11	9½
"	Single	6	8	1	2	7	10	10
Station	Double	12	10	5	..	17	10	9½
"	Single	8	14	1	4	10	2	10
		July 28.		Aug. 4.				
Prosperity	Double	13	6	2	12	16	2	8
"	Single	8	11	1	2	9	13	10
Gradus	Double	16	10	2	..	18	10	8
"	Single	8	8	..	10	9	2	10
Thomas Laxton	Double	17	10	1	..	18	10	8½
"	Single	13	..	..	12	13	12	10
		July 31.		Aug. 7.				
Nott's Excelsior	Double	19	4	.....		19	4	10
"	Single	11	12	.....		11	12	10
American Wonder	Double	15	8	2	4	17	12	9½
"	Single	8	8	2	..	10	8	10
		Aug. 7.		Aug. 17.				
Heroine	Double	12	..	8	12	20	12	6½
"	Single	8	6	3	4	11	10	9

GARDEN PEASE—STAKED VS. NOT STAKED.

The object of this experiment was to determine the value of putting stakes 6 inches apart for the pea vines to cling to in place of letting them go on the ground. Stakes of alder bushes about 4 feet long with many of the branches left on were used. One series of these plots consisted of single rows 2½ feet apart, and the other series

consisted of two rows planted 6 inches apart and 2½ feet from the center between these two rows to the center between the next two rows. The plots were all treated in a similar manner. They were all cultivated alike, and were sown at the same time. The stakes were stuck when the plants were 6 inches high.

It will be seen from the results that the yield from the single rows staked was not very materially greater than those not staked. The double rows, however, gave a better crop than the single ones. It was also quite apparent that the pods from the staked plots were much superior to those from the unstaked plots. This was especially the case with the double rows. This was no doubt due to the fact that when the vines are trailing on the ground the pods do not have the conditions so favourable for their development as they do when supported, and a single row not staked has a much better chance for proper development than two rows occupying practically the same space.

From the information obtained, it would appear to be safe to conclude that in small gardens it is a decided advantage to stake even half tall varieties and that to plant two rows 6 inches apart and allow a 2-foot space to the next row is much preferable to a single row 2½ feet apart, and produces about double the crop. On the other hand, the same number of stakes required for a single row will stake a double row by setting the stakes between the two rows. There is more difficulty in hoeing when double rows are planted. In large areas for market the most economical method is to run single rows 2 feet apart, and they can be so cultivated that very little hand hoeing is necessary. In large commercial areas staking the vines would be impracticable.

The following yields were obtained from these plots, each of which was one row 33 feet long. The yield per acre is calculated from the quantity obtained from these plots, and the bushels per acre was computed by allowing 40 pounds to the bushel. The variety used was Thomas Laxton, which weighs, of green peas in pod, 40 lbs. per bushel:—

EXPERIMENTS WITH STAKED VS. NOT STAKED GARDEN PEASE.

Variety, Thomas Laxton and how treated.	Date when Picked.				Total Yield per Plot.		Yield per Acre.	Yield per Acre.	
	July 29.		Aug. 4.						
	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Bush.	Lbs.
Staked, single row	14	12	4	4	19	..	10,032	250	32
Not staked, single row	16	6	2	4	18	10	9,834	245	34
Staked, double row	20	..	9	10	29	10	15,640	391	..
Not staked, double row	17	..	2	12	19	12	10,428	260	28

GARDEN BEANS.

Eight of the sorts which have given the best results in the past were sown this year in plots of one row, each 49½ feet long. The rows were 2½ feet apart. The ground on which these were grown was of a uniform character, and in a fair state of fertility. The seed was planted May 29. The following table gives the dates on which the marketable snap beans were picked, and the yield per plot and per acre:—

Variety.	Colour of Pod.	Date when Picked.								Yield per Plot.		Yield per Acre.
		Aug. 4.		Aug. 12.		Aug. 18.		Aug. 25.				
		Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.
Bountiful	Green	15	..	10	10	6	..	1	8	33	2	11,660
Market Wax	Golden	6	..	7	8	11	4	6	..	30	12	10,824
Lightning	Green	10	8	12	..	5	..	2	14	30	6	10,692
Davis Wax	Golden	13	4	5	8	7	12	2	8	29	..	10,208
Early Warwick	Green	14	8	5	12	5	4	2	.	27	8	9,680
Low's Champion	"	5	12	5	2	6	12	5	2	22	12	8,068
Extra Early Edible Podded	"	9	12	6	8	3	..	..	14	21	2	7,436
Longfellow	"	4	..	3	3	4	12	5	4	17	3	6,056

The variety Bountiful is one of the best green pod market beans tested here. The Lightning is a splendid variety, and it is especially rust-resistant, being much more so than the Bountiful. The Davis Wax rusted badly this year, as did the Keency's Rustless Wax. The early Giant Wax and Best of All both are fine sorts. The Market Wax again proved to be equal to any of the golden podded varieties. Valentine Wax is a very prolific round Golden Pod variety. Longfellow we would not recommend. Low's Champion is a good one.

TOMATOES.

Fifty varieties of tomatoes were under test this season. The plants were started in the hot-bed April 1; transplanted to strawberry boxes, one plant to a box, April 13. These were planted in the open ground May 12, in rows 4 feet apart, and the plants 4 feet apart in the rows. Eight plants of each variety were planted.

The soil on which these were grown was used last year for cabbage, and was in a fair state of fertility. It was a light loam, rather deficient in humus. Bone meal and complete fertilizer mixed in equal parts was sown at the rate of 500 lbs. per acre broadcast, and harrowed in before the plants were put out.

The variety Spark's Earliana still continues to be the best sort for these provinces. Owing to a late spring and early fall frosts the season here for tomatoes is practically limited to 3 months—from June 15 to September 15—hence only the earliest ripening tomatoes are suitable for profitable planting. Spark's Earliana is the best smooth early variety yet tried. It has good size, and although the fruit is not as regular and smooth as it was when first introduced, yet it is better here in this respect than any of the other early kinds tried.

A very satisfactory method to follow in order to keep good, smooth stock of any variety is to select seed from the plants that produce regular smooth, early ripening fruit. Some of the most successful growers obtain the bulk of their seed by following this method.

The variety Tenderloin and Livingston's Globe are two sorts tested this season for the first time. Neither of these, judging from one season's test, are of any value for the maritime provinces. The former is a rough, late sort, and the latter large and smooth, but very late, and quite subject to rot. The variety Dominion Day, about a week later than Earliana but very prolific, has with us grown very rough fruit. The Chalk's Early Jewel has been under test for 3 years. It is a good, smooth tomato, fully 8 days later than Earliana, and much more liable to rot. We have found that

seed of Earliana does not germinate as easily as most other sorts, hence more care is necessary in starting this variety.

Experiments were conducted with Spark's Earliana to ascertain to what extent pinching off the top of the plant when about 5 inches high would increase the production of early fruit. By so doing side branches are started and instead of having a plant with only one stalk, 4 or 5 stalks are obtained, and instead of having only one flower cluster, several branches are had with flower clusters just as far advanced. This is a question of special importance in these provinces where at best the ripening of the fruit is very difficult.

Thirty-four plants of Earliana were pinched off May 10, and thirty-four others were left to grow up as a single stalk. These were started from seed sown April 1, and planted in strawberry boxes, one plant to a box, April 18.

The plants were put in the open ground June 12, by simply cutting the boxes and setting the plants without disturbing the earth at the roots. The vines were grown without stakes. The soil was a light loam. Complete fertilizer and bone meal mixed half and half was used by spreading broadcast around the places where the plants were to occupy, and digging it in well before planting. This was used at the rate of 1,000 lbs. per acre. The plants were set in rows 4 feet apart and 4 feet apart in the rows. Each plot was $\frac{1}{82.5}$ of an acre, or two rows 66 feet long and 4 feet wide. The crop obtained from this area is given in the following table. The yield per acre is calculated from the quantity obtained from these plots:—

Variety Earliana.	Ripe Fruit Picked.						Green fruit picked Sept. 25th.	Total ripe fruit per plot.	Total yield of ripe fruit per acre.	Total yield of green fruit per acre.	Total yield per acre.
	Aug. 25th.	Aug. 30th.	Sept. 2nd.	Sept. 9th.	Sept. 15th.	Sept. 25th.					
	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Bu. Lbs.	Bu. Lbs.	Bu. Lbs.
Pinched Back.....	6½	12¼	30¾	79¼	129	94¾	163¾	517¼	711 12	225 9	936 21
Not Pinched Back.	1	6	20¼	47¾	97½	101¾	226	518¼	712 35	310 45	1,023 20

ONIONS.

Five of the leading sorts of onions were tested this season. The ground on which they were grown was a light clay loam in a fairly good state of fertility, having been in onions the previous year. The ground was well worked up with the land grubber to a depth of six inches. Wood ashes at the rate of 1,000 lbs. per acre and complete fertilizer at the rate of 500 lbs. per acre were sown broadcast and harrowed in with the smoothing harrow. The plants were planted on the level ground in rows one foot apart and about 3 inches apart in the rows.

The seed was started in the hot-bed April 5, in boxes having about six inches of soil. The plants were transplanted from these boxes to the open ground May 25. Seed is better sown the third week in March, so that the plants will be in good condition for transplanting about the middle of May. It requires from 7 to 8 weeks to develop good plants. This season being exceptionally dry the plants did not make as good growth as usual.

The crop was pulled October 4, and the yield per acre is calculated from the weight obtained from one row 66 feet long.

EXPERIMENTS WITH ONIONS.

Variety.	Yield per Plot.	Yield per Acre.	Remarks.
	Lbs.	Bush.	
Golden Globe	56	616	Matured good.
Australian Brown	50	550	" "
Australian Yellow Globe	65	715	" "
Prizetaker	70	770	Matured fair.
Large Red Wethersfield	70	770	" "

EARLY POTATOES.

Eight varieties of early potatoes were planted on a light loam. The ground was manured at the rate of 30 one-horse cart loads of stable manure per acre the previous fall. This was worked up in the spring and rows were made 2½ feet apart and about 4 inches deep with the double mouldboard plough. The seed was planted one foot apart in the rows and covered about 4 inches deep. The ground was later harrowed over once, and after being cultivated several times between the rows the plants, when six inches high, were hilled up by using the double mouldboard plough.

The object of this experiment was to determine which variety would produce the largest quantity of marketable tubers for the early market. The seed was planted May 18, and the first digging was on August 5, and the second on August 18. The Irish Cobbler again produced the largest quantity of marketable tubers. The Early Andes deserves special mention for its quality. The following table gives the yield per acre from these plots. Each plot was one row 66 feet long:—

EXPERIMENTS WITH EARLY POTATOES.

	Dug August 5.				Dug August 18.			
	Marketable.		Not Marketable.		Marketable.		Not Marketable.	
	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.
Early Michigan	176	..	53	54	303	36	38	30
Early Andes	144	40	38	30	248	36	22	..
Bovee	110	..	75	54	268	24	33	..
Early Envoy	107	14	72	36	303	36	24	12
Pearces Ex. Early	144	40	70	24	299	12	38	30
Early Sunrise	137	30	78	6	248	36	26	24
Rochester Rose	136	24	72	36	253	..	26	24
Irish Cobbler	209	..	53	54	316	48	33	..

LIST OF THE BEST VEGETABLES TO GROW.

From several years' experience in testing many of the different varieties of vegetables now advertised by seed merchants in Canada and the United States, the following may be recommended as equal to any of those so far tested here:—

Pease. Tall.—Extra early: Surprise. Early: Thomas Laxton. Medium: Admiral Dewey. Late: Telephone Dwarf. Extra early: Early Excelsior. Early: Nott's Excelsior. Medium: Rivenhall Wonder. Late: Juno.

Tomatoes.—Sparks' Earliana.

Beans.—Green Pod. Early: Bountiful and Lightning. Late: Refugee or 1000 to 1. Golden Pod: Market Wax and Valentine Wax.

Corn.—Extra early: Extra Early Beverly. Early: Extra Early Cory and Premo. Medium: Crosby's Early.

Cucumbers.—White Spine.

Squash.—Autumn: Boston Marrow and Golden Hubbard. Late: Hubbard.

Parsnips.—Hollow Crown and Improved Half Long.

Carrots.—Chantenay

Onions.—Prizetaker and Australian Brown.

Lettuce.—Curled: Black Seeded Simpson. Cabbage: Improved Salamander.

Cabbage.—Extra early: Paris Market. Early: Jersey Wakefield. Medium: Early Spring and Succession. Late: Late Flat Dutch. Red: Mammoth Rock Red.

Celery.—Paris Golden Yellow Self-blanching. Improved White Plume and Perfection Heartswell.

Cauliflower.—Early Erfurt.

Beets.—Extra early: Egyptian Turnip. Early: Eclipse.

Spinach.—Victoria.

Salsify.—Sandwich Island.

Radishes.—French Breakfast and Icicle. Winter: Scarlet China.

Parsley.—Double Curled.

Citron Melon.—Colorado Mammoth.

Water Melons.—Cole's Early.

Egg Plant.—New York Improved Purple.

Brussels Sprouts.—Improved Dwarf.

Kale.—Dwarf Green Curled.

Asparagus.—Conover's Colossal and Argenteuil.

Rhubarb.—Linnæus and Victoria.

Turnips.—Golden Ball and Selected Purple Top Swede.

I have the honour to be, sir,
Your obedient servant,

W. S. BLAIR,
Horticulturist.

General View of Experimental Farm, Brandon, Man.

EXPERIMENTAL FARM FOR MANITOBA

REPORT OF S. A. BEDFORD, SUPERINTENDENT.

BRANDON, MAN., November 30, 1905.

To DR. WM. SAUNDERS, C.M.G.,
Director, Dominion Experimental Farms,
Ottawa.

SIR,—I have the honour to submit, herewith, my eighteenth annual report with details of experiments undertaken and work accomplished on the Experimental Farm for the province of Manitoba.

The past winter was a very pleasant one, with abundance of sunshine and very little snow.

The month of March was unusually mild and free from storms of all kinds. Several wild plants were in bloom on the 31st. The first seeding of grain was done on the 31st of that month, about ten days earlier than the average. The soil at this date was in excellent condition for seeding.

April was unusually dry and favourable for seeding, and nearly all the wheat was sown under the very best of conditions by the close of the month.

The rainfall during May and June was excessive, and in the Red river valley much of the young grain was seriously injured, but on this farm and in Western Manitoba generally no damage ensued.

The month of July was unusually favourable for all kinds of farm produce, and growth was very rank, so much so on this farm that a very large proportion of the grain was badly lodged, and at one time it threatened to be an unusually late harvest, but towards the end of August the temperature increased and grain of all kinds matured very rapidly.

During harvest the weather was quite favourable, there was no killing frost until September 11, when the thermometer indicated 5 degrees of frost. The crops were then all saved, hence there was no injury from this cause.

The yield of all kinds of grain was above the average, and the province rejoices in one of the most abundant harvests in its history.

On the Experimental Farm nearly all kinds of grain, roots and fodder plants gave unusually large returns.

EXPERIMENTS WITH SPRING WHEAT.

Owing to the abundant rainfall during June and July, spring wheat on summer-fallow lodged badly, and at one time it was feared that serious injury would again result from rust, but fortunately conditions were more favourable during August, 1905, and very little injury resulted from this cause. For some reason nearly all the spring wheat grown in Western Canada this year is light in colour, and very little of it grades No. 1 hard. On this farm nearly all of the wheat grades No. 1 northern, and the kernels are plump and well matured.

A feature of this year's crop was the excellent quality of the straw of Preston wheat. This was quite evident both in the small plots as well as in the larger fields.

Both Red and White Fife were badly lodged, but Preston stood up fairly well, and no doubt this fact accounts largely for the better returns obtained from the latter variety.

In many parts of this province the injury from smut in wheat has been greater this year than usual, and much loss has resulted. On this Farm all seed grain is treated with either bluestone or formalin, and there has been no injury whatever from this cause. Where the wheat has been treated and smut appears it is evident, either that the proper proportion of the drug has not been used or the work has been done carelessly.

Thirty varieties of spring wheat were sown this season on April 10 and 12, side by side, on black loam fallowed, the plots being one-twentieth of an acre each.

WHEAT—TEST OF VARIETIES.

Number.	Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Kind of Head.	Weight of Straw.	Yield per Acre.		Weight per Bushel.	Rusted.
				In.		In.		Lbs.	Bush.	Lbs.	Lbs	
1	Preston	Aug. 25	136	54	Stiff.	3¾	Bearded.	5,480	52	..	60	Considerably.
2	Laurel	" 21	138	54	"	4	Bald	7,260	47	40	58½	Slightly.
3	White Fife	" 29	141	51	Fair.	3½	"	5,960	47	20	56½	Considerably.
4	Huron	" 25	136	54	"	4	Bearded.	6,480	47	..	60½	"
5	Advance	" 27	138	51	Stiff.	3½	"	5,600	46	40	60½	Slightly.
6	Red Fife	" 29	141	49	Fair.	3½	Bald	3,680	45	20	60½	Considerably.
7	Wellman's Fife	" 30	142	57	"	4	"	6,800	45	..	58½	"
8	Haynes' Blue Stem	" 30	141	54		4	"	6,120	44	40	61½	Slightly.
9	Power's Fife	" 28	139	52	Fair.	3½	"	6,760	44	..	60	"
10	Minnesota No. 163	" 30	141	53	"	4	"	6,980	43	40	59	"
11	Percy	" 26	137	53	Stiff.	4	"	6,100	43	20	57	Considerably.
12	Riga	" 23	134	47	Weak	3½	"	5,640	42	40	57	Slightly.
13	Bishop	" 18	129	48	Fair.	3½	"	5,480	42	..	55½	"
14	Stanley	" 25	136	53	Stiff.	4	"	5,780	42	..	59	"
15	Pringle's Champlain	" 25	136	47	Weak	4	Bearded.	5,700	41	40	61	Considerably.
16	Dawn	" 25	136	53	"	3¾	Bald	6,100	41	40	57	"
17	Monarch	" 30	142	50	"	4	"	6,800	41	..	60½	Slightly.
18	Australian No. 9	" 28	140	50	"	4	"	7,340	41	..	60	Considerably.
19	Herisson Bearded	" 29	139	47	"	4	Bearded	5,340	41	..	58½	Badly.
20	Downy Riga	" 17	128	47	"	3	Bald	4,900	40	..	56	Slightly.
21	McKendry's Fife	" 30	142	52	"	4	"	6,200	40	..	60	Badly.
22	Chester	" 25	136	54	"	4	"	6,560	39	..	58½	Slightly.
23	White Russian	" 29	141	48	"	4	"	7,360	39	..	55½	Considerably.
24	Hungarian White	" 27	138	52	"	4½	Bearded.	5,400	38	20	57	Badly.
25	Early Riga	" 19	130	52	"	3½	Bald	5,000	38	..	58	Slightly.
26	Colorado	" 27	137	52	Stiff.	3½	Bearded.	5,400	36	40	58	Considerably.
27	Weldon	" 28	140	48	Weak	4	Bald	6,440	36	..	57	Slightly.
28	Countess	" 25	137	53	"	3½	"	4,640	36	..	60½	"
29	Clyde	" 26	138	51	Fair.	4	"	5,640	34	20	55	"
30	Red Fern	" 26	136	50	"	3½	Bearded.	4,600	33	20	60	Considerably.

EXPERIMENTS WITH MACARONI WHEAT.

As rust was not as prevalent as usual this year Macaroni wheat gave only a slight increase in yield over the ordinary wheats. It is unsaleable for milling purposes in this country, and for that reason we do not recommend it for general cultivation.

The size of the plots for this test was one-twentieth of an acre, the soil a black loam, summer-fallowed. All were sown on April 12.

MACARONI WHEATS—TEST OF VARIETIES.

Name of Variety.	Date of ripening.	No. of Days Maturing	Length of Straw	Character of Straw	Length of Head	Kind of Head.	Weight of Straw.	Yield per Acre.		Weight per Bushel.	Rusted.
			In.		In.		Lbs.	Bush.	Lbs.	Lbs	
Yellow Gharnovka	Aug. 29	139	51	Weak	2½	Bearded	6,280	54	..	59½	None.
Roumanian	Sept. 4	145	54	"	3	"	5,760	50	.	62	"
Goose	" 5	146	54	"	3½	"	5,600	49	..	62	"
Mahmoudi	" 3	144	46	"	3	"	4,000	46	40	60	Slightly.

EXPERIMENTS WITH EMMER AND SPELT.

The plots used for this test were one-twentieth of an acre each. The soil a black loam summer-fallowed. All were sown on April 12.

EMMER AND SPELT—TEST OF VARIETIES.

Name of Variety.	Date of ripening.	No. of Days Maturing.	Length of Straw	Character of Straw.	Length of Head.	Kind of Head.	Weight of Straw.	Yield per Acre.	Weight per Bushel.	Rusted.
			In.		In.		Lbs.	Lbs.	Lbs	
Common Emmer	Aug. 27	137	47	Weak	2½	Bearded	6,760	2,849	45	None.
Red Emmer	Sept. 4	145	54	"	4	"	6,300	2,500	41	"
Red Spelt	Aug. 29	139	51	Stiff	3½	Bald	3,600	3,500	31	"
White Spelt	Sept. 1	142	49	"	5	"	4,320	2,280	27	Badly.

A TEST OF FERTILIZERS FOR THE GROWING OF WHEAT.

The soil used for this test was a light loam cropped for many years without fertilizer of any kind. Judging from this year's test, such soils are benefited by the use of chemical fertilizers.

The size of the plots was one-fortieth of an acre each. All were sown on summer-fallowed land on May 5 and harvested on September 1. There was no smut and very little rust. The grain was very badly lodged on all the plots. The variety of wheat sown on these plots was Red Fife.

—	Length of Straw.	Length of Head.	Weight of Straw per Acre.	Yield per Acre.		Weight per Bushel.
	Inches.	Inches.	Lbs.	Bush.	Lbs.	Lbs.
100 lbs. per acre of nitrate of soda, half sprinkled when the grain was 2 in. high, balance when 6 in. high	53	3½	8,800	46	..	59
200 lbs. per acre of nitrate of soda, half sprinkled when the grain was 2 in. high, balance when 6 in. high	53	3½	8,400	43	20	58½
No fertilizer used	53	3½	8,000	38	40	58½
Superphosphate, 400 lbs. per acre, spread just before sowing	53	3½	8,400	42	40	58½
Muriate of potash, 200 lbs. per acre, spread just before sowing	53	3½	8,400	46	46	59
A mixture of 200 lbs. superphosphate, 100 lbs. of nitrate of soda, 100 lbs. muriate of potash, per acre, half spread before sowing, half when 2 or 3 inches high	53	3½	9,200	55	21	59

DIFFERENT PREPARATIONS FOR A WHEAT CROP.

(All on Plots of 1-20th acre.)

Preparation.	Rusted.	Sown.	Ripe.	Weight of Straw.	Yield per Acre.
				Lbs.	Bush. Lbs.
Wheat after peas	None	May 29	Aug. 23	5,140	52 40
" " roots	"	" 29	" 24	5,080	48 40
" " wheat	"	" 29	" 30	5,100	45 00
" " corn	"	" 29	" 28	4,540	44 20
" " flax	"	" 29	" 23	3,580	43 00
" on summer fallow	Badly	" 29	" 30	4,780	37 00
" sown with shoe drill		April 24	" 30	6,600	40 00
" " disc drill		" 24	" 30	6,300	38 20
" sown 1½ inches deep		" 12	" 30	6,500	45 00
" " 3 "		" 12	" 30	6,080	42 00

FIELD PLOTS OF WHEAT.

Variety.	Character of Soil.	Size of Field	Sown.	Ripe.	Weight per bushel.	Yield per Acre.
					Lbs.	Bush. Lbs.
Preston	Clay loam	10 acres.	April 4	Aug. 21	63	48 12
"	"	6 "	" 4	" 21	63	36 20
Red Fife	"	8 "	" 12	" 30	62	40 45
"	"	11 "	" 12	" 30	62	36 45
Pringle's Champlain	"	5 "	" 7	" 20	63	38 48
Laurel	"	5 "	" 4	" 22	60	37 10

PREVENTIVES OF SMUT IN WHEAT.

As mentioned elsewhere there has been an unfortunate increase throughout the Canadian North-west in the amount of smut in wheat. Only 3 per cent of the 1904 crop was rejected for this cause by the inspectors at Winnipeg, but out of a total of 16,603 cars inspected up to November 1 of this year, 994 or 6 per cent have been rejected. This represents an immense loss to the farmers of this country, nearly all of which could have been avoided by the proper use of such smut preventives as bluestone and formalin.

From information gathered at farmers' meetings I judge that sufficient care is not exercised in the preparation and application of bluestone. Some farmers use cold water to dissolve the drug and do not give it sufficient time to make a complete solution, others fail to thoroughly stir the grain during the time the liquid is applied and a proportion is not moistened.

After formalin has been applied to the grain the heap should be well stirred, then covered with canvas or old bags so as to keep in the fumes.

From the accompanying table it will be noticed that both formalin and bluestone were effectual in preventing smut, whether applied by steeping or sprinkling and in addition the treated seed gave a larger yield in every instance. This agrees with our experience here in former years and I am strongly of the opinion that smut in wheat can always be prevented by the proper use of bluestone or of formalin.

The seed used for this test was very smutty Red Fife; the size of the plots was one-fortieth acre, the soil a sandy loam summer-fallowed. All were sown on April 25 and harvested on September 29.

How Treated.	Good heads in 9 sq. ft.	Smut heads in 9 sq. ft.	Yield per Acre.	
			Bush.	Lbs.
Smutty wheat sprinkled with 9 oz. of formalin to 10 galls. of water	428	00	38	00
Smutty wheat steeped 5 minutes in 4½ oz. of formalin to 10 galls. of water	382	00	37	00
Smutty wheat sprinkled with 1 lb. of bluestone to 1 pail of water	506	00	35	20
Smutty wheat steeped 5 minutes in ½ lb. bluestone to 1 pail of water	522	00	35	00
Smutty wheat not treated	430	61	33	20

A TEST OF SELECTED AND UNSELECTED SEED.

During the past year Dr. Charles Saunders, Cerealist of the Dominion Experimental Farms, made a careful selection of seed from a number of varieties of wheat, with the object of eliminating the yellow skinned kernels and bringing the sample up to a uniform grade and colour. A portion of the grain was sown here in one-twentieth acre plots and adjoining plots of the same size were sown with unselected grain of the same varieties. From the accompanying tables it will be noticed that the selected grain gave the best returns in every instance:—

	Bush.	Lbs.
Preston, selected by Dr. C. Saunders	52	
" unselected, Brandon Experimental Farm	50	20
Percy, selected	43	20
" unselected	35	20
Stanley, selected	42	
" unselected	37	20
Laurel, selected	47	40
" unselected	43	40
White Fife, selected	47	20
" unselected	38	20
Downy Riga, selected	40	
Riga, selected	42	40
Early Riga, unselected	38	

NOTE.—Both the Riga and the Downy Riga were selections from the Early Riga.

ROTATION OF CROPS.

In the spring of 1899 arrangements were made for a series of rotation plots, the principal object being the maintenance of the fertility of the soil by the ploughing under of a leguminous crop every third year instead of the usual summer-fallow.

As the first field selected for this purpose was flooded in 1902 and 1904, it was considered unsuitable, and a new location was selected this year.

The Red Clover was sown at the rate of 12 pounds per acre and mixed clovers in the proportion of 8 pounds of Alfalfa and 6 pounds of Alsike per acre. These leguminous plants were ploughed under when they reached their fullest development.

The order of rotation is as follows:—

1905.	1906.	1907.
1. Pease	Wheat	Wheat.
2. Tares	Wheat	Oats.
3. Red Clover	Wheat	Wheat.
4. Alfalfa and Alsike	Wheat	Barley.
5. Wheat	Wheat	Pease.
6. Wheat	Oats	Tares.
7. Wheat	Wheat	Red Clover.
8. Wheat	Barley	Alfalfa and Alsike.
9. Wheat	Pease	Wheat.
10. Oats	Tares	Wheat.
11. Wheat	Red Clover	Wheat.
12. Barley	Alfalfa and Alsike	Wheat.
13. Wheat	Wheat	Summer-fallow.
14. Wheat	Oats	Summer-fallow.
15. Wheat	Barley	Summer-fallow.
16. Wheat	Wheat	Oats.
17. Wheat	Barley	Oats.

RESULTS OF FIRST YEAR, 1905, ROTATION TESTS.

Name of Variety.	Sown.	Ripe.	Days Maturing.	Length of Straw.	Yield per Acre.	Weight per bushel.
				Inches.	Bush. Lbs.	Lbs
Pease	May 6	Plowed under Aug. 6		48		
Tares	" 6	" " " 6		34		
Red Clover	" 26	" " Sept. 15		26		
Alfalfa and Alsike	" 26	" " " 15		41		
Wheat	" 6	Sept. 1	118	51	35 50	57
Wheat	" 6	" 1	118	51	36 20	57
Wheat	" 6	" 1	118	51	35 00	57
Wheat	" 6	" 1	118	51	33 00	57
Wheat	" 6	" 1	118	51	33 30	57
Oats	" 6	Aug. 29	115	55	105 00	34
Wheat	" 6	Sept. 1	118	52	35 20	58
Barley	" 16	Aug. 27	103	42	40 10	49
Wheat	" 6	Sept. 1	118	54	35 40	58
Wheat	" 6	" 1	118	54	35 10	58
Wheat	" 6	" 1	118	52	38 10	58
Wheat	" 6	" 1	118	50	35 10	58
Wheat	" 6	" 1	118	52	35 50	58

NOTE.—The varieties of grain used in this test were Red Fife wheat, Banner oats, Mensury barley and Pride pease. The size of the plots was one-tenth acre each.

EXPERIMENTS WITH OATS.

Forty-one varieties of oats were tested this year, the crop was a very heavy one. Although nearly every variety was badly lodged early in the season the kernels filled out well and the yield was the largest in the history of this farm. Numerous complaints are heard this year of loss from smut in oats. After several years' trial we have found that smut in this grain can be eradicated by the proper use of formalin.

Since this remedy has been used we have rarely seen a smutty head of oats on the farm.

The Daubeney oat was tried this year for the first time; it is extremely early and promises to prove very useful on land infested with wild oats; if cut on the very first appearance of the head very few wild oats will have matured, and the immature plants will make excellent fodder either green or cured.

The size of the plots in this test of varieties was one-twentieth acre each. The soil was a rich sandy loam, summer-fallowed. Two bushels of seed per acre was used. All were sown on April 27 and 28.

OATS—TEST OF VARIETIES.

Number.	Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Kind of Head.	Weight of Straw.	Yield per Acre.		Weight per Bushel.	Rusted.
				In.		In.		Lbs.	Bush.	Lbs.	Lbs.	
1	Golden Giant	Aug. 31	125	51	Fair	11	Sided	5,900	135	10	34	Consid'ably.
2	Improved American	" 27	122	55	Stiff	9	Branching	7,240	134	4	40	None.
3	Goldfinder	" 29	123	50	Weak	10	½ sided	5,300	132	12	33½	Slightly.
4	Golden Beauty	" 29	123	51	"	9	Branching	5,760	129	14	36	"
5	Golden Fleece	" 29	123	53	"	8	"	6,640	125	10	37	"
6	Banner	" 28	123	55	Stiff	9½	"	5,840	122	12	38	"
7	Bavarian	" 29	123	55	"	8½	"	5,820	121	26	36	Consid'ably.
8	Abundance	" 26	120	54	"	8	"	5,380	121	6	37½	"
9	Pioneer	" 23	117	54	"	9	"	5,600	120	20	40	None.
10	Siberian	" 29	124	54	Weak	10	"	5,660	118	28	36	"
11	Waverley	" 29	124	56	"	8	"	6,060	118	8	37½	Slightly.
12	Golden Tartarian	" 30	124	54	"	11	Sided	5,600	117	22	33	None.
13	Wide Awake	" 29	124	51	Fair	9	Branching	2,460	117	22	38	"
14	White Giant	" 26	120	53	"	10	"	2,720	117	2	35	Badly.
15	Mennonite	" 26	120	55	"	10	"	5,320	111	6	36	"
16	Tartar King	" 23	118	58	Stiff	9	Sided	5,180	115	10	41	None.
17	Black Beauty	" 23	117	50	Weak	12	Branching	3,920	114	4	36	"
18	Scotch Potato	" 29	123	56		9½	"	6,620	114	4	36	Slightly.
19	Holstein Prolific	" 27	121	56		9	"	4,420	114	4	36½	Consid'ably.
20	American Triumph	" 30	125	54	Weak	9	"	2,420	113	18	37	None.
21	Early Golden Prolific	" 28	122	54	"	9	"	5,060	112	32	37	Slightly.
22	Irish Victor	" 28	123	59	Fair	5	"	6,600	112	32	37	None.
23	Buckbee's Illinois	" 27	122	54	Stiff	9	"	6,500	111	26	38	"
24	American Beauty	" 26	120	54	Weak	10	"	5,380	110	..	35	Badly.
25	Lincoln	" 26	121	53	Fair	11	"	5,860	108	28	35	"
26	Kendal White	" 26	120	54	"	10	Sided	5,140	107	22	35	"
27	Joanette	" 27	121	43	Weak	9	Branching	3,960	107	2	35	"
28	Thousand Dollar	" 27	122	52	Fair	8	"	4,800	105	30	39	None.
29	Swedish Select	" 27	122	52	"	8	"	5,340	104	24	38	"
30	Daubeney	" 15	109	47	"	9	"	4,760	104	4	38	Slightly.
31	Danish Island	" 26	121	53	"	10	"	5,760	104	4	37	Consid'ably.
32	Columbus	" 26	120	53	"	9	"	2,390	103	18	35	Badly.
33	Green Russian	" 24	119	53	"	11	"	5,740	100	20	35	Slightly.
34	Sensation	" 28	123	57	"	9	"	5,140	98	28	38	None.
35	Improved Ligowo	" 26	121	56	"	9	"	6,180	97	22	36	Badly.
36	Olive Black	" 30	124	54	"	10	"	5,780	97	22	35	"
37	Storm King	" 26	120	53	Stiff	9	Sided	2,660	96	16	38½	Slightly.
38	Twentieth Century	" 39	124	54	Weak	9	Branching	5,660	95	10	38½	None.
39	Kendal Black	" 30	124	52	"	10	Sided	6,140	92	32	36	Badly.
40	Milford White	" 27	121	54	Fair	9	"	4,820	90	20	36	"
41	Milford Black	" 30	124	52	Weak	11	"	5,000	82	12	36	"

DIFFERENT methods of preparation for an Oat crop. All on plots of 1/20 acre each.

Preparation.	Sown.	Ripe.	Weight of Straw.	Yield per Acre.	
			Lbs.	Bu.	Lbs.
Oats on summer-fallow	April 29	Aug. 30	4,660	115	30
" after corn	" 29	" 23	6,880	106	16
" " roots	" 29	" 18	6,940	71	06

EXPERIMENTS WITH BARLEY.

Since wild oats have spread so much throughout this province, there is an active demand for an early variety of barley that will ripen before the wild oats shell, and by this means assist in eradicating the weed.

The Common six-rowed variety is one of the best for this purpose as it ripens earlier than any other kind grown by us, except the Champion, a beardless variety, unproductive and inferior in quality.

When barley is used for this purpose it should be cut before maturity, otherwise some of the wild oats will have shelled.

Thirty-four varieties of this grain were grown this year, nineteen of which were six-rowed and fifteen two-rowed. The yield was much above the average, but owing to the grain lodging early in the season, most of it was dark in colour.

Among the six-rowed kinds, the Mensury had the stiffest straw. Mansfield, the variety heading the list for yield, has always proved very productive here. It is a cross-bred variety produced on the Central Experimental Farm. This kind has given the highest average yield here for the past six years.

The size of the plots used for this test was one-twentieth of an acre. The soil was sandy loam, summer-fallowed. All were sown on May 17, in the proportion of two bushels of seed per acre.

SIX-ROWED BARLEY—TEST OF VARIETIES.

Number.	Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Weight of Straw.	Yield per Acre.		Weight per Bush.	Rusted.
				In.		In.	Lbs.	Bush.	Lbs.	Lbs.	
1	Mansfield	Aug. 19	94	39	Fair	3	5,180	72	24	51	Slightly.
2	Mensury	" 17	92	43	Stiff	3	5,880	75	20	49½	Considerably.
3	Odessa	" 18	93	37	Weak	3	4,520	68	16	51	Slightly.
4	Argyle	" 20	95	37	"	3	5,880	67	04	49¼	"
5	Rennie's Improved	" 15	90	38	"	2¾	4,300	66	32	50¾	"
6	Albert	" 17	92	38	"	2¾	4,120	66	12	50½	"
7	Oderbruch	" 16	91	35	"	2¾	2,420	65	40	50	"
8	Summit	" 20	95	40	"	3	5,600	64	28	50	Considerably.
9	Stella	" 21	96	37	"	3	5,240	63	36	51	Badly.
10	Yale	" 18	93	43	"	3	4,240	63	36	50¼	Slightly.
11	Blue Long Head	" 23	98	35	Fair	3½	2,640	62	44	42½	Badly.
12	Brome	" 17	92	37	Weak	3½	4,680	62	04	52	Slightly.
13	Nugent	" 17	92	41	"	2¾	4,700	60	20	49	"
14	Common	" 15	90	41	"	2½	3,920	60	..	49	"
15	Claude	" 16	91	35	"	2¼	4,900	58	16	49	"
16	Empire	" 19	94	36	"	3	5,020	55	40	51	Badly.
17	Trooper	" 20	95	32	"	2	5,440	53	16	49½	Considerably.
18	Royal	" 17	92	39	"	3	3,000	50	..	49	Slightly.
19	Champion	" 15	90	43	Fair	3½	5,340	42	44	44	"

TWO-ROWED BARLEY—TEST OF VARIETIES.

Number.	Name of Variety.	Date of Ripening.	No. of days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Weight of Straw.	Yield per Acre.		Weight per Bush.	Rusted.
				In.		In.	Lbs.	Bush.	Lbs.	Lbs.	
1	Gordon	Aug. 22	97	44	Stiff	3	5,640	67	44	50¼	None.
2	Jarvis	" 22	97	44	"	4½	8,200	63	36	50	"
3	Harvey	" 19	94	46	"	4	6,260	63	16	50	Slightly.
4	French Chevalier	" 23	98	42	Weak	4	5,380	62	04	49½	"
5	Danish Chevalier	" 23	98	42	"	4	4,780	60	40	50	"
6	Standwell	" 22	97	44	"	3½	4,340	59	28	50	"
7	Canadian Thorpe	" 23	98	42	Fair	3	4,640	56	32	49	Badly.
8	Beaver	" 22	97	46	"	3½	4,680	54	28	48	Slightly.
9	Clifford	" 23	98	48	Stiff	3½	6,000	54	08	50¼	None.
10	Dunham	" 22	97	49	Weak	3½	4,620	53	36	49	Slightly.
11	Swedish Chevalier	" 25	100	41	Fair	4	6,920	53	36	52	"
12	Invincible	" 22	97	47	Weak	3	4,920	53	36	49	"
13	Newton	" 23	98	44	"	4	3,700	53	16	50½	"
14	Logan	" 22	97	44	Fair	4	5,760	52	44	49½	"
15	Sidney	" 22	97	44	"	4	5,980	48	16	50½	Badly.

DIFFERENT METHODS OF PREPARATION FOR A BARLEY CROP.

Preparation.	Sown.	Ripe.	Weight of Straw per Acre.	Yield per Acre.	
			Lbs.	Bush.	Lbs.
Barley after roots	May 16	Aug. 18	4,380	71	12
Barley after corn	" 16	" 18	4,380	65	..
Barley on summer-fallow	" 16	" 19	4,500	58	16

EXPERIMENTS WITH PEASE.

Owing to the attacks of Cutworms, the yield of pease on the uniform plots was slightly below the average, but the quality and weight were excellent. As a rule the pea crops on this farm do not suffer from the attacks of Cutworms, but last fall the land set apart for pease was flooded and a considerable quantity of stubble and other rubbish collected on it. This evidently proved good winter protection for the young Cutworms, and they commenced their destructive work just as soon as the pease appeared above the ground.

For the first time a trial was made of sowing pease with the newly introduced double disc drill. The seed was distributed more evenly than with either the Shoe or Hoe drill, and it was possible to plant the seed four inches deep even in hard summer-fallow, with the result that germination was remarkably even and vigorous.

In addition to the uniform plots of pease several acres of field pease were grown. These larger fields were free from rubbish in the fall, and the crop was not in the least injured by Cutworms.

The small plots were cut with a scythe, but the pea harvester attached to a mower was used for cutting the larger fields. When the pease were ripe and the straw perfectly dry, the harvester worked very satisfactorily.

The bulk plots of pease were threshed with the regular grain separator, but many of the pease were cracked, and I would not recommend this plan when the grain is wanted for seed purposes.

Thirty varieties of pease were on trial this year. The soil was a clay loam summer-fallowed. The size of the plots was one-twentieth acre. All were sown on April 19 and 20, in the proportion of two bushels of seed per acre for the small kinds, and three bushels for the larger pease.

PEASE—TEST OF VARIETIES.

Number.	Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Length of Pod.	Size of Pea.	Yield per Acre.		Weight per Bushel.
				In.	In.		Bus.	Lbs.	Lbs.
1	Early Britain	Sept. 10	144	54	3	Large	51	40	62
2	Mackay	" 16	150	64	2½	Medium	45	40	62⅔
3	Prince	" 18	152	70	3	"	45	..	61½
4	White Wonder	" 10	143	56	2¼	Small	44	20	63
5	Gregory	" 17	151	64	3	Large	44	..	64½
6	Prussian Blue	" 6	139	67	2½	Medium	42	..	60½
7	Wisconsin Blue	" 11	144	63	3	"	41	40	64½
8	Chancellor	Aug. 30	132	52	2	Small	41	40	64
9	English Gray	Sept. 8	142	52	2½	Medium	41	20	61½
10	Golden Vine	" 9	142	55	2	Small	40	40	63
11	Arthur	" 12	145	54	2½	"	40	20	64
12	Pearl	" 19	153	54	.....	Medium	40	20	63
13	German White	" 10	143	64	2½	"	40	..	65
14	Mummy	" 11	144	54	2	Small	38	40	64⅓
15	Black Eye Marrowfat	" 9	143	52	4	Large	38	20	62½
16	Kent	" 18	152	82	3	"	38	..	61
17	White Marrowfat	" 7	141	52	4	"	38	..	63
18	Duke	" 20	153	74	3½	"	37	40	62½
19	Picton	" 6	139	65	2¼	Small	37	40	63
20	Agnes	" 14	148	74	3	Medium	37	..	62⅔
21	Paragon	" 12	146	56	2½	"	36	40	63½
22	Victoria	" 10	144	56	3	"	36	20	64½
23	Pride	" 17	150	64	2½	"	36	20	62½
24	Daniel O'Rourke	" 10	143	64	3	Small	35	40	63
25	Prince Albert	" 20	153	53	2½	"	33	20	63⅓
26	Carleton	" 19	152	58	2½	Medium	30	40	64
27	Archer	" 19	152	68	2½	"	31	20	64
28	Nelson	" 7	141	54	2	"	31	..	62⅔
29	Crown	" 6	139	54	2	Small	29	20	64
30	Macoun	" 8	142	67	3	Large	29	50	63½

DIFFERENT METHODS OF PREPARATION FOR A PEA CROP.

ALL ON PLOTS $\frac{1}{20}$ ACRE.

Preparation.	Sown.	Ripe.	Yield per Acre.	
			Bus.	Lbs.
Peas on summer-fallow	April 29	Sept. 3	44	40
" after flax	" 29	" 3	43	..
" " corn	" 29	" 3	42	20
" " roots	" 29	" 3	40	..

PEASE AND OATS MIXED.

Proportion of seed used.	——	Yield per Acre lbs.
Banner oats, 2 pecks Pride peas, 8 pecks per acre..	Sown April 27, Harvested Sept. 1.....	3,960
" " 3 " " " 8 " " " ..	" 1.....	3,820
" " 1 " " " 8 " " " ..	" 1.....	3,600

EXPERIMENTS WITH FLAX.

The abundant rainfall of the past season has been favourable for flax, and the yield of both grain and straw is above the average.

The soil selected for this test was a rich black loam, summer-fallowed. These plots were all one-fortieth acre each, and the seed was sown in the proportion of 40 lbs. per acre.

FLAX—TEST OF VARIETIES.

Varieties.	Date of Sowing.	Date of Ripening.	Length of Straw.	Weight of Straw.	Yield per Acre.		Weight per Bushel.
			Inches.	Lbs.	Bus.	Lbs.	Lbs.
Russian	May 21..	Sept. 1..	29	2,600	30	40	55
Improved Russian	" 21..	" 4..	39	3,440	30	..	55
St. Petersburg	" 21..	" 4..	34	4,680	29	36	55½
Novarossick	" 21..	" 2..	29	2,440	29	16	55
La Plata	" 21..	" 9..	32	2,640	27	48	55
Common	" 21..	" 4..	35	3,720	27	8	55½
Bombay	" 21..	" 1..	39	3,440	25	40	54⅔
White Flowering	" 21..	" 9..	26	2,720	24	16	55½
Yellow Seeded	" 21..	Aug. 29..	31	3,520	20	40	54
Riga	" 21..	Sept. 1..	31	2,360	20	..	55

MIXED GRAIN CROPS.

Proportion of Seed used.	Sown.	Harvested.	Yield per Acre.
			Lbs.
Goose wheat ⅓, Banner oats ⅓, Mensury barley ⅓	April 27....	Sept. 1.....	3,540
" ⅓, " ⅓, Pride pease ⅓	" 27....	" 1.....	3,460
Mensury barley ⅓, Banner oats ⅓, Pride pease ⅓	" 27....	" 1.....	3,620

THE SALE OF SEED GRAIN TO FARMERS.

For many years past much of the surplus grain on this farm has been sold to settlers in Manitoba for seed purposes. Wishing to know how this grain compared with that usually grown by farmers, and whether the product from it was still being used for seed purposes, a circular containing the following questions was sent out to as many of the purchasers as possible:—

1. How did the grain compare with that usually sown by you?
2. Was it productive?
3. Have you disposed of any grain, produced from it for seed purposes?
4. Have you taken any prizes at the fairs with it?
5. Do you still use the product of this grain for seed purposes?
6. If so, is it still of good quality?
7. Have you any suggestions to make regarding the sale of seed grain by the Experimental Farm?
8. Remarks.

Eighty-two replies were received, of these 75 were favourable, and only 7 unfavourable, the following are extracts from a few of the replies received:—

The Red Fife wheat I purchased from your Farm in 1898 was practically pure, therefore better than my own, and it is still the best wheat around here. I can count eleven, at least, who have been supplied with seed from the product of this lot of wheat. Your institution is proving very useful in supplying seed grain.

WM. GUILD, Kemnay, Man.

I procured four bushels of splendid Red Fife wheat from you in 1899 and I consider it as good to-day as when I got it from you. I have supplied a number of others with seed, and took the first prize at the fall fair this year. I consider the Experimental Farm the best place to secure pure seed grain.

A. WEST, Plumas, Man.

I consider it of great value to the country that reliable seed can be purchased at the Experimental Farm.

D. W. MCCUAIG,
Pres. Grain Growers' Assoc., Portage la Prairie, Man.

I am much pleased with the seed grain I have purchased from the Experimental Farm, and I have gained many prizes both in the old country and America with grain grown from the seed you supplied me.

WM. STEVENS, Virden, Man.

The five bushels of Banner oats I purchased from the Experimental Farm in 1899 was superior to any I ever had, it was very productive. I have supplied seed from it to farmers living all along the Canadian Pacific Railway between Stockton and Winnipeg. I think it is the only way for farmers of Manitoba to get pure, reliable seed, and I am very grateful to you for your kindness in selling it to me.

J. CASLICK, Glenboro, Man.

I got four bushels of Banner oats. They proved to be the best oats I have ever grown. I have supplied seed to a number of my neighbours. I also got six bushels of Red Fife wheat. I am still growing the same wheat and find it all right.

JAS. MILNE, Oak Lake, Man.

The two bushels of Banner oats I purchased from your Farm in 1895 was a very much better yielding strain than any I ever had, they gave a return of 880 bushels from ten acres of summer-fallow. I have supplied seed from this lot to farmers all over this district for twenty miles or more.

I got five bushels of Red Fife from you in 1899, it yielded better than any of my own grain. I have disposed of a great deal for seed purposes to other farmers. I have taken both a first and second prize with it at our fair.

W. R. Collis, Shoal Lake, Man.

I obtained 5 bushels of Odessa barley from your farm in 1899, I find it much better than the common barley. I sell all I can spare for seed purposes, 500 bushels were sold for this purpose last year.

D. B. Gunn, Louis Bridge, Man.

I purchased four bushels of Red Fife wheat from your Experimental Farm in 1894 and I think it is the best wheat I ever had. I believe the Experimental Farm is the proper place to buy pure seed.

B. C. Craig, Newdale, Man.

In 1899 I purchased five bushels of Red Fife from the Experimental Farm, it has given the best yield and best sample of any wheat I ever had. I have supplied seed to neighbouring farms every year.

G. H. Underhill, Rapid City, Man.

EXPERIMENTS WITH INDIAN CORN.

This crop was considerably above the average in weight, and the ears were in the late milk stage when cut.

In addition to the plots sown for experimental purposes, about ten acres were sown for ensilage and fodder purposes.

The seed was sown on May 19 in rows 30 inches apart. The crop was cut on September 4. The soil was a sandy loam, summer-fallowed. Twenty-two varieties were sown and the yield per acre has been calculated from the weight obtained from two rows, each 66 feet long.

Corn—Test of Varieties.

Number.	Name of Variety.	Character of Growth.	Height.	Leafiness.	When Tasselled.	Condition when Cut.	Weight per acre grown in rows.		Weight per acre grown in hills.	
			In.				Tons.	Lbs.	Tons.	Lbs.
1	Longfellow	Rank	100	Leafy	Aug. 15	Late milk.	29	80	29	80
2	Angel of Midnight	Fair	112	"	" 12	"	25	1,744	21	240
3	Compton's Early	"	108	Very leafy	" 10	"	25	160	17	320
4	Compton's Early (Canadian seed)	"	110	"	" 10	"	24	48	23	1,520
5	Eureka	V. rank	115	Fairly leafy.	" 18	Early milk	23	1,520	20	920
6	Superior Fodder	Fair	114	"	" 18	"	23	464	19	1,600
7	Pride of the North	Rank	112	Very leafy	" 25	"	23	200	17	1,640
8	Early Butter	"	116	"	" 10	Late milk.	22	1,408	15	1,944
9	North Dakota White	Fair	102	"	" 15	"	22	880	19	280
10	Northern Dent	Rank	118	Fairly leafy.	" 12	"	21	1,560	21	768
11	Salzer's All Gold	"	116	"	" 21	Early milk	21	240	21	504
12	Red Cob Ensilage	Fair	114	"	" 24	In tassel	19	1,600	16	736
13	Thoroughbred White Flint	Rank	106	Very leafy	" 18	Early milk	19	808	18	960
14	Selected Leaming	Fair	104	Few leaves	" 17	"	19	280	14	512
15	King Philip	"	106	Very leafy	" 11	Late milk.	18	960	18	960
16	Early Mastodon	Rank	120	Fairly leafy.	" 11	"	15	1,680	10	1,120
17	Giant Prolific Ensilage	"	118	Few leaves	" 27	In silk	15	1,680	13	400
18	White Cap Yellow Dent	Fair	109	"	" 10	Late milk.	13	1,720	16	1,000
19	Champion White Pearl	Rank	115	Fairly leafy.	" 21	Early milk	13	1,720	9	1,800
20	Cloud's Early Yellow	Fair	111	Few leaves	" 18	Late milk.	13	1,720	9	1,008
21	Mammoth Cuban	Rank	114	"	" 11	"	11	1,760	9	480
22	Evergreen Sugar	Fair	102	Fairly leafy.	" 17	Early milk	11	1,760	9	1,800

INDIAN CORN SOWN AT DIFFERENT DISTANCES APART.

Name of Variety.	Distance apart.	Height.	Condition when cut.	Weight per Acre, cut green.	
	Inches.	Inches.		Tons.	Lbs.
Champion White Pearl	24	120	Early milk	21	1,560
" "	30	132	"	23	1,520
" "	36	130	"	23	200
" "	42	128	"	21	240
Longfellow	24	103	Late milk	24	840
"	30	103	"	23	992
"	36	104	"	23	1,520
"	42	109	"	26	120
Selected Leaming	24	110	Early milk	17	320
"	30	118	"	26	800
"	36	118	"	26	800
"	42	124	"	27	1,440

Average Yield at different distances apart.	Tons.	Lbs.
Average yield of green corn 24 inches apart	21	240
" " 30 "	24	1,104
" " 36 "	24	840
" " 42 "	24	1,933

EXPERIMENTS WITH FIELD ROOTS.

All kinds of field roots have given above the average yield and the quality is excellent.

As usual two sowings were made of each kind, two weeks intervening between each sowing. Previous to this year all escaped injury from spring frosts and the average gain for five years from early sowing was in the case of turnips, 6 tons 1,515 lbs.; mangels, 2 tons 1,164 lbs.; and carrots, 3 tons 1,090 lbs. per acre.

This year, for the first time, the young mangel seedlings were slightly injured from the two light frosts of June 9 and 21. This did not, however, materially injure the crop and the yields from the early sowings are much the largest.

I am pleased to notice an increased interest taken in the growing of root crops throughout the province. Providing the seeding is done early, large returns can be obtained in nearly all parts of the country with comparatively little labour.

EXPERIMENTS WITH TURNIPS.

Twenty varieties of turnips were grown on the uniform plots this year. The season was a favourable one and the returns large. For the first time in the history of the farm the leaves were attacked by a fungus growth similar to rust. This was first noticed early in July and in a few days the leaves had a very rusty appearance, but with warmer weather it disappeared without apparently injuring the roots.

The soil was a sandy loam fertilized in the fall of 1904 with ten loads per acre of well rotted barnyard manure. The previous crop was mangels.

As usual two sowings were made. In every instance the early sown plots gave the largest returns.

The first plots were sown on May 20, and the second on June 3. The roots from both were pulled on October 4. The estimate of yield has been made from the produce of two rows, each 66 feet long.

TURNIPS—TEST OF VARIETIES.

Number.	Name of Variety.	Yield per Acre. 1st Plot.		Yield per Acre. 1st Plot.		Yield per Acre. 2nd Plot.		Yield per Acre. 2nd Plot.	
		Tons.	Lbs.	Bush.	Lbs.	Tons.	Lbs.	Bush.	Lbs.
1	Bangholm Selected	33	792	1,113	12	29	80	968	..
2	Sutton's Champion	30	1,248	1,020	48	17	584	576	24
3	Carter's Elephant	30	984	1,016	24	20	656	677	36
4	Imperial Swede	30	456	1,007	36	26	1,328	888	48
5	New Century	30	192	1,003	12	18	432	607	12
6	Hartley's Bronze	29	1,928	998	48	24	1,896	831	36
7	Good Luck	29	1,400	930	..	24	48	800	48
8	Perfection Swede	29	872	981	12	19	1,864	664	24
9	Elephant's Master	29	344	972	24	22	1,672	761	12
10	Emperor Swede	29	80	968	..	19	1,336	655	36
11	Hall's Westbury	27	1,440	924	..	27	1,176	919	36
12	Halewood's Bronze Top	27	912	915	12	24	1,104	818	24
13	Mammoth Clyde	26	1,328	888	48	22	88	734	48
14	Drummond Purple Top	26	536	875	36	21	768	712	48
15	Magnum Bonum	26	8	866	48	21	1,032	717	12
16	Skirvings	25	1,744	862	24	22	1,672	761	12
17	Jumbo	25	688	844	48	19	808	646	48
18	East Lothian	25	160	836	..	20	1,184	686	24
19	Selected Purple Top	24	48	800	48	21	504	708	24
20	Kangaroo	18	1,224	620	24	16	1,528	558	48

EXPERIMENTS WITH MANGELS.

We find that mangels are relished by nearly all kinds of farm animals, cattle, swine and even chickens eat them readily. Unlike turnips they do not injure the quality of milk and its products.

As mangel seed is large and somewhat slow to germinate, the soil should be mellow and moist and the seed sown from two to three inches deep.

The roots are susceptible to injury from fall frosts, for which reason the crop should be pulled before the weather becomes severe.

Seventeen varieties of mangels have been on trial at the Experimental Farm this year. The yield was above the average and all were saved without injury.

The soil used for this crop was a black loam fertilized in the fall of 1904 with ten loads per acre of well rotted stable manure. The previous crop was turnips. The first sowing was made on May 20 and the second on June 3. All were pulled on October 4.

The estimate of yield has been made from the product of two rows 66 feet long.

MANGELS—TEST OF VARIETIES.

Number.	Name of Variety.	Yield per Acre. — 1st Plot.		Yield per Acre. — 1st Plot.		Yield per Acre. — 2nd Plot.		Yield per Acre. — 2nd Plot.	
		Tons.	Lbs.	Bush.	Lbs.	Tons.	Lbs.	Bush.	Lbs.
1	Prize Mammoth Long Red	42	744	1,412	24	23	1,520	792	..
2	Ideal	39	144	1,302	24	22	88	734	48
3	Selected Mammoth Long Red	38	1,880	1,298	..	23	992	783	12
4	Mammoth Long Red	38	560	1,276	..	24	840	814	..
5	Yellow Intermediate	37	976	1,249	36	24	48	800	48
6	Prize Winner Yellow Globe	36	192	1,223	12	27	1,440	924	..
7	Lion Yellow Intermediate	35	224	1,170	24	27	384	906	24
8	Half Long Sugar Rosy	34	640	1,144	..	23	464	774	24
9	Gate Post	33	1,848	1,130	48	26	800	880	..
10	Triumph Yellow Globe	33	792	1,113	12	27	1,176	919	36
11	Giant Yellow Globe	33	..	1,100	..	14	512	475	12
12	Selected Yellow Globe	32	944	1,082	24	24	840	814	..
13	Mammoth Yellow Intermediate	31	40	1,034	..	24	312	805	12
14	Giant Yellow Intermediate	30	720	1,012	..	29	80	968	..
15	Half Long Sugar White	30	720	1,012	..	29	872	981	12
16	Leviathan Long Red	29	1,136	985	36	24	312	805	12
17	Giant Sugar	29	80	968	..	25	160	836	..

EXPERIMENTS WITH CARROTS.

More than an average yield of carrots was obtained this year. This root so much relished by horses has given largely increased returns here since we have practised deep ploughing. This appears to encourage a large development of root.

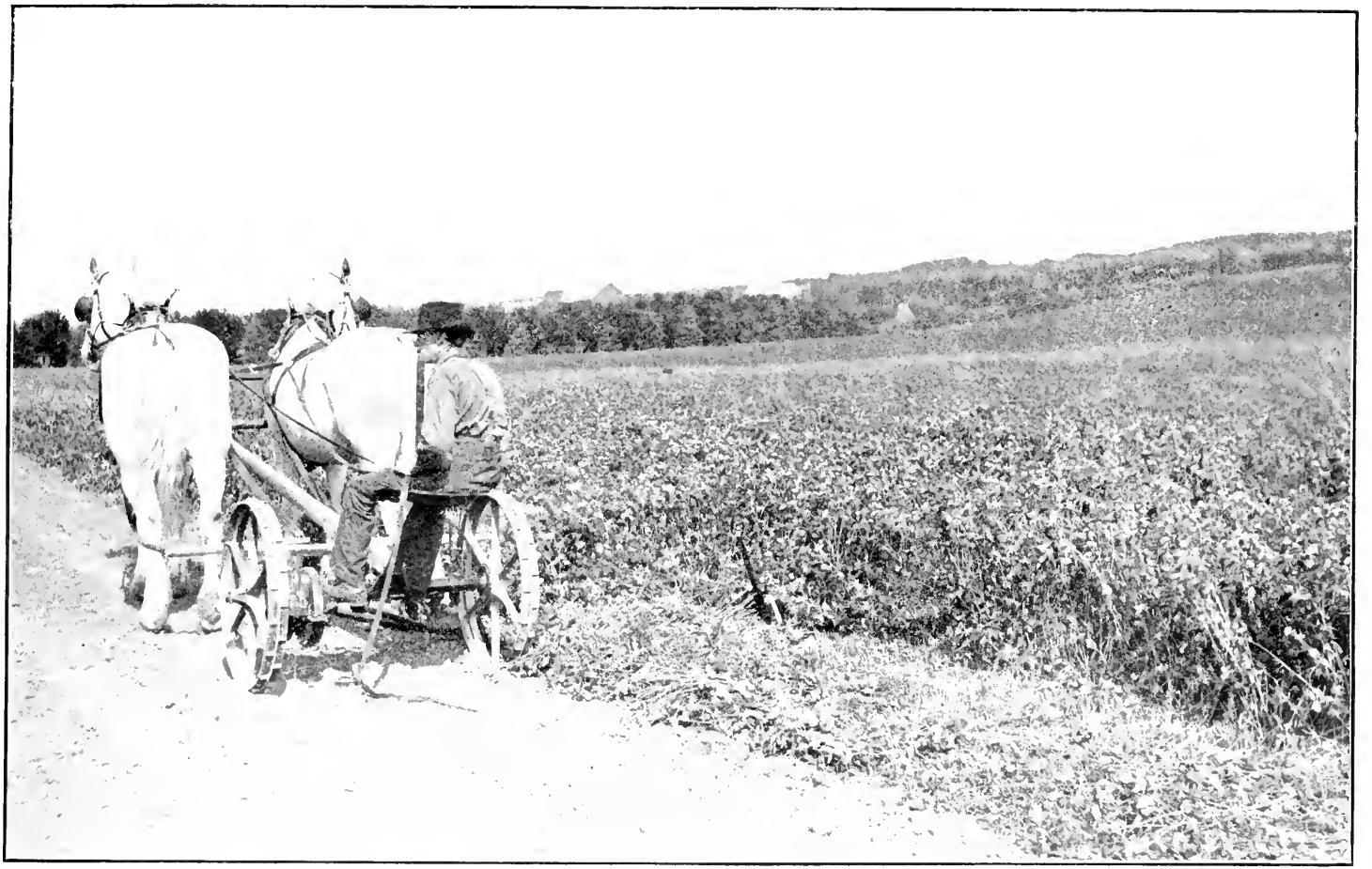
Eleven varieties were tested. The first sowing was made on May 20 and the second on June 3. All were harvested on October 4.

The soil was a black sandy loam, fertilized in the fall of 1904 with ten loads of well rotted manure per acre.

With one exception the early sown plots gave the largest yield. The yield has been calculated from the product of two rows each 66 feet long.

CARROTS—TEST OF VARIETIES.

Number.	Name of Variety.	Yield per Acre. — 1st Plot.		Yield per Acre. — 1st Plot.		Yield per Acre. — 2nd Plot.		Yield per Acre. — 2nd Plot.	
		Tons.	Lbs.	Bush.	Lbs.	Tons.	Lbs.	Bush.	Lbs.
1	Improved Short White	32	1,120	1,085	20	21	680	711	20
2	Giant White Vosges	31	1,360	1,056	..	22	1,320	755	20
3	Mammoth White Intermediate	27	1,880	931	20	17	320	572	..
4	New White Intermediate	27	120	902	..	23	1,960	799	20
5	Ontario Champion	26	1,240	887	20	21	1,120	718	40
6	Kos Kirches	26	360	872	40	17	1,200	586	40
7	Carter's Orange Giant	25	600	843	20	15	360	506	..
8	Early Gem	23	1,080	784	40	20	920	682	..
9	White Belgian	21	1,560	726	..	20	40	667	20
10	Long Yellow Stump Rooted	19	720	645	20	17	1,640	594	..
11	Half Long Chantenay	10	1,120	352	..	14	1,920	498	40



Common Red Clover, grown at the Experimental Farm, Brandon, Man.

EXPERIMENTS WITH SUGAR BEETS.

Eight varieties of these roots were tested this year, of these only three are recommended for use in the manufacture of sugar, viz., Vilmorin's Improved, Wanzleben and French Very Rich. All the varieties are, however, particularly useful as food for stock. We find young animals relish them better than either mangels or turnips.

The yield on this farm was very much above the average, but the three true sugar beets which were tested by Mr. F. T. Shutt, Chemist of the Dominion Experimental Farms, Ottawa, were not as rich in sugar as usual.

The first plots were sown on May 20 and the second on June 3. The early sown plots gave the largest returns in every instance. All were harvested on October 4.

The estimate of yield has been made from the product of two rows, each 66 feet long. The soil was a black sandy loam fertilized with ten loads of well rotted manure per acre. The previous crop was potatoes.

SUGAR BEETS—TEST OF VARIETIES.

Number.	Name of Variety.	Yield per Acre. — 1st Plot.		Yield per Acre. — 1st Plot.		Yield per Acre. — 2nd Plot.		Yield per Acre. — 2nd Plot.	
		Tons.	Lbs.	Bush.	Lbs.	Tons.	Lbs.	Bush.	Lbs.
1	Red Top Sugar	52	544	1,742	24	27	120	902	..
2	Danish Red Top	46	400	1,540	..	31	40	1,034	..
3	Royal Giant	33	528	1,108	48	25	952	849	12
4	Improved Imperial	33	..	1,100	..	23	1,520	792	..
5	Wanzleben	32	680	1,078	..	18	960	616	.
6	Danish Improved	28	1,024	950	24	26	800	880	.
7	Vilmorin's Improved	24	576	809	36	15	360	506	..
8	French Very Rich	21	240	704	..	16	1,000	550	..

EXPERIMENTS WITH POTATOES.

This useful vegetable has again given a large return. Some of the tubers were not so smooth as usual, but the quality was excellent.

The potatoes followed a crop of field roots; this plan gives an excellent yield with very little labour in weeding.

The soil received a light coat of well rotted barnyard manure in the fall, which was ploughed under and well rolled before winter set in.

Dreer's Standard, the variety heading the list this year, was third in productiveness on this farm in 1904. It is white in colour and of good quality, but it is rather late for this country. Canadian Beauty, the fifth on the list, is much earlier, nearly as productive and the colour is generally more acceptable to Canadian consumers.

As usual the very early kinds were not as productive as the later ones.

Forty-nine varieties were tested this year, there was no injury whatever from rot or from the attacks of the Colorado Beetle.

The soil selected was a sandy loam. All the varieties were planted on May 16 in rows three feet apart and dug on October 2. The yield has been estimated in each case from the product of one row 66 feet long.

Number.	Name of Variety.	Character of Growth.	When Matured.	Average Size.	Total yield per Acre.		Yield per Acre of Marketable.		Yield per Acre of Unmarketable.		Form and Colour.
					Bu.	Lbs.	Bu.	Lbs.	Bu.	Lbs.	
1	Dreer's Standard	V. rank.	Sept. 5.	V. large	887	20	858	..	29	20	White F. oval.
2	American Wonder	"	" 3	"	799	20	729	40	69	40	" long.
3	Country Gentleman	Fair	Aug. 28.	"	788	20	711	20	77	..	Pink long.
4	Uncle Sam	Rank	Not ripe.	"	762	40	689	20	73	20	White flat.
5	Canadian Beauty	Fair	Sept. 5.	M. to L.	759	00	682	00	77	00	Light pink, long.
6	State of Maine	V. rank.	Not ripe.	V. large	755	20	718	40	36	40	Wh. flat, oval.
7	Sabeans Elephant	"	Aug. 29.	"	744	20	696	40	47	40	White, long.
8	Morgan's Seedling	"	Not ripe.	"	729	40	700	20	29	20	Pink, long.
9	Reeve's Rose	"	Sept. 2.	"	726	00	667	20	58	40	Light pink, oval.
10	Enormous	"	" 3.	Med.	722	20	630	40	91	40	White, round.
11	Moneymaker	Fair	" 1.	Large	718	40	649	00	69	40	" kidney.
12	Empire State	Rank	" 2.	Med.	704	00	638	00	66	00	" long.
13	Holborn Abundance	V. rank.	Not ripe.	Large	700	20	663	40	36	40	" round.
14	Rose No. 9	"	Sept. 11	" ..	696	40	649	00	47	40	Pink, long, flat.
15	Maule's Thorobred	Fair	" 3.	" ..	689	20	630	40	58	40	" "
16	Delaware	Rank	" 2.	" ..	689	20	630	40	58	40	White, long.
17	Pearee	Fair	Aug. 28.	" ..	685	40	649	00	36	40	Pink, round.
18	Rose No. 9 White	Rank	Sept. 5.	Large	685	40	667	20	18	20	Mixed, round.
19	Early St. George	Fair	Aug. 27.	Med.	678	20	586	40	91	40	Pink, long.
20	Dalmeney Hero	V. rank.	Not ripe.	Large	671	00	638	00	33	00	White, oval.
21	Penn Manor	Fair	Aug. 27.	" .	663	40	597	40	66	00	D. pink, long, oval
22	Burnaby's Seedling	"	" 24.	" ..	656	20	583	00	73	20	Pink, oval.
23	Swiss Snowflake	V. rank.	Not ripe.	Med	656	20	623	20	33	60	White, irregular.
24	Late Puritan	"	Sept. 1.	Large	652	40	594	00	58	40	Wh. round, long.
25	American Giant	"	" 1.	M. to L.	638	00	579	20	58	40	Wh. oval.
26	Vermont Gold Coin	"	Not ripe.	V. large	623	20	568	20	55	00	Wh. round.
27	Cambridge Russet	Fair	Sept. 1.	"	605	00	553	40	51	20	Russet, long.
28	Carman No. 3	"	" 5	Med.	605	00	568	20	36	40	Wh. long.
29	Early White Prize	Weak	Aug. 23.	Large	586	40	524	20	62	20	Lt. pink, oval.
30	Early Envoy	Fair	" 25.	" ..	575	40	495	00	80	40	Pink, round.
31	Irish Cobbler	"	" 23.	M. to L.	575	40	562	20	73	20	Wh. flat.
32	Vick's Extra Early	Rank	Sept. 1.	V. large	568	20	520	40	47	40	Wh. pink, flat.
33	Carman No. 1	"	" 11.	"	564	40	509	40	55	00	White, flat.
34	J. X. L.	"	" 1.	M. to L.	561	00	524	20	36	40	Pink, long.
35	Early Rose	Weak	Aug. 22.	Med.	553	40	458	20	95	20	Pink, round.
36	Bovee	"	" 22.	Large	542	40	476	40	66	00	" long.
37	Dalmeney Kidney	V. rank.	Not ripe.	V. large	535	20	506	00	29	20	White, oval.
38	Everett	Weak	Aug. 22.	Large	531	40	462	00	69	40	Pink, long.
39	Seedling No. 7	Rank	Sept. 5	" ..	520	40	484	00	36	40	D., red.
40	British Queen	"	Not ripe.	" ..	484	00	432	40	51	20	Wh., oval.
41	Early Elkinah	Fair	Aug. 29	" ..	469	20	425	20	44	00	Pink, kidney.
42	Early Andes	"	" 22.	Med.	454	40	388	40	66	00	White, round.
43	Extra Early Eureka	Rank	Sept. 11.	"	432	40	377	40	55	00	Pink, kidney.
44	Dooley	"	" 12.	V. large	403	20	374	00	29	20	White, round.
45	Rawdon Rose	Weak	Aug. 22	Large	381	20	319	00	62	20	Light, pink, oval.
46	Pingree	"	" 21.	Med.	348	20	300	40	47	40	White, oval.
47	Admiral Dewey	"	" 28.	"	326	20	278	40	47	40	" long.
48	Rochester Rose	"	" 23.	" ..	308	00	216	20	91	40	Light, pink, long.
49	Naught Six	Fair	Sept. 1.	Large	291	00	227	20	69	40	White, round.

EXPERIMENTS WITH GRASSES.

Owing to abundant rains the yield of grasses and pasture has been good in all parts of this province. It was, however, somewhat difficult to cure owing to heavy growth and frequent showers. Where the crop is heavy the use of a hay tedder is a great advantage, by its use the hay can be cured quicker and much more uniformly.

While Timothy and Western Rye grass can be cured in the bunch or cock, Brome grass requires to be thoroughly cured before being cocked, otherwise it turns dark in colour and is very dusty.

Variety.	Sown.	Height.	Seed per Acre.	Yield of Hay per Acre.	
		Inch.	Lbs.	Tons.	Lbs.
Timothy	1902	44	9	2	200
"	1903	47	9	2	1,000
Bald Wheat grass *(Elymus Virginicus)*	1903	53	12	2	200
Western Rye grass *(A. tenerum)*	1902	48	11	2	100
Western Rye grass *(A. tenerum)*	1903	47	11	2	1,000
Austrian Brome *(Bromus inermis)*	1902	60	12	2	1,400
Austrian Brome *(Bromus inermis)*	1903	47	12	3	1,900
Red Top *(Agrostis vulgaris)*	1902	38	15	2	600
Hard Fescue *(Festuca duriuscula)*	1900	35	15	2	1,000

EXPERIMENTS WITH CLOVERS.

The fall of snow was light last winter, but all kinds of clover wintered well, both new and old fields giving fair returns.

From several years' observation I am of the opinion that most of the failures with clover can be traced either to the use of a nurse crop of grain the first year, where the grain is allowed to ripen, or to close pasturing in the autumn. We have found that clover invariably winter kills if pastured late in the fall, enough growth should be left to catch the snow, which is one of the very best protectors.

ONE ACRE PLOTS OF CLOVER.

The three plots of clover sown in 1904 produced a luxuriant crop which was a constant source of attraction to visiting farmers all summer. The seed was sown on June 1, 1904, on summer-fallowed land with half a bushel of barley per acre; this was cut while green and removed from the ground, the clover then grew rapidly and before winter all three kinds had fully occupied the ground. The accompanying tables give the yield per acre. The alsike clover was only cut once as the aftermath was light.

Varieties.	Height.	Condition When Cut.	Yield of Hay per Acre.		Total Yield per Acre.	
	Inch.		Tons.	Lbs.	Tons.	Lbs.
Common Red, first cutting	43	Full bloom	2	395	.....	
" second cutting	12	"	1	468	3	863
Alfalfa, first cutting	50	$\frac{1}{10}$ in bloom	1	1,348	.....	
" second cutting	24	$\frac{1}{10}$ "	1	552	2	1,900
Alsike	37	Full bloom	2	518	2	518

The following table gives the yield and other particulars regarding the one-twentieth acre plots of clover, all were sown in spring on ploughed stubble without a nurse crop and the weeds and volunteer crop of grain was kept cut during the first

summer. The plot of mixed timothy and alsike was very luxuriant, evidently this is a mixture well adapted to this section of country:—

Variety.	Sown.	Height.	Stage when Cut.	Yield of Hay per Acre.	
		Inch.		Tons.	Lbs.
Alfalfa, first cutting	1902	56	$\frac{1}{10}$ in bloom	2	800
" second cutting	1902	24	$\frac{1}{10}$ "	1	700
Total weight of two cuttings				3	1,500
Alfalfa, first cutting	1903	49	$\frac{1}{10}$ "	2	1,100
" second cutting	1903	24	$\frac{1}{10}$ "	1	100
Total weight of two cuttings				3	1,200
Alsike and Timothy	1903	37 to 44	Fully in bloom	3	200
Common Red Clover	1902	40	"	2	1,000

Several acres of clover were sown during May of this year, along with a light seeding of oats, with the intention of cutting the grain in a very early stage, but growth was unusually rank and the oats lodged before they could be harvested, and a large proportion of the clover plants were smothered. This land has been left in stubble and the condition of the clover will be noted next spring.

CLOVER ON LIGHT GRAVELLY UPLAND.

In May this year a number of plots of light upland soil were sown to alfalfa and common red clover, both with and without a nurse crop of grain. There was a good catch on all the plots, but the growth of clover was much weaker where a nurse crop was used. None of the clover on these plots was mown or pastured, but was left to hold the snow during the winter.

EXPERIMENTS WITH MILLETS.

Seven varieties of this useful family of plants were grown, they represented nearly all the leading types, and as usual they attracted much attention from visiting farmers.

Although it is advisable to have specimen plots here of all the leading varieties, there are actually only three kinds suitable for this country, viz., Hungarian, Common and Green Californian, the other four varieties are all too coarse for general use. Common Millet is the only one that has matured seed here, the others have always been caught by fall frost before maturity.

Millet is not a safe food for horses when fed in large quantities, but we have had excellent results from feeding one sheaf per day to each horse during the winter months. As soon as the head is formed the crop is cut and bound loosely, in small sheaves, with the grain binder, this is well cured in the stook, and stacked outside until required.

This year all the varieties were grown on summer-fallowed land, the soil was a rich black sandy loam; the size of the plots for this test was one-fortieth acre. All were sown on May 27 and cut on September 1.

Variety.	Description.	Height.	Stage when Cut.	Yield of Hay per Acre.	
		Inches.		Tons.	Lbs.
Algerian	Very coarse	72	A few heads only	6	200
Hungarian	Fine quality	48	In full head	4	1,200
White Round French	Coarse	55	Seed nearly ripe	4	800
Italian	"	47	Head just formed	3	1,800
Green Californian	Fine quality	48	Seed nearly ripe	3	1,400
Pearl or Cat Tail	Coarse	33	Not headed	2	1,800
Common	Fine quality	33	Seed nearly ripe	2	1,400

CATTLE.

The herd of cattle on the Experimental Farm now consists of eighteen animals, as follows:—

Name of Animal.	Breed.	Age.	Weight.
			Lbs.
Nancy	Shorthorn	5 years	1,510
Rose of Brandon	"	2½ "	1,290
Crocus	"	22 months	920
Daisy	"	16 "	840
James	"	9 "	660
Lily of Brandon	Ayrshire	3 years	1,295
Dentry	"	3 "	1,110
Haron	"	2 "	1,410
Snow Drop	"	11 months	620
Marie	Guernsey	3 years	770
Brandon Duke	"	14 months	760
Christie	Grade	5 years	1,210
Gretchen	"	7 "	1,625
Sis	"	2 "	1,050
Jenny	"	2 "	1,410
Margaret	"	23 months	970
Ruben	"	15 "	890
Julia	"	1 year	690

EXPERIMENTS IN FEEDING STEERS.

YEARLING STEERS COMPARED WITH TWO-YEAR OLDS.

This experiment was similar to that of last year's test, and the result is very much the same.

The twelve animals used for this experiment were Shorthorn grades of fair quality, purchased from a farmer near Oak river, Manitoba. Six of them were about 18 months old when feeding started, and the others about 30 months old.

They were purchased early in November, 1904, and cost, delivered at the barn, $3.25 per hundred pounds live weight, and sold in February, 1905, for $4 per hundred pounds.

The yearlings were not nearly as well finished as the two-year olds, and for export purposes would not have realized as much by 50 cents per hundred pounds, but all were killed in Winnipeg, and the purchaser gave the same price for each lot.

After two weeks of preparatory feeding they were divided into two groups according to age. All were tied in stalls and fed all they could eat up clean of the following ration:—

Straw	13 lbs.
Corn fodder	15 "
Corn ensilage	17 "
Swede turnips	10 "
Ground grain	4 to 9 "

DESCRIPTION OF FODDER.

The straw was mixed wheat, oat and barley. The fodder corn was principally Pearce's Prolific cut in the late milk stage and stooked in the field until wanted, both straw and corn fodder were cut into one-inch lengths.

The ensilage was also made from the above variety of corn, and was of excellent quality.

The grain was composed of one third each of barley, oats and wheat screenings.

A layer of cut fodder corn was first spread over the feed room floor, on this was placed successive layers of ensilage, sliced turnips, corn, straw and grain, it was then moistened with water and shoveled into a heap in the corner of the room, when fed 12 hours later fermentation had commenced and the mixture was quite warm.

The amount of grain fed was increased slightly each month until the test was completed.

COMPARATIVE GAINS.

—	Date.	Weight.	Gain.	Total Gain of six Steers.
One year old Steers.		Lbs.	Lbs.	Lbs.
Original weight of steers	Nov. 15, 1904	4,960		
Weight at end of 1st term	Dec. 13, 1904	5,350	390	1,170
" 2nd "	Jan. 10, 1905	5,545	195	
" 3rd "	Feb. 7, 1905	5 845	300	
" 4th "	March 7, 1905	6,130	285	
Two year old Steers				
Original weight of steers	Nov. 15, 1904	7,175		
Weight at end of 1st term	Dec. 13, 1904	7,500	325	975
" 2nd "	Jan. 10, 1905	7,735	235	
" 3rd "	Feb. 7, 1905	7,995	260	
" 4th "	March 7, 1905	8,150	155	

COST OF FEEDING.

Six yearling steers—

9,900 lbs.	of fodder corn at $4 per ton	$19 80
8,720 "	mixed straw at $1 per ton	4 36
6,549 "	turnips at 5 cents per bushel	5 45
11,118 "	ensilage at $2 per ton	11 11
3,996 "	ground grain at 75 cents per 100 lbs.	29 97
		$70 69

Six two-year old steers—

10,000	lbs.	of fodder corn at $4 per ton	$20 00
8,880	"	mixed straw at $1 per ton	4 44
6,720	"	turnips at 5 cents per bushel	5 60
11,424	"	ensilage at $2 per ton	11 42
4,046	"	ground grain at 75 cents per 100 lbs	30 34
			$71 80

SUMMARY OF RESULTS.

—	First cost of each steer.	Value of feed consumed.	Price per steer sold.	Gain per day.	Profit per steer.
	$ cts.	$ cts.	$ cts.	Lbs. Oz.	$ cts.
One-year old steers	26 86	11 78	40 86	1 11	2 22
Two-year old steers	38 86	11 96	54 33	1 07	3 51

CONCLUSIONS.

The results of both this and last years' experiments would lead us to the following conclusions:—

1st. The amount of gain in weight per day is practically the same with each lot of steers.

2nd. The two-year olds were in both instances more profitable than the one-year olds.

3rd. There is very little profit in fattening steers when the difference between the buying price in the fall and the selling price in the spring is not more than $1 per hundred pounds.

MILKING COWS.

The accompanying table gives the length of the milking period and the weight of milk given by a number of the experimental farm cows for the past year:—

MILKING COWS.

Name.	Age.	Breed.	Milking Period.	Pounds of Milk.	Average each day.
Myrtle	6 years.	Shorthorn	285 days.	2,988½	10 lbs.
Nancy	5½ "	"	365 "	3,770	10 "
Alice May	5 "	"	300 "	5,381½	17 "
Denty	5 "	Ayrshire	305 "	5,278	17 "
Brandon Maid	4 "	Guernsey	298 "	6,407	21 "
Christie	7 "	Shorthorn Grade	343 "	9,326	27 "
Gretchen	6 "	" "	331 "	5,790	17 "
Carrie	9 "	" "	332 "	6,732½	20 "
Pet	7 "	" "	253 "	2,854½	11 "
Jeunette	8 "	" "	313 "	6,039	19 "

EXPERIMENTS WITH SWINE.

The herd of swine on this farm consists of Yorkshire, Berkshire and Tamworth.

FEEDING PIGS ON BROME GRASS, PASTURE AND GRAIN.

This experiment was undertaken for the purpose of ascertaining the value of Brome grass pasture when supplemented with a limited amount of grain. Twelve pigs

were used for this test, they were about six weeks old when the test began, six were nearly pure Berkshire and the others cross-bred York and Berkshire. All were nose-ringed before being turned into the pasture and no damage was done to the sod.

The mixed grain consisted of equal parts of barley, oats and wheat screenings; this was ground and mixed with water and allowed to soak for a few hours before feeding. This mixture was used during the first few weeks and was replaced later with whole pease fed dry.

The mixed grain was valued at 75 cents per hundred pounds and the pease $1 per hundred pounds. The pigs were valued at $2 each when the test began and were sold at $5.25 per hundred pounds, when the test was completed.

AMOUNT AND VALUE OF FEED CONSUMED FROM MAY 25 TO NOVEMBER 10.

—	Grain Fed.	Value of Feed.
Mixed grain chopped	900 lbs.	$6.75
Whole pease	700 "	7.00

SUMMARY.

—	Weight when Bought.	Value when Bought.	Weight when Sold.	Value when Sold.	Value of Grain Fed.	Profit.
12 pigs	360 lbs.	$24 00	1,355 lbs.	$71.13	$13.75	$33.38

POULTRY.

Three breeds of poultry are kept on the Experimental Farm, namely:—Barred Plymouth Rocks, White Wyandottes and Rose Comb Minoreas.

Both setting hens and incubators were used for hatching purposes, with the results slightly in favour of the hens. One hundred and ten chicks were raised in brooders with less than ten per cent of a loss.

WHOLE GRAIN COMPARED WITH GROUND GRAIN FOR FATTENING FOWLS.

Eight pure bred Barred Plymouth Rock cockerels were selected for this test. They were shut up in slatted pens each 2 x 3 feet. The grain fed was ¾ wheat and ¼ oats. It was finely ground for No. 1 pen and unground for No. 2 pen. In the estimate of cost grain has been valued at 75 cents per hundred pounds. The ground grain was mixed with water to the consistence of thin porridge.

—	Live Weight, Nov. 16.	Live Weight, Dec. 7.	Gain in 21 Days.	Cost of Food.	Cost Live Weight per lb.
	Lbs. Oz.	Lbs. Oz.	Lbs. Oz.	Cts.	Cts.
Pen 1, fed ground grain	20 10	24 10	4 00	24	6
Pen 2, fed unground grain	20 13	23 13	3 00	21	7

CONCLUSIONS.

First, pen 1 consumed 4 pounds more feed than the others.

Second, pen 1 gained twenty-five per cent more flesh than No. 2.

Third, the ground feed produced flesh at 6 cents per lb. and whole grain at 7 cents per pound.

EXPERIMENTS WITH BEES.

Owing to the unusually open fall last year the bees were not placed in their winter quarters until November 28. One corner of the dwelling house cellar is used for this purpose; it is partitioned off from the rest of the cellar and kept quite dark, the temperature is regulated by means of a chimney flue, which is opened or closed as required. The bees are not placed in the cellar until the temperature here is below 50° above zero. During the winter the temperature is kept between 32° and 47°, it usually registers about 40°.

All of the 14 colonies placed in the cellar survived the winter, and with few exceptions they were in excellent condition when placed on their summer stands, on March 24 of this year. All were weighed when placed in their winter quarters and also when set out. There was a large variation in the amount of honey consumed by each colony, the highest was 28 pounds and the lowest 6 pounds. The average consumption per colony was 14 pounds.

The first pollen was obtained from the *Anemone patens* on April 7. Willow pollen was first gathered on April 21. The first honey was removed from the hives on June 12 and the first swarm appeared on June 28.

Thirty-eight pounds of extracted honey was produced per colony, spring count, and eight new swarms obtained.

Bees were noticed for the first time working on the Buffalo berry (*Shepherdia argentea*).

A TEST OF WINTER VENTILATION.

When placed in the cellar 9 of the hives were without cloth coverings and the board covers were raised half an inch above the hive sides, thus giving free ventilation through the hive. These 9 hives consumed an average of 15½ pounds of honey per hive.

On the other 5 hives the cloth covering was removed also, but the board covers rested tightly on the sides of the hive, thus allowing very little air to pass through the hive. These 5 hives only consumed 12¼ pounds of honey, or 3 pounds less than the others. In both cases the entrances were left wide open. Apparently it is not necessary to have a current of air passing through the hive, providing the cellar is kept well ventilated.

WORKING FOR A LARGE YIELD OF EXTRACTED HONEY.

The summers of this province are short, and one of the greatest apiarian problems is to produce the maximum yield of honey in this short period. Last summer two of our colonies, Nos. 3 and No. 4, were in excellent shape for a large production, they were both large early swarms of this summer from two pure Italian colonies; they were hived on empty combs and were given another super of empty combs a few days after swarming. These combs were extracted as follows:—

		Lbs.
On August 16, No. 4 gave		20
" 18 " 4 "		20
" 21 " 4 "		15
" 24 " 4 "		22
" 28 " 4 "		26
Total for 12 days		103

		Lbs.
On August 18, No. 3 gave		15
" 21 " 3 "		19
" 24 " 3 "		18
" 28 " 3 "		18
Total for 10 days		70

None of the combs were sealed over, but the honey was of good quality, and not at all watery.

HORTICULTURE.

APPLES.

I take pleasure in reporting some further progress in apple culture. This season in addition to a large crop of crab apples amounting to over 45 bushels, two varieties of Standard apples fruited, viz., Hibernal and Duchess of Oldenburg, also a very large number of crosses between the standard apples and the crabs.

For some years a considerable amount of both root and top grafting has been carried on here, using as stock the Berried crab (*Pyrus baccata*), a hardy and readily propagated crab apple, and scions from varieties which showed special adaptability to our somewhat rigorous climate. This work has resulted in the production of some very promising fruit and gives us every reason to hope that in a few years we will have a number of varieties of apples hardy in all parts of Manitoba.

The tree of Hibernal was root grafted on Berried crab stock in 1901. Although growing in a much exposed position it showed only a slight injury on the tips of the branches from winter killing. The fruit was about 3½ inches in diameter, and was of good flavour and excellent for cooking purposes.

The Duchess of Oldenburg which fruited was the result of top grafting on the Berried crab. The fruit was about 2½ inches in diameter free of scab, of good colour and flavour.

Among the other trees that fruited for the first time were some excellent Martha crab seedlings, one in particular named 'Maggie' is of considerable promise, the flavour greatly resembles that of a standard apple.

Each fall the fruit of all the Berried crabs grown on the farm is pulped and the seed sown. This year several thousand seedlings of this tree were grown and will be available for grafting next spring.

TRANSCENDENT CRAB.

Most of the trees of this variety that fruited during the year were top grafted on large *Pyrus baccata* trees in the spring of 1903. The branches were loaded with fruit free of scab and of excellent size and flavour. The successful production of this fruit

in all parts of Manitoba would of itself prove a great boon to the settlers of the province.

PLUMS.

The orchards of this fruit now consist of 358 trees, most of which are selected native seedlings, but there are also a few named varieties and seedlings of the American group.

Native Manitoba Plum.—These are much earlier than any other plums grown here, many of them ripening their fruit by August 15. Like all seedlings they vary greatly. From many hundreds grown here, about ten are of superior excellence; these are being propagated and some of them will be available shortly, for testing in other parts of Manitoba.

CURRANTS.

Thirty-three varieties of currants were grown here this season, most of which produced a fair crop. Just as the fruit commenced to ripen the currant worm appeared but it was quickly checked by a spraying of Hellebore and water. The accompanying table gives the names of the varieties grown, together with the yield and quality of the fruit.

Variety.	Colour.	Flavour.	Length of Bunch.	Fruit on Bunch.	Weight from one Bush.
			Inches.		Lbs.
Defiance	Red.	Sweet	2½	Well set	1¼
Houghton Castle	"	"	2¼	Thick set	1½
Large Red	"	Fairly sweet	2½	"	2½
Simcoe	"	Acid and juicy	2	Thinly set	1½
Pomona	"	Sweet, very juicy	2½	Thick set	3¼
Long Bunch Holland	"	Sweet and juicy	2	"	1¾
Prince Albert	"	"	2	Thinly set	1
Red Dutch	"	"	2	Thick set	2
New Red Dutch	"	"	1¾	"	3
Goliath	"	"	1½	"	1¼
North Star	"	"	2¼	"	1½
Admiral	White	"	2½	"	¾
White Imperial	"	Slightly acid	2¼	"	1½
Climax	"	Sweet	2	"	¾
Large White	"	"	2¼	"	2¾
White Cherry	"	" thin skin	2¼	"	3
Verriers White	"	Very sweet	3	Thinly set	3
White Dutch	"	Fairly sweet	2½	"	1¼
White Kaiser	"	Sweet	2¼	Thick set	1
White Grape	"	Slight acid	2½	"	1½
White Pearl	"	Fairly sweet	2	"	¾
Wentworth's Leviathan	"	Sweet	1½	Thinly set	½
Prince of Wales	Black	Good thin skin			¾
Black English	"	Juicy "			½
Sterling	"	" "			2
Star	"	Fairly sweet and juicy			1¼
Kentish Hero	"	Sub-acid and juicy			¾
Eagle	"	" "			1
Standard	"	Sweet dry thin skin			2¼
Winona	"	" thin skin			1
Baldwin's Black	"	Juicy thick skin, sub-acid			¾
Dominion	"	Sub-acid, dry			1
Percy	"	Sweet juicy thick skin			¾

GOOSEBERRIES.

Twenty-five varieties of gooseberries were grown here this year. Nearly all the varieties were heavily laden with fruit of excellent flavour and fair size.

STRAWBERRIES.

A number of Alpine strawberries were received from the Central Experimental Farm in the spring of 1904 and made fine growth before winter set in, they were then covered with a light coat of strawy manure, and during the season bore a fair quantity of fruit, but these were eaten by birds before they were ripe.

RASPBERRIES.

The raspberry crop this season was very good, the yield being much above the average. Every fall the canes are bent over and covered with manure in order to prevent winter killing. The following are the varieties which have proven the best both in quantity and quality: Cuthbert, Reider, Climax, Turner, Empire, Sarah, Niagara and London.

AVENUES.

The avenue trees on this farm are mostly native ash-leaf maples. Where the soil is not too wet and is fairly free of alkali they are quite thrifty, but several vacancies have occurred owing to wet land or alkaline soil. One of the best avenues is composed of a double row, native white spruce on the outside and maples on the inside. This avenue is attractive both in summer and winter.

The Russian poplar avenue on the eastern boundary of the Farm is still growing vigorously. During the summer months its dark green foliage and glossy leaves are distinguishable at a long distance, a few of the trees show signs of canker.

Cottonwood trees have only succeeded here, when planted close to running water, on high, well drained land they have invariably rusted badly, for this reason they have not been used for avenue purposes.

ARBORETUM.

A considerable addition was made to the stock of trees during the past season. All were received from the Central Experimental Farm in the spring. These consisted of pines, cedars, silver firs, junipers and several flowering shrubs, including Philadelphus in variety and Syringa Amurensis, these were planted in the Arboretum around the superintendent's house, and all made good growth during the season.

FALL AND SPRING SOWING OF MAPLE SEED.

Until last year we have usually sown native maple seed in the spring, but an experiment was made during the fall of 1904 to ascertain if any advantage accrued from autumn sowing.

From one row 270 feet long of spring sown seed 2,600 trees were obtained while only 909 trees grew in the adjoining row sown in the fall, this was due largely to the last named germinating early in spring and then freezing off close to the ground.

VEGETABLE GARDEN.

PEASE—A TEST OF VARIETIES.

Forty-eight varieties of pease were sown in the open on May 9. Germination was excellent except with the following varieties: Admiral, Extra Early Leviathan, Dwf. Telephone, and Sharpe's Queen.

All of the following varieties ripened their seeds. The accompanying tables are arranged in order of earliness:—

PEASE—TEST OF VARIETIES.

Number.	Varieties.	Sown.	Blossom	Length of Pod.	Length of Vine.	Pease in Pod.	Flavour.	Ready for use.	Productiveness.
				In.	In.				
1	E. E. Philadelphia	May 9	June 16	2¾	42	7- 8	Sweet	July 15	Fairly.
2	Gregory's Surprise	" 9	" 23	3	36	6- 8	"	" 10	"
3	First of All	" 9	" 20	2¾	30	7	Poor	" 12	"
4	Extra Early Market	" 9	" 16	2½	36	7- 8	"	" 15	"
5	American Wonder	" 9	" 23	3	24	7	Good	" 15	Very.
6	Nott's Excelsior	" 9	" 23	3	24	6- 8	Very sweet	" 15	"
7	Alaska	" 9	" 23	3	42	6	Poor	" 15	Not.
8	Best Extra Early	" 9	" 16	2	24	6	"	" 15	Very.
9	Prosperity	" 9	" 20	3½	48	8- 9	Very sweet	" 18	Not.
10	Duke of York	" 9	" 23	4	48	7- 9	Sweet	" 20	Very.
11	Duke of Albany	" 9	" 23	4½	72	8- 9	Very sweet	" 20	"
12	Thomas Laxton	" 9	" 23	3	36	6	Good	" 20	Fairly.
13	Sutton's Excelsior	" 9	" 23	3	24	6- 7	Very good	" 20	"
14	Rivenhall Wonder	" 9	July 5	4	24	4- 6	Very sweet	" 22	"
15	Sutton's Satisfaction	" 9	" 5	3	36	4- 6	"	" 22	"
16	Fill Basket	" 9	" 5	3½	30	7- 9	"	" 22	Very.
17	Telephone	" 9	" 5	4½	54	8-10	Very good	" 22	"
18	Premium Gem	" 9	" 25	3	30	4- 6	Poor	" 22	Not.
19	Dwarf Champion	" 9	" 5	3½	30	6	Sweet	" 24	Fairly.
20	Prince of Wales	" 9	" 5	2¾	36	4- 7	Very sweet	" 24	"
21	McLean's Blue Peter	" 9	June 30	2½	24	6	Sweet	" 24	"
22	Extra Early Exonian	" 9	" 30	2½	36	6	"	" 22	Very.
23	William Hurst	" 9	" 23	3	24	8	Very sweet	" 20	"
24	Petit Pois	" 9	July 5	3½	36	10	Poor	" 24	"
25	S. B. Everbearing	" 9	" 5	3	36	4- 6	Fairly sweet.	Aug. 1	Fairly.
26	McLean's Little Gem	" 9	June 30	3	48	6	"	" 1	"
27	Shropshire Hero	" 9	July 5	3	48	8	Very sweet	" 1	"
28	British Empire	" 9	June 30	4½	36	10	Sweet	" 1	"
29	Hor. Market Garden	" 9	July 5	3	36	9	Fairly sweet	" 1	Very.
30	Pride of the Market	" 9	" 5	4	36	9	"	" 1	Fairly.
31	Imp. Stratagem	" 9	" 5	3½	36	5- 8	Very sweet	" 1	Very.
32	Heroine	" 9	" 5	4	48	8	Sweet	" 1	Fairly.
33	Yorkshire Hero	" 9	" 5	3½	30	5	Very sweet	" 1	"
34	Queen Pea	" 9	June 25	4½	48	9	"	" 1	"
35	Abundance	" 9	July 5	2½	36	6	Fairly sweet	" 1	Very.
36	Burpee's Profusion	" 9	" 5	3½	48	5	Sweet	" 1	"
37	Juno Pea	" 9	" 5	3½	36	8	Poor, dry	" 12	"
38	Telegraph	" 9	" 5	4	48	7	Dry	" 1	Fairly.
39	Laxton's Alpha	" 9	June 30	2½	48	7	Poor	" 1	"
40	Reliance	" 9	July 6	3	60	5	Sweet	" 1	Very.
41	Champion of England	" 9	" 5	3½	72	6	Fairly sweet	" 5	"

CUCUMBERS.

Twenty-nine varieties of cucumbers were sown in the open on May 23, in hills six feet apart each way. Although they were greatly injured by the June frost a very heavy crop of fruit was harvested.

The following is the result of this test:—

Varieties.	Productiveness.	Length.	Diameter.	Colour.	Ready for Use.	Weight.	Flavour and Texture.
		In.				Ozs.	
Arl. Ely. White Spine	Moderately.	6	3	Lt. green.	Aug. 1	11	Good.
New Siberian	Very	6	3¼	"	" 1	12	Fair.
Green Prolific	"	5½	2¼	Dk. green.	" 3	9	V. good.
Paris Pickling	Productive	8	3	Lt. "	" 8	11½	Good.
Cool and Crisp	Med.	7	2⅜	Dk. "	" 8	8	Fair.
Ely. White Spine	V. prolific.	8	2⅜	" "	" 8	9	V. good
S. B. Evergreen	Productive	7	2⅛	" "	" 11	7	"
Cumberland	Very	8	2¼	Lt. "	" 11	12	"
Boston Pickling	Fairly	6¾	2½	Dk. "	" 11	8	Good.
White Wonder	Very	7	3	White	" 11	10	Very.
Evergreen Cluster	"	6½	2⅛	Lt. green.	" 11	7	Fair.
Short Green	Fairly	6	2¼	"	" 14	6	"
Imp. Long Green	Very	8	3	Dk. green	" 14	9	V. good.
Chic. Westerfield	"	5	3	"	" 14	8	Fair.
New Orleans	"	8	3	Lt. "	" 14	10	V. good.
Prince	"	8	3	"	" 14	12	"
Hills F. W. Spine	Fairly	8	3	"	" 14	11	"
Jap. Climbing	Mod	6	2	"	" 14	7	Poor.
Tailby Hybrid	Fairly	7	2½	"	" 14	6	Good.
Short Green Gherkin	"	5½	2¼	Lt. "	" 14	7	Fair.
Farquhar's Perfection		6	3	"	" 14	8	Good.
Thorburn's Everlasting	Very.	5¼	3	"	" 14	5½	Fair.
Pride of Canada	V. prolific.	11	2½	White	" 14	12	V. good.
Nichol's Med. Gem	Not	5¼	3	Green	" 14	6	Good.
Giant Pera	Prolific	10	3	Lt. green.	" 14	12	Excellent.
Long Green Turkey	Productive	8½	3	Dk. "	" 14	10	V. good.

ONIONS.

Six varieties of onions were sown on March 29 in rows 12 inches apart, by hand. The germination was good in all cases and the varieties gave about an average in yield and quality.

The following gives the result of this test arranged in order of productiveness:—

Variety.	Sown.	Pulled.	Colour.	Shape.	Average Weight of Bulb.	Yield per Acre.
					Oz.	Bush.
Danver's Yellow Globe	Mar. 29	Sept. 18.	Light yellow	Globular	5½	517
Trebon's Large Yellow	"	"	" "	Globe	6	594
Red Wethersfield	"	"	Dark red	Flat	7⅛	528
Market Favorite Keeping	"	"	Dark yellow	"	4⅝	176
Australian Yellow Globe	"	"	Light "	Globular	4½	513

SQUASH AND PUMPKINS.

Five varieties of squash and pumpkins were sown in the open on May 15, in hills 8 feet apart each way. The late spring frost prevented the best results being obtained, although a fair crop was harvested, the varieties coming quite up to their average size. The following results were obtained:—

Varieties.	Sown.	Texture and Flavour.	Ripeness.	Average Weight.
			p. c.	Lbs.
Orange Marrow	Yellow	Very good	90	7½
Long White Bush Marrow	Yw. white.	"	100	13
English Vegetable Marrow	" "	"	95	11
Field Pumpkin	Yellow	Very coarse.	85	25
Sweet or Sugar Pumpkin	Dk. yellow.	" good	90	6

FRENCH BEANS.

Seven varieties of beans were sown in the open on May 13, in rows 30 inches apart, but on account of the June frost rather a light crop was obtained.

The results of this test are given below. The varieties being arranged in order of earliness:—

Varieties.	Sown.	Ready for use.	Length of pod.	Productiveness.
			Inches.	
Dwf. Matchless	May 13	July 27	6	Very good.
Fame of Vitry	" 13	" 27	7	" "
Dwf. Extra Early	" 13	" 29	6½	Prolific.
Dwf. B. Speckled	" 13	" 29	7¼	Fairly.
Dwf. Early China	" 13	" 27	6	Very productive.
Emperor of Russia	" 13.	" 29	6	" "
B. B. Arlington Windsor	" 13	" 25	5	" "

PARSNIPS.

One variety of parsnips was sown on April 3, one foot apart, by hand, and lifted October 19. The variety was Hollow Crown, and the yield per acre was 946 bushels.

CARROTS.

Three varieties of carrots were sown in the open on May 11 in rows one foot apart. The yield of all the varieties was an average one.

CABBAGE.

Eight varieties of cabbage were sown under glass on March 28, and transplanted to the open on May 15. All did well.

The following table gives the results of the test:—

Varieties.	Sown.	Planted out.	Ready for use.	Description.	Average weight.
					Lbs.
Paris Market	March 28	May 15	June 25	Solid.	6½
Express	" 28	" 15	" 25	"	7¼
Early Jersey Wakefield	" 28	" 15	July 20	V. solid.	7
Fottler's Improved	" 28	" 15	" 20	"	6
Winnigstadt	" 28	" 15	" 31	"	7½
Savoy Cabbage	" 28	" 15	" 31	V. good	6½
Large flat Drumhead	" 28	" 15	Aug. 15	Solid.	12
Marblehead	" 28	" 15	" 25	Coarse.	14

SWEET CORN.

Five varieties of corn were sown this year. Squaw corn was the only variety which ripened.

The following are the results obtained from this test:—

Varieties.	Sown.	Ready for use.	Flavour.	Seed ripened.
Squaw Corn	May 13	August 5	Good	Sept. 20.
New Premo	" 13	" 15	Very good	Did not ripen.
Extra Early White Cory	" 13	" 15	" "	" "
Sweet Peep O'day	" 13	" 20	Good	" "
New Windsor	" 13	" 23	"	" "

GARDEN TURNIPS

Four varieties of turnips were sown in the open on May 11, by hand, in rows 2 feet apart. The yield per acre has been calculated from the yield of one row 66 feet long.

Variety.	Sown.	Ready for use.	Shape.	Flavour.	Lifted.	Yield per Acre.	
						Tons.	Lbs
Robertson's Golden Ball	May 11	July 1	Round	Good	Sept. 20	49	1000
Extra Early White Milan	" 11	" 1	Flat	Fairly good	" 20	12	1080
Early Stone	" 11	" 1	"	Fair	" 20	36	270
E. W. S. A. Stone	" 11	" 1	Round	"	" 20	29	1400

BEETS.

Three varieties of beets were sown in the open on May 11, in rows 2 feet apart, and were lifted September 19. Average yield per acre, 31 tons.

TOMATOES.

Two varieties of tomatoes were sown under glass and transplanted to the open on June 1. These were all killed with the June frost, but were replaced with a fresh lot of plants, and they produced a large quantity of ripe fruit.

CAULIFLOWER.

Three varieties were sown under glass March 28, and transplanted to the open May 15. The following are the results obtained:—

Variety.	Sown.	Planted out.	Ready for use.	Description.	Average weight.
					Lbs.
Early Snow Ball	March 28	May 15	June 24	Good	3¼
Half Early Paris	" 28	" 15	" 30	Very good	3¾
Dwarf Erfurt	" 28	" 15	July 15	" "	3½

RHUBARB.

Eighteen varieties of this useful plant were grown here for testing purposes this season. All varieties did well.

The following are the results obtained:—

Variety.	Colour.	Texture.	Weight per Plant.	Flavour.
			Lbs.	
Samyster's Prince of Wales	Light red	Soft	12	Very good, juicy.
Early Scarlet	Deep red	Crisp	12	Good.
Early Prince	Light red	Very crisp	24	Juicy.
Tobolsk	"	Crisp	36	Acid.
Paragon	Greenish	Stringy	23	Very acid.
Prince Albert	"	Crisp	37	Sweet.
Magnum Bonum	Light red	"	39	Good.
Brabant's Colossal	"	Stringy	41	Poor.
Early Crimson	Greenish	Soft	24	Very tart.
Scarlet Nonpareil	Red	Crisp	36	Juicy.
General Taylor	Green	Stringy	29	Poor.
Giant	Red	Tender	43	Juicy.
Salt's Perfection	Green	Very poor	9	Poor.
Royal Albert	Deep red	Crisp	22	Acid.
Strawberry	Light red	Tender	30	Good.
Tottle's Improved	Light green	Crisp	28	Very good.
Victoria	Light red	"	37	Good.
Myatt's Linnæus	"	Tough	47	Fairly good.

FLOWER GARDEN.

A large number of annuals were, as usual, sown in shallow boxes under glass and transplanted to the flower garden on June 1, most of them made a fine display of varied colours. Some difficulty was experienced in bringing some of the seedlings through safely. On account of late spring frosts Balsams, Zinnias and Tagetes were completely destroyed on April 30 in spite of the protection afforded by a thick covering of canvas. A second sowing on April 30 produced good strong plants, which were soon available for planting.

ANNUALS SOWN OUTSIDE.

The following mixed collection of annuals sown in the open on May 10 made a fine colour effect, visitors frequently expressing their admiration of the charming display:—

Clarkia mixed,
Coreopsis,
Candytuft,
Abronia umbellata,
Godetia,
Portulaca double,
Poppies mixed,
Gypsophila elegans,
Nasturtium mixed,
Sweet Alyssum.

TENDER PERENNIAL BULBS.

A test was made last year of tender bulbs to ascertain the possibility of flowering some of the more tender kinds, such as Hyacinths, Narcissi, &c., by using a heavy covering of strawy manure. The covering was taken off in the spring. Most of the bulbs on examination were found to be rotten, the Narcissus, however, came through safely and produced some magnificent blooms. The varieties saved were Sir Watkin and Emperor. A fine lot of different varieties of bulbs have been added to the collection this season; these have been planted in beds and borders.

IRIS KAEMPFERI (*Japan Iris*).

A valuable addition to our collection of this beautiful perennial was received from the Central Experimental Farm at Ottawa, in the spring of 1905 and planted in the perennial garden. These produced some very fine specimens of blooms, which were greatly admired. The following is a list of those that flowered:—

Name.	Colour.	Number of Petals.	Diameter of Flower.	Height.	Time of Flowering.
			Inches.	Inches.	
Kasu-gano	Light blue	6	6	15	July 30.
Shiye-no-yuki	Purple	3	5	15	" 30.
Datedogu	Pink	5	6	18	" 30.
Koki-no-iro	Purple	6	6	15	" 30.
Senjo-no-hora	Pink striped	6	5	12	Aug. 2.
Tsutsu-izutsu	P. Wh. striped	6	6	12	" 2.
Sumida-gawa	Whitish	3	6	15	" 2.
Goko-no-asobi	Purple	8	4	14	" 2.

PAEONIA OFFICINALIS (*Herbaceous Paconies*).

We would again call particular attention to this king of hardy herbaceous perennials often erroneously called 'Piney Rose.' It is a matter of regret that although

adapted in every way to the climatic conditions of the west comparatively few can be found throughout Manitoba. With a constitution that obviates the necessity of the slightest protection and increasing in size of plant and number of blooms from year to year, a few plants give such generous returns for a small expenditure of labour.

The Paeony begins to bloom toward the end of June and continues throughout July with flowers ranging from 8 to 10 inches in diameter of various colours, many of them possessing a delicate perfume. They present a mass of colour, which never fails to elicit the greatest admiration. Some of the clumps on the Experimental Farm are now 4 to 6 feet in diameter and produce annually an average of 30 to 40 flowers each, perfectly double and of the most delicate colouring and texture. It is a fact worthy of note that although many of the clumps growing on the farm have remained in the same position since planting (eight to ten years ago) that they show no symptoms of deterioration, which is quite contrary to the general opinion that they require lifting and dividing every few years.

Many varieties can now be purchased having a wide range of colour and form, this fact, combined with their exceeding hardiness and freedom from disease, places them in the foremost rank of our hardy herbaceous perennials. We may mention that propagation is effected by division of the root in a similar manner to that of rhubarb.

DISTRIBUTION OF GRAIN, POTATOES, FOREST TREES, SHRUBS, &c

Seedling trees and shrubs.....pkgs.	600
Potatoes in 3-lb. bags	206
Wheat in 3-lb. "	131
Oats in 3-lb. "	100
Barley in 3-lb. "	40
Pease in 3-lb. "	72
Maple seed in 1-lb bags	80
Rhubarb seed.....pkgs.	33
Total	1,229
Number of farmers reporting on their experience with oats	15
" " " " wheat	11
" " " " barley	5
" " " " potatoes	42
" " " " pease	5
Largest yield obtained from 3 lbs. wheat (Preston)	110 lbs.
" " 3 " oats (Banner)	191 "
" " 3 " barley (Odessa)	72 "
" " 3 " potatoes (Uncle Sam)	272 "
" " 3 " pease (English Grey)	55 "

VISITORS.

Owing to the great interest taken in the agricultural advancement and possibilities of this country, and the increased importance of the city of Brandon as a centre for farming purposes, the number of visitors to the Experimental Farm is increasing every year. It is estimated that over 18,000 visitors called at the farm during the past year. A large number of these were parties examining the country with the idea of becoming settlers in the west.

The farm was also visited by a number of the leading newspaper correspondents of the United States, and favourable comments were made on the work of this farm by the newspapers they represent.

Many excursion trains were run to the farm from towns on the main line of the Canadian Pacific Railway, also from along the line of the Pembina branch.

FARMERS' MEETINGS.

During the year more farmers' meetings were attended by me than usual. The attendance at these meetings was generally large, and considerable interest was shown in the subjects discussed. Meetings were attended and addresses given at the following places:—

Portage la Prairie.....December 12, 1904
Winnipeg.....January 25, 1905
Brandon.....February 8, 1905
Minnedosa..... " 16, 1905
Winnipeg..... " 24, 25, 1905
Deloraine.....May 29, 1905
Melita..... " 30, 1905
Hartney..... " 31, 1905
Souris.....June 1, 1905
Reston..... " 2, 1905
Virden..... " 3, 1905
Portage la Prairie..... " 13, 1905
Rapid City..... " 15, 1905
Portage la Prairie.....October 29, 1905

METEOROLOGICAL TABLES FOR BRANDON, MAN.

Months.	Highest Temperature.		Lowest Temperature.		Total Rainfall.	Total Snowfall.	Total Sunshine.
1904.	Day.	Deg.	Day.	Deg.	Inches.	Inches.	Hours.
December	29	40	27	—34		2	61·7
1905.							
January	18	30	10	—45		8	118·4
February	27	47	2	—43		½	165·
March	25	60	10	—21	·72	3½	57·3
April	25	78	30	11	·06		215·1
May	31	80	5	21	2·59	2	208·8
June	3	86	10	31	4·53		187·5
July	10	87	24	39	4·06		297·6
August	3	85	23	39	2·37		249·4
September	27	87	24	33	3·02		206 3
October	3	73	28	—3	·15	5	124·4
November	10	56	30	—24	·11	½	88·5
					17·61	21½	1,979·8

SAMPLES FOR EXHIBITION.

A number of samples have been prepared for the immigration offices and for exhibitions held in Europe and other places.

The Department of the Interior was also supplied with a quantity of grain and grasses for the same purpose.

CORRESPONDENCE.

During the past year 4,783 letters were received and 3,140 despatched, irrespective of circulars sent out.

I have the honour to be, sir,
Your obedient servant,

S. A. BEDFORD,
Superintendent.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES.

EXPERIMENTAL FARM, INDIAN HEAD, SASK.,
November 30, 1905.

Dr. WM. SAUNDERS, C.M.G.,
Director Dominion Experimental Farms,
Ottawa.

SIR,—I have the honour to submit to you the eighteenth annual report of the operations of the Experimental Farm for the North-west Territories at Indian Head, Sask., during the year 1905.

The past season has been, without an exception, the most favourable for grain of all sorts the Territories have ever experienced. In past years, over so wide an extent of territory, some districts or large sections of country would have more or less poor crops. This year, however, all rejoice in a most bountiful harvest. In many places the crop was excessively heavy, causing considerable expense in securing it.

Very little snow fell during last winter, and after February 14 little or no severe weather took place. Seeding could have been done in any part of the Territories during the last half of February and all of March, and in some cases grain was sown within this period.

April opened very fine, and seeding became general over the whole country the first few days. During the month one or two cold spells occurred, but did not interfere with seeding, which was completed early, and better than for many preceding springs.

Grain as a rule germinated early and evenly, and under heavy showers and warm weather in May and June growth was very rapid, and in some districts very rank.

Harvest commenced from August 20 to 25, as a rule, with some districts a few days earlier. Unfavourable weather, with heavy showers, retarded the cutting. No delay in harvesting took place from backward growth, as the grain all ripened evenly and fast.

On September 4 the temperature was very near the freezing point, and no doubt, from results shown by threshing, did reach that point in some places. The first frost shown by instruments on the Experimental Farm was on Tuesday, September 12, when one degree was recorded.

From the excessive quantity of straw, and unfavourable weather, threshing has been both tedious and expensive this fall, and at the present time considerable has yet to be done. Very heavy yields are being obtained everywhere, showing the wonderful fertility of the soil when conditions are favourable.

EXPERIMENTAL FARM CROPS.

The crops on the Experimental Farm have never been so uniformly good as they were this year. Some of the uniform test plots of wheat, through being too heavy, lodged badly and rusted, and were considerably injured, especially in the sample. All field crops, whether grain or roots, were good both in yield and quality. Straw in many cases lodged badly, but chiefly from heavy rain after filling, and the returns do

not seem to have been lessened, though the cost of harvesting was increased, as nearly every acre on the farm had to be cut one way.

Barley harvest commenced August 11, and everything was in stook on September 8.

EXPERIMENTS WITH WHEAT.

Thirty-four varieties of wheat were sown in uniform plots of one-twentieth acre on April 6 on fallowed land. In all cases the yield of straw was excessive and lodged badly, and the early sorts were struck by rust and injured to a great extent.

The land on which the uniform plots of wheat, oats and barley were sown was manured for roots three years ago, which no doubt was one of the causes of the excessive yield of straw on all the plots, and probably helped the rust in its work.

SPRING WHEAT—UNIFORM TEST OF VARIETIES.

Number.	Name of Variety.	Date of Ripening.	No. of days Maturing.	Length of Straw including Head.	Character of Straw.	Length of Head.	Kind of Head.	Weight of Straw.	Yield per Acre.		Weight per measured bush. after cleaning.
				In.		In.		Lbs.	Bush.	Lbs.	Lbs.
1	Minnesota No. 163	Aug. 28	144	54	Medium	3½	Bald....	6,040	46	..	61
2	Huron (Ottawa Seed)	*	....	50	Weak ..	4	Bearded	6,040	43	40	56
3	Haynes' Blue Stem, Minn. 169	" 31	147	51	Medium	4	Bald....	5,080	43	40	61½
4	White Fife	" 31	147	51	Weak ..	4	" ...	6,890	43	20	59½
5	McKendry's Fife, Minn. 181	" 31	147	55	Medium	4½	" ...	7,820	43	..	59
6	Bishop	" 26	142	47	Weak ..	3½	" ...	5,740	43	..	59
7	Wellman's Fife	" 29	145	59	Medium	4½	" ...	4,540	43	..	56½
8	Dawn	" 19	135	51	" .	3½	" ...	6,700	41	40	54½
9	Percy (Ottawa Seed)	" 25	141	53	" .	4	" ...	6,900	41	40	56
10	Australian No. 9	" 28	144	52	" .	4	" ...	7,980	41	20	60½
11	Stanley (Ottawa Seed)	" 25	141	53	" .	4½	" ...	6,180	40	20	56
12	Laurel (Ottawa Seed)	" 28	144	52	Weak ..	4½	" ...	5,380	40	20	57
13	Power's Fife, Minn. 149	" 30	146	51	" ..	3¾	" ...	4,380	40	20	61½
14	Huron (Indian Head Seed)	*	....	53	" ...	4	Bearded	7,800	40	..	55½
15	Laurel " "	" 29	145	52	Medium	4½	Bald....	7,420	39	40	56¼
16	Stanley " "	" 25	141	54	" .	4½	" ...	5,320	38	..	55¼
17	Chester	" 26	142	52	Weak ..	4	" ...	5,320	38	..	56½
18	Preston (Ottawa Seed)	*	...	50	" ..	4	Bearded	6,140	37	40	57
19	Red Fife	" 29	145	50	Medium	3¾	Bald....	5,740	37	40	59¼
20	Preston (Indian Head Seed)	*	.....	54	" .	4	Bearded	8,280	35	20	56
21	Monarch	" 30	146	53	" .	4	Bald....	4,900	35	..	60
22	Countess	*	.....	51	Weak ..	4	" ...	7,000	33	20	53¼
23	Colorado	" 26	142	51	" ..	4½	Bearded	5,140	31	..	59¼
24	Clyde	*	.. .	56	Medium	4	Bald....	6,380	30	20	51½
25	Advance	" 25	141	49	Strong..	4	Bearded	7,200	30	..	54½
26	Percy (Indian Head Seed)	" 25	141	50	" ..	4	Bald....	4,620	29	40	55
27	Pringle's Champlain	" 26	142	50	Medium	4½	Bearded	7,520	28	..	58½
28	Red Fern	" 27	143	52	" .	4½	" .	6,740	27	40	58
29	Herisson Bearded	" 27	143	50	" .	2½	" .	7,600	26	40	59
30	Riga	" 19	135	52	" .	3½	Bald....	5,040	24	20	50
31	Downy Riga	" 19	135	47	Weak ..	3	" ...	4,720	23	40	59
32	Weldon	" 27	143	54	Medium	4½	" ...	4,800	23	20	50
33	Early Riga	" 19	135	48	" .	3½	" ...	4,140	20	..	50
34	Hungarian White	*	....	51	Strong..	4	Bearded	8,700	16	40	57½

* These varieties were not fully ripe when cut, but were cut on account of being badly affected with rust. Number of days from sowing to cutting, 135.

WHEAT—TEST OF VARIETIES IN FIELD LOTS.

Nine varieties of wheat were sown in field lots, on fallowed land, clay loam, at the rate of 1½ bushels seed per acre. Huron and Preston, sown alongside each other, gave

the best yields this year. Huron was almost entirely lodged, and alongside of a hedge was rusted slightly. Percy and Stanley were injured by winds in the spring to some extent, causing the yields to be below what they otherwise would have been. Preston was ripe 9 days earlier than Red Fife, which was sown one day earlier in April.

WHEAT—TEST OF VARIETIES IN FIELD LOTS.

Name of Variety.	Size of Plot.	Date of Ripening.	No. of Days Maturing.	Length of Head.	Kind of Head.	Yield per Acre.		Weight per measured bushel after cleaning.	Rusted.
	Acres.			In.		Bus.	Lbs.	Lbs.	
Huron	5	Aug. 23.	140	3½	Bearded	47	12	62	Considerably on leaves.
Preston	10	" 21.	139	4	"	46	54	62½	" "
Laurel	5¼	Sept. 1	151	3½	Bald	42	26	57½	Slightly on leaves.
Red Fife	5½	" 1.	151	3¼	"	42	3	61	" "
White Fife	4¾	" 1.	150	3½	"	37	35	59½	Badly "
Percy	5¼	" 22.	141	3½	"	32	53	59	Slightly "
Riga	¼	" 19.	135	3	"	32	..	60	Badly "
Early Riga	¾	" 20.	138	3	"	31	50	60	Considerably on leaves.
Stanley	5¼	" 22.	141	3¼	"	31	4	59	Slightly on leaves.
Pringle's Champlain	2	" 29.	147	4½	Bearded	28	28	62	Considerably on leaves.

WHEAT CROP AND AVERAGE YIELD.

Variety.	Cultivation.	Acres.	Yield per Acre.		Total Yield.	
			Bush.	Lbs.	Bush.	Lbs.
Huron	Fallow	5	47	12	236	..
Preston	"	10	46	54	469	..
Laurel	"	5¼	42	26	222	46
Red Fife	"	5½	42	3	231	16
White Fife	"	4¾	37	35	178	31
Percy	"	5¼	32	53	172	38
Riga	"	¼	32	..	8	..
Early Riga	"	¾	31	50	23	52
Stanley	"	5¼	31	4	163	6
Pringle's Champlain	"	2	28	28	56	56
		44			1,762	5

An average of 40 bushels 3 lbs. per acre.

COMPARISON OF FIELD LOTS OF WHEAT FOR THE LAST FIVE YEARS.

Below will be found dates of seeding and ripening, number of days maturing, and yield of Red Fife and four of the early cross-bred wheats for 1905, and also the averages for the last five years. The five varieties have been grown each year in field lots, under the same conditions, except that the seeding could not in all cases be done on the same day.

Variety.	1905.				Average No. of days to mature.	Days less than Red Fife.	Average yield
	Date sown.	Date ripe.	Days to mature.	Yield.			
				Bus. Lbs.			Bus. Lbs.
Red Fife	April 3..	Sept. 1..	151	42 3	135·6	.....	40 47
Preston (Red Fife × Ladoga)..	" 4..	Aug. 21..	139	46 54	125·4	10·2	39 32
Stanley " " ..	" 3..	" 22..	141	31 4	125·	10·6	36 17
Percy (White Fife × Ladoga)..	" 3..	" 22..	141	32 53	127·8	7·8	32 40
Huron " " ..	" 5..	" 23..	140	47 12	123·4	12·2	42 56

SPRING WHEAT—TEST OF FERTILIZERS.

Six plots of 1-40th acre each were sown with Red Fife wheat on May 2, with hoe drill, at the rate of 1½ bushels per acre. Soil clay loam.

Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Weight of Straw.	Yield per Acre.		Rusted.
			In.		In.	Lbs.	Bush.	Lbs.	
Plot No. 1—Nitrate of soda, 100 lbs. per acre (half sown when grain was 2 in. high, balance when 6 in. high)	Sept. 4.	125	55	Medium	4	6,280	42	..	Considerably.
Plot No. 2—Nitrate of soda, 200 lbs. per acre (half sown when grain was 2 in. high, balance when 6 in. high)	" 4.	125	48	" .	4	5,400	43	20	"
Plot No. 3—Superphosphate No. 1, 400 lbs. per acre (sown before grain and harrowed)	" 4.	125	52	" .	4¼	6,920	38	..	"
Plot No. 4—Check plot, unfertilized	" 4.	125	48	" .	4	7,240	42	40	"
Plot No. 5—Muriate of potash, 200 lbs. per acre (sown before grain and harrowed)	" 3.	124	49	Weak...	4	4,760	47	20	"
Plot No. 6—Superphosphate No. 1, 200 lbs. per acre; muriate of potash, 100 lbs. per acre; nitrate of soda, 100 lbs. per acre (half sown before grain and harrowed, balance when the grain was 2 in. high)	" 3.	124	54	" ...	4¼	5,840	42	40	"

MACARONI WHEAT—TEST OF VARIETIES.

Four varieties were sown April 6, in 1-20th acre plots on fallowed land, clay loam. All were badly lodged from heavy growth of straw.

Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Kind of Head.	Weight of Straw.	Yield per Acre.	Weight per Bushel.	Rusted.
			In.		In.		Lbs.	Bush. Lbs.	Lbs.	
1 Goose	Aug. 28	144	53	Weak...	3¼	Bearded	10,440	54 40	64¾	Considerably on leaves.
2 Yellow Gharnovka	" 28	144	55	" ..	3	"	10,140	52 ..	64	"
3 Mahmoudi	" 28	144	54	" ..	3	"	8,360	51 20	63	"
4 Roumanian	" 26	142	54	" ..	3	"	8,000	45 40	63	"

EMMER AND SPELT.

Two varieties of spelt and two of emmer were sown April 8, by hoe drill on fallowed land, clay loam. Plots were 1-20th acre each. One acre of Common emmer, and two small plots of White spelt were also sown, the results being shown below:—

Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Kind of Head.	Weight of Straw.	Yield per Acre.	Weight per Bushel.
			In.		In.		Lbs.	Lbs.	Lbs.
1 Red Spelt	Aug. 28	142	51	Medium	4½	Bald....	5,380	3,420	38
2 White Spelt	" 28	142	55	Strong..	6	" ...	4,260	3,340	34
3 Red Emmer	" 30	144	51	Weak...	4	Bearded	5,560	3,040	40½
4 Common Emmer	" 28	142	50	" ..	3½	"	4,460	2,940	48
Common Emmer	" 29	125	51	" ..	2¼	"	. ..	3,124	
White Spelt	" 29	122	50	Strong..	5½	Bald....	.....	2,435	
" "	" 28	121	60	" ..	6	" ...	.....	2,344	

SUMMER FALLOWS.

In view of the great importance of properly preparing land for crops, and of the large number of new settlers coming into the country, I make no excuse for repeating what was said in my last three reports respecting summer-fallows, and breaking up and cultivating new prairie land.

It is very gratifying to know that throughout the Territories, summer-fallowing is rapidly becoming general. No matter where farming is carried on, the farmers realize that to be sure of a crop they must prepare a portion of their land the year before the crop is grown, and apart from the value of the stored moisture, there is the inestimable advantage of keeping weeds from overrunning the farm.

The true worth of properly prepared fallows has been clearly demonstrated in past years in every grain-growing district of Assiniboia.

The work of preparing land for crop by fallowing is carried on in so many ways in different parts of the Territories, that perhaps a few words on some of the methods employed may be of help to at least some of the new settlers.

It has been observed in Alberta and Saskatchewan that the land to be fallowed is not, as a rule, touched until the weeds are full grown and in many cases, bearing fully matured seed. It is then ploughed.

By this method, which, no doubt, saves work at the time, the very object of a summer-fallow is defeated. In the first place, moisture is not conserved because the land has been pumped dry by the heavy growth of weeds; and, secondly, instead of using the summer-fallow as a means of eradicating weeds, a foundation is laid for years of labour and expense by the myriads of foul seeds turned under.

The endless fields of yellow-flowered weeds, generally Ball Mustard (*Neslia paniculata*), testify to the indifferent work done in many districts, and, while no weed is more easily eradicated by a good system of fallows, there is no weed that is more easily propagated or takes greater advantage of poor work on fallows or of fall or spring cultivation.

As has been pointed out in my previous reports, early and thorough work on fallows is absolutely necessary to success, and I here repeat the methods and results of tests carried on for some years past.

First Method.—Ploughed deep (6 to 8 inches) before last of June; surface cultivated during the growing season, and just before or immediately after harvest ploughed 5 or 6 inches deep.

Result.—Too much late growth if season was at all wet; grain late in ripening, and a large crop of weeds if the grain was in any way injured by winds.

Second Method.—Ploughed shallow (3 inches deep) before the last of June; surface cultivated during the growing season, and ploughed shallow (3 to 4 inches deep) in the autumn.

Result.—Poor crop in a dry year; medium crop in a wet year. Not sufficiently stirred to enable soil to retain the moisture.

Third Method.—Ploughed shallow (3 inches) before the last of June; surface cultivated during the growing season, and ploughed deep (7 to 8 inches) in the autumn.

Result.—Soil too loose and does not retain moisture. Crop light and weedy in a dry year.

Fourth Method.—Ploughed deep (7 to 8 inches) before the last of June; surface cultivated during the growing season.

Result.—Sufficient moisture conserved for a dry year, and not too much for a wet one. Few or no weeds, as all the seeds near the surface have germinated and been killed. Surface soil apt to blow more readily than when either of the other methods is followed. For the past fourteen years, the best, safest and cleanest grain has been grown on fallow worked in this way, and the method is therefore recommended.

Fallows that have been ploughed for the first time after the first of July, and especially after July 15, have never given good results; and the plan too frequently followed of waiting till weeds are full grown, and often ripe, and ploughing under with the idea of enriching the soil, is a method that cannot be too earnestly advised against.

In the first place, after the rains are over in June or early in July, as they usually are, no amount of work, whether deep or shallow ploughing, or surface cultivation, can put moisture in the soil. The rain must fall on the first ploughing and be conserved by surface cultivation.

Weeds, when allowed to attain their full growth, take from the soil all the moisture put there by the June rains, and ploughing under weeds with their seeds ripe or nearly so, is adding a thousand-fold to the myriads already in the soil, and does not materially enrich the land.

METHODS OF PREPARING NEW GROUND.

In view of the fact that every year brings to the Territories many new settlers, who are unacquainted with the methods of breaking up and preparing new land for crop, a few suggestions with regard to this very important work may not be amiss.

In all sections where the sod is thick and tough, breaking and back-setting should be done; while in districts where scrub abounds and the sod is thin, deep breaking is all that is necessary.

The former is generally applicable to Assiniboia, and the latter to Alberta and Saskatchewan, especially to the northern parts of these Territories where the land is more or less scrubby.

SHALLOW-BREAKING AND BACK-SETTING.

The sod should be turned over as thin as possible, and for this purpose a walking plough with a 12 or 14-inch share, is the best. When the breaking is completed (which should not be later than the second week in July), rolling will hasten the rotting process and permit back-setting to commence early in August.

Back-setting is merely turning the sod back to its original place, and at the same time bringing up two or three inches of fresh soil to cover it. The ploughing should be done in the same direction as the breaking and the same width of furrow turned. Two inches below the breaking is considered deep enough, but three to four inches will give better results.

After back-setting, the soil cannot be made too fine, and the use of disc or Randall harrow to cut up every piece of unrotted sod, will complete the work.

DEEP BREAKING.

Deep breaking, which in many sections of the country is the only practicable way of preparing new land, and which is, unfortunately, done in some instances where breaking and back-setting would give more satisfactory results, consists in the turning over of the sod as deeply as possible, usually from four to five inches.

When the sod has rotted, the top soil should be worked and made as fine as possible. The use of harrow and disc will fill up all irregularities on the surface, and make a fine, even seed-bed.

Whether the land is broken shallow or deep, it is necessary to have the work completed early, so as to take advantage of the rains which usually come during June or early in July. These rains cause the sod to rot, and without them, or if the ploughing is done after they are over, the sod remains in the same condition as when turned, and no amount of work will make up for the loss.

To some districts near the foot-hills of the mountains and in districts where scrub abounds and the sod is thin, these remarks may not apply; but as a rule, throughout the Territories, early breaking, whether deep or shallow, is advisable.

WORKING LAND AFTER FIRST CROP.

Inquiries are often made as to what should be done after taking off the first crop on new land, the question being as to whether the land should be ploughed, or cultivated, or sown without any cultivation whatever.

This, however, can only be determined by circumstances. In districts with heavy clay soil, a satisfactory crop may be expected from burning the stubble of the former crop and sowing with or without cultivation, although a shallow cultivation after the stubble is burnt usually gives the best results.

In districts with light soils and especially with gravelly subsoil, cultivation before seeding is necessary.

After taking the second crop from breaking or back-setting, there can be no doubt that the land should be well fallowed to put it in proper condition for succeeding crops. If the fallow is well made and the process repeated every third year, the settler will have started on the right road to future success.

SMUT.

Smut the past season has been bad in many sections of the country, causing serious loss to the growers. Several reasons may be given why smut was so prevalent, but without a doubt the chief one was improper treatment of the seed. That smut can be entirely prevented has been time and again proven. Care must be taken to dissolve the bluestone before applying, and to have the solution strong enough.

I repeat what was said in my last report in regard to treatment for prevention of smut.

On account of many new settlers coming into the country each year that can have no idea of the prevalence of smut, especially in the wheat crop, and the serious loss caused by this fungous disease, I submit the results obtained during the past years on this farm for their guidance.

Bunt or stinking smut in wheat is a fungous disease that attacks the grain more or less each year, and where at all bad, the crop is rendered unsaleable, and with only a few heads affected, if threshed in damp weather, the grade and price are reduced. No district is proof against smut, and though more prevalent in some seasons than others, it is wise to guard against all danger from this source each year. Two remedies have been tried repeatedly; these are, treating the seed with bluestone (Copper Sulphate), and with formalin. Bluestone, from cheapness, ease in application and effectual cure, has proven the best for wheat, while formalin has given the best results with smut in oats and barley. While formalin is not more expensive than bluestone, the application is more difficult in the seed having to be soaked longer.

For wheat apparently free from smut, 1 pound of bluestone crushed and dissolved in warm water and mixed with 10 gallons water, and the seed sprinkled with, or dipped in the solution, is sufficient for 10 bushels. For wheat at all affected, 1 pound bluestone to 5 bushels seed is required. The seed can be sprinkled or dipped as is most convenient, but, in sprinkling, care must be taken that every grain is wet with the solution.

For smut in oats or barley, 1 pound of formalin (which is a liquid), is sufficient for 50 bushels seed. If the seed is smutty the solution should be 8 or 9 ounces formalin to 10 gallons of water; if not smutty, 4½ ounces to the same quantity of water.

The seed should be soaked from 5 minutes to 2 hours, according to condition of grain and strength of solution.

EXPERIMENTS WITH OATS.

Forty-one varieties were sown on April 26, on 1-20th acre plots of fallowed land. Soil, clay loam. They were sown by hoe drill, at the rate of 2 bushels seed per acre.

All sorts were very heavy and badly lodged, and had to be cut with a mower; all, however, were well advanced when heavy rains and wind lodged them, and both yield and sample were good.

OATS—TEST OF VARIETIES.

Number.	Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw, including head	Character of Straw.	Length of Head.	Kind of Head.	Weight of Straw.	Yield per Acre.		Weight per measured bushel after cleaning.	Rusted.
				In.		In.		Lbs.	Bush.	Lbs.	Lbs.	
1	Goldfinder	Aug. 26	122	53	Weak	9	Branching	6,200	117	22	39	Considerably
2	Pioneer	" 28	124	59	"	11	"	6,160	112	32	40	on leaves.
3	Siberian	" 24	120	62	Medium	12	Sided	7,200	111	26	39½	" "
4	Joanette	" 28	124	54	"	10	Branching	7,940	111	26	36½	" "
5	Golden Tartarian	" 26	122	52	Weak	10	Sided	7,020	111	6	38	" "
6	Twentieth Century	" 20	116	52	"	10	Branching	4,440	110	20	41	" "
7	Columbus	" 25	121	50	"	9	"	7,240	110	20	40	" "
8	Golden Beauty	" 26	122	51	"	10	"	7,240	110	20	41	" "
9	American Triumph	" 23	119	50	"	9	"	6,260	110	..	41	" "
10	Tartar King	" 23	119	50	"	9	Sided	5,660	110	..	42	" "
11	Early Golden Prolific	" 26	122	54	"	11	Branching	7,280	109	14	41	" "
12	Kendal White	" 23	119	56	"	9	"	7,300	108	28	41½	" "
13	Scotch Potato	" 23	119	54	Medium	10	"	7,160	107	2	40	" "
14	Mennonite	" 20	116	50	Weak	9	"	6,380	106	16	39½	" "
15	Improved American	" 24	120	52	"	9	"	6,220	105	10	42½	" "
16	White Giant	" 22	118	54	Medium	9	"	5,840	104	24	42	" "
17	Golden Giant	" 28	124	56	"	10	Sided	7,840	104	24	37	" "
18	Danish Island	" 20	116	55	Weak	10	Branching	5,840	104	24	42½	" "
19	Lincoln	" 24	120	54	"	10	"	5,920	102	12	41½	" "
20	Milford White	" 24	120	52	"	10	Sided	8,120	102	12	41½	" "
21	Holstein Prolific	" 21	117	50	Medium	10	Branching	6,740	101	26	40½	" "
22	Golden Fleece	" 27	123	50	Weak	9	"	8,140	101	6	40	" "
23	Waverley	" 22	118	52	"	10	"	6,960	101	6	42	" "
24	American Beauty	" 24	120	50	"	8	"	7,160	101	6	40	" "
25	Buckbee's Illinois	" 20	116	54	"	9	"	6,960	101	6	41	" "
26	Improved Ligowo	" 20	116	57	"	9	"	5,360	101	6	42	" "
27	Bavarian	" 21	117	57	"	8	"	7,400	100	..	38½	" "
28	Storm King	" 22	118	53	"	11	Sided	5,820	99	14	38	" "
29	Wide Awake	" 20	116	58	Medium	8	Branching	5,620	99	14	39½	" "
30	Irish Victor	" 24	120	56	Weak	10	"	6,860	98	8	42¼	" "
31	Abundance	" 21	117	53	Medium	9	"	5,440	95	30	40	" "
32	Banner	" 20	116	55	Weak	10	"	5,960	95	10	40	" "
33	Swedish Select	" 20	116	54	"	9	"	5,980	94	24	40½	" "
34	Olive Black	" 28	124	57	Medium	12	Sided	8,460	92	12	36¾	" "
35	Kirsche	" 26	122	52	"	9	Branching	7,740	90	..	39½	" "
36	Baxter's July	" 8	104	60	Weak	10	"	7,540	90	..	40	Slightly on leaves.
37	Kendal Black	" 28	124	57	Medium	10	Sided	6,560	89	14	40	Considerably
38	Milford Black	" 28	124	55	"	10	"	7,320	84	24	37	on leaves.
39	Sensation	" 20	116	53	Weak	10	"	6,400	82	12	41	" "
40	Black Beauty	" 28	124	56	"	13	Branching	5,660	74	24	36	" "
41	Thousand Dollar	" 19	115	54	Medium	11	"	5,900	73	18	41½	" "

The Baxter's July oat was received in the spring of 1905, from B. J. Baxter, Pense, Sask., under that name. This sort was cut on August 8, while the earliest other variety was cut August 20. The straw was very weak, but in ordinary years it may be much stiffer. The yield was 90 bushels per acre, and on account of earliness this variety is worthy of further trial.

EXPERIMENTS WITH OATS IN FIELD LOTS.

Twelve varieties were sown April 24 to 28, in field lots, on clay loam, and all gave good yields and good samples. Banner again heads the list for the best yield. All the varieties were more or less down, but there was no rust worth mentioning.

OATS—TEST OF VARIETIES IN FIELD LOTS.

Name of Variety.	Size of Plot.	Date of Ripening.	No. of Days Maturing.	Length of Straw including Head.	Character of Straw.	Length of Head.	Kind of Head.	Yield per Acre.		Weight per measured bushel after cleaning.
	Acres.			Inches.		In.		Bush.	Lbs.	Lbs.
Banner	10	Aug. 20	118	60	Medium	10	Branching	107	13	41
Danish Island	5	" 19	113	56	Strong	10	"	99	20	42½
White Giant	5	" 19	116	51	"	10	"	98	6	41½
Goldfinder	3	" 18	114	58	Weak	10	"	94	30	38
Improved Ligowo	5	" 19	116	55	Medium	10	"	90	28	41
Abundance	5	" 27	124	50	Strong	9	"	89	..	40
Wide Awake	5	" 18	115	55	"	10	"	89	..	43½
Thousand Dollar	2¾	" 18	112	52	Medium	9	"	89	..	41
Waverley	2¾	" 18	112	54	Strong	9	"	87	23	42½
Welcome	4	" 18	115	52	Weak	9	"	86	..	39
Tartar King	3½	" 18	114	60	Medium	9	Sided	84	28	41
Black Beauty	3	" 18	114	54	Weak	10	Branching	84	..	38½

OAT CROP AND AVERAGE YIELD.

Variety.	Cultivation.	Acres..	Yield per Acre.		Total Yield.	
			Bush.	Lbs.	Bush.	Lbs.
Banner	Fallow	10	107	13	1,073	28
Danish Island	"	5	99	20	497	32
White Giant	"	5	98	6	490	30
Goldfinder	"	3	94	30	284	22
Improved Ligowo	"	5	90	28	454	4
Abundance	"	5	89	..	445	..
Wide Awake	"	5	89	..	445	..
Thousand Dollar	"	2¾	89	..	244	25
Waverley	"	2¾	87	23	241	4
Welcome	"	4	86	..	344	..
Tartar King	"	3½	84	28	296	30
Black Beauty	"	3	84	..	252	..
		54			5,070	5

An average of 93 bushels 30 lbs. per acre.

FIELD LOTS OF OATS.

COMPARISON OF NINE VARIETIES FOR FIVE YEARS.

Following are given the average number of days maturing and average yield for the last five years of nine varieties of oats, grown in field lots under similar conditions. They were sown each year on fallowed land.

Variety.	Average time maturing for 5 years.	Average yield for 5 years.	
	Days.	Bush.	Lbs.
Banner	111·2	103	7
Abundance	114·	95	12
Wide Awake	111·4	91	..
Goldfinder	115·6	90	19
Black Beauty	112·6	88	4
Tartar King	109·6	86	5
Waverley	112·	83	5
Thousand Dollar	111·8	82	2
Improved Ligowo	112·2	82	2

EXPERIMENTS WITH BARLEY.

Fifteen varieties of two-rowed and 19 of six-rowed barley were sown on one-twentieth acre plots clay loam on April 27 to 29, with hoe drill, at the rate of two bushels of seed per acre. All gave good returns, with bright, plump samples. Some plots had to be cut with the mower, and all were badly lodged.

BARLEY TWO-ROWED—TEST OF VARIETIES.

Number.	Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw, including head	Character of Straw.	Length of Head.	Weight of Straw.	Yield per Acre.		Weight per measured bushel after cleaning.
				In.		In.	Lbs.	Bush.	Lbs.	Lbs.
1	Beaver	Aug. 14..	107	46	Medium	4	4,660	75	..	53½
2	Invincible	" 17 .	110	46	"	3	5,820	74	28	54
3	Gordon	" 13..	108	51	"	3	3,300	64	28	52½
4	Standwell	" 18..	111	48	"	2½	6,220	62	4	53½
5	Swedish Chevalier	" 18..	111	43	"	3½	5,340	59	28	54
6	Newton	" 19..	112	49	"	3	5,660	57	4	53½
7	Danish Chevalier	" 18..	111	40	"	3¼	6,140	55	20	52½
8	Canadian Thorpe	" 13..	106	48	Weak	3	5,160	55	..	52½
9	Clifford	" 14 .	107	48	"	4	4,520	51	32	53
10	Sidney	" 14..	109	47	"	4	4,340	51	12	54
11	French Chevalier	" 15..	108	44	"	3¼	4,000	50	20	53
12	Jarvis	" 14..	109	50	Medium	4	4,000	50	..	53
13	Logan	" 14..	109	48	Weak	3½	3,700	47	44	52½
14	Harvey	" 13..	106	46	Medium	3¾	3,920	47	24	53
15	Dunham	" 14..	107	50	Weak	3	4,000	41	32	54

BARLEY SIX-ROWED—TEST OF VARIETIES.

Number.	Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw including head.	Character of Straw.	Length of Head.	Weight of Straw.	Yield per Acre.		Weight per measured bushel after cleaning.
				In.		In.	Lbs.	Bush.	Lbs.	Lbs.
1	Stella	Aug. 15..	108	43	Medium....	2	4,220	82	44	53½
2	Nugent	" 15..	108	45	"	3	5,020	78	36	51
3	Claude	" 14..	107	45	"	2½	4,640	74	8	50½
4	Blue Longhead	" 15..	108	43	" ...	2½	3,860	73	36	47
5	Yale	" 16..	109	43	" ...	2½	3,880	73	16	51
6	Mansfield	" 12..	105	46	"	2	6,040	70	..	53
7	Mensury	" 12..	105	50	Strong.....	3	7,080	69	8	52
8	Common	" 11..	104	42	Weak	2	5,660	65	20	54
9	Rennie's Improved	" 10..	103	43	Medium....	2½	6,360	63	16	54
10	Summit	" 14..	107	49	Strong.....	2½	6,780	62	44	52
11	Trooper	" 13 .	106	47	Weak	3	6,000	62	24	52½
12	Empire	" 14..	107	44	Medium....	2¾	6,400	62	24	52½
13	Oderbruch	" 10..	103	44	Weak	2½	6,200	62	24	54½
14	Odessa	" 16..	109	44	Medium....	2¼	6,420	62	4	52½
15	Argyle	" 12..	105	49	"	2¼	7,020	62	4	53
16	Brome	" 16..	109	45	Weak	3	7,060	61	12	51½
17	Royal	" 10..	103	45	"	2¼	6,080	60	40	53
18	Albert	" 14..	107	45	Medium....	2¾	5,840	57	24	54½
19	Champion	" 7..	100	43	Weak	2¾	5,260	36	12	48

FIELD LOTS OF BARLEY.

Nine varieties of barley were sown in field lots. Nearly all the yields were above the average, and all the varieties gave a good sample. Mensury was sown on Brome Grass sod, broken and back-set the previous year, and Canadian Thorpe was put in on land which gave a root crop in 1904. Sidney was sown on fallow, and also on Brome sod. The other kinds were all on fallow. All were sown on clay loam.

BARLEY—TEST OF VARIETIES IN FIELD LOTS.

Name of Variety.	Size of Plot.	Date of Sowing.	Date of Ripening.	No. of Days Maturing.	Length of Straw, including head.	Character of Straw.	Length of Head.	Kind of Head.	Yield per Acre.		Weight per measured bushel after cleaning.
	Acres				In.		In.		Bush.	Lbs.	Lbs.
Odessa	3	April 29	Aug. 13	106	55	Weak	3	Six-rowed ..	73	34	51
Claude	3½	" 27	" 13	108	48	Medium ..	3	" ..	72	22	49
Mansfield	5	" 26	" 12	108	50	Strong ...	2½	" ..	70	45	51½
Standwell	4	May 1	" 24	115	50	Weak ...	3¼	Two-rowed..	64	40	52
Mensury	5	" 1	" 12	103	52	Strong ...	3¼	Six-rowed ..	62	18	50½
Royal	1¾	April 29	" 11	104	47	Weak	3	" ..	59	42	52
Invincible	3½	May 1	" 24	115	48	Medium..	3½	Two-rowed..	57	6	53½
Sidney	2¼	" 1	" 17	108	45	" ..	4¼	" ..	56	15	53½
Canadian Thorpe	3	" 2	" 17	107	48	Strong ...	3	" ..	54	18	53
Sidney	2	" 1	" 17	108	43	" ...	4	" ..	46	2	53½

Banner Oats in Stook, Experimental Farm, Indian Head, Sask. *Photo. by C. E. Saunders.*

BARLEY CROP AND AVERAGE YIELD.

Variety.	Cultivation.	Acres.	Yield per Acre.		Total Yield.	
			Bush.	Lbs.	Bush.	Lbs.
Odessa	Fallow	3	73	34	221	6
Claude	"	3½	72	22	253	29
Mansfield	"	5	70	45	354	33
Standwell	"	4	64	40	259	16
Mensury	Brome-sod	5	62	18	311	42
Royal	Fallow	1¾	59	42	122	14
Invincible	"	3½	57	6	203	42
Sidney	"	2¼	56	15	126	34
Canadian Thorpe	Root land	5	54	18	271	42
Sidney	Brome-sod	2	46	2	92	4
		35			2,217	22

An average of 63 bushels 17 lbs. per acre.

FIELD LOTS OF BARLEY.

COMPARISON OF NINE VARIETIES FOR FIVE YEARS.

Following will be found the average number of days maturing and average yield for the past five years of nine varieties of barley. These were grown for the most part in field lots on fallow, but in one or two cases, where the varieties were not grown under these conditions, the yields of the uniform tests were taken, or yields of field plots grown on stubble or sod, in order to get figures for the five years.

Variety.	Average time maturing for five years	Average yield for five years.	
	Days.	Bush.	Lbs.
Claude	104·2	64	46
Royal	100·2	60	17
Odessa	100·	59	43
Mensury	99·	58	29
Mansfield	103·8	58	25
Invincible	110•	57	..
Sidney	104·2	56	8
Standwell	107·8	50	21
Canadian Thorpe	105·6	50	..

EXPERIMENTS WITH PEASE.

Thirty varieties of field pease were sown on one-twentieth acre plots, on May 2 on corn land ploughed in fall of 1904. Two bushels of small, 2½ bushels of medium and 3 bushels of large pease were sown to the acre. Soil, clay loam.

All sorts made a fine growth of straw, were well podded and ripened early.

PEASE—TEST OF VARIETIES.

Number.	Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Length of Pod.	Size of Pea.	Yield per Acre.		Weight per Bushel.
				In.	In.		Bush.	Lbs.	Lbs.
1	Kent	Aug. 28..	118	67	2¼	Medium	70	..	63¼
2	Paragon	" 31 .	121	58	3	" ...	69	40	65
3	Chancellor	" 29..	119	79	3	Small	69	20	65
4	Golden Vine	Sept. 1..	122	68	2½	"	67	40	64
5	Mackay	" 1..	122	55	3	Large	65	40	65
6	Pride	" 1..	122	70	2	Small	64	40	64
7	Gregory	Aug. 31..	121	67	3	Medium	62	..	64
8	Agnes	" 30..	120	85	3	Large	61	40	63
9	Duke	" 31..	121	60	3	Medium	59	40	64
10	English Grey	" 31..	121	74	3¼	Large	58	20	62½
11	Victoria	" 30..	120	61	3¼	Medium	58	..	64
12	Carleton	Sept. 1..	122	62	3	"	58	..	64
13	White Wonder	Aug. 29..	119	65	3	Large	57	40	65
14	Nelson	" 29..	119	52	3	Medium	57	40	64½
15	Dan O'Rourke	" 31..	121	68	2	Small	57	..	65½
16	Black Eye Marrowfat	Sept. 1..	122	56	3	Large	57	..	64
17	Prince Albert	Aug. 31..	121	88	2¾	Small	56	40	65
18	Archer	" 2..	123	73	2½	Medium	56	20	64
19	Macoun	" 30..	120	70	3¼	"	56	20	64½
20	Picton	" 28..	118	68	2¾	"	56	..	64½
21	Early Britain	" 31..	121	65	2¾	Small	55	40	64½
22	Crown	" 30..	120	73	2½	"	54	20	64½
23	Prussian Blue	" 30	120	56	3	Medium	53	..	64½
24	Pearl	" 1..	122	70	2¾	"	52	..	63½
25	White Marrowfat	" 2..	123	75	3	Large	51	..	65
26	Mummy	" 30..	120	60	3	Small	51	..	65
27	Prince	" 29..	119	60	3	"	48	40	64
28	Wisconsin Blue	" 2..	123	57	2¾	"	47	40	65
29	Arthur	" 28	118	75	2½	Large	45	40	64½
30	German White	" 30..	120	60	3	Medium	42	40	64½

GARDEN PEASE.

A test was made with sowing garden pease with grain drill alongside of the field varieties. The returns received were quite satisfactory, and show that a profitable crop can be grown. Plots were one-twentieth acre each.

PEASE—TEST OF VARIETIES.

Number.	Variety.	Yield per Acre.		Weight per measured Bushel.
		Bush.	Lbs.	Lbs.
1	Alaska	50	20	65
2	Shropshire Hero	49	10	56¾
3	Premium Gem	45	20	59¾
4	Horsford's Market Garden	44	40	59
5	Stratagem	43	40	59
6	Laxton's Charmer	43	..	58
7	Champion of England	40	..	59
8	American Wonder	39	20	60

FIELD LOTS OF PEASE.

Five varieties of pease were sown on May 3 and 4 in large plots—from 2½ acres to one-sixth acre. The soil was clay loam. They were pulled by a pea harvester attached to an ordinary mower, and were threshed by threshing machine, with entire concave removed. A considerable proportion were split in the operation.

PEASE—FIELD LOTS.

Number.	Name of Variety.	Size of Plot.	Date of Ripening.	Number of Days Maturing.	Character of Growth.	Length of Straw.	Length of Pod.	Size of Pea.	Yield per Acre.	Weight per Bushel.
		Acres.				In.	In.		Bush. Lbs.	Lbs.
1	Dan. O'Rourke	½	Aug. 28	116	Strong	62	2¼	Medium	53 24	65
2	White Wonder	1/3	" 28	116	"	80	3	Large	49 50	64
3	Golden Vine	½	" 29	118	"	63	2¼	Small	49 ..	65¼
4	Arthur	2½	" 24	113	"	61	2¼	Large	47 50	65
5	German White	1/6	" 29	117	"	65	2¼	Medium	35 33	63

ROTATION CROPS.

The rotation tests commenced in 1899 were continued this year. Several of the half acres of grain on fallowed land were rusted. The soil was a clay loam.

Below is given a list of the plots with the different rotations of crops grown on them:—

No.	1899 and 1902.	1900 and 1903.	1901 and 1904.	1905.
1	Wheat	Oats	Soja Beans	Wheat.
2	"	Wheat	Pease	"
3	"	Oats	Tares	"
4	"	Wheat	Red Clover	"
5	"	Barley	Alsike and Alfalfa	"
6	Pease	Wheat	Wheat	Pease.
7	Tares	"	Oats	Tares.
8	Soja Beans	"	"	Soja Beans.
9	Red Clover	"	Wheat	Red Clover.
10	Alsike and Alfalfa	"	Barley	Alsike and Alfalfa.
11	Rape	"	Summer fallow	Timothy.
12	Wheat	"	"	Wheat.
13	"	Oats	"	"
14	"	Barley	"	"
15	"	Wheat	Oats	"
16	"	Barley	"	"
17	Oats	Soja Beans	Wheat	Oats.
18	Wheat	Pease	"	Wheat.
19	Oats	Tares	"	Oats.
20	Wheat	Red Clover	"	Wheat.
21	Barley	Alsike and Alfalfa	"	Barley.
22	Rye	Summer fallow	"	Common Emmer.

Rotation test.—Results obtained in 1905. Plots ½ acre each. Soil, clay loam.

GRAIN—ROTATION TEST.

Number.	Name of Variety.	Date of Sowing.	Date of Ripening.	No. of days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Kind of Head.	Yield per Acre.	
					In.		In.		Bush.	Lbs.
1	Wheat, Red Fife.	April. 5..	Aug. 27..	144	52	Medium..	4	Bald.....	33	20
2	" "	" 5..	" 27..	144	56	Strong ...	4	"	27	48
3	" "	" 5..	" 27..	144	54	"	3¾	"	31	24
4	" "	" 5..	" 27..	144	51	"	4	"	28	32
5	" "	" 5..	" 27..	144	51	"	3¾	"	28	54
6	Pease	May 3..			Ploughed under.					
7	Tares.....	" 3..			"	"				
8	Soja Beans	" 17..			"	"				
9	Red Clover.....	" 18..			"	"				
10	Alsike and Lucerne...	" 18..			"	"				
11	Timothy.....	.....			"	"				
12	Wheat, Red Fife.....	April 5..	Aug. 27..	144	52	Medium..	4	Bald.....	34	10
13	" "	" 5..	" 27..	144	53	Strong ...	3¾	"	38	52
14	" "	" 5..	" 27..	144	52	"	4	"	32	54
15	" "	" 5..	" 27..	144	51	"	4	"	32	46
16	" "	" 5..	" 27..	144	49	"	3¼	" ...	18	24
17	Oats, Banner..	" 26..	" 22..	118	48	"	9	Branching	42	12
18	Wheat, Red Fife.....	" 5..	" 26..	143	47	"	3	Bald ...	18	26
19	Oats, Banner	" 26..	" 22..	118	50	" ...	9	Branching	52	18
20	Wheat, Red Fife.....	" 5..	" 26..	143	50	"	3	Bald . . .	23	28
21	Barley, Mensury	May 2..	" 9..	99	48	"	3½	6-rowed ..	43	28
22	Common Emmer.....	" 2..	" 26..	116	48	"	3	Bearded..	1866	

EXPERIMENT WITH FALL RYE.

One-quarter acre of fallowed land was sown with fall rye on September 10, 1904. Ripe August 3. Straw was medium strength, 77 inches long. Length of head, 4½ inches. Yield per acre, 40 bushels; weight per bushel, 58½ lbs. It gave a large crop of straw as well as of grain, and is well worth growing for early fodder or for grain.

EXPERIMENT WITH SPRING RYE.

Sown on one-twentieth acre plot of fallowed land, April 8. Ripe August 12; time to mature, 126 days. Straw medium; 60 inches long; weight of straw per acre, 3,000 lbs. Length of head, 3¼ inches. Yield per acre, 53 bushels, 32 lbs. Weight per measured bushel, 59 lbs. Straw was light in comparison with the winter variety, though the yield of grain was heavier.

EXPERIMENT WITH TARES.

Sown on one-twentieth acre plot of fallowed land, May 2. Ripe September 5; time to mature, 126 days. Length of straw, 59 inches; pod, 2 inches; weight of straw per acre, 3,800 lbs. Yield per acre, 59 bushels, 15 lbs., weighing 64½ lbs. per measured bushel.

EXPERIMENT WITH CANARY GRASS.

(Phalaris canariensis).

One-twentieth acre of fallowed land was sown with Canary Grass seed on May 2. Ripe August 28; time to mature, 118 days. Straw strong; length, 44 inches; heads, 1½ inches long. Weight of straw per acre, 2,340 lbs. Yield per acre, 20 bushels, 40 lbs. Standard weight of bushel, 48 lbs. Weight per measured bushel, 58 lbs.

EXPERIMENT WITH SOJA BEANS.

Sown May 17, in rows 28 inches apart, on one-twentieth acre plot of fallowed land. They were in flower when killed by frost on October 1. Yield per acre of dry fodder, 2 tons, 400 lbs. Cut, October 9.

EXPERIMENT WITH HORSE BEANS.

Sown May 17, in rows 28 inches apart, on one-twentieth acre plots of fallowed land. Height when cut on October 9, 48 inches. Weight of dry fodder per acre, 3½ tons.

EXPERIMENT WITH MILLETS.

Five varieties were sown on May 16 and 17 on one-fortieth acre plots of fallowed land. Three varieties germinated very poorly and were ploughed up. The other two plots were cut on September 12, partially ripe.

Variety.	Date Sown.	Height when Cut.	Yield per Acre Dry Fodder.	
		Inches.	Tons.	Lbs.
Moha Hungarian	May 17	38	3	92
Moha Green Californian	" 17	36	2	1,238
Cat Tail	" 16	Plowed up.	..	..
White Round French	" 16	"	..	..
Italian	" 16	"	..	..

EXPERIMENTS WITH FLAX.

Five varieties of flax were sown on one-fortieth acre plots of land, which had produced a corn crop the previous year. Sown May 16, by grain drill, at the rate of 40 lbs. per acre.

Common flax was sown on the same date at the rate of 20, 30, 40 and 50 lbs. seed per acre, one-twentieth acre of each being put in. Sown on corn land, same as the preceding test.

Common flax was sown on fallowed land on May 15, on a plot 1¼ acres in extent. Details of these tests are given below. The soil in all cases was a clay loam.

FLAX—TEST OF SOWING DIFFERENT QUANTITIES OF SEED PER ACRE.

Quantity of Seed per Acre.	Size of Plot.	Date of Sowing.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Character of Straw.	Weight of Straw.	Yield per Acre.	Weight per Bushel.
	Ac.				In.		Lbs.	Bush. Lbs.	Lbs.
20 lbs	$\frac{1}{20}$	May 16..	Aug. 17..	93	32	Strong ...	1,500	14 16	.....
30 "	$\frac{1}{20}$	" 16..	" 17..	93	33	" ...	2,080	20 40	.....
40 "	$\frac{1}{20}$	" 16..	" 17..	93	34	" ...	1,840	18 32	.....
50 "	$\frac{1}{20}$	" 16..	" 17..	93	30	" ...	2,260	21 44	.....

FLAX—TEST OF VARIETIES.

Yellow Seeded	$\frac{1}{40}$	May 16..	Aug. 20..	96	30	Strong ...	2,500	24 ..	54½
Riga	$\frac{1}{40}$	" 16..	" 17..	93	33	" ..	1,840	22 48	54½
Common	$\frac{1}{40}$	" 16..	" 17..	93	35	" ...	2,000	17 8	55½
White Flowering	$\frac{1}{40}$	" 16..	" 20..	96	26	" ...	1,780	16 24	54½
Improved Russian	$\frac{1}{40}$	" 16..	" 17..	93	32	" ...	1,720	15 40	55½
Common Flax	$1\frac{1}{4}$	" 15..	" 17..	94	36	" ...	.....	13 24	.....

HAY CROP.

While a good yield of hay was obtained from Brome and Western Rye grass the past season, it was not so heavy as in former years, from the fact that all the fields have been in hay for several years. The various sorts of Alfalfa came through the winter quite safely, and gave good yields. Red clover was half killed, the balance being left to ripen and cut for seed. Considerable Alfalfa was also cut for seed.

Meadow Fescue, sown in 1904, gave a fair return.

Kentucky Blue grass, and Orchard grass (two-thirds of which was a mixture of other sorts), gave good crops.

Alsike sown in 1904, did not stand the winter.

From the past season's tests, favourable hopes are entertained that many varieties of grasses that were all failures in the early years of the farm may yet prove successful in the future.

In May last, the Agricultural Department at Washington sent to this farm alfalfa seed for sowing, which had been obtained from the following places: Utah, Northern Montana, Southern Montana, Peru, Nebraska, New York, Turkestan, Minnesota (Grimm), and some first quality commerical seed. These were all sown in plots varying in size according to quantity of seed of each sort received. They all germinated, and made a vigorous growth during the season.

Seed of Red clover and Alfalfa, both inoculated and untreated, were sent up from the Central Experimenal Farm, Ottawa, for trial. These made a vigorous growth, and except going over them with a mower, they were not cut. The inoculated alfalfa showed a somewhat stronger growth than the untreated seed, but the two clover plots were almost equally good.

YIELDS OF HAY PER ACRE.

Brome Grass—(Bromus inermis).

Size of Plot. — Acres.	—	Yield per Acre.	
		Tons.	Lbs.
½	Sown 1899, renewed by ploughing shallow, 1904	1	1,500
4½	" 1900	..	1,440
12	" 1901	1	1,110
2¼	" 1899	..	1,762
5½	" 1900	..	1,430

Western Rye Grass—(Agropyrum tenerum).

2	Sown 1902	1	632
2	" 1901	2	1,000
⅔	" 1904	3	....

Small Plots of Clover and Grasses.

—	Sown.	Yield per Acre.			
		1st Cutting.		2nd Cutting.	
		Tons.	Lbs.	Tons.	Lbs.
Common Alfalfa	1904..	2	222	1	900
Turkestan Alfalfa	1904..	2	1,480	1	1,360
Utah Alfalfa	1904..	2	1,000	1	1,080
Meadow Fescue	1904..	1	1,000	..	....
Timothy	1902..	..	940	..	....
Orchard Grass	1904..	1	700	..	....
Kentucky Blue Grass	1904..	2	555	..	....

EXPERIMENTS WITH INDIAN CORN.

Twenty-two varieties were sown on May 19, on clay loam in drills 36 inches apart, and also in hills 3 feet apart each way. Three varieties were also sown in drills at four different distances apart.

The land was fallowed the previous year, but not manured.

The corn was cut on September 8, the yield per acre of green fodder being calculated from the weight of two rows, each 66 feet long. All the varieties made a strong growth.

After wilting slightly, the corn was cut up and put in silo. In addition to the uniform tests, five acres were sown with corn for ensilage.

INDIAN CORN—TEST OF VARIETIES.

Number.	Name of Variety.	Height.	Condition when cut.	Weight per acre grown in rows.		Weight per acre grown in hills.	
		In.		Tons.	Lbs.	Tons.	Lbs.
1	Eureka	92	Tasselled	19	1,600	15	1,900
2	Superior Fodder	84	Not tasselled	19	1,600	12	750
3	Pride of the North	90	In silk	19	500	16	1,000
4	Red Cob Ensilage	90	Not tasselled	18	850	11	550
5	Selected Leaming	86	Tasselled	18	300	12	750
6	Thoroughbred White Flint	67	Not tasselled	17	650	14	600
7	Compton's Early	80	In silk	17	650	9	150
8	Salzer's All Gold	84	Not tasselled	16	1,550	15	1,350
9	Northern Dent	90	Tasselled	16	450	12	1,300
10	North Dakota White	60	In silk	15	1,350	11	1,100
11	White Cap Yellow Dent	90	Tasselled	14	600	12	200
12	Mammoth Cuban	90	In silk	14	600	10	350
13	Champion White Pearl	92	Tasselled	14	50	12	1,300
14	Giant Prolific Ensilage	83	"	14	50	11	1,650
15	Longfellow	78	In silk	13	1,500	12	200
16	Angel of Midnight	80	"	13	950	14	50
17	King Philip	80	"	13	400	13	1,500
18	Early Mastodon	84	Early milk	13	400	11	1,650
19	Evergreen Sugar	80	In silk	12	1,850	10	900
20	Early Butler	90	Early milk	11	1,100	12	1,300
21	Cloud's Early Yellow	85	Tasselled	11	..	12	1,300
22	Compton's Early	80	Early milk	11	..	11	1,650

TEST OF SEEDING AT DIFFERENT DISTANCES.

Sown in rows by grain seeder May 19; cut September 9; all made strong growth. Cultivation of land same as for preceding test.

Name of Variety.	Distance between rows.	Height.	Weight per acre grown in rows.	
	Inches.	Inches.	Tons.	Lbs.
Longfellow	21	80	21	1,378
"	28	78	17	1,425
"	35	80	15	1,696
"	42	82	13	1,818
Selected Leaming	21	92	18	1,720
"	28	90	15	465
"	35	90	15	564
"	42	88	13	875
Champion White Pearl	21	94	13	604
"	28	96	14	340
"	35	96	13	1,168
"	42	100	13	404

ROOT CROPS.

The root crops this year of all sorts have never been surpassed since the Farm was started, yield and quality being considered. Turnips, mangels, carrots and sugar beets were all extra good.

All root seeds, including carrots, were sown with ordinary grain hoe-drill, which proved satisfactory, saving considerable labour in making drills. The yields were computed from the weight of two rows, 66 feet long and 30 inches apart.

EXPERIMENTS WITH TURNIPS.

Twenty varieties were sown, the soil was a clay loam; the first sowing was on May 17, and the second sowing on the 26th. They were all pulled on October 23.

Turnips—Test of Varieties.

Number.	Name of Variety.	Yield per Acre. 1st Plot.				Yield per Acre. 2nd Plot.			
		Tons.	Lbs.	Bush.	Lbs.	Tons.	Lbs.	Bush.	Lbs.
1	Halewood's Bronze Top	38	1,484	1,291	24	24	1,368	822	48
2	Carter's Elephant	34	1,168	1,152	48	23	728	778	48
3	Sutton's Champion	33	1,980	1,133	..	24	1,764	829	24
4	Hall's Westbury	32	1,868	1,097	48	34	376	1,139	36
5	Good Luck	31	1,228	1,053	48	30	324	1,005	24
6	Perfection	31	436	1,040	36	36	204	1,203	24
7	Skirving's	30	1,776	1,029	36	28	1,420	957	..
8	Emperor	30	720	1,012	..	28	628	943	48
9	Bangholm Selected	29	1,664	994	24	33	792	1,113	12
10	Magnum Bonum	29	1,400	990	..	20	128	668	48
11	Imperial	28	1,288	954	48	29	1,400	990	..
12	Kangaroo	27	1,836	930	36	26	668	877	48
13	Jumbo	26	1,196	886	36	27	1,836	930	36
14	Selected Purple Top	25	1,876	864	36	25	1,480	858	..
15	New Century	25	826	847	..	29	1,400	990	..
16	East Lothian	23	860	781	..	22	616	743	36
17	Elephant's Master	22	1,804	763	24	28	1,816	963	36
18	Drummond Purple Top	22	748	745	48	24	840	814	..
19	Hartley's Bronze	21	1,956	732	36	29	476	974	36
20	Mammoth Clyde	21	240	704	..	27	1,044	917	24

Mangels—Test of Varieties.

Sixteen varieties were sown on clay loam. The first sowing was on May 13, and the second on May 26, and both were taken up October 9.

Number.	Name of Variety.	Yield per Acre. 1st Plot.		Yield per Acre. 1st Plot.		Yield per Acre. 2nd Plot.		Yield per Acre. 2nd Plot.	
		Tons.	Lbs.	Bush.	Lbs.	Tons.	Lbs.	Bush.	Lbs.
1	Prizewinner Yellow Globe	40	124	1,335	24	25	28	833	48
2	Triumph Yellow Globe	37	1,240	1,254	..	29	476	974	36
3	Yellow Globe Selected	34	1,960	1,166	..	29	80	968	..
4	Mammoth Yellow Intermediate	34	1,828	1,163	48	24	312	805	12
5	Giant Yellow Intermediate	34	244	1,137	24	27	1,704	928	24
6	Half Sugar White	33	1,980	1,133	..	29	1,796	996	36
7	Yellow Intermediate	33	1,452	1,124	12	25	556	842	36
8	Lion Yellow Intermediate	33	396	1,106	36	28	1,420	957	..
9	Giant Sugar	32	284	1,071	24	27	252	904	12
10	Giant Yellow Globe	31	964	1,049	24	30	1,644	1,027	24
11	Prize Mammoth Long Red	29	1,004	983	24	23	596	776	36
12	Mammoth Long Red	28	1,156	952	36	29	608	976	48
13	Half Sugar Rosy	28	628	943	48	23	992	783	12
14	Selected Mammoth Long Red	27	120	902	..	22	1,936	765	36
15	Leviathan Long Red	26	404	873	24	23	1,916	798	36
16	Gate Post	25	1,848	855	48	22	220	737	..

Carrots—Test of Varieties.

Eleven varieties were sown on clay loam on April 19; and were pulled on October 23.

Number.	Name of Variety.	Yield per Acre.		Yield per Acre.	
		Tons.	Lbs.	Bush.	Lbs.
1	Ontario Champion	25	1,744	862	24
2	New White Intermediate	24	1,368	822	48
3	Giant White Vosges	21	1,296	721	36
4	Carter's Orange Giant	20	1,448	690	48
5	White Belgian	18	36	600	36
6	Early Gem	17	1,904	598	24
7	Mammoth White Intermediate	17	584	576	24
8	Kos Kirsche	16	1,792	563	12
9	Improved Short White	16	1,264	554	24
10	Half Long Chantenay	13	1,984	466	24
11	Long Yellow Stump-rooted	10	1,648	360	48

Sugar Beets—Test of Varieties.

Eight varieties of sugar beets were sown on clay loam. The first sowing was made on May 13, the second on May 26 and both lots were taken up on October 21.

Number.	Name of Variety.	Yield per Acre. — 1st Plot.		Yield per Acre. — 1st Plot.		Yield per Acre. — 2nd Plot.		Yield per Acre. — 2nd Plot.	
		Tons.	Lbs.	Bush.	Lbs.	Tons.	Lbs.	Bush.	Lbs.
1	Red Top Sugar	27	384	906	24	21	1,296	721	36
2	Royal Giant	27	252	904	12	23	1,368	800	48
3	Danish Improved	22	616	743	36	18	564	609	24
4	Improved Imperial	19	1,600	660	..	22	880	748	..
5	Vilmorin's Improved	16	1,396	556	36	16	228	563	48
6	Wanzleben	15	1,416	523	36	13	928	448	48
7	French Very Rich	15	888	514	48	15	1,812	530	12
8	Danish Red Top	12	1,872	431	12	24	840	814	..

EXPERIMENTS WITH POTATOES.

Forty-one varieties were under test at Indian Head in 1905. The soil was a clay loam summer-fallowed. The potatoes were planted on May 13, the sets being dropped in drills 30 inches apart. They were dug on October 3. There was no rot in any of the varieties; the yield and quality were excellent, and nearly all the tubers were marketable. While as large yields of potatoes have been grown in former years, the quality was not equal to those of this year's growth. The yield per acre has been obtained by weighing the potatoes from one row 132 feet long.

POTATOES—TEST OF VARIETIES.

	Name of Variety.	Average Size.	Total Yield per Acre.		Form and Colour.
			Bush.	Lbs.	
1	Seedling No. 7	Large	640	48	Oval, red.
2	Vermont Gold Coin	Medium	625	24	Oval, white.
3	Rochester Rose	Large	561	36	Long, red.
4	Reeve's Rose	Medium	530	48	Oval, red.
5	Carman No. 3	Large	525	12	Oval, white.
6	Late Puritan	Medium	519	48	Oval, white.
7	American Giant	Large	511	..	Long, white.
8	Uncle Sam	"	508	48	Oval, white.
9	Sabean's Elephant	"	491	12	Long, white.
10	Early St. George	Medium	491	12	Long, red.
11	Morgan's Seedling	Large	486	48	Oval, red.
12	Burnaby Mammoth	"	484	36	Long, red.
13	Maule's Thoro'bred	Medium	484	36	Oval, pink.
14	Dreer's Standard	"	475	48	Oval, white.
15	Rose No. 9	Large	473	36	Long, red.
16	Vick's Extra Early	Medium	462	36	Oval, pink.
17	Cambridge Russet	Large	460	24	Long, russet.
18	Country Gentleman	"	458	12	Oval, red.
19	Early Envoy	"	458	12	Oval, pink.
20	American Wonder	Medium	458	12	Long, white.
21	Penn Manor	Large	453	48	Long, red.
22	Money Maker	"	451	36	Oval, white.
23	Delaware	Medium	449	24	Oval, white.
24	Empire State	Large	447	12	Oval, white.
25	I. X. L.	Medium	442	48	Long, pink.
26	Carman No. 1	"	442	48	Oval, white.
27	Everett	Large	434	..	Long, pink.
28	State of Maine	"	418	36	Oval, white.
29	Pearce	"	398	48	Long, pink.
30	Early White Prize	Small	394	24	Oval, white.
31	Holborn Abundance	Large	392	12	Oval, white.
32	Early Andes	Small	392	12	Round, pink.
33	Enormous	Large	379	..	Long, white.
34	Early Elkinah	Small	365	48	Round, red.
35	Bovee	Medium	359	12	Oval, pink.
36	Dooley	Large	354	48	Round, white.
37	Canadian Beauty	"	348	12	Oval, pink.
38	Pingree	"	337	12	Oval, white.
39	Irish Cobbler	Medium	337	12	Round, white.
40	Swiss Snowflake	"	335	..	Oval, white.
41	Early Rose	Large	308	36	Oval, red.

SUMMARY OF CROPS, 1905.

	Bushels.
Wheat:	
10 varieties, 44 acres	1,762
12 half acres, rotation test	174
40 uniform test plots	78
	2,014
Oats:	
12 varieties, 54 acres	5,070
2 half acres, rotation test	47
41 uniform test plots	206
	5,323

Barley:		
9 varieties, 35 acres	2,217	
1 half acre, rotation test	22	
34 uniform test plots	102	
	2,341	
Pease:		
5 varieties, 4 acres	193	
38 uniform test plots	117	
	310	
Flax	20	
Rye	13	
	Tons.	Lbs.
Emmer and Spelt	..	4,302
Corn, ensilage	70	
Hay:		
Brome grass	31	
Rye grass	10	
Sundry grasses	1	800
Alfalfa	2	1,200
Hay cut in coulees	25	
	70	
	Bushels.	
Roots	5,000	
Potatoes	145	

VEGETABLE GARDEN.

The tests made the past year with vegetables were on the whole very satisfactory.

Onions, carrots, beets and cabbage were sown or planted in duplicate plots. The one had vegetables the previous year, and was manured and ploughed after the vegetables were taken up. The second plot was fallowed in 1904. As will be observed, the vegetables on the fallowed plot gave the largest return.

Asparagus.

There was a good crop from the old beds of asparagus; in use May 14 to July 13. The varieties grown are Barr's Mammoth, Barr's Elmira and Conover's Colossal.

BEANS—SOWN MAY 14 AND 20.

Variety.	Sown May 14.		Sown May 20.		Remarks.	Length of Pod.
	In use.	Ripe.	In use.	Ripe.		
						In.
Currie's Rust-proof	Aug. 1	Sept. 7	Aug. 14	Sept. 24	Wax	4-5
Challenge Black	" 1	" 7	" 14	" 24	"	4-5
Early Six Weeks	July 29	Aug. 30	" 7	" 24	Green	5-6
Fame of Vitry	Aug. 3	Did not ripen.	" 14	Did not ripen.	"	6-7½
Extra Early	July 29	Aug. 30	" 7	Sept. 24	"	4-5
Haricot	Aug. 1	Sept. 7	" 14	" 24	"	4-5
Emperor of Russia	" 1	" 7	" 16	Did not ripen.	"	5-6½
Golden Skinless	" 1	" 7	" 16	Sept. 24	Wax	3-4
Black Speckled	" 1	" 20	" 18	Did not ripen.	Green	4-6
Dwarf Kidney	July 29	" 7	" 14	Sept. 24	Wax	4-5

BROCCOLI.

Sown in hot-house March 31; set out May 17. Crop was a failure.

BEETS.

Sown in garden May 10, and on fallow May 16; in use July 19; pulled October 10. When thinning the rows on June 24, a number were transplanted. These beets were larger and rougher than those left where they were sown.

Variety.	Yield per Acre.				Remarks.
	First Seeding.	Transplanted.	Second Seeding.	Transplanted.	
	Bush.	Bush.	Bush.	Bush.	
Long Red Blood	690	500	429	710	
Egyptian	610	750	298	824	Fairly smooth.
Turnip Blood Red	732	715	480	880	Smooth.
Nutting's Improved	732	520	242	806	Seed badly mixed.

BRUSSELS SPROUTS.

Sown in hot-house March 31; set out May 18; in use September 1. Covered with sprouts of good quality.

CARROTS.

Variety.	In use.	Yield per Acre.		Remarks.
		Sown in Garden Apl. 30.	Sown on Fallow May 6.	
		Bush.	Bush.	
Early Gem	Aug. 4	520	829	Good quality.
Long Blood Red	" 6	533	630	Good quality.
Chantenay	July 29	497	533	Very good.
French Horn	" 12	605	666	Good early carrot.
Half Long Luc	" 29	701	713	Good.

The carrots were pulled on October 10.

Cauliflower.

Sown in hot-house March 31; set out May 18; second seeding April 11; set out May 27.

Variety.	First Sowing in Garden.		Second Sowing on Fallow.		Remarks.
	In use.	Average Weight.	In use.	Average Weight.	
		Lbs.		Lbs.	
Snowball	July 7	5	July 20	6	Best quality.
Earliest Dwarf Erfurt	" 11	5	" 20	5½	Good.
Half Early Paris	" 18	6	" 22	6½	Good.

Cabbage.

Sown in hot-house March 31; set out in garden May 18. Second sowing April 11 set out on fallow May 27.

Variety.	1st Seeding.		2nd Seeding.		Remarks.
	In Use.	Average Weight.	In Use.	Average Weight.	
		Lbs.		Lbs.	
Early Paris Market	July 14	5	Aug. 6	6	Good quality.
Winnigstadt Early	" 17	7	" 6	9	"
Extra Early Express	" 17	6	" 10	7	"
Early Midsummer Savoy	" 24	5	" 14	5	Poor, soft heads.
Early Jersey Wakefield	" 24	6	" 14	6	Good, solid heads.
Fottler's Drumhead	" 24	9	" 14	9	" "
Large Flat Drumhead	" 24	11	" 14	10	" "
Green Globe Savoy	" 20	7	" 12	8	Good heads.

Garden Corn.

Variety.	Tassel.	In Silk.	Green In Use.	Ripe.	Remarks.
Red Squaw, sown May 20	July 3	July 17	Aug. 10	Sept. 7	Small cobs.
White Squaw " 20	" 3	" 17	" 10	" 7	"
Peep o' Day " 20	" 17	" 30	" 20	" 14	Good.
Red Squaw " 28	" 12	" 22	" 15	" 8	
White Squaw " 28	" 12	" 22	" 15	" 8	
Peep o' Day " 28	" 21	Aug. 1	" 25	" 16	
Cross (Squaw and Fordhook Ey.), sown May 28	" 26	" 4	" 31	" 24	Poor cobs; grown too near hedge.
Thorndike, sown May 31	" 22	" 5	" 26	.....	Cobs good size and quality. Cut Sept. 14, but not quite ripe.

Celery.

Five varieties were tested: White Plume, Paris Golden Yellow, Rose-ribbed Paris, Red Large-ribbed and Giant Pascal. Sown in hot-house April 2; transplanted May 4; set out June 7; White Plume in use August 20, the other varieties September 1. The celery did not grow very large, but was of good quality.

Cucumbers.

Sown April 20 in hot-house; set out May 23.

——	Average length.	Remarks.
Early White Spine, in use from Aug. 11, until Sept. 25	6 in.	Good crop.
Cumberland " " 20 " " 25	8 "	"
Long Green " " 21 " " 25	8 "	"

The young plants were frozen back on June 24, and took 3 weeks to recover.

Citrons.

Red Seeded citron was sown in hot-house April 20; set out May 23; killed by frost June 24. Also sown in open June 24; a little fruit ripened September 30, averaging only 3 inches in diameter.

Lettuce.

Variety.	1st Sowing.	In Use.	Remarks.
All the year round	April 20	June 5	Fair.
Red Edged Victoria	" 20	" 5	"
Brown Stonehead	" 20	" 1	Very good.
Neapolitan	" 20	May 29	Best of all.
Trocadero	" 20	June 5	Fair.
Tom Thumb	" 20	" 5	Small, solid heads.
Cos, Trianon	" 20	" 5	Solid, coarse.
Cos, Green Paris	" 20	" 5	" "

Second seeding May 13; in use June 24. Third seeding June 10; in use July 18. Fourth seeding July 14; in use September 1. Fifth seeding July 29; in use September 24.

Melons.

Musk melon—Hamilton Market and New Garden Lemon, and Water melon—Phinney's Early were sown in hot-house April 20; set out May 23; injured by frost, June 24.

They were also sown in open on June 2. Hamilton Market ripened three melons of fair quality on September 16; the other sorts did not mature.

Onions.

Sown in open, April 30; pulled September 22.

Variety.	Size.	Yield per Acre.	Remarks.
		Bushels.	
Large Red Wethersfield	Large	266	Firm, good quality.
Silverskin	"	254	Rough, good for summer use.
Market Favorite	Medium	157	Fair quality.
Yellow Globe Danvers	"	145	Good.
Trebon's Large Yellow	Small	90	Did not mature properly.

Sown in open, May 6; pulled September 22.

Yellow Globe Danvers	Large	242	These would have yielded better, but high wind covered seed too deeply with drifting soil.
Trebon's Large Yellow	"	229	
Silverskin	"	223	
Large Red Wethersfield	Medium	175	
Market Favorite	Large	157	

Sown in hot-house, April 2; set out May 6; pulled September 22. Mixed seed.

Mixed seed	Very large	205	Very fine quality.

Parsnips.

Sown May 10; in use September 10.

Manitoba Prize Intermediate, 774 bushels per acre; solid, good quality. Hollow Crown, 484 bushels per acre; fair quality.

Parsley.

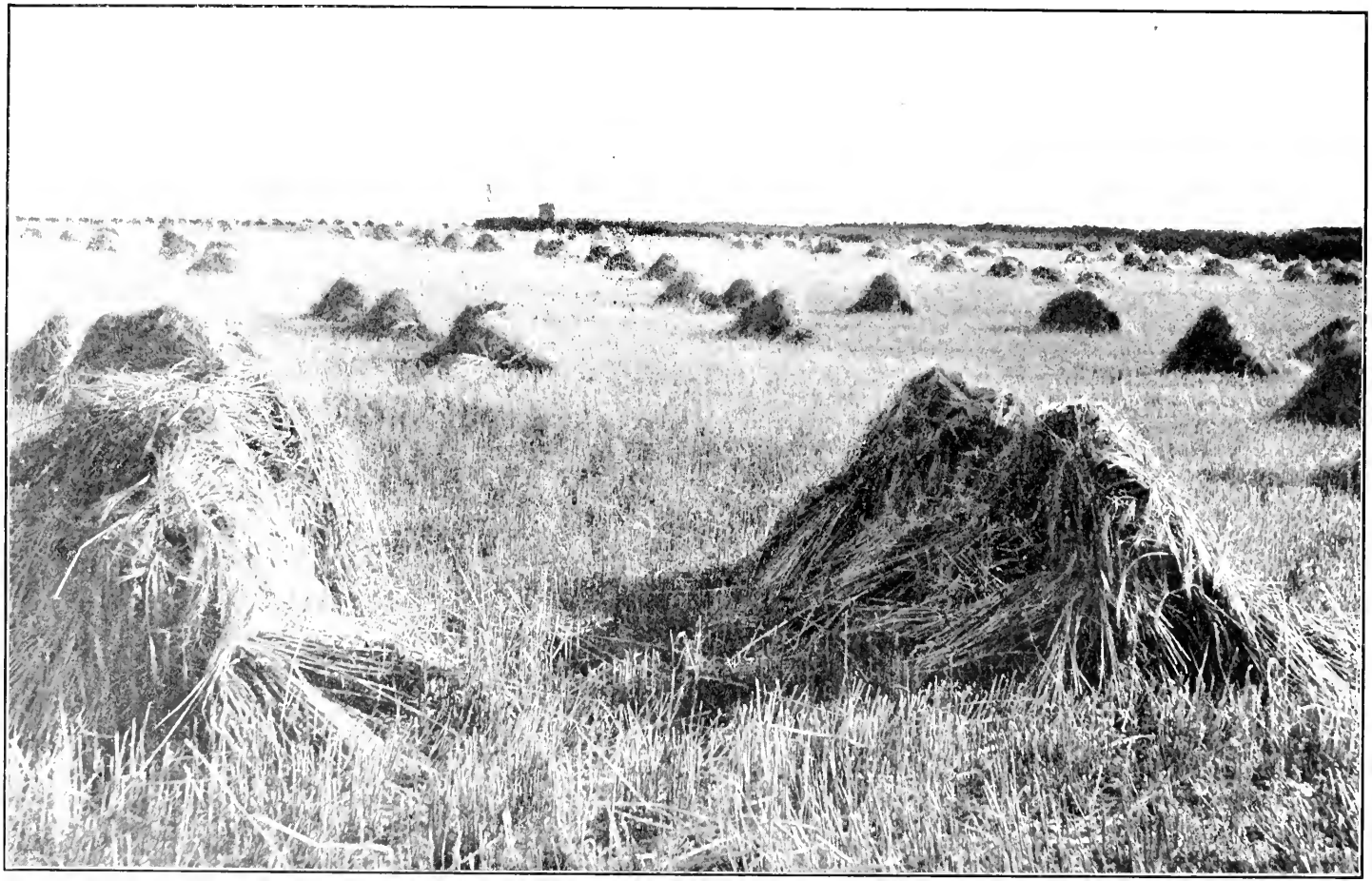
Moss Curled and Triple Curled, sown May 17; in use July 19. Made a fine growth.

Peppers.

Large Red Pepper. Sown in hot-house April 1; set out June 3. Pods about 4 inches long, but did not ripen.

Pumpkins.

Large Yellow Field Pumpkin, sown in hot-house April 20; set out May 23; first ripe September 12. A good crop of fair sized pumpkins.



Mensury Barley in Stook, Experimental Farm, Indian Head, Sask.

Photo. by C. E. Saunders.

Garden Pease.

Sown May 5 and May 16. Each lot did well.

Name.	Size.	In use.	Ripe.	Remarks.
Admiral	Small	July 26	Aug. 22	
Alaska	"	" 14	" 18	
American Wonder	Medium	Aug. 2	" 24	Best medium.
Anticipation	Large	" 2	" 28	Very good.
Burpee's Profusion	"	" 2	Sept. 2	
Extra Early	Medium	July 14	Aug. 16	
Everbearing	"	Aug. 2	" 26	
First of All	"	July 12	" 16	Good early pea.
First and Best	"	" 20	" 24	
Champion of England	"	Aug. 6	" 28	
Harrison's Glory	"	" 6	Sept. 1	
Horsford's Market Garden	Small	" 6	Aug. 28	
Laxton's Charmer	Medium	" 8	Sept. 1	
Nott's Excelsior	"	July 21	Aug. 18	Good quality.
Premium Gem	"	" 31	Sept. 1	
Rural New Yorker	Small	" 17	Aug. 16	
Surprise	"	" 14	" 16	Best early pea.
Stratagem	Very large	Aug. 8	" 30	Best all round pea.
Shropshire Hero	Medium	July 30	" 28	Poor crop.
Wm. Hurst	Small	" 21	" 21	One of the earliest.
Yorkshire Hero	Medium	Aug. 6	Sept. 1	Extra good.

Radish.

Five sowings of radishes were made, on April 30, May 9, May 28, June 24 and July 29. The first seeding grew too slowly, and the radishes were hot and stringy. The last seeding was too late. Following are results from other three seedings:—

Variety.	2nd Seeding. In use.	3rd Seeding. In use.	4th Seeding. In use.	Remarks.
Early Turnip Scarlet	June 12	June 28	July 21	Good quality.
Deep Scarlet	" 12	*	" 23	Fair quality.
Olive Scarlet	" 14	*	" 23	Very tender and crisp.
Olive White-tipped	" 14	June 30	" 23	" "
Early Scarlet White-tipped	" 12	*	" 23	Good.

*Not sown at third seeding.

Winter Radish.

Sown July 10 and 29; pulled October 20. Second sowing too late, and did not come to much.

Black Spanish, very large, but of poor quality.

Scarlet China, large and of good quality.

Sage.

Sown May 17; in use July 15; pulled September 12; very good.

Savory.

Sown May 17; in use July 15; pulled October 20; fair.

Spinach.

Bloomsdale and Victoria, sown May 17; in use July 12; quality good.

Tobacco.

Six varieties were sown in hot-house, April 3; transplanted to garden, June 3.

Name.	In Bloom.	First fit to pull.
Connecticut	July 1	August 25
Small Red Canadian	" 6	" 22
Cannelle	" 1	" 29
White Burley	" 1	" 12
Primus	" 8	" 22
Zimmer's Special	" 3	" 16

All varieties did well.

Tomatoes.

Sown in hot-house, April 3; set out May 28 in three plots: '1' on fallow; '2' in a garden plot, and '3' in garden rather too close to a tall hedge, which caused a great reduction in the yield, though on the north of the plants. The plants were put out three feet apart, the rows also were three feet apart. All tomatoes which had not ripened by September 15 were pulled on that date for use in pickling.

Variety.	First Ripe.	Number of Plants.	Yield.	Colour and Quality.
Plot 1—				
Earliest of All	Sept. 8	20	5 bush.	Scarlet, good, large, but rather rough.
Plentiful	" 11	20	2½ "	Pink, fine and smooth.
Plot 2—				
Earliest of All	Did not ripen	17	3 "	
Plot 3—				
Earliest of All	Sept. 8	10	¼ "	Very small.
Plentiful	" 12	10	¼ "	"

Table Turnips.

Sown May 22; pulled October 10.

Yellow Golden Ball, in use July 14; yield per acre, 1,365 bush. Good, solid.

White Milan, in use July 10; yield per acre, 1,148 bush. Some hollow.

Early White Flat American, in use July 14; yield per acre, 1,087 bush. Some hollow.

Early Stone, in use July 14; yield per acre, 863 bush. Many hollow.

All were bitter in flavour.

Rhubarb.

Old beds in use May 20.

Tobolsk, good quality

Herb, very poor,

Victoria, good quality and growth.

Prince Albert, poor.
Royal Albert, good.
Salt's Perfection, good.
Prince of Wales, very good.
Royal Linnæus, very good.
Magnum Bonum, very good.
Strawberry, very good, rather small stalks.
Early Crimson, very good.
Early Scarlet, very fair.

Seed of the following varieties was sown on May 6:—

Myatt's Linnæus.
Fottler's Improved.
Scarlet Nonpareil.
Prince Albert.
Victoria.
Royal Linnæus.
Strawberry.
Salt's Perfection.
Early Crimson.
Monarch.
Magnum Bonum.
Early Prince.
Brabant's Colossal.

THE FLOWER GARDEN.

The flower garden was again very good; most of the varieties grown flowered profusely, and proved a great attraction to visitors during the summer months.

ANNUALS.—Propagated in hot-house. Sown April 1 and 3.

Variety.	Set out.	Bloom. From	Bloom. To	Remarks.
Asters, 10 varieties	May 23	July 16	Sept. 30	Some very fine blooms.
Antirrhinum majus nanum	June 2	" 16	" 26	Fine.
Abronia umbellata	" 12	Aug. 24	" 26	Fair.
Ageratum, dwarf	" 12	July 24	" 26	Fine border.
Balsam, Camellia-flowered	" 1	" 18	" 14	Very good.
Brachycome iberidifolia	" 1	" 8	" 26	Attractive.
Bartonia aurea				Did not germinate.
Chrysanthemum coronarium	June 2	July 2	Oct. 10	Very fine.
Clarkia				Did not germinate.
Coreopsis, 3 varieties	May 26	July 9	Oct. 5	Quantity of bloom.
Dianthus, 4 varieties	" 25	" 9	" 10	Very fair show.
Gaillardia picta	June 2	" 12	" 5	Very good.
Godetia splendens				Did not germinate.
Helichrysum, double mixed	June 2	July 20	Sept. 26	Fair.
Iberis Gibraltarica				Did not germinate.
Lavatera rosea splendens	June 12	July 14	Oct. 5	Pink blooms, very pretty.
Lobelia, Crystal Palace				Did not germinate.
Marigold, Double Royal	June 2	July 20	Oct. 10	Bloomed very freely.
Mignonette	" 2	" 1	" 10	Very fine and sweet.
Nicotiana affinis	" 3	" 6	" 10	Very fine indeed.
Nasturtium	May 27	June 20	Sept. 1	Grand show.
Poppy, 6 varieties	" 27	" 21	" 1	Did splendidly, but sown rather too early in hot-house.
Portulaca	June 5	July 12	" 26	Very fine.
Phacelia				Did not germinate.
Phlox Drummondii, 4 varieties	May 26	June 21	Oct. 10	Very good.
Petunia, 3 varieties	" 26	July 1	" 10	Made a grand bed.
Pansies, many varieties	June 4	June 15	" 26	Very fine, some double.
Scabiosa, 2 varieties	" 2	July 20	" 12	Very good.
Sweet William	" 4	Biennial		Made good growth.
Salpiglossis	"			Did not germinate.
Stocks	May 23	June 22	Oct. 1	Some fine, but many single.
Tagetes, mixed	June 2	" 23	" 12	Bloomed well.
Zinnia elegans	" 2	July 8	" 5	"

ANNUALS—Sown in open, May 10.

Variety.	Bloom.		Remarks.
	From	To	
Antirrhinum	Aug. 4	Oct. 15	Fair.
Salpiglossis	" 8	" 10	Very handsome.
Gaillardia	" 8	" 10	Very good.
Nasturtium	July 20	Sept. 26	Did well.
Phacelia	" 20	" 26	Small blue flower.
Clarkia	" 26	" 26	Very fair.
Tagetes	" 18	Oct. 10	Very fine show.
Godetia	Aug. 8	Sept. 26	"
Poppy	July 27	Oct. 10	Good show.
Dianthus	Aug. 8	" 10	Did well.
Eschscholtzia	July 12	" 10	Bloomed very freely.
Bartonia aurea	" 16	Sept. 26	Did well.
Marigold	" 16	Oct. 1	"
Maize, Striped-leaved			Pretty leaf, 5 ft. high.
" Japonica gigantea			"
Scabiosa	Aug. 20	Oct. 12	Very fine.
Celosia	" 16	Sept. 14	Poor.
Nemophila	June 12	" 4	Bloomed freely.
Ageratum	July 26	" 26	Very pretty.

Sweet Pease.—32 varieties, sown April 22 and 27.

Earliest of All, in bloom July 4; fine blooms.
Earliest Sunbeams, in bloom, July 5; cream, very pretty.
McKenzie's Selection, in bloom, July 10, fair.
Laura Belle, in bloom, July 10; very good, mixed.
Eckford's Hybrid, in bloom, July 12; fair, mixed.
Tom Thumb, in bloom, July 18; fine for borders.
Blushing Beauty, in bloom, July 12: delicate pink; small, free bloomer.
New Bush, in bloom, July 15, 2½ feet high.
Double Flowering, in bloom, July 12; nice mixture.
Mrs. Walter Wright, in bloom, July 14; lavender, fine bloom.
King Edward VII., in bloom, July 14; scarlet, very fine.
Marchioness of Cholmondeley, in bloom, July 14; primrose, pink edge, good.
Mrs. Sydenham, in bloom, July 16; pink and flesh colour.
Orchid Flowering, in bloom, July 12; very fine, mixed.
Blanche Burpee, in bloom, July 12, pure white, rather small.
Navy Blue, in bloom, July 12, fine.
Burpee's Latest Special, in bloom, July 14, very fine indeed.
Hon. Mrs. Kenyon, in bloom, July 12; primrose, large free bloomer.
Dorothy Eckford, in bloom July 12; pure white, grand blooms.
Othello, in bloom, July 20; very dark, shy bloomer.
Sunproof, in bloom, July 14; scarlet, very fine.
Aurora, in bloom, July 12; striped pink and white.
Burpee's Dainty, in bloom, July 12, white, pink edge, very pretty.
Florence Spencer, in bloom, July 14; pink, large and half-double.
Scarlet Gem, in bloom, July 12; free bloomer, sunburns badly.
Jessie Cuthbertson, in bloom, July 14; good.
Lady Grisel Hamilton, in bloom, July 12; very handsome.
Agnes Johnston, in bloom, July 14; cream, pink and flesh colour.
Golden Rose, in bloom, July 12; cream.
Coccinea, in bloom, July 12; peculiar red.

Mrs. Dugdale, in bloom, July 14; shaded pink, very pretty.
Mrs. Wilmott, in bloom, July 14; large blooms.
The best of the blooms were over by September 10.

The following varieties of flowers were sown in the open on April 20 as borders to flower beds:—

Variety.	Bloom.		Remarks.
	From	To	
Mignonette	June 20	Oct. 13	Too large variety for border.
Whitlavia	" 30	Aug. 16	Poor.
Scabiosa	Aug. 6	Oct. 10	Fair, rather tall.
Phlox	July 20	" 10	Very good border.
Eschscholtzia	" 2	" 1	Good, but rather large.
Nemophila	June 10	Aug. 1	Good, but over too soon.
Candytuft	July 15	" 15	Very good border.

Sown in hot house April 1; set out June 2:—
Antirrhinum, Tom Thumb, in bloom from July 12, to September 26; very fine border.
Ageratum dwarf, in bloom from July 24, to September 26; fine border.

Perennials.

All the old beds of perennial flowers made luxuriant growth the past season, and below are given some of the more noticeable ones, with time of flowering:—

Achillea, in bloom from July 1.
Clematis, in bloom from July 3, to August 10.
Centaurea macrophylla, in bloom from July 8.
Cactus, ground, in bloom from July 8, to August 4.
Columbine, in bloom from June 6 to August 1.
Campanula macrantha, in bloom from July 6 to September 1.
Delphinium, in bloom from July 15 to August 20.
Everlasting Pea, in bloom from July 8 to July 30.
Hollyhock, in bloom from August 7 to September 11.
Helianthus autumnalis, in bloom from July 24.
Irises, in bloom from May 20 to July 8.
Lupins, in bloom from June 30 to August 20.
Lilium elegans (orange), in bloom from July 5 to October 10.
" Tiger lily, in bloom from July 11 to July 30.
" white varieties, in bloom from July 23 to October 10.
Lychnis, in bloom from July 1 to August 30.
Mint, in bloom from July 15.
Paeonia tenuifolia, in bloom from May 23 to June 7.
Paeonies, other varieties, in bloom from June 25 to July 23.
Spiræa filipendula, in bloom from July 12.
" ulmaria, in bloom from July 8.
Sweet William, in bloom from July 4 to September 15.
Tulips, in bloom from May 10 to June 14.
Veronica salurgoides, in bloom from July 18 to September 1.

Special mention must be made of the Pæonies, which bore an abundance of magnificent blooms. Tulips, Irises, Cannas and Dahlias, were all extra fine. A large

number of bulbs, roots, &c., of all the above species were sent up from the Central Experimental Farm, in the fall of 1904, or last spring. They nearly all did very well, and made a very fine show all the season.

A very fine collection of Lily bulbs sent also, including the following varieties:—*Lilium elegans, L. Krameri, L. concolor, L. speciosum rubrum, L. auratum, L. Brownii* and *L. elegans flore pleno, L. giganteum, L. longiflorum* and *L. multiflorum*. Nearly all these flowered profusely, and were greatly admired.

This fall another collection of bulbs of the following sorts has been sent up from the Central Farm, and set out in the gardens and grounds:—Tulips, single and double; Narcissus; Iris; Squills; Crocus; Snowdrops. There are several hundred bulbs in all, and it is hoped they will make a fine show next year.

TREES AND SHRUBS.

Trees and shrubs made a most vigorous growth during the past season, with the exception of the maples (native). These were attacked by aphis, and in some cases greatly injured.

Several long hedges of maple were dug up in the spring on account of doing injury to fruit and other bushes by shading them too much from the sunlight and air. Others will be removed next spring for the same cause.

Among the most attractive of the shrubs during the flowering period were a fine group of Lilacs, set out in 1901, which bloomed for the first time this year. The varieties named in the following list were covered with blossom:—

Syringa vulg. Maxime Cornu.
" " La Tour d'Auvergne.
" " de Marly.
" " Pres. Grevy.
" " Mathieu de Dombasle.
" " Lemoinii fl. pl., (White).
" " Mdme. Casimir Périer (White).
" " Chas. Joly.
" " Francisque Morel.
" " Virginité.
" " Madame Lemoine (White).
" " Rubella Plena.
" " Michael Buchner.
" " Condorcet.
" " Marie Legraye (White).

Several other varieties made good growth, but did not bloom.

Other conspicuous flowering trees and shrubs were—Prunus Maackii, Prunus Grayana maxima, Caragana, Tartarian Honeysuckle, Hawthorn and Siberian Crab.

A large bundle of tree and shrub seedlings was sent from the Experimental Farm Ottawa, last spring. Some of these were planted in the Arboretum, and the rest in a part of the grounds where it is proposed to establish a collection of some of the most attractive and best growing sorts. A list of the varieties is appended:—

Euonymus linearis,
Viburnum lentago,
Philadelphus nepaulensis,
" grandiflorum,
Ceanothus americanus,
Cornus sibirica variegata,
Populus angustifolia,
Japan Tree Lilac,
Retinospora ericoides,
Thuya occid. globosa,
" pyramidalis,
" Wareana lutescens,
Picea Englemanni,
Pinus sylvestris globosa,
" Beauvonensis,
Picea excelsa pygmaea,

Acer dasycarpum. Seed from Winnipeg.	Juniperus Schottii,
Symphoricarpus (Gilbert Plains),	Pinus cembra.
Syringa amurense,	Golden Juniper,
Sea Buckthorn,	Juniperus sabina variegata,
Pinus inops,	Abies excelsa procumbens.
	" " pyramidalis.

THE ARBORETUM.

The trees and shrubs under observation in the Arboretum came through the winter very well, and made a good start in the spring, owing to the early season. Though the protection afforded by snow was comparatively light, through the light snowfall, yet, as the winter was on the whole mild, the trees did not kill back any more than usual. During the summer, the abundant rains caused an extra strong growth in all varieties.

The following additions were made to the Arboretum last spring, from the supply of trees, &c., sent up from the Central Farm:—

Syringa amurense,	Populus angustifolia,
Japan Tree Lilac,	Viburnum opulus (Riding Mountains),
Cornus sibirica variegata,	Philadelphus nepaulensis,
Symphoricarpus (Gilbert Plains),	Euonymus linearis,
Viburnum lentago,	Austrian Pine,
Acer dasycarpum (Seed from Winnipeg),	Red Pine,
	Scotch Pine.

PLANTING TREE SEEDS.

Many inquiries are made during the year as to the best way to grow tree seeds in the Territories, where usually at the time they are sown, the soil is very dry. For several seasons, little or no trouble has been experienced from this cause on the Experimental Farm, while in some districts the weather has been very dry.

Maple seeds can be sown late in October, or early in May. It is not safe to sow all the supply of maple seed in the fall, as very often germination takes place too early in the spring, and frost kills the entire crop.

Ash seed should be sown in October. Elm seed should be sown as soon as gathered in June, though it sometimes succeeds if sown the following spring.

Elm seed requires a very light covering of fine, moist soil, not over ½-inch in thickness, while maple and ash should be covered 1 or 1½ inches.

Tree and shrub seeds should be sown in rows about 30 inches apart to permit horse cultivation when considerable quantities are grown. In all cases the land should be prepared the year preceding sowing, so as to have the soil as fine as possible. Breaking and backsetting new land, and summer-fallowing old, make the best and safest preparation.

Trees should be transplanted when seedlings are 2 years old. When left until 3 or 4 years old, the trouble and expense are greatly increased.

A large quantity of tree and shrub seedlings and seeds are available for next spring's distribution. A list of a few of the best is given, with the uses to which they are adapted.

Common Name.	*Botanical Name.*
For shelterbelts or windbreaks—	
Native Maple, or Box Elder.	Negundo aceroides.
Voronesh Willow.	Salix voronesh.
Sharp-leaved Willow.	Salix acutifolia.
Green Ash.	Fraxinus pennsylvanica.
For avenue or shade—	
American Cottonwood.	Populus deltoidea.
" Elm.	Ulmus americana.
Russian Poplar.	(Several species).
Mountain Ash, American.	Pyrus americana.
For hedges—	
Siberian Pea Tree.	Caragana arborescens.
Common Cotoneaster.	Cotoneaster integerrima.
Common Lilac.	Syringa vulgaris.
Tartarian Honeysuckle.	Lonicera tatarica.
Native Hawthorn.	Crataegus crus galli.
Scarlet Haw.	Crataegus coccinea.
Breaking Buckthorn.	Rhamnus frangula.

For ornamental shrubbery those recommended for hedges are useful, and also the following:—

Dwarf Caragana.	Caragana pygmæa.
Sorbus-leaved Spiræa.	Spiræa sorbifolia.
Spiræa arguta.	Spiræa arguta.
Van Houtte's Spiræa.	Spiræa Van Houttei.
Japanese Spiræa.	Spiræa Japonica.

Climbers for porches, &c.:—Virginia Creeper, Clematis, Hops, Climbing Honeysuckle, and Wild Cucumber.

FRUIT TREES.

PLANTING.

Last spring several hundred cross-bred apples and seedlings were sent up from the Experimental Farm, Ottawa, and planted. A list of the varieties and numbers is given below.

Cross-bred Apple Trees.

5 Charles.	2 Aurora.	2 Ruby.
10 Columbia.	6 Pioneer.	2 Carleton.
8 Bow.	10 Alberta.	5 Prince.
5 Eve.	5 Dawn.	2 Northern Queen.
6 Tony.	5 Manitou.	3 Elsa.

Seedlings of Cross-bred Apples.

19	Seedlings of	Sparta.	20	Seedlings of	Jewel.
2	"	Olive.	26	"	Foster.
2	"	Susan.	9	"	Robin.
4	"	Gordon.	7	"	Silvia.
7	"	Cluster.	8	"	Madge.
3	"	Jane.	20	"	Golden.
2	"	Bude.	8	"	Lizzie.
11	"	Akers.	6	"	Raymond.
25	"	Sankey.	3	"	Pringle.
13	"	Aurora.	20	"	Carleton.
28	"	Manitou.	10	"	Stork.
30	"	Tony.	13	"	No. 572.
38	"	Alberta.	12	"	Derby.
7	"	Prince.	6	"	Dawn.
26	"	Garnet.	7	"	Edna.
10	"	Pioneer.	19	"	Caleb.
1	"	Dean.	9	"	No. 432.
17	"	Columbia.	2	"	Blushed Calville.
3	"	Sam.	3	"	Small Red Apple.
11	"	Eaton.	2	"	Hare Pipka.
2	"	Hudson.	8	"	Elsa.
17	"	Stork.	4	"	No. 768.
20	"	Northern Queen.	3	"	No. 218.
18	"	Mary.	7	"	No. 570.
9	"	Romney.			

These were all set out in new plots of ground, being planted 15 feet apart each way, or else being used to fill vacancies in the older orchards. The balance were put in nursery rows till room can be found for them in a plot which is being prepared.

PLUMS.

Twelve seedlings of Carstesen plum and one of Aitkin plum were received, and planted in the plum orchard.

FRUIT CROP.

SIBERIAN CRAB (*Pyrus baccata*).

The Siberian Crab trees fruited well as usual, but the crop was hardly as heavy as in 1904.

CROSS-BRED APPLES.

A few of the Cross-bred apple trees fruited this year, namely, Cavan, No. 19, Aurora, No. 45. The fruit was considerably larger than the Pyrus baccata, but most of the large ones were stolen long before they were ripe.

Some seedling trees of cross-bred apples also fruited, but in most cases reverted more or less to the original type of Pyrus baccata, and consequently will be discarded, being of no greater value than the baccata.

PLUMS.

A remarkably heavy crop of fruit set, and for the most part, completely ripened, as this year there were no frosts sufficient to harm the fruit before October. A number of branches were broken down by the weight of plums.

Manitoba Native, Weaver and Aitkin Plums all produced abundantly.

SAND CHERRY.

Seedling of Wonder Sand Cherry, planted 1901. This fruited for the first time this year. The fruit was quite a good size and sweet.

SMALL FRUITS.

CURRANTS.

A very heavy crop of fruit set, but was attacked by the currant maggot (*Epochra canadensis*), and at the time of ripening it was found that more than half the crop was infested with the maggots, causing the fruit to be valueless, unless very carefully picked, which was a slow and tedious job.

RASPBERRIES.

The raspberry crop was good. The frequent rains during July and the early part of August when the fruit was filling, helped it considerably.

Marlborough, Caroline, Kenyon Seedling, Dr. Reider, Garfield, Mary, Turner and Miller raspberries, with Older and Hillborn black caps are the varieties being grown at present.

GOOSEBERRIES.

Gooseberries were practically a failure this year. Some of the bushes had a few berries on, but the majority were quite bare.

STRAWBERRIES.

The strawberry plants set out in 1904 came through the winter satisfactorily, but did not produce any fruit, except a few odd berries. They have been well covered up again this fall, and it is hoped they will fruit well next season.

CATTLE.

The herd of cattle at present consists of 19 pure bred Shorthorn females and 7 bulls, and 28 grade animals.

Last winter the entire herd was tested for tuberculosis, and not one reacted.

AUCTION SALE OF PURE BRED STOCK.

An auction sale of pure bred shorthorn cattle and of swine was held on May 11 last.

On the two preceding days and nights rain and snow fell, making the roads almost impassable, causing a very small attendance.

Four head of cattle and two pigs were sold, and the others were withdrawn.

FEEDING TESTS.

On December 2, 4 three-year old steers were purchased, and on December 14, 4 two-year olds, with the object of ascertaining at which age the animals could be most economically fattened. They were tested with tuberculin and found to be healthy.

The test was for 16 weeks, commencing on December 16 and ending on April 7.

The steers were divided into two lots; Lot 1 comprising the 2 year-old animals, and Lot 2 the 3 year-olds, and were fed the following ration:—

Lot 1, per head, per day.—11 lbs. ensilage, 8 lbs. straw, 12 lbs. roots and ½ lb. ground linseed. In addition, meal was fed at the rate of 2 lbs. for each animal per day, and increased by 2 lbs. each month during the test.

Lot 2, per head, per day.—15 lbs. ensilage, 14 lbs, straw, 15 lbs. roots and ½ lb. ground linseed. Meal, 4 lbs. each per day for first month, increased 2 lbs. per day each month of test.

The straw was cut, and mixed with the ensilage before being fed.

The meal used consisted of two parts barley and one part small wheat.

Before the test started the animals were fed the same ration as during the first month of test, except that only ¼ lb. of ground linseed was fed, instead of ½ lb. After test was completed till the steers were sold on April 25, they were fed the same as during the last month of test.

Following will be found a statement of the total amount and estimated value of the feed consumed, the monthly and total weights and gains of each lot during the test, and a summary of the financial result of the transaction.

TOTAL WEIGHT AND ESTIMATED VALUE OF FEED CONSUMED DURING THE WHOLE PERIOD FROM DATE BOUGHT TILL SOLD.

Before Test Started (Lot 1, 2 Days, Lot 2, 14 Days).

Feed.	Value.	Lot 1.		Lot 2.	
		Lbs.	Cost.	Lbs.	Cost.
			$ cts.		$ cts.
Ensilage	$2 per ton	88	0 09	840	0 84
Straw	$1 "	64	0 03	784	0 39
Roots	5c. per bush.	80	0 07	560	0 47
Meal	2c. per lb	16	0 10	224	1 49
Ground linseed	2c. "	2	0 04	14	0 28
			0 23		3 47

During Test (112 Days).

Ensilage	$2 per ton	4,928	4 92	6,720	6 72
Straw	$1 "	3,584	1 79	6,272	3 13
Root	5c. per bush.	5,376	4 48	6,720	5 22
Meals	2c. per lb	2,240	14 93	3,136	20 90
Ground linseed	2c. "	186	3 72	186	3 72
			29 84		39 69

Till Sold (18 Days).

Ensilage	$2 per ton	792	0 79	1,080	1 08
Straw	$1 "	576	0 29	1,008	0 50
Roots	5c. per bush.	864	0 72	1,080	0 90
Meal	2c. per lb	576	3 84	720	4 80
Ground linseed	2c. "	36	0 72	36	0 72
			6 36		8 00

Summary Cost of Feeding.

——	Lot 1.	Lot 2.	Total.
	$ cts.	$ cts.	$ cts.
Before test	0 33	3 47	3 80
During test	29 84	39 69	69 53
Till sold	6 36	8 00	14 36
Total	36 53	51 16	87 69
Average per steer	9 13	12 79	

Monthly Weights and Gains During Test.

——	Lot 1.	Lot 3.
	Lbs.	Lbs.
Weight at start of test	2,880	4,900
End of 1st 4 weeks—Weight	2,980	5,100
" " " Gain	100	200
" 2nd " Weight	3,260	5,330
" " " Gain	280	230
" 3rd " Weight	3,490	5,570
" " " Gain	230	240
" 4th " Weight	3,790	5,880
" " " Gain	250	310
Total gain during test	860	980

Summary of Financial Result of the Transaction.

——	Lot 1.	Lot 2.
Weight bought	2,880 lbs.	5,125 lbs.
At	$ 20 00 per head.	3⅛ cents per lb.
Amount paid	80 00	$160 15
Cost of feed	36 53	51 16
Total cost	116 53	211 31
Weight when sold	3,840 lbs.	6,000 lbs.
Less 5 per cent shrinkage	192	300
Net weight sold	3,648	5,700
At	3¾ cents.	4 cents.
Amount received	$136 80	$228 00
Total gain in weight	960 lbs.	875 lbs.
Average gain per steer	240 "	219 "
Net profit	$ 20 27	$ 16 69
Profit per steer	5 07	4 17

HORSES.

There are 13 horses now on the farm. Since sending in my last report, the following changes have taken place: One horse died, two old mares were shot on account of extreme age, and a herd pony was exchanged. A span of driving horses and one work horse have been bought, and last spring a colt was born.

SWINE.

Last spring a Yorkshire white boar and sow were sent to the farm from the Central Farm at Ottawa, and have done well since their arrival. During the past

twelve months 2 Berkshire boars and 7 sows, and 2 Tamworth boars and 1 sow have been sold to farmers for breeding purposes.

There are at present on the farm 11 Yorkshire White, 23 Berkshire and 9 Tamworth pigs.

POULTRY.

Barred Plymouth Rock, Black Minorca and Light Brahma fowls are kept. Settings of eggs and young fowls are sold to applicants so far as the supply permits.

Record was kept of the number of eggs laid by each breed for 7 months, April to October inclusive, and the results are given below:—

	Plymouth Rocks.			Black Minorcas.			Light Brahmas.		
	Hens.	Eggs.	Eggs per hen.	Hens.	Eggs.	Eggs per hen.	Hens.	Eggs.	Eggs per hen.
April	10	171	17·1	13	183	14·1	8	93	11·6
May	10	128	12·8	13	199	15·3	8	87	10·9
June	11	137	12·5	14	102	7·3	7	61	8·7
July	12	138	11·5	14	86	6·1	6	32	5·3
August	12	142	11·8	14	120	8·6	6	20	3·3
September	12	100	8·3	14	57	4·1	5	10	2·
October	12	65	5·4	14	19	1·4	5	0	0·
Total		881			766			303	
Average No. hens	11·3			13·7			6·4		
" " eggs per hen		78			56			47	

INSTITUTE MEETINGS.

I had the pleasure of attending institute meetings in the month of June, in company with Mr. George Harcourt (then superintendent of institute work for the Territories), at Kyle, Shanon, Kinistino, Melfort, Birch Hills and Red Deer Hill, all south or southeast of Prince Albert in Saskatchewan. These meetings were arranged by the Department of Agriculture at Regina, and all, with one exception, when heavy rain interfered, were very well attended.

These meetings gave me an opportunity of seeing the growing crops throughout a large section of the country, as well as of seeing the general conditions of farming carried on in the northern settled part of Saskatchewan. For some weeks prior to my visit, the weather in the north had been very dry, and grain as a rule was further advanced than in the southern districts, but was not so heavy, and weeds were more noticeable. The crops however on the whole looked very well, with many very fine fields of wheat and oats.

Having visited this section of country several years ago, when there was no railroad, or way of disposing of the products grown, except teaming very long distances to market, it gave me great pleasure to visit field after field of grain, and to see alongside cars ready to take it to the consumer. Then, Melfort and Kinistino consisted of a post office and a school. Now, both are large and ambitious towns, giving good evidence of what two magnificent districts can do, when facilities are provided for taking out of the country its products.

GRAIN DEALERS' TRIP.

Through the kindness of the grain dealers of Winnipeg, I enjoyed a trip of three days' duration before harvest time through the wheat fields of part of Assini-

boia and Manitoba. The crops along the new railway lines from Regina, by way of Arcola to Brandon, and from Kirkella to Lipton, were especially interesting to me, as it was my first visit through these new and fast-growing settlements.

Needless to say, grain looked fine everywhere, and in some districts, harvesting was under way.

TRIP THROUGH ALBERTA DURING HARVEST TIME.

It was my great privilege during the latter part of August, and early in September, to take an extended trip through the newly formed province of Alberta, with yourself, and to see with much pleasure the large crops of grain being harvested, and in some cases threshed.

At High River and Claresholm (on the Canadian Pacific Railway from Calgary to Macleod) extended trips were made through the districts, and on all sides fall wheat was either in stook or being threshed. Spring wheat and oats were being cut, and everywhere the grain was very fine indeed. At Leavings and Macleod the crops were also very fine.

On reaching Lethbridge, a special train was placed at our disposal to see the grain fields as far as Cardston, through the kindness of Mr. A. T. Galt, president of the Galt Coal Mines, and of Mr. Magrath, the latter accompanying us over the line. On account of dry weather the crops did not appear so heavy south of Lethbridge as further north, but everywhere evidence was seen of large fields being sown with winter wheat; one field alone contained 2,000 acres.

At Raymond, the large sugar factory was being put in order for its harvest. On all sides sugar beets were observed, and those fields examined were certainly extra good.

As soon as possible after the new province was born, Edmonton was reached, and a few days spent among the grain fields surrounding the future capital. Everywhere the crops were fine, very many were in stook. Winter wheat was not grown so extensively in the north as in the south the past season, but considerable had been sown in all the districts visited.

The districts of Lacombe, Red Deer and Innisfail were in turn visited, and as in all others the grain was partially in stook, threshed and standing, but everywhere it was good, with a few exceptions where hail had unfortunately some time before visited strips of the country we passed through.

An afternoon was spent visiting the Canadian Pacific Railway irrigation canal at Calgary, where most extensive work was being carried on, and which will in future prove of vast benefit to a very large section of country.

After returning home, and spending two days, a start was made for Battleford. It gave me great pleasure to visit for the first time the ancient capital of the Territories.

North Battleford, which came into existence three months before, was all bustle, from the many land seekers making it their headquarters while looking up homesteads, and from the erection of the many new buildings.

The crops from Regina north to and about Saskatoon were very fine, nearly all were in stook, with considerable threshing done at several of the stations, especially about Dundurn and Saskatoon. Along the Canadian Northern Railway from the Junction to Battleford, the country is being newly settled, but many towns have sprung up along the line, and in a year or two the whole country will no doubt be fully settled.

EXCURSION TO THE EXPERIMENTAL FARM.

The Department of Agriculture at Regina ran excursion trains from Fleming on the east and Caron on the west, and from Prince Albert in the north, a distance of

over 400 miles, on July 19, when over 3,000 people visited the Indian Head Farm. Classes in stock-judging, butter-making and domestic cooking were carried on during the day in large tents specially provided.

In addition to the farm's staff of men and horses employed in conveying the large crowd over the farm, many of the town and country people also kindly gave their assistance, and during the time between the arrival and departure of the trains, the farm presented a very lively appearance. Every field and plot was visited by the largest and most agreeable company that has ever taken possession of the farm.

On July 4 large numbers attending the Indian Head sports visited the farm; and on August 8 and 9, during the Central Assiniboia Exhibition held at Indian Head, great numbers drove and walked through the grounds.

DISTRIBUTION OF SAMPLES.

During the months of March, April and May, the usual distribution of samples of the products of the Farm was made to residents in Assiniboia, Alberta and Saskatchewan.

As there was an increase in the number of applications of over 30 per cent compared with those received in the winter of 1903-4, and the supply of samples was no greater than usual, a very large number were disappointed.

The samples distributed were as follows:—

Wheat	546	bags of	3	lbs. each.
Oats	406	"	3	"
Barley	197	"	3	"
Pease	87	"	3	"
Sundries (flax, rye, spelt)	25	"	3	"
Potatoes	618	"	3	"
Tree seeds (maple and ash)	759	"	½	lb. each.
Shrub seeds (Caragana)	810	packets.		
Grass seed, Brome	10	bags of	1	lb. each.
Grass seed, Western Rye	60	"	1	"
Small seeds, 545 bags containing 8,175 packages of shrub, flower, root and garden seeds and corn.				
Rhubarb roots	88	packages.		
Fruit bushes	241	"		
Tree and shrub seedlings	668	"		
Express parcels, containing tree and shrub seedlings	130	parcels.		

CORRESPONDENCE.

During the 12 months ending October 31, 1905, 7,820 letters, irrespective of reports on grain and other samples, were received, and 7,874 letters, not counting circulars of instruction sent with samples, were mailed from this office.

METEOROLOGICAL.

Month.	Temperature, Maximum.		Temperature, Minimum.		Rainfall.		Snow-fall.	Hours of Bright Sunshine.
1904.	Date.	Degrees	Date.	Degrees	Days.	Inches.	Inches.	
November	2	66	30	—13	.....	.....	3·75	114·4
December	30	39	26	—38	.....	.....	10·	66·8
1905.								
January	4	30	9 & 24	—34	.....	.....	2·5	97·9
February	27	51	4	—43	.....	.....	4·5	139·2
March	21	63	12	—10	2	·26	6·5	153·6
April	26	79	10 & 17	10	2	·32	2·5	245·
May	31	78	4	16	10	3·34	2·	199·8
June	2 & 3	85	9 & 23	35	17	5·16	.....	169·1
July	13, 19, 20	80	22 & 24	42	15	2·47	.....	265·4
August	25	88	29	39	7	2·28	.....	264·
September	28	81	11 & 23	31	8	5·00	.....	179·2
October	3 & 5	73	19 & 27	9	3	·34	2·	90·9
					64	19·17	33·75	1,985·3

I have the honour to be, sir,
Your obedient servant,

ANGUS MACKAY,
Superintendent.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA.

REPORT OF THOMAS A. SHARPE, SUPERINTENDENT.

AGASSIZ, B.C., November 30, 1905.

To Dr. WM. SAUNDERS, C.M.G.,
Director Dominion Experimental Farms,
Ottawa.

SIR,—I have the honour to submit the following report of the work done on the Experimental Farm at Agassiz during the year 1905.

The past year has in some respects been more or less unfavourable to fruits and to some classes of agricultural products. The first part of the year was very mild and fine, with a very light snowfall in January and none in February, while the lowest temperature recorded at this station in January was twelve degrees of frost on the 12th, and the lowest in February was twenty-four degrees on the 24th. March averaged colder than either of the two preceding months. There were several unusually cold periods, the coldest being nineteen degrees of frost on the 11th. Towards the end of the month, the weather became warmer and many of the fruit trees came out in bloom. During April the weather continued cool with frequent cold rains and several light frosts, which, occurring during the blossoming of the fruit trees or when the fruit was setting, caused a considerable loss in the strawberry, apple, cherry, plum and pear crops. The weather became warmer in May, but remained showery and in consequence the spraying of fruit trees for fungus diseases was not very effective, and plum rot was rather prevalent. In many instances the showers were followed by bright sunshine which favoured the development of fungus diseases in stone fruits and the cracking of the cherries.

After the middle of June the weather became dry and hot and the rainfall during July, August and the first half of September was very light. As much of the land on this farm is a loam more or less sandy or gravelly, underlaid with gravel it does not resist drought, and late crops such as mangels, turnips, &c., suffered. The heavy rains of the latter part of September and first half of October did some damage to late grain crops, which were not harvested, but on the whole the loss throughout the country has not been heavy, and practically nothing was lost from this cause on the experimental farm.

Some loss from the potato rot in low lands is reported, but up to the present time we have not suffered to any considerable extent from this disease. A severe frost on the nights of October 17 and 18 killed many tender plants and arrested the growth of mangels and sugar beets, and is reported to have done injury to potatoes yet undug or insufficiently protected. Such a frost is very unusual so early in the season, this being the first time in many years that a killing frost has occurred before the second week in November.

FRUIT CROPS.

The frost during the early spring cut down the strawberry crop one-third, it also lessened the plum and cherry crops and later on the brown rot and the cracking of the cherries caused by rain lessened the crop of these fruits. Pears and apples are in many places a light crop, but the bright clear summer and autumn favoured the de-

velopment of the fruit which remained, so that the sample is above the average in quality.

The hedges continue to be one of the attractions of the farm, and the addition of a few more would be appreciated, as giving a wider selection to those who are contemplating planting a hedge either for ornament or for the protection it would afford as a windbreak.

ORNAMENTAL TREES AND SHRUBS.

Almost all of the above description of trees and shrubs have done very well. The long continued dry north wind in February and March injured some of the evergreens, but a season's growth has effaced the injury and restored their beauty.

NUT TREES.

This class of trees and shrubs have made a very satisfactory growth, and for the first time since they were planted the filberts have been fairly productive.

The bluejays are very numerous and very destructive, beginning to pluck and carry off the filberts as soon as the nut has filled, and by the time the nut is ripened but few are left on the bushes.

The Japanese and Spanish chestnuts, and the Japanese walnuts again produced a fine crop. The English and black walnuts have each produced a few nuts. The shellbark hickory and butternut trees have also given a light crop, and the pecan trees blossomed, but have not yet fruited.

The nuts and tree seeds distributed in previous years have given good satisfaction, many reports having been received from different parts of the country giving accounts of fine growth, accompanied by inquiries for more seed. As many as possible of these applicants will be supplied from this year's crop.

DITCHING.

About 600 yards of ditch have been dug this year; part of this has been covered with split cedar and filled in, which makes a very satisfactory underdrain.

NEW BREAKING.

About three acres of new breaking has been done this year.

LIVE STOCK.

CATTLE.

All of the cattle now at this farm are registered Shorthorns, and the herd consists of 10 cows, 5 heifers and three heifer calves, one stud bull and six bull calves. Since my last report three bulls have been sold for breeding and one for beef, one barren cow for beef and two calves for veal.

SHEEP.

The sheep also are all pure bred, of the Dorset-horned breed, and the flock at present consists of 16 ewes and ewe lambs, and five males. Since my last report, one ewe and one ram died, two rams were sold for breeding and two ewes and four males sold to the butcher.

PIGS.

The pigs on hand are all pure bred Berkshires or Yorkshires. Quite a number of both breeds and of either sex have been sold throughout the province for breeders, and those unsuitable for this purpose have been fed and sold to the butcher. At

present there are three sows and one boar of the Berkshire breed, and four sows and a boar of the Yorkshire; all thrifty, fine animals.

HORSES.

Since my last report, one of the old horses has died, and one young horse also died, from inflammation of the bowels. A fine young team was bought last spring and another this autumn; all these are horses averaging about fifteen hundred lbs., and are very serviceable animals. A useful mare was also bought, weighing about 1,200 lbs., for a general purpose animal.

BEES.

Two swarms of bees died last winter which left five swarms when spring opened. These were hived during May and early June and all of these are apparently strong and well furnished with stores for the winter.

MOUNTAIN ORCHARDS.

The mountain orchards have been injured a good deal by wild animals, and some of the fruit has been taken off by bears and racoons. All the orchards bore some fruit this year, and some of the finest specimens we had were from trees over 800 feet above the level of the valley.

FOREST AND NUT TREES.

The nut and forest timber trees planted in the forestry plantation continue to make satisfactory growth, and many of those on the mountains while not growing so rapidly as in the cultivated lands in the valley, are making fair progress.

POULTRY.

The breeds kept this year on the farm were B. P. Rocks, Buff Orpingtons, Black Minoreas, White Wyandottes, Light Brahmas and S. C. Brown Leghorns.

The Leghorns laid the largest number of eggs. The Black Minoreas came next in number, but their eggs being so much larger, the balance of weight of eggs was in their favour. Of the heavier breeds the White Wyandottes are the best layers, B. P. Rocks the next, Buff Orpingtons and Brahmas are about equal. As table fowls the White Wyandottes mature the earliest. B. P. Rocks and Buff Orpingtons are larger at maturity, whereas the Brahmas, although taking a little longer to mature than any of the others, attain a larger size than any of the other breeds which we have.

One advantage which the Black Minoreas and Leghorns have over the heavier breeds in this wet climate is, that their feathers lie closer to their bodies and shed the rain better than some of the heavier fowls. The White Wyandottes of the heavier breeds come next in this respect.

The hens are kept in their breeding pens—which have a yard attached to each—from January 1 to July 1. During the rest of the year they are at large.

There has been no disease among the poultry this year, except a few cases of rheumatism owing to the wet weather, but we are very much troubled by crows, hawks and skunks which carry off a good many chickens even when they are well grown.

This year the chickens were hatched and reared by hens. The percentage hatched and raised has been about the same as was had by the use of an incubator and brooder in previous years. The advantage in the use of an incubator and brooder is in early chickens and a large number of chickens raised at one time.

The poultry were fed mixed grain—¼ wheat, ½ oats, ¼ pease, and in the autumn, sunflower seeds. During the coldest weather in winter they get once a day boiled roots mashed and mixed with a little chop of any kind on hand, and a cabbage head or some vegetable always before them.

The hen house is whitewashed several times during the summer. Nest-boxes and roosts are movable, so as to be easily cleaned. They are given clean chaff or straw once a week on a swept floor, then grain is thrown into this chaff or straw, and they have to scratch for it.

EXPERIMENTS WITH OATS.

The experimental plots of oats were on a loamy soil which had received a light dressing of manure on a clover sod in the autumn of 1903, and had been sown to roots in the summer of 1904. The land was in fine condition both as to fertility and tilth when the oats were sown, April 15. Forty varieties were sown in plots of one-fortieth of an acre each, and at the rate of two and a half bushels per acre. The seed germinated well and made an even stand, with promise of a heavy yield, until the rust appeared, in July. Some varieties suffered badly, others were but slightly injured, and in these latter cases the yield has been very fair. Golden Fleece, Siberian and Abundance, appeared to be the least affected of any, but the last two sorts were badly affected last year.

All the seed was treated with bluestone for the prevention of smut, and there was practically no smut in any of the plots.

OATS—TEST OF VARIETIES.

Number.	Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Kind of Head.	Weight of Straw	Yield per Acre.		Weight per Bushel.	Rusted.
				In.		In.		Lbs.	Bush.	Lbs.	Lbs.	
1	Abundance	Aug.	3	110	46	Stiff	10	Branching	6,960	95	10	34	Slightly.
2	Golden Fleece	"	7	114	44	"	10	"	5,920	92	32	32	"
3	Siberian	"	4	111	42	"	9	"	7,760	91	26	35½	"
4	Improved American	"	7	114	46	"	9	"	5,840	82	22	34	Consid'ably.
5	Tartar King	"	2	109	40	"	10	Sided	7,160	81	6	36	"
6	Kendal White	"	7	114	44	"	10	"	5,360	80		33	"
7	Goldfinder	"	5	112	48	Medium	9	"	6,480	77	22	32½	"
8	Milford White	"	3	110	42	Strong	9	"	5,680	74	24	35½	"
9	Sensation	"	4	111	40	"	9	Branching	4,560	74	14	34½	Badly.
10	Waverley	"	8	115	46	"	10	"	5,920	74	4	33	Consid'ably.
11	Black Beauty	"	1	108	44	"	11	"	5,520	72	2	37½	"
12	Bavarian	"	9	116	46	"	10	"	5,840	70	20	32½	"
13	Storm King	"	1	108	48	"	10	Sided	6,560	69	14	34	Badly.
14	Joanette	"	2	109	40	Medium	10	Branching	5,880	68	8	33½	Consid'ably.
15	Golden Tartarian	"	9	116	46	Strong	9	Sided	4,920	67	32	31	"
16	Holstein Prolific	"	4	111	40	"	9	Branching	5,360	67	12	34	"
17	Mennonite	"	3	110	44	"	10	"	6,040	66	26	33	"
18	Lincoln	"	4	111	46	"	10	"	6,520	63	18	34	"
19	Thousand Dollar	"	7	114	42	"	9	"	5,640	63	8	34	"
20	Improved Ligowo	"	8	115	40	"	9	"	5,120	62	32	32	"
21	Danish Island	"	8	115	48	"	10	"	5,520	62	22	35	"
22	American Triumph	"	4	111	46	"	9	"	6,120	62	12	33	"
23	Swedish Select	"	4	111	46	Medium	9	"	5,480	61	4	33½	"
24	Banner	"	7	114	42	Strong	9	"	5,040	60	28	34	"
25	Olive Black	"	2	109	44	"	9	Sided	5,120	60	18	34	"
26	Milford Black	"	2	109	44	"	9	"	6,640	60	8	34	"
27	Kendal Black	"	3	110	40	"	10	"	5,040	59	32	34	"
28	Early Golden Prolific	"	3	110	40	Medium	9	Branching	5,400	59	2	32½	"
29	Wide Awake	"	7	114	44	"	9	"	5,840	58	26	32	Slightly.
30	White Giant	"	5	112	40	Strong	9	"	5,720	58	16	34	"
31	Columbus	"	8	115	40	Medium	9	"	5,760	58	6	33	Badly.
32	Pioneer	"	1	108	40	Strong	10	"	5,540	57	22	34¼	Consid'ably.
33	Irish Victor	"	4	111	46	"	10	"	6,440	57	2	33	Slightly.
34	American Beauty	"	4	111	46	"	11	"	5,520	56	16	32	Consid'ably.
35	Buckbee's Illinois	"	3	110	40	"	9	"	5,440	49	14	32½	"
36	Twentieth Century	"	3	110	44	Medium	10	"	5,640	49	4	32	"
37	Scotch Potato	"	5	112	40	Strong	10	"	5,440	48	28	32	"
38	Golden Giant	"	9	116	46	"	9	Sided	5,640	47	2	32	"
39	Golden Beauty	"	4	111	40	Medium	9	Branching	5,600	45	30	32½	Badly.
40	Swedish Probstey	"	2	109	48	Strong	10	"	5,840	43	18	34½	"

EXPERIMENTS WITH BARLEY.

Nineteen varieties of six-rowed barley, and fifteen of two-rowed were tested this year. The land selected for the barley plots was a light loam which was in clover in 1903; this received a light dressing of stable manure in the autumn of that year, when the clover, with the added manure, was turned under. It was planted with potatoes in 1904, and was in very good condition for grain in 1905. The plots were one-fortieth of an acre each, and the grain was sown on April 15, at the rate of two bushels per acre. The barley is very bright, but owing to the very hot weather which prevailed when the grain was in the dough stage, and which hastened the ripening, it is not as plump as it was in 1904. There was no smut on any of this grain.

SIX-ROWED BARLEY—TEST OF VARIETIES.

Number.	Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Weight of Straw.	Yield per Acre.		Weight per Bushel.
				In.		In.	Lbs.	Bush.	Lbs.	Lbs.
1	Nugent	July 29	105	44	Strong	3	6,800	55	20	50½
2	Argyle	" 26	102	42	"	3½	6,800	54	8	49¾
3	Mensury	" 26	102	46	"	3	6,400	53	6	46½
4	Brome	" 27	103	42	"	3½	6,960	52	34	50
5	Albert	" 27	103	42	"	2	6,600	52	24	51¾
6	Stella	" 29	105	40	"	3	8,000	50	10	51¼
7	Oderbrueh	" 27	103	44	"	3	5,520	50	..	50¼
8	Blue Long Head	" 27	103	40	"	2½	6,400	49	38	42
9	Yale	" 28	104	42	"	2½	6,400	49	28	50
10	Empire	" 29	105	44	"	3–4	6,440	49	28	50
11	Rennie's Improved	" 24	100	48	"	2½	5,520	49	8	53
12	Odessa	" 24	100	45	"	3	5,400	48	16	50½
13	Common	" 27	103	42	"	3	5,600	47	24	49½
14	Mansfield	" 29	105	46	"	3	6,000	46	32	50
15	Champion	" 22	98	46	"	3	7,000	45	40	45
16	Claude	" 26	102	44	"	2½	5,400	45	20	51½
17	Royal	" 27	103	44	"	3	5,440	44	8	51
18	Summit	Aug. 1	108	40	"	3	5,440	39	8	51
19	Trooper	" 1	108	46	"	3	5,120	33	16	49½

TWO-ROWED BARLEY—TEST OF VARIETIES.

Number.	Name of Variety.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Weight of Straw.	Yield per Acre.		Weight per Bushel.
				In.		In.	Lbs.	Bush.	Lbs.	Lbs.
1	Newton	Aug. 5	111	40	Strong	3	168	55	..	50½
2	Swedish Chevalier	" 2	108	40	Medium	4	153	52	24	51½
3	Canadian Thorpe	" 3	109	42	Strong	3	151	51	32	51½
4	Beaver	" 4	110	39	Medium	4	167	51	12	52½
5	Invincible	" 4	110	40	Strong	3	160	49	28	50
6	Standwell	" 5	111	40	"	3	148	46	32	50½
7	French Chevalier	" 5	111	40	"	4	158	46	32	51½
8	Clifford	July 31	106	48	Very strong	4½	156	42	24	51
9	Harvey	Aug. 1	107	46	Strong	4	148	41	32	49½
10	Sidney	" 3	109	38	"	3–4	136	39	8	51
11	Jarvis	" 5	111	40	"	3	138	37	34	49
12	Dunham	" 4	110	42	"	4	146	36	12	50
13	Danish Chevalier	" 5	111	38	Medium	4	140	35	40	50½
14	Gordon	" 5	111	40	"	4	123	29	8	51
15	Logan	" 4	110	40	Strong	3–4	118	25	40	48½

EXPERIMENTS WITH FALL WHEAT.

Seven varieties of fall wheat were sown on October 15, 1904. The land where these were sown is a sandy or gravelly loam, which had clover stubble turned under in the summer, after which the land was harrowed once a week, until the seed was sown. The plots were one-fortieth of an acre each, and the seed was sown at the rate of one and a half bushels per acre. Six of the varieties came through the winter and gave a fair yield, but the variety known as Choice Club was so completely winter killed that not half a dozen plants were left in the spring. There was no rust or smut on any of these plots.

FALL WHEAT—TEST OF VARIETIES.

Name of Variety.	Date of Sowing.	Date of Ripening.	No. of Days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Kind of Head.	Weight of Straw.	Yield per Acre.		Weight per Bushel.
				In.		In.		Lbs.	Bush.	Lbs.	Lbs.
Abundance	Oct. 15.	July 18.	276	46	Stiff.. ..	3½	Beardless.	4,800	33	20	65
Turkey Red	" 15.	" 19.	277	40	"	4	Bearded..	5,700	32	40	65
American Banner	" 15.	" 15.	273	46	"	3	Beardless.	5,000	32	20	62¾
Kharkov	" 15.	" 18.	276	44	"	2½	Bearded..	4,800	32	..	65½
Dawson's Golden Chaff	" 15.	" 17.	275	44	"	3½	Beardless.	4,480	29	20	63½
Red Velvet Chaff	" 15.	" 19.	277	44	"	4	" .	5,210	27	20	64½
Choice Club	" 15.	Winter	killed.								

EXPERIMENTS WITH SPRING WHEAT.

Twenty-eight varieties of spring wheat were sown in plots of one-fortieth of an acre each. The previous crop was clover, which was cut in June of 1904 and the after-growth turned under in September and cut with the disc and harrowed to rot the sod. Sown April 18 at the rate of ninety pounds of seed per acre, the stand was uniform, the growth vigorous and the heads long, but a bad attack of midge nearly destroyed the crop. The spring wheat over most of the lower Fraser valley was so badly injured by this pest that many fields were not cut, but were harvested by pigs. Fortunately, spring wheat is not very much grown in that part of the province. There was no rust on any of these plots.

SPRING WHEAT—TEST OF VARIETIES.

Number.	Name of Variety.	Date of Ripening.	No. of days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Kind of Head.	Weight of Straw.	Yield per Acre.		Weight per Bushel.
				In.		In.		Lbs.	Bush.	Lbs.	Lbs.
1	Hungarian White	Aug. 14	118	40	Strong	3	Bearded	4,960	16	..	57
2	Monarch	" 14	118	47	"	4½	Beardless.	4,840	15	20	57
3	Herisson Bearded	" 12	116	48	"	2	Bearded	5,200	14	..	59¼
4	Chester	" 15	119	44	"	3	Beardless.	5,600	13	20	58
5	Countess	" 14	118	46	"	3	"	5,560	12	50	57
6	White Russian	" 15	119	48	"	4	"	5,280	12	40	57⅜
7	Dawn	" 14	118	46	"	4	"	4,800	12	20	57½
8	Stanley	" 16	120	46	"	3⅛	"	4,400	11	20	57
9	Wellman's Fife	" 16	120	48	"	3⅜	"	4,800	11	10	58¼
10	Early Riga	" 10	114	38	Weak	2½	"	4,840	11	..	60
11	Red Fern	" 15	119	40	Medium	3	Bearded	5,360	10	40	60
12	Australian No. 9	" 15	119	48	Strong	4	Beardless.	4,920	10	30	55½
13	Minnesota No. 163	" 24	128	48	"	3½	"	4,720	10	20	58¾
14	Laurel	" 14	118	46	"	3	"	4,920	10	..	56
15	McKendry's Fife	" 16	120	40	"	4	"	4,800	9	50	58
16	Colorado	" 12	116	49	"	3½	Bearded	4,960	9	40	57
17	Advance	" 14	118	46	"	3	"	4,720	9	30	56
18	Bishop	" 14	118	46	"	3	Beardless.	5,560	9	20	56
19	Weldon	" 21	125	48	"	3½	"	5,120	9	10	56
20	Red Fife	" 16	120	46	"	3	"	5,120	9	..	57
21	White Fife	" 16	120	42	Medium	3	"	4,560	8	50	58¼
22	Clyde	" 18	122	50	Strong	4	"	4,640	8	30	55
23	Huron	" 12	116	46	"	3	Bearded	4,560	8	20	57½
24	Haynes' Blue Stem	" 16	120	49	"	3½	Beardless.	5,440	8	10	54
25	Percy	" 12	116	46	"	3	"	4,880	7	20	57
26	Power's Fife	" 18	122	46	"	4	"	4,640	5	50	56
27	Pringle's Champlain	" 17	121	50	"	4	Bearded	4,320	5	40	56
28	Preston	" 5	109	48	"	4	"	5,360	5	20	58½

MACARONI WHEATS.

Four varieties were sown alongside of the spring wheats in plots of one-fortieth of an acre each. They were sown on April 18, seed being used in the proportion of one and a-half bushels per acre. The injury from the midge in these varieties appears to be as serious as it is to the ordinary milling wheats. There was no rust on any of these plots.

Name of Variety.	Date of Ripening.	No. of days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Kind of Head.	Weight of Straw.	Yield per Acre.		Weight per Bushel.
			In.		In.		Tons Lbs.	Bush.	Lbs.	Lbs.
Yellow Gharnovka	Aug. 5	119	42	Medium	3	Bearded	3 160	12	..	60
Goose	" 12	116	48	Strong	3½	"	2 1,040	11	..	57
Roumanian	" 14	118	47	"	3¾	"	2 1,340	8	40	57½
Mahmoudi	" 16	120	48	"	3½	"	2 1,360	8	..	57

EMMER AND SPELT.

Two varieties of Emmer and two of Spelt were sown this year on April 18 in plots one-fortieth of an acre each. These were sown alongside of the spring wheats, but have not suffered very much from the midge. Many samples of these varieties have been distributed throughout the provinces for test, especially in the interior, but they do not appear to gain popularity and are seldom asked for a second time.

Name of Variety.	Date of Ripening.	No. of days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Kind of Head.	Weight of Straw.	Yield per Acre.
			In.		In.		Tons Lbs.	Lbs.
White Spelt	Aug. 14	118	38	Strong	5	Beardless.	2 1,720	1,960
Common Emmer	" 14	118	38	Weak	2	Bearded.	2 1,360	1,840
Red Spelt	" 12	116	40	Strong	3½	Beardless.	2 1,820	1,510
Red Emmer	" 14	118	38	"	3	Bearded.	2 1,840	1,480

FALL RYE.

Four varieties of fall rye were sown on October 15 alongside of the fall wheats in plots of similar size and grown under like conditions. The variety known as Thousand Fold gave the heaviest crop. There was no rust or smut on the grain in any of these plots. The seed was sown at the rate of ninety pounds per acre.

Name of Variety.	Date of Ripening.	No. of days Maturing.	Length of Straw.	Character of Straw.	Length of Head.	Kind of Head.	Weight of Straw.	Yield per Acre.		Weight per Bushel.
			In.		In.		Lbs.	Bush.	Lbs.	Lbs.
Thousand Fold	July 20	278	60	Stiff	6½	Bearded.	7,600	47	48	60
Mammoth White	" 20	278	70	"	6	"	8,800	46	24	58⅔
Giant	" 22	280	66	"	6	"	8,200	44	16	60⅔
Emerald	" 19	277	60	"	6	"	7,200	42	8	59

EXPERIMENTS WITH PEASE.

Thirty varieties of pease were tested. They were sown on a gravelly loam on a clover sod which was ploughed in November of 1904 and repeatedly harrowed in March and April before sowing. The pease were sown on plots of one-fortieth of an acre each on April 18 in the proportion of two bushels of the small sorts and three bushels of the larger pease per acre. The straw of all the varieties was clean and bright. As will be seen by the following table the yields are fairly good in all cases, and the grain was plump and very fine.

PEASE—TEST OF VARIETIES.

Number.	Name of Variety.	Date of Ripening.	Number of days maturing.	Character of Growth.	Length of Straw.	Weight of Straw.	Length of Pod.	Size of Pea.	Yield per Acre.		Weight per Bushel.
					In.	Lbs.	In.		Bush.	Lbs.	Lbs.
1	Paragon	Aug. 14	118	Strong	60-64	6,640	3	Medium	50	..	65
2	English Grey	" 4	108	"	54-58	6,720	3	"	50	..	61½
3	German White	" 8	112	"	50-52	5,560	2½	"	48	40	65
4	Chancellor	" 15	119	"	48-52	5,840	3	"	48	40	64
5	Early Britain	" 7	111	"	50-52	5,720	3	"	47	20	63
6	Crown	" 15	119	"	50-54	5,840	2½	Small	46	..	64½
7	White Marrowfat	" 10	114	"	42-48	5,560	2½	Large	43	40	64
8	Gregory	" 8	112	"	50-52	6,160	2½	Medium	43	20	65
9	Macoun	" 11	115	"	54-60	6,640	2½	Large	43	10	64¾
10	Golden Vine	" 11	115	"	58-60	5,400	2½	Small	42	40	65
11	Victoria	" 10	114	"	50-54	5,760	3	Medium	42	20	64½
12	Mackay	" 12	116	"	56-60	5,840	2½	"	42	10	65¼
13	White Wonder	" 10	114	"	60-64	6,480	3	"	42	10	65¼
14	Arthur	" 10	114	"	48-50	5,360	2	Large	41	30	64½
15	Carleton	" 7	111	"	65-70	6,720	2½	Medium	41	20	65
16	Prince	" 12	116	"	36-42	5,640	2½	Large	41	10	64½
17	Black-eyed Marrowfat	" 12	116	"	50-54	5,280	3	"	41	..	65
18	Mummy	" 7	111	"	48-52	6,360	2½	Medium	40	40	63¾
19	Agnes	" 14	118	"	56-60	6,440	2½	Large	40	30	65½
20	Duke	" 19	123	"	54-58	5,960	2½	"	39	20	64½
21	Archer	" 9	113	"	48-52	5,840	2½	Medium	39	20	62½
22	Prince Albert	" 11	115	Medium	46-50	6,080	2½	Small	38	30	65¼
23	Wisconsin Blue	" 7	111	Strong	50-56	5,680	2½	"	36	20	65
24	Pride	" 8	112	"	56-60	5,520	2½	Large	36	10	64
25	Nelson	" 12	116	Medium	48-50	6,120	3	Medium	35	40	64½
26	Daniel O'Rourke	" 4	108	Strong	52-58	6,720	2	Small	35	20	65
27	Picton	" 10	114	"	50-54	5,840	3	Medium	34	..	65
28	Kent	" 9	113	"	50-52	5,240	2½	Large	28	40	64
29	Prussian Blue	" 8	112	"	44-48	5,840	2½	Medium	28	..	65½
30	Pearl	" 10	114	"	72-76	5,280	2½	Large	26	40	65¼

INDIAN CORN.

Twenty-one varieties of Indian corn were grown for ensilage, in rows three feet apart on a loamy soil. The cold wet spring retarded the growth. The dry hot weather in July and August with constant cultivation kept it growing fast, but the weights of crop are not equal to previous years, and in many cases the ears formed were very small and the grain quite immature.

The yield has been calculated from the weight of crop grown on two rows each 66 feet long.

The test of corn sown at different distances apart was repeated this year. As in previous years, the crop was more matured and in better condition where the rows were wide apart, allowing the sun and air to have their full beneficial effect.

CORN—TEST OF VARIETIES.

Number.	Name of Variety.	Character of Growth.	When Tasselled.	In Silk.	Early Milk.	Condition when Cut.	Weight per Acre grown in rows.		Weight per Acre grown in hills.	
							Tons.	Lbs.	Tons.	Lbs.
1	Pride of the North	Very strong.	Aug. 18	Sept. 4	Sept. 24	Early milk..	29	1,620	25	160
2	Thoroughbred White Flint	"	" 28	" 20	...	In silk	22	1,210	26	800
3	White Cap Yellow Dent	"	" 20	" 6	Sept. 24	Early milk..	22	880	21	240
4	Giant Prolific Ensilage	"	" 26	" 20	...	Ears formed	22	440	18	1,840
5	Mammoth Cuban	"	" 22	" 10	Sept. 20	Early milk..	21	1,560	20	1,800
6	Compton's Early	"	" 10	Aug. 30	" 6	Late milk...	20	1,580	20	1,800
7	Early Butler	"	" 16	" 30	" 14	Early milk..	20	700	17	1,310
8	Red Cob Ensilage	"	" 14	" 28	" 4	Late milk...	19	1,600	19	940
9	Champion White Pearl	"	" 8	" 22	" 6	" ...	19	940	17	1,200
10	Superior Fodder	"	" 20	Sept. 6	...	Ears formed	19	720	24	1,280
11	Longfellow	"	" 12	" 4	Sept. 20	Roasting ear	18	960	18	1,180
12	North Dakota White	"	" 18	" 2	" 26	Early milk..	18	80	17	540
13	Salzer's All Gold	"	" 24	" 20	...	In silk	17	1,860	17	210
14	Northern Dent	"	" 18	" 6	Sept. 24	Early milk..	16	1,880	14	1,810
15	Early Mastodon	"	" 20	" 8	" 26	" ..	16	1,000	16	1,770
16	King Philip	"	" 16	" 2	" 22	Roasting ear	16	780	15	1,990
17	Eureka	Strong.	" 14	" 14	...	In silk	15	1,900	15	910
18	Cloud's Early Yellow	"	" 12	Aug. 28	Sept. 20	Early milk..	14	160	13	620
19	Selected Leaming	"	" 16	" 28	" 22	" ..	13	1,060	15	360
20	Angel of Midnight	"	" 18	" 28	" 20	" ..	13	840	15	1,460
21	Evergreen Sugar	"	" 20	" 28	" 14	" ..	12	860	12	220

CORN SOWN AT DIFFERENT DISTANCES APART.

Name of Variety.	Date of Sowing.	Character of Growth.	Distance in rows.	Distance in hills.	Condition when cut.	Weight per acre grown in rows.		Weight per acre grown in hills.	
			In.	In.		Tons.	Lbs.	Tons.	Lbs.
Champion White Pearl	April 18	Strong	21	21	Early milk..	28	380	26	991
" "	" 18	"	28	28	" ..	21	1,560	22	830
" "	" 18	"	35	35	Late milk...	19	67	18	311
" "	" 18	"	42	42	" ..	17	410	15	265
Longfellow	" 18	"	21	21	Early milk..	21	618	21	1,182
"	" 18	"	28	28	" ..	17	837	16	1,530
"	" 18	"	35	35	Late milk...	17	343	16	1,603
"	" 18	"	42	42	" ..	14	1,134	13	1,437
Selected Leaming	" 18	"	21	21	Early milk..	18	1,311	17	696
"	" 18	"	28	28	" ..	14	285	14	1,418
"	" 18	"	35	35	" ..	13	136	12	906
"	" 18	"	42	42	Late milk...	10	648	9	1,988

EXPERIMENTS WITH FIELD ROOTS.

The land for the root crop was in clover in 1903 and two heavy crops were cut that summer, and a heavy aftermath turned under in November. A dressing of stable manure was given during the fall and winter, and mixed oats and peas sown in the spring of 1904 along with about ten lbs. of clover seed. The oat crop was a fairly good one and there was a splendid catch of clover to which was added a light dressing of stable manure in the fall and the whole turned under in December, 1904. Early in March, 1905, the harrow and disc were started, and these were used alternately every week until the seed was sown. The first plots of sugar beets, carrots and mangels were sown on April 12, and the second series of plots two weeks later, April 26, and

both lots of all the varieties were pulled October 27 and 30. The first plots of turnips were sown May 15, and the second series on May 29, and both were pulled October 30.

The cold wet weather of April and May prevented a free germination of the seed, and in every case the stand was uneven, and the plants did not begin to grow vigorously until well on in June. The lack of rain in the latter part of that month and during July and August prevented a large yield. The yields per acre in all cases have been calculated from the weights of roots obtained from two rows each sixty-six feet long.

TURNIPS—TEST OF VARIETIES.

Number.	Name of Variety.	Yield per Acre.							
		1st Plot.				2nd Plot.			
		Tons.	Lbs.	Bush.	Lbs.	Tons.	Lbs.	Bush.	Lbs.
1	Magnum Bonum	20	1,184	686	24	18	168	602	48
2	Carter's Elephant	20	656	677	36	17	1,772	596	12
3	Hartley's Bronze	19	808	646	48	..	..	..	..
4	Hall's Westbury	18	1,752	629	12	20	1,448	690	48
5	Mammoth Clyde	18	1,488	624	48	18	432	607	12
6	Selected Purple Top	18	1,356	622	36	17	716	587	36
7	Imperial Swede	18	36	600	36	14	248	670	48
8	East Lothian	17	1,112	585	12	16	1,132	552	12
9	Jumbo	17	716	578	36	14	968	481	48
10	New Century	17	584	576	24	15	888	514	48
11	Kangaroo	16	736	546	36	15	492	508	12
12	Skirvings'	16	76	534	36	18	36	600	36
13	Elephant's Master	16	76	534	36	13	1,852	464	12
14	Good Luck	15	1,812	530	12	21	1,296	721	36
15	Bangholm Selected	15	1,680	528	..	14	776	479	36
16	Perfection Swede	15	1,548	525	48	19	148	635	48
17	Sutton's Champion	15	492	508	12	17	1,112	585	12
18	Halewood's Bronze Top	14	1,430	490	36	18	828	613	48
19	Emperor Swede	14	512	475	12	16	736	545	36
20	Drummond Purple Top	12	228	404	48	12	1,872	431	12

MANGELS—TEST OF VARIETIES.

Number.	Name of Variety.	Yield per Acre.							
		1st Plot.				2nd Plot.			
		Tons.	Lbs	Bush.	Lbs.	Tons.	Lbs.	Bush.	Lbs.
1	Giant Sugar Mange	26	860	880	..	20	1,976	699	36
2	Prize Mammoth Long Red	24	189	803	..	20	1,448	690	48
3	Lion Yellow Intermediate	23	1,916	798	36	19	808	646	48
4	Selected Yellow Globe	22	1,936	765	36	21	372	706	12
5	Leviathan Long Red	22	1,934	765	36	20	1,316	688	36
6	Gate Post	20	1,712	695	12	21	636	710	36
7	Giant Yellow Globe	20	1,580	676	20	16	472	541	12
8	Ideal	20	656	677	36	19	1,600	660	..
9	Half Long Sugar White	18	1,884	631	24	18	1,224	620	24
10	Giant Yellow Intermediate	18	1,752	629	12	15	1,940	532	24
11	Yellow Intermediate	18	1,660	627	..	19	676	644	36
12	Selected Mammoth Long Red	18	1,588	626	28	15	1,152	519	12
13	Half Long Sugar Rosy	16	736	545	36	13	1,984	466	24
14	Mammoth Long Red	16	76	534	36	15	492	508	12
15	Mammoth Yellow Intermediate	15	624	510	24	14	116	468	36
16	Triumph Yellow Globe	13	664	444	24	12	1,608	426	48
17	Prize Winner Yellow Globe	12	1,872	431	12	13	268	437	48

CARROTS—TEST OF VARIETIES.

Number.	Name of Variety.	Yield per Acre. 1st Plot.		Yield per Acre. 1st Plot.		Yield per Acre. 2nd Plot.		Yield per Acre. 2nd Plot.	
		Tons.	Lbs.	Bush.	Lbs.	Tons.	Lbs.	Bush.	Lbs.
1	Mammoth White Intermediate	28	1,585	959	45	26	1,130	885	30
2	Improved Short White	27	1,770	929	30	26	1,790	896	30
3	Ontario Champion	25	1,810	863	30	22	1,045	750	45
4	Long Yellow Stump Rooted	25	1,480	858	..	25	160	836	..
5	New White Intermediate	24	1,830	830	30	23	365	772	45
6	Carter's Orange Giant	23	1,520	792	..	20	1,745	694	..
7	Early Gem	23	860	781	..	21	1,395	723	15
8	White Belgian	23	35	767	15	21	390	706	10
9	Giant White Vosges	18	1,620	627	..	17	485	574	45
10	Half-long Chantenay	17	1,300	588	20	16	1,660	561	..
11	Kos Kirches	13	1,885	464	45	13	565	442	45

SUGAR BEETS—TEST OF VARIETIES.

Number.	Name of Variety.	Yield per Acre. 1st Plot.		Yield per Acre. 1st Plot.		Yield per Acre. 2nd Plot.		Yield per Acre. 2nd Plot.	
		Tons.	Lbs.	Bush.	Lbs.	Tons.	Lbs.	Bush.	Lbs.
1	Royal Giant	22	88	734	48	20	1,976	699	36
2	Improved Imperial	17	848	580	48	15	1,548	525	48
3	Red Top Sugar	16	76	531	36	14	644	477	24
4	Vilmorin's Improved	15	492	508	12	14	1,832	497	12
5	Wanzleben	13	928	448	48	12	156	402	36
6	French Very Rich	13	136	435	36	11	1,232	387	12
7	Danish Improved	12	24	400	24	13	4	433	24
8	Danish Red Top	9	216	303	36	8	368	272	48

EXPERIMENTS WITH POTATOES.

Forty-four varieties of potatoes were tested this year. The soil was a sandy loam, which had a crop of vetches turned under in the spring of 1904, and was planted with corn in the spring of 1904, receiving also a dressing of farm manure.

The corn was a fair crop, and as soon as it was cut in September the stubble was turned under and another light dressing of strawy manure spread over it and worked into the soil with the spading harrow. It was repeatedly harrowed with the spade and spike tooth harrows during March and April, and when the potatoes were planted on April 29 the weed seeds near the surface had been fairly well sprouted and destroyed. The potatoes were sprayed twice with bordeaux in July and the tops matured without appearance of blight, some varieties being quite green when they were dug September 22. The season was too dry for such a light sandy soil, but the yields were fairly good and the quality of the tubers excellent.

The yield has been calculated in each case from the weight of tubers dug from two rows each sixty-six feet long.

POTATOES—TEST OF VARIETIES.

Number.	Name of Variety.	Total Yield per Acre.	Yield per Acre of Sound.	Yield per Acre of Rotten.	Yield per Acre of Marketable.	Yield per Acre of Unmarketable.	Form and Colour.
		Bush. Lbs.	Bush. Lbs.	Bush. Lbs.	Bush. Lbs.	Bush. Lbs.	
1	Late Puritan	699 36	664 ..	35 36	600 ..	64 ..	Long, white.
2	Empire State	673 12	640 ..	33 12	575 ..	65 ..	Long, flat, white.
3	Dooley	655 36	655 36	None	560 ..	95 ..	Oblong, white.
4	American Giant	646 40	646 40	"	616 40	30 ..	"
5	American Wonder	629 12	315 ..	314 12	269 .	46 ..	"
6	Seedling No. 7	624 48	624 48	None	559 48	65 ..	Long, red.
7	Daniel's Sensation	611 36	611 36	"	551 30	60 ..	Flat, white.
8	Dreer's Standard	607 12	607 12	"	522 12	85 ..	Long, white.
9	Uncle Sam	580 48	555 48	25 ..	480 48	75 ..	Round, white.
10	Dakota Red	578 36	578 36	None	518 36	60 ..	Long, red.
11	Carman No. 1	567 36	537 36	30 ..	483 36	54 ..	Round, white.
12	Vermont Gold Coin	563 12	533 12	30 ..	478 12	55 ..	Long, white.
13	Sutton's Invincible	561 ..	536 ..	25 ..	476 ..	50 ..	Oblong, white.
14	Enormous	556 36	556 36	None	551 ..	55 36	Long, flat, white.
15	Country Gentleman	545 36	545 36	"	495 36	50 ..	Oblong, pink.
16	Early St. George	536 48	536 48	"	456 48	80 ..	"
17	Rose No. 9	532 24	532 24	"	456 ..	76 24	Oblong, red.
18	I.X.L	528 ..	528 ..	"	422 30	105 30	Long, flat, pink.
19	Irish Cobbler	523 36	523 36	"	445 36	78 ..	Round, white.
20	Reeve's Rose	523 36	523 36	"	443 36	80 ..	Long, rose.
21	State of Maine	523 36	500 ..	23 36	450 ..	50 ..	Long, pink.
22	Bovee	519 12	508 12	11 ..	408 12	100 ..	Long, rose.
23	Carman No. 3	514 48	514 48	None	409 48	105 ..	Round, white.
24	Maule's Thoroughbred	484 ..	466 ..	18 ..	371 ..	95 ..	Long, rose.
25	Sabean's Elephant	484 ..	484 ..	None	427 ..	57 ..	Long, white.
26	Pearce	475 12	466 12	9 ..	406 12	60 ..	Long, red.
27	Penn Manor	466 24	448 ..	18 24	355 ..	93 ..	"
28	Morgan Seedling	466 24	446 ..	20 24	356 ..	90 ..	Long, pink.
29	Early White Prize	462 ..	462 ..	None	393 ..	69 ..	Long, white.
30	Holborn Abundance	457 36	435 ..	22 36	321 ..	114 ..	Round, white.
31	Delaware	448 48	448 48	None	374 48	74 ..	Long, white.
32	Money Maker	431 12	431 12	"	349 12	82 ..	"
33	Cambridge Russet	409 12	385 12	24 ..	344 ..	41 12	Long, flat, russet.
34	Vick's Extra Early	404 48	404 48	None	324 ..	80 48	Round, rose.
35	Early Andes	396 ..	396 ..	None	297 ..	99 ..	"
36	Rochester Rose	391 36	391 36	"	333 36	58 ..	Long, rose.
37	Sutton's Supreme	387 12	387 12	"	331 ..	56 12	Oblong, rose.
38	Burnaby Mammoth	374 ..	359 ..	15 ..	284 ..	75 ..	"
39	Canadian Beauty	352 ..	338 ..	14 ..	268 ..	70 ..	Obl'ng, flat, white.
40	Early Rose	330 ..	330 ..	None	267 ..	66 ..	Oblong, rose.
41	Swiss Snowflake	312 24	302 24	10 ..	265 ..	37 24	" white.
42	Everett	296 24	281 24	15 ..	211 24	70 ..	" red.
43	Pingree	228 48	212 48	16 ..	178 ..	45 48	" white.
44	Early Envoy	211 12	211 12	None	171 12	40 ..	" pink and white.

FODDER PLANTS.

The following forage plants were sown May 1 in plots of one-fortieth of an acre each.

As in previous years the millets are not very successful when compared with any of the mixtures of the common grains.

Plots one to six were sown May 1 and cut September 28 and 29.

Millets—

Plot 1.—White rounde.—Stalks, 18 to 24 inches, not leafy; heads 2 to 2½ inches long. Yield when cut, 2 tons 1,430 lbs. per acre.

Plot 2, Hungarian grass, stalks, 18 to 26 inches long, heads 2 to 4 inches, an even stand, but short. Weight when cut, 2 tons 960 lbs. per acre.

Plot 3.—Italian, a thin poor stand, stalks, 22 to 28 inches long; heads, 4 to 5 inches long. Weight when cut, 2 tons 1,320 lbs. per acre.

Plot 4.—Green Californian, stalks, 14 to 22 inches long, quite leafy; heads short and poor. Weight when cut, 1 ton 1,860 lbs. per acre.

Plot 5.—Algerian, stalks, 22 to 28 inches long, quite leafy; heads 3 to 5 inches long; a very thin stand. Weight when cut, 1 ton 1,910 lbs. per acre.

Plot 6.—Pearl, a poor stand; stalks, 26 to 36 inches long, not leafy; heads 1½ to 2 inches long. Weight when cut, 1 ton 780 lbs. per acre.

Plot 7.—Soja Beans, sown May 1 and cut September 29; drills 21 inches apart, an even stand, but not as leafy nor as well podded as in previous years; length of stalk, 24 inches and of pod 1 to 1¼ inches, not well branched. Weight when cut, 4 tons 640 lbs. per acre.

Plot 8.—Soja beans sown in drills 28 inches apart; sown May 1 and cut September 29. Stalks 28 to 30 inches long, fairly well branched and well podded; weight when cut, 4 tons 1,360 lbs. per acre.

Plot 9.—Soja beans sown 35 inches apart, very branching and leafy; pods 1 to 1¼ inches long and well filled with beans, commencing to harden when cut; weight, 4 tons 840 lbs. per acre.

SUNFLOWERS.

A quarter of an acre was sown in drills three feet apart and thinned to six inches in the drill. They made an even stand and grew from 6 to 8 feet high, with medium large heads.

CLOVER VERSUS CORN FOR ENSILAGE.

In this climate where clover grows so remarkably well and where early June weather is as a rule very wet, clover is a much safer crop if put into the silo than if cured for hay. The results of a test were given in my report for last year. This year the test was repeated on a heavier piece of land that has been under cultivation since shortly after the farm was opened, and was in better condition, and as a consequence the dry autumn has not had such an effect as it did on the clover last year, there being not only a good second crop, but a fairly heavy third crop, which was cut for feed during the last half of September. The results are as follows:—

First crop cut on June 5, 6 and 7 and weighed as taken from the field with no rain or dew on it. The second crop was cut July 20 and 21, and the third crop was cut from Sept. 16 and fed as needed. This land is a sandy loam underlaid with gravel, and clover sod has been turned under repeatedly in the last twelve years, making the top six inches fairly rich in humus, and thus well adapted to carry a crop successfully over a moderate drouth:—

	Tons.	Lbs.
The first cutting yielded	14	1,160
The second "	11	1,950
The third "	6	480
	32	1,590

This makes a better yield than our heaviest corn crop and at a very much cheaper rate per ton, as there is much less cost handling the clover from the beginning until it is safely in the silo. No cultivation is necessary during the spring or summer and no special machinery is required to put the clover into the silo as is the case with corn.

CLOVER EXPERIMENTS.

So much attention has been called to the necessity or usefulness of treatment of clover and alfalfa seed with special cultures of bacteria that it was thought desirable that an experiment be tried with seed treated and untreated of common red clover and alfalfa.

A quantity of seed of these legumes, both treated and untreated, was received from the Central Experimental Farm, for a test of this nature on the soil of this farm. The land chosen for this test has been under cultivation since 1894 and has been dressed several times with barnyard manure and has had after-growth of red clover turned under five times. The last time was in the fall of 1903, when a heavy growth of clover was turned under and a dressing of about ten tons per acre of farm yard manure applied during the winter following and thoroughly worked into the soil in spring and a crop of roots raised in 1904.

The land was lightly ploughed and harrowed early this spring and a half acre was seeded with inoculated alfalfa seed at the rate of twenty-five lbs. per acre, and the adjoining half acre sown with untreated seed at the same rate. Adjoining plots of half an acre each were sown with treated and untreated red clover at the rate of 12 lbs. per acre. A half bushel of barley per acre was sown broadcast at the same time, not as a nurse crop, but to be useful as a guide to the mower, and the plots were clipped off several times during the summer, the clippings being left as a mulch.

The growth has been very good on all the plots, but up to the present time no difference is apparent, which in the case of the red clover is quite natural as clover has always done remarkably well on this field.

Another season will perhaps show what effect the culture has on the alfalfa, which has failed on two previous occasions.

SUMMARY OF CROPS.

	Tons.	Lbs.
Hay	47	500
Clover in silo	67	1,300
Corn in silo	33	1,100
Turnips	38	1,600
Carrots	5	200
Mangels	4	1,600
Potatoes	6	280
Wheat	..	587

GARDEN VEGETABLES.

Beets.—Sown April 4.

Early Blood Turnip. Fit for table, July 5. Crisp, sweet, fine flavoured; dark red.

Egyptian. Fit for table, July 5. An even, rapid grower; crisp, fine flavour; dark red.

Nutting's Dwarf Improved. Fit for table, July 10. Fine grained; good quality.

Long Smooth Blood Red. Fit for table September. Very fine quality; sweet, crisp; a good keeper.

Beans.—Sown April 14.

Dwarf Golden Skinless. Fit for table, July 10. Very productive; pods from 2½ to 4 inches; crisp; good quality.

Dwarf Extra Early. Fit for table, July 10. Pods 2 to 4 inches; crisp; tender; good quality.

Dwarf Matchless. Fit for table, July 13. Productive; pods 3 to 5 inches; crisp; fine flavour.

Fame of Vitry. Fit for table, July 17. Strong grower; productive; pods 4 to 6 inches long; crisp; tender, good.

Dwarf Emperor of Russia. Fit for table, July 17. Bushy, strong grower; pods 4 to 5 inches; very productive; crisp, fine flavour.

Dwarf Black Speckled. Fit for table, July 20. Bushy; productive; pods 4 to 6 inches; crisp, juicy, good.

Parsnips.—Sown April 4.

Round Parsnips. Productive; very good quality.

Maltese. Tender; fine grained, good quality.

Garden Pease.—Sown April 10.

American Wonder. Fit for table, June 18. Pods long and well filled; sweet, fine flavoured, productive.

Nott's Exclesior. Fit for table, June 22. Productive; good quality.

Cabbage.

The seed was sown in beds in open ground April 4, and the plants were set out on May 25. All of the plants grew and headed well. Notwithstanding the hot, dry weather, but when the wet weather came in September, very many heads burst, and some began to grow again.

Paris Market. Fit for use, July 15. Heads medium size, firm, good.

Express. Fit for use July 15. Heads small; medium solid; crisp; fine flavoured.

Early Jersey Wakefield, July 18. Heads medium sized; solid; crisp, good.

Extra Early Midsummer Savoy. Fit for use, July 20. Heads medium; rather open; good quality.

Early Winnigstadt. Fit for use, August 14. Heads not very solid, but quality good.

Green Globe Savoy. Fit for use, September 5. Heads medium sized; solid; good quality.

Fottler's Improved Brunswick. Fit for use, October 3. Heads large, solid, crisp, good.

Cauliflower.

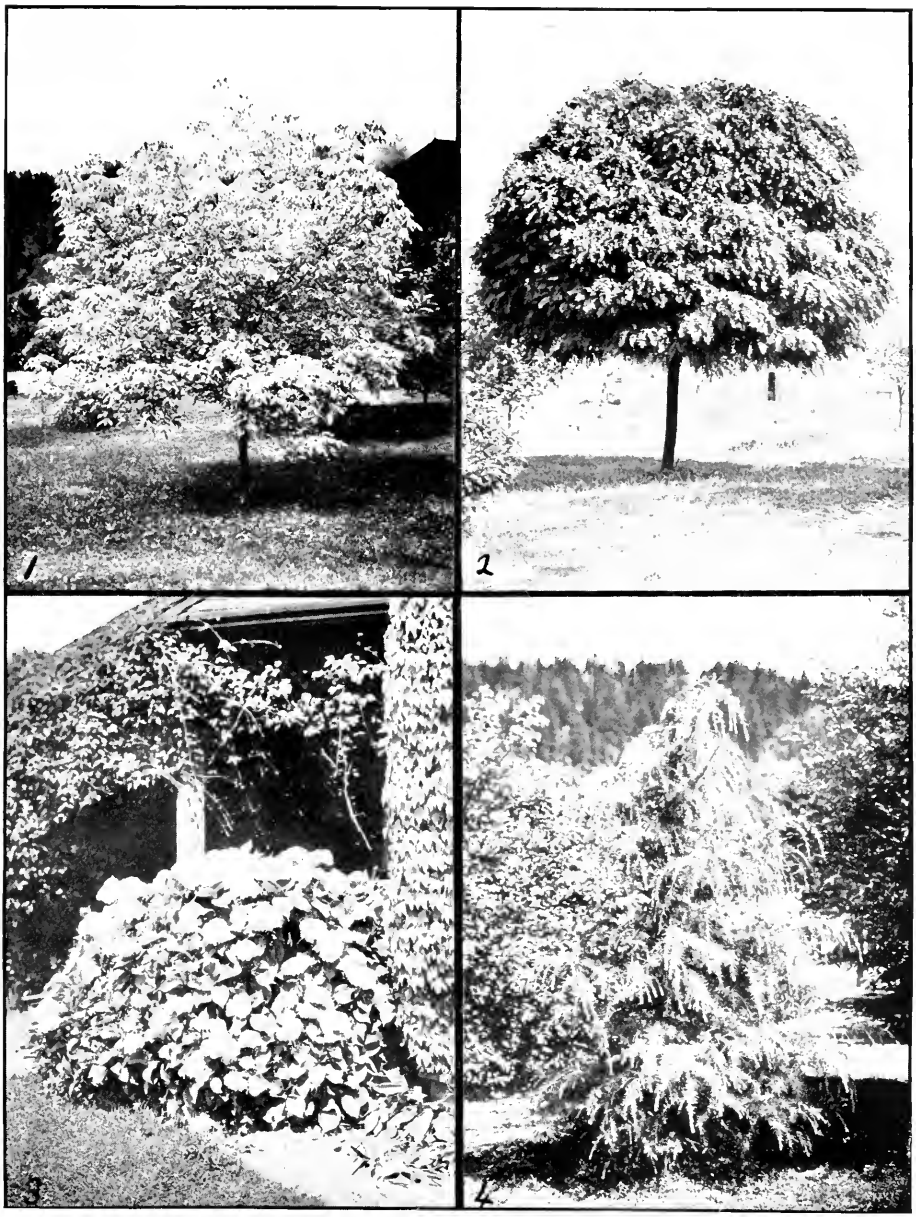
Early Snowball. Fit for use, July 25. Heads large, firm, very good.

Broccoli.

Extra Early White. Fit for table, August 20. Heads large, firm; delicate flavour.

Brussels Sprouts.

Improved Dwarf; vigorous growth; tender, good.



Photo, by C. E. Saunders.

1.—Variegated Negundo Maple.
2.—Crown Acacia.
3.—Hydrangea, Blue.
4.—Deodar Cedar.

RADISHES.—Sown April 5.

Early Scarlet Turnip. Fit for use, May 3. Crisp, good.
Olive Shaped Scarlet. Fit for use, May 7. Crisp, good.
Scarlet White-tipped Turnip. Fit for use, May 8. Crisp, very good.

LETTUCE.—Sown April 9.

Paris White Cos. Fit for table, May 15. Tender; crisp, fine flavoured.

CABBAGE LETTUCE.

All the Year Round. Fit for table, May 25. Tender, crisp, very good quality.

TABLE CARROTS.—Sown April 4.

French Horn. Fit for table, June 4. Crisp, good quality.
Luc Half Long. Fit for table, July 2. Very good.
Long Blood Red. Fit for table, July 8. Crisp, good.

TABLE TURNIPS.—Sown April 4.

Extra Early White Milan. Fit for table, June 5. A rapid grower; crisp; very good.
Early Stone. Fit for table June 8. Crisp; sweet, good.
Early White Strap-leaved. Fit for table, June 10. Crisp, good.
Yellow Robertson's Golden Ball. Fit for table, June 12. Fine flavour; very good.

ONIONS.—Sown April 4.

Large Red Weathersfield. Solid; fine grained; productive; a good keeper.
Trebon. Large, mild; a little inclined to make thick necks.
Market Favourite. Medium in size; thin skinned; very good.
Paris Silver Skin. Small, medium; thin skinned; mild flavoured; a good keeper; productive.

PUMPKINS.

Winter Luxury. Small; russet orange colour; medium deep fine grained flesh; productive, a good keeper.
Jonathan. Small; solid, meaty; good quality; good keeper, but not productive.
Japan Crookneck pumpkin. Five inches by 9 inches; green and orange; not of much account.
Mammoth King. Large, oblate; 12 to 14 inches from stem to blossom; 20 to 24 inches in diameter; flesh 2 inches thick, rich orange; moderately productive.
New Japanese Pie. Five inches from stem to blossom; 12 to 14 inches in diameter; fairly solid; good quality.
Nantucket or Negro. Large, oblong; solid, deep fleshed; fair quality.
Calhoun. Small, oblate; bright orange; flesh deep; fair quality; good keeper, but not productive.
Grey Mammoth. Very large, oblong; greyish green; solid; heavy; not productive.
Large Yellow Field. Large, oblong; solid; good quality; a good keeper.

SQUASH.—Planted April 26.

Fordhook. Vines long; productive; squash 8 to 11 inches long, 3 to 5 inches across; flesh thick, firm, sweet, good.

Hubbard. Productive, but small this year on account of drought; quality very good.

Long White Bush Marrow. Productive; squash 10 to 14 inches long, 3 to 4 in width; not very good quality.

Essex Hybrid. Vines long and productive; squash large and fine flavoured.

Mammoth Whale. Productive but small on account of drought; good for stock.

Long White English Vegetable Marrow. Vines long and productive; squash 10 to 18 inches in length; very fine quality.

Cocoanut. Vines long and productive; squash small, round, deeply ribbed; dry and sweet; quality very fine.

Delicata. Vines long and productive; solid, dry, sweet, good; quality, very fine; a very good keeper.

Cocozelle. Vines short and productive; squash 16 to 30 inches in length, 4 to 6 in diameter; often crooked; not very good quality; rather watery.

Marblehead. Moderately productive; not very good quality.

Delicious. Productive; 4 to 8 inches in length, 6 to 8 in diameter; solid, dry, sweet; very fine quality.

Silver Custard. Vines short; very productive; good summer squash.

Turban Squash. Vines long and productive; good size for sort; good, dry, sweet.

Perfect Gem. Vines long and productive; squash as large as a cocoanut; very good quality.

Golden Bronze. Productive; as large as the Hubbard; solid, deep, orange flesh; sweet, dry and fine flavoured.

Extra Early Orange Marrow. Productive; flesh solid, bright orange; not so dry as some others.

White Crookneck. Vines long and productive; flesh thin; not fine flavoured or sweet.

Bay State. Vines long and productive; squash small; flesh thin, orange in colour; sweet, fine flavoured.

English Vegetable Marrow. Productive; solid; sweet, good quality.

Brazilian Sugar. Vines long and productive; squash small, oblong; not solid or fine flavoured.

SAMPLES DISTRIBUTED.

Scions and cuttings.. .. ..packages	186
3-lb. samples of seed potatoes..	203
3-lb. oats..	173
3-lb. pease..	161
3-lb. spring wheat..	56
3-lb. barley..	74
Nut and tree seeds..	374
	1,227

CORRESPONDENCE.

Letters received, 3,187; letters despatched, 2,953.

COMMERCIAL ORCHARDS.

A beginning was made this year towards ascertaining the profits of apple growing in this climate by planting a small commercial apple orchard. The following varieties were selected as among those which have been most successfully grown, and other sorts will be added from time to time:—King, Wagener, Monmouth Pippin, Sutton Beauty, Salome, Jonathan, Mother, Ontario, and Grimes' Golden. They were planted 30 feet apart each way, twelve trees of each sort being planted, thus making very nearly a quarter of an acre devoted to each variety. Land is being prepared for similar test orchards of plums, pears and cherries, and it is expected that a beginning in all of these will be made next spring.

APPLES.

The spring was unusually cold and wet and several light frosts occurred during the blossoming period. These unfavourable conditions prevented a full crop and many varieties failed to set fruit. The season later on was bright and warm and the quality of the fruit which did grow was very fine. The following short description of varieties includes a good many which fruited in 1904, but could not be described in the report for that year because they were not yet in season when the report was written:—

Cardinal.—Fruit above medium size, conical. Stem long and slender, cavity deep and wide, with considerable russet. Calyx large, open. Basin deep and wide. Skin clear, bright yellow, handsomely striped and splashed with bright red. Flesh white, juicy, tender, pleasant, mild sub-acid, or nearly sweet. Season early August.

Muller's Belleflower.—Fruit above medium size, somewhat oblate, tapering a little to the eye. Stem short. Cavity narrow and deep. Calyx small closed. Basin narrow, shallow and corrugated. Skin dull yellow nearly covered with dull red and sprinkled with gray dots. Flesh yellowish, firm, not juicy, sweet with a pleasant flavour. Season August.

Thistlewait.—Tree a strong grower and an early bearer. Fruit of medium size, oblong, conical. Stem medium in length, slender, cavity wide and deep. Calyx small, open. Basin wide and shallow. Skin golden yellow, streaked and splashed with red in two shades. Flesh whitish, tender, juicy, mildly sub-acid, with a pleasant agreeable flavour. Promising. Season August and early September.

Banks' Red Gravenstein.—Very similar to the common Gravenstein but with more colour. It closely resembles in every respect the Red Gravenstein of Germany. Season last of August and September.

Malcolm Dunn.—Fruit of medium size, oblate, conical, somewhat irregularly ribbed. Stem short, cavity narrow and deep. Calyx small and open. Basin deep and narrow, corrugated. Skin greenish yellow, with a dull red blush on the sunny side. Flesh rather coarse, whitish, juicy, mild and pleasantly acid. Season September.

Vrai Drap d'Or.—Fruit of medium size, roundish, somewhat flattened. Stem short, cavity narrow and deep. Calyx small, closed. Basin wide and deep. Skin dull golden yellow, with a few brown specks. Flesh yellowish, juicy, crisp, pleasant, mildly acid. Season September and October.

Noble Sovarie.—Fruit of medium size or below, roundish, somewhat ribbed. Stem of medium length, cavity wide and medium, deep. Calyx large, open. Basin wide and deep, corrugated. Skin greenish yellow, with a small reddish blush on the sunny side. Flesh whitish, juicy, mildly sub-acid, a fine cooking apple. Season September.

Rivers Early Peach.—Fruit of medium size, oblate. Stem long and slender, cavity deep and wide. Calyx small, open. Basin shallow and narrow. Skin greenish yellow, with a dull red cheek. Flesh white, soft, tender, juicy, with a very pleasant flavour, mildly acid. Season September.

Cobham.—Fruit of medium size, conical. Stem short, cavity round, deep and narrow. Calyx small, partly open. Basin shallow and wide. Skin greenish yellow, with stripes and patches of red in two shades, and sprinkled with a few yellow dots. Flesh yellowish, firm, moderately juicy, sweet, with a fine flavour. Season October and November.

Couchine.—Fruit below medium size, globular. Stem long, cavity moderately deep and wide. Calyx small, closed. Basin small and flat. Skin yellowish green, splashed with dull red on the sunny side, and sprinkled with gray dots. Flesh white, juicy, mild, pleasantly sub-acid. Season October and November.

De Prince.—Fruit medium to large, roundish oblong. Stem short and slender, cavity narrow and deep. Calyx small and closed. Basin wide and deep. Skin greenish yellow, with a red cheek. Flesh yellowish, juicy, tender, crisp, mild, pleasantly acid, with a fine flavour. Season October and November.

Home of Kent.—Fruit medium to large, roundish, conical. Stem long, cavity moderately deep. Calyx small, closed. Basin wide and flat. Skin yellow, striped with red on the sunny side. Flesh whitish yellow, crisp, juicy and pleasantly sub-acid, a fine cooking apple. Season October and November.

Farmer's Seedling.—Fruit medium to large, oblong, conical, ribbed. Stem short, cavity small and deep. Calyx large, open. Basin wide and moderately deep. Skin greenish yellow, with dots and splashes of dull red. Flesh white, firm, crisp, moderately juicy, mildly sub-acid, of good flavour, a good cooking apple. Season October and November.

King of Pippins.—Fruit small to medium, conical. Stem of medium length, cavity deep and wide. Calyx large, open. Basin wide and of medium depth. Skin russet yellow with a reddish cheek. Flesh firm, moderately juicy, sprightly and acid. Season October and November.

Cherry Pearmain.—Fruit medium to small, roundish, conical. Stem short, cavity narrow and shallow. Calyx small, closed. Basin narrow and shallow. Skin pale greenish yellow, with a reddish cheek. Flesh yellowish white, tender, juicy, mildly sub-acid. Season October and November.

Lord Grosvenor.—Fruit above medium size, oblate. Stem short, cavity narrow and shallow. Calyx large, open. Basin wide and shallow, corrugated. Skin yellow, mottled and splashed with spots of red. Flesh white, juicy, tender, sprightly acid, with a fine pleasant flavour. Season October and November.

Histon Favourite.—Fruit below medium size, roundish, conical. Stem short, cavity deep and narrow. Calyx large, closed. Basin wide and shallow. Skin a bright, clear yellow, splashed and streaked on the sunny side with bright red. Flesh firm, juicy, white, mild and pleasantly acid. Season October and November.

Surprise.—Fruit of medium size, roundish, flat. Stem short, cavity narrow and deep. Calyx small, closed. Basin narrow and deep. Skin yellow, with a bright red blush in the sun. Flesh whitish, moderately juicy, and mildly acid, sometimes stained with red. Not of much value. Season October and November.

Reinette d'Autumn d'Wilkenburg.—Fruit of medium size, globular. Stem short, cavity narrow and deep. Calyx small, closed. Basin wide and shallow. Skin greenish yellow, somewhat russeted and sprinkled with gray dots. Flesh yellowish, moderately juicy, firm, pleasantly sub-acid, with a rich flavour. Season October and November.

Reinette Etoilée.—Fruit of medium size, conical. Stem short, cavity of medium depth, narrow. Calyx large, open. Basin shallow and wide. Skin yellow, nearly overspread with red and sprinkled with gray dots. Flesh white, crisp, juicy, mild and pleasantly sub-acid. Season October and November.

Mdlle. Jeannie Hardy.—Fruit large, conical, handsome, very similar in tree and fruit to Alexander.

North Star.—Fruit above medium in size, roundish, conical. Stem short, cavity narrow and deep. Calyx small, closed. Basin deep and wide. Skin yellow with a dull red cheek. Flesh yellowish, crisp, fairly juicy, pleasantly sub-acid, a good cooking apple. Season October and November.

Oberdiek's Pearmain.—Fruit large, oblong, tapering from the middle to both stalk and eye. Stem short, stout, cavity narrow and shallow. Calyx large open. Basin narrow and shallow. Skin greenish yellow with a few gray specks about the stem. Flesh coarse, breaking, mildly sub-acid and of a pleasant flavour. Season October and November.

Plate de Parson.—Fruit of medium size, roundish. Stem long, slender, cavity narrow and deep. Calyx small, closed. Basin narrow and shallow. Skin greenish yellow, sprinkled sparsely with gray dots. Flesh white, juicy, firm, nearly sweet with a pleasant flavour. Season November.

Nathusius Taubenapfel.—Fruit of medium size, oblong, conical. Stem short, cavity narrow and shallow. Calyx small, closed. Basin narrow and deep. Skin greenish yellow with small patches of red on the sunny side. Flesh white, juicy, crisp, mild and pleasantly sub-acid. Season November.

Moyenvre.—Fruit above medium size, oblate, conical. Stem short, cavity deep and wide. Calyx large, partly open. Basin deep, wide and ribbed. Skin yellow, nearly covered with dull red. Flesh whitish, crisp, juicy, pleasantly acid, with a fine flavour. Season November.

Ostfriesischer Calvill.—Fruit of medium size, conical and prominently ribbed. Stem short, cavity deep, narrow and ribbed. Calyx small, closed. Basin narrow, deep and corrugated. Skin greenish yellow with a small blush on the sunny side. Flesh coarse-grained, not very juicy, mild and pleasantly sub-acid. Season November.

Royal Pearmain.—Fruit of medium size, roundish, tapering to the eye. Stem short, cavity narrow and deep. Calyx large, closed. Basin wide and ribbed. Skin russet yellow with a red blush and sprinkled with gray dots. Flesh yellowish, crisp, juicy, mildly acid with an aromatic flavour. Season November and December.

Rambour Papelen.—Fruit of medium size, oblate, tapering to the eye. Stem of medium length, cavity small. Calyx large, closed. Basin deep and wide. Skin yellow, splashed with red nearly over the whole surface. Flesh yellowish white, a little coarse, breaking, sprightly, pleasantly acid. Season November and December.

Royal d'Angleterre.—Fruit above medium in size, roundish, tapering a little to the eye. Stem short, cavity deep and narrow. Calyx small, closed. Basin deep, wide and corrugated. Skin russet yellow with a pinkish blush and sprinkled with golden dots.

Flesh yellowish, crisp, rich, juicy, mildly sub-acid, with a rich and pleasant aromatic flavour. Season November and December.

Kinnaird's Choice.—Fruit of medium size, roundish. Stem short, cavity narrow and shallow. Calyx small, closed. Basin shallow and small. Skin yellow, nearly covered with bright red. Flesh yellowish, crisp, juicy, mild and pleasantly sub-acid, slightly aromatic. Skin very tender and inclined to scab. Season November and December.

Winter Quarrenden.—Fruit of medium size, round, flat. Stem short, cavity wide and deep and russeted about the stem. Calyx small, closed. Basin wide, shallow, corrugated. Skin yellow, nearly covered with dark, dull red. Flesh white, juicy, crisp, mild and agreeably acid with a pleasant flavour. Season November to February.

Borsos Alma.—Fruit below medium in size, globular, slightly conical. Stem short, cavity narrow and deep. Calyx small, closed. Basin narrow and shallow. Skin greenish yellow, with a few small patches of red. Flesh white, juicy, mild and pleasantly acid. Season November and December.

Baron Ward.—Fruit of medium size, roundish, oblate. Stem short, cavity narrow and deep. Calyx small, open. Basin small and shallow. Skin yellow, mottled with pale red on the sunny side. Flesh yellowish, not juicy, mildly acid. Season November and December.

White Spanish.—Fruit of medium size, slightly conical. Stem short, cavity narrow and deep. Calyx small, closed. Skin pale yellow, sprinkled with light dots. Flesh yellowish white, juicy, mildly acid, with a fine pleasant flavour. Season November to January.

Reinette Coulon.—Fruit medium to large, roundish, oblate, tapering slightly to the eye. Stem short, cavity deep. Calyx small, closed. Basin deep and wide. Skin yellow with a red cheek and sprinkled with gray dots. Flesh whitish, crisp and sprightly acid, with a pleasant flavour. Season November and December.

Cowarne Queening.—Fruit of medium size, conical. Stem short, cavity narrow and deep. Calyx small and open. Basin small. Skin yellow, nearly covered with dull red, and sprinkled with yellow dots. Flesh white, tender, juicy, mild and pleasantly acid. Season November and December.

Amelia.—Fruit of medium size, roundish, conical. Stem short, cavity wide and deep. Calyx of medium size, closed. Basin shallow, narrow and corrugated. Skin yellow, splashed with bright red. Flesh white, firm, fine grained, juicy, mildly and pleasantly acid. Season November and December.

Reinette Dure.—Fruit below medium size, oblate. Stem short, cavity deep. Calyx large, open. Basin wide and shallow. Skin russet, with a dull red cheek. Flesh white, fine grained, juicy, of a mild pleasantly sub-acid character. Season November and December.

Alfriston.—Fruit large, roundish, slightly ribbed, and tapering a little from base to eye. Stem short, cavity small. Calyx large, open. Basin wide, shallow and corrugated. Skin greenish yellow. Flesh yellowish white, crisp, juicy, sprightly, a good cooking apple. Season November and December.

Claygate Pearmain.—Fruit of medium size, roundish, conical. Stem slender, cavity wide and shallow. Calyx small, partly open. Basin deep and wide. Skin russet yellow, with a reddish cheek. Flesh yellowish, tender, moderately juicy, mild and pleasantly acid, with a good aromatic flavour. Season November to January.

De Geai.—Fruit medium to small, roundish, oblate. Stem short, cavity narrow and shallow. Calyx large, closed. Basin large. Skin greenish, with a few streaks of dull red and a whitish bloom. Flesh firm, white, juicy, mildly sub-acid, with a pleasant flavour, but too small. Season November and December.

Bouton d'Or.—Fruit small, round. Stem short, cavity small. Calyx large, open. Basin deep and wide. Skin golden yellow, with a small red cheek and a few white dots. Flesh white, crisp, juicy, sweet, with a pleasant flavour. Season November and December.

Ferdinand Gaillard.—Fruit below medium size, conical. Stem short, cavity deep. Calyx large, open. Basin deep and wide. Skin russet, golden yellow, with small dots and patches of red on the sunny side. Flesh white, firm, crisp, juicy, sprightly and pleasantly acid. Season November and December.

Forest No. 1.—Fruit medium to large, globular, flattened. Stem short, cavity wide and deep. Calyx large, closed. Basin wide deep and ribbed. Skin greenish yellow, with a small red cheek and a few white dots. Flesh white, firm, juicy, mildly sub-acid. Season November to January.

Josephine Kreuter.—Fruit of medium size, oblong, conical. Stem short, cavity shallow and wide. Calyx small, closed. Basin narrow and deep. Skin greenish yellow, splashed and streaked with red and sprinkled with golden dots. Flesh yellowish, crisp, fine grained, juicy, sub-acid, with a fine pleasant flavour. Season November and December.

Isherwood.—Fruit below medium size, oblong, conical. Stem short, cavity small. Calyx small, closed. Basin deep and wide. Skin clear golden yellow, with a bright red cheek. Flesh yellowish white, crisp, firm, juicy, mildly sub-acid, core large and open. Season November and December.

Reinette dorée de Versailles.—Fruit of medium size, roundish. Stem short, cavity small. Calyx small, closed. Basin narrow and deep. Skin russet golden, with many gray dots. Flesh white, fine grained, tender, juicy, sub-acid, with a rich aromatic flavour. Season November and December.

Reinette Wadhurst.—Fruit above medium size, roundish, conical. Stem short, cavity small. Calyx small, closed. Basin small. Skin yellow, splashed with red on the sunny side. Flesh yellowish, crisp, moderately juicy and acid. Season November and December.

Forest.—Fruit small, roundish, flattened. Stem long, cavity deep and narrow. Calyx small, closed. Basin shallow. Skin yellow with a few gray dots and a dull red cheek. Flesh yellowish, crisp, moderately juicy and pleasantly sub-acid. Season November and December.

Royal Late.—Fruit medium to large, oblong, conical, slightly ribbed. Stem short, cavity narrow and deep. Calyx large, closed. Basin deep and wide. Skin dull yellowish green, with many whitish dots. Flesh whitish, firm, a little coarse, juicy, pleasantly sub-acid. Season November and December.

Reinette Musque.—Fruit below medium size, flat, globular. Stem of medium length, cavity narrow and deep. Calyx small, closed. Basin small. Skin yellowish green, with a red cheek and russet about the stem and calyx. Flesh white, juicy, fine grained, with a rich aromatic flavour, but withers and becomes leathery before the end of December. Season November and early in December.

Reinette de Fournière.—Fruit small, conical. Stem long, cavity deep and narrow. Calyx large, open. Basin flat and shallow. Skin russet, sprinkled with brown dots. Flesh yellowish, firm, juicy, mild and pleasantly acid. Season November and December.

McIndoe's Russet.—Fruit of medium size, oblate, angular, tapering to the eye. Stem short, cavity narrow and shallow. Calyx large, open. Basin wide and shallow. Skin dull russet green, with many brown dots. Flesh whitish, coarse, not juicy, mildly acid, a cooking apple. Season November and December.

Old Winter Nonpareil.—Fruit small, roundish. Stem short, cavity narrow and deep. Calyx small, closed. Basin small. Skin russet bronze with a dull red cheek. Flesh crisp, juicy, mildly sub-acid with a rich aromatic flavour. Season November and December.

Winter Pearmain.—Fruit of medium size, roundish, conical. Stem short, cavity deep and narrow. Calyx of medium size and closed. Basin wide and deep. Skin greenish yellow with a deep reddish blush in the sun. Flesh yellowish, firm, crisp, moderately juicy with a fine aromatic flavour. Season November and December.

President Gaudy.—Fruit of medium size, oblate and deeply ribbed. Stem short, cavity small. Calyx small, closed. Basin wide and deep and deeply corrugated. Skin russet yellow with a dull red cheek. Flesh yellowish, juicy, of a pleasant mild sub-acid character with a fine flavour. Season November and December.

Norfolk Beaver.—Fruit of medium size, oblate, conical. Stem short, cavity small. Calyx small, closed. Basin deep and ribbed. Skin pale yellow, splashed and mottled with red in the sun. Flesh whitish yellow, tender, juicy, pleasantly sub-acid, a good cooking apple. Season November and January.

Pine Golden Pippin.—Fruit of medium size, oblate. Stem long, slender, cavity narrow and deep. Calyx large, open. Basin wide and shallow. Skin dull yellow with russet about the stem and a red cheek. Flesh yellowish, not juicy, mildly acid, of poor quality. Season December.

Posson de France.—Fruit of medium size, oblong, conical. Stem short, cavity narrow and deep. Calyx small, closed. Basin narrow and deep. Skin greenish yellow with a little red. Flesh white, crisp, moderately juicy, without much flavour. Season December.

Pryor's Red.—Fruit below medium size globular. Stem short, cavity narrow and deep. Calyx small, closed. Basin small. Skin greenish-yellow nearly overspread with streaks and patches of dull red, and sprinkled with white dots. Flesh yellowish, tender, juicy, pleasantly acid, with a rich, fine flavour. Season December and January.

Peffer.—Fruit below medium size, globular. Stem long. Cavity narrow and deep. Calyx small, open. Basin wide and shallow. Skin yellow with a bright red cheek. Flesh white, tender, juicy and mildly acid. Season December and January.

Reinette Clochard.—Fruit of meidium size, oblate. Stem short. Cavity narrow and deep. Calyx small, closed. Basin small. Skin greenish yellow with a dull red cheek and many whitish dots. Flesh white, crisp, not very juicy and mildly sub-acid. Season December and January.

Prince Anatol Gazarine.—Fruit of medium size, conical. Stem long. Cavity deep and wide. Calyx large, open. Basin small. Skin yellow russet with a red cheek

and many greenish russet dots, and russet about the steam. Flesh yellowish, firm, juicy, mildly acid with a fine pleasant flavour. Season December to January.

Reinette Luisante.—Fruit below medium size, globular. Stem slender and long. Cavity narrow and deep. Calyx small, closed. Basin small. Skin clear yellow with a blush on sunny side. Flesh firm, moderately juicy, moderately sub-acid, with a rich and pleasant flavour. Season December and January.

Reinette à Chair Vert.—Fruit below medium, globular. Stem medium. Cavity small. Calyx small, closed. Basin wide and flat. Skin clear, golden yellow, with a few whitish dots. Flesh white, juicy, crisp, with a rich spicy flavour, mildly sub-acid, withers and becomes leathery in January. Season December and January.

Reinette de Fromm.—Fruit medium, large, conical. Stem short. Cavity narrow and deep. Calyx large, open. Basin deep and wide. Skin golden yellow with a few russet dots and a little russet about the stem. Flesh yellowish, medium juicy, mild, pleasant, sub-acid. Season December and January.

Reinette de Mauss.—Fruit medium size, conical. Stem short. Cavity large. Calyx small, closed. Basin wide and deep. Skin greenish yellow with a red cheek and sprinkled with gray dots. Flesh whitish juicy, mild, pleasant, acid, fine flavour. Season December and January.

Reinette dorée de Deitz.—Fruit small, globular. Stem long. Cavity narrow and deep. Calyx small, closed. Basin wide and shallow. Skin clear yellow with a red blush and many gray dots. Flesh yellowish, fine grained, crisp, juicy, aromatic, sub-acid, pleasant. Season December and January.

Rayée d'Hiver.—Fruit of medium size, oblate. Stem short. Cavity deep and wide. Calyx small, closed. Basin small, corrugated. Skin greenish yellow, striped with bright red and sprinkled with gray dots. Flesh yellowish, juicy, mildly sub-acid, with a fine flavour. Season December and January.

Reinette de Saintonge.—Fruit small, conical. Stem short. Cavity small. Calyx small. Basin small, closed. Skin russet with many golden russet dots. Flesh white, juicy, mildly acid with a pleasant flavour. Season December and January.

Nausemond Beauty.—Fruit below medium size, conical. Stem of medium length. Cavity large. Calyx medium. Basin wide and deep. Skin clear yellow, nearly covered with streaks and patches of bright red. Flesh white, fine grained, juicy, tender, mildly acid. Season December to March.

Sharp's Reinette.—Fruit small, conical. Stem short. Cavity narrow and deep. Calyx small. Basin closed, wide and shallow. Skin yellow, nearly covered with deep red and a few golden dots. Flesh yellowish, moderately juicy, firm with a rich aromatic flavour, mildly sub-acid. Season December to March.

Sweet Pipka.—Fruit small, oblate. Stem long. Cavity narrow and deep. Calyx large, closed. Basin wide. Skin greenish yellow with a slight blush. Flesh white, not juicy, sweet. Season winter.

Vicar of Beighton.—Fruit large, oblong, globular, ribbed. Stem short, stout, cavity deep and wide. Calyx large, closed. Basin small. Skin greenish yellow with a red cheek. Flesh yellowish white, moderately juicy, sprightly with a pleasant acidity, a good cooking apple. Season December and January.

Fraise d'Hoffinger.—Fruit above medium size, globular. Stem short, cavity narrow and shallow. Calyx small, open. Basin wide and deep. Skin yellow with dots

and narrow streaks of bright red. Flesh white, firm, juicy, mildly sub-acid with a pleasant flavour. Season December to March.

Doucine.—Fruit large, oblate, irregularly ribbed. Stem short, cavity small. Calyx small, closed. Basin shallow and ribbed. Skin greenish yellow with a small blush. Flesh white, juicy, mildly acid, a good cooking apple. Season December and winter.

Le Lunow.—Fruit large, conical. Stem short, cavity narrow and deep. Calyx medium, closed. Basin small. Skin greenish yellow with a bright red cheek. Flesh white, juicy, crisp, mildly acid with a pleasant flavour. Season December to February.

De Hoffinger.—Fruit above medium size, oblate, flattened. Stem medium, cavity deep and narrow. Calyx small, closed. Basin narrow, shallow and corrugated, skin yellow with a red cheek. Flesh yellowish white, a little coarse, not juicy, mildly acid. Season December to February.

Borsdorf Krassol.—Fruit of medium size, oblate. Stem long, cavity deep and wide. Calyx large, closed. Basin wide and deep. Skin greenish yellow with many white dots. Flesh white, firm, crisp, juicy, pleasantly acid, perfumed and of good flavour. Season winter.

Admirable de Kew.—Fruit small, globular. Stem short, cavity deep, narrow. Calyx large, open. Basin wide and shallow. Skin pale yellow with a few whitish dots. Flesh white, not juicy, of a sprightly acid character. Season winter.

Rambour de Brunswick.—Fruit above medium size, roundish, slightly conical. Stem short, cavity narrow and deep. Calyx small, closed. Basin wide and deep, corrugated. Skin greenish yellow with splashes and stripes of bright red. Flesh yellowish, tender, juicy, mildly sub-acid. Season December and January.

American Rambour.—Fruit large, roundish, globular. Stem short, cavity small. Calyx small, closed. Basin small. Skin yellow with a blush in the sun, and sprinkled with whitish dots. Flesh crisp, white, juicy, nearly sweet, with a fine, pleasant flavour. Season December and January.

Reinette d'Etlin.—Fruit below medium size, oblate, conical. Stem long slender, cavity narrow, deep. Calyx large, open. Basin wide and shallow. Skin russet. Flesh white, juicy, mild and pleasant, with a fine flavour. Season December and January.

Reinette d'Adenaw.—Fruit of medium size, flat, round. Stem short, cavity small. Calyx large, closed. Basin small and corrugated. Skin handsome russet. Flesh white, not juicy or high flavoured. Withers early in January. Not desirable.

Armorelle.—Fruit small, oblate. Stem short, cavity narrow and deep. Calyx large, open. Basin flat, narrow. Skin russet green and sprinkled with russet dots. Flesh yellowish, firm, juicy, with a rich, high flavour, mildly acid. Season January to March.

Bedford.—Fruit small, conical. Stem short, cavity narrow and deep. Calyx small, closed. Basin shallow. Skin russet yellow with a dull red cheek. Flesh yellowish, firm, crisp, juicy, mild and pleasantly acid. Season January to March.

Beauty of Moray.—Fruit of medium size, conical. Stem short, cavity small. Calyx medium. Basin deep and ribbed. Skin yellowish green with a slight blush on sunny side, and sprinkled with brown dots. Flesh white, juicy, crisp, mildly sub-acid. Season winter.

Figue.—Fruit small, oblong, tapering towards the stem, which is set flush, with a fleshy protuberance at side. Calyx small, closed. Basin small. Skin yellow, sometimes with a faint blush. Flesh white, moderately juicy and pleasantly acid. This has very little merit. Season January to March.

Frederick de Bade.—Fruit medium to large, irregular, sometimes deeply ribbed, globular. Stem short, cavity small. Calyx large, closed. Basin deep, wide and deeply ribbed. Skin pale yellow with stripes of red on sunny side. Flesh whitish, firm, juicy, nearly sweet, with a very pleasant flavour. Season January to March.

Grosse Franche.—Fruit below medium size, roundish, conical. Stem long, cavity narrow and deep. Calyx small, closed. Basin small. Skin russet yellow with a dull red cheek. Flesh yellowish, firm, of a mild pleasantly sub-acid character. Season January and February.

L'Abondant.—Fruit of medium size, conical. Stem short, cavity small. Calyx small, closed. Basin shallow. Skin greenish yellow with many gray dots. Flesh greenish white, juicy, with a fine flavour, nearly sweet. Season January and February.

Keddleston Pippin.—Fruit small, roundish, conical. Stem long, slender, cavity large. Calyx large, open. Basin narrow and deep. Skin yellowish green. Flesh yellowish, moderately juicy, fine grained, mild and pleasantly sub-acid. Season January to March.

William Anderson.—Fruit small, conical. Stem short, cavity small and deep. Calyx large, open. Basin small. Skin greenish yellow with a considerable quantity of red on the sunny side. Flesh white, firm, juicy, mildly sub-acid with a pleasant flavour. Season January and February.

Franckjaer.—Fruit large, conical. Stem long, cavity narrow and deep. Calyx small, closed. Basin narrow and deep. Skin yellowish with yellowish white dots and an orange blush on the sunny side. Flesh greenish white, crisp, moderately juicy, mild and pleasantly acid. Season January to March.

Rawle's Janette.—Fruit of medium size, oblate, conical. Stem short, cavity wide and shallow. Calyx small. Basin broad and flat. Skin pale yellow splashed and striped with bright red. Flesh whitish, tender, juicy, mildly sub-acid with a pleasant flavour. Season January to March.

Rose de Bohemie.—Fruit of medium size, oblate, conical. Stem short, cavity small. Calyx small, closed. Basin shallow. Skin clear golden with a bright red cheek. Flesh yellowish white, moderately juicy, crisp, mildly acid with a very pleasant flavour. Season January to March.

Reinette Grise Parmentier.—Fruit below medium size, globular. Stem long, with a fleshy knob alongside. Calyx small, closed. Basin small. Skin bronze russet with many brown dots. Flesh greenish white, moderately juicy, pleasantly sub-acid. Season January and February.

Striped Canada Reinette.—Fruit large, oblate, conical, ribbed. Stem short, cavity wide and deep. Calyx large, partly open. Basin wide and corrugated. Skin greenish yellow with a bright red cheek. Flesh yellowish, breaking, moderately juicy, mildly sub-acid. Season January to March.

French Reinette.—Fruit of medium size, globular, oblong. Stem short, cavity small. Calyx small, closed. Basin small. Skin golden russet with a red cheek and

many white dots. Flesh white, not juicy or high flavoured, becomes leathery early in winter, but does not decay. Of no special value. Season January to March.

Reinette de Geer.—Fruit below medium size, oblate, compressed. Stem long, cavity small. Calyx small, closed. Basin narrow. Skin yellow with patches of russet. Flesh yellowish, moderately juicy, with a pleasant flavour. Season January to March.

Nez Plat.—Fruit small, oblate. Stem short, cavity small. Calyx small, closed. Basin narrow and deep. Skin greenish yellow with a dull red cheek, and many small white dots. Flesh yellowish, juicy, mildly sub-acid, with a pleasant flavour. Season January to March.

Romanite.—Fruit medium to large, conical. Stem short, cavity deep. Calyx large, closed. Basin deep, narrow. Skin yellow with a red cheek. Flesh yellowish, fine, juicy, pleasantly acid, with a fine flavour. Season January to March.

Du Vendue Levique.—Fruit below medium size, oblong, tapering a little to the eye. Stem medium, cavity deep and wide. Calyx small, closed. Basin narrow and deep. Skin greenish yellow with a small reddish blush and sprinkled with gray dots. Flesh whitish, juicy, firm, crisp, mildly acid, with a pleasant flavour. Season January to March.

De Lestre.—Fruit small, oblong, tapering to the eye. Stem short, cavity narrow. Calyx large, closed. Basin wide and corrugated. Skin greenish yellow, with a dull red cheek, and a few golden dots. Flesh white, juicy, crisp, pleasantly acid. Season January to April.

Bonne de Mai.—Fruit small, oblate. Stem short, cavity round and deep. Calyx large, closed. Basin wide. Skin greenish yellow with a handsome blush, and a few small white dots. Flesh white, moderately, juicy, very little flavour. Season May and June.

Barbarie.—Fruit of medium size, oblate. Stem short, cavity small. Calyx small, closed. Basin small. Skin pale yellow with a bright red cheek and a few whitish dots. Flesh yellowish, juicy and pleasantly acid. Season March to May.

Green Skin.—Fruit very small, oblate. Stem long, cavity small and deep. Calyx large, closed. Basin wide and shallow. Skin green with a faint blush in the sun. Flesh white, not juicy nor desirable. Season May to June.

Grosse Locarde.—Fruit of medium size, oblate, somewhat irregular in form and ribbed. Stem long, cavity narrow and deep. Calyx small, closed. Basin small. Skin clear, glossy yellow with a blush on sunny side. Flesh whitish, juicy, a mild sub-acid with a pleasant flavour. Season February to May.

In addition to the list of varieties discarded, which was given in last year's report, the following sorts have been removed:—

Alexander.
Benoni.
Black Annette.
Black Apple of New Jersey.
Black Oxford.
Blue Pearmain.
Blushed Calville.
Bogdanoff.
Borovinka Koslov.
Longfield.
Malus Edulis.
Mann.
McEwen's Sweet.
Minkler.
Miron Grell.
Missouri Pippin.
Nancy Jackson.
Newton Pippin.

Borovinka Solovieff.
Borsdorf.
Borsdorf No. 19.
British Columbia.
Canada Red.
Cantil Sinap.
Cellini.
Charlottenthaler.
Charlemoff.
Cinnamon.
Cinnamon Pine.
Cooper's Market.
Cox's Orange Pippin.
Cox's Pomona.
Day.
Delaware Winter.
Devonshire Quarrenden.
Duchess of Oldenburg.
Early Harvest.
Early Strawberry.
Fall Pippin.
Flat Voronesch.
Flora Belle.
Florence.
Gano.
Gideon's No. 9.
Gideon's No. 10.
Gill's Beauty.
Gloria Mundi.
Golden Nonpareil.
Green Crimean.
Green Stripe.
Gremuch.
Grindstone.
Haskell's Sweet.
Headly.
Hibernal.
Himbeer.
Hurlbut.
Huntsman's Favourite.
Indian.
Iowa Blush.
Jersey Sweet.
Juneating Red.
Karabovka.
Kentish Codlin.
Knevskoe.
Koursk Anis.
Kruder.
Lady.
Lansingburgh.
Lapough Koslov.
Little Hat.
Little Red Romanite.
No. 457 (Budd).
No. 469 (Budd).
No. 9 Voronesch.
Orel (980).
Ornement de Table.
Ortley.
Ostrakoff.
Palouse.
Paradise Sweet.
Parson Sweet.
Peasgood's Nonsuch.
Peck's Pleasant.
Pomme Grise.
Porter.
Price's Sweet.
Pumpkin Sweet.
Pyle's Red Winter.
Putim.
Queter.
Red Queen (No. 316 Budd).
Red Subluck.
Red Winter Pearmain.
Reinette Burckhardt.
Reinette Golden.
Renard's Seedling.
Ribston Pippin.
Repolovka.
Round Borsdorf.
Ruby Gem.
Salome.
Scarlet Cranberry.
Silken Leaf.
Simbrisk (No. 3).
Simbrisk (No. 10).
Skrosnina.
Stone Antónovka.
Summer Spice.
Swaar.
Swayzie Pomme Grise.
Sweet Spitzenburg.
Switzer.
Vargulek (55 Vor).
Voronesch (No. 9).
Western Beauty.
Whennery's Red.
White Pigeon.
White Winter Pearmain.
William's Favourite.
Willow Twig.
Wolf River.
Wyken Pippin.
Yellow Bellflower.
Yellow Transparent.
Zototoreff.

PEARS.

Many of the older pear trees have been removed, and not many of the younger trees bore fruit this year. A few of last year's crop which matured too late in the season to be described have been included in this year's report.

Lemonay.—Tree a strong grower, with healthy foliage. Fruit medium size, acute, pyriform. Stem long and fleshy at junction. Calyx large, open. Basin wide and shallow. Skin handsome golden yellow. Flesh white, juicy, sweet, crisp. Season August.

Beurre Romain.—Fruit below medium size, obtuse pear-shape. Stem short. Calyx large, open. Basin narrow and shallow. Skin dull greenish yellow, with a few russet dots. Flesh yellowish, not juicy, astringent, poor in quality. Season August and September.

German Bergamot.—Fruit small, obtuse, pyriform. Stem long. Calyx large, open. Basin shallow and wide. Skin yellowish russet, with many gray dots. Flesh yellowish, tender, juicy, sweet and of pleasant flavour. Season August and September.

Calvin.—Fruit small, roundish, pyriform. Stem very short. Calyx small, open. No basin. Skin greenish, with a russet bronze over nearly the whole surface. Flesh white, juicy, with a pleasant, aromatic vinous flavour. Season September.

Eva Baltet.—Fruit large, obtuse, pyriform. Stem very short set with a fleshy knob at one side. Calyx large, open. Basin narrow and shallow. Skin greenish yellow, with a reddish cheek and many brown dots. Flesh yellowish, fine grained, juicy, sweet, but not high flavoured. Season October.

Madam Hemmingway.—Fruit of medium size, handsome, a regular pear-shape. Stem long, inserted by a lip. Calyx small, closed. Skin clean, handsome russet. Flesh white, juicy, tender, sweet with a very pleasant flavour. Season October.

President Heron.—Fruit of medium size, obtuse, pyriform. Stem long, set in a small deep cavity. Calyx large, open. Basin wide and flat. Skin a handsome russet yellow. Flesh white, juicy, buttery sweet, melting with a fine flavour. Season October.

Vice President Delahaye.—Fruit of medium size, oblate, pyriform. Skin russet yellow, with a few gray dots. Flesh whitish, juicy, sprightly, with a very pleasant aromatic flavour. Season October and November.

Enfant Vantais.—Fruit medium to large, obovate, acute pyriform. Stem short and set at an angle. Calyx small, partly open. Skin yellow russet with a blush. Flesh yellowish, juicy, tender, sprighty with a fine aromatic flavour. Season November.

Le Lectier.—Fruit small, oblate, pyriform. Stem long and slender. Calyx large, open. Basin narrow and shallow. Skin russet yellow with many brown dots. Flesh whitish, not juicy or tender, nearly sweet with a fairly pleasant flavour, not valuable. Season November.

Henri de Bourbon.—Fruit of medium size, regularly formed. Stem long. Calyx moderately open. Skin greenish yellow with a reddish blush, and sprinkled with gray dots. Flesh yellowish, juicy, tender, fine grained, sweet with a fine aromatic flavour. A little gritty at the core. Season November.

Duchess de Berry.—Fruit medium to large, oblong, acute, pyriform. Stem long. Calyx large, open. Basin wide and shallow. Skin greenish yellow, sprinkled with

gray dots. Flesh yellowish white, juicy, sweet, buttery very pleasant, a little granular at the core. Season November.

Fondante Thirriot.—Fruit large, obtuse, pyriform. Stem long, set in a cavity, fleshy at the junction. Calyx large, open. Basin wide and deep. Skin yellowish russet freely sprinkled with gray dots. Flesh whitish, tender, juicy, mildly acid, vinous, aromatic. Season November.

Ferdinand Gaillard.—Fruit of medium size, obtuse, pyriform. Stem short and inclined. Calyx small. Basin deep and narrow. Skin greenish yellow with a few russet dots. Flesh yellowish, white, tender, melting, fine grained, juicy, sweet. Season November and December.

Louise Bonne Saunier.—Fruit small, oblong, pyriform. Stem long, slender, set in a narrow cavity. Calyx open. Skin dull yellow. Flesh yellowish, crisp, juicy, slightly vinous. Season November and December.

Madame Bonnefond.—Fruit medium to large, oblong, obtuse, pyriform. Stem long, set inclined. Calyx large, closed. Basin medium, wide and deep. Skin russet yellow, freely sprinkled with brown speeks. Flesh yellowish, juicy, tender, buttery, sweet, a little gritty at the core. A promising sort. Season November.

PLUMS.

The plum crop with many varieties was fairly good this season, but the constant showers in the first half of the growing period favoured the development of fungus diseases, and at the same time prevented effective spraying, and as a consequence plum rot was very bad. Our distance from a market makes this a serious matter for us as many plums that would be excellent for use any time within thirty-six hours will not stand two or three days, and in consequence many fine plums have to be allowed to go to waste. The following new sorts fruited for the first time this year and several of them give promise of being valuable:—

Catalogne.—Tree a strong grower and productive. Fruit below medium size, oval. Skin yellow. Flesh yellowish, firm, sweet, juicy, free stone, and stone small. Season second week in July.

Jaune Tres Hative Babond.—Tree a slender grower. Fruit medium or below in size, pear shape. Stem short. Skin yellow. Flesh yellow, juicy, tender, sweet, with a pleasant flavour. Season middle of July.

Damas de Cone.—Fruit medium to large, roundish, depressed. Suture deep with one side enlarged. Stem short, set in a round basin. Suture terminates in a small basin. Skin yellow, mottled with dull red. Flesh yellowish, juicy, sweet with a pleasant flavour, adheres a little to the stone. Season last of July.

Datte Verte.—Fruit medium to small, oval. Stem short. Skin deep purple with a bluish bloom. Flesh greenish, juicy, sweet with a rich flavour. Very fine for canning. Stone small and free. Ripe last of July.

Precoce de Berthold.—Fruit small, oval, pale yellow. Stem short. Suture shallow. Flesh yellowish, sweet, not juicy nor fine flavour. Stone small and free. Ripe last of July.

Perdrigon Violet.—Fruit medium or below medium in size, roundish, oval. Stem short, cavity small. Skin reddish purple and sprinkled with golden brown dots, and

covered with a heavy bloom. Flesh yellowish, juicy, rich, sweet and of fine flavour. Stone small and free. Ripe middle of August.

America.—Fruit medium or below in size, oblong, heart shaped, terminating in a point. Stem short, slender, cavity small. Skin clear yellowish red. Flesh yellowish, moderately juicy, sweet, with a pleasant flavour. Stone large and a cling. Fruit drops badly when nearly ripe. Ripe early August to August 22.

Golden Esperen.—Fruit of medium size, roundish oval. Stem short, cavity small. Suture very slight, one side enlarged. Skin golden yellow, mottled with light streaks of green and a few crimson dots, and covered with a white bloom. Flesh yellowish, tender, juicy, sugary with a rich, high flavour. Stone small and almost free. Ripe middle of August.

Quetsche Hative.—Fruit small, pointed, heart shaped, with a faint suture. Stem short. Skin deep purple with a whitish bloom. Flesh yellow, moderately juicy, sweet, with a pleasant flavour. Stone small and free. Ripe middle of August.

Large Red Sweet.—Fruit small, oval. Stem short, inserted in a small cavity. Skin reddish yellow. Flesh reddish, not juicy nor very sweet. Adheres to the stone which is large. Ripe middle of August.

Merton's Egg.—Fruit small, oblong, oval. Stem short, set in a small cavity. Skin glossy yellow. Flesh yellowish, not juicy or sweet. Too small to be of value and lacking in quality. Ripe middle of August.

Jumelles.—Fruit medium to large, roundish. Stem short. Suture well marked, terminating in a slight depression. Skin greenish, mottled with streaks of clear yellow. Flesh juicy, sweet, luscious, rich. Stone small, adheres to one edge. Ripe middle to last of August.

Hungarian Musk Prune.—Fruit of medium size, oblong with a neck and tapering each way to each end. Stem short. Cavity very small. Suture shallow. Skin deep purple, with a whitish bloom. Flesh yellowish, moderately juicy, sweet with a rich musky aromatic flavour. Stone small and free. Ripe last of August.

Buel's Favourite.—Fruit large, roundish, largest at the stem. Stem long. Suture well defined. Skin light purple, with a whitish bloom. Flesh yellowish green, firm, moderately juicy, with a rich fine flavour. Ripe last of August.

Blue Prolific.—Fruit medium to small, roundish. Stem short. Cavity shallow. Suture indistinct. Skin very dark purple, covered with a bluish bloom. Flesh greenish yellow, tender, sprightly, with a fine pleasant flavour. Stone small and a cling. Ripe last of August.

Perdrigon Rouge.—Fruit of medium size, round. Stem long. Cavity small. Suture well marked, terminating in a depression. Skin deep red, with a whitish bloom. Flesh yellowish, a little coarse, not juicy, but of good flavour. Ripe last of August.

Oullin's Golden Gage.—Fruit of medium size, roundish oblong. Stem of medium length. Cavity wide and deep. Suture shallow. Skin golden yellow, with a few crimson dots, and a white bloom. Flesh yellow, tender, juicy, rich and sweet. Stone small and free. Ripe last of August.

Grosse Surpasse.—Fruit small, round. Stem short. Cavity shallow. Skin clear yellow, with a whitish bloom. Flesh yellow tender, sweet with a pleasant flavour. Stone small and a cling. Ripe last of August.

Swan.—Fruit medium to large, oval. Suture distinct. Stem short. Cavity small. Skin clear yellow. Flesh yellow, juicy, sweet, tender with a fine flavour. Stone small. Ripe August.

Automne de Schamali.—Fruit medium to large, oval with a neck. Stem long. Suture wide and deep, one side enlarged. Skin reddish purple, with a light blue bloom. Flesh deep yellow, juicy, sweet. Stone small and a cling. Ripe early September.

Imperiale de Milan.—Fruit medium to large, oblong, globular. Stem of medium length. Cavity deep. Suture deep, wide. Skin deep purple, with a light blue bloom. Flesh yellow, sweet, juicy with a fine flavour. Stone cling and small. Ripe early September.

Goutte d'Or.—Previously described as Coe's Golden Drop, which it is.

Reine Claude Violette.—Fruit of medium size, roundish, a little flattened. Stem long. Cavity narrow. Suture distinct. Skin purple with yellow dots, and a thick bluish bloom. Flesh greenish yellow, juicy, sweet with a rich, high flavour. Stone small and free. Ripe September.

Smith's Prolific.—Fruit of medium size, globular. Stem short, cavity deep. Suture distinct and terminating in a depression. Skin yellowish with a purple red cheek and a thin white bloom. Flesh yellowish, juicy, sprightly. Stone medium and a cling. Ripe early in September.

Bush Plum.—Fruit of medium size, roundish. Stem of medium length. Cavity deep. Suture distinct, and one side often enlarged. Skin purple with a thick bloom. Flesh yellow, sweet, fine grained, tender, moderately juicy, with a fine flavour. Ripe early in September and subject to rot.

Primate.—Fruit medium to large, round. Stem short. Cavity medium. Suture distinct, one side often enlarged. Skin reddish purple, with many golden dots, and a thin bluish bloom. Flesh yellowish, juicy, sprightly, sugary, with a fine flavour. Stone small. Ripe early in September.

Reine Claude de Woolston.—Fruit of medium size and roundish, with a distinct suture. Stem short. Cavity large for a small plum. Skin purple with a bluish bloom. Flesh yellow, moderately juicy, sweet, sugary, tender, with a very good flavour. Stone small and free. Ripe early in September.

Reine Claude de Chambourcy.—Fruit small, roundish. Stem short. Cavity large and deep. Suture deep, extending two-thirds around the fruit. Skin yellow. Flesh yellowish, moderately juicy, rich and sweet with a high flavour. Stone small. Ripe early in September.

Ungarische.—Fruit of medium size, oblong, tapering to each end. Stem of medium length. Cavity small. Suture deep. Skin dull purple with a bluish white bloom. Flesh yellowish, moderately juicy, rich, sweet, with a pleasant flavour. Ripe early in September.

Precoce de Reutlingen Prune.—Fruit below medium size, oval. Stem short. Cavity small. Suture well defined and one side enlarged. Skin deep purple with a bluish bloom. Flesh yellowish, tender, sweet, juicy, with a rich flavour. Stone small, free. Ripe early in September.

Reine Claude d'Ecully.—Fruit large, roundish. Stem short. Cavity small. Suture deep and ending in a small depression, one side enlarged. Skin greenish yellow, with

a thin white bloom. Skin thick and tough. Flesh yellowish, a little coarse, juicy, sweet, with a pleasant flavour. Ripe early in September.

Quetsche d'Allemagne.—Fruit of medium size, long, oval, very full in the middle and tapering to each end, very much enlarged on one side. Stem long. Suture shallow. Skin dark purple with a bluish bloom. Flesh yellowish, tender, moderately juicy, with a fine flavour. Ripe early in September.

Boulouf.—Fruit large, round, oblong, oval. Stem of medium length. Cavity small. Suture wide and shallow. Skin reddish purple, with a bluish bloom. Flesh yellowish, sweet, juicy, tender, rich, with a fine flavour. Ripe early in September.

Mirabelle Tardive.—Fruit small, roundish oval. Stem short. Skin pale yellow, with a few reddish dots. Flesh yellowish, firm, moderately juicy, sweet. Stone small, cling. Ripe middle of September.

Drap d'Or de l'Est.—Fruit small, round. Stem short. Cavity small. Suture very shallow. Skin yellow with a thin white bloom. Flesh yellowish, rather tough, not juicy, sweet, of no special value. Ripe in September.

CHERRIES.

The very mild weather in February and early March brought the cherry trees forward, and the blossoming was earlier than usual. This was a disadvantage because of the cold, wet weather which set in about the middle of March and continued for a long time.

The earliest sweet cherries began to ripen the last of May, and during that month and the first part of June repeated showers caused the ripening cherries to split, which made a serious loss, and the brown rot was prevalent owing to the showery weather which favoured the development of fungus diseases and prevented effective spraying.

Guigne de Louvain.—Fruit medium to large, obtuse, heart shape. Stem long. Skin bright yellow, splashed freely with bright red. Flesh juicy, very sweet, juice and flesh yellowish, tender, of very fine quality. Ripe June 4.

Ludwig's Bigarreau.—Fruit large, heart shaped, with a well marked suture. Skin bright red, juice red, sweet. Flesh pale yellow, tender, juicy, good. Ripe early in June.

Suda Hardy.—Fruit medium to large, round. Stem long. Cavity deep, round. Skin dark glossy red. Flesh tender, juicy, reddish. Juice reddish, pleasantly acid, of good quality. Ripe early in July.

Red Rock.—Fruit large for a morello, and round. Stem long, set in a depression. Skin clear, glossy red. Flesh reddish yellow, with reddish juice a mild, pleasant acid, refreshing. Season late in July.

PEACHES.

There are only a few varieties of peaches left on the farm, two named sorts on the level land and several on the bench.

The trees on the bench continue to bear a few peaches each year, which proves that in sheltered elevations they can be grown. On the level the Teton de Venus has made a vigorous growth and fruited sparingly, but the fruit is too late to ripen in this climate.

APRICOTS.

The few apricot trees living bloomed early in March, but set no fruit and might as well be dug out as they bloom too early to succeed in the cool, rainy weather which almost always occurs at the time they are in bloom.

MEDLARS.

As these trees do not bloom until well on in May, they never fail to set a crop of fruit.

MULBERRIES.

All the mulberry trees bore a good crop of fruit again this year.

SMALL FRUITS.

As the last half of the season was dry and hot, all of the small fruits ripened early, but they were not so large or so productive as in previous years.

There are under test 75 varieties of red and yellow raspberries, and after having been tested for several years under similar conditions, the following varieties have proved the best in thrift, quality and productiveness.

They are given in the order of ripening.

RED AND YELLOW RASPBERRIES.

Name.	Date of Ripening.	Growth of Plant.	Size of Fruit.	Quality.	Productiveness.
Phoenix	June 20	Vigorous	Large	Firm, good quality	Productive.
Pauline	" 24	"	"	" continues long in bearing.	"
New Fastolf	" 25	"	"	Firm, good quality	"
Northumberland Fill Basket.	" 25	"	Very large	" continues long in bearing.	"
Duke of Brabant	" 26	"	Large	Firm, good quality	"
All Summer	" 28	"	Large medium	" continues long in bearing.	"
Lord Beaconsfield	" 29	"	"	Firm, good quality	"
London	" 29	"	"	"	"
Sarah	" 29	"	"	Firm, sweet, very good quality, the best flavored berry we have.	"
Cuthbert	" 30	"	Large	Firm, good quality	"
R. B. Whyte	" 30	"	Large medium	"	"
French Vice-President	" 30	"	Very large	" continues long in bearing.	"
Golden Queen	" 25	"	Large	Firm, good quality	"
Large Yellow	" 27	"	"	"	"

Besides the above we have the following varieties, all of which are lacking in some quality which is desirable:—

Battler's Giant, Paragon, Charles, Hornet, Carter's Prolific, Belle de Fontenay, Baumforth's Seedling, Muskingum, Turner, Franconia, Hudson River Antwerp, Thompson, White Antwerp, Columbia, Arnold's Hybrid, Red Herrenhauser, Sugar of Metz, Carleton, Empire, Sharpe, Muriel, Craig, Autumn Surprise, Knevit's Giant, La Mercier, Guinea, Garnet, Mary, Percy, Fastolf, Marlboro, Clarke, Heebner, Norwich Wonder, King, Chili, Garfield, Shaffer's Colossal, Queen Victoria, Sir John, Cariboo

Wild, Col. Wilder, Brinkle's Orange, Goliath, Lizzie, Millar, Minnie, Beehive, Spineless Yellow, Yellow Antwerp, Malta, Barnet, Lady Anne, Nonpareil, Billard's Perpetual, Prince of Wales, Champion, Crimson Beauty and Hansel.

Black Cap Raspberries.

Black Caps require very rich, well drained ground. They also require considerable moisture as well as sunshine when the berries are growing and ripening to ensure a good crop. There are under test here nineteen varieties of Black Caps.

The following have been found to be the best, given in the order of ripening:—

Name.	Date of Ripening.	Growth of Plant.	Size of Fruit.	Quality.	Productiveness.
Nemaha	July 4	Vigorous	Large	Good quality	Productive.
Palmer	" 6	"	Large medium	"	"
Older	" 6	"	"	"	"
Kansas	" 6	"	"	"	"
Mammoth Cluster	" 6	"	Large	"	"
Gregg	" 8	"	"	"	"
Progress	" 8	"	Medium	"	"
Ada	" 8	"	"	"	"
Conrath	" 10	"	"	"	"
Hopkins	" 10	"	"	"	"

Besides the above we have the following varieties:—

Carman, Smith's Prolific, Cromwell, Lovett, American Yellow Cap, Jackson's May King, Progress, Early Ohio and Oregon Late.

Blackberries.

The blackberries were a good crop this year. There were 27 varieties under test. The following are the best, and are given in the order of ripening:—

Name.	Date of Ripening.	Growth of Plant.	Size of Fruit.	Quality.	Productiveness.
Early King	July 14	Vigorous	Large	Good quality	Productive.
Snyder	" 18	"	Large medium	"	"
Hansel	" 18	"	"	"	"
Stones Hardy	" 18	"	Large	"	"
Eldorado	" 18	"	Very large	Very good quality	"
Agawam	" 18	"	Large medium	Good quality	"
Taylor	" 18	"	"	"	"
Erie	" 19	"	Large	"	"
Early Cluster	" 19	"	"	"	"
Maxwell	" 19	"	"	"	"
Ohmer	" 20	"	"	"	"
Taylor's Prolific	" 20	"	Medium	"	"
Lawton	" 22	"	"	"	"
Oregon Everbearing	Aug. 1 to Oct. 1	"	"	Fairly good, very good quality.	"

Besides the above we have the following: Wilson's Early, Tecumseh, Kittatinny, Wilson Jr., Early Harvest, Crystal White, Gainor, Thompson's Mammoth, Lovett's Best, Child's Tree Blackberry, Dallas and Brunton.

Red and White Currants.

There are 41 varieties under test. Of these the following have proved the best:—

Name.	Date of Ripening.	Growth of Plant.	Size of fruit.	Quality.	Productiveness.
La Fertile	July 3	Vigorous	Large medium	Good quality	Productive.
Raby Castle	" 3	"	"	"	"
White Grape	" 3	"	Medium	"	"
London Red	" 3	"	Large medium	"	"
La Conde	" 3	"	"	"	"
Red Cherry	" 3	"	Medium	"	"
Prince Albert	" 4	"	Large medium	"	"
Eyatt's New	" 4	"	Medium	"	"
La Turinese	" 4	"	"	"	"
White Cherry	" 4	"	"	"	"
Gondoin Red	" 5	"	"	"	"
Large White Brandenburg	" 5	"	Large medium	"	"
Victoria	" 5	"	Medium	"	"
White Pearl	" 5	"	"	"	"

Besides the above the following varieties have been tried but found less valuable: White Transparent, White Gondoin, Red Dutch, Knights Early Red, North Star, New Red Dutch, White Dutch, Fay's Prolific, Moore's Ruby, Versailles, No. 51 (L.S.) Langstraubige, White Esperen, Rankin's Red, Large White Frauendorfer, Verriers White, Chenonceau, De la Rochepoze, Ringens, Beauty of St. Giles, Champaigner, English Red, Rouge Admirable, Large Red, White Kaiser, White Imperial.

Black Currants.

There are 44 varieties of black currants under trial here, the following have been found to be the best:—

Name.	Date of Ripening.	Growth of Plant.	Size of Fruit.	Quality.	Productiveness.
Dominion	July 5	Vigorous	Large medium	Mild, good quality	Productive.
Middlesex	" 5	"	"	"	"
Merveille de la Gironde	" 5	"	"	Slightly acid, good quality.	"
Boskoop Giant	" 5	"	Very large	Sweet, very good quality	"
Prince of Wales	" 7	"	Large	" good quality	"
London	" 7	"	Medium	" "	"
Black Naples	" 7	"	Large	" "	"
Lee's Prolific	" 7	"	Large medium	Mild, good quality	"
Pearce	" 9	"	Medium	" "	"
Victoria	" 9	"	Large	Sweet, good quality	"
Climax	" 9	"	Medium	Mild, good quality	"

Besides the above the following have been tried, but they are not so desirable: Lennox, Bang-up, Gewohnliche, Eclipse, Sterling, Kerry, Perry, Ruler, Madoc, Kentish Hero, Ambrafarbige, Charmer, Beaudry, Ontario, Eagle, Lanark, Baldwin, Wood, Louise, Stuart, Kentville, Success, Star, Champion, Ethel, Parker, Monarch, Bella, Norton, Oxford Climax, Orton, Henry.

METEOROLOGICAL RECORD.

Date of Highest Temperature.	Temperature.	Date of Lowest Temperature.	Temperature.	Rainfall.	Snowfall.	Sunshine.	
1904.				Inches.	Inches.	Hours.	Minutes.
December 2, 25.....	46	December 16.....	12	9·02	3	13	36
1905.							
January 3, 23.....	49	January 12.....	20	5·46	3	64	54
February 12	47	Feb. 2, 15, 17, 22, 24	24	4·28	0	120	24
March 30, 31.....	56	March 11.....	13	5·60	1	92	..
April 23.....	83	April 21.....	30	4·86	.....	139	18
May 12.....	84	May 20.....	34	8·46	.....	145	48
June 12.....	86	June 13.....	37	3·20	.....	171	24
July 19.....	94	July 14, 15.	50	2·40	....	236	36
August 10, 20.....	83	August 28..	40	2·80	... .	164	..
Sept. 2, 9.....	68	September 9.....	36	8·40	.....	94	30
October 13..... ...	62	October 19.....	24	8·42	.... ..	106	18
November 14	62	November 28.....	20	1·91	6	73	6
		Total.....	.....	64·81	13	1,421	54

I have the honour to be, sir,

Your obedient servant,

THOS. A. SHARPE.

STATEMENT OF EXPENDITURE ON THE DOMINION EXPERIMENTAL FARMS, FOR THE YEAR ENDING JUNE 30, 1905.

Central Experimental Farm.

Live stock		$ 625 84
Feed for stock	$ 3,532 43	
Supplies from experimental plots	90 75	
Grain screenings from grain distribution	292 79	
	$ 3,915 97	
Less—Supplies to poultry department	853 11	
		3,062 86
Veterinary services and drugs		74 56
Seed, grain, trees, &c.		424 01
Implements, tools, hardware and supplies		864 89
Drainage and drain tiles		393 71
Manure and fertilizers for experimental plots and horticultural department		455 54
Travelling expenses		1,821 90
Exhibition expenses		818 74
Blacksmithing, harness supplies and repairs		400 11
Bee department		161 69
Wages: farm work, including salaries of officers in charge		4,879 06
Wages: care of stock, including salary of herdsman		3,707 02
Horticultural division, including salaries of officers in charge, also forestry $33.85		5,542 89
Poultry division, also salaries of officers in charge	$ 3,085 11	
Value of grain, &c., supplied by farm	853 11	
		3,938 22
Cereal division, including salaries of officers in charge	$ 4,156 95	
Less—Value of material supplied for feed	90 75	
" potatoes supplied for seed distribution	819 75	
	910 50	
		3,246 45
Care of hedges, avenues, ornamental trees and grounds		1,355 97
Office assistance, including English and French correspondence and messenger service		4,977 51
Printing of office supplies and stationery		623 07
Arboretum		1,400 06
Distribution of trees and tree seeds		106 94
Seed testing and care of green-houses		1,347 22
Dairy branch, including salary of dairyman		903 30
Contingencies, including $200 for advertising		324 31
Telegrams and telephones		105 50
Steers, purchased for feeding experiments		2,146 53
Books and newspapers		130 79
		$ 43,838 69
Less—Proceeds of sale of steers, purchased for feeding experiments	$ 3,845 33	
Value of grain supplied grain distribution	232 73	
		4,078 06
		$ 39,760 63

EXPERIMENTAL FARM, NAPPAN, N.S.—EXPENDITURE, 1904-05.

Live stock	$	7 15
Feed for stock		1,953 88
Veterinary services and drugs		31 95
Seed grain, seeds, trees, &c.		54 21
Implements, tools, hardware and supplies		355 51
Manure and fertilizers		6 40
Travelling expenses		257 22
Exhibition expenses		219 61
Blacksmithing, harness supplies and repairs		279 33
Salary of Superintendent		1,550 00
Wages, farm work, including experimental work with farm crops		2,249 68
Wages, care of stock		1,569 80
Poultry branch		90 00
Horticultural division, including experimental work with vegetables, fruits, forest and ornamental trees and flowers; also care of grounds and salary of officer in charge		1,622 73
Distribution of seed grain, potatoes, &c.		91 54
Contingencies, including postage, $134; mail delivery, $90; repairs to dykes, $215		458 50
Printing and stationery		12 73
Books and newspapers		25 33
Telegrams and telephones		22 62
Steers purchased for feeding experiments		644 00
	$	11,502 19
LESS—Proceeds of sale of steers purchased for feeding experiments		1,700 98
	$	9,801 21

EXPERIMENTAL FARM, BRANDON, MAN.—EXPENDITURE 1904-05.

Live stock	$	574 13
Feed for stock		76 05
Veterinary services and drugs		60 45
Seed grain, trees, seeds, &c.		62 54
Implements, tools, hardware and supplies		290 65
Travelling expenses		193 04
Exhibition expenses		275 29
Blacksmithing, harness supplies and repairs		200 10
Bee department		12 85
Salary of Superintendent		1,550 00
Wages, farm work, including experimental work, with farm crops, &c.		2,839 90
Wages, care of stock		1,167 32
Horticultural branch, including experiments with vegetables, fruits and flowers; also care of Arboretum and grounds		916 44
Forestry branch, including care of hedges		565 75
Poultry branch		95 05
Office help, including delivery of mail, $141		784 65
Distribution of seed grain, potatoes, &c.		196 65
Distribution of trees and tree seeds		281 25
Contingencies, including postage, $259.50		282 90
Printing and stationery		48 36
Books and newspapers		21 00
Telegrams and telephones		31 78
Drainage and drain tiles		30 50

Manure and fertilizers		$ 162 75
Steers purchased for feeding experiments		380 57
		$ 11,099 88
LESS—Proceeds of sale of steers purchased for feeding experiments		607 36
		$ 10,492 52

EXPERIMENTAL FARM, INDIAN HEAD, SASK.—EXPENDITURE, 1904-05.

Live stock		$ 451 75
Feed for stock		39 04
Veterinary services and drugs		37 55
Seed grain, seeds, trees, &c		71 82
Implements, tools, hardware and supplies		427 45
Travelling expenses		168 93
Exhibition expenses		9 75
Blacksmithing, harness supplies and repairs		89 80
Salary of superintendent		1,550 00
Wages, farm work, including experimental work with farm crops		3,645 38
Wages, care of stock		744 92
Horticultural branch		441 91
Poultry branch		98 67
Forestry branch, including hedges		276 52
Office help, including delivery of mail, $110		733 50
Distribution of seed grain, potatoes, &c		204 79
Distribution of trees and tree seed		173 52
Contingencies, including postage, $589.65		648 90
Printing and stationery		60 88
Telegrams and telephones		21 15
Books and newspapers		9 50
Steers purchased for feeding experiments		260 15
		$ 10,165 88
LESS—Proceeds of sale of steers purchased for feeding experiments	$ 455 04	
Value of grain supplied for grain distribution at Ottawa	1,579 05	
		2,034 09
		$ 8,131 79

EXPERIMENTAL FARM, AGASSIZ, B.C.—EXPENDITURE, 1904-05.

Live stock	$ 9 35
Feed for stock	46 50
Veterinary services and drugs	18 55
Seed grain, seeds, trees, &c	185 43
Implements, tools, hardware and supplies	570 50
Manure and fertilizers	218 36
Travelling expenses	185 00
Exhibition expenses	293 00
Blacksmithing, harness supplies and repairs	114 70
Salary of superintendent	1,550 00

Wages, farm work, including experimental work with farm crops, vegetables, fruit trees, vines, &c.	$ 3,073 71
Wages, care of stock	518 40
Poultry branch	69 85
Forestry branch, including care of hedges	256 05
Office help	120 00
Distribution of seed grain, potatoes, &c.	66 63
Clearing land	412 30
Contingencies, including postage, $185.52	210 80
Printing and stationery	9 96
Books and newspapers	20 00
Drainage and drain tiles	332 80
Telegrams and telephones	1 75
	$ 8,283 64

SUMMARY OF EXPENDITURE, 1904-05.

Central Experimental Farm	$ 39,760 63
Nappan Experimental Farm	9,801 21
Brandon Experimental Farm	10,492 52
Indian Head Experimental Farm	8,131 79
Agassiz Experimental Farm	8,283 64

*General Expenditure.**

Distribution of seed grain, potatoes, &c., from Central Experimental Farm		$ 5,633 15	
Value of grain for Indian Head	$1,569 51		
" potatoes from Experimental Division, C.E.F.	819 75		
" grain from C.E.F.	232 73		
	$2,621 99		
LESS—Value of screenings charged feed for stock, C.E.F.	292 79		
		2,329 20	
			7,962 35
Entomological and Botanical Division, including salaries of officers in charge			4,265 38
Chemical Division, including salaries of officers in charge			4,952 48
Salaries general, including—			
Director, accountant, director's secretary and assistant accountant			6,370 00
			100,000 00
Printing bulletins and distribution of bulletins and reports		7,000 00	
Less—Special sum in estimates for this item		7,000 00	
			100,0000 00

* These items are put under 'General Expenditure' for the reason that they are incurred for general purposes.

SUMMARY OF STOCK, MACHINERY, IMPLEMENTS, &C., ON HAND DECEMBER 1, 1905.

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

19 Horses	$ 3,930 00
21 Ayrshire cattle	2,870 00
12 Guernsey cattle	2,175 00
15 Durham cattle (Shorthorns)	4,300 00
10 Canadian cattle	1,400 00
19 Grade cattle	865 00
63 Yorkshire swine	1,250 00
21 Berkshire swine	460 00
31 Tamworth swine	455 00
31 Shropshire sheep	800 00
16 Leicester sheep	405 00
Farm machinery and implements	3,142 25
Vehicles, including farm wagons and sleighs	1,018 00
Hand tools, hardware and sundries	1,143 10
Harness	597 85
Dairy department, machinery, &c	508 50
Horticultural and forestry departments, implements, tools, &c	871 35
Botanical department, implements, tools, &c	5 00
Poultry department, 396 fowls	622 00
Poultry department, implements, furnishings, &c	193 35
Bees and apiarian supplies	449 81
Chemical department, apparatus and chemicals	2,200 96
Books and several departments	707 86
Greenhouse plants, supplies, &c	2,320 00
Furniture at Director's house	1,000 00
Office furniture and stationery	1,676 25
Experimental flour mill and electric motor	465 00
	$35,834 28

EXPERIMENTAL FARM, NAPPAN, N.S.

8 Horses	$ 1,085 00
5 Guernsey cattle	425 00
7 Holstein cattle	300 00
8 Ayrshire cattle	475 00
45 Grade cattle	912 60
4 Yorkshire swine	95 00
2 Berkshire swine	45 00
43 Grade swine	265 00
22 Sheep	270 00
61 Fowls	61 00
Bees and apiarian supplies	27 30
Vehicles, including farm wagons and sleighs	355 75
Farm machinery	701 00
Farm implements	292 00
Hand tools, hardware and sundries	380 50
Harness	250 00
Furniture for reception room and bedroom for visiting officials	159 50
Furniture supplies and books for office	228 11
	$ 6,327 16

EXPERIMENTAL FARM, BRANDON, MAN.

13	Horses	$ 1,525 00
5	Ayrshire cattle	290 00
7	Durham cattle	600 00
3	Guernsey cattle	175 00
8	Grade cattle	280 00
1	Tamworth pig	15 00
3	Berkshire pigs	30 00
9	Yorkshire swine	70 00
10	Grade swine	40 00
120	Fowls	129 00
	Bees and apiarian supplies	142 45
	Vehicles, including farm wagons and sleighs	540 00
	Farm machinery	2,125 33
	Farm implements	738 00
	Hand tools, hardware and sundries	641 55
	Harness	219 25
	Furniture for reception room and bedroom for visiting officials	161 55
	Furniture supplies and books for office	436 70
		$ 8,158 83

EXPERIMENTAL FARM, INDIAN HEAD, N.W.T.

13	Horses	1,950 00
26	Durham cattle	1,730 00
28	Grade cattle	935 00
23	Berkshire swine	170 00
9	Tamworth swine	75 00
11	Yorkshire White swine	105 00
83	Fowls	83 00
	Bees and apiarian supplies	41 75
	Vehicles, including farm wagons and sleighs	536 00
	Farm machinery	2,237 00
	Farm implements	699 00
	Hand tools, hardware and sundries	397 50
	Harness	182 50
	Furniture for reception room and bedroom for visiting officials	217 00
	Furniture supplies and books for office	512 66
		$ 9,871 41

EXPERIMENTAL FARM, AGASSIZ, B.C.

9 Horses	$	1,180 00
25 Durham cattle		1,665 00
19 Dorset horned sheep		207 00
2 Berkshire swine		85 00
4 Yorkshire White swine		155 00
36 Fowls		36 00
Bees and apiarian supplies		5 45
Vehicles, including farm wagons		180 00
Farm machinery		620 75
Farm implements		95 50
Hand tools, hardware and sundries		133 30
Harness		94 25
Furniture for reception room and bedroom for visiting officials		141 75
Furniture supplies and books for office		284 92
	$	4,883 92

THOS. M. CRAMP,
Accountant.

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APPENDIX

TO THE REPORT OF THE MINISTER OF AGRICULTURE FOR THE YEAR 1905

CRIMINAL STATISTICS

FOR THE

YEAR ENDED SEPTEMBER 30, 1905

PRINTED BY ORDER OF PARLIAMENT

ANNEXE

AU RAPPORT DU MINISTRE DE L'AGRICULTURE POUR L'ANNÉE 1905.

STATISTIQUE CRIMINELLE

POUR

L'ANNÉE EXPIRÉE LE 30 SEPTEMBRE 1905

IMPRIMÉ PAR ORDRE DU PARLEMENT.

OTTAWA

PRINTED BY S. E. DAWSON, PRINTER TO THE KING'S MOST EXCELLENT MAJESTY

1907

[No. 17—1906.]

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TABLE DES MATIÈRES

CRIMINAL STATISTICS OF CANADA

1905

These statistics are collected under authority of the Act respecting Criminal Statistics, Revised Statutes of Canada, Chapter 60.

The annexed report is made up of indictable offences and summary convictions, the former including all cases tried by police and other magistrates with the consent of the accused, under the Acts respecting Speedy Trials, Summary Trials by Consent and Juvenile Offenders, while the latter are made up of cases disposed of by justices of the peace out of sessions, under the Act respecting Summary Convictions.

INDICTABLE OFFENCES.

The indictable offences are divided into the following six classes:—1. Offences against the person; 2. Offences against property with violence; 3. Offences against property without violence; 4. Malicious offences against property; 5. Forgery and other offences against the currency; 6. Other offences not included in the foregoing classes.

During the year ending September 30, 1905 there were 10,951 charges for indictable offences throughout the several provinces of the Dominion, against 9,901 the year before, and out of these 3,275 were acquitted in 1905 against 3,089 in 1904; twenty-nine were detained for lunacy in 1905 against 10 in 1904; twenty-three in 1905 and 48 in 1904 for various causes such as *nolle prosequi*, jury disagreed, bail forfeited, etc., received no sentence, leaving thereby the number of convictions at 7,624 for 1905 against 6,754 for 1904, and representing an increase per cent. of 10·55 for charges and 12·88 for convictions during the year.

The following table shows the number of charges and convictions with percentage of convictions to charges, by provinces:—

CHARGES AND CONVICTIONS.

Provinces.	1905.		Percentage of convictions to charges.	1904.		Percentage of convictions to charges.
	Charges.	Convictions.		Charges.	Convictions.	
Manitoba	719	609	81·86	611	489	80·03
Quebec	2,529	2,065	81·65	2,139	1,738	81·21
British Columbia	823	598	72·76	529	379	71·64
New Brunswick	177	126	71·19	213	122	57·28
Ontario	4,904	3,236	65·98	4,701	3,034	64·54
P. E. Island	62	37	59·77	41	28	68·30
Nova Scotia	663	384	57·92	664	434	65·36
The Territories	1,074	569	52·98	1,003	530	52·84
Canada	10,951	7,624	69·62	9,901	6,754	68·21

STATISTIQUE CRIMINELLE DU CANADA 1905.

Cette statistique est recueillie en vertu de l'Acte concernant la Statistique Criminelle, Statuts Revisés du Canada, chap. 60.

Le rapport ci-joint se compose d'offences ou délits justiciables d'un jury et de condamnations sommaires, les premiers comprenant tous les cas expédiés par les magistrats de police ou autres juges de paix, du consentement des accusés, sous l'autorité des lois concernant les procès expéditifs, les procès sommaires et les jeunes délinquants ; tandis que les dernières ne contiennent que les cas expédiés sommairement par les juges de paix en dehors des sessions, sous l'autorité de l'Acte concernant les condamnations sommaires.

DÉLITS JUSTICIABLES D'UN JURY.

Les délits justiciables d'un jury se divisent en six classes, savoir : outrages contre la personne, délits avec violence contre la propriété, délits sans violence contre la propriété, dommages malicieux à la propriété, faux et délits par rapport à la monnaie, et autres délits non compris dans les classes précédentes.

Le nombre d'accusations dans les différentes provinces pour délits justiciables d'un jury, durant l'année 1905, s'élevait à 10,951, contre 9,901 l'année précédente ; le nombre d'acquittements à 3,275 en 1905 contre 3,089 en 1904 ; le nombre de cas d'emprisonnements pour cause de folie à 29 en 1905 contre 10 en 1904 ; tandis que, pour des raisons telles que *nolle prosequi*, désaccord des jurés, défauts des cautions, etc., il n'y a eu aucune sentence de prononcée dans 23 cas en 1905 contre 48 en 1904, laissant ainsi le nombre des condamnations à 7,624 en 1905 contre 6,754 l'année précédente, soit une augmentation de 10·55 pour cent dans les accusations et de 12·88 pour cent dans les condamnations durant l'année.

Le tableau suivant donne le nombre d'accusations et de condamnations avec les proportions pour cent des dernières au premières, par provinces :—

ACCUSATIONS ET CONDAMNATIONS.

Provinces.	1905.		P.c. des condamnations aux accusations.	1904.		P.c. des condamnations aux accusations.
	Accusations.	Condamnations.		Accusations.	Condamnations.	
Manitoba	719	609	81·86	611	489	80·03
Québec	2,529	2,065	81·65	2,139	1,738	81·21
Colombie-Britannique	823	598	72·76	529	379	71·64
Nouveau-Brunswick	177	126	71·19	213	122	57·28
Ontario	4,904	3,236	65·98	4,701	3,034	64·54
Ile du Prince-Edouard	62	37	59·77	41	28	68·30
Nouvelle-Ecosse	663	384	57·92	664	434	65·36
Les Territoires	1,074	569	52·98	1,003	530	52·84
Canada	10,951	7,624	69·62	9,901	6,754	68·21

As shown by the foregoing table the number of convictions for 1905 has increased in all the provinces, except Nova Scotia. The position held by the several provinces in 1904, as regards the number of charges that became convictions, is considerably changed in the present report. Manitoba which was second on the list in 1904 is now first, taking the place of Quebec, while New Brunswick which occupied the seventh place last year is now the fourth on the list, passing ahead of Prince Edward Island, Nova Scotia and Ontario. The lowest percentage of convictions to charges belongs to the Territories for both years.

The following table gives the number of convictions and their ratios according to population, in the order of criminality for 1905 compared with 1904, by provinces:

NUMBER AND RATIO OF CONVICTIONS BY PROVINCES.

Provinces.	1905.		1904.	
	Number of convictions.	Ratio per 10,000 of population.	Number of convictions.	Ratio per 10,000 of population.
British Columbia	598	23·98	379	17·46
Manitoba	609	18·45	489	16·09
The Territories	569	15·81	530	19·43
Ontario	3,236	14·62	3,034	13·75
Quebec	2,065	11·99	1,738	10·19
Nova Scotia	384	8·28	434	9·38
New Brunswick	126	3·76	122	3·65
Prince Edward Island	37	3·66	28	2·76
Canada	7,624	13·18	6,754	12·05

It will be observed by the above columns of ratios that crime appears to be more prevalent, in relation to population, in the West than in the East, the figures representing the rate of criminality being in every case much higher in the western than in the eastern provinces.

Out of the total number of persons convicted in 1905, 414 or 5·43 per cent were female offenders, as compared with 377 or 5·58 per cent the year before; 219 of the 414 female offenders were from Ontario, 117 from Quebec, 32 from Nova Scotia, 21 from Manitoba, 10 from British Columbia, 8 from the Territories, 6 from New Brunswick and 1 from Prince Edward Island, while out of the 377 female offenders for 1904, 167 were from Ontario, 103 from Quebec, 45 from Nova Scotia, 32 from Manitoba, 21 from the Territories, 5 from New Brunswick, 2 from British Columbia and 1 from Prince Edward Island.

The number of offenders under 16 years of age has also increased during the year, the figures being 800 for 1905 against 697 the year before, or an increase of 14·77 per cent. Out of the 800 young offenders for 1905, 431 were from Ontario, 204 from Quebec, 75 from Manitoba, 42 from Nova Scotia, 24 from British Columbia, 16 from New Brunswick, 6 from the Territories and 2 from Prince Edward Island; and out of the 697 young offenders for 1904, 389 were from Ontario, 124 from Quebec, 81 from Manitoba,

Tel que l'indique le tableau précédent le nombre de condamnations a augmenté durant l'année dans toutes les provinces, excepté la Nouvelle-Ecosse. La position occupée par les différentes provinces en 1904, relativement au nombre d'accusations qui ont été converties en condamnations, est considérablement changée dans le présent rapport. Manitoba qui était la seconde province sur la liste en 1904 est maintenant la premiere, à la place de Québec, tandis que le Nouveau-Brunswick qui occupait la septième place sur la liste de 1904 occupe la quatrième cette année, après la Colombie-Britannique, l'Ile du Prince-Edouard, la Nouvelle-Ecosse et Ontario. La proportion la moins élevée des condamnations par rapport aux accusations se trouve dans les Territoires pour les deux années.

Le tableau suivant donne le nombre des condamnations avec les proportions d'après la population, dans l'ordre de criminalité pour l'année 1905 comparée avec 1904, par provinces :—

NOMBRE ET PROPORTION DES CONDAMNATIONS PAR PROVINCES.

Provinces.	1905.		1904.	
	Nombre de condamnations.	Proportion par 10,000 de la population.	Nombre de condamnations.	Proportion par 10,000 de la population.
Colombie-Britannique	598	23·98	379	17·46
Manitoba	609	18·45	489	16·00
Les Territoires	569	15·81	530	19·43
Ontario	3,236	14·62	3,034	13·75
Québec	2,065	11·99	1,738	10·19
Nouvelle-Ecosse	384	8·28	434	9·38
Nouveau-Brunswick	126	3·76	122	3·65
Ile du Prince-Edouard	37	3·66	28	2·76
Canada	7,624	13·18	6,754	12·05

On remarquera par la colonne proportionnelle du tableau précédent que le crime en général semble avoir plus de prise sur les populations de l'Ouest que sur celles de l'Est, les chiffres représentant la criminalité étant dans chaque cas plus élevés dans les provinces de l'ouest que dans celles de l'est.

Du total des personnes condamnées en 1905, 414 ou 5·43 pour cent appartenaient au sexe féminin, contre 377 ou 5·58 pour cent l'année précédente ; 219 des 414 femmes condamnées en 1905 venaient d'Ontario, 117 de Québec, 32 de la Nouvelle-Ecosse, 21 du Manitoba, 10 de la Colombie-Britannique, 8 des Territoires, 6 du Nouveau-Brunswick, et 1 de l'Ile du Prince-Edouard ; tandis que des 377 femmes condamnées en 1904, 167 venaient d'Ontario, 103 de Québec, 45 de la Nouvelle-Ecosse, 32 du Manitoba, 21 des Territoires, 5 du Nouveau-Brunswick, 2 de la Colombie-Britannique et 1 de l'Ile du Prince-Edouard.

Le nombre des jeunes délinquants au-dessous de 16 ans a aussi augmenté durant l'année, de 697 en 1904 à 800 en 1905, soit une augmentation de 14·77 pour cent. Ontario comptait 431 des 800 jeunes délinquants, Québec 204, Manitoba 75, la Nouvelle-Ecosse 42, la Colombie-Britannique 24, le Nouveau-Brunswick 16, les Territoires 6 et l'Ile du Prince-Edouard 2 ; et sur les 697 jeunes délinquants de 1904, Ontario en comptait 389, Québec 124, Manitoba 81, Nouvelle-Ecosse 66, la Colombie-Britannique 14, Nou-

66 from Nova Scotia, 14 each from British Columbia and New Brunswick, 7 from the Territories and 2 from Prince Edward Island. The number of female offenders under 16 years of age was 49 in 1905 against 34 the year before, of which 35 were from Ontario, 7 from Quebec, 5 from Manitoba and 2 from Nova Scotia in 1905, as compared with 19 from Ontario, 7 from Manitoba, 6 from Quebec and 2 from Nova Scotia in 1904.

INDICTABLE OFFENCES BY CLASSES.

The number of convictions in Class I., offences against the person, including murder, manslaughter, rape, assault, &c., has increased by fifteen during the year, the figures being 1,620 for 1905 against 1,605 for the previous year. The provinces showing decreases are: Nova Scotia from 179 to 152, Quebec from 429 to 403, and the Territories from 120 to 99, while those showing increases are: Manitoba from 73 to 102, British Columbia from 83 to 116, Ontario from 670 to 684, New Brunswick from 36 to 47, and Prince Edward Island from 15 to 17.

There were 40 charges and 12 convictions for murder in 1905, against 27 charges and 14 convictions for the same crime the year before. Out of the 12 convictions in 1905, 5 were from Ontario, 2 each from Quebec and British Columbia, and 1 each from Nova Scotia, New Brunswick and the Territories; while 8 of the 14 convictions for murder in 1904 were from British Columbia, 2 from Quebec, and 1 each from Nova Scotia, New Brunswick, Ontario and the Territories.

For attempt at murder, 17 persons were charged and 6 were convicted in 1905, against 15 charges and 7 convictions for the same crime the year before. Of the 6 convictions for 1905 2 each were from Ontario and the Territories, and 1 each from Quebec and New Brunswick, and of the 7 convictions for 1904, 3 were from Quebec, 2 from British Columbia, and 1 each from Ontario and the Territories. There were 29 charges and 15 convictions for manslaughter in 1905, as compared with 29 charges and 19 convictions the year before; of the 15 convictions for 1905, 5 were from Quebec, 4 from Ontario, and 3 each from Manitoba and the Territories, while 6 of the 19 convictions for 1904 were from Ontario, 6 from Quebec, 3 from Nova Scotia, 2 from British Columbia, and 1 each from Manitoba and the Territories.

There were 239 charges and 115 convictions for rape and other crimes against decency in 1905, as compared with 241 charges and 104 convictions the year before; out of the 115 convictions for 1905, 58 were from Ontario, 20 from Quebec, 10 from British Columbia, 9 from Nova Scotia, 8 each from Manitoba and the Territories, 2 from New Brunswick and none from Prince Edward Island; and out of the 104 convictions for 1904, 51 came from Ontario, 13 from the Territories, 12 from Quebec, 10 from Manitoba, 9 from Nova Scotia, 7 from British Columbia, 2 from New Brunswick and none from Prince Edward Island.

For shooting, stabbing and wounding with intent, there were 168 charges and 104 convictions in 1905, as compared with 181 charges and 111 convictions the year previous; distributed by provinces in the following order: in 1905 Ontario had 55

veau-Brunswick 14, les Territoires 7 et l'Ile du Prince-Edouard 2. Le nombre des jeunes *délinquantes* au-dessous de 16 ans était de 49 en 1905, contre 34 l'année d'auparavant, dont 35 étaient d'Ontario, 7 de Québec, 5 du Manitoba et 2 de la Nouvelle-Ecosse en 1905, contre 19 d'Ontario, 7 du Manitoba, 6 de Québec et deux de la Nouvelle-Ecosse en 1904.

DÉLITS JUSTICIABLES D'UN JURY PAR CLASSES.

Le nombre de condamnations dans la classe I, outrages contre la personne, comprenant les cas de meurtre, homicide non prémédité, viol, voies de fait, etc., a augmenté de 15 durant l'année, de 1605 en 1904 à 1620 en 1905. Les provinces montrant des diminutions sont la Nouvelle-Ecosse, de 179 à 152, Québec de 429 à 403 et les Territoires de 120 à 99 ; tandis que les provinces montrant des augmentations sont le Manitoba, de 73 à 102, la Colombie-Britannique de 83 à 116, Ontario de 670 à 684, le Nouveau-Brunswick de 36 à 47 et l'Ile du Prince-Edouard de 15 à 17.

Il y avait 40 accusations et 12 condamnations pour meurtre en 1905, contre 27 accusations et 14 condamnations pour le même crime l'année précédente. Des douze condamnations en 1905, cinq étaient d'Ontario, deux chacune de Québec et de la Colombie-Britannique et une chacune de la Nouvelle-Ecosse, du Nouveau-Brunswick et des Territoires ; tandis que huit des 14 condamnations pour meurtre en 1904 étaient de la Colombie-Britannique, deux de Québec et une chacune de la Nouvelle-Ecosse, du Nouveau-Brunswick, d'Ontario et des Territoires.

Le nombre de personnes accusées de tentative de meurtre s'élevait à 17 en 1905, dont six ont été condamnées, contre 15 accusations pour le même crime en 1904, dont sept condamnations. Des six condamnations pour 1905, Ontario en comptait deux et les Territoires le même nombre, tandis que Québec et le Nouveau-Brunswick en comptaient une chacune ; des sept condamnations pour 1904, trois venaient de Québec, deux de la Colombie-Britannique et une chacune d'Ontario et des Territoires.

Il y avait 29 accusations et 15 condamnations pour homicide non prémédité en 1905, contre 29 accusations et 19 condamnations l'année précédente ; des 15 condamnations pour 1905, cinq étaient de Québec, quatre d'Ontario, et trois chacune du Manitoba et des Territoires ; tandis que six des 19 condamnations pour 1904 étaient d'Ontario, 6 de Québec, 3 de la Nouvelle-Ecosse, 2 de la Colombie-Britannique et une chacune du Manitoba et des Territoires.

On comptait 239 accusations et 115 condamnations pour viol et autres outrages à la pudeur en 1905, contre 241 accusations et 104 condamnations pour le même crime en 1904. Des 115 condamnations en 1905, 58 étaient d'Ontario, 20 de Québec, 10 de la Colombie-Britannique, 9 de la Nouvelle-Ecosse, 8 chacune du Manitoba et des Territoires, 2 du Nouveau-Brunswick et aucune de l'Ile du Prince-Edouard ; tandis que 51 des 104 condamnations de 1904 étaient d'Ontario, 13 des Territoires, 12 de Québec, 10 du Manitoba, 9 de la Nouvelle-Ecosse, 7 de la Colombie-Britannique, 2 du Nouveau-Brunswick et aucune de l'Ile du Prince-Edouard.

Il y avait 168 accusations et 104 condamnations pour usage d'armes avec intention criminelle en 1905, comparativement à 181 accusations et 111 condamnations l'année précédente, par provinces dans l'ordre suivant : en 1905 Ontario comptait 55 condamna-

convictions, Manitoba 19, Quebec 10, British Columbia 9, Nova Scotia 6, the Territories 4 and New Brunswick 1; in 1904 Ontario had 61 convictions, Nova Scotia 16, Quebec 12, British Columbia 9, Manitoba 7, New Brunswick 4 and the Territories 2, while Prince Edward Island had none for both years. The highest figure in this class of offences belongs to assaults of all kinds, for which there were 1,200 convictions in 1905, or 74·07 per cent of the whole, against 1,176 or 73·27 per cent of the whole the year before, distributed by provinces in the following order: Ontario 452 in 1905 and 431 in 1904, Quebec 331 in 1905 and 369 in 1904, Nova Scotia 129 in 1905 and 145 in 1904, the Territories 78 in 1905 and 86 in 1904, British Columbia 89 in 1905 and 51 in 1904, Manitoba 64 in 1905 and 50 in 1904, New Brunswick 40 in 1905 and 29 in 1904 and Prince Edward Island 17 in 1905 and 15 in 1904.

OFFENCES AGAINST PROPERTY WITH VIOLENCE.

In Class II, offences against property with violence, including burglary, house and shop breaking, etc., the number of convictions during the year, has increased from 552 in 1904, to 656 in 1905. The provinces showing increases in this class of offences are Quebec from 147 to 225, Ontario from 286 to 307, Manitoba from 22 to 54 and Prince Edward Island from nothing to 2; while decreases are to be found during the year in Nova Scotia from 40 to 23, in New Brunswick from 11 to 9, in British Columbia from 28 to 23 and in the Territories from 18 to 13. The highest percentage in this class belongs to house and shop breaking with 580 charges and 462 convictions in 1905, as compared with 474 charges and 356 convictions the year before. Out of the 462 convictions for 1905, Quebec had 195, Ontario 174, Manitoba 48, British Columbia 15, Nova Scotia 14, Territories 9, New Brunswick 5 and Prince Edward Island 2, and out of the 356 convictions for 1904, Ontario had 169, Quebec 107, Nova Scotia 29, Manitoba 16, British Columbia 16, the Territories 12, New Brunswick 7 and Prince Edward Island none.

OFFENCES AGAINST PROPERTY WITHOUT VIOLENCE.

Class III, offences against property without violence, including larceny, horse and cattle stealing, embezzlement, fraud and false pretences, etc., shows an increase of 263 in the number of convictions during the year, from 3,969 in 1904 to 4,232 in 1905. Increases are found in Ontario from 1,802 to 1,935, in Quebec from 1,026 to 1,087, in the Territories from 325 to 371, in Manitoba from 339 to 382, in New Brunswick from 63 to 66, and in Prince Edward Island from 4 to 12, while British Columbia and Nova Scotia show decreases, the former from 228 to 198 and the latter from 182 to 181.

This class represents 55·51 per cent of the total convictions for indictable offences in 1905, as compared with 58·76 per cent the year before, the highest figure being for larceny, with 3,774 convictions in 1905 against 3,504 the year before, or 89·18 per cent of the total number of convictions constituting this class of offences in 1905 against 88·28 in 1904. The number of convictions for larceny has increased during the year in every province, except British Columbia which shows a decrease of 19, from 191 to 172; the other provinces have increased in the following manner:—Ontario from 1608 to 1761, Quebec from 943 to 986, New Brunswick from 60 to 64, Nova Scotia from 157 to 168, Manitoba from 319 to 353, the Territories from 222 to 259, and Prince Edward Island from 4 to 11.

tions, Manitoba 19, Québec 10, Colombie-Britannique 9, Nouvelle-Ecosse 6, les Territoires 4 et le Nouveau-Brunswick 1 ; en 1904 Ontario comptait 61 condamnations, la Nouvelle-Ecosse 16, Québec 12, la Colombie-Britannique 9, Manitoba 7, le Nouveau-Brunswick 4, les Territoires 2 ; il n'a été fait rapport d'aucun de ces délits pour l'Ile du Prince-Edouard durant les deux années. Mais le chiffre le plus élevé dans cette classe de délits est celui des voies de fait de toutes sortes qui était de 1,200 en 1905, soit 74·07 pour cent du total des condamnations, contre 1,176 ou 73·27 pour cent du total des condamnations de cette classe l'année précédente, par provinces dans l'ordre suivant :—452 dans Ontario en 1905 contre 331 en 1904, Québec 331 contre 369, la Nouvelle-Ecosse 129 contre 145, les Territoires 78 contre 86, la Colombie-Britannique 89 contre 51, Manitoba 64 contre 50, le Nouveau-Brunswick 40 contre 29 et l'Ile du Prince-Edouard 17 contre 15.

DÉLITS AVEC VIOLENCE CONTRE LA PROPRIÉTÉ.

Dans la classe II, délits avec violence contre la propriété, comprenant le vol avec effraction, les bris de maisons et de magasins, etc., le nombre de condamnations a augmenté de 552 qu'il était en 1904 à 656 en 1905. Les provinces montrant des augmentations dans cette classe de délits durant l'année sont Québec, de 147 à 225, Ontario de 286 à 307, Manitoba de 22 à 54 et l'Ile du Prince-Edouard de 0 à 2 ; tandis que des diminutions se trouvent dans la Nouvelle-Ecosse, de 40 à 23, dans le Nouveau-Brunswick de 11 à 9, dans la Colombie-Britannique de 28 à 23 et dans les Territoires de 18 à 13. Les chiffres les plus élevés dans cette classe de délits sont ceux qui représentent les bris de maisons et de magasins pour lesquels il y avait 580 accusations et 462 condamnations en 1905, contre 474 accusations et 356 condamnations l'année précédente. Des 462 condamnations en 1905, Québec en comptait 195, Ontario 174, Manitoba 48, la Colombie Britannique 15, la Nouvelle-Ecosse 14, les Territoires 9, le Nouveau-Brunswick 5, et l'Ile du Prince-Edouard 2, et des 356 condamnations en 1904 Ontario en comptait 169, Québec 107, la Nouvelle-Ecosse 29, Manitoba 16, la Colombie-Britannique 16, les Territoires 12, le Nouveau-Brunswick 7 et l'Ile du Prince-Edouard aucune.

DÉLITS SANS VIOLENCE CONTRE LA PROPRIÉTÉ.

La classe III, délits sans violence contre la propriété, dans laquelle se trouvent compris les cas de larcin, vol de chevaux et de bétail, détournement, fraude et faux prétextes, etc., indique une augmentation de 263 dans le nombre de condamnations durant l'année, de 3,969 en 1904 à 4,232 en 1905. Les augmentations se trouvent dans Ontario, de 1802 à 1935, dans Québec de 1026 à 1087, dans les Territoires de 325 à 371, dans le Manitoba de 339 à 382, dans le Nouveau-Brunswick de 63 à 66, et dans l'Ile du Prince-Edouard de 4 à 12 ; tandis que la Colombie-Britannique et la Nouvelle-Ecosse accusent des diminutions, la première de 228 à 198 et la dernière de 182 à 181.

Cette classe représente 55 51 pour cent du total des condamnations pour délits justiciables d'un jury en 1905, contre 58·76 pour cent l'année précédente, le chiffre le plus élevé étant pour les cas de larcin dont le nombre de condamnations en 1905 était de 3,774, contre 3,504 en 1904, soit 89·18 pour cent du total constituant cette classe de délits en 1905, et 88·28 pour cent en 1904. Le nombre de condamnations pour larcin a augmenté durant l'année dans toutes les provinces, excepté la Colombie-Britannique qui indique une diminution de 19, de 191 à 172. Ontario a augmenté de 1,608 à 1,761, Québec de 943 à 986, le Nouveau-Brunswick de 60 à 64, la Nouvelle-Ecosse de 157 à

The following table shows the number of convictions for larceny with ratios in relation to population, by provinces, in the order of criminality for the year 1905 compared with 1904 :—

LARCENY IN 1905 AND 1904, WITH RATIOS.

Provinces.	1905.		1904.	
	Number of convictions.	Ratio per 10,000 of population.	Number of convictions.	Ratio per 10,000 of population.
Manitoba	353	10·70	319	14·34
Ontario	1,761	7·95	1,608	7·29
British Columbia	172	7·32	191	8·80
The Territories	259	7·19	222	8 14
Quebec	986	5·14	943	5·53
Nova Scotia	168	3·62	157	3 39
New Brunswick	64	1·91	60	1·79
Prince Edward Island	11	1·09	4	0·39
Canada	3,774	6·53	3,504	6·25

The position held in the above table by the several provinces, regarding ratios of criminality, is the same as that held by each in the previous report, with this exception that Ontario instead of being the fourth is now the second highest.

MALICIOUS OFFENCES AGAINST PROPERTY.

In Class IV, malicious offences against property, are comprised arson, malicious injury to horses and cattle, and other wilful damage to property; the number of convictions for this class has been reduced by 6 during the year, from 100 in 1904 to 94 in 1905. Twenty-nine persons were convicted of arson in 1905 against 35 in 1904, and of the 29, 18 were from Ontario, 4 from Nova Scotia, 3 from Quebec, 2 from Manitoba, 1 each from British Columbia and New Brunswick, and none from the Territories and Prince Edward Island, while 17 of the 35 convictions for 1904 were from Ontario, 8 from the Territories, 6 from Nova Scotia, 2 from Quebec, 1 each from New Brunswick and British Columbia and none from Manitoba and Prince Edward Island.

The number of convictions for malicious injury to horses and cattle is 65 for both years. Out of those convicted in 1905, 19 were from Ontario, 14 from Quebec, 12 from the Territories, 9 from British Columbia, 6 from Manitoba, 4 from Prince Edward Island, 1 from Nova Scotia and none from New Brunswick, and out of those convicted in 1904, 21 were from Quebec, 20 from Ontario, 10 from the Territories, 5 from Prince Edward Island, 4 from British Columbia, 3 from Nova Scotia, 2 from Manitoba and none from New Brunswick.

FORGERY AND OFFENCES AGAINST CURRENCY.

Class V, forgery and offences against currency, has increased from 152 in 1904 to 173 in 1905, the provinces showing increases being Nova Scotia from 4 convictions in 1904 to 7 in 1905, Ontario from 57 to 70, Manitoba from 42 to 52, British Columbia from 10 to 16, Quebec from 16 to 19 and New Brunswick from none to one, and the pro-

168, le Manitoba de 319 à 353, les Territoires de 222 à 259 et l'Ile du Prince-Edouard de 4 à 11.

Le tableau suivant montre le nombre de condamnations pour larcin avec les proportions d'après la population, par provinces, dans l'ordre de criminalité pour l'année 1905 comparée avec 1904 :—

LARCIN EN 1905 ET 1904, AVEC PROPORTIONS.

Provinces.	1905.		1904.	
	Nombre de condamnations.	Proportion par 10,000 de la population.	Nombre de condamnations.	Proportion par 10,000 de la population.
Manitoba	353	10·70	319	14·34
Ontario	1,761	7·95	1,608	7·29
Colombie-Britannique	172	7·32	191	8·80
Les Territoires	259	7·19	222	8·14
Québec	986	5·14	943	5·53
Nouvelle-Ecosse	168	3·62	157	3·39
Nouveau-Brunswick	64	1·91	60	1·79
Ile du Prince-Edouard	11	1·09	4	0·39
Canada	3,774	6·53	3,504	6·25

La position occupée dans le tableau précédent par les différentes provinces, relativement à la criminalité, est la même que celle qu'elles occupaient dans le rapport de l'an dernier, à l'exception d'Ontario qui est la deuxième sur la liste cette année et qui était la quatrième l'an dernier.

DOMMAGES MALICIEUX À LA PROPRIÉTÉ.

Dans la classe IV, dommages malicieux à la propriété, se trouvent compris les crimes d'incendie, les dommages malicieux aux chevaux et bestiaux et autres dommages volontaires à la propriété, le nombre de condamnations indique une diminution de six durant l'année, de 100 en 1904 à 94 en 1905. Vingt-neuf personnes ont été condamnées pour crime d'incendie en 1905 contre 35 en 1904, et de ces 29, dix-huit étaient d'Ontario, 4 de la Nouvelle-Ecosse, 3 de Québec, 2 du Manitoba, une chacune de la Colombie-Britannique et du Nouveau-Brunswick, et aucune des Territoires et de l'Ile du Prince-Edouard ; tandis que des 35 condamnations pour 1904 dix-sept étaient d'Ontario, 8 des Territoires, 6 de la Nouvelle-Ecosse, 2 de Québec, une chacune du Nouveau-Brunswick et de la Colombie-Britannique, et aucune du Manitoba et de l'Ile du Prince-Edouard.

Le nombre de condamnations pour dommages malicieux aux chevaux et bestiaux est de 65 pour les deux années. Du nombre de personnes condamnées en 1905, dix-neuf étaient d'Ontario, 14 de Québec, 12 des Territoires, 9 de la Colombie-Britannique, 6 du Manitoba, 4 de l'Ile du Prince-Edouard, une de la Nouvelle-Ecosse et aucune du Nouveau-Brunswick, et du nombre de personnes condamnées l'année précédente, 21 étaient de Québec, 20 d'Ontario, 10 des Territoires, 5 de l'Ile du Prince-Edouard, 4 de la Colombie-Britannique, 3 de la Nouvelle-Ecosse, 2 du Manitoba et aucune du Nouveau-Brunswick.

vinces showing decreases being the Territories, from 22 convictions in 1904 to 8 in 1905, and Prince Edward Island from one to none.

OTHER OFFENCES.

In Class VI, other offences not included in the foregoing classes, comprising the carrying of unlawful weapons, conspiracy, violation of the Electoral Act, offences against Gambling and Lottery Acts, perjury and subornation of perjury, etc., the number of convictions has increased by 125 per cent, from 376 in 1904 to 849 in 1905. The provinces showing increases in this class are Quebec from 97 to 314, British Columbia from 25 to 235, Ontario from 182 to 203, the Territories from 27 to 66, and the provinces showing decreases are New Brunswick from 11 to 2, Nova Scotia from 20 to 16, Prince Edward Island from 3 to 2, while Manitoba shows 11 for both years.

The number of convictions for perjury and subornation of perjury shows an increase of 6 during the year, from 20 in 1904 to 26 in 1905. Ontario had 6 in 1904 and 16 in 1905, Quebec 5 in 1904 and 3 in 1905, British Columbia 4 in 1904 and 1 in 1905, the Territories 4 in 1904 and 3 in 1905, Nova Scotia 1 in 1904 and 2 in 1905, while New Brunswick had none in 1904 and 1 in 1905, and Prince Edward Island none for both years.

RECIDIVISTS.

More than four-fifths or 80·80 per cent of the total number of indictable offenders were convicted for the first time, 11·32 per cent for the second time and 9·00 per cent were recidivists or habitual criminals in 1905, as compared with 78·40, 12·48 and 9·01 respectively the year before.

SENTENCES.

Sentences.	1905.	1904.
Sentenced to jail with the option of a fine	1,796	1,302
" " for under one year	2,697	2,454
" " for one year and under two	368	367
" to penitentiary for two years and under five	519	501
" " for five years and over	153	156
" " for life	2	.....
" to death	12	14
" to reformatories	305	232
Other sentences	1,772	1,728

According to the above statement, 23·56 per cent of the total number of offenders were sentenced to jail with the option of a fine in 1905, as compared with 19·28 the year before; 35·37 per cent in 1905 against 36·33 in 1904 were sentenced to jail for less than one year; 4·87 per cent in 1905 against 5·43 in 1904 were sentenced to jail for one year and under two; 6·81 per cent were sentenced to penitentiary for two and less than five years and 2·01 per cent to five years and over in 1905, against 7·42 and 2·31 respectively the year before. Two life sentences were recorded in 1905 and none the year before, while there were 12 death sentences in 1905 and 14 the year before.

FAUX ET DÉLITS PAR RAPPORT À LA MONNAIE.

La classe V, faux et délits par rapport à la monnaie, indique une augmentation de 21 dans le nombre de condamnations, 152 en 1904 et 173 en 1905 ; les provinces montrant des augmentations sont la Nouvelle-Ecosse, de 4 en 1904 à 7 en 1905, Ontario de 57 à 70, Manitoba de 42 à 52, la Colombie-Britannique de 10 à 16, Québec de 16 à 19, le Nouveau-Brunswick de 0 à 1, et les provinces montrant des diminutions sont les Territoires de 22 à 8 et l'Ile du Prince-Edouard de 1 à 0.

AUTRES DÉLITS.

Dans la classe VI, autres délits non compris dans les classes précédentes, renfermant les cas de port d'armes illégal, conspiration, infractions à la loi électorale, infractions aux lois défendant le jeu et les loteries, parjure et subornation de parjure, etc., le nombre de condamnations a augmenté de 125 pour cent durant l'année, de 376 en 1904 à 849 en 1905. Les provinces montant des augmentations dans cette classe sont Québec, de 97 à 314, la Colombie-Britannique de 25 à 235, Ontario de 182 à 203, les Territoires de 27 à 66 ; les provinces montrant des diminutions sont le Nouveau-Brunswick, de 11 à 2, la Nouvelle-Ecosse de 20 à 16, l'Ile du Prince-Edouard de 3 à 2, tandis que dans le Manitoba 11 condamnations sont données pour chacune des deux années.

Le nombre de condamnations pour parjure et subornation de parjure indique une augmentation de six durant l'année, vingt en 1904 contre vingt-six en 1905, par provinces :—Ontario 6 en 1904 et 16 en 1905, Québec 5 en 1904 et 3 en 1905, Colombie-Britannique 4 en 1904 et 1 en 1905, les Territoires 4 en 1904 et 3 en 1905, la Nouvelle-Ecosse 1 en 1904 et 2 en 1905, tandis que le Nouveau-Brunswick en comptait aucune en 1904 et une en 1905 et l'Ile du Prince-Edouard aucune pour les deux années.

RÉCIDIVISTES.

Plus des quatre cinquièmes ou 80·80 pour cent du total des délinquants ont été condamnés une première fois, 11·32 pour cent une deuxième fois et 9·00 pour cent étaient des récidivistes en 1905, contre 78·40, 12·48 et 9·01 respectivement l'année précédente.

SENTENCES.

Sentences.	1905.	1904.
Condamnés à l'option entre la prison ou l'amende	1,796	1,302
" à la prison pour moins d'un an	2,697	2,454
" " un an et moins de deux	368	367
" au pénitencier pour deux ans et moins de cinq	519	501
" " cinq ans et au-dessus	153	156
" " la vie	2	
" à mort	12	14
" aux écoles de réforme	305	232
Autres sentences	1,772	1,728

Tel que l'indique le tableau précédent, 23·56 pour cent du total des délinquants ont été condamnés à l'option entre la prison et l'amende en 1905, comparativement à 19·28, l'année d'auparavant : 35·37 pour cent ont été condamnés à la prison pour moins d'un an en 1905, contre 36·33 l'année précédente ; 4·87 pour cent en 1905 et 5·43 en 1904

The sentences to reformatories represented 4 per cent of the total number of persons convicted in 1905 against 4·97 the year previous. Other sentences representing respectively 23·24 and 25·58 per cent of the total convictions for 1905 and 1904, are made of such cases as were bound to keep the peace, sentence deferred, &c.

OCCUPATIONS.

The occupations of offenders are given in per cent ratios by classes in the following table:—

Classes of Occupations.	1905.	1904.
	p. c.	p. c.
Agricultural	3·69	4·38
Commercial	13·92	12·94
Domestic	2·83	4·04
Industrial	13·21	10·76
Professional	0·63	0·65
Labourers	39·43	41·38
Not given	26·29	25.85

Proportionately to the number of convictions returned by each province in 1905, the offenders from the Territories occupy the first place in the agricultural class of occupations, followed by Prince Edward Island, New Brunswick, Manitoba and Ontario, while British Columbia, Nova Scotia and Quebec come the last.

In the commercial class Manitoba comes first, followed by Quebec and British Columbia, with Nova Scotia, New Brunswick, Ontario, Prince Edward Island and the Territories, in the order named. In the domestic class Nova Scotia comes first, with Manitoba, Ontario, Quebec, New Brunswick, British Columbia, the Territories and Prince Edward Island in the order named. In the industrial class the Quebec offenders occupy the first place, followed by British Columbia, Nova Scotia, New Brunswick, Ontario, Manitoba, Prince Edward Island and the Territories. The ratio of convictions belonging to the professional class is about equally divided among the several provinces. The labourers furnish the larger number of offenders from every province, and in this class Prince Edward Island comes first, followed by the other provinces in following order: Ontario, British Columbia, Manitoba, Nova Scotia, Quebec, New Brunswick and the Territories.

CIVIL CONDITION.

Out of the total number of persons convicted, 23·69 per cent were recorded as married, 2·00 as widowed, and 62·63 as unmarried in 1905, against 24·86, 1·77 and 62·11 respectively in 1904.

EDUCATIONAL STATUS.

The educational status of the offenders is about the same for both years. In 1905 the illiterate represented 9·34 per cent of the total convictions, those having an elementary education, 75·01 per cent, and those having a superior education, 2·14 per cent, as against 9·75, 75·83 and 2·12 respectively the year before.

ont été condamnés à la prison pour un et moins de deux ans ; 6·81 pour cent ont été condamnés au pénitencier pour deux et moins de cinq ans et 2·01 pour cinq ans et plus en 1905, contre 7·42 et 2·31 respectivement l'année d'auparavant ; deux sentences à vie ont été prononcées en 1905 et aucune l'année précédente, tandis qu'il y a eu 12 sentences de mort en 1905 contre 14 en 1904. Les sentences aux maisons de réforme s'élevaient à 4·00 pour cent du nombre de personnes condamnées en 1905, contre 4·97 l'année précédente. Les autres sentences, représentant respectivement 23·24 et 25·58 du total des condamnations pour les deux années 1905 et 1904, se composent de cas tels que tenus de garder la paix, "sentences remises", etc.

OCCUPATIONS.

La profession ou qualité des délinquants est donné par classes d'occupations, en proportions pour cent dans le tableau suivant :—

Classes d'occupations.	1905.	1904.
	p. c.	p. c.
Agricole	3·69	4·38
Commerciale	13·92	12·94
Domestique	2·83	4·04
Industrielle	13·21	10·76
Professionnelle	0·63	0·65
Journaliers	39·43	41·38
Non donnée	26·29	25·85

Proportionnellement au nombre de condamnations des différentes provinces pour l'année 1905, les Territoires occupent la première place dans la classe agricole, suivis de l'Ile du Prince-Edouard, du Nouveau-Brunswick, du Manitoba et d'Ontario, tandis que la Colombie-Britannique, la Nouvelle-Ecosse et Québec viennent les dernières.

Dans la classe commerciale la province de Manitoba vient la première, suivie de Québec et de la Colombie-Britannique, avec la Nouvelle Ecosse, le Nouveau-Brunswick, Ontario, l'Ile du Prince-Edouard et les Territoires dans l'ordre nommé. Dans la classe domestique la Nouvelle-Ecosse vient la première avec Manitoba, Ontario, Québec, le Nouveau-Brunswick, la Colombie-Britannique, les Territoires et l'Ile du Prince-Edouard dans l'ordre nommé. Dans la classe industrielle les délinquants de la province de Québec occupent la première place avec les autres provinces dans l'ordre suivant : Colombie-Britannique, Nouvelle-Ecosse, Nouveau-Brunswick, Ontario, Manitoba, l'Ile du Prince-Edouard et les Territoires. La proportion des condamnations appartenant à la classe professionnelle est à peu près la même dans chacune des provinces. La classe des journaliers fournit le plus grand nombre de délinquants dans chacune des provinces, et dans cette classe l'Ile du Prince-Edouard vient en premier lieu avec les autres provinces dans l'ordre suivant : Ontario, Colombie-Britannique, Manitoba, Nouvelle-Ecosse, Québec, Nouveau-Brunswick et les Territoires.

ÉTATS CIVIL.

Un peu moins d'un quart, ou 23·69 pour cent, des délinquants sont rapportés comme étant mariés, 2·00 pour cent en veuvage et 62·63 pour cent non mariés, contre 24·86, 1·77 et 62·11 respectivement l'année précédente.

AGES OF THE CONVICTED.

1905.

Provinces.	Under 16 years.		16 to 21 years		21 to 40 years.		40 years and over		Not given.	
	Males.	Females	Males	Fem.	Males.	Females	Males.	Females	Males	Fem.
Prince Edward Island..	2	.....	8	.....	22	1	4	.....	.....	.....
Nova Scotia.....	40	2	77	4	157	14	32	7	46	5
New Brunswick.....	16	.....	12	1	49	4	25	.....	18	1
Quebec	197	7	402	19	1,020	74	240	9	89	8
Ontario.....	396	35	599	48	1,407	83	399	46	216	7
Manitoba.....	70	5	84	9	328	5	50	1	56	1
British Columbia.	24	....	39	.....	313	7	99	2	113	1
The Territories.....	6	.....	33	1	100	2	21	.....	401	5
Canada.....	751	49	1,254	82	3,396	190	870	65	939	28

1904.

Prince Edward Island..	2	.....	4	.....	18	1	3	.....	.....	...
Nova Scotia.....	64	2	61	5	149	13	45	8	70	17
New Brunswick.....	14	.....	8	....	51	2	14	3	30	.....
Quebec....	118	6	365	16	848	63	239	17	65	1
Ontario.....	370	19	519	32	1,318	71	426	31	234	14
Manitoba...	74	7	78	12	222	6	34	4	48	4
British Columbia.	14	.....	38	.....	181	1	51	.....	93	1
The Territories.....	7	.....	31	.. .	122	7	56	3	295	9
Canada..... .	663	34	1,104	65	2,909	164	868	66	835	46

The offenders belonging to the group of 21 to 40 years represented 44·54 per cent for males and 2·49 per cent for females of the total number of convictions in 1905, against 43·07 for males and 2·43 for females in 1904. The next higher group belongs to the offenders of 16 to 21 years, showing 16·45 per cent for males and 1·07 per cent for females in 1905, as compared with 16·34 for males and 0·96 for females in 1904. The next higher group belongs to the offenders of 40 years and over, with 11·41 per cent for males and 0·85 per cent for females in 1905, as compared with 12·82 and 1·01 respectively in 1904. The group of offenders under 16 years of age is the lowest for both years: 9·85 per cent for males and 0·64 per cent for females in 1905, against 9·39 and 0·50 respectiely in 1904.

USE OF LIQUORS.

There were 56·41 per cent of the total number of persons convicted who used liquor moderately and 27·49 per cent immoderately in 1905, as compared with 60·48 and 27·02 respectively the year before: the balance of the percentage for both years representing the non-drinkers and 'not given.' As was remarked in a previous report, fewer cases of 'not given' would appear in the table of this report if the officers making the returns would only see that the several columns of the schedules contain the required information.

DEGRÉ D'INSTRUCTION.

Le degré d'instruction est à peu près le même pour les deux années. En 1905 les illettrés représentaient 9·34 pour cent du total des condamnés, ceux ayant une instruction élémentaire, 75·01 pour cent et ceux ayant une instruction supérieure, 2·14 pour cent, comparativement à 9·75, 75·83 et 2·12 respectivement l'année précédente.

AGES DES DÉLINQUANTS.

1905.

Provinces.	Au-dessous de 16 ans.		16 à 21 ans.		21 à 40 ans.		40 ans et au-dessus.		Non donnés.	
	H.	F.	H.	F.	H.	F.	H.	F.	H.	F.
Ile du Prince-Edouard..	2	.....	8	.....	22	1	4	.....	.....	.....
Nouvelle-Ecosse.....	40	2	77	4	157	14	32	7	46	5
Nouveau-Brunswick....	16	.....	12	1	49	4	25	.....	18	1
Québec.....	197	7	402	19	1,020	74	240	9	89	8
Ontario.....	396	35	599	48	1,407	83	399	46	216	7
Manitoba.....	70	5	84	9	328	5	50	1	56	1
Colombie-Britannique ..	24	.....	39	.....	313	7	99	2	113	1
Les Territoires.....	6	.....	33	1	100	2	21	.....	401	5
Canada.....	751	49	1,254	82	3,396	190	870	65	939	28

1904.

Ile du Prince-Edouard .	2	.....	4	.....	18	1	3	.....	.....	.....
Nouvelle-Ecosse.....	64	2	61	5	149	13	45	8	70	17
Nouveau-Brunswick. ...	14	.....	8	.....	51	2	14	3	30	.....
Québec.	118	6	365	16	848	63	239	17	65	1
Ontario	370	19	519	32	1,318	71	426	31	234	14
Manitoba	74	7	78	12	222	6	34	4	48	4
Colombie-Britannique ..	14	.....	38	.....	181	1	51	.....	93	1
Les Territoires	7	.....	31	.....	122	7	56	3	295	9
Canada.....	663	34	1,104	65	2,909	164	868	66	835	46

Les délinquants appartenant au groupe de 21 à 40 ans représentaient 44·54 pour cent du sexe masculin et 2·49 pour cent du sexe féminin du chiffre total des condamnés en 1905, contre 43·07 et 2·43 respectivement l'année précédente. Le groupe le plus nombreux venant ensuite est celui des délinquants de 16 à 21 ans, montrant 16·45 pour cent chez les hommes et 1·07 pour cent chez les femmes en 1905, contre 16·34 et 0·96 respectivement l'année précédente. Le troisième groupe en nombre est celui de 40 ans et audessus représentant 11·41 pour cent chez les hommes et 0·85 pour cent chez les femmes en 1905, contre 12·82 et 1·01 respectivement en 1904. Le groupe des jeunes délinquants au-dessous de 16 ans était le moins élevé de tous les groupes pour les deux années : 9·85 pour cent chez les hommes et 0·64 pour cent chez les femmes en 1905, contre 9·39 et 0·50 respectivement l'année précédente.

USAGE DES BOISSONS.

Du nombre de personnes condamnées durant la présente année, 56·41 pour cent faisaient un usage modéré des boissons enivrantes et 27·49 étaient des buveurs immo-

PLACE OF BIRTH.

Out of the total number of persons convicted in 1905, 61·57 per cent were born in Canada, 11·46 per cent were British born outside of Canada, and 15·79 per cent were born in other countries, leaving 11·18 per cent whose places of birth were not given, as compared with 65·00 per cent Canadian born, 11·68 per cent British born outside of Canada, 12·39 per cent born in other countries, and 10·93 per cent not recorded in 1904. According to the last census, the Canadian born represented 87 per cent of the total population, the British born outside of Canada 7·56, and the foreign born 5·18.

RELIGIONS.

The following table shows the position occupied during the last ten years by the principal denominations in relation to crime:—

PER CENT RATIOS OF OFFENDERS BY RELIGIONS.

Years.	Anglicans, p.c.	Methodists, p.c.	Presbyterians, p.c.	Baptists, p.c.	Roman Catholics, p.c.
1896	17·5	9·5	7·6	2·9	41·8
1897	17·1	9·2	6·4	2·3	41·5
1898	16·1	9·8	7·5	2·8	41·5
1899	17·2	9·9	7·5	3·1	42·5
1900	15·6	9·5	7·1	3·2	38·8
1901	17·7	10·6	7·4	2·9	39·1
1902	16·2	10·2	7·6	2·9	37·7
1903	15·1	9·6	7·1	2·6	39·2
1904	15·6	9·7	8·0	2·8	39·1
1905	16·3	8·6	7·3	2·5	38·4

The above table shows an average criminality for the ten years mentioned of 16·4 for Anglicans, 9·7 for Methodists, 7·4 for Presbyterians, 2·8 for Baptists and 40·0 for Roman Catholics. According to the last census the position held in Canada by each of the above denominations in relation to population was as follows:—Anglicans, 12·50 per cent, Methodists 17·07, Presbyterians 15·68, Baptists 5·90 and Roman Catholics 41·50.

URBAN AND RURAL OFFENDERS.

Out of the total number of persons convicted 5,785 or 75·88 per cent were urban and 1,084 or 14·22 per cent rural offenders in 1905, as compared with 5,042 or 74·65 per cent urban and 1,056 or 15·63 per cent rural offenders in 1904, the percentage balance for both years being not given.

SUMMARY CONVICTIONS.

These offences consist of assaults, breaches of the peace, cruelty to animals, infractions of various laws, such as liquor license Acts, fishery Acts, game laws, masters and servants Acts, railway Acts, municipal and revenue laws and such other offences as vagrancy, keeping and frequenting bawdy houses, drunkenness, loose, idle and disorderly conduct, etc. The following table gives the number of summary convictions for the years 1905 and 1904:—

derés, contre 60·48 et 27·02 respectivement l'année d'auparavant, la balance du percentage représentant les tempérants et les non donnés. Comme on là déjà fait remarquer, notre rapport contiendrait beaucoup moins de cas de "non donnés" si les officiers chargés de remplir les formules qui leur sont adressées de ce bureau pouvaient donner tous les renseignements requis.

LIEUX DE NAISSANCE.

Du total des délinquants pour la présente année, 61·57 pour cent sont nés au Canada, 11·46 pour cent sont nés en territoire britannique en dehors du Canada, et 15·79 pour cent sont nés en pays étrangers, laissant 11·18 pour cent dont les lieux de naissance ne sont pas donnés, comparativement à 65·00 pour cent nés au Canada, 11·68 pour cent nés en territoire britannique en dehors du Canada, 12·39 pour cent nés en pays étrangers et 10·93 pour cent dont les lieux de naissance ne sont pas donnés pour l'année précédente.

D'aprés le dernier recensement la population des Canadiens de naissance était de 87 pour cent du total de la population, celle des personnes nées en territoire britannique en dehors du Canada, de 7·56 et celles des personnes nées en pays étrangers de 5 18.

RELIGIONS.

Le tableau suivant montre la position occupée par les principales religions durant les dix dernières années par rapport à la criminalité.

PROPORTIONS POUR CENT DES DÉLINQUANTS PAR RELIGIONS.

Années.	Anglicans, p.c.	Méthodistes p.c.	Presbytériens, p.c.	Baptistes, p.c.	Catholiques romains, p.c.
1896	17·5	9·5	7·6	2 9	41·8
1897	17·1	9·2	6·4	2 3	41·5
1898	16 1	9·8	7·5	2·8	41·5
1899	17·2	9·9	7·5	3·1	42·5
1900	15·6	9·5	7·1	3·2	38·8
1901	17·7	10·6	7·4	2·9	39.1
1902	16·2	10·2	7·6	2 9	37·7
1903	15·1	9·6	7·1	2·6	39 2
1904	15·6	9·7	8·0	2 8	39·1
1905	16·3	8·6	7·3	2·5	38·4

Ce tableau donne pour les dix dernières années une moyenne de 16·4 chez les anglicans, de 9·7 chez les méthodistes, de 7·4 chez les presbytériens, de 2·8 chez les baptistes et de 40·0 chez les catholiques. D'après le dernier recensement la proportion pour cent des principales religions nommées plus haut, par rapport au total de la population, était de 12·50 pour les anglicains, de 17·07 pour les méthodistes, de 15·68 pour les presbytériens, de 5·90 pour les baptistes et de 41·50 pour les catholiques.

DÉLINQUANTS DES DISTRICTS URBAINS ET RURAUX.

Plus des trois quarts, ou 75·88 pour cent, des délinquants appartenaient aux districts urbains et 14·22 pour cent aux districts ruraux en 1905, contre 74·65 et 15·63 respectivement en 1904 ; la balance dans les deux cas étant non donnée.

SUMMARY CONVICTIONS IN 1905 AND 1904.

Provinces.	1905.			1904.		
	Males.	Females.	Totals.	Males.	Females.	Totals.
Manitoba	6,507	282	6,789	4,535	355	4,890
The Territories	4,592	268	4,860	3,870	254	4,124
British Columbia	2,396	478	2,874	2,265	604	2,869
Ontario	19,965	1,669	21,634	18,346	1,437	19,783
Nova Scotia	3,965	269	4,234	3,580	239	3,819
New Brunswick	2,359	121	2,480	2,527	97	2,624
Quebec	9,575	2,158	11,733	8,142	1,520	9,662
Prince Edward Island	313	18	331	399	22	421
Canada	49,672	5,263	54,935	43,664	4,528	48,192

From the above it will be seen that the number of summary convictions has increased by 6,743 or 13·99 per cent during the year. Increases are found in Manitoba, the Territories, Ontario, Quebec, Nova Scotia and British Columbia, while New Brunswick and Prince Edward Island show decreases. There were 5,263 females summarily convicted in 1905, as compared with 4,528 the year before, or an increase of 16·18 per cent. Increases in the number of females summarily convicted, are found in Quebec, Ontario, Nova Scotia, New Brunswick and the Territories, while British Columbia, Manitoba and Prince Edward Island show decreases.

The following table shows the summary convictions according to population by provinces :—

NUMBER AND RATIO OF SUMMARY CONVICTIONS.

Provinces.	1905.		1904.	
	No. of summary convictions.	Ratio per 1,000 of population.	No. of summary convictions.	Ratio per 1,000 of population.
Manitoba	6,789	20·57	4,890	16·00
The Territories	4,860	13·53	4,124	15·12
British Columbia	2,874	11·50	2,869	13·21
Ontario	21,634	9·77	19,783	8·97
Nova Scotia	4,234	9·13	3,819	8·25
New Brunswick	2,480	7·39	2,624	7·85
Quebec	11,733	6·81	9,662	5·67
Prince Edward Island	331	3·27	421	4·15
Canada	54,935	9·33	48,192	8·60

As shown by the above, the ratio figures for the western provinces are in every case higher than those from the east, although, as was promised in the last report, some returns have been received from a number of small towns and villages in the eastern provinces from which none had been received before.

CONDAMNATIONS SOMMAIRES.

Ces délits consistent en voies de fait, perturbations de la paix, cruautés envers les animaux, infractions aux lois diverses, telles que lois des licenses de boissons, lois des pêcheries, lois de chasse, lois concernant les maitres et serviteurs, lois des chemins de fer, lois municipales et du revenu, et autres délits tels que vagabondage, tenant, habitant et fréquentant des maisons de désordre, ivresse, conduite déréglée, etc.

Le tableau suivant donne le nombre de condamnations sommaires pour les années 1905 et 1904 par provinces :

CONDAMNATIONS SOMMAIRES EN 1905 ET 1904.

Provinces.	1905.			1904.		
	Hommes.	Femmes.	Totaux.	Hommes.	Femmes.	Totaux.
Manitoba	6,507	282	6,789	4,535	355	4,890
Les Territoires	4,592	268	4,860	3,870	254	4,124
Colombie-Britannique	2,396	478	2,874	2,265	604	2,869
Ontario	19,965	1,669	21,634	18,346	1,437	19,783
Nouvelle-Ecosse	3,965	269	4,234	3,580	239	3,819
Nouveau-Brunswick	2,359	121	2,480	2,527	97	2,624
Québec	9,575	2,158	11,733	8,142	1,520	9,662
Ile du Prince-Edouard	313	18	331	399	22	421
Canada	49,672	5,263	54,935	43,664	4,528	48,192

Tel que l'indique ce tableau, le nombre des condamnations sommaires a augmenté de 6,743 ou de 13·99 pour cent durant l'année. Les augmentations se trouvent dans le Manitoba, les Territoires, Ontario, Québec, la Nouvelle-Ecosse et la Colombie-Britannique, et les diminutions dans le Nouveau-Brunswick et l'Ile du Prince-Edouard. Il y a eu 5,263 femmes condamnées sommairement en 1905 contre 4,528 en 1904, soit une augmentation de 16·18 pour cent. Les provinces montrant les plus fortes augmentations proportionnelles dans le nombre de femmes condamnées sont Québec, Ontario, la Nouvelle-Ecosse, le Nouveau-Brunswick et les Territoires, et celles qui accusent des diminutions sont la Colombie-Britannique, Manitoba et l'Ile du Prince-Edouard.

Le tableau suivant monte les condamnations sommaires proportionnellement à la population par provinces :—

NOMBRE ET PROPORTION DES CONDAMNATIONS SOMMAIRES PAR PROVINCES.

Provinces.	1905.		1904.	
	Nombre de condamnations sommaires.	Proportion par 1,000 de la population.	Nombre de condamnations sommaires.	Proportion par 1,000 de la population.
Manitoba	6,789	20·57	4,890	16·00
Les Territoires	4,860	13·53	4,124	15·12
Colombie-Britannique	2,874	11·50	2,869	13·21
Ontario	21,634	9·77	19,783	8·97
Nouvelle-Ecosse	4,234	9·13	3,819	8·25
Nouveau-Brunswick	2,480	7·39	2,624	7·85
Québec	11,733	6·81	9,662	5·67
Ile du Prince-Edouard	331	3·27	421	4·15
Canada	54,935	9·33	48,192	8·60

Out of the total number of summary convictions in 1905, 21,621 or 39·40 per cent were for drunkenness, as compared with 18,895 or 39·21 per cent in 1904 by provinces as follows:—

NUMBER AND RATIO OF CONVICTIONS FOR DRUNKENNESS.

Provinces.	1905.		1904.	
	Number.	Per cent.	Number.	Per cent.
New Brunswick	1,734	69·92	1,676	63·87
Nova Scotia	2,529	59·73	2,344	61·38
Manitoba	3,544	52·45	2,505	57·22
Prince Edward Island	172	51·96	288	68·41
British Columbia	1,284	45·02	1,288	44·90
Quebec	4,781	40·82	3,986	41·21
The Territories	1,530	31·48	1,343	32·57
Ontario	6,047	27·95	5,465	27·62
Canada	21,621	39·40	18,895	39·21

As shown by the above table the number of convictions for drunkenness in Canada has increased by 14·43 per cent during the year, in the following order:—Manitoba 41·07, Quebec 19·94, The Territories 13·92, Ontario 10·65, Nova Scotia, 7·89, New Brunswick 3·46, Prince Edward Island showing a decrease of 40·28 per cent, and British Columbia of about one third of one per cent.

According to population, the number of convictions for drunkenness by provinces is as follows:—For every thousand inhabitants Manitoba had 10·70 convictions in 1905 and 8·19 in 1904; Nova Scotia 5·45 and 5·06 respectively; New Brunswick 5·17 and 5·01; British Columbia 5·12 and 5·93; the Territories 4·25 and 4·92; Quebec 2·77 and 2·34; Ontario 2·73 and 2·47 and Prince Edward Island 1·70 and 2.84.

The number of females convicted for drunkenness shows an increase of 10·73 per cent during the year and represents 7·30 per cent of the total number of convictions for that offence in 1905, as compared with 7·50 per cent the year before.

BREACH OF STATUTES AND BY LAWS.

The next offence on the list of summary convictions is for breach of Municipal Acts and By-laws, for which 8,743 convictions were returned in 1905 against 5,692 in 1904. Of these, 57·35 per cent in 1905 and 64·20 in 1904 came from Ontario, 16·18 and 12·57 respectively from Manitoba, 12·59 and 10·45 from Quebec, 6·62 and 4·97 from the Territories, 3·18 and 3·27 from Nova Scotia, 3·10 and 3·21 from British Columbia, 0·45 and 1·09 from New Brunswick, and 0·53 and 0·30 from Prince Edward Island.

ASSAULTS.

There were 3,621 convictions for assaults in 1905, as compared with 3,611 the year before, by provinces in the following order:

On voit par le tableau précédent que les chiffres proportionnels sont beaucoup plus élevées dans les provinces de l'ouest que dans celles de l'est, bien que des rapports, promis l'an dernier, aient été reçus cette année d'un certain nombre de petites villes et de villages des provinces de l'est qui n'en avaient jamais envoyé auparavant.

Le nombre de condamnations pour ivresse s'élevait à 21,621 ou 39·40 pour cent du total des condamnations sommaires en 1905, contre 18,895 ou 39·21 pour cent l'année précédente, par provinces dans l'ordre suivant :—

NOMBRE ET PROPORTION DES CONDAMNATIONS POUR IVRESSE.

Provinces.	1905.		1904.	
	Nombre.	Proportion pour cent.	Nombre.	Proportion pour cent.
Nouveau-Brunswick	1,734	69·92	1,676	63·87
Nouvelle-Ecosse	2,529	57·73	2,344	61·38
Manitoba	3,544	52·45	2,505	57·22
Ile du Prince-Edouard	172	51·96	288	68·41
Colombie-Britannique	1,284	45·02	1,288	44·90
Québec	4,781	40.82	3,986	41·21
Les Territoires	1,530	31·48	1,343	32·57
Ontario	6,047	27·95	5,465	27·62
Canada	21,621	39·40	18,895	39·21

On verra par le tableau précédent que le nombre de condamnations pour ivresse dans tout le Canada a augmenté de 14·43 pour cent durant l'année, par provinces dans l'ordre suivant : Manitoba 41.07, Québec 19·94. Les Territoires 13·92, Ontario 10·65, Nouvelle-Ecosse 7·89, Nouveau-Brunswick 3·46 ; l'Ile du Prince-Edouard indique une diminution de 40·28 pour cent et la Colombie-Britannique d'à peu près un tiers de un pour cent.

D'après la population le nombre de condamnations pour ivresse était représenté de la manière suivante dans les différentes provinces, par 1,000 habitants : Manitoba 10·70 en 1905 et 8·19 en 1904, la Nouvelle-Ecosse 5·45 et 5·06, le Nouveau-Brunswick 5·17 et 5·01, la Colombie-Britannique 5·12 et 5·93, les Territoires 4·25 et 4·92, Québec 2·77 et 2·34, Ontario 2·73 et 2·47 et l'Ile du Prince-Edouard 1·70 et 2·84.

Le nombre de femmes condamnées pour ivresse indique une augmentation de 10·73 pour cent durant l'année, et représente 7·30 pour cent du chiffre total des condamnations pour ce délit en 1905, contre 7·50 l'année précédente.

CONTRAVENTIONS AUX LOIS MUNICIPALES.

Le délit venant ensuite est celui des contraventions aux lois municipales dont le nombre de condamnations s'élevait à 8,743 en 1905, contre 5,692 en 1904. De ces chiffres, 57·35, pour cent en 1905 et 64·20 pour cent en 1904 appartenaient à Ontario, 16·18 et 12·57 respectivement au Manitoba, 12·59 et 10 45 à Québec, 6·62 et 4·97 aux Territoires, 3·18 et 3·27 à la Nouvelle-Ecosse, 3·10 et 3·21 à la Colombie-Britannique, 0·45 et 1·09 au Nouveau-Brunswick et 0·53 et 0·30 à l'Ile du Prince-Edouard.

NUMBER OF CONVICTIONS FOR ASSAULTS.

Provinces.	1905.	1904.
Ontario	1,633	1,691
Quebec	760	806
The Territories	539	416
Manitoba	259	204
Nova Scotia	244	250
New Brunswick	105	122
British Columbia	77	113
Prince Edward Island	4	9
Canada	3,621	3,611

As shown by the above figures, slight decreases in the number of summary convictions for assaults during the year are found in all the provinces, except Manitoba and the Territories.

OFFENCES AGAINST LIQUOR LAWS.

There were 3,275 convictions for offences against the liquor license Acts and other liquor laws in 1905, as compared with 3,018 in 1904 as follows :—

NUMBER OF CONVICTIONS FOR OFFENCES AGAINST LIQUOR LAWS.

Provinces.	1905.	1904.
Ontario	861	1,028
Quebec	858	583
Nova Scotia	446	371
The Territories	370	347
New Brunswick	327	375
British Columbia	254	133
Manitoba	85	122
Prince Edward Island	74	59
Canada	3,275	3,018

The above statement shows increases in the number of offenders against the liquor laws in Quebec, Nova Scotia, British Columbia, the Territories and Prince Edward Island, while decreases are found in Ontario, New Brunswick and Manitoba.

VAGRANCY.

There were 4,608 convictions for vagrancy in 1905, as compared with 3,847 in 1904, of which 721 in the former and 566 in the latter year were females. Out of the above number of convictions, Quebec had 2,048 or 44·44 per cent of the whole in 1905, against 1,745 or 45·36 in 1904, with the other provinces in the following order : Ontario 1,502 in 1905 and 1,246 in 1904, the Territories 328 and 281 respectively, Manitoba 308 and 167, British Columbia 285 and 249, Nova Scotia 85 and 66, New Brunswick 46 and 89 and Prince Edward Island 6 and 4. According to the above figures, decreases in the number of vagrants are found only in New Brunswick.

VOIES DE FAIT.

Le nombre de condamnations pour voies de fait était de 3,621 en 1905 contre 3,611 l'année précédente, par province dans l'ordre suivant :—

NOMBRE DE CONDAMNATIONS POUR VOIES DE FAIT.

Provinces.	1905.	1904.
Ontario	1,633	1,691
Québec	760	806
Les Territoires	539	416
Manitoba	259	204
Nouvelle-Ecosse	244	250
Nouveau-Brunswick	105	122
Colombie-Britannique	77	113
Ile du Prince-Edouard	4	9
Canada	3,621	3,611

On voit par le tableau qui précède que le nombre de condamnations pour voies de fait accuse une faible diminution dans toutes les provinces, excepté le Manitoba et les Territoires.

DÉLITS CONTRE LES LOIS DES LICENCES DE BOISSONS.

Il y a eu 3,275 condamnations pour ces délits en 1905 contre 3,018 l'année précédente, comme suit :

CONDAMNATIONS POUR DÉLITS CONTRE LES LOIS DES LICENCES DE BOISSONS.

Provinces.	1905.	1904.
Ontario	861	1,024
Québec	858	583
Nouvelle-Ecosse	446	371
Les Territoires	370	347
Nouveau-Brunswick	327	375
Colombie-Britannique	254	133
Manitoba	85	122
Ile du Prince-Edouard	74	59
Canada	3,275	3,018

Tel que l'indique ce tableau, il y a eu des augmentations dans le nombre de condamnations pour délits contre les lois des licences de boissons dans Québec, la Nouvelle-Ecosse, la Colombie-Britannique, les Territoires et l'Ile du Prince-Edouard, et des diminutions dans Ontario, le Nouveau-Brunswick et Manitoba.

VAGABONDAGE.

Il y a eu 4,608 condamnations pour vagabondage en 1905 contre 3,847 en 1904, dont 721 des premières et 566 des dernières appartenaient au sexe féminin. De ces chiffres, Québec comptait 2,048 ou 44·44 pour cent du total des condamnations pour ce

OFFENCES AGAINST MORALS AND DECENCY.

There were 2,036 convictions for keeping and frequenting bawdy houses in 1905, as compared with 1,984 the year before, of which 1,425 or 69·97 per cent in 1905 and 1,390 or 70·06 per cent in 1904 were females, distributed by provinces in the following order, per 10,000 inhabitants, for 1905: British Columbia 19, the Territories 6, Quebec 5, Manitoba 2, Ontario 2 and New Brunswick 1. Nova Scotia had 1 for every 50,000 inhabitants and Prince Edward Island none.

The convictions for loose, idle and disorderly conduct numbered 2,885 in 1905 as compared with 2,429 the year previous. Out of these convictions Ontario had 2,286 or 79 per cent of the whole in 1905, against 2,112 or 87 per cent of the whole in 1904, the other provinces coming in the following order: Manitoba 244 in 1905 and 152 in 1904, Quebec 193 in 1905 and 56 in 1904, Nova Scotia 62 in 1905 and 23 in 1904, the Territories 57 in 1905 and 72 in 1904, British Columbia 32 in 1905 and none in 1904, Prince Edward Island 7 in 1905 and 11 in 1904, and New Brunswick 4 in 1905 against 3 in 1904.

From the above it will be noticed that the number of convictions for loose, idle and disorderly conduct is almost totally credited to Ontario; the only explanation to this is that the same offence must have been tried under different headings in the other provinces, such, for instance, as breach of the peace, vagrancy, indecent exposure, insulting, obscene and profane language, etc. The same remark may be applied to Quebec with regard to the large number of convictions for vagrancy in that province.

INSANITY CASES.

In the number of summary convictions are included 270 cases of insanity in 1905, as compared with 148 the year before. Out of the 270 cases, 96 were from the Territories, 81 from Ontario, 61 from Quebec, 9 from New Brunswick, 9 from Manitoba, 8 from Nova Scotia, 5 from Prince Edward Island, and 1 from British Columbia in 1905, and out of the 148 cases for 1904, 94 were from the Territories, 48 from Ontario, 5 from New Brunswick and 1 from British Columbia.

SENTENCES UNDER SUMMARY CONVICTIONS.

Out of the total number of persons summarily convicted in 1905, 46,443 or 84·51 per cent were sentenced to the option of a fine, 2,761 or 5·03 per cent were committed without option, and 5,731 or 10·45 per cent had their sentence deferred, &c., as compared with 41,286 or 85·67, 2,359 or 4·90 and 4,547 or 9·43 respectively in 1904.

The amount of fines, costs or damages imposed in 1905 was $388,283, of which $304,311 was paid by the convicted of the several provinces in the following ratios per 100: Quebec, 23·9; Ontario, 23·8; the Territories, 15·8; Manitoba, 10·6; Nova Scotia, 10·5; New Brunswick, 7·5; British Columbia, 6·5, and Prince Edward Island, 1·4. The average fine imposed in each province is as follows: Prince Edward Island, $25.93; the Territories $12.85; New Brunswick, $12.43; British Columbia, $11.50; Quebec, $10.83; Nova Scotia, $9.57; Manitoba, $6.50, and Ontario, $5.15, making a general average of $8.36 for Canada. Of the total amount paid in fines, 33·37 per cent was contributed by offenders against the liquor laws, 21·81 per cent by persons fined for drunkenness and 9·24 per cent by persons keeping or frequenting bawdy houses, the three making 64·42 per cent of total amount of fines paid.

délit en 1905, contre 1,745 ou 45·36 pour cent l'année d'auparavant, les autres provinces venant dans l'ordre suivant : Ontario 1,502 en 1905 et 1,246 en 1904, les Territoires 328 et 281 respectivement, Manitoba 308 et 167, la Colombie-Britannique 285 et 249, la Nouvelle-Ecosse 85 et 66, le Nouveau-Brunswick 46 et 89 et l'Ile du Prince-Edouard 6 et 4. Le nouveau-Brunswick est la seule province qui indique une diminution dans le nembre de condamnation pour vagabondage.

DÉLITS CONTRE LA MORALE.

Le nombre de personnes condamnées pour avoir tenu, habité et fréquenté des maisons de désordre s'élevait à 2,036 en 1905, comparativement à 1,984 l'année d'auparavant, dont 1,425 ou 69·97 pour cent en 1905 et 1,390 ou 70·06 pour cent en 1904 étaient du sexe féminin. Pour chaque 10,000 habitants en 1905, la Colombie-Britannique comptait 19 délinquants contre la morale, les Territoires 6, Québec 5, Manitoba 2, Ontario 2 et le Nouveau-Brunswick 1. La Nouvelle-Ecosse en comptait un pour chaque 50,000 habitants et l'Ile du Prince-Edouard aucun.

Le nombre de personnes condamnées pour conduite déréglée était de 2,885 en 1905, contre 2,429 en 1,904. De ces chiffres, Ontario comptait 2,286 ou 79·0 pour cent en 1905 et 2,112 ou 87·0 pour cent en 1904, les autres provinces venant dans l'ordre suivant : Manitoba 244 et 152 respectivement, Québec 193 et 56, la Nouvelle-Ecosse 62 et 23, les Territoires 57 et 72, la Colombie-Britannique 32 et aucun, l'Ile du Prince-Edouard 7 et 11, et le Nouveau-Brunswick 4 et 3.

Les chiffres qui précèdent indiquent que la presque totalité des personnes condamnées pour conduite déréglée est mise au compte d'Ontario ; l'explication à ceci étant que ces délits ont dû être expédiés sous des en-têtes différents dans les autres provinces, comme par exemple perturbation de la paix, vagabondage, exposition indécente, langage insultant, obscène et profane, etc. La même remarque peut s'appliquer à Québec pour expliquer le chiffre élevé là aussi des cas de vagabondage au compte de cette province.

CAS D'ALIÉNATION MENTALE.

Les condamnations sommaires comprenaient 270 cas d'aliénation mentale en 1905 et 148 l'année d'auparavant. Des 270 cas, 96 étaient des Territoires, 81 d'Ontario, 61 de Québec, 9 du Manitoba, 9 du Nouveau-Brunswick, 8 de la Nouvelle-Ecosse, 5 de l'Ile du Prince-Edouard et un de la Colombie-Britannique, et des 148 cas en 1904, 94 étaient des Territoires, 48 d'Ontario, 5 du Nouveau-Brunswick et un de la Colombie-Britannique.

SENTENCES POUR CONDAMNATIONS SOMMAIRES.

Du nombre total de personnes condamnées sommairement en 1905, 46,443 ou 84·51 pour cent ont été condamnées à l'option entre l'amende et la prison, 2,761 ou 5·03 pour cent ont été emprisonnées sans option, et 5,731 ou 10·45 pour cent ont eu leur sentence remise, etc., comparativement à 41,286 ou 85·67, 2,359 ou 4·90 et 4,547 ou 9·43 pour cent respectivement en 1904.

Le montant des amendes ou dommages imposés en 1905 s'élevait à $388,283, dont $304,311 ont été payées par les délinquants des différentes provinces dans les proportions pour cent suivantes : Québec 23·9, Ontario 23·8, les Territoires 15·8, Manitoba 10·6,

INDICTABLE AND SUMMARY CONVICTIONS.

The following table shows the total number of convictions (indictable and summary) with the number of inhabitants for each conviction, by provinces, in the order of criminality for 1905 compared with 1904:

CRIMINALITY IN RELATION TO POPULATION.

Provinces.	Total convictions.		Population for each conviction.	
	1905.	1904.	1905.	1904.
Manitoba	7,398	5,379	45	57
The Territories	5,429	4,654	66	59
British Columbia	3,472	3,248	72	67
Ontario	24,870	22,817	89	97
Nova Scotia	4,618	4,253	100	109
Quebec	13,798	11,400	125	149
New Brunswick	2,606	2,746	128	122
Prince Edward Island	368	449	274	226
Canada	62,559	54,946	92	102

According to the above table it will be seen that the total number of convictions for Canada has increased by 13·85 per cent during the year, reducing thereby the population for each offender from 102 in 1904 to 92 in 1905.

Manitoba shows an increase of 37·5 per cent in the number of convictions during the year, corresponding to a reduction of 12 in its population per offender, from 57 to 45; in the Territories there was an increase of 14·5 per cent in the number of convictions during the year, but, owing to a still higher rate of increase in population, the number of inhabitants per offender is also increased from 59 in 1904 to 66 in 1905; British Columbia shows an increase of 6·9 per cent in the number of convictions and also an increase of 5 in the number of inhabitants per offender, from 67 to 72; Ontario comes next with an increase of 9 per cent in convictions and a decrease of 8 in the number of inhabitants per offender, from 97 to 89; Nova Scotia shows an increase of 8·6 per cent in convictions and a reduction of 9 in its population per offender, from 109 to 100; in Quebec there is an increase of 21·0 per cent in convictions with a corresponding reduction of 24 in the number of its inhabitants per offender, from 149 to 125; New Brunswick shows a decrease of 5·1 per cent in the number of convictions and a corresponding increase of 6 in the number of inhabitants per offender, from 122 to 128; Prince Edward Island comes last with a decrease of 18·0 per cent in convictions and an increase of 48 in the number of inhabitants per offender, from 226 to 274.

PARDONS AND COMMUTATIONS.

The cases in which the prerogative of mercy has been exercised in 1905 numbered 411, of which 387 were males and 24 females, as compared with 352 in 1904, of which 332 were males and 20 females. Out of the above figures, 218 were liberated under ticket of leave in 1905 against 195 the year before. Six of the 12 death sentences pronounced during the year 1905 were commuted to life imprisonment.

E. H. ST. DENIS,
Secretary.

CENSUS AND STATISTICS OFFICE,
December, 1906.

la Nouvelle-Ecosse 10·5, le Nouveau-Brunswick 7·5, la Colombie-Britannique 6·5 et l'Ile du Prince-Edouard 1·4. La moyenne des amendes imposées dans chaque province est représentée de la manière suivante : l'Ile du Prince-Edouard $25.93, les Territoires $12.85, le Nouveau-Brunswick $12.43, la Colombie-Britannique $11.50, Québec $10.83, la Nouvelle-Ecosse $9.57, le Manitoba $6.50 et Ontario $5.15, soit une moyenne générale $8.36 pour le Canada. Du montant total payé en amendes, 33·37 pour cent a été versé par les délinquants contre les lois des boissons, 21·81 pour cent par les personnes condamnées pour ivresse et 9·24 pour cent par des personnes tenant ou fréquentant des maisons de désordre, soit 64·42 pour cent du montant total pour ces trois délits

CONDAMNATIONS JUSTICIABLES D'UN JURY ET CONDAMNATIONS SOMMAIRES.

Le tableau suivant donne le nombre de condamnations (justiciables d'un jury et sommaires) avec le nombre d'habitants pour chaque condamnation, dans l'ordre de la criminalité pour l'année 1905 comparée avec 1904 :

CRIMINALITÉ PAR RAPPORT A LA POPULATION.

Provinces.	Total des condamnations		Population pour chaque condamnation.	
	1905.	1904.	1905.	1904.
Manitoba	7,398	5,379	45	57
Les Territoires	5,429	4,654	66	59
Colombie-Britannique	3,472	3,248	72	67
Ontario	24,870	22,817	89	97
Nouvelle-Ecosse	4,618	4,253	100	109
Québec	13,798	11,400	125	149
Nouveau-Brunswick	2,606	2,746	128	122
Ile du Prince-Edouard	368	449	274	226
Canada	62,559	54,946	92	102

On voit par les chiffres de ce tableau que le nombre de condamnations pour tout le Canada a augmenté de 13·85 pour cent durant l'année, réduisant ainsi de 10 le chiffre de la population pour chaque délinquant, de 102 en 1904 à 92 en 1905.

La province de Manitoba indique une augmentation de 37·5 pour cent dans le nombre de ses condamnations durant l'année, soit une réduction correspondante de 12 dans le chiffre de sa population pour chaque délinquant, de 57 à 45 ; dans les Territoires il y a eu une augmentation de 14·5 pour cent dans les condamnations, mais, vu le taux encore plus élevé de l'augmentation de sa population, le nombre d'habitants pour chaque délinquant a aussi augmenté de 7, de 59 en 1904 à 66 en 1905. La Colombie-Britannique montre une augmentation de 6·9 pour cent dans les condamnations et une augmentation aussi de cinq dans le chiffre de sa population par délinquant, de 67 à 72 ; Ontario vient ensuite avec une augmentation de 9·0 pour cent dans le nombre de condamnations et une réduction correspondante de huit dans le chiffre de sa population par délinquant, de 97 à 89 ; la Nouvelle-Ecosse accuse une augmentation de 8·6 pour cent dans les condamnations et une réduction de neuf dans le chiffre de sa population par délinquant, de 109

à 100 ; dans la province de Québec il y a eu une augmentation de 21·0 pour cent dans le nombre de condamnations, tandis que le chiffre de la population par délinquant y a diminué de 24 durant l'année, de 149 en 1904 à 125 en 1905 ; le Nouveau-Brunswick indique une diminution de 5·1 pour cent dans les condamnations et une augmentation correspondante de 6 dans le chiffre de sa population par délinquant, de 122 à 128 ; l'Ile du Prince-Edouard clos la liste avec une diminution de 18·0 pour cent dans les condamnations et une augmentation de 48 dans le chiffre de sa population par délinquant, de 226 en 1904 à 274 en 1905.

PARDONS ET COMMUTATIONS.

Le nombre de cas dans lesquels la prérogative de pardon a été exercée durant l'année 1905 s'élevait à 411, dont 387 hommes et 24 femmes, comparativement à 352 en 1904, dont 332 appartenaient au sexe masculin et 20 au sexe féminin. Ces chiffres comprenaient 218 délinquants libérés sur parole (*ticket of leave*) en 1905, contre 195 l'année précédente.

Six des douze sentences de mort prononcées durant l'année 1905 ont été commuées en emprisonnement à vie.

E. H. ST. DENIS,
Secrétaire.

BUREAU DU RECENSEMENT ET DES STATISTIQUES,
Décembre 1906.

TABLE I.

INDICTABLE OFFENCES.

TABLEAU I.

DÉLITS JUSTICIABLES D'UN JURY.

TABLE I. Offences against the person. CLASS I.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	Number of Charges — Nombre d'accusations.	Acquitted. — Acquittés. M.	Acquitted. — Acquittés. F	Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No Option. — Sans option. Under one year. — Moins d'un an.	No Option. — Sans option. One year and over. — Un an et plus.
Murder.											
Queen's, P.E.I.	1	..	..	m1	..	..	..	..	..	..	..
Digby, N.S.	1	..	..	..	1	1	..	..	..	..	..
Carleton, N.B.	a2	..	..	..	1	1	..	..	..	..	..
King's, N.B.	1	1	..	..	..	..	..	..	..	..	..
Montreal, Que.	5	3	1	..	1	1	..	..	..	..	..
Ottawa, Que.	a1	..	..	..	..	..	..	..	..	..	..
Quebec, Que.	2	2	..	..	..	..	..	..	..	..	..
St. Francis, Que.	3	2	..	..	1	1	..	..	..	..	..
Totals of Quebec.	11	7	1	..	2	2	..	..	..	..	..
Algoma & Manitoulin, Ont.	1	..	..	..	1	1	..	..	..	..	..
Brant, Ont.	2	..	..	..	2	1	..	1	..	..	..
Essex, Ont.	2	1	..	..	1	1	..	..	..	..	..
Hastings, Ont.	1	..	1	..	..	..	..	..	..	..	..
Middlesex, Ont.	1	1	..	..	..	..	..	..	..	..	..
Nipissing, Ont.	1	1	..	..	..	..	..	..	..	..	..
Oxford, Ont.	1	..	..	f1	..	..	..	..	..	..	..
Simcoe, Ont.	2	..	2	..	..	..	..	..	..	..	..
Thunder Bay & Rainy River, O.	1	1	..	..	..	..	..	..	..	..	..
Waterloo, Ont.	1	1	..	..	..	..	..	..	..	..	..
York, Ont.	2	..	1	..	1	1	..	..	..	..	..
Totals of Ontario.	15	5	4	1	5	4	..	1	..	..	..
Manitoba, Eastern.	3	3	..	..	..	..	..	..	..	..	..
Vancouver, B.C.	2	..	..	..	2	2	..	..	..	..	..
Victoria, B.C.	2	2	..	..	..	..	..	..	..	..	..
Alberta, Northern, Al'ta.	1	..	..	..	1	1	..	..	..	..	..
Saskatchewan, Saskat.	1	1	..	..	..	..	..	..	..	..	..
Totals of Canada.	40	19	5	2	12	11	..	1	..	..	..
Murder, attempt at											
Montreal, Que.	2	2	..	..	..	..	..	..	..	..	..
Pontiac, Que.	1	..	..	..	1	1	..	..	..	..	..
Quebec, Que.	1	1	..	..	..	..	..	..	..	..	..
Bruce, Ont.	1	..	..	..	1	1	..	..	..	..	..
Halton, Ont.	1	1	..	..	..	..	..	..	..	..	..
Muskoka and Parry Sound, Ont.	1	1	..	..	..	..	..	..	..	..	..
York, Ont.	1	..	..	..	1	1	..	..	..	..	..
Totals of Ontario.	4	2	..	..	2	2	..	..	..	..	..
Vancouver, B.C.	2	2	..	..	..	..	..	..	..	..	..
Yale, B.C.	3	2	..	..	1	1	..	..	..	..	..

a In one case, jury disagreed—Dans un cas, les jurés ne se sont pas accordés.

TABLEAU I. Outrages contre la personne. CLASSE I.

SENTENCE. PENITENTIARY. — PÉNITENCIER.						OCCUPATIONS.						CIVIL CONDITION. — ÉTAT CIVIL.		
Two years and under five. — Deux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie	D'th. — De mort.	Committed to Reformatories — Envoyés à la prison de Réforme.	Other Sentences. — Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels.	Professional — Professions libérales.	Labourers — Journaliers.	Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
Meurtre.														
			*a*1											1
			1			1						1		
			*b*1						1			1		
			*b*1			1						1		
			2			1			1			2		
			*b*1								1			1
			*c*2			1					1			2
			*b*1								1			1
			1						1			1		
			5			1			1		3	1		4
			*d*2											
			1			1								1
			12			4			2		3	4		6
Meurtre, tentative de														
	1										1			1
					*e*1			1						1
	1								1			1		
	1				1			1	1			1		1
1											1	1		

a Sent to insane asylum—Envoyée à l'asile.
b c (1) Death sentence commuted to life imprisonment—Sentence de mort commuée en emprisonnement à vie. *d* One died in jail from illness before date of execution—Un est mort de maladie en prison avant la date de son exécution. *e* Sentence suspended—Sentence suspendue.

TABLE I. Offences against the person. CLASS I.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non-donné.		Moderate. — Modéré	Immoderate. — Immodéré
				M. H.	F	M. H.	F	M. H.	F	M. H.	F	M. H.	F		
Murder.															
Queen's, I. du P.-E															
Digby, N.-E.		1												1	1
Carleton, N.-B.		1								1					1
King's, N.-B.															
Montréal, Qué		1								1					1
Ottawa, Qué															
Québec, Qué															
St. François, Qué		1						1							1
Totaux de Québec		2						1		1					1
Algoma et Manitoulin, Ont		1						1							1
Brant, Ont		2						1		1				1	1
Essex, Ont.		1						1							1
Hastings, Ont															
Middlesex, Ont															
Nipissing, Ont															
Oxford, Ont															
Simcoe, Ont															
Thunder Bay et Rainy Riv., Ont															
Waterloo, Ont															
York, Ont		1						1						1	
Totaux d'Ontario		5						4		1				2	
Manitoba, Est															
Vancouver, Col.-B												2			
Victoria, Col.-B															
Alberta, Nord, Alta	1									1				1	
Saskatchewan															
Totaux du Canada	1	9						5		4		2	1	6	4
Murder, attempt at															
Montréal, Qué															
Pontiac, Qué												1			
Québec, Qué															
Bruce, Ont		1				1								1	
Halton, Ont															
Muskoka et Parry Sound, Ont															
York, Ont		1								1					1
Totaux d'Ontario		2				1				1				1	1
Vancouver, Col.-B															
Yale, Col.-B		1						1							1

TABLEAU I. Outrages contre la personne. CLASSE I.

BIRTH PLACES. — LIEUX DE NAISSANCE							RELIGIONS.						RESIDENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.														
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.	Canada.	United States — Etats Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britannique.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists. — Méthodistes.	Presbyterians. — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns - Villes.	Rural Districts—Districts ruraux.
Meurtre.														
			1					1						1
			1					1						1
					1			1					1	
			1					1						1
			1		1			2					1	1
			1					1					1	
			2									2		2
				1			1						1	
			1								1		1	
			4	1			1	1			1	2	3	2
													1	1
				1				1						1
			7	2	1		1	6			1	2	5	7
Meurtre, tentative de														
			1					1						1
			1					1						1
			1							1			1	
			2					1		1			1	1
1									1				1	

TABLE I. Offences against the person. CLASS I.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	Number of Charges — Nombre d'accusations.	Acquitted. — Acquittés. M.	F	Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No Option. — Sans option. Under one year. — Moins d'un an.	One year and over — Un an et plus.
Murder, attempt at—*Concluded.*											
Alberta, Northern, Al'ta	1			m1							
Alberta, Southern, Al'ta	1				1	1					
Assiniboia, Western, Saskat	2	1			1	1					
Totals of Canada	17	10		1	6	6					
Manslaughter.											
Montreal, Que	5	2			3	3					
Ottawa, Que	2	1			1	1					1
St. Francis, Que	1				1	1				1	
Totals of Quebec	8	3			5	5				1	1
Nipissing, Ont	1				1	1					
Perth, Ont	3	3									
Stormont, D'das & Glengary, O	2	1			1	1				1	
Thunder Bay & Rainy River, O	2				2	2					
Waterloo, Ont	1	1									
York, Ont	1	1									
Totals of Ontario	10	6			4	4				1	
Manitoba, Eastern	3				3	3					2
Alberta, Northern, Al'ta	4	3			1	1					
Alberta, Southern, Al'ta	1				1	1					
Assiniboia, Eastern, Saskat	2	1			1	1					
Assiniboia, Western, Saskat	1	1									
Totals of Canada	29	14			15	15				2	3
Concealing birth of infants.											
Digby, N.S	1				1	1					
Guysborough, N.S	1				1	1					
Grey, Ont	2	1	1								
Kent, Ont	1				1	1					
Leeds and Grenville, Ont	1				1	1				1	
Stormont, D'das & Glengarry, O	1	a1									
Wentworth, Ont	2		1		1	1					1
Totals of Ontario	7	2	2		3	3				1	1
Totals of Canada	9	2	2		5	5				1	1
Abortion and attempt to procure abortion.											
Montreal, Que	1		1								
Wellington, Ont	1	1									
Alberta, Northern, Al'ta	1				1	1			b1		
Totals of Canada	3	1	1		1	1			1		

a Intent to conceal—Intention de suppression. *b* $200 and released on S.S. of 2 years on bonds of $2,000—$200 et libérée sous S.S. de 2 ans sous caution de $2,000.

TABLEAU I. Outrages contre la personne. CLASSE I.

SENTENCE.						OCCUPATIONS.						CIVIL CONDITION. — ÉTAT CIVIL.		
PENITENTIARY. — PÉNITENCIER.														
Two years and under five. — Deux ans et m'ns de cinq	Five years and over. — Cinq ans et plus.	Life. — A vie	D'th. — De mort	Committed to Reformatories. — Envoyés à la prison de Réforme.	Other Sentences. — Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels.	Professional — Professions libérales.	Labourers — Journaliers.	Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
Meurtre, tentative de—*Fin.*														
					*a*1	1								1
1											1			1
2	2				2	1		1	1		3	2		4
Homicide non prémédité.														
2	1										2	1		2
									1			1		
							1							1
2	1						1		1		2	2		3
1											1			
						1						1		
1	1					1					1			2
2	1					2					2	1		2
	1										3	2		1
	1					1								1
1									1					1
	1													
5	5					3	1		2		7	5		8
Suppression d'enfants.														
					*a*1									1
1								1						1
1														
								1						1
											1	1		
1								1			1	1		1
2					1			2			1	1		3
Avortement et tentative d'avortement.														

a Sentence suspended—Sentence suspendue.

TABLE I. Offences against the person. CLASS I.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non donné.		Moderate — Modéré	Immoderate — Immodéré
				M.	F.	M.	F.	M.	F.	M.	F.	M.	F.		
				H.	F.	H.	F.	H.	F.	H.	F.	H.	F.		
Murder, attempt at—*Concluded.*															
Alberta, Nord, Al'ta															
Alberta, Sud, Al'ta		1						1						1	
Assiniboïa, Ouest, Sasket		1						1						1	
Totaux du Canada		5			1			3		1		1		3	2
Manslaughter.															
Montréal, Que	2	1						2	1					2	1
Ottawa, Que		1						1							1
St. François, Qué		1						1						1	
Totaux de Québec	2	3						4	1					3	2
Nipissing, Ont												1			
Perth, Ont															
Storm't, D'das et Gleng'ry, O.		1								1					1
Th'der Bay et Rainy Riv., Ont.	1	1						2							2
Waterloo, Ont															
York, Ont															
Totaux d'Ontario	1	2						2		1		1			3
Manitoba, Est	2	1						2		1				3	
Alberta, Nord, Al'ta		1						1						1	
Alberta, Sud, Al'ta		1						1						1	
Assiniboia, Est, Saskat.												1			
Assiniboia, Ouest, Saskat.															
Totaux du Canada	5	8						10	1	2		2		8	5
Concealing birth of infants.															
Digby, N.-E		1											1	1	
Guysborough, N.-E		1							1					1	
Grey, Ont															
Kent, Ont													1		
Leeds et Grenville, Ont.		1									1			1	
Storm't, D'das et Glengarry, O.															
Wentworth, Ont	1									1					1
Totaux d'Ontario	1	1								1	1		1	1	1
Totaux du Canada	1	3							1	1	1		2	3	1
Abortion and attempt to procure abortion.															
Montréal, Qué															
Wellington, Ont															
Alberta, Nord, Al'ta													1		
Totaux du Canada													1		

TABLEAU I. Outrages contre la personne. CLASSE I.

BIRTH PLACES. — LIEUX DE NAISSANCE.							RELIGIONS.						RESIDENCE	
BRITISH ISLES. — ILES BRITANNIQUES.					Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists — Méthodistes.	Presbyterians. — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.	Canada.	United States — Etats-Unis.											
Meurtre, tentative de—*Fin.*															
			1					1							1
			1								1			1	
1			5					3	1	1	1			3	3
Homicide non prémédité.															
			1		2			3						2	1
			1					1							1
			1					1							1
			3		2			5						2	3
					1			1							
			1								1				1
					2			1					1	1	1
			1		3			2			1		1	1	2
					3								3	3	
				1						1			1	1	1
			4	1	9			7		1	1		5	7	6
Suppression d'enfants.															
			1					1							1
			1							1					1
			1							1					1
			1							1					1
			2							2					2
			4					1		3					4
Avortement et tentative d'avortement.															

TABLE I. Offences against the person. CLASS I.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	Number of Charges — Nombre d'accusations.	Acquitted. — Acquittés. M.	F.	Detained for Lunacy. — Detenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No Option. — SANS OPTION Under one year. — Moins d'un an.	One year and over. — Un an et plus.
Carnally knowing an imbecile woman.											
Grey, Ont.	1				1	1					
Waterloo, Ont.	1	1									
Wellington, Ont.	1	1									
Totals of Ontario & Canada	3	2			1	1					
Deserting child.											
St. John, N.B.	2		1		1	1					
Montreal, Que.	2				2	1		1	1	1	
Brant, Ont.	1		1								
Totals of Canada	5		2		3	2		1	1	1	
Sodomy and bestiality.											
Colchester, N.S.	1	1									
Iberville, Que.	1				1	1				1	
Kamouraska, Que	1				1	1					
Grey, Ont	1				1		1				
Lincoln, Ont.	1	1									
Nipissing, Ont.	2				2	2				1	
Northumberland & Durham, O.	1	1									
Ontario, Ont.	1				1	1					
Peterborough, Ont.	1	1									
Prescott and Russell, Ont.	1				1	1					
Simcoe, Ont.	1				1	1					
Thunder Bay & Rainy River, Ont.	1	1									
York, Ont.	2	1			1	1					
Totals of Ontario	12	5			7	6	1			1	
Westminster, B.C.	2				2	2					2
Yale, B.C	1	1									
Alberta, Southern, Al'ta	1	1									
Assiniboia, Western, Saskat	1	1									
Saskatchewan, Saskat.	1	1									
Totals of Canada	21	10			11	10	1			2	2
Libel.											
Montreal, Que.	2				2	2			1		
Pontiac, Que.	1	1									
York, Ont	1				1	1					
Totals of Canada	4	1			3	3			1		

TABLEAU 1. Outrages contre la personne. CLASSE I.

SENTENCE.						OCCUPATIONS.						CIVIL CONDITION. — ÉTAT CIVIL.		
PENITENTIARY. — PÉNITENCIER.														
Two years and under five. — Deux ans et m'ns de cinq	Five years and over — Cinq ans et plus.	Life. — A vie	D'th. — De mort	Committed to Reformatories. — Envoyés à la prison de Réforme.	Other Sentences. — Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic. — Serviteurs.	Industrial. — Industriels.	Professional — Professions libérales.	Laborers — Journaliers.	Married. — Mariés.	Widowed — En veuvage..	Single — Célibataires.
Commerce charnel avec une imbécile.														
1											1			1
1											1			1
Désertion d'enfants.														
1												1		
												1		1
1												2		1
Sodomie et bestialité.														
											1			1
1											1			1
1											1			1
1											2	1		1
	1										1			1
					a1						1	1		
1									1					1
				1										1
3	1			1	1				1		5	2		5
											2			2
4	1			1	1				1		9	2		9
Libelle.														
					a1		1			1		1		1
					a1				1				1	
					2		1		1	1		1	1	1

a Sentence suspended—Sentence suspendue.

TABLE I. Offences against the person. CLASS I.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non-donné.		Moderate — Modéré	Immoderate — Immodéré
				M. H.	F	M.	F.	M.	F.	M.	F.	M.	F		
Attempt and carnally knowing an imbecile woman.															
Grey, Ont.	1											1		1	
Waterloo, Ont															
Wellington, Ont															
Totaux d'Ont. et du Canada	1											1		1	
Deserting child.															
St. Jean, N.-B		1										1		1	
Montreal, Qué		2						2						1	1
Brant, Ont															
Totaux du Canada		3						2				1		2	1
Sodomy and bestiality.															
Colchester, N.-E															
Iberville, Qué		1						1						1	
Kamouraska, Qué	1							1							1
Grey, Ont												1			1
Lincoln, Ont															
Nipissing, Ont	1	1						2							2
Northumberl'd et Durham, O.															
Ontario, Ont		1				1								1	
Peterborough, Ont															
Prescott et Russell, Ont.	1									1				1	
Simcoe, Ont		1								1				1	
Th'der Bay et Rainy Riv., Ont															
York, Ont		1		1										1	
Totaux d'Ontario	2	4		1		1		2		2		1		4	3
Westminster, Col.-B.		2						2						2	
Yale, Col.-B															
Alberta, Sud, Al'ta															
Assiniboia, Ouest, Saskat.															
Saskatchewan, Saskat.															
Totaux du Canada	3	7		1		1		6		2		1		7	4
Libel.															
Montréal, Qué		1	1					1		1				2	
Pontiac, Qué															
York, Ont		1								1				1	
Totaux du Canada		2	1					1		2				3	

TABLEAU I. Outrages contre la personne. CLASSE I.

BIRTH PLACES. — LIEUX DE NAISSANCE.							RELIGIONS.							RESIDENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.															
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.	Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autres possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists. — Méthodistes.	Presbyterians. — Presbytériens.	Protestants	Other Denominations. — Autres confessions.	Cities and Towns. — Villes.	Rural Districts. — Districts ruraux.
Tentative et commerce charnel avec une imbecile.															
			1									1			1
			1									1			1
Desertion d'enfants.															
			1									1		1	
			1	1				2						2	
			2	1				2				1		3	
Sodomie et bestialité.															
				1				1						1	
			1					1						1	
															1
			2					2						2	
			1							1					1
			1					1						1	
	1							1						1	
					1			1						1	
	1		4		1			5		1				5	2
			1	1										2	
	1		6	2	1			7		1				9	2
Libelle.															
			2					2						2	
			1										1		1
			3					2					1	2	1

TABLE I. Offences against the person. CLASS I.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	Number of Charges — Nombre d'accusations.	Acquitted. — Acquittés. M.	Acquitted. — Acquittés. F	Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No OPTION. — SANS OPTION. Under one year. — Moins d'un an.	One year and over. — Un an et plus.
Rape.											
Colchester, N.S.	1				1			1			
Westmoreland, N.B.	1				1		1			1	
Ottawa, Que.	a1										
Pontiac, Que	1				1	1					
Carleton, Ont.	1	1									
Grey, Ont.	1				1	1					
Kent, Ont.	a1										
Nipissing, Ont.	1	1									
Northumberland & Durham, O.	2				2	2					
Waterloo, Ont.	1			m1							
York, Ont.	2	2									
Totals of Ontario.	9	4		1	3	3					
Manitoba, Eastern	1	1									
Assiniboia, Eastern, Saskat.	2	2									
Assiniboia, Western, Saskat	1	1									
Saskatchewan, Saskat.	1	1									
Totals of Canada	18	9		1	6	4	1	1		1	
Rape, attempt at											
Cape Breton, N.S.	1	1									
Halifax, N.S.	2	1			1	1				1	
Yarmouth, N.S	1				1	1					
Totals of Nova Scotia.	4	2			2	2				1	
Montreal, Que	1				1			1			
Ottawa, Que.	1	1									
St. Francis, Que	2	2									
Totals of Quebec.	4	3			1			1			
Grey, Ont.	1	1									
Perth, Ont.	2				2	2					1
York, Ont.	13	12			1		1				
Totals of Ontario.	16	13			3	2	1				1
Vancouver, B.C.	1				1	1					1
Assiniboia, Western, Saskat	1				1	1					1
Totals of Canada	26	18			8	6	1	1		1	3

a Jury disagreed—Les jurés ne se sont pas accordés.

TABLEAU I. Outrages contre la personne. CLASSE I.

SENTENCE.						OCCUPATIONS.						CIVIL CONDITION. — ÉTAT CIVIL		
PENITENTIARY. — PÉNITENCIER.														
Two years and under five. — Deux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie.	D'th. — De mort	Committed to Reformatories — Envoyés à la prison de Réforme.	Other Sentences. — Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels.	Professional — Professions libérales.	Labourers — Journaliers.	Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
Viol.														
	1							1						1
										1				1
	1					1						1		
	1										1	1		
	2										2			2
	3										3	1		2
	4	1				1			1		4	2		4
Viol, tentative de														
	1										1			1
	1										2			2
1									1			1		
1									1			1		
	1													
	1								1			1		
	2								1			1		
											1			1
1	3								2		3	2		3

TABLE I. Offences against the person. CLASS I.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non-donné.		Moderate — Modéré	Immoderate — Immodéré
				M. — H.	F	M.	F.	M.	F.	M.	F.	M.	F		
Rape.															
Colchester, N.-E		1								1					1
Westmoreland, N.-B		1						1							1
Ottawa, Qué															
Pontiac, Qué		1										1			
Carleton, Ont															
Grey, Ont		1						1						1	
Kent, Ont															
Nipissing, Ont															
Northumberland et Durham, O.		2						2							2
Waterloo, Ont															
York, Ont															
Totaux d'Ontario		3						3						1	2
Manitoba, Est															
Assiniboïa, Est, Saskat															
Assiniboïa, Ouest, Saskat															
Saskatchewan, Saskat															
Totaux du Canada		6						4		1		1		1	4
Rape, attempt at															
Cap-Breton, N.-E															
Halifax, N.-E		1				1								1	
Yarmouth, N.-E		1						1						1	
Totaux de la N.-Ecosse		2				1		1						2	
Montréal, Qué		1								1					1
Ottawa, Qué															
St. François, Qué															
Totaux de Québec		1								1					1
Grey, Ont															
Perth, Ont												2			
York, Ont		1								1					1
Totaux d'Ontario		1								1		2			1
Vancouver, Col.-B												1			
Assiniboia, Ouest, Saskat		1		1										1	
Totaux du Canada		5		1		1		1		2		3		3	2

TABLEAU I. Outrages contre la personne. CLASSE I.

BIRTH PLACES. — LIEUX DE NAISSANCE.							RELIGIONS.							RESIDENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.															
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.	Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists — Méthodistes.	Presbyterians. — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.
Viol.															
....	...	...	1	... ..	...	.....	....	1	...	...	..	.....	....	1	....
....	.....	....	.....	....	1	. ....	....	.....	.....	.....	.....	.....	1	1	... ..
...	...	... ..	.....	....	...	... ..	.....	....	...	...	.....	.....	.....	.....	.....
.....	.....	.....	1	.....	.....	.....	....	. ..	...	.....	... ..	.....	..	.....	1
.....	.....	....	.....	....	...	.....	...	.....	.....	.....	.....	.....	. .	.....	.....
.....	.....	...	1	.....	.....	....	....	.....	.....	1	.....	.....	.....	.....	1
.....	.....	... ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
. .	.....	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	2	.....	... ..	.....	.....	.....	.....	1	1	.....	.....	.....	2
.....	...	...	.....	.....	... ..	.....	.....	.....	...	.....	.....	.....	.....	...	... .
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.	.....	.....
.....	.....	.....	3	.....	....	.....	.....	.....	.....	2	1	.....	.....	.....	3
.....	.....	.....	.....	.. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	...	.....
.....	.....	....	. .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	...
...	.....	.....	.....	... ..	.. ...	.....	.....	. .	.....	.....	.....	.....	.. ..	.. ..	...
.....	.....	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
. .	...	.. ...	5	. .	1	.....	.....	1	. ...	2	1	.....	1	2	4
Viol, tentative de															
... ..	.....	..	.. ..	.....	.....	. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	... ..	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....
. ....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	... .	1
.....	....	.. ...	2	.....	.....	. ..	.....	1	. ..	.. .	.....	.....	1	1	1
.....	.....	.....	1	.....	... ..	.....	.....	1	.....	.....	.....	.....	.. ..	....	1
.....	.....	.. .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	...	.....	.....
.....	.....	.....	.....	.....	. . .	.....	.....	..	.....	.....	.....	.....	.....	.....	.. ..
. .	... .	....	1	....	. ...	.....	.....	1	... ..	.....	.....	.....	...	....	1
.....	.. ...	.....	.....	.....	.	....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	... .	.....	.....	. ...	.....	.....	.....	.....	. .	.....	.....	.....	2
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....
... ..	... ..	.....	1	.....	.....	.....	.....	.....	....	1	.....	.....	.....	1	2
.....	. ..	.....	... .	.	.....	. ..	..	.....	... .	.....	.....	.....	... ..	1	.....
.....	.	.....	.... .	.....	1	.. ..	.....	1	.....	.....	.....	.....	.....	1	....
.....	.....	.....	4	.....	1	.....	.. ...	3	.....	1	.....	.. .	1	4	4

TABLE I. Offences against the person. CLASS I.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	Number of Charges — Nombre d'accusations.	Acquitted. — Acquittés. M.	F	Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No Option. — Sans option Under one year. — Moins d'un an.	One year and over. — Un an et plus.
Indecent assault.											
Cape Breton, N.S.	3			m1	2	2					
Digby, N.S.	1				1	1					
Halifax, N.S.	4	2			2	1	1			1	
Pictou, N.S.	1				1	1					
Totals of Nova Scotia	9	2		1	6	5	1			1	
Queen's, N.B.	1				1	1				1	
St. John, N.B.	2	2									
Arthabaska, Que.	1				1			1			
Bedford, Que.	2	1			1	1					
Montreal, Que.	6				6	4	2		1		1
Ottawa, Que.	1				1	1				1	
Quebec, Que.	2	1			1	1					1
St. Francis, Que.	3				3		2	1	1	1	
St. Hyacinthe, Que.	1				1	1				*a*1	
Totals of Quebec	16	2			14	8	4	2	2	3	2
Brant, Ont.	2	2									
Bruce, Ont.	1	1									
Carleton, Ont.	2	1			1	1				1	
Elgin, Ont.	1	1									
Frontenac, Ont.	1				1	1					1
Grey, Ont.	1	1									
Haldimand, Ont.	4	1			3	1	1	1			
Halton, Ont.	2	1			1	1					1
Hastings, Ont.	5	4			1	1				1	
Huron, Ont.	2	1			1		1			1	
Kent, Ont.	3	1		m1	1	1					1
Lambton, Ont.	1				1	1			1		
Leeds and Grenville, Ont.	2	1			1	1					1
Lennox and Addington, Ont.	1				1	1					1
Middlesex, Ont.	6	3			3	2	1			1	1
Muskoka and Parry Sound, Ont.	2	1		m1							
Nipissing, Ont.	2				2	1	1		1	1	
Northumberland & Durham, O.	1	1									
Peel, Ont.	1	1									
Perth, Ont.	10	6			4	4			2	2	
Peterborough, Ont.	1				1	1				1	
Renfrew, Ont.	1				1	1			1		
Stormont, D'das & Glengarry, O.	1	1									
Thunder Bay & Rainy River, O.	1				1	1				1	
Victoria, Ont.	1				1	1					
Waterloo, Ont.	1	1									
Welland, Ont.	2	2									
Wellington, Ont.	1	1									
York, Ont.	12	7			5	4	1			*b*3	1
Totals of Ontario	71	39		2	30	24	5	1	5	12	7

a One hour in jail and a fine of $500—Une heure de emprisonnement et une amende de $500.
b One to receive 5 lashes—Un, à recevoir 5 coups de fouet.

TABLEAU I. Outrages contre la personne. CLASSE I.

SENTENCE.						OCCUPATIONS.						CIVIL CONDITION. — ETAT CIVIL.		
PENITENTIARY. — PÉNITENCIER.														
Two years and under five. — Deux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie	D'th. — De mort	Committed to Reformatories. — Envoyés à la prison de Réforme.	Other Sentences. — Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels.	Professional — Professions libérales.	Labourers — Journaliers.	Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
Attentat à la pudeur.														
2									2					2
				1							1			1
1									1		1	1		1
1											1			1
4				1					3		3	1		5
							1					1		
					*a*1	1						1		
				1										1
2				1	*a*1		1		2		2	2		4
									1					1
											1			1
					*a*1						3	1		2
										1		1		
2				2	3	1	1		3	1	6	5		9
									1					1
											1			1
3						3								3
											1			1
														1
						1						1		
											1			1
									1					1
											1			1
					*a*1						3	2		1
											2	1		1
							1		2		1			4
									1			1		
											1	1		
					*a*1				1					1
				1							3			4
3				1	2	4	1		6		14	6		21

a Sentence suspended—Sentence suspendue.

TABLE I. Offences against the person. CLASS I.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non-donné.		Moderate — Modéré	Immoderate — Immodéré
				M. — H.	F	M. — H.	F.	M. — H.	F.	M. — H.	F.	M. — H.	F		
Indecent assault.															
Cap-Breton, N.-E.		2						1		1				1	1
Digby, N.-E.		1										1		1	
Halifax, N.-E.		2						1		1				1	1
Pictou, N.-E.		1						1						1	
Totaux de la N.-Ecosse		6						3		2		1		4	2
Queen's, N.-B.												1			
St. Jean, N.-B.															
Arthabaska, Qué.		1								1				1	
Bedford, Qué.	1			1										1	
Montréal, Qué.	2	4		1		2		1		2				1	5
Ottawa, Qué.			1							1					1
Québec, Qué.		1				1									1
St. François, Qué.	2	1				1		1		1					3
St. Hyacinthe, Qué.			1							1				1	
Totaux de Québec	5	7	2	2		4		2		6				4	10
Brant, Ont.															
Bruce, Ont															
Carleton, Ont.		1						1						1	
Elgin, Ont.															
Frontenac, Ont.		1						1							1
Grey, Ont.															
Haldimand, Ont		3				3								3	
Halton, Ont	1					1								1	
Hastings, Ont.	1			1										1	
Huron, Ont.		1								1					1
Kent, Ont.		1				1									1
Lambton, Ont												1			
Leeds et Grenville, Ont	1									1					1
Lennox et Addington, Ont.		1						1							1
Middlesex, Ont	2	1						3						2	1
Muskoka et Parry Sound, O.															
Nipissing, Ont.		2						1		1					2
Northumberl'd et Durham, O.															
Peel, Ont.															
Perth, Ont		4				1		3						2	2
Peterborough, Ont	1									1				1	
Renfrew, Ont.												1			
Storm't, D'das et Gleng'ry, O.															
Th'der Bay et Rainy Riv., O.		1						1						1	
Victoria, Ont.		1						1						1	
Waterloo, Ont															
Welland, Ont.															
Wellington, Ont.															
York, Ont.	1	3		1		2				1		1		1	3
Totaux d'Ontario	7	20		2		8		12		5		3		14	13

TABLEAU I. Outrages contre la personne. CLASSE I.

BIRTH PLACES. — LIEUX DE NAISSANCE.						RELIGIONS.							RESIDENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.														
England and Wales — Angleterre et Galles	Ireland. — Irlande	Scotland. — Ecosse.	Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists — Méthodistes.	Presbyterians. — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.
Attentat à la pudeur.														
1			1					1	1					2	
			1									1		1	
1			1						2					2	
			1				1							1	
2			4				1	1	3			1		6	
														1	
			1					1							1
			1									1			1
1			5							5	1			6	
				1								1		1	
			1					1							1
			3					3						2	1
					1			1						1	
1			11	1	1			6		5	1	2		10	4
			1					1						1	
			1					1						1	
			3										3		3
			1							1					1
			1						1						1
			1							1					1
			1										1	1	
			1							1					1
			3	1				1	1	1				1	2
			1		1			1	1					2	
			4					1	1	1		1		4	
			1						1					1	
			1						1						1
			1							1				1	
			4					2	2					4	
			25	1	1			7	8	7		1	4	17	10

TABLE I. Offences against the person. CLASS I.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	Number of Charges — Nombre d'accusations.	Acquitted. — Acquittés. M.	F	Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No OPTION. — SANS OPTION. Under one year. — Moins d'un an.	One year and over. — Un an et plus.
Indecent assault—*Concluded.*											
Manitoba, Central	2	..	..	..	2	..	1	1	..	..	1
Manitoba, Eastern	6	3	..	..	3	3	..	..	1	1	1
Vancouver, B.C	6	3	..	..	3	3	..	..	..	2	..
Victoria, B.C	*a*5	1	..	..	2	2	..	..	..	*b*1	*c*1
Westminster, B.C	4	1	..	..	3	3	..	..	1	1	..
Totals of British Columbia	15	5	..	..	8	8	..	..	1	4	1
Alberta Northern, Al'ta	1	..	..	..	1	1	..	..	..	..	..
Alberta, Southern, Al'ta	*d*3	2	..	..	..	..	..	..	..	..	..
Assiniboia, Eastern, Saskat	4	2	..	..	2	2	..	..	..	1	1
Assiniboia, Western, Saskat	1	..	..	..	1	1	..	..	..	1	..
Totals of Al'ta and Saskat	9	4	..	..	4	4	..	..	..	2	1
Totals of Canada	131	57	..	3	68	53	11	4	9	24	13
Incest.											
Brant, Ont	2	1	1	..	..	..	..	..	..	..	..
Hastings, Ont	1	1	..	..	..	..	..	..	..	..	..
Huron, Ont	1	..	..	..	1	1	..	..	..	..	..
Vancouver, B.C	1	1	..	..	..	..	..	..	..	..	..
Totals of Canada	5	3	1	..	1	1	..	..	..	..	..
Attempt and carnally knowing a girl of tender years.											
Ottawa, Que	1	..	..	..	1	1	..	..	..	1	..
Quebec, Que	2	1	..	..	1	1	..	..	..	..	..
St. Francis, Que	1	..	..	..	1	1	..	..	..	..	..
Brant, Ont	1	..	..	..	1	1	..	..	..	..	..
Essex, Ont	1	..	..	..	1	1	..	..	..	1	..
Hastings, Ont	3	2	..	..	1	1	..	..	..	1	..
Leeds and Grenville, Ont	1	..	..	..	1	1	..	..	..	..	..
Middlesex, Ont	1	..	..	..	1	1	..	..	..	..	..
Muskoka and Parry Sound, Ont	1	1	..	..	..	..	..	..	..	..	..
Nipissing, Ont	2	2	..	..	..	..	..	..	..	..	..
Northumberland & Durham, O	3	1	..	..	2	2	..	..	..	2	..
Ontario, Ont	1	..	..	..	1	1	..	..	..	*c*1	..
Prescott and Russell, Ont	1	..	..	..	1	1	..	..	..	1	..
Welland, Ont	1	..	..	..	1	1	..	..	..	1	..
York, Ont	3	2	..	..	1	1	..	..	..	..	..
Totals of Ontario	19	8	..	..	11	11	..	..	..	7	..
Manitoba, Eastern	2	..	..	..	2	1	1	..	..	..	..
Manitoba, Western	1	..	..	..	1	1	..	..	..	1	..
Vancouver, B.C	1	..	..	..	1	1	..	..	..	..	..

a One, jury disagreed—Un, les jurés ne se sont pas accordés, & 1, *Nolle prosequi.* *b* And 12 lashes—Et 12 coups de fouet. *c* And 20 lashes—Et 20 coups de fouet. *d* 1, *Nolle prosequi.* *e* And 15 lashes—Et 15 coups de fouet.

TABLEAU I. Outrages contre la personne. CLASSE I.

SENTENCE.						OCCUPATIONS.						CIVIL CONDITION. — ÉTAT CIVIL.		
PENITENTIARY. — PÉNITENCIER.														
Two years and under five. — Deux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie	D'th. — De mort	Committed to Reformatories. — Envoyés à la prison de Réforme.	Other Sentences. — Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels.	Professional — Professions libérales.	Labourers — Journaliers.	Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
Attentat à la pudeur—*Fin.*														
*1							2							2
							1				1			2
					*a*1									
									1					2
1							2		1			2		1
1					1		2		2			2		3
					*a*1	1								
						1								1
					1	2								1
11				4	7	7	8		14	1	24	15		43
Inceste.														
	*d*1					1						1		
	1					1						1		
Tentative et commerce charnel avec une fille en bas âge.														
						1						1		
1											1			1
					*a*1						1			1
		*b*1									1			1
							1							1
									1					1
1						1								1
	1										1		1	
						2						2		
														1
						1						1		
						1								1
				1										1
1	1	1		1		5	1		1		2	3	1	7
1	1								2					2
							1							1
	*c*1										1			1

* And whipping—Et à être fouetté.
a Sentence suspended—Sentence suspendue. *b* And 75 lashes—Et 75 coups de fouet.
c And 20 lashes—Et 20 coups de fouet. *d* And three whipping—Et à être fouetté trois fois.

TABLE I. Offences against the person. CLASS I.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non-donné.		Moderate — Modéré	Immoderate — Immodéré
				M. — H.	F	M. — H.	F.	M. — H.	F.	M. — H.	F.	M. — H.	F		
Indecent assault—*Concluded.*															
Manitoba, Centre			2									2			
Manitoba, Est		2						1		1		1		1	1
Vancouver, Col.-B.												3			
Victoria, Col.-B.		2		1		1								2	
Westminster, Col.-B.		3						2				1		2	1
Totaux de la Col.-Britann.		5		1		1		2				4		4	1
Alberta, Nord, Al'ta.		1										1			
Alberta, Sud, Al'ta.															
Assiniboia, Est, Saskat.												2			
Assiniboia, Ouest, Saskat.		1								1				1	
Totaux d'Al'ta et de Saskat		2								1		3		1	
Totaux du Canada	12	42	4	5		13		20		15		15		28	27
Incest.															
Brant, Ont.															
Hastings, Ont.															
Huron, Ont.	1									1					1
Vancouver, Col.-B.															
Totaux du Canada	1									1					1
Attempt and carnally knowing a girl of tender years.															
Ottawa, Qué	1							1						1	
Québec, Qué.	1							1							1
St. François, Qué.	1					1								1	
Brant, Ont.		1								1					1
Essex, Ont.		1				1								1	
Hastings, Ont.		1						1						1	
Leeds et Grenville, Ont.	1									1					1
Middlesex, Ont.		1								1				1	
Muskoka et Parry Sound, Ont.															
Nipissing, Ont.															
Northumberl'd et Durham, O.		2						1		1				2	
Ontario, Ont.		1		1										1	
Prescott et Russell, Ont.		1								1				1	
Welland, Ont.		1				1								1	
York, Ont.		1		1										1	
Totaux d'Ontario.	1	10		2		2		2		5				9	2
Manitoba, Est.		2						2						2	
Manitoba, Ouest.	1					1								1	
Vancouver, Col.-B.		1						1							

TABLEAU I. Outrages contre la personne. CLASS I.

BIRTH PLACES. — LIEUX DE NAISSANCE.							RELIGIONS.								RESIDENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.			Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists. — Méthodistes.	Presbyterians. — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.													
Attentat à la pudeur—*Fin.*															
2									2					2	
1	1							1	1					1	
														3	
			2							2				2	
			2		1			1				1		1	2
			4		1			1		2		1		6	2
			1					1							1
				1								1			1
		1	1	1				1				1			2
6	1		45	3	3		1	17	14	14	1	6	4	44	18
Inceste.															
			1							1					1
			1							1					1
Tentative et commerce charnel avec une fille en bas âge.															
			1					1							1
			1					1						1	
			1					1							
	1								1						1
			1								1			1	
			1							1					1
1										1				1	
			2							2					2
			1							1				1	
			1					1							1
1									1						1
				1					1					1	
2	1		7	1				1	3	5	2			4	7
			2						2					2	
			1									1		1	
1									1					1	

TABLE I. Offences against the person. CLASS I.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	Number of Charges — Nombre d'accusations	Acquitted. — Acquittés. M.	F	Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	NO OPTION. — SANS OPTION Under one year. — Moins d'un an.	One year and over. — Un an et plus.
Attempt and carnally knowing a girl of tender years—*Concluded.*											
Assiniboia, Eastern, Saskat.	2	..	..	..	2	2	..	..	..	..	..
Assiniboia, Western, Saskat.	2	1	..	..	1	1	..	..	..	*b*1	..
Totals of Canada	31	10	..	..	21	20	1	..	..	10	..
Seduction.											
Montreal, Que.	1	..	..	..	1	1	..	..	..	*a*1	..
Ottawa, Que.	1	1	..	..	..	..	..	..	..	..	..
St. Francis, Que.	1	1	..	..	..	..	..	..	..	..	..
Algoma and Manitoulin, Ont.	1	1	..	..	..	..	..	..	..	..	..
Brant, Ont.	1	1	..	..	..	..	..	..	..	..	..
Bruce, Ont	1	..	..	..	1	1	..	..	..	1	..
Carleton, Ont.	3	2	..	..	1	1	..	..	..	..	..
Essex, Ont	1	..	..	..	1	1	..	..	..	..	..
Middlesex, Ont.	2	2	..	..	..	..	..	..	..	..	..
Norfolk, Ont	1	1	..	..	..	..	..	..	..	..	..
Oxford, Ont.	2	1	..	..	1	1	..	..	..	..	..
Perth, Ont	1	..	..	..	1	1	..	..	..	..	..
Simcoe, Ont.	1	..	..	..	1	..	1	..	..	..	..
Victoria, Ont.	2	1	..	..	1	1	..	..	..	..	1
Welland, Ont.	1	1	..	..	..	..	..	..	..	..	..
Wentworth, Ont.	1	..	..	..	1	..	1	..	..	..	1
York, Ont.	1	..	..	..	1	1	..	..	..	..	..
Totals of Ontario	19	10	..	..	9	7	2	..	..	1	2
Manitoba, Central	1	1	..	..	..	..	..	..	..	..	..
Vancouver, B.C.	1	1	..	..	..	..	..	..	..	..	..
Victoria, B.C	1	1	..	..	..	..	..	..	..	..	..
Totals of Canada	25	15	..	..	10	8	2	..	..	2	2
Abduction.											
Bedford, Que	1	1	..	..	..	..	..	..	..	..	..
Montreal, Que.	1	..	..	..	1	..	1	..	..	1	..
Brant, Ont.	2	2	..	..	..	..	..	..	..	..	..
Essex, Ont	1	1	..	..	..	..	..	..	..	..	..
Frontenac, Ont	1	..	..	..	1	1	..	..	..	1	..
Haldimand, Ont	2	..	..	..	2	1	1	..	..	1	..
Muskoka and Parry Sound, Ont.	2	1	..	..	1	1	..	..	..	..	..
Peel, Ont.	1	..	..	..	1	1	..	..	..	1	..
York, Ont.	1	1	..	..	..	..	..	..	..	..	..
Totals of Ontario	10	5	..	..	5	4	1	..	..	3	..
Manitoba, Eastern	1	..	..	..	1	1	..	..	..	..	..
Vancouver, B.C.	1	1	..	..	..	..	..	..	..	..	..

a And $50 or 6 months more—Et $50 ou 6 mois de plus. *b* And 10 lashes—Et 10 coups de fouet.

TABLEAU I. Outrages contre la personne. CLASSE I.

SENTENCE.						OCCUPATIONS.						CIVIL CONDITION. — ÉTAT CIVIL.		
PENITENTIARY. — PÉNITENCIER.														
Two years and under five. — Deux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie	D'th. — De mort	Committed to Reformatories. — Envoyés à la prison de Réforme.	Other Sentences. — Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels.	Professional — Professions libérales.	Labourers — Journaliers.	Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
Tentative et commerce charnel avec une fille en bas âge—*Fin.*														
*c*1	*d*1						1							1
4	4	1		1	1	6	3		3		5	4	1	14
Séduction.														
											1			1
									1					1
					*a*1						1			1
					*a*1						1			1
					*c*1	1								1
					*a*1		1							1
					*a*1						1			1
						1								1
											1	1		
					*a*1				1					1
					6	2	1		2		4	1		8
					6	2	1		2		5	1		9
Enlèvement.														
											1			1
											1	1		
1				1		1					1			2
											1			1
1				1		1					3	1		3
					*b*1				1					1

a Sentence suspended—Sentence suspendue. *b* Reprimanded—Réprimandé. And to receive, *c* 6, *d* 9 lashes—Et à recevoir, *c* 6, *d* 9 coups de fouet. *e* Convicted, but acquitted on marrying the girl —Condamné, mais acquitté en mariant la fille.

TABLE I. Offences against the person. CLASS 1.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE	EDUCATIONAL STATUS. — INSTRUCTION.			AGES										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non-donné.		Moderate — Modéré	Immoderate — Immodéré
				M. H.	F	M. H.	F.	M. H.	F.	M. H.	F.	M. H.	F		
Attempt and carnally knowing a girl of tender years—*Concluded*.															
Assiniboia, Est, Saskat												2			
Assiniboia, Ouest, Saskat			1							1				1	
Totaux du Canada	5	13	1	2		4		7		6		2		15	3
Seduction.															
Montréal, Qué	1							1							1
Ottawa, Qué															
St. François, Qué															
Algoma et Manitoulin, Ont															
Brant, Ont															
Bruce, Ont		1						1						1	
Carleton, Ont		1						1							1
Essex, Ont		1				1								1	
Middlesex, Ont															
Norfolk, Ont															
Oxford, Ont		1						1						1	
Perth, Ont		1						1							1
Simcoe, Ont		1						1						1	
Victoria, Ont		1										1		1	
Welland, Ont															
Wentworth, Ont	1									1					1
York, Ont		1				1								1	
Totaux d'Ontario	1	8				2		5		1		1		6	3
Manitoba, Centre															
Vancouver, Col.-B															
Victoria, Col.-B															
Totaux du Canada	2	8				2		6		1		1		6	4
Abduction.															
Bedford, Qué															
Montréal, Qué		1								1					1
Brant, Ont															
Essex, Ont															
Frontenac, Ont		1						1							1
Haldimand, Ont		2						2							2
Muskoka et Parry Sound, O													1		
Peel, Ont		1				1								1	
York, Ont															
Totaux d'Ontario		4				1		3				1	1		3
Manitoba, Est		1						1						1	
Vancouver, Col.-B															

TABLEAU I. Outrages contre la personne. CLASSE I.

BIRTH PLACES. — LIEUX DE NAISSANCE.							RELIGIONS.							RESIDENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.															
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.	Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists — Méthodistes.	Presbyterians — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.

Tentative et commerce charnel avec une fille en bas âge—*Fin.*

			1								1				1
3	1		14	1			4	6	5	3	1		9	10

Séduction.

			1				1								1
			1							1				1	
			1				1							1	
			1						1						1
			1												1
			1							1				1	
			1							1					1
			1												1
		1								1					1
		1	8				2		3	3			3		6
		1	9				3		3	3			3		7

Enlèvement.

							1								
			1											1	
			1								1				1
			2						2						2
			1												1
1										1					1
1			4						2	1	1		1		4
1								1					1		

TABLE I. Offences against the person. CLASS I.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE	Number of Charges — Nombre d'accusations.	Acquitted. — Acquittés. M.	F	Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No option. — SANS OPTION. Under one year. — Moins d'un an.	One year and over. — Un an et plus.
Abduction—*Concluded.*											
Alberta, Southern, Al'ta	1	1									
Totals of Canada	15	8			7	5	2			4	
Shooting, stabbing and wounding with intent.											
Cape Breton, N.S.	2				2	2					
Colchester, N.S.	1				1		1				
Halifax, N.S	3		1		2	2					
Queen's, N.S.	2	1			1	1					
Totals of Nova Scotia	8	1	1		6	5	1				
Westmoreland, N.B.	a2	1									
York, N.B.	1				1	1				1	
Montreal, Que.	14	5			9	9			5	2	
Quebec, Que.	2	2									
Three Rivers, Que.	3	2			1	1				1	
Totals of Quebec	19	9			10	10			5	3	
Algoma and Manitoulin, Ont.	1				1	1			1		
Brant, Ont.	3	2	1								
Bruce, Ont	1				1	1				1	
Carleton, Ont.	3	2			1	1				1	
Dufferin, Ont.	2				2	2					
Essex, Ont	1				1			1			
Frontenac, Ont.	1				1	1				1	
Hastings, Ont.	1	1									
Kent, Ont.	1	1									
Lennox and Addington, Ont.	1	1									
Lincoln, Ont.	2			m1	1	1					
Middlesex, Ont	4		1		3	3			3		
Muskoka and Parry Sound, Ont	1	1									
Nipissing, Ont	1				1	1					1
Oxford, Ont	1	1									
Peel, Ont.	2				2	1	1				
Perth Ont.	18	3			15	15			7	2	
Peterborough, Ont.	1				1	1				1	
Renfrew, Ont.	1				1	1					
Stormont, D'das & Glengarry, O.	1				1	1					1
Thunder Bay & Rainy River, O.	2				2	1	1				
Victoria, Ont	1	1									
Waterloo, Ont.	1				1	1					
Welland, Ont.	1	1									
Wellington, Ont.	2			m2							
Wentworth, Ont	5	1	1		3	3			1		2
York, Ont.	31	13	1		17	13	2	2	4	6	
Totals of Ontario	90	28	4	3	55	48	4	3	16	12	4

a One case, jury disagreed—Un cas, les jurés ne se sont pas accordés.

TABLEAU I. Outrages contre la personne CLASSE I.

SENTENCE.						OCCUPATIONS.						CIVIL CONDITION. — ÉTAT CIVIL.		
PENITENTIARY. — PÉNITENCIER.														
Two years and under five. — D'ux ans et m'ns de cinq.	Five years and ov r. — Cinq ans et plus.	Life. — A vie	D'th. — De mort	Committed to Reformatories — Envoyés à la prison de Réforme.	Other Sentences. — Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels.	Professional — Professions libérales.	Laborers — Journaliers.	Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
Enlèvement—*Fin.*														
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1	.....	..	.....	1	1	1	...	.....	1	.....	4	1	....	5
Usage d'armes avec intention criminelle.														
1	1	.....	..	.....	.....	.....	1	.....	.....	....	1	1	.....	1
1	...	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	...	1
1	.....	...	..	.....	*a*1	.	....	1	.....	.....	.....	1	....	1
1	.....	...	.....	.....	..	.....	.....	. .	.....	..	1	.....	.....	1
4	1	.....	.....	.....	1	.....	2	1	.....	.....	2	2	....	4
.....	...	.....	..	.....	....	...	.....	...	....	.....	.....	..	...	.....
.....	....	...	.....	....	.....	1	.....	.....	.....	.....	.....	.....	....	1
.....	1	.....	.....	1	.....	.....	....	.....	2	.....	6	4	.....	5
.....	.....	...	.....	.....	.....	.....	.....	.....	...	.....	.....	...	...	...
.....	.....	.....	.....	.....	.....	...	.....	....	.....	....	1	1	...	...
.....	1	...	....	1	.....	.....	.....	.....	2	..	7	5	.....	5
.....	.....	.....	.....	..	.....	.....	....	....	.....	.....	1	1	..	...
.....	.....	....	..	.....	.....	.....	..	....	.....	.....	.....	...	...	.....
.....	.....	.....	.....	.....	.....	.....	.....	....	1	.....	.....	1	....	...
.....	.....	.....	..	....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
.....	1	.....	....	.....	*b*2	....	.....	.....	.....	.....	.....	...	...	2
.....	..	.....	.....	.....	.....	...	.....	.....	.....	.....	1	.....	.....	1
.....	.....	.....	.....	.....	.....	...	.....	.....	.....	.....	1	1	...	.....
.....	.....	.....	...	..	.....	...	...	.....	.....	.....	....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
..	.....	.....	....	....	*a*1	...	.....	.....	...	...	1	1	...	.....
..	...	.....	.....	..	.....	.....	1	...	.	.....	2	3	...	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	...	...	...	.....
.....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	...	...	...	.....
.....	.....	.....	.....	.....	*a*2	1	.....	..	..	....	1	1	.....	1
.....	.....	.....	..	.....	*a*6	...	1	.....	7	.....	6	4	.....	11
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	..
.....	.....	.....	.....	....	*a*1	.....	.....	.....	.....	.....	1	.....	.....	1
.....	.....	....	.....	.....	.....	.....	.....	.....	....	.....	1	.....	....	1
1	1	.....	.....	....	.....	....	.....	.....	.....	.....	2	2	....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	1	.....	....	... ..	.. ....	.....	....	. .	.....	.....	1	.....	.....	1
...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	...
.....	.....	..	.....	.....	.....	...	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	..	.....	.....	.....	.....	.. ..	.....	2	.....	1	.....	.....	3
3	2	.....	.....	.....	*a*2	.....	.....	.....	.....	2	14	4	....	13
4	5	.....	.....	...	14	1	2	.....	10	2	36	19	....	35

a Sentence suspended—Sentence suspendue. *b* Bound to keep the peace—Tenus de garder la paix.

TABLE I. Offences against the person. CLASS I.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non-donné.		Moderate — Modéré	Immoderate — Immodéré
				M.	F	M.	F.	M.	F.	M.	F.	M.	F		
				H.	F	H.	F.	H.	F.	H.	F.	H.	F		
Abduction—*Concluded.*															
Alberta, Sud, Alta															
Totaux du Canada		6				1		4		1			1	2	4
Shooting, stabbing and wounding with intent.															
Cap-Breton, N.-E.		2						2						2	
Colchester, N.-E.		1						1							1
Halifax, N.-E.		2				1			1					2	
Queen's, N.-E.		1				1								1	
Totaux de la N.-Ecosse		6				2		3	1					5	1
Westmoreland, N.-B.															
York, N.-B.		1		1										1	
Montréal, Qué.	5	4		1		2		4		2				2	7
Québec, Qué.															
Trois-Rivières, Qué.		1						1						1	
Totaux de Québec	5	5		1		2		5		2				3	7
Algoma et Manitoulin, Ont.		1						1							1
Brant, Ont															
Bruce, Ont		1								1					1
Carleton, Ont.		1						1						1	
Dufferin, Ont.	1	1		2										2	
Essex, Ont		1						1							1
Frontenac, Ont		1								1				1	
Hastings, Ont.															
Kent, Ont															
Lennox et Addington, Ont															
Lincoln, Ont.		1								1					1
Middlesex, Ont.	1	2						1		2				2	1
Muskoka et Parry Sound, Ont.															
Nipissing, Ont												1			
Oxford, Ont.															
Peel, Ont		2						2						2	
Perth, Ont		15		1		2		11		1				7	8
Peterborough, Ont.	1							1							1
Renfrew, Ont.	1							1						1	
Stormt, D'das et Glengry, O.		1				1								1	
Thunder Bay, Ont.		2						2							2
Victoria, Ont															
Waterloo, Ont		1						1							1
Welland, Ont															
Wellington, Ont.															
Wentworth, Ont.		3				1		2						1	2
York, Ont.	2	13	2					14	1	2				15	2
Totaux d'Ontario	6	46	2	3		4		38	1	8		1		33	21

TABLEAU I. Outrages contre la personne. CLASSE I.

BIRTH PLACES. — LIEUX DE NAISSANCE.							RELIGIONS.							RESIDENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.															
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.	Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists — Méthodistes.	Presbyterians. — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns Villes.	Rural Districts—Districts ruraux.

Enlèvement—*Fin.*

2			5					1	1	2	1	1		3	4

Usage d'armes avec intention criminelle.

				1	1							1	1	2	
			1								1				1
			1			1		2						2	
					1			1						1	
			2	1	2	1		3			1	1	1	5	1
			1									1			1
			4	1	4			8				1		9	
			1					1						1	
			5	1	4			9				1		10	
					1								1		1
			1										1	1	
			1					1						1	
			2						2					2	
			1						1					1	
			1						1					1	
	1							1						1	
			3						1	2				2	1
					1			1						1	
			2						1	1					2
2			12		1			4	3	6	1		1	15	
					1			1						1	
			1					1							1
			1						1						1
					2			2							2
			1					1						1	
			3					1				2		3	
	2		7		8		1	10	6					17	
2	3		36		14		1	23	16	9	1	2	3	47	8

TABLE I. Offences against the person. CLASS I.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	Number of Charges — Nombre d'accusations.	Acquitted. — Acquittés. M.	F	Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No Option. — SANS OPTION — Under one year. — Moins d'un an.	One year and over. — Un an et plus.
Shooting, stabbing and wounding with intent—*Concluded.*											
Manitoba, Eastern	25	8			17	14	2	1	3	6	1
Manitoba, Western	2				2	2			2		
Vancouver, B.C	3	1			2	2					2
Victoria, B.C	5	1			4	4					
Westminster, B.C.	3				2	2				1	
Yale, B.C.	2	1			1	1					1
Totals of British Columbia	12	3			9	9				1	3
Alberta Northern, Alta	1	1									
Assiniboia, Eastern, Saskat.	2		1		1	1					
Assiniboia, Western, Saskat.	3	1			2	2				1	
Saskatchewan, Saskat	1	1									
Yukon	2		1		1	1					
Totals of Canada	168	53	7	3	104	93	7	1	26	24	8
Endangering the safety of passengers on railways.											
Cape Breton, N.S.	1				1	1					
Colchester, N.S.	1				1		1			1	
St. John, N.B.	1	1									
Kamouraska, Que.	1				1	1					
Montreal, Que.	3				3	3					
Quebec, Que.	2	2									
Brant, Ont	2	2									
Haldimand, Ont	1				1			1		1	
Nipissing, Ont	2	1			1	1				1	
Peterborough, Ont.	1				1	1				1	
Prescott and Russell, Ont.	1				1	1				1	
Thunder Bay & Rainy River, O.	2				2	2				2	
Wellington, Ont.	1				1	1					
Wentworth, Ont	2				2	1	1				
Totals of Ontario	12	3			9	7	1	1		6	
Manitoba, Eastern	3				3	3			1		
Westminster, B.C.	1				1	1					
Assiniboia, Western, Saskat.	1	1									
Totals of Canada	26	7			19	16	2	1	1	7	
Bigamy.											
Halifax, N.S.	1		1								

TABLEAU I. Outrages contre la personne. CLASSE I.

SENTENCE.						OCCUPATIONS.						CIVIL CONDITION. — ÉTAT CIVIL.		
PENITENTIARY. — PÉNITENCIER.														
Two years and under five. — Deux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie	D'th. — De mort	Committed to Reformatories. — Envoyés à la prison de Réforme.	Other Sentences. — Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels.	Professional — Professions libérales.	Laborers — Journaliers.	Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
Usage d'armes avec intention criminelle—*Fin.*														
2	1	.....	.....	.....	*a*3. *b*1	.....	1	.....	2	.....	13	5	.....	12
.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	1	.....	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
2	1	.....	.....	.....	*a*1	.....	2	.....	1	.....	1	1	.....	3
1	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	1	.....	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
3	1	.....	.....	.....	1	2	2	.....	1	.....	1	3	.....	4
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	*b*1	1	.....	.....	.....	.....	1	1	.....	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	*a*1	.....	.....	.....	.....	.....	.....	.....	.....	1
14	9	.....	.....	1	22	7	7	1	15	2	60	36	.....	64
Exposant au péril les passagers sur les chemins de fer.														
1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	.....	*a*3	.....	.....	.....	.....	.....	.....	.....	.....	2
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	2
.....	.....	.....	.....	.....	*a*1	1	.....	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
.....	.....	.....	.....	2	1	1	.....	.....	1	.....	5	2	.....	7
.....	.....	.....	.....	.....	*a*2	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	*a*1	.....	.....	.....	1	.....	.....	1	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1	.....	.....	.....	3	7	1	.....	.....	3	.....	6	3	.....	12
Bigamie.														
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

a Sentence suspended—Sentence suspendue. *b* Bound to keep the peace—Tenus de garder la paix.

TABLE I. Offences against the person. CLASS I.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non donné.		Moderate — Modéré	Immoderate — Immodéré
				M. H.	F	M. H.	F.	M. H.	F.	M. H.	F.	M. H.	F		
Shooting, stabbing and wounding with intent.—*Concluded.*															
Manitoba, Est	3	14		1		5		10		1				14	3
Manitoba, Ouest		2						1		1				1	1
Vancouver, Col.-B.												2			
Victoria, Col.-B.	1	3						2		2				2	2
Westminster, Col.-B.	1	1										2			2
Yale, Col.-B.		1							1						1
Totaux de la Col.-Britain.	2	5						2	1	2		4		2	5
Alberta, Nord, Al'ta												1			
Assiniboia, Est, Saskat															
Assiniboia, Ouest, Saskat		2						1		1				2	
Saskatchewan, Saskat															
Yukon		1		1											1
Totaux du Canada	16	82	2	7		13		60	3	15		6		61	39
Endangering the safety of passengers on railways.															
Cap-Breton, N.-E.		1						1							1
Colchester, N.-E.		1				1								1	
St. Jean, N.-B.															
Kamouraska, Qué.	1			1										1	
Montréal, Qué.		2		1		1						1		2	
Québec, Qué.															
Brant, Ont.															
Haldimand, Ont	1							1							1
Nipissing, Ont.		1						1							1
Peterborough, Ont		1						1							1
Prescott et Russell, Ont.		1				1								1	
Th'der Bay et Rainy Riv., O.		2						2						2	
Wellington, Ont.		1						1						1	
Wentworth, Ont.		2		2										2	
Totaux d'Ontario.	1	8		2		1		6						6	3
Manitoba, Est												3			
Westminster, Col.-B.		1								1					1
Assiniboia, Ouest, Saskat.															
Totaux du Canada.	2	13		4		3		7		1		4		10	5
Bigamy.															
Halifax, N.-E.															

TABLEAU I. Outrages contre la personne. CLASSE I.

BIRTH PLACES. — LIEUX DE NAISSANCE.							RELIGIONS.							RESIDENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.															
England and Wales — Angleterre et Galles	Ireland. — Irlande	Scotland. — Ecosse.	Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's posses sions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists — Méthodistes.	Presbyterians. — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.
Usage d'armes avec intention criminelle—*Fin.*															
.....	1	1	1	1	13	..	....	8	.....	1	3	5	...	16	1
.....	..	.....	2	.....	.....	.....	.....	.....	.....	1	1	.....	.....	...	2
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....
.....	.....	.....	1	1	1	1	.....	.....	.....	1	.....	2	1	3	1
..	....	.....	1	.....	.....	.....	...	.....	.....	.....	.....	.....	.....	1	1
.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....
.....	.....	.....	2	2	1	1	.....	.....	.....	1	.....	2	2	7	2
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	1	.....	1	.....	.....	1	.....	1	.....	.....	.....	.....	2
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
2	4	1	51	5	35	2	1	44	17	13	6	12	6	85	18
Exposant au péril les passagers sur les chemins de fer.															
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....
.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	2	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	2
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	2	.....	2
.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
.....	.....	.....	2	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	2	.....
.....	.....	.....	7	.....	2	.....	.....	1	3	2	1	.....	2	3	6
.. .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1	.....	.....	12	.....	2	.....	.....	5	5	2	1	.....	2	6	9
Bigamie.															
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

TABLE I. Offences against the person. CLASS I.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	Number of Charges — Nombre d'accusations	Acquitted. — Acquittés. M.	Acquitted. — Acquittés. F	Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No OPTION. — SANS OPTION Under one year. — Moins d'un an.	One year and over. — Un an et plus.
Bigamy—*Concluded.*											
Montreal, Que	3	1	..	.....	2	2	.....	.....	.	.....	1
Quebec, Que	1	1	..	... .	.....	...	.....	.....	....	... ..	....
Bruce, Ont	1	....	..	.....	1	1	. ...	....	.....	.....	.
Haldimand, Ont	1	....	..	...	1	1	.....	.....	.....	1	.
Lambton, Ont	1	...	..	... .	1	1	.	.....	.....	.....	. .
Middlesex, Ont	2	....	2	.....	..	.	..	.....	.....	.....	.....
Prescott and Russell, Ont	3	1	..	.	2	2	.....	.. ..	... .	.....	. .
Victoria, Ont	1	1	..	.....	.....	...	.....	... ..	..	. ..	.....
Welland, Ont	1	....	..	.....	1	1	.	.....	.....	.....	.....
Wellington, Ont	1	....	..	.....	1	1	.....	.. .	.....	.....	.....
York, Ont	6	1	..	... .	5	5	.....	.....	....	2	3
Totals of Ontario	17	3	2	....	12	12	.....	.....	.....	3	3
Manitoba, Eastern	2	....	..	. .	2	2	.. .	.....	.....	1	.....
Totals of Canada	24	5	3	.. ..	16	16	.....	. ..	.....	4	4
Assault on females.											
Queen's, P.E.I	3	2	..	.....	1	1	.....	.....	.....	1	.....
Cape Breton, N.S	3	....	..	.....	3	2	1	....	2	1	.....
Halifax, N.S	2	....	..	.....	2	2	....	....	1	.....	.....
Pictou, N.S	2	....	..	.....	2	1	.....	1	1	1	.....
Totals of Nova Scotia	7	....	..	.....	7	5	1	1	4	2	.....
Northumberland, N.B	1	....	..	.....	1	1	. .	.....	1	. .	.....
York, N.B	1	....	..	.....	1	1	.. ..	... .	.....	1	.....
Beauharnois, Que	1	....	..	.....	1	1	.....	...	1	.....	.....
Montreal, Que	30	11	1	....	18	17	.. ..	1	12	.....	.....
Ottawa, Que	1	....	..	.....	1	1	.....	.....	1	... ..	.....
St. Francis, Que	1	1	..	.....	.....	.	.....	.....	.. ..	.....	.....
Three Rivers, Que	1	....	..	.....	1	1	.....	.....	.....	1	..
Totals of Quebec	34	12	1	....	21	20	.....	1	14	1	.....
Algoma and Manitoulin, Ont	2	....	..	....	2	2	.. ..	.....	2	....	.....
Carleton, Ont	2	....	..	...	2	1	1	.....	1	1	.....
Elgin, Ont	1	....	..	....	1	1	.....	....	1	....	.....
Essex, Ont	1	....	..	...	1	1	.....	.....	.....	1	....
Frontenac, Ont	2	....	..	m1	1	1	. ....	.....	..	1	.....
Haldimand, Ont	2	....	..	..	2	1	.....	1	.....	..	.....
Hastings, Ont	4	1	..	m1	2	2	.....	..	1	...	....
Huron, Ont	1	....	..	.....	1	1	.....	.....	.....	1	.....
Kent, Ont	1	....	..	... ..	1	1	.....	... ..	1	.....	.....
Lanark, Ont	1	1	..	... ..	.....	....	.....	.....	.....	.....	....
Lennox and Addington, Ont	2	....	..	.....	2	1	1	....	....	1	1

TABLEAU I. Outrages contre la personne CLASSE I.

SENTENCE.						OCCUPATIONS.						CIVIL CONDITION. — ÉTAT CIVIL.		
PENITENTIARY. — PÉNITENCIER.														
Two years and under five. — Deux ans et m'ns de cinq.	Five years and ov r. — Cinq ans et plus.	Life. — A vie	D'th. — De mort	Committed to Reformatories — Envoyés à la prison de Réforme.	Other Sentences. — Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels.	Professional — Professions libérales.	Labourers — Journaliers.	Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
Bigamie—*Fin.*														
1								2				2		
					*a*1						1	1		
												1		
1											1	1		
					*a*2							1		1
					*a*1							1		
1									1			1		
											5	5		
2					4				1		7	11		1
1							1				1	2		
4					4		1	2	1		8	15		1
Voies de fait sur femmes														
											1			1
1														
							1							1
1							1							1
					*a*6		4		4		8	16		
											1	1		
											1	1		
					6		4		4		10	18		
						1	1							2
							1				1	2		
											1			1
											1	1		
					*a*2				2			2		
					*b*1							2		
												1		
							1				1	2		

a Sentence suspended—Sentence suspendue. *b* Bound to keep the peace—Tenus de garner la paix.

TABLE I. Offences against the person. CLASS I.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non-donné.		Moderate — Modéré	Immoderate — Immodéré
				M. H.	F	M. H.	F.	M. H.	F.	M. H.	F.	M. H.	F		
Bigamy—*Concluded.*															
Montréal, Que	1	1								2					2
Québec, Que															
Bruce, Ont		1								1				1	
Haldimand, Ont												1			
Lambton, Ont		1						1						1	
Middlesex, Ont															
Prescott et Russell, Ont.		1	1						1		1			2	
Victoria, Ont															
Welland, Ont		1							1					1	
Wellington, Ont		1						1						1	
York, Ont		5						5						5	
Totaux d'Ontario		10	1					7	2	1	1	1		11	
Manitoba, Est	1	1						2						2	
Totaux du Canada	2	12	1					9	2	3	1	1		13	2
Assault on females.															
Queen's, I. du P.-E		1						1							1
Cap-Breton, N.-E												2	1		
Halifax, N.-E												2			
Pictou, N.-E	1									1		1			1
Totaux de la N.-Ecosse	1									1		5	1		1
Northumberland, N.-B												1			
York, N.-B												1			
Beauharnois, Qué													1		
Montréal, Qué	4	12				1		11		4		1	1	2	13
Ottawa, Qué	1									1					1
St. François, Qué															
Trois-Rivières, Qué	1							1						1	
Totaux de Québec	6	12				1		12		5		1	2	3	14
Algoma et Manitoulin, Ont		1	1			2								2	
Carleton, Ont		2						2						1	1
Elgin, Ont		1						1						1	
Essex, Ont												1			
Frontenac, Ont		1								1					1
Haldimand, Ont		2						1		1					2
Hastings, Ont												2			
Huron, Ont												1			
Kent, Ont		1									1			1	
Lanark, Ont															
Lennox et Addington, Ont	2							1		1					2

TABLEAU I. Outrages contre la personne. CLASSE I.

BIRTH PLACES. — LIEUX DE NAISSANCE.							RELIGIONS.							RESIDENCE	
BRITISH ISLES. — ILES BRITANNIQUES.															
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.	Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists — Méthodistes.	Presbyterians. — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns Villes.	Rural Districts Districts ruraux.
Bigamie—*Fin.*															
	1			1			1	1						2	
			1				1								1
			1				1							1	
			2							1	1			2	
			1								1			1	
			1				1							1	
1			3	1				1	4					5	
1			9	1			3	1	4	1	2			10	1
		1			1			1			1			2	
1	1	1	9	2	1		4	3	4	1	3			14	1
Voies de fait sur femmes.															
			1					1						1	
			1					1						1	
			1					1						1	
			16		1			14	2				1	16	
			1					1						1	
			1					1							1
			18		1			16	2				1	17	1
			2						2					1	1
			2					2						2	
			1							1				1	
			1									1		1	
			2								1		1	2	
			1				1							1	
		1	1								1		1	2	

TABLE I. Offences against the person. CLASS I.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE	Number of Charges — Nombre d'accusations.	Acquitted. — Acquittés. M.	F	Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	NO OPTION. — SANS OPTION. Under one year. — Moins d'un an.	One year and over. — Un an et plus.
Assault on females—*Concluded.*											
Lincoln, Ont.	1	..	..	..	1	1	..	..	..	1	..
Muskoka and Parry Sound, Ont	1	..	..	..	1	1	..	..	1	..	..
Prescott and Russell, Ont	1	..	..	..	1	1	..	..	..	1	..
Thunder Bay & Rainy River, O.	3	..	..	..	3	3	..	..	2	1	..
Victoria, Ont.	1	..	..	..	1	1	..	..	1	..	..
Welland, Ont.	3	..	..	..	3	3	..	..	..	..	..
Wellington, Ont.	3	..	..	..	3	2	1	..	..	1	..
Wentworth, Ont.	3	2	..	..	1	1	..	..	1	..	..
York, Ont.	3	..	..	..	3	3	..	..	1	1	..
Totals of Ontario	38	4	..	2	32	28	3	1	12	10	1
Manitoba, Eastern.	2	..	..	..	2	2	..	..	2	..	..
Manitoba, Western	1	..	..	..	1	1	..	..	..	1	..
Victoria, B.C	5	..	..	..	5	5	..	..	3	2	..
Westminster, B.C.	1	..	..	..	1	1	..	..	1	..	..
Yale, B.C	1	..	..	..	1	1	..	..	..	1	..
Alberta, Northern, Al'ta	1	..	..	..	1	1	..	..	..	1	..
Assiniboia, Eastern, Saskat.	5	3	..	..	2	2	..	..	..	..	..
Saskatchewan, Saskat.	2	..	..	..	2	2	..	..	1	1	..
Totals of Canada	102	21	1	2	78	71	4	3	38	21	1
Aggravated assault and inflicting bodily harm.											
Queen's, P.E.I.	6	3	..	..	3	1	2	..	..	3	..
Annapolis, N.S.	1	..	..	..	1	1	..	..	..	..	..
Cape Breton, N.S.	4	1	..	..	3	3	..	..	..	2	..
Colchester, N.S	2	1	..	..	1	1	..	..	..	1	..
Halifax, N.S.	24	8	1	..	15	10	2	3	..	..	..
Inverness, N.S	2	..	..	..	2	2	..	..	1	..	1
Yarmouth, N.S.	1	..	..	..	1	1	..	..	..	..	1
Totals of Nova Scotia	34	10	1	..	23	18	2	3	1	3	2
St. John, N.B.	5	..	..	..	5	5	..	..	5	..	..
Westmoreland, N.B.	1	..	..	..	1	..	..	1	..	..	..
Bedford, Que	2	1	..	..	1	..	..	1	..	..	..
Gaspé, Que	1	..	..	..	1	1	..	..	..	1	..
Joliette, Que.	1	1	..	..	..	..	..	..	..	..	..
Kamouraska, Que.	1	..	..	..	1	1	..	..	..	..	..
Montreal, Que.	43	29	2	..	12	11	1	..	6	*a*5	..
Ottawa, Que.	1	..	..	..	1	1	..	..	..	..	1
Quebec, Que.	2	..	..	..	2	2	..	..	..	1	..
Richelieu, Que.	1	..	..	..	1	..	1	..	..	..	..
St. Francis, Que.	3	2	..	..	1	1	..	..	..	1	..
Three Rivers, Que.	1	..	..	..	1	1	..	..	..	1	..
Totals of Quebec	56	33	2	..	21	18	2	1	6	9	1

a 2, Both jail and $75 each—La prison et $75 chaque.

TABLEAU I. Outrages contre la personne. CLASSE I.

SENTENCE. PENITENTIARY. — PÉNITENCIER.						OCCUPATIONS.						CIVIL CONDITION. — ÉTAT CIVIL.		
Two years and under five. — Deux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie	D'th. — De mort	Committed to Reformatories. — Envoyés à la prison de Réforme.	Other Sentences. — Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels.	Professional — Professions libérales.	Labourers — Journaliers.	Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
Voies de fait sur femmes—*Fin.*														
														1
												1		
											1			1
					*a*3									
					*a*2						2	2		
											1	1		
					*a*1				1		1	1		1
					9	1	3		3		9	15		6
						1	1					2		
											1			1
											1	1		
					*a*1, *b*1									
1					17	2	9		7		22	36		9
Voies de fait et lésions corporelles.														
						1					2	1		2
1											1	1		
					*a*1			1			1			3
							1							1
7					*a*8		4	4	3		4	4	2	9
						1	1					2		
									1					1
8					9	1	6	5	4		6	7	2	14
							2		1		1	1		4
1									1					1
					*a*1						1			1
														1
1						1						1		
1						2	3		2		4	7		5
											1	1		
					*a*1						1			2
1											1			1
						1								1
											1	1		
3					2	4	3		2		9	10		11

a Sentence suspended—Sentence suspendue. *b* Bound to keep the peace—Tenus de garder la paix.

TABLE I. Offences against the person. CLASS I.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 49.		40 years and over. — 40 ans et plus.		Not given. — Non-donné.		Moderate — Modéré	Immoderate — Immodéré
				M. H.	F	M. H.	F.	M. H.	F.	M. H.	F.	M. H.	F		
Assault on females—*Concluded.*															
Lincoln, Ont.		1				1								1	
Muskoka et Parry Sound, Ont.												1			
Prescott et Russell, Ont.												1			
Th'der Bay et Rainy Riv., Ont.												3			
Victoria, Ont.		1				1								1	
Welland, Ont.												3			
Wellington, Ont.		2						2				1			2
Wentworth, Ont.	1							1							1
York, Ont.		2						1		1		1		1	1
Totaux d'Ontario	3	14	1			4		9		4	1	14		8	10
Manitoba, Est.		2						1		1				1	1
Manitoba, Ouest.		1						1						1	
Victoria, Col.-B.												5			
Westminster, Col.-B.		1						1						1	
Yale, Col.-B.												1			
Alberta, Nord, Al'ta.												1			
Assiniboia, Est, Saskat.												2			
Saskatchewan, Saskat.												2			
Totaux du Canada.	10	31	1			5		25		11	1	33	3	14	27
Aggravated assault and inflicting bodily harm.															
Queen's I. du P.-E.		3						2		1				1	2
Annapolis, N.-E.		1						1						1	
Cap-Breton, N.-E.		3				1		2						3	
Colchester, N.-E.		1						1							1
Halifax, N.-E.	3	12				2		7	3	3				15	
Inverness, N.-E.		2						1		1				2	
Yarmouth, N.-E.		1						1							1
Totaux de la N.-Ecosse.	3	20				3		13	3	4				21	2
St. Jean, N.-B.	1	4						3		1		1		3	2
Westmoreland, N.-B.		1						1							1
Bedford, Qué.	1							1							1
Gaspé, Qué.	1									1				1	
Joliette, Qué.															
Kamouraska, Qué.		1								1					1
Montreal, Qué.	3						1	8		3				4	8
Ottawa, Qué.	1							1							1
Québec, Qué.	1	1			1			1						2	
Richelieu, Qué.		1						1							1
St. François, Que.	1							1							1
Trois-Rivières, Qué.		1				1								1	
Totaux de Québec.	8	13			1	1	1	13		5				8	13

TABLEAU I. Outrages contre la personne. CLASSE I.

BIRTH PLACES. — LIEUX DE NAISSANCE							RELIGIONS.							RESIDENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.															
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.	Canada.	United States — Etats Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britannique.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists. — Méthodistes.	Presbyterians. — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns Villes.	Rural Districts Districts ruraux.
Voies de fait sur femmes—*Fin.*															
			1							1					1
			1					1							
			1									1			1
														1	
			2									2		2	
			1							1				1	
			2						1		1			2	
		1	18				1	3	3	3	3	4	2	16	3
			1		1			1					1	1	1
			1								1				1
			1									1		1	
		1	41		2		1	22	5	3	4	5	4	37	6
Voies de fait graves et lésions corporelles.															
			3					2				1		2	1
			1					1							1
			1			2		1		1				3	
			1								1				1
2	1		11	1			3	6	4		2			14	1
			2					1			1				2
			1					1							1
2	1		17	1		2	3	10	4	1	4			17	6
			4		1		1	1		1		1	1	5	
			1							1				1	
			1									1			1
			1					1							1
			1					1							1
	1		9		2			8	3			1		10	2
			1					1							1
			1		1			2						2	
			1					1						1	
			1					1							1
			1					1						1	
	1		17		3			16	3			2		14	7

TABLE I. Offences against the person. CLASS I.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	Number of Charges — Nombre d'accusations.	Acquitted. — Acquittés. M.	F	Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No Option. — Sans option. Under one year. — Moins d'un an.	One year and over. — Un an et plus.
Aggravated assault and inflicting bodily harm—*Concluded.*											
Algoma and Manitoulin, Ont.	1				1	1				1	
Brant, Ont.	1		1								
Carleton, Ont.	8	2			6	5	1		3	3	
Elgin, Ont.	1	1									
Essex, Ont.	3	2			1	1			1		
Grey, Ont.	2	1			1			1			
Hastings, Ont.	3	2			1	1				1	
Huron, Ont.	2				2	1	1		1	1	
Kent, Ont.	7	1			6	5	1		4	1	1
Lambton, Ont.	3				3	3			1		
Lanark, Ont.	1	1									
Leeds and Grenville, Ont.	1				1	1					
Lincoln, Ont.	5	2			3	2	1		2	1	
Middlesex, Ont.	15	6	1		8	7		1	1		1
Muskoka and Parry Sound, Ont.	3				3	3			1	1	
Nipissing, Ont.	1				1	1				1	
Norfolk, Ont.	2				2	2				2	
Ontario, Ont.	1				1	1				1	
Peel, Ont.	2				2			2			2
Perth Ont.	4	1			3	2	1			2	
Peterborough, Ont.	4	2			2	2			1	1	
Prescott and Russell, Ont.	3				3	3			2	1	
Renfrew, Ont.	2				2	2			1	1	
Stormont, D'das & Glengarry, O.	3	1			2	2				1	1
Thunder Bay & Rainy River, O.	4				4	3	1		1	1	2
Victoria, Ont.	3				3	2		1	3		
Waterloo, Ont.	3				3	2	1				1
Welland, Ont.	2				2	1	1			2	
Wellington, Ont.	6	2			4	4			2		1
Wentworth, Ont.	38	22	1		15	14		1	2	9	1
York, Ont.	121	53	3		65	63	2		23	25	1
Totals of Ontario	255	99	6		150	134	10	6	49	56	11
Manitoba, Central	1				1	1					
Manitoba, Eastern	14	3			11	9	2		4	6	1
Vancouver, B.C.	6	1			5	5				1	1
Victoria, B.C.	4	1			3	3			3		
Westminster, B.C.	9	3			6	6			4	2	
Yale, B.C.	14	1			13	11	2		7	5	1
Totals of British Columbia	33	6			27	25	2		14	8	2
Alberta, Northern, Al'ta	5	4			1	1					
Alberta, Southern, Al'ta	1	1									
Assiniboia, Eastern, Saskat.	5	1			4	4			3		
Assiniboia, Western, Saskat.	5	2			3	3			1	2	
Saskatchewan, Saskat.	1				1	1				1	
Totals of Al'ta and Saskat.	17	8			9	9			4	3	
Yukon	1				1	1			1		
Totals of Canada	423	162	9		252	221	20	11	84	88	17

TABLEAU I. Outrages contre la personne. CLASSE I.

SENTENCE.						OCCUPATIONS.						CIVIL CONDITION. — ETAT CIVIL.		
PENITENTIARY. — PÉNITENCIER.														
Two years and under five. — Deux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie	D'th. — De mort	Committed to Reformatories. — Envoyés à la prison de Réforme.	Other Sentences. — Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels	Professional — Professions libérales.	Laborers — Journaliers.	Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
Voies de fait graves et lésions corporelles—*Fin.*														
											1	1		
						2			1		2	4		2
								1					1	
1						1						1		
									1			1		
						1	1					2		
									1		4	2		4
					*a*2					1	2	2		1
					*a*1				1			1		
									1		2	1		2
					*a*6		1		3	1	3	6		5
					*a*1						3	2		1
											1			1
						1					1			1
									1					1
							2					2		
					*a*1	2					1	1		2
									1		1	2		
							2			1		1		2
						1						1		
						1					1	2		
									1		3			4
						1					3			3
	1				*a*1						2			1
									2			2		
					*a*1	2					2	2		2
					*a*3		2		3		9	4		11
					*a*16	1	4				58	30	1	34
1	1				32	13	12	1	16	3	98	70	2	74
					*a*1						1			1
							2	1	1		7	6		5
2					*a*1									
											3			3
							1		2		1	3		3
						1	1		5	1	5	13		
2					1	1	2		7	1	9	16		6
	1					1								1
1														
									1					1
						1								1
1	1					2			1					3
											1			1
16	2				45	22	27	7	33	4	134	111	4	122

a Sentence suspended—Sentence suspendue.

TABLE I. Offences against the person. CLASS I.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non-donné.		Moderate. — Modéré	Immoderate. — Immodéré
				M. — H.	F	M. — H.	F.	M. — H.	F.	M. — H.	F.	M. — H.	F		
Aggravated assault and inflicting bodily harm—*Concluded.*															
Algoma et Manitoulin, Ont.	1							1							1
Brant, Ont.															
Carleton, Ont.	2	4						4		2				4	2
Elgin, Ont.															
Essex, Ont.		1						1						1	
Grey, Ont.		1						1							1
Hastings, Ont.		1								1				1	
Huron, Ont.		2						1		1				1	1
Kent, Ont.		6				1		4		1				2	4
Lambton, Ont.		2	1					2		1				2	1
Lanark, Ont.															
Leeds et Grenville, Ont.		1						1						1	
Lincoln, Ont.		3				1		1		1				1	2
Middlesex, Ont.		8				1		4		3				5	3
Muskoka et Parry Sound, Ont.								2				1			
Nipissing, Ont.		1								1					1
Norfolk, Ont.	1							1				1		1	
Ontario, Ont.		1				1									1
Peel, Ont.		2								2					2
Perth, Ont.		1						1		2					1
Peterborough, Ont.		2						1		1				1	1
Prescott and Russell, Ont.	1	1	1			1		2						3	
Renfrew, Ont.		1								1		1			1
Stormt, D'das et Glengry, O.		2								2					2
Th'der Bay et Rainy Riv., Ont.		4						4						2	2
Victoria, Ont.		3						3						1	2
Waterloo, Ont.		1						1				2			1
Welland, Ont.		2								2					2
Wellington, Ont.		4						4						3	1
Wentworth, Ont.	1	14				1		12	1	1				6	9
York, Ont.		65				7		45	1	12				52	13
Totaux d'Ontario	6	133	2			13		96	2	34		5		87	54
Manitoba, Centre		1										1			
Manitoba, Est	4	7				1		9		1				10	1
Vancouver, Col.-B.												5			
Victoria, Col.-B		3				1		2						2	1
Westminster, Col.-B.	1	4	1					4		1	1			5	1
Yale, Col.-B	1	12						13						12	1
Totaux de la Col.-Britann.	2	19	1			1		19		1	1	5		19	3
Alberta, Nord, Al'ta	1					1								1	
Alberta, Sud, Al'ta.															
Assiniboia, Est, Saskat.												4			
Assiniboia, Ouest, Saskat.		1								1		2		1	
Saskatchewan, Saskat.	1							1						1	
Totaux d'Al'ta et de Saskat	2	1				1		1		1		6		3	
Yukon		1						1						1	
Totaux du Canada	26	203	3	1		20	1	158	5	48	1	18		153	78

TABLEAU I. Outrages contre la personne. CLASSE I.

BIRTH PLACES. — LIEUX DE NAISSANCE.							RELIGIONS.							RESIDENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.															
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.	Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists. — Méthodistes.	Presbyterians. — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns — Villes.	Rural Districts — Districts ruraux.
Voies de fait graves et lésions corporelles—*Fin.*															
					1			1						1	
			6					4	1		1			4	2
				1						1				1	
			1										1		1
			1						1						1
	1		1									1	1	1	1
			5	1				5			1			6	
			3					1		1		1		3	
			1					1						1	
			3					1	2					2	1
			8				1	1	1			5		7	1
								2			1			2	1
					1			1						1	
			1									1		1	1
			1								1			1	
			2					2							
1									1					1	
			1	1				1		1				1	1
			3					3				1		3	
					1										1
			2					1		1					
			3		1			3					1	2	
			3					1		1		1		1	
			1					1						1	1
			2							2				2	
1			3						1			3		2	
	1		9	2	3		3	1	3	3		3		13	
11	10	2	36	4	1		2	17	26	10	7	2	1	64	1
13	12	2	96	10	8		6	47	36	20	11	18	4	121	27
			1											1	
2	1		2		6			9	2					11	
														5	
			1		2			1					2	3	
	1		5					2				4		6	
			2	9	2		1	3		6			3	13	
	1		8	9	4		1	6		6		4	5	27	
					1								1		1
			1							1					1
			1					1							1
			2		1			1		1			1		3
			1							1				1	
17	16	2	152	20	23	2	11	92	45	31	15	26	11	260	44

TABLE I. Offences against the person. CLASS I.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	Number of Charges — Nombre d'accusations.	Acquitted. — Acquittés. M.	F	Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No Option. — Sans option. Under one year. — Moins d'un an.	One year and over. — Un an et plus.
Assault and obstructing peace officer.											
Queen's, P.E.I.	6			m1	5	5			2	3	
Cape Breton, N.S.	34				34	26	8		33	1	
Cumberland, N.S.	3				3	3			3		
Digby, N.S.	1				1	1			1		
Guysborough, N.S.	2				2	2			2		
Halifax, N.S.	27	4			23	13	6	4	12	5	
King's, N.S.	2				2	2			2		
Pictou, N.S.	1				1	1			1		
Queen's, N.S.	1				1	1			1		
Yarmouth, N.S.	5				5	5				3	
Totals of Nova Scotia	76	4			72	54	14	4	55	9	
Charlotte, N.B.	2				2	2			2		
Northumberland, N.B.	9				9		9		8		
St. John, N.B.	16				16	7	9		16		
Westmoreland, N.B.	1				1		1				
York, N.B.	1				1	1			1		
Totals of New Brunswick	29				29	10	19		27		
Beauharnois, Que.	1				1	1				1	
Bedford, Que.	1				1			1		1	
Iberville, Que.	1				1	1				1	
Montreal, Que.	136	5	1		130	126	2	2	114	9	
Ottawa, Que.	1				1	1			1		
Quebec, Que.	45				45	19	22	4	43	2	
St. Francis, Que.	6				6	3	2	1	3	1	
St. Hyacinthe, Que.	1				1	1			1		
Three Rivers, Que.	2				2	1		1		*a*2	
Totals of Quebec	194	5	1		188	153	26	9	162	17	
Algoma & Manitoulin, Ont.	3				3	2	1		2	1	
Brant, Ont.	5				5	3	2		5		
Carleton, Ont.	2				2	2				*b*2	
Dufferin, Ont.	1				1	1			1		
Essex, Ont.	1				1	1			1		
Grey, Ont.	2				2	1	1		2		
Huron, Ont.	1				1	1			1		
Kent, Ont.	4				4	2	1	1	1		1
Lanark, Ont.	1				1	1			1		
Leeds and Grenville, Ont.	3				3	2		1	3		
Lincoln, Ont.	1				1	1				1	
Middlesex, Ont.	4				4	4			4		
Muskoka and Parry Sound, Ont.	1				1	1				1	
Nipissing, Ont.	1				1	1			1		
Norfolk, Ont.	3				3	2	1			3	
Northumberland & Durham, O.	3				3	3			3		
Ontario, Ont.	1				1		1		1		
Perth, Ont.	2				2	2			2		

a One, both jail and $11—Un, la prison et $11 d'amende.
b Both jail and $34—Les deux, la prison et $34.

TABLEAU I. Outrages contre la personne. CLASSE I.

SENTENCE.						OCCUPATIONS.						CIVIL CONDITION. — ÉTAT CIVIL.		
PENITENTIARY. — PÉNITENCIER.														
Two years and under five. — Deux ans et moins de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie.	D'th. — De mort	Committed to Reformatories — Envoyés à la prison de Réforme	Other Sentences. — Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels.	Professional — Professions libérales.	Labourers — Journaliers.	Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
Voies de fait et faisant obstacle à un officier de la paix.														
											5	1		4
							3		5		4	3		10
											3	1		2
					*a*6	1	8	2	3		7	9		13
											2	1		1
											1			1
					*a*2		1				4	1	1	3
					8	1	12	2	8		21	15	1	30
					*a*1									
							7		3		4	3		11
1									1					1
1					1		7		4		4	3		12
											1	1		
											1			1
					*a*6, *b*1	1	33		21	1	57	46	2	79
					*a*2						4			4
									1		1	2		
					9	1	33		22	1	64	49	2	84
								1				1		
											1	1		
											2			2
											1	1		
							1							1
				1	*a*1	1					1	3		
									1		1			2
							1					1		
									2		2	2		2
											1			
											3	3		
							1		2			2		1
									1					1

a Sentence suspended—Sentence suspendue. *b* Bound to keep the peace—Tenus de garder la paix.

TABLE I. Offences against the person. CLASS I.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non-donné.		Moderate. — Modéré	Immoderate. — Immoderé
				M. H.	F	M. H.	F.	M. H.	F.	M. H.	F.	M. H.	F		
Assault and obstructing peace officer.															
Queen's, I. du P.-E		5						4		1					5
Cap-Breton, N.-E	3	10				2		10	1			20	1	9	4
Cumberland, N.-E	1	2						3							3
Digby, N.-E												1			
Guysborough, N.-E												2			
Halifax, N.-E	2	20						16	2	4		1		21	1
King's, N.-E		2				1		1						1	2
Pictou, N.-E		1						1							
Queen's, N.-E													1		
Yarmouth, N.-E	1	4						4		1					5
Totaux de la N.-Ecosse	7	39				3		35	3	5		24	2	31	15
Charlotte, N.-B												2			
Northumberland, N.-B												9			
St.-Jean, N.-B	1	13				1		5		8		2		7	7
Westmoreland, N.-B		1						1							1
York, Ont												1			
Totaux du N.-Brunswick	1	14				1		6		8		14		7	8
Beauharnois, Qué	1									1				1	
Bedford, Qué	1							1							1
Iberville, Qué												1			
Montréal, Qué	4	122	1	3		12		90	5	17		3		17	110
Ottawa, Qué													1		
Québec, Qué												45			
St. François, Qué	1	3						4				2		1	3
St. Hyacinthe, Qué												1			
Trois-Rivières, Qué		2						2							2
Totaux de Québec	7	127	1	3		12		97	5	18		52	1	19	116
Algoma et Manitoulin, Ont		1								1		2		1	
Brant, Ont		1						1				4		1	
Carleton, Ont		2				1		1						2	
Dufferin, Ont												1			
Essex, Ont												1			
Grey, Ont	1									1		1			1
Huron, Ont		1						1							1
Kent, Ont		2	1					2	1			1		2	1
Lanark, Ont												1			
Leeds et Grenville, Ont		2						2				1			2
Lincoln, Ont		1						1						1	
Middlesex, Ont		4						3		1					4
Muskoka et Parry Sound, O										1					
Nipissing, Ont												1			
Norfolk, Ont		3								1	2				3
Northumberl'd et Durham, O		3						3						3	
Ontario, Ont		1						1							1
Perth, Ont												2			

TABLEAU I. Outrages contre la personne. CLASS I.

BIRTH PLACES. — LIEUX DE NAISSANCE.							RELIGIONS.							RESIDENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.															
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.	Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's posses sions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists. — Méthodistes.	Presbyterians. — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns — Villes.	Rural Districts — Districts ruraux.
Voies de fait et ferisant obstacle à un officier de la paix.															
			5					5						5	
			12			1	1	7	1		1	3		13	
			3					1	1		1			3	
5		1	9	1	2	4	1	13	5	2	1			19	3
			2									2		2	
			1					1						1	
			5				4	1						5	
5		1	32	1	2	5	6	23	7	2	3	5		43	3
			14				4	5	1	2	2			14	
			1							1				1	
			15				4	5	1	3	2			15	
			1					1							1
			1									1			1
6	3	3	109	3	3			93	3		1	30		122	5
			23					23						45	
			2	2				2				2			4
			1					1							
			2					2						2	
6	3	3	139	5	3			122	3		1	33		169	11
			3					3							1
			1									1		1	
			2					2						2	
			2					2						1	
			1								1				1
			3					2		1				2	1
			2					1	1					2	
			1							1					1
			4					1				3		4	
								1							1
			3									3		3	
			3							3				3	
			1									1		1	

TABLE I. Offences against the person. CLASS I.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	Number of Charges — Nombre d'accusations.	Acquitted. — Acquittés. M.	Acquitted. — Acquittés. F.	Detained for Lunacy. — Detenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No Option. — Sansoption. Under one year. — Moins d'un an.	One year and over. — Un an et plus.
Assault and obstructing peace officer—*Concluded.*											
Renfrew, Ont	1				1	1					
Simcoe, Ont	5				5	5			5		
Stormont, D'das & Glengary, O	1				1	1			1		
Thunder Bay & Rainy River, O	9				9	7	2		6	2	
Waterloo, Ont	2	2									
Welland, Ont	11	2			9	8	1		5	3	
Wentworth, Ont	6	1			5	5			4	1	
York, Ont	49	10	1		38	38			30	5	
Totals of Ontario	123	15	1		107	95	10	2	79	19	1
Manitoba, Central	4	1			3	3			2		
Manitoba, Eastern	28	2			26	23	3		20	3	
Manitoba, Western	3	1			2	2			2		
Totals of Manitoba	35	4			31	28	3		24	3	
Vancouver, B.C	9	7			2	2			2		
Victoria, B.C	1				1	1			1		
Westminster, B.C	4	3			1			1	1		
Yale, B.C	1				1	1			1		
Totals of British Columbia	15	15			5	4		1	5		
Alberta, Northern, Alta	5				5	5			5		
Alberta, Southern, Alta	3				3	3			2		
Assiniboia, Eastern, Saskat	10	5			5	5			3		
Assiniboia, Western, Saskat	19	3			16	14	2		11	a5	
Saskatchewan, Saskat	5	1			4	1	3		3	1	
Totals of Saskatchewan	34	9			25	20	5		17	6	
Yukon	1				1	1			1		
Totals of Canada	521	47	2	1	471	378	77	16	379	57	1
Assault and battery.											
Queen's, P.E.I	8				8	8				8	
Cape Breton, N.S	23	20	3								
Colchester, N.S	4	3	1								
Cumberland, N.S	3	2			1	1			1		
Digby, N.S	1				1	1			1		
Guysborough, N.S	1				1	1				1	
Halifax, N.S	83	60	13		10	6	1	3	1	6	
Pictou, N.S	6	1			5	5				5	
Queen's, N.S	5	1			4	4			4		
Yarmouth, N.S	7	2			5	5			1	4	
Totals of Nova Scotia	133	89	17		27	23	1	3	8	16	

a One, both jail and $97 or 6 other months—Un, la prison et $97 d'amende ou 6 autres mois.

TABLEAU 1. Outrages contre la personne. CLASSE I.

SENTENCE.						OCCUPATIONS.						CIVIL CONDITION. — ÉTAT CIVIL.		
PENITENTIARY. — PÉNITENCIER.														
Two years and under five. — Deux ans et m'ns de cinq	Five years and over — Cinq ans et plus.	Life. — A vie	D'th. — De mort	Committed to Reformatories. — Envoyés à la prison de Réforme.	Other Sentences. — Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels.	Professional — Professions libérales.	Labourers — Journaliers.	Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
Voies de fait et faisant obstacle à un officier de la paix—*Fin.*														
					*a*1	1						1		
					*a*1						5	1		4
					*a*1		1		2	1	1	2		5
						1			1		3	4		1
					*a*3		1				36	10		27
				1	7	3	6		9	1	57	30		46
					*a*1									
					*a*2, *b*1		6	1	6		11	6		18
					4		6	1	6		11	6		18
											1			1
											1	1		
											2	1		2
					*b*1									
					*a*2		2				1	2		
					2		2				1	2		
1				1	32	5	66	3	49	2	165	109	3	195
Agression avec voies de fait.														
						1	2		1		4	2		6
											1	1		
						1						1		
					*a*3			2			7	3	1	5
											4			4
											4	2		2
											3			5
					3	1		2			19	8	1	16

a Sentence suspended—Sentence suspendue. *b* Bound to keep the peace—Tenus de garder to paix.

TABLE I. Offences against the person. CLASS 1.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non-donné.		Moderate — Modéré	Immoderate — Immodéré
				M.	F.	M.	F.	M.	F.	M.	F.	M.	F.		
				H.	F.	H.	F.	H.	F.	H.	F.	H.	F.		
Assault and obstructing peace officer—*Concluded.*															
Renfrew, Ont	1									1				1	
Simcoe, Ont												5			
Storm't, D'das et Glengarry, O.												1			
Th'der Bay et Rainy Riv., O.		5						5				4		3	2
Waterloo, Ont															
Welland, Ont		7						6		1		2		3	4
Wentworth, Ont		5				1		1		3				1	4
York, Ont		37				4		27		6	1			28	9
Totaux d'Ontario	2	75	1			6		54	1	16	3	27		46	32
Manitoba, Centre												3			
Manitoba, Est	3	21				1		23		1		1		22	2
Manitoba, Ouest												2			
Totaux de Manitoba	3	21				1		23		1		6		22	2
Vancouver, Col.-B												2			
Victoria, Col.-B		1				1								1	
Westminster, Col.-B		1								1					1
Yale, Col.-B												1			
Totaux de la Col.-Britann.		2				1				1		3		1	1
Alberta, Nord, Al'ta												5			
Alberta, Sud, Al'ta												3			
Assiniboia, Est, Saskat.												4	1		
Assiniboia, Ouest, Saskat	1	4						1				14	1		1
Saskatchewan, Saskat												4			
Totaux de Saskatchewan	1	4						1				22	2		1
Yukon	1											1			
Totaux du Canada	21	287	2	3		24		220	9	50	3	157	5	126	180
Assault and battery.															
Queen's, I. du P.-E.		8						6		2				3	5
Cap-Breton, N.-E															
Colchester, N.-E															
Cumberland, N.-E	1							1							1
Digby, N.-E		1										1		1	
Guysborough, N.-E												1			
Halifax, N.-E	1	8				2		5	1	1		1		6	3
Pictou, N.-E		4						4				1		2	2
Queen's, N.-E	1	3						4						3	1
Yarmouth, N.-E		5		2		1		1		1				3	2
Totaux de la N.-Ecosse	3	21		2		3		15	1	2		4		15	9

TABLEAU I. Outrages contre la personne. CLASSE I.

BIRTH PLACES. — LIEUX DE NAISSANCE.							RELIGIONS.							RESIDENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.															
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.	Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists — Méthodistes.	Presbyterians. — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.
Voies de fait et faisant obstacle à un officier de la paix—*Fin.*															
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	...	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	5	.....	.....	.....	.....	3	.....	.....	2	.....	.....	2	3
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	1	2	.....	2	2	.....	1	3	.....	.....	2	.....	1	.....	1
2	1	.....	2	.....	.....	.....	.....	.....	3	.....	2	.....	.....	5	.....
4	3	2	26	...	3	.....	.....	10	14	6	6	.....	.....	38	...
6	5	4	60	2	5	....	1	28	18	11	14	8	1	71	10
.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1
8	2	3	8	..	5	.....	1	9	7	4	4	.....	1	19	6
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
8	2	3	10	.....	5	....	1	9	7	4	4	....	2	19	7
...	..	.....	.....	....	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....
...	.....	1	.....	.....	...	...	.....	.....	.....	.....	1	.....	.....	1	.....
...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	....	1	1	...	.....	.....	.....	..	.....	.....	1	1	....	2	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	5	.....
...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	5	.....
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
25	10	12	265	8	15	5	12	193	36	20	25	49	3	329	31
Agression avec voies de fait.															
.....	.....	.....	8	.....	.....	.....	.....	6	.....	.....	.....	2	.....	5	3
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1	.....	.....	8	.....	.....	.....	1	4	3	.....	.....	.....	.....	8	1
.....	.....	.....	4	.....	.....	.....	2	1	1	.....	.....	.....	.....	4	.....
.....	.....	.....	4	.....	.....	.....	3	.....	1	.....	.....	.....	.....	1	3
1	..	..	3	.....	1	.....	1	2	1	.....	.....	.....	1	5	.....
2	.....	.....	21	.....	1	.....	7	7	6	.....	.....	1	2	18	6

TABLE I. Offences against the person. CLASS I.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	Number of Charges — Nombre d'accusations.	Acquitted. — Acquittés. M.	Acquitted. — Acquittés. F	Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No Option. — Sans option. Under one year. — Moins d'un an.	No Option. — Sans option. One year and over — Un an et plus.
Assault and battery—*Continued.*											
Carleton, N.B.	1	....	....	....	1	1	....	....	1	....	....
King's, N.B.	2	1	....	....	1	1	....	....	1	....	....
Madawaska, N.B.	1	1	....	....	....	....	....	....	....	....	....
Westmoreland, N.B.	1	....	....	....	1	1	....	....	....	1	....
Totals of New Brunswick...	5	2	..	..	3	3	..	..	2	1	....
Arthabaska, Que	3	....	....	....	3	3	....	....	....	2	....
Bedford, Que.	3	1	....	....	2	2	....	....	2	....	....
Joliette, Que	1	....	....	....	1	1	....	....	....	....	....
Montmagny, Que	3	3	....	....	....	....	....	....	....	....	....
Montreal, Que	82	12	....	m2	68	68	....	....	47	20	....
Ottawa, Que.	8	....	....	....	8	5	3	....	....	8	....
Pontiac, Que.	1	1	....	....	....	....	....	....	....	....	....
Quebec, Que.	1	1	....	....	....	....	....	....	....	....	....
Richelieu, Que	3	....	....	....	3	2	1	....	2	....	....
Rimouski, Que.	4	4	....	....	....	....	....	....	....	....	....
St. Francis, Que	14	3	....	....	11	10	1	....	11	....	....
St Hyacinthe, Que.	2	....	....	....	2	2	....	....	....	2	....
Terrebonne, Que.	1	....	....	....	1	1	....	....	....	....	....
Three Rivers, Que.	2	....	....	....	2	....	1	1	....	2	....
Totals of Quebec.	128	25	..	2	101	94	6	1	62	34	....
Algoma and Manitoulin, Ont..	3	....	....	....	3	3	....	....	3	....	....
Bruce, Ont.	2	....	....	....	2	....	....	2	....	....	....
Carleton, Ont.	3	....	....	....	3	3	....	....	2	....	....
Elgin, Ont.	11	4	....	....	7	6	....	1	5	....	....
Essex, Ont.	1	....	....	....	1	1	....	....	1	....	....
Frontenac, Ont.	1	....	....	....	1	1	....	....	....	....	....
Grey, Ont.	2	....	....	....	2	2	....	....	1	1	....
Halton, Ont.	3	....	....	....	3	3	....	....	1	1	....
Hastings, Ont.	7	5	....	f1	1	1	....	....	....	1	....
Huron, Ont.	4	3	....	....	1	1	....	....	....	1	....
Kent, Ont.	8	3	....	....	3	2	1	....	2	1	....
Lambton, Ont.	12	....	....	....	12	12	....	....	12	....	....
Lennox and Addington, Ont.	2	....	....	....	2	2	....	....	1	1	....
Middlesex, Ont.	2	....	....	....	....	....	2	....	1	1	....
Nipissing, Ont.	17	9	....	....	8	7	1	....	3	5	....
Norfolk, Ont.	5	2	....	....	3	3	....	....	....	3	....
Northumberland & Durham, O.	4	....	....	....	4	3	1	....	3	1	....
Ontario, Ont.	3	....	....	....	3	3	....	....	....	2	....
Oxford, Ont.	10	6	....	....	4	4	....	....	4	....	....
Perth, Ont.	1	....	....	....	1	1	....	....	....	....	....
Peterborough, Ont.	4	....	....	....	4	4	....	....	....	4	....
Prescott & Russell, Ont.	3	2	1	....	....	....	....	....	....	....	....
Prince Edward, Ont.	1	....	....	....	1	1	....	....	....	1	....
Renfrew, Ont.	1	....	....	....	1	1	....	....	....	1	....
Simcoe, Ont.	10	1	....	m2	7	5	2	....	2	4	....
Stormont, Dundas & Glengarry, O.	5	3	....	....	2	2	....	....	1	....	....
Thunder Bay & Rainy River, O.	5	2	....	....	3	3	....	....	1	2	....
Victoria, Ont.	7	4	....	....	3	3	....	....	2	....	....

TABLEAU I. Outrages contre la personne. CLASSE I.

SENTENCE.						OCCUPATIONS.						CIVIL CONDITION. — ÉTAT CIVIL.		
PENITENTIARY. — PÉNITENCIER.														
Two years and under five. — Deux ans et m'ns de cinq	Five years and over. — Cinq ans et plus.	Life. — A vie	D'th. — De mort	Committed to Reformatories. — Envoyés à la prison de Réforme.	Other Sentences. — Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels.	Professional — Professions libérales.	Labourers — Journaliers.	Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
						Agression avec voies de fait—*Suite.*								
						1						1		
						1						1		
											1			1
						2					1	2		1
					*b*1	1					1	1		1
						1					1	1		1
					*a*1						1	1		
					*a*1	4	10		6		19	31	1	16
									2		4	6		1
					*a*1				1		1	2		1
						4	2		2		3	6		5
											1			1
					*a*1						1	1		
							1			1				2
					5	10	13		11	1	32	49	1	28
											3	2		1
					*a*2				2			2		
					*a*1		1		1		1	1		2
					*a*2						7	6		1
									1			1		
					*a*1	1						1		
											1			1
					*a*1				2		1			3
											1			3
											12	6		6
									1	1		1		
						2						1		1
							1				7	2		6
											1			1
							1		3			3		1
					*a*1		1				1	1		1
									1		3	1		3
					*a*1						1			1
											1			1
					*a*1	2					3	3		2
					*a*1		1				1	1		1
											3	1		2
					*a*1	2					1	2		1

a Sentence suspended—Sentence suspendue. *b* Bound to keep the peace—Tenus de garder la paix.

TABLE I. Offences against the person. CLASS I.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non-donné.		Moderate. — Modéré	Immoderate. — Immodéré
				M. H.	F	M. H.	F.	M. H.	F.	M. H.	F.	M. H.	F		
Assault and battery—*Continued.*															
Carleton, Ont		1								1				1	
King's, N.-B.		1								1				1	
Madawaska, N.-B															
Westmoreland, N.-B		1						1							1
Totaux du N.-Brunswick		3						1		2				2	1
Arthabaska, Qué		2				1				1			1		2
Bedford, Qué		2						2						2	
Joliette, Qué		1								1				1	
Montmagny, Qué															
Montréal, Qué	5	43		3		4		31	4	5	1	16	4	26	22
Ottawa, Que	5	2				1		4	1	1		1			7
Pontiac, Qué															
Québec, Qué															
Richelieu, Qué		3		1				2						3	
Rimouski, Qué															
St. François, Qué	2	9						8		3				6	5
St. Hyacinthe, Qué		1				1						1		1	
Terrebonne, Qué		1						1						1	
Trois-Rivières, Qué		2						2							2
Totaux de Québec	12	66		4		7		50	5	11	1	18	5	40	38
Algoma et Manitoulin, Ont		3						3							3
Bruce, Ont		2								2					2
Carleton, Ont	1	2						2		1				1	2
Elgin, Ont		7						4		3				4	3
Essex, Ont		1						1						1	
Frontenac, Ont		1								1				1	
Grey, Ont		1						1				1			1
Halton, Ont		3						3						2	1
Hastings, Ont												1			
Huron, Ont												1			
Kent, Ont		3		1		1		1						3	
Lambton, Ont		12				3		7		2				12	
Lennox et Addington, Ont		1								1		1		1	
Middlesex, Ont		2						2						1	1
Nipissing, Ont	1	7						6		2				1	7
Norfolk, Ont		1				1						1	1	1	
Northumberl'd et Durham, O.		4						2		2				3	1
Ontario, Ont	1	1						1		1		1		1	1
Oxford, Ont		4				2		1				1		3	1
Perth, Ont		1						1						1	
Peterborough, Ont												4			
Prescott et Russell, Ont															
Prince Edward, Ont		1						1							1
Renfrew, Ont												1			
Simcoe, Ont		4	1			2		1		2		2		1	4
Storm't, D'das et Gleng'ry, O.	1	1						1		1				1	1
Th'der Bay et Rainy Riv., Ont.	2	1						2		1				2	1
Victoria, Ont		3						3						3	

TABLEAU I. Outrages contre la personne. CLASSE I.

BIRTH PLACES. — LIEUX DE NAISSANCE.							RELIGIONS.							RESIDENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.															
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.	Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists — Méthodistes.	Presbyterians — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.

Agression avec voies de fait—*Suite.*

			1				1								1
			1									1			1
			1					1							1
			3				1	1				1			3
			2					2						1	1
			2					1				1			2
			1					1							1
1	1		37		13			40	2		3	1	6	44	4
			7					7						7	
			3					3							3
			11					9				2		2	9
			1					1						1	
			1					1							1
			2					2						2	
1	1		67		13			67	2		3	4	6	57	21
					3								3	1	2
			2					2						3	2
			3					3						3	
1	2		3		1			1	2	2	1	1		1	
			1							1				1	
			1							1					1
			1								1				1
			3				1	1			1			3	
			3				2		1					3	
1			11					4		5	3			12	
			1							1				1	
			2						1		1				2
		1	3		4			4			1		3	5	3
			1									1		1	
			4						1		3			4	
1			1					1	1					1	1
			4						1	2	1			3	1
			1						1					1	
			1								1			1	
			5					2		1	2				5
			2					2						1	1
1	1				1			2	1					2	1
			3						1			2			3

TABLE I. Offences against the person. CLASS I.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	Number of Charges — Nombre d'accusations.	Acquitted. — Acquittés. M.	F	Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No Option. — SANS OPTION. Under one year. — Moins d'un an.	One year and over. — Un an et plus.
Assault and battery—*Concluded.*											
Waterloo, Ont.	1				1	1				1	
Welland, Ont.	5				5	5			3	1	
Wellington, Ont.	4	2			2	2			2		
Wentworth, Ont.	23	6	1		16	16			15	1	
York, Ont.	57	5			52	50	2		44	7	
Totals of Ontario	227	57	4	3	163	151	9	3	109	40	
Manitoba, Central	3	1			2	2			1	1	
Manitoba, Eastern	13	1			12	12			5	6	
Manitoba, Western	8	4			4	4			4		
Totals of Manitoba	24	6			18	18			10	7	
Cariboo, B.C.	1	1									
Vancouver, B.C.	23	16			7	7			2	5	
Victoria, B.C.	11	3			8	7	1		5	3	
Westminster, B.C.	32	12			20	17	3		16	3	
Yale, B.C.	16	1			15	14	1		9	6	
Totals of British Columbia.	83	33			50	45	5		32	17	
Alberta, Northern, Al'ta.	25	21	1		3	3			1	2	
Alberta, Southern, Al'ta.	18	13			5	5			1	4	
Totals of Al'ta	43	34	1		8	8			2	6	
Assiniboia, Eastern, Saskat.	34	25			9	9			1	8	
Assiniboia, Western, Saskat	18	13	1		4	4				4	
Saskatchewan, Saskat.	31	23	1		7	7				6	
Totals of Saskat.	83	61	2		20	20			1	18	
Yukon	6	5			1	1				1	
Totals of Canada	740	312	24	5	399	371	21	7	226	148	
Refusing or neglecting to support family.											
Cape Breton, N.S.	1	1									
Cumberland, N.S.	1				1	1				1	
Halifax, N.S.	10	6	3		1	1					
Lunenburg, N.S.	1	1									
Westmoreland, N.B.	1				1			1		1	
Montreal, Que.	4				4	3	1			*a*4	
St. Francis, Que.	2	1	1								
St. Hyacinthe, Que.	*b*6				5	5			3	2	
Totals of Quebec	12	1	1		9	8	1		3	6	

a One, both jail and $25—Un, la prison et $25. *b* 1, *Nolle prosequi.*

TABLEAU I. Outrages contre la personne. CLASSE I.

SENTENCE. PENITENTIARY. — PÉNITENCIER.						OCCUPATIONS.						CIVIL CONDITION. — ÉTAT CIVIL.		
Two years and under five. — Deux ans et m'ns de cinq.	Five years and over. — Cinq ar s et plus.	Life. — A vie	D'th. — De mort.	Committed to Reformatories — Envoyés à la prison de Réforme.	Other Sentences. — Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels.	Professional — Professions libérales.	Labourers — Journaliers.	Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
Agression avec voies de fait—*Fin.*														
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
.....	.....	.....	.....	.....	*a*1	1	.....	.....	2	.....	1	1	1	2
.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	1	.....	1
.....	.....	.....	.....	.....	.....	.....	1	.....	4	.....	11	5	.....	11
.....	.....	.....	.....	.....	*a*1	.....	3	.....	.....	.....	40	18	.....	28
.....	.....	.....	.....	.....	14	8	11	.....	16	1	101	60	1	81
.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....
.....	.....	.....	.....	.....	*a*1	1	2	.....	.....	.....	3	3	.....	3
.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	3	.....	.....	3
.....	.....	.....	.....	.....	1	2	2	.....	1	.....	6	4	.....	6
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	1	.....	2	.....	1	4	.....	1
.....	.....	.....	.....	.....	.....	.....	3	.....	1	.....	3	.....	.....	7
.....	.....	.....	.....	.....	*a*1	.....	11	.....	3	.....	5	3	1	15
.....	.....	.....	.....	.....	.....	.....	1	.....	6	1	3	.....	.....	12
.....	.....	.....	.....	.....	1	.....	16	.....	12	1	12	7	1	35
.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....
.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....
.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	2	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	*a*1	1	1	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	.....	1	1	1	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	25	27	45	2	41	3	175	134	4	174
Refus ou négligence de pourvoir aux besoins de la famille.														
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
.....	.....	.....	.....	.....	*a*1	.....	.....	.....	1	.....	.....	1	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	4	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5	5	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9	9	.....	.....

a Sentence suspended—Sentence suspendue.

TABLE I. Offences against the person. CLASS I.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non-donné.		Moderate — Modéré	Immoderate — Immodéré
				M. — H.	F	M.	F.	M.	F.	M.	F.	M.	F		
Assault and battery—*Concluded*.															
Waterloo, Ont		1						1						1	
Welland, Ont		4						1		3		1		2	2
Wellington, Ont		2						1		1				2	
Wentworth, Ont	2	14				4		12						12	4
York, Ont	1	44	1			15		28		3		6		41	5
Totaux d'Ontario	9	131	2	1		28		86		26		21	1	101	41
Manitoba, Centre		1								1		1		1	
Manitoba, Est	1	5						6				6		5	1
Manitoba, Ouest								1				3			
Totaux de Manitoba	1	6						7		1		10		6	1
Caribou, Col.-B															
Vancouver, Col.-B	1	4						3	1	1		2			
Victoria, Col.-B		7						6		1		1		3	4
Westminster, Col.-B	2	18				1		15		4				15	5
Yale, Col.-B		11	1			1		10		1		3		12	
Totaux de la Col.-Britann	3	40	1			2		34	1	7		6		30	9
Alberta, Nord, Alta		1						1				2		1	
Alberta, Sud, Alta		1						1				4			1
Totaux d'Alberta		2						2				6		1	1
Assiniboia, Est, Sask												9			
Assiniboia, Ouest, Sask												4			
Saskatchewan, Sask			1							1		6		1	
Totaux de Saskatchewan			1							1		19		1	
Yukon												1			
Totaux du Canada	28	277	4	7		40		201	7	52	1	85	6	199	105
Refusing or neglecting to support family.															
Cap-Breton, N.-E															
Cumberland, N.-E		1							1					1	
Halifax, N.-E		1								1				1	
Lunenburg, N.-E															
Westmoreland, N.-B	1									1					1
Montréal, Qué	1	3						2		2					4
St. François, Qué															
St. Hyacinthe, Qué	4	1						4		1					5
Totaux de Québec	5	4						6		3					9

TABLEAUX I. Outrages contre la personne. CLASS I.

BIRTH PLACES. — LIEUX DE NAISSANCE.							RELIGIONS.							RESIDENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.					Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists — Méthodistes.	Presbyterians. — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.	Canada.	United States — Etats-Unis.											
Agression avec voies de fait—*Fin.*															
					1								1		1
	2		1	1				2		1		1		3	1
			2								2			2	1
			14		2			6	3	3	4			16	
7	3	1	30		5			15	17	3	9		2	46	
11	8	2	103	1	17		3	45	30	20	30	5	9	117	25
					1								1		1
1			1		4			4		1			1	3	3
			1		2					1				4	
1			2		7			4		2			2	7	4
1	2		2											6	
3			4					3	3			1		7	
2	1	2	8	1	6			7	2		2	4	5	16	4
	1		3	7	1			1		7	1		3	12	
6	4	2	17	8	7			11	5	7	3	5	8	41	4
			1					1							1
				1									1		1
			1	1				1					1		2
1									1					1	1
1									1					1	1
22	13	4	222	10	45		11	142	44	29	36	18	28	246	69
Refus ou négligence de pourvoir aux besoins de la famille															
			1										1	1	
			1					1						1	
			1					1						1	
			4					4						4	
			5					5						5	
			9					9						9	

TABLE I. Offences against the person. CLASS I.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	Number of Charges — Nombre d'accusations.	Acquitted. — Acquittés. M.	F	Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No OPTION. — SANS OPTION. Under one year. — Moins d'un an.	One year and over. — Un an et plus.
Refusing or neglecting to support family—*Concluded.*											
Brant, Ont.	3				3	3					
Bruce, Ont.	2	1			1	1			*a*1		
Carleton, Ont.	6				6	5	1		3	2	
Essex, Ont.	2	1			1	1					
Frontenac, Ont.	1				1	1			*b*1		
Grey, Ont.	3	3									
Haldimand, Ont.	2				2			2			
Hastings, Ont.	3				3	3			1		
Huron, Ont.	1				1	1			1		
Kent, Ont.	1	1									
Lambton, Ont.	2	2									
Middlesex, Ont.	9	4			5	5					
Perth, Ont.	1				1	1					
Peterborough, Ont.	2				2	2				1	
Simcoe, Ont.	3				3	2	1		*a*1		
Victoria, Ont.	1				1	1					
Waterloo, Ont.	1				1	1					
Wellington, Ont.	2	1			1	1				1	
Wentworth, Ont.	20	12			8	8				1	
York, Ont.	65	59			6	6				4	
Totals of Ontario.	136	84			46	42	2	2	8	9	
Vancouver, B.C.	1				1	1			*c*1		
Westminster, B.C.	1				1	1			*d*1		
Assiniboia, Eastern, Saskat.	1	1									
Totals of Canada.	159	94	4		60	54	3	3	13	17	
Various other offences against the person.											
Antigonish, N.S.	1				1	1			1		
York, N.B.	1				1		1				
Beauharnois, Que.	1				1	1				1	
Montreal, Que.	10	1			9	5	4		7	1	
Quebec, Que.	7	7									
St. Francis, Que.	1				1	1			1		
Terrebonne, Que.	1				1	1					1
Totals of Quebec.	20	8			12	8	4		8	2	1
Algoma and Manitoulin, Ont.	1				1	1					
Carleton, Ont.	2				2	2			2		
Dufferin, Ont.	1				1	1				1	
Elgin, Ont.	1	1									
Huron, Ont.	2	2									
Kent, Ont.	3	2			1	1				1	
Middlesex, Ont.	1				1		1			1	

Ordered to pay—Ordonné de payer: *a* $4, *b* $3, *c* $5, *d* $10 weekly—par semaine.

TABLEAU I. Outrages contre la personne. CLASSE I.

SENTENCE. PENITENTIARY. — PÉNITENCIER.						OCCUPATIONS.						CIVIL CONDITION. — ÉTAT CIVIL.		
Two years and under five.	Five years and over.	Life.	D'th.	Committed to Reformatories	Other Sentences.	Agricultural.	Commercial.	Domestic	Industrial.	Professional	Laborers	Married.	Widowed	Single
— Deux ans et m'ns de cinq.	— Cinq ans et plus.	— A vie	De mort.	Envoyés à la prison de Réforme.	Autres Sentences.	— Agriculteurs.	— Commerçants.	— Serviteurs.	— Industriels.	— Professions libérales.	— Journaliers.	— Mariés.	— En veuvage.	— Célibataires.
Refus ou négligence de pourvoir aux besoins de la famille—*Fin.*														
					*a*3				1		2	3		
							1					1		
					*a*1				3		3	5	1	
					*a*1						1	1		
									1			1		
					*a*2						1	2		
					*b*2						3	3		
							1					1		
1					*a*4		1				4	5		
					*a*1				1			1		
					*a*1						1	1		
					*a*2						3	3		
					*a*1				1			1		
					*a*1						1	1		
									1			1		
					*a*7				4		4	8		
					*a*2						6	6		
1					28	1	2		12		29	44	1	
											1	1		
							1						1	
1					29	1	3		13		40	55	2	
Divers autres outrages contre la personne.														
											1			1
1										1				1
										1		1		
					*a*1	3			2		4	4		5
							1							1
					1	3	1		2	1	4	5		6
					*a*1						1			1
							1				1	2		
										1				1
											1			1
											1	1		

a Sentence suspended—Sentence suspendue. *b* Cautioned—Avertis. *c* Acquitted, but children given to Children Aid Society—Acquittés, mais les enfants confiés à la Société de Secours.

TABLE I. Offences against the person. CLASS 1.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non-donné.		Moderate — Modéré	Immoderate — Immodéré
				M. H.	F	M. H.	F.	M. H.	F.	M. H.	F.	M. H.	F		
Refusing or neglecting to support family—*Concluded.*															
Brant, Ont.		3						1		2					3
Bruce, Ont.		1								1				1	
Carleton, Ont.	1	5						4		2					6
Essex, Ont.		1						1							1
Frontenac, Ont.		1						1							1
Grey, Ont.															
Haldimand, Ont.		2						1		1				1	1
Hastings, Ont.		3						1		2					3
Huron, Ont.		1						1						1	
Kent, Ont.															
Lambton, Ont.															
Middlesex, Ont.	1	4						3		2				2	3
Perth, Ont.		1						1						1	
Peterborough, Ont.		1						1				1			1
Simcoe, Ont.		3						2		1				2	1
Victoria, Ont.		1								1					1
Waterloo, Ont.		1						1						1	
Wellington, Ont.		1								1				1	
Wentworth, Ont.		8						6		2				1	7
York, Ont.		6						3		3				2	4
Totaux d'Ontario.	2	43						27		18		1		13	32
Vancouver, Col.-B.		1								1					1
Westminster, Col.-B.		1								1					1
Assiniboia, Est, Saskat.															
Totaux du Canada.	8	51						33	1	25		1		15	44
Various other offences against the person.															
Antigonish, N.-E.		1						1						1	
York, N.-B.		1						1							1
Beauharnois, Que.		1								1				1	
Montréal, Qué.	3	6				1		7		1				4	5
Québec, Que.															
St. François, Qué.		1						1						1	
Terrebonne, Qué.												1			
Totaux de Québec.	3	8				1		8		2		1		6	5
Algoma et Manitoulin, Ont.		1				1									1
Carleton, Ont.		2						2						1	1
Dufferin, Ont.			1					1						1	
Elgin, Ont.															
Huron, Ont.															
Kent, Ont.		1						1						1	
Middlesex, Ont.		1								1				1	

TABLEAU I. Outrages contre la personne. CLASSE I.

BIRTH PLACES. — LIEUX DE NAISSANCE							RELIGIONS.						RESIDENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.			Canada.	United States — Etats Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britannique.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists. — Méthodistes.	Presbyterians. — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns Villes.	Rural Districts—Districts ruraux.
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.													
Refus ou négligence de pourvoir aux besoins de la famille—*Fin.*															
1			2						1			2		3	
			1							1					1
			6					4				2		6	
			1					1							1
			1									1		1	
			2						1				1	2	
			3					2				1		3	
			1									1		1	
1			4					2	1			2		5	
			1						1					1	
			1					1						1	
1			2					1		2					3
			1					1						1	
			1											1	
			1								1			1	
2			6					1	3	4				8	
	1		4		1			2	1	1	1		1	6	
5	1		38		1			15	8	8	2	9	2	40	5
1									1					1	
1									1					1	
7	1		50		1			26	10	8	2	9	3	54	5
Divers autres outrages contre la personne.															
			1					1						1	
			1						1						1
			1					1						1	
			6		3			8	1					6	3
			1												1
			8		3			10	1					7	4
			1					1							1
			1	1				1				1		2	
			1							1				1	
			1						1					1	
			1							1				1	

TABLE I. Offences against property with violence. CLASS II.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	Number of Charges — Nombre d'accusations.	Acquitted. — Acquittés. M. F.	Detained for Lunacy. — Detenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No Option. — Sans option. Under one year. — Moins d'un an.	One year and over. — Un an et plus.
Various other offences against the person—*Concluded.*										
Muskoka and Parry Sound, Ont.	2	1		1	1				1	
Northumberland & Durham, O.	1			1		1			1	
Oxford, Ont.	2	2								
Simcoe, Ont.	1			1	1					
Wellington, Ont.	3	1		2	2					
Wentworth, Ont.	33	21		12	12			6		
York, Ont.	13	11		2	1	1				
Totals of Ontario.	66	39	2	25	22	3		8	5	
Manitoba, Central.	2			2	1	1		1	1	
Alberta, Northern, Al'ta.	3	3								
Alberta, Southern, Al'ta.	1	1								
Saskatchewan, Saskat.	5	3	1	1	1				1	
Yukon	3	2		1	1				1	
Totals of Canada.	102	56	3	43	34	9		18	10	1
Burglary and having burglars' tools.									CLASS II.	
Annapolis, N.S.	1			1	1					
Cumberland, N.S.	1			1	1				a1	
Halifax, N.S.	6	2	1	3	1		2		1	
Totals of Nova Scotia.	8	2	1	5	3		2		1	
Joliette, Que.	1	1								
Montreal, Que.	11	1		10	5	4	1			
Ottawa, Que.	1			1	1					
Pontiac, Que.	1			1	1					
Richelieu, Que.	2			2	2				1	
St. Hyacinthe, Que.	1			1	1				1	
Totals of Quebec.	17	2		15	10	4	1		2	
Algoma & Manitoulin, Ont.	3			3	3				1	
Brant, Ont.	1	1								
Elgin, Ont.	14	7		7	7					
Essex, Ont.	4	2		2	2					1
Grey, Ont.	1			1	1				1	
Haldimand, Ont.	4			4	2	1	1			
Huron, Ont.	2			2	2				2	
Leeds and Grenville, Ont.	2			2	2					2
Lincoln, Ont.	2			2	2				2	
Middlesex, Ont.	7			7	4		3		1	
Nipissing, Ont.	2			2	2					
Peel, Ont.	1			1			1			
Perth, Ont.	1			1	1					1

a Attempted burglary—Tentative de vol avec effraction.

TABLEAU 1. Délits avec violence contre la propriété. CLASSE II.

SENTENCE.						OCCUPATIONS.							CIVIL CONDITION. — ÉTAT CIVIL.		
PENITENTIARY. — PÉNITENCIER.				Committed to Reformatories.	Other Sentences.										
Two years and under five. — Deux ans et m'ns de cinq	Five years and over — Cinq ans et plus.	Life. — A vie	D'th. — De mort	— En vo,rés à la prison de Réforme.	— Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic. — Serviteurs.	Industrial. — Industriels.	Professional — Professions libérales.	Labourers — Journaliers.	Married. — Mariés.	Widowed — En veuvage..	Single — Célibataires.
Divers autres outrages contre la personne—*Fin.*															
								1							1
									1						1
					*c*1						1				1
					*a*1, *b*1	1					1	1			1
					*b*6				6		6	8			4
					*a*2						1				2
					12	1	1	1	7	1	13	12			13
						1				1		1			1
									1			1			
1					13	5	2	1	10	4	18	19			22
Vol avec effraction et ayant en possession des outils de voleur. CLASSE II.															
	1										1				1
											1				1
2	1								2		1	2	1		
2	2								2		3	2	1		2
6				2	*a*2				2		4				10
1											1				1
				1											1
					*a*1				1		1	1			1
7				3	3				3		6	1			13
					*a*2			1	1		1				3
				1	*a*4, *b*2				1		1	1			6
	1										2				2
											1				1
	2				*a*2	2			1		1				4
															2
											2				2
							1				1				2
	4				*a*2	2			1		4	1			6
2											2	1			1
				1					1						1
									1						1

a Sentence suspended—Sentence suspendue. *b* Bound to keep the peace—Tenus de garder la paix.
c To leave town—A laisser la ville.

TABLE I. Offences against property with violence. CLASS II.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non donné.		Moderate — Modéré	Immoderate — Immodéré
				M. — H.	F.	M. — H.	F.	M. — H.	F.	M. — H.	F.	M. — H.	F.		
Various other offences against the person—*Concluded*.															
Muskoka et Parry Sound, Ont.	1								1					1	
Northumberl'd et Durham, O.		1								1					1
Oxford, Ont															
Simcoe, Ont		1						1						1	
Wellington, Ont.	1	1						1		1				2	
Wentworth, Ont.		12						11		1				5	7
York, Ont.		2				1				1				1	1
Totaux d'Ontario.	2	22	1			2		17	1	5				14	11
Manitoba, Centre		1	1					1		1				1	1
Alberta, Nord, Al'ta															
Alberta, Sud, Al'ta															
Saskatchewan, Saskat.												1			
Yukon		1						1						1	
Totaux du Canada	5	34	2			3		29	1	8		2		23	18
Burglary and having burglars' tools. CLASS II.															
Annapolis, N.-E.		1						1						1	
Cumberland, N.-E.		1				1								1	
Halifax, N.-E.		3						2		1				1	2
Totaux de la N.-Ecosse		5				1		3		1				3	2
Joliette, Qué.															
Montréal, Qué.		10		3		3		4						5	5
Ottawa, Qué.		1				1									1
Pontiac, Qué.	1			1										1	
Richelieu, Qué	2							1		1					2
St. Hyacinthe, Qué.												1			
Totaux de Québec.	3	11		4		4		5		1		1		6	8
Algoma et Manitoulin, Ont.		3		1				2						1	2
Brant, Ont															
Elgin, Ont		7		6						1				6	1
Essex, Ont.		2						2							2
Grey, Ont.		1										1			1
Haldimand, Ont.		4						3		1					4
Huron, Ont.		2		1		1								2	
Leeds et Grenville, Ont		1	1					2							2
Lincoln, Ont.		2				1		1						1	1
Middlesex, Ont.		7						7						3	4
Nipissing, Ont.		2				1		1						1	1
Peel, Ont		1				1								1	
Perth, Ont.		1						1						1	

TABLEAU I. Delits avec violence contre la propriété. CLASSE II.

BIRTH PLACES. — LIEUX DE NAISSANCE.							RELIGIONS.							RESIDENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.															
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.	Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists — Méthodistes.	Presbyterians — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.
Divers autres outrages contre la personne—*Fin.*															
			1						1						1
			1								1			1	
			1						1						1
			1		1			1					1	1	1
1			11					4	5	1	2			12	
1				1					2					2	
2			20	2	1			7	9	4	3	1	1	21	4
	1		1					1				1			2
			1							1				1	
2	1		32	2	4			19	11	5	3	2	1	30	11
Vol avec effraction et ayant en possession des outils de voleur. CLASSE II.															
			1									1			1
			1										1	1	
			3					1	2					3	
			5					1	2			1	1	4	1
1			7	1	1			5	3		2	1		10	
			1					1						1	
			1					1							1
			2					2						2	
1			11	1	1			9	3		2	1		13	1
			3					2			1			2	1
			6	1				2		4	1			7	
			2				1		1					2	
			1												1
			4						1				3	2	2
			2						2					2	
			2					2						2	
				2				2						2	
			7					1		2		4		5	2
			1	1				1		1				2	
			1											1	
				1					1						1

TABLE I. Offences against property with violence. CLASS II.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	Number of Charges — Nombre d'accusations.	Acquitted. — Acquittés. M.	F	Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No Option. — SANS OPTION Under one year. — Moins d'un an.	One year and over. — Un an et plus.
Burglary and having burglars' tools—*Concluded.*											
Thunder Bay & Rainy River, O.	3				3	3				1	
Victoria, Ont	2				2	2					
Welland, Ont	1				1	1				1	
York, Ont	29	1			28	18	3	7		10	4
Totals of Ontario	79	11			68	52	4	12		19	8
Manitoba, Central and Western	2	2									
Victoria, B.C	3				3	2	1			1	
Yale, B.C	1				1	1					
Alberta, Northern, Al'ta	4	1			3	1	1	1			
Saskatchewan, Saskat	8	8									
Totals of Canada	122	26	1		95	69	10	16		23	8
House and shopbreaking.											
Queen's, P.E.I.	7	5			2	2				2	
Cape Breton, N.S.	13	11			2	2					
Halifax, N.S.	4	2			2	2				1	
Hants, N.S.	3	1			2			2			
King's, N.S	6	4			2	2				1	1
Pictou, N.S.	6	1			5	5				1	
Yarmouth, N.S.	1				1	1					
Totals of Nova Scotia	33	19			14	12		2		3	1
Albert, N.B.	2	1			1	1					
Charlotte, N.B.	1				1		1				
King's, N.B.	2	2									
St. John, N.B.	1				1		1				
Westmoreland, N.B.	2				2	2				2	
Totals of New Brunswick	8	3			5	3	2			2	
Bedford, Que.	11				11	5	4	2		1	
Gaspé, Que.	2				2	2				1	
Montreal, Que.	a173	11			161	82	35	44	2	75	5
Richelieu, Que.	3	3									
St. Francis, Que.	21	2			19	4	5	10		1	
Three Rivers, Que	2				2	1	1				
Totals of Quebec	212	16			195	94	45	56	2	78	5
Brant, Ont.	4	3			1	1					
Carleton, Ont.	29	6			23	16	4	3		4	
Essex, Ont.	1				1	1					

a One, left the country—Un a laissé le pays.

TABLEAU I. Délits avec violence contre la propriété. CLASSE II.

SENTENCE.						OCCUPATIONS.						CIVIL CONDITION. — ÉTAT CIVIL.		
PENITENTIARY. — PÉNITENCIER.														
Two years and under five. — Deux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie.	D'th. — De mort	Committed to Reformatories — Envoyés à la prison de Réforme.	Other Sentences. — Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels.	Professional — Professions libérales.	Labourers — Journaliers.	Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
Vol avec effraction et ayant en possession des outils de voleur—*Fin.*														
2							1				3		1	2
				2			1							2
											1			1
4	8			1	*a*1		1	2	2		23	1		27
8	15			5	13	4	2	3	8		42	4	1	63
2											3			3
	1										1			1
1	2													
20	20			8	16	4	2	3	13		55	7	2	82
Bris de maison et de magasin.														
														2
2							1				1			2
				1			1				1			2
1				1										2
											1			1
2					*a*2		1				4	1		4
1							1					1		
6				2	2		4				7	2		11
					*a*1						1			1
					*a*1						1	1		
1									1					1
									2					2
1					2				3		2	1		4
5					*a*5						9			11
1											2			2
22	3			3	*a*48, *b*3		17	5	40	1	79	12		149
5	2			1	*a*10		6				12	5		14
2											2	1		1
35	5			4	66		23	5	40	1	104	18		177
				1										1
	2				*a*17		2				5	2		21
1											1			1

a Sentence suspended—Sentence suspendue. *b* Bound to good behavior—A tenir une meilleure conduite.

TABLE I. Offences against property with violence. CLASS II.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non-donné.		Moderate — Modérée	Immoderate — Immoderé
				M. H.	F	M. H.	F.	M. H.	F.	M. H.	F.	M. H.	F		
Burglary and having burglars' tools—*Concluded.*															
Thunder Bay et Rainy Riv., O.		3				1		1		1				2	1
Victoria, Ont	2			2										2	
Welland, Ont		1						1							1
York, Ont		27	1			11		16		1				28	
Totaux d'Ontario	2	64	2	10		16		37		4		1		48	20
Manitoba, Centre et Ouest															
Victoria, Col.-B	1	2						1		2					3
Yale, Col.-B		1						1							1
Alberta, Nord, Al'ta												3			
Saskatchewan, Saskat															
Totaux du Canada	6	83	2	14		21		47		8		5		51	34
House and shopbreaking.															
Queen's, I. du P.-E.		2		2										2	
Cap-Breton, N.-E.			2					2						1	1
Halifax, N.-E.		2				1		1						2	
Hants, N.-E		2		1		1								2	
King's, N.-E.		1				1						1			1
Pictou, N.-E.		5				2		3						5	
Yarmouth, N.-E.		1						1							1
Totaux de la N.-Ecosse		11	2	1		5		7				1		10	3
Albert, N.-B.		1						1						1	
Charlotte, N.-B.		1						1							1
King's N.-E															
St. Jean, N.-B.		1						1						1	
Westmoreland, N.-B.	2							2							2
Totaux du N.-Brunswick	2	3						5						2	3
Bedford, Qué.	2	9		2		3		6						7	4
Gaspé, Qué	1	1				1		1							2
Montréal, Qué.	13	147	1	18		90		46	1	5	1			100	61
Richelieu, Qué															
St. François, Qué	8	11			1	2		11		5				11	8
Trois-Rivières, Qué		2						2						2	
Totaux de Québec	24	170	1	20	1	96		66	1	10	1			120	75
Brant, Ont.		1		1										1	
Carleton, Ont	8	14	1	16		2		5						23	
Essex, Ont		1						1						1	

TABLEAU I. Délits avec violence contre la propriété. CLASSE II.

BIRTH PLACES. — LIEUX DE NAISSANCE.							RELIGIONS.							RESIDENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.															
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.	Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists — Méthodistes.	Presbyterians. — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.
Vol avec effraction et ayant en possession des outils de voleur—*Fin.*															
				1	2			1					2	1	2
			2					1					1	2	
				1								1			1
1			16		11		1	8	6	3	2		8	28	
1			47	7	13		2	21	11	10	4	5	14	58	10
1				1	1			2					1	2	1
				1						1				1	
3			63	10	15		2	33	16	11	6	7	16	78	13
Bris de maison et de magasin.															
			2					2						2	
1		1							1		1			2	
1			1					1	1					2	
			2				1		1					2	
			1									1			1
1			4					2	1		2			3	2
			1					1						1	
3		1	9				1	4	4		3	1		10	3
			1				1								1
			1									1		1	
			1						1					1	
					2			2							2
			3		2		1	2	1			1		2	3
			11					8				3			11
1			1					1	1					1	1
8	1	1	137	11	3		2	121	30	3	2		3	159	2
			15	1	3			13				6		7	12
			2					2							2
9	1	1	166	12	6		2	145	31	3	2	9	3	167	28
			1									1		1	
			23					8		2	1	12		23	
				1					1					1	

TABLE I. Offences against property with violence. CLASS II.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTE COMMISE	Number of Charges — Nombre d'accusations.	Acquitted. — Acquittés. M.	F	Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No option. — Sans option. Under one year. — Moins d'un an.	One year and over. — Un an et plus.
House and shopbreaking—*Concluded.*											
Grey, Ont.	6	6									
Haldimand, Ont.	1				1	1					1
Hastings, Ont.	3				3	2	1			1	
Kent, Ont.	15	7			8	2	3	3		2	
Lambton, Ont.	2				2	1	1				
Lanark, Ont.	2				2	1	1				
Leeds and Grenville, Ont.	3	1			2	2					1
Lennox and Addington, Ont.	1				1	1					
Lincoln, Ont.	2				2		1	1			2
Middlesex, Ont.	4	3			1	1				1	
Muskoka and Parry Sound, Ont.	2	1			1	1				1	
Nipissing, Ont.	6	1			6	6				5	
Northumberland & Durham, O.	2				2	1		1		1	1
Oxford, Ont.	1				1			1			1
Perth, Ont.	1				1	1					
Peterborough, Ont.	1				1	1					
Renfrew, Ont.	2				2	2					
Simcoe, Ont.	1				1	1					
Thunder Bay & Rainy River, O.	4				4	2	2			1	
Victoria, Ont.	1				1		1				
Waterloo, Ont.	3				3	2	1			1	1
Wentworth, Ont.	5	1			4	3	1			1	2
York, Ont.	129	29			100	63	24	13		37	12
Totals of Ontario	232	58			174	112	40	22		55	21
Manitoba, Eastern.	50	3			47	27	9	11		3	1
Manitoba, Western	1				1	1					1
Vancouver, B.C.	8	1			7	7					1
Victoria, B.C.	8	2			6	4	2				
Westminster, B.C.	3	2			1	1					
Yale, B.C.	1				1	1					1
Totals of British Columbia.	20	5			15	13	2				2
Alberta, Northern, Alta.	7	2			5	5				3	1
Alberta, Southern, Alta.	5	3			2	2					
Assiniboia, Eastern, Saskat.	1				1	1				1	
Assiniboia, Western, Saskat.	1				1	1			1		
Saskatchewan, Saskat.	3	3									
Totals of Canada	580	117			462	273	98	91	3	147	32
Robbery—Highway.											
St. Francis, Que.	2	1			1			1			
Brant, Ont.	3				3	3				2	1
Welland, Ont.	1	1									
York, Ont.	47	15			32	30	2			25	2
Totals of Ontario	51	16			35	33	2			27	3

TABLEAU I. Délits avec violence contre la propriété. CLASSE II.

SENTENCE. PENITENTIARY. — PÉNITENCIER. Two years and under five. — Deux ans et m'ns de cinq	Five years and over. — Cinq ans et plus.	Life. — A vie	D'th. — De mort	Committed to Reformatories. — Envoyés à la prison de Réforme.	Other Sentences. — Autres Sentences.	OCCUPATIONS. Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels.	Professional — Professions libérales.	Labourers — Journaliers.	CIVIL CONDITION. — ÉTAT CIVIL. Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
Bris de maison et de magasin—*Con.*														
												1		
					*a*2						1			1
	5				*a*1		1				1	1		7
					*a*2						2			2
					*a*2						2			2
					*a*1	1					1			2
					*a*1									
														2
											1			1
											1			1
1									4		2			6
									1		1			2
									1					1
1														
					*a*1						1			1
	1										2			2
1														
3									1		3		1	3
1									1			1		
					*a*1						2			2
	1								3		1			4
21				5	*a*25		3		12		52	6		94
29	10			6	53	1	6		23		79	11	1	156
2	7			5	*a*29		6	2	6		6	6	1	40
							1							1
4	2						1		1					2
3				3			1		2					6
1											1	1		
											1			1
8	2			3			2		3		2	1		9
1											1			1
1					*a*1	1						1		
83	24			20	153	2	42	7	75	1	201	40	2	401
Vol de grands chemins.														
	1										1			1
											3			3
3					*a*2						31	4		28
3					2						34	4		31

a Sentence suspended—Sentence suspendue.

TABLE I. Offences against property with violence. CLASS II.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non-donné.		Moderate. — Modéré	Immoderate — Immodéré
				M. H.	F	M. H.	F.	M. H.	F.	M. H.	F.	M. H.	F		
House and shopbreaking—*Concluded.*															
Grey, Ont															
Haldimand, Ont		1								1					1
Hastings, Ont		1				1						2			1
Kent, Ont		8		1		3		4						8	
Lambton, Ont		2						2						2	
Lanark, Ont		2						2							2
Leeds et Grenville, Ont	1	1				1		1						1	1
Lennox et Addington, Ont												1			
Lincoln, Ont		2				2								2	
Middlesex, Ont		1						1						1	
Muskoka et Parry Sound, O		1						1						1	
Nipissing, Ont		5	1					6						4	2
Northumberl'd et Durham, O		2				1		1						1	1
Oxford, Ont		1						1							1
Perth, Ont												1			
Peterborough, Ont		1		1										1	
Renfrew, Ont	2					1		1							2
Simcoe, Ont												1			
Th'der Bay et Rainy Riv., Ont		4				1		2		1				3	1
Victoria, Ont		1						1							1
Waterloo, Que		2		1		1						1		2	
Wentworth, Ont		4				2		2						2	2
York, Ont		100		16		47		35		2				93	7
Totaux d'Ontario	11	155	2	36		62		66		4		6		146	22
Manitoba, Est	3	44		28	2	5		11		1				47	
Manitoba, Ouest			1					1						1	
Vancouver, Col.-B		2				1		1				5		1	
Victoria, Col.-B		6		3		1		2						6	
Westminster, Col.-B	1											1			1
Yale, Col.-B		1								1				1	
Totaux de la Col.-Britan.	1	9		3		2		3		1		6		8	1
Alberta, Nord, Alta	1					1						4			1
Alberta, Sud, Alta		1						1				1			1
Assiniboia, Est, Saskat												1			
Assiniboia, Ouest, Saskat												1			
Saskatchewan, Sask															
Totaux du Canada	42	395	6	90	3	171		160	1	16	1	20		336	106
Robbery—Highway.															
St. François, Que		1						1							1
Brant, Ont		3				2		1						3	
Welland, Ont															
York, Ont		32				7		21		4				23	9
Totaux d'Ontario		35				9		22		4				26	9

TABLEAU I. Délits avec violence contre la propriété. CLASSE II.

BIRTH PLACES. — LIEUX DE NAISSANCE.							RELIGIONS.							RESIDENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.			Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists. — Méthodistes.	Presbyterians. — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns — Villes.	Rural Districts — Districts ruraux.
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.													
Bris de maison et de magasin—*Fin.*															
			1										1	1	
				1				1						1	
			4	4				6		2				6	2
			2				2							2	
			2							2				2	
			1	1					1	1					2
			2							2				2	
			1									1		1	
			1								1				1
1			2	2	1			2	3				1	6	
1			1					1	1					2	
			1							1				1	
			1					1						1	
					2					2		1		2	
			2		2						2		2	1	3
			1								1				1
			2											3	
			4					1	2	1				4	
6	3		89			2	3	20	40	13	21		3	100	
8	3		141	9	5	2	5	40	48	26	26	15	7	160	9
5			28		14		2	22	6	5	3	7	2	41	6
			1							1					1
			2											7	
			4	2						1		5		6	
					1									1	
			1									1		1	
			7	2	1					1		6		15	
			1					1						1	
				1									1		1
25	4	2	358	24	28	2	11	216	90	36	34	39	13	398	51
Vol de grands chemins.															
			1					1						1	
			3									3		3	
1	2	1	28				1	16	12	1	2			32	
1	2	1	31				1	16	12	1	2	3		35	

TABLE I. Offences against property with violence. CLASS II.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	Number of Charges — Nombre d'accusations.	Acquitted. — Acquittés. M.	F	Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No OPTION. — SANS OPTION. Under one year. — Moins d'un an.	One year and over. — Un an et plus.
Robbery—Highway—*Concluded.*											
Victoria, B.C	1				1	1					
Totals of Canada	54	17			37	34	2	1		27	3
Robbery and demanding with menaces.											
Cape Breton, N.S.	1	1									
Halifax, N.S.	1				1			1			
Westmoreland, N.B.	1				1	1				1	
Arthabaska, Que	1	1									
Montreal, Que.	21	10		m1	10	4	4	2		2	
St. Hyacinthe, Que.	1				1	1					
Totals of Quebec	23	11		1	11	5	4	2		2	
Brant, Ont.	1	1									
Carleton, Ont.	3	3									
Frontenac, Ont.	4				4		2	2			
Hastings, Ont.	1	1									
Huron, Ont.	1				1	1					
Lambton, Ont	4	1			3	3					
Northumberland & Durham, O.	1	1									
Perth Ont.	3	1			2	1	1				
Wellington, Ont.	1				1		1				
Wentworth, Ont.	6	6									
York, Ont.	5	4			1	1					
Totals of Ontario	30	18			12	6	4	2			
Manitoba, Eastern	9	3			6	3	3				
Vancouver, B.C.	3	3									
Westminster, B.C.	1	1									
Alberta, Northern, Al'ta	1				1	1				1	
Saskatchewan, Saskat	1	1									
Totals of Canada	71	38		1	32	16	11	5		4	
Robbery, assault and											
Colchester, N.S.	2				2	2					
Northumberland, N.B	3				3	3					
Kent, Ont.	2	1			1			1			
Middlesex, Ont	1	1									
Wentworth, Ont	2				2			2		1	1
York, Ont.	9	5			4	4				2	1

TABLEAU I. Delits avec violence contre la propriété. CLASSE II.

SENTENCE.						OCCUPATIONS.						CIVIL CONDITION. — ETAT CIVIL.		
PENITENTIARY. — PÉNITENCIER.				Committed to Reformatories.	Other Sentences.									
Two years and under five. — Deux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie	D'th. — De mort	— — Envoyés à la prison de Réforme.	— — Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels	Professional — Professions libérales.	Labourers — Journaliers.	Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
Vol de grands chemins —*Fin.*														
1														1
4	1				2						35	4		33
Vol et demandes avec menaces.														
1											1			1
									1					1
5	2				*a*1				3		7	3		7
				1							1			1
5	2			1	1				3		8	3		8
4											4			4
					*a*1							1		
					*a*3	3						1		2
1					*a*1				1					1
					*a*1	1						1		
					*a*1		1							1
5					7	4	1		1		4	3		8
1	5						2		1		3			6
12	7			1	8	4	3		6		16	6		24
Vol, voies de fait et														
2											2			2
3									3			3		
1											1			1
											2	1		1
1												2		2

a Sentence suspended—Sentence suspendue.

TABLE I. Offences against property with violence. CLASS II.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non-donné.		Moderate — Modéré	Immoderate — Immoderé
				M. — H.	F	M.	F.	M.	F.	M.	F.	M.	F		
Robbery—Highway—*Concluded.*															
Victoria, Col.-B.		1				1								1	
Totaux du Canada		37				10		23		4				27	10
Robbery and demanding with menaces.															
Cap-Breton, N.-E.															
Halifax, N.-E.		1				1								1	
Westmoreland, N.-B.		1				1									1
Arthabaska, Qué.															
Montréal, Que.	1	9						9		1				1	9
St. Hyacinthe, Qué.		1				1								1	
Totaux de Québec	1	10				1		9		1				2	9
Brant, Ont.															
Carleton, Ont.															
Frontenac, Ont.		4						4						4	
Hastings, Ont															
Huron, Ont.		1							1					1	
Lambton, Ont		3						3						2	1
Northumberl'd et Durham, O.															
Perth, Ont		1				1						1		1	
Wellington, Ont.		1								1				1	
Wentworth, Ont.															
York, Ont.		1						1						1	
Totaux d'Ontario		11				1		8	1	1		1		10	1
Manitoba, Est		6						6						4	2
Vancouver, Col.-B.															
Westminster, Col.-B.															
Alberta, Nord, Al'ta												1			
Saskatchewan, Saskat.															
Totaux du Canada	1	29				4		23	1	2		2		17	13
Robbery, assault and															
Colchester, N.-E.		2				2									2
Northumberland, N.-B.		3						3						3	
Kent, Ont.		1						1						1	
Middlesex, Ont.															
Wentworth, Ont.		2						2						1	1
York, Ont.		4						4						4	

TABLEAU I. Délits avec violence contre la propriété. CLASSE II.

BIRTH PLACES. — LIEUX DE NAISSANCE.							RELIGIONS.							RESIDENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.															
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.	Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists — Méthodistes.	Presbyterians. — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.
Vol de grands chemins—*Fin.*															
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....
1	2	1	33	.....	.....	.....	1	17	12	1	2	4	.....	37	.....
Vol et demandes avec menaces.															
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....
.....	.....	.....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
2	1	1	5	.....	1	.....	.....	6	3	.....	1	.....	.....	10	.....
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
2	1	1	6	.....	1	.....	.....	7	3	.....	1	.....	.....	10	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	4	.....	.....	.....	.....	1	3	.....	.....	.....	.....	4	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
.....	.....	.....	3	.....	.....	.....	.....	.....	.....	1	1	.....	1	.....	3
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	1
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....
.....	.....	.....	11	.....	.....	.....	.....	3	3	2	1	.....	2	6	6
.....	.....	.....	5	1	.....	.....	.....	1	.....	2	2	.....	1	5	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
2	1	1	24	1	1	...	1	12	6	4	4	.....		23	8
Vol, voies de fait et															
.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....
.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	3	.....	.....	3	.....
.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	2	.....	.....	.....	.....	1	.....	1	.....	.....	.....	2	.....
.....	.....	.....	4	.....	.....	.....	.....	2	2	.....	.....	.....	.....	4	.....

TABLE I. Offences against property with violence. CLASS II.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	Number of Charges — Nombre d'accusations.	Acquitted. — Acquittés. M.	Acquitted. — Acquittés. F	Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No Option. — Sans option. Under one year. — Moins d'un an.	One year and over. — Un an et plus.
Robbery, assault and—*Concluded.*											
Totals of Ontario	14	7			7	4		3		3	2
Vancouver, B.C	2				2	2					1
Yale, B.C	1				1	1					
Assiniboia, Eastern, Saskat	1	1									
Assiniboia, Western, Saskat	1	1									
Yukon	1	1									
Totals of Canada	25	10			15	12		3		3	3
Warehouse and freight car breaking.											
Queen's, P.E.I	2	2									
Halifax, N.S	1				1	1					
Montreal, Que	1				1			1			
St. Francis, Que	2				2	2					
Elgin, Ont	1	1									
Essex, Ont	4				4	4					4
Kent, Ont	2	2									
Peterborough, Ont	2				2	2			2		
Simcoe, Ont	2				2	2				2	
Victoria, Ont	1				1	1					
Welland, Ont	2				2	2				2	
York, Ont	4	4									
Totals of Ontario	18	7			11	11			2	4	4
Assiniboia, Western, Saskat	1	1									
Totals of Canada	25	10			15	14		1	2	4	4
Offences against property without violence. CLASS III.											
Bringing stolen property into Canada.											
Charlotte, N.B.	1	1									
Bedford, Que	2	1			1	1				1	
Middlesex, Ont	1				1	1				1	
Assiniboia, Western, Saskat	1				1	1					
Totals of Canada	5	2			3	3				2	

TABLEAU I. Délits avec violence contre la propriété. CLASSE II.

SENTENCE.						OCCUPATIONS.						CIVIL CONDITION. — ÉTAT CIVIL.		
PENITENTIARY. — PÉNITENCIER.														
Two years and under five. — Deux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie	D'th. — De mort	Committed to Reformatories. — Envoyés à la prison de Réforme.	Other Sentences. — Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels.	Professional — Professions libérales.	Labourers — Journaliers.	Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
Vol, voies de fait et—*Fin.*														
2											3	3		4
1											1			1
					*a*1						1			1
8					1				3		7	6		8
Bris d'entrepôts et de wagons à fret.														
					*a*1						1			1
1											1		1	
2											2			2
									1		2			3
											2			2
				1										1
											2			2
				1					1		6			8
3				1	1				1		10		1	11
Délits sans violence contre la propriété. CLASSE III.														
Effets volés apportés au Canada.														
												1		
									1			1		
	1					1						1		
	1					1			1			3		

a Sentence suspended—Sentence suspendue.

TABLE I. Offences against property with violence. CLASS II.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ETÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non-donné.		Moderate — Modéré	Immoderate — Immodéré
				M. H.	F	M. H.	F.	M. H.	F.	M. H.	F.	M. H.	F		
Robbery—Assault and —*Concludad.*															
Totaux d'Ontario		7						7						6	1
Vancouver, Col.-B		1						1				1			
Yale, Col.-B		1						1							1
Assiniboia, Est, Saskat															
Assiniboia, Ouest, Sasket															
Yukon															
Totaux du Canada		14				2		12				1		9	4
Warehouse and freight car breaking.															
Queen's, I. du P.-E															
Halifax, N.-E	1					1								1	
Montreal, Qué		1								1					1
St. François, Qué		2						2						2	
Elgin, Ont.															
Essex, Ont		3				3						1			3
Kent, Ont															
Peterborough, Ont												2			
Simcoe, Ont		2				2									2
Victoria, Ont		1		1										1	
Welland, Ont		2						2						2	
York, Ont															
Totaux d'Ontario		8		1		5		2				3		3	5
Assiniboia, Ouest, Saskat															
Totaux du Canada	1	11		1		6		4		1		3		6	6

Offences against property without violence. CLASS III.

Bringing stolen property into Canada.															
Charlotte, N.-B															
Bedford, Que	1								1					1	
Middlesex, Ont		1						1						1	
Assiniboia, Ouest, Sask		1						1						1	
Totaux du Canada	1	2						2	1					3	

TABLEAU I. Délits avec violence contre la propriété. CLASSE II.

BIRTH PLACES — LIEUX DE NAISSANCE. British Isles — Iles Britanniques. England and Wales — Angleterre et Galles	Ireland — Irlande	Scotland — Ecosse	Canada	United States — Etats-Unis	Other Foreign Countries — Autres pays étrangers	Other British Possessions — Autr's possessions Britanniques	RELIGIONS. Baptists — Baptistes	R. Catholics — Catholiques	Ch. of England — Eglise d'Angleterre	Methodists — Méthodistes	Presbyterians — Presbytériens	Protestants	Other Denominations — Autr's confessions	RESIDENCE. Cities and Towns—Villes	Rural Districts—Districts ruraux
Vol, voies de fait et—*Fin*.															
			7					3	3	1				7	
1										1				2	
				1							1			1	
1			9	1	3			3	6	2	3			15	
Bris d'entrepôts et de wagons à fret.															
			1					1						1	
			1					1						1	
			2									2			2
		1	1	1			1			1	1			1	2
				2				2							2
			1												
				2				2						2	
		1	2	5			1	4		1	1			3	4
		1	6	5			1	6		1	1	2		5	6

Délits sans violence contre la propriété. CLASSE III.

England and Wales	Ireland	Scotland	Canada	United States	Other Foreign Countries	Other British Possessions	Baptists	R. Catholics	Ch. of England	Methodists	Presbyterians	Protestants	Other Denominations	Cities and Towns	Rural Districts
Effets volés apportés au Canada.															
			1					1							1
				1				1						1	
				1						1					1
			1	2				2		1				1	2

TABLE I. Offences against property without violence. CLASS III.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	Number of Charges — Nombre d'accusations	Acquitted. — Acquittés. M.	F	Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No OPTION. — SANS OPTION Under one year. — Moins d'un an.	One year and over. — Un an et plus.
Embezzlement.											
Cape Breton, N.S.	1				1	1				1	
Cumberland, N.S	1				1	1					
Montreal, Que.	2		1		1	1					
Brant, Ont	1				1	1			1		
Wentworth, Ont.	2				2		1	1		2	
York, Ont.	1				1	1			1		
Westminster, B.C.	2	2									
Yale, B.C.	1				1	1					
Saskatchewan, Saskat.	2				2	2				1	
Totals of Canada	13	2	1		10	8	1	1	2	4	
False pretences.											
Cape Breton, N.S.	2	1			1	1					
Halifax, N.S.	11	4	3		4	4				3	
Carleton, N.B.	1				1	1				1	
King's, N.B.	4	4									
Arthabaska, Que.	3				3	1	1	1			1
Beauce, Que.	1				1	1				1	
Bedford, Que	3	2			1	1				1	
Gaspé, Que	1	1									
Iberville, Que.	1				1	1				1	
Montreal, Que.	53	15	2		36	21	5	10	8	a16	
Ottawa, Que.	3				3	1	1	1		1	
Quebec, Que.	12	4			8	6	2			3	
Rimouski, Que.	1				1			1		1	
St. Francis, Que	3	1			2	2				1	
St. Hyacinthe, Que	1				1	1				1	
Totals of Quebec	82	23	2		57	35	9	13	8	26	1
Algoma and Manitoulin, Ont.	2				2	2				2	
Brant, Ont	4	2			2	2			2		
Bruce, Ont.	1				1	1			1		
Carleton, Ont	5	2			3	2	1				1
Elgin, Ont	1				1		1				1
Essex, Ont	2				2	1	1				2
Frontenac, Ont.	1	1									
Grey, Ont.	2				2	1	1			1	
Haldimand, Ont.	1				1	1					
Hastings, Ont.	2				2	2				2	
Huron, Ont.	3	2			1	1				1	
Kent, Ont.	2				2	2			1	1	
Lambton, Ont.	3	2			1		1				

a One, both jail and $15—Un, la prison et $15 d'amende.

TABLEAU I. Délits sans violence contre la propriété. CLASSE III.

SENTENCE.						OCCUPATIONS.						CIVIL CONDITION. — ÉTAT CIVIL.		
PENITENTIARY. — PÉNITENCIER.														
Two years and under five. — Deux ans et m'ns de cinq.	Five years and ov r. — Cinq ans et plus.	Life. — A vie	D'th. — De mort	Committed to Reformatories — Envoyés à la prison de Réforme.	Other Sentences. — Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels.	Professional — Professions libérales.	Laborers — Journaliers.	Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
Détournement.														
											1			1
					*a*1		1					1		
					*a*1						1	1		
									1			1		
									1		1	1		1
							1					1		
1							1					1		
					*b*1					1				1
1					3		3		2	1	3	6		3
Faux prétextes.														
1									1					1
				1			1	2	1			1	1	2
						1						1		
					*a*2		3							3
											1	1		
							1							1
							1					1		
1				1	*a*10		16	1	14		5	17		19
2									1		2	1		2
					*a*5	1	3		4			2		6
											1	1		
					*a*1		2					1		1
											1	1		
3				1	18	1	26	1	19		10	25		32
					*a*2		3					2		1
											1			1
							1		1			2		
					*a*1						2			2
					*c*1		1					1		
							1				1	2		
						1			1			2		
1						1								1

a Sentence suspended—Sentence suspendue. *b* Costs of court and pay back funds—Frais de la cour et à remettre les fonds. *c* Settled by restitution—Réglé en faisant restitution.

TABLE I. Offences against property without violence. CLASS III.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ni d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non-donné.		Moderate — Modéré	Immoderate — Immodéré
				M. H.	F	M. H.	F.	M. H.	F.	M. H.	F.	M. H.	F		
Embezzlement.															
Cap-Breton, N.-E.	..	1	...	....	..	1	....	....	....	....	....	....	....	1	....
Cumberland, N.-E.	..	1	..	....	..	....	....	1	....	....	....	....	..	1	....
Montréal, Qué	.....	1	...	...	..	....	....	1	....	...	....	....	.	1	....
Brant, Ont.	.....	1	...	...	..	....	....	1	....	.	....	....	..	1	....
Wentworth, Ont.	..	2	....	....	..	1	....	1	....	....	....	....	..	2	....
York, Ont.	.....	1	.....	....	..	....	....	1	....	....	....	....	..	1	...
Westminster, Col.-B.	.....	.....	.....	....	..	....	....	....	....	....	....	....	..	.....	....
Yale, Col.-B.	....	...	1	....	..	....	....	1	....	....	....	....	..	1	....
Saskatchewan, Saskat.	.....	.....	1	..	..	....	..	1	..	....	....	1	..	....	1
Totaux du Canada.	.....	7	2	....	..	2	..	7	....	....	....	1	..	8	1
False pretences.															
Cap-Breton, N.-E.	...	1	.....	....	..	....	....	....	1	....	....	....	..	1	....
Halifax, N.-E.	.....	4		...	..	1	1	...	...	1	1	...	..	4	..
Carleton, N.-B.	..	1	.....	....	..	....	....	....	....	1	....	....	..	1	....
King's, N.-B.	.	...	.....	....	..	....	....	....	....	...	....	....	..	....	....
Arthabaska, Qué	.....	3	.....	....	..	....	....	3	....	....	....	....	..	3	....
Beauce, Qué.	..	1	.....	....	..	1	....	....	....	....	....	....	..	1	....
Bedford, Qué.	.....	1	.....	....	..	....	....	1	....	....	....	....	..	....	1
Gaspé, Qué	..	....	.....	....	..	....	....	....	....	....	....	....	..	....	....
Iberville, Qué.	.....	.....	1	....	..	....	....	1	....	....	....	....	..	1	....
Montréal, Qué.	4	32	..	1	..	8	....	25	....	2	....	....	..	5	31
Ottawa, Qué	.....	2	1	....	..	....	....	2	....	1	....	....	..	....	3
Québec, Qué.	.....	7	1	....	..	....	....	6	1	1	....	....	..	4	4
Rimouski, Qué	.....	1	..	....	..	....	....	....	....	1	....	....	..	1	....
St. François, Qué.	.....	2	.	....	..	....	....	1	....	1	....	....	..	2	....
St. Hyacinthe, Qué.	..	1	.....	....	..	....	....	1	....	....	....	....	..	1	....
Totaux de Québec.	4	50	3	1	..	9	...	40	1	6	....	....	..	18	39
Algoma et Manitoulin, Ont.	....	....	....	....	..	....	....	....	....	....	....	2	....	....	....
Brant, Ont.	....	....	....	....	..	....	....	....	....	....	....	2	....	....	....
Bruce, Ont	....	....	....	....	..	....	....	....	....	....	....	1	....	....	....
Carleton, Ont.	..	3	.....	....	..	1	...	2	....	....	....	....	..	3	....
Elgin, Ont	...	1	.....	....	..	....	....	1	....	....	....	....	..	....	1
Essex, Ont.	.....	1	.....	....	..	....	....	2	....	....	....	....	..	1	....
Frontenac, Ont.	..	....	..	....	..	....	....	....	....	....	....	....	..	....	....
Grey, Ont	.....	2	.....	....	..	....	....	2	....	....	....	....	..	1	1
Haldimand, Ont	.....	1	.	....	..	....	....	1	....	....	....	....	..	1	....
Hastings, Ont.	....	2	...	....	..	....	....	1	....	1	.	....	..	1	1
Huron, Ont.	....	....	....	....	..	....	....	....	....	....	....	1	....	....	....
Kent, Ont.	.....	2	.....	....	..	....	....	2	....	....	....	....	..	2	....
Lambton, Ont.	....	1	....	....	..	1	....	....	....	....	....	....	..	....	1

TABLEAU I. Délits sans violence contre la propriété. CLASSE III.

BIRTH PLACES. — LIEUX DE NAISSANCE.							RELIGIONS.							RESIDENCE	
BRITISH ISLES. — ILES BRITANNIQUES.			Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists — Méthodistes.	Presbyterians. — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.													
Détournement.															
			1								1			1	
			1								1				1
			1					1						1	
			1									1		1	
			1		1					1			1	2	
			1								1			1	
1									1					1	
		1							1					1	
1		1	6		1			1	2	1	3	1	1	8	1
Faux prétextes.															
			1					1						1	
	1		2		1			3	1					4	
			1				1								1
			3					3						3	
			1					1							1
				1								1			1
			1					1						1	
1			32		3			30	1		2	1	2	33	3
			2	1				2				1		2	1
			8					7				1		5	3
			1					1						1	
			2					1				1		2	
			1					1						1	
1			51	2	3			47	1		2	5	2	48	9
			1		2			1					2	3	
			1							1					1
			1							1				2	
			2							1	1			1	1
			1							1				1	
			2						1			1		2	
			2							1	1			1	1
			1								1				1

TABLE I. Offences against property without violence. CLASS III.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	Number of Charges — Nombre d'accusations.	Acquitted. — Acquittés. M.	F	Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No Option. — Sans option. Under one year. — Moins d'un an.	One year and over — Un an et plus.
False pretences—*Concluded.*											
Lanark, Ont	1				1	1					
Leeds and Grenville, Ont	3				3	3				1	
Lennox and Addington, Ont	2	2									
Muskoka and Parry Sound, Ont	2				2	2				1	
Nipissing, Ont	3				3	3					
Norfolk, Ont	1				1	1					
Northumberland & Durham, O	7	2			5	4		1		1	
Oxford, Ont	*a*4				3	3			1		
Peel, Ont	2	1			1	1					
Perth, Ont	6	1			5	5				1	
Peterborough, Ont	4				4	3	1			3	
Prescott and Russell, Ont	1	1									
Renfrew, Ont	1				1	1			*b*1		
Thunder Bay & Rainy River, O	2				2	2			2		
Victoria, Ont	2				2	1	1				
Waterloo, Ont	2	2									
Welland, Ont	7	4			3	3					
Wellington, Ont	2	1			1	1					
Wentworth, Ont	3				3	2	1			2	
York, Ont	9	7			2	2				1	
Totals of Ontario	93	30			62	53	8	1	8	17	4
Manitoba, Central	5	1			4	4				1	1
Manitoba, Eastern	7				7	5	1	1		2	1
Manitoba, Western	3				3	3			1		
Totals of Manitoba	15	1			14	12	1	1	1	3	2
Cariboo, B.C	1				1	1				1	
Vancouver, B.C	16	6	1		9	8	1		1	6	
Victoria, B.C	8				8	5	3			7	1
Yale, B.C	1				1	1					1
Totals of British Columbia	26	6	1		19	15	4		1	14	2
Alberta, Northern, Al'ta	19	7			12	12				3	3
Alberta, Southern, Al'ta	8	2			6	6				3	
Totals of Al'ta	27	9			18	18				6	3
Assiniboia, Eastern, Saskat	10	3			7	7			1	4	
Assiniboia, Western, Saskat	9	1			8	7	1			5	
Saskatchewan, Saskat	8	5			3	3				2	
Totals of Saskat	27	9			18	17	1		1	11	
Yukon	4				4	2	1	1		4	
Totals of Canada	292	87	6		198	158	24	16	19	85	12

a One, jury disagreed—Un, les jurés ne se sont pas accordés. *b* Left town—A quitté la ville.

TABLEAU I. Délits sans violence contre la propriété. CLASSE III.

SENTENCE.						OCCUPATIONS.						CIVIL CONDITION. — ÉTAT CIVIL.		
PENITENTIARY. — PÉNITENCIER.														
Two years and under five. — Deux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie	D'th. — De mort	Committed to Reformatories. — Envoyés à la prison de Réforme.	Other Sentences. — Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels.	Professional — Professions libérales.	Labourers — Journaliers.	Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
Faux prétextes—*Fin.*														
					*a*1									
					*a*2		1		1		1	2		1
					*a*1						1			1
					*a*3		1					1		
					*a*1						1			1
					*a*1, *b*3	1	2				2	3		2
					*a*2									
					*a*1					1		1		
					*a*4		2				3			5
					*a*1		1		1		1	2		2
											2			1
					*a*2					2				2
					*a*3	1						1		
					*a*1	1						1		
					*a*1		2				1	3		
					*a*1		2					2		
1					32	5	17		4	3	16	25		20
					*b*2	1	3							4
					*a*4	1	3		1		2	4		3
					*a*2									
					8	2	6		1		2	4		7
											1			1
2							2						1	2
						1	1	1	1	2	2	3	2	3
									1					1
2						1	3	1	2	2	3	3	3	7
2					*a*4	2					1			2
2					*a*1		1		2		1	2		2
4					5	2	1		2		2	2		4
1					*a*1									
2					*a*1	2	2		1	2		4	2	1
					*a*1	1								1
3					3	3	2		1	2		4	2	2
							3		1			3		1
14				2	66	15	59	4	32	7	33	68	6	76

a Sentence suspended—Sentence suspendue. *b* Settled by restitution—Réglé par restitution.

TABLE I. Offences against property without violence. CLASS III.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non-donné.		Moderate — Modéré	Immoderate — Immoderé
				M.	F	M.	F.	M.	F.	M.	F.	M.	F		
				H.	F	H.	F.	H.	F.	H.	F.	H.	F		
False pretences—*Concluded.*															
Lanark, Ont												1			
Leeds et Grenville, Ont		3				1		2						1	2
Lennox et Addington, Ont															
Muskoka et Parry Sound, O												2			
Nipissing, Ont		1								1		2			1
Norfolk, Ont		1						1						1	
Northumberl'd et Durham, O	1	4						1		4				2	3
Oxford, Ont												3			
Peel, Ont		1								1				1	
Perth, Ont		5				1		4						3	2
Peterborough, Ont		3	1			1		3						1	3
Prescott et Russell, Ont															
Renfrew, Ont												1			
Th'der Bay et Rainy Riv., Ont		2								1		1		1	1
Victoria, Ont			2					2						2	
Waterloo, Ont															
Welland, Ont		1						1				2		1	
Wellington, Ont		1						1						1	
Wentworth, Ont		3						3						3	
York, Ont		2						1		1				2	
Totaux d'Ontario	1	40	3			5		30		9		18		28	16
Manitoba, Centre		1	3							1		3		2	
Manitoba, Est	1	5	1			1		5		1				7	
Manitoba, Ouest												3			
Totaux de Manitoba	1	6	4			1		5		2		6		9	
Caribou, Col.-B		1						1						1	
Vancouver, Col.-B		3						2		1		6			
Victoria, Col.-B		6	2					5		3				5	3
Yale, Col.-B	1							1						1	
Totaux de la Col.-Britann.	1	10	2					9		4		6		7	3
Alberta, Nord, Al'ta	2					1		1				10		2	1
Alberta, Sud, Al'ta		4						4				2		3	1
Totaux d'Alberta	2	4				1		5				12		5	2
Assiniboia, Est, Sask												7			
Assiniboia, Ouest, Saskat		4	3					4		3		1		6	1
Saskatchewan, Sask		1				1						2		1	
Totaux de Saskatchewan		5	3			1		4		3		10		7	1
Yukon		1	3					4						4	
Totaux du Canada	9	122	18	1		18	1	98	1	26	1	52		84	61

TABLEAU I. Délit sans violence contra la propriété. CLASSE III.

BIRTH PLACES. — LIEUX DE NAISSANCE.							RELIGIONS.							RESIDENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.			Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists. — Méthodistes.	Presbyterians. — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.													
Faux prétextes—*Fin.*															
...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	1	1	1	.....	.....	.....	.....	2	.....	.....	1	2	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	.....
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
1	.....	.....	3	.....	1	.....	1	1	2	1	.....	.....	.....	4	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
1	.....	.....	4	.....	.....	.....	.....	1	3	.....	1	.....	.....	4	1
1	.....	.....	2	1	.....	.....	.....	2	.....	2	.....	.....	.....	4	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
...	1	.....	1	.....	.....	.....	.....	1	1	.....	.....	.....	.....	1	1
.....	.....	.....	2	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	2	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1
1	.....	.....	2	.....	.....	.....	.....	2	1	.....	.....	.....	.....	3	.....
...	.....	.....	1	.....	1	.....	.....	.....	.....	1	.....	.....	1	2	.....
4	2	.....	31	2	5	.....	1	10	9	11	6	3	4	35	12
1	..	1	1	.....	.....	...	.....	.....	...	.....	1	.....	...	3	1
3	1	1	1	.....	1	.....	...	2	3	.....	1	.....	1	4	3
.....	.....	.....	..	..	.....	.....	...	.....	.....	.....	.....	.....	...	...	...
4	1	2	2	.....	1	.....	....	2	3	.....	2	.....	1	7	4
.....	.....	.....	.....	1	...	...	.....	1	.....	.....	.....	.....	.....	1	.....
.....	2	...	...	1	.....	.....	.....	.....	.....	.....	.....	.....	...	8	.....
3	1	.....	2	1	1	1	.....	1	1	3	1	.....	2	8	.....
..	.....	.....	...	...	1	...	.....	1	...	.....	.....	.....	.....	1	....
3	3	.....	2	3	2	1	.....	3	1	3	1	.....	2	18	.....
1	.....	1	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	3
1	.....	1	3	.....	...	.....	.....	2	...	1	1	1	.....	2	2
2	.....	2	3	..	.....	...	....	2	1	1	2	1	....	2	5
..	..	...	.....	...	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
3	...	2	...	2	...	.....	.....	.....	2	3	2	.....	.....	4	3
....	...	.....	1	...	.....	.....	.....	.....	1	.....	.....	.....	.....	1	1
3	.....	2	1	2	.....	...	....	...	3	3	2	.....	.....	5	4
.....	.....	.....	3	1	.....	...	.....	.....	3	1	.....	...	...	4	.....
17	7	6	97	10	12	1	2	68	22	19	15	9	9	124	35

TABLE I. Offences against property without violence. CLASS III.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	Number of Charges — Nombre d'accusations	Acquitted. — Acquittés. M.	F	Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No OPTION. — SANS OPTION Under one year. — Moins d'un an.	One year and over. — Un an et plus.
Feloniously receiving and in possession of stolen goods.											
Prince, P.E.I.	1				1	1					
Cape Breton, N.S.	2				2	1	1				1
Halifax, N.S.	9	6	3								
King's, N.S.	2				2	2					
Totals of Nova Scotia	13	6	3		4	3	1				1
Bedford, Que.	3	1	2								
Montreal, Que.	a43	13	1		28	20	5	3	4	b10	3
Ottawa, Que.	2				2	2				1	1
Quebec, Que.	1				1	1					
Totals of Quebec	49	14	3		31	23	5	3	4	11	4
Algoma and Manitoulin, Ont.	1				1	1					
Brant, Ont.	3				3	3			2	1	
Carleton, Ont.	4	3	1								
Elgin, Ont.	1				1	1				1	
Lanark, Ont.	1				1	1					
Nipissing, Ont.	1				1	1				1	
Oxford, Ont.	2	1			1		1				
Peterborough, Ont.	1	1									
Thunder Bay & Rainy River, O.	3				3	2	1				2
Welland, Ont.	3				3	3					
Wentworth, Ont.	2	1			1		1				
York, Ont.	23	15	3		5	5			1	1	
Totals of Ontario	45	21	4		20	17	3		3	4	2
Manitoba, Central	1				1	1				1	
Manitoba, Eastern	1				1	1				1	
Vancouver, B.C.	13	12			1	1				1	
Westminster, B.C.	3	1			2	1		1		2	
Yale, B.C.	1				1	1				1	
Totals of British Columbia	17	13			4	3		1		4	
Alberta, Northern, Al'ta.	3				3	3				2	
Alberta, Southern, Al'ta.	2	1			1	1				1	
Totals of the Alberta.	5	1			4	4				3	
Assiniboia, Eastern, Saskat.	7	3			4	4			3		
Assiniboia, Western, Saskat.	7	6			1	1					
Saskatchewan, Saskat.	1	1									
Totals of Saskatchewan	15	10			5	5			3		
Yukon	2	1			1			1			
Totals of Canada	149	66	10		72	58	9	5	10	24	7

a One left the country—Un a laissé le pays. *b* One, both jail and $50—Un, la prison et $50.

TABLEAU I. Délits sans violence contre la propriété. CLASSE III.

SENTENCE.						OCCUPATIONS.						CIVIL CONDITION. — ÉTAT CIVIL.		
PENITENTIARY. — PÉNITENCIER.														
Two years and under five. — Deux ans et m'ns de cinq.	Five years and ov r. — Cinq ans et plus.	Life. — A vie	D'th. — De mort	Committed to Reformatories — Envoyés à la prison de Réform'me.	Other Sentences. — Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels.	Professional — Professions libérales.	Labourers — Journaliers.	Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
Recel et en possession d'effets volés.														
1											1			1
1									2			1	1	
					*b*2									
1					2				2			1	1	
2	2				*a*7		9		6		9	12	1	13
											2	1		1
					*a*1						1	1		
2	2				8		9		6		12	14	1	14
					*a*1				1					1
							2				1	2		1
					*a*1				1			1		
									1				1	
					*a*1						1			1
					*c*1						2			2
					*a*3									3
					*a*1		1					1		
				1	*a*2		3					2		3
				1	10		6		3		4	6	1	11
											1			1
									1					1
											1	1		
							1						1	2
							1							
							2				1	1	1	2
1						1						1		
1						1						1		
					*a*1									
					*a*1									
					2									
					*a*1				1					1
5	2			1	23	1	17		13		19	23	4	31

a Sentence suspended—Sentence suspendue. *b* Bound to be of a good behaviour—Pris l'engagement de tenir une meilleure conduite. *c* To return goods and pay costs—A remettre les effets et à payer les frais.

TABLE I. Offences against property without violence. CLASS III.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ETÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.												USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non-donné.		Moderate — Modéré	Immoderate — Immodéré
				M.	F	M.	F.	M.	F.	M.	F.	M.	F				
				H.	F	H.	F.	H.	F.	H.	F.	H.	F				
Feloniously receiving and in possession of stolen property.																	
Prince, I. du P.-E		1				1											1
Cap-Breton, N.-E	1	1						2									2
Halifax, N.-E																	
King's, N.-E				2													
Totaux de la N.-Ecosse	1	1		2				2									2
Bedford, Qué																	
Montréal, Qué	1	25				8	1	11		5	1	2		15		1	
Ottawa, Qué	1	1				1				1				1		1	
Québec, Qué	1							1								1	
Totaux de Québec	3	26				9	1	12		6	1	2		16		3	
Algoma et Manitoulin, Ont		1						1								1	
Brant, Ont		3								3				2		1	
Carleton, Ont																	
Elgin, Ont												1					
Lanark, Ont		1						1								1	
Nipissing, Ont		1								1						1	
Oxford, Ont		1		1										1			
Peterborough, Ont																	
Th'der Bay et Rainy Riv., O		2						2				1		2			
Welland, Ont		3		3										3			
Wentworth, Ont	1								1					1			
York, Ont		4	1	1			1	2		1				5			
Totaux d'Ontario	1	16	1	5			1	6	1	5		2		14		4	
Manitoba, Centre		1										1					
Manitoba, Est		1						1								1	
Vancouver, Col.-B		1						1									
Westminster, Col.-B	1	1						2						1		1	
Yale, Col.-B		1						1								1	
Totaux de la Col.-Britan	1	3						4						1		2	
Alberta, Nord, Al'ta	1							1				2		1			
Alberta, Sud, Al'ta												1					
Totaux d'Alberta	1							1				3		1			
Assiniboia, Est, Saskat												4					
Assiniboia, Ouest, Saskat												1					
Saskatchewan, Sask																	
Totaux de Saskatchewan												5					
Yukon		1						1						1			
Totaux du Canada	7	50	1	7		10	2	27	1	11	1	13		33		13	

TABLEAU I. Délits sans violence contre la propriété. CLASSE III.

BIRTH PLACES. — LIEUX DE NAISSANCE.							RELIGIONS.							RESIDENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.															
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.	Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists — Méthodistes.	Presbyterians. — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.
Recel et en possession d'effets volés.															
			1						1						1
			2					2						2	
			2					2						2	
1			21	1	5			21	1				6	24	2
			2					2						2	
			1					1						1	
1			24	1	5			24	1				6	27	2
			1						1						1
			3					1	1			1		3	
			1					1						1	
			1					1						1	
			1						1					1	
				2								2		2	
			3											3	
		1									1			1	
			3	1	1			1	1		2		1	5	
		1	13	3	1			4	4		3	3	1	17	1
			1					2						1	
	1							1			1			1	
	1							3						1	
			1											1	1
			1											1	
	2		2											3	1
					1								1		1
					1								1		1
					1								1	1	
1	3	1	43	4	8			33	5	1	4	3	9	52	6

TABLE I. Offences against property without violence. CLASS III.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	Number of Charges — Nombre d'accusations.	Acquitted. — Acquittés. M.	F	Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No OPTION. — SANS OPTION. Under one year. — Moins d'un an.	One year and over — Un an et plus.
Fraud and conspiracy to defraud.											
Yarmouth, N.S.	1				1	1				1	
Arthabaska, Que	1				1		1			1	
Chicoutimi, Que.	1				1	1				1	
Montreal, Que.	a7	4			2	2				2	
Quebec, Que.	2	2									
St. Francis, Que	2	1			1	1				1	
Totals of Quebec	13	7			5	4	1			5	
Brant, Ont.	14	2			12	6	2	4	2	9	
Carleton, Ont.	1	1									
Hastings, Ont.	12	7			5	4	1		2	2	
Kent, Ont.	1	1									
Middlesex, Ont.	13	6			7	6	1			2	2
Nipissing, Ont	3	2			1	1			1		
Peel, Ont.	2	2									
Perth, Ont.	4	3			1	1				1	
Peterborough, Ont.	1	1									
Prescott and Russell, Ont.	1	1									
Simcoe, Ont.	7	2			5	3	1	1		3	
Welland, Ont.	1				1	1					
Wentworth, Ont	13	6			7	2	1	4		1	
York, Ont.	66	47	2		17	15	1	1	1	7	1
Totals of Ontario	139	81	2		56	39	7	10	6	25	3
Manitoba, Eastern	8	1			7	5	1	1	1	2	
Vancouver, B.C	1				1	1					1
Alberta, Northern, Al'ta	6	2			4	4			1	2	
Alberta, Southern, Al'ta	4	2			2	2				2	
Assiniboia, Eastern, Saskat.	4	4									
Assiniboia, Western, Saskat	3	1			2	2			1		
Saskatchewan, Saskat.	8	4			4	4			3		
Totals of Saskat	15	9			6	6			4		
Totals of Canada	187	102	2		82	62	9	11	12	37	4
Horse, cattle and sheep stealing.											
Queen's, P.E.I.	4	4									
Cumberland, N.S	1				1	1					
Pictou, N.S.	1	1									
Beauharnois, Que.	1				1	1					1
Bedford, Que	3	2			1		1				

a One left the country—Un a laissé le pays.

TABLEAU I. Délits sans violence contre la propriété. CLASSE III.

SENTENCE.						OCCUPATIONS.						CIVIL CONDITION. — ÉTAT CIVIL.		
PENITENTIARY. — PÉNITENCIER.														
Two years and under five. — Deux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie	D'th. — De mort	Committed to Reformatories. — Envoyés à la pri'son de Réforme.	Other Sentences. — Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels.	Professional — Professions libérales.	Labourers — Journaliers.	Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
Fraude et conspiration de fraude.														
.....	.....	...	.....	.....	....	...	1	....	....	.....	.....	1	..	.....
.....	.....	.....	.. ...	.....	....	....	1	.....	... ..	.....	....	1	.....	.....
.....	.....	....	....	.....	.....	.. ..	.....	.....	.. ..	....	.. ..	.....	....	.. ..
.....	.....	.....	..	.....	....	....	2	.....	...	.....	.....	2	.....	.....
.....	.....	.....	....	.....	.....	.....	... .	.....	.....	.....	.....	... .	.....	.....
.....	.....	.. ..	.....	... .	....	1	.... .	.....	....	.....	.....	1	.....	....
.....	.....	....	.....	.....	.....	1	3	.....	....	.....	...	4	.....	.....
.....	.....	....	.....	... ..	..... *a*1	.... .	4	.....	.....	..	8	1	.....	11
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	....	.....	*b*1	1	... ..	.....	....	.....	1	2	...	2
.....	.....	.....	.....	....	....	....	.	... .	.....	.....	.....	... .	... .	...
.....	.....	...	.....	....	*a*3	1	6	.....	.....	...	.....	2	.....	5
... .	.....	...	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.. ..	...	... ...	.....	.....	.. ..	.....	... ..	...	... .	.....	.....
.....	.....	.....	.....	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	...
.....	.....	.....	....	.....	... ...	...	....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	*a*2	...	3	.....	.....	... .	1	3	...	1
..	.....	....	.....	....	*a*1	.....	.....	.....	.....	.....	1	1	....	.....
5	.....	.....	.....	.....	*a*1	.....	1	...	6	.....	.....	6	...	1
.....	.....	....	....	...	*a*8	.....	11	1	.....	.....	2	5	...	12
5	.....	.....	.....	.....	17	2	25	1	6	.....	13	20	....	32
.....	.....	...	. ..	.....	*a*4	.....	2	1	.....	.....	4	3	....	4
.....	....	....	.. ..	.....	.....	.. ..	..	....	..	.....	.....	.....	.....	.....
1	.....	.....	.. ..	.. ..	.. ....	.....	.....	.. .	.....	.....	.....	... .	.....	.....
..	.....	.....	.....	.....	....	1	.....	.....	.....	.....	..	1	..	.....
.....	.....	....	.....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1	.....	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	..	.....	.	*a*1	.....	.....	.....	.....	.....	.....	.....	.....	.....
1	.....	.....	... ..	.....	1	....	....	.....	....	.....	.....	.....	.....	...
7	.....	.....	.....	.....	22	4	31	2	6	.....	17	29	....	36
Vol de chevaux, bétail et moutons.														
.....	.....	.....	.....	. ..	... ...	.....	... .	. .	.....	.....	.....	.....	.	.....
1	.....	....	.....	.....	....	.....	.....	...	... ..	...	1	....	.....	1
.....	.....	..	.....	. ..	... ...	....	.....	...	....	.. ..	..	...	....	.....
.....	....	.....	.....	.....	.. . .	.....	.....	. .	...	.....	1	... . .	. .	1
1	.....	.....	..	.....	.....	....	.....	.....	.....	.....	1	1	....	.....

a Sentence suspended—Sentence suspendue. *b* Ordered to return goods—Ordonné de remettre les effets.

TABLE I. Offences against property without violence. CLASS III.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non-donné.		Moderate — Modéré	Immoderate — Immodéré
				M. H.	F	M. H.	F.	M. H.	F.	M. H.	F.	M. H.	F		
Fraud and conspiracy to defraud.															
Yarmouth, N.-E.			1							1				1	
Arthabaska, Qué.			1					1						1	
Chicoutimi, Qué												1			
Montréal, Qué		2						1		1				2	
Québec, Qué.															
St. François, Qué		1								1				1	
Totaux de Québec.		3	1					2		2		1		4	
Brant, Ont	1	7	4			5		5		2				12	
Carleton, Ont.															
Hastings, Ont.		4						1	2	1		1		3	1
Kent, Ont.															
Middlesex, Ont		7				1	1	3	1	1				5	2
Nipissing, Ont.												1			
Peel, Ont.															
Perth, Ont.												1			
Peterborough, Ont.															
Prescott et Russell, Ont.															
Simcoe, Ont.		4						1		3		1			4
Welland, Ont		1						1						1	
Wentworth, Ont.		7						1		6				1	6
York, Ont		6	11	1		2	1	9	1	3				17	
Totaux d'Ontario	1	36	15	1		8	2	21	4	16		4		39	13
Manitoba, Est		7				1		6						5	2
Vancouver, Col.-B												1			
Alberta, Nord, Alta												4			
Alberta, Sud, Alta.										1		1		1	
Assiniboia, Est, Saskat.															
Assiniboia, Ouest, Saskat.												2			
Saskatchewan, Sask												4			
Totaux de Saskatchewan.												6			
Totaux du Canada	1	46	17	1		9	2	29	4	20		17		50	15
Horse, cattle and sheep stealing.															
Queen's, I. du P.-E															
Cumberland, N.-E		1						1						1	
Pictou, N.-E.															
Beauharnois, Qué.		1						1							1
Bedford, Qué.		1						1						1	

TABLEAU I. Délits sans violence contre la propriété. CLASSE III.

BIRTH PLACES. — LIEUX DE NAISSANCE.							RELIGIONS.							RESIDENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.															
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.	Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists. — Méthodistes.	Presbyterians. — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns — Villes.	Rural Districts — Districts ruraux.
Fraude et conspiration de fraude.															
			1					1					1		
			1				1								1
					2								2	2	
			1									1			1
			2		2		1					1	2	2	2
1			11				1	4	1			6		11	1
1			2		1				1		1	2		3	1
			7						3			4		6	1
														1	
		3	1								4			1	3
					1								1		1
			7					6			1			7	
2	1	2	12				1	3	8		5			17	
4	1	5	40		2		2	13	13		11	12	1	46	7
			4	1	2		1	3	1	1			1	6	1
1										1					1
5	1	5	47	1	6		3	17	15	2	11	13	4	55	11
Vol de chevaux, bétail et moutons.															
			1										1	1	
			1								1				1
			1					1							1

TABLE I. Offences against property without violence. CLASS III.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	Number of Charges. — Nombre d'accusations.	Acquitted. — Acquittés. M.	F	Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No OPTION. — SANS OPTION. Under one year. — Moins d'un an.	One year and over. — Un an et plus.
Horse, cattle and sheep stealing—*Concluded.*											
Ottawa, Que	2	1			1	1					
St. Francis, Que.	1	1									
Totals of Quebec	7	4			3	2	1				1
Brant, Ont	1				1	1					
Essex, Ont	1				1	1					
Grey, Ont	5	1			4	3	1			2	
Huron, Ont	1				1		1				
Kent, Ont	1	1									
Lambton, Ont	1				1	1					
Oxford, Ont	2				2	2				1	
Peel, Ont	1				1	1					
Peterborough, Ont.	1				1	1					
Renfrew, Ont	1				1	1					
Simcoe, Ont	4				4	2	2				1
Victoria, Ont	1				1	1					
Waterloo, Ont	1				1	1				1	
Welland, Ont	2				2	1	1				2
Wellington, Ont.	1	1									
Wentworth, Ont	2	1			1	1				1	
York, Ont.	5				5	4		1		3	
Totals of Ontario	31	4			27	21	5	1		8	3
Manitoba, Eastern	5				5	2	1	2			
Manitoba, Western	1				1	1				1	
Cariboo, B.C	2	1			1	1					
Westminster, B.C.	1	1									
Alberta, Northern, Al'ta	27	13			14	14				2	
Alberta, Southern, Al'ta	a45	20			22	16	4	2		2	3
Totals of Al'ta	72	33			36	30	4	2		4	3
Assiniboia, Eastern, Saskat.	3	1			2	1	1			1	
Assiniboia, Western, Saskat.	6	2			4	4			2		
Saskatchewan, Saskat	4	1			3	3					
Totals of Saskatchewan	13	4			9	8	1		2	1	
Totals of Canada	138	52			83	66	12	5	2	14	7
Larceny.											
Prince, P.E.I.	3				3	3				2	
Queen's, P.E.I.	10	2			8	6	1	1		7	
Annapolis, N.S.	1				1	1				1	
Antigonish, N.S	2				2	2				2	

a 3, *Nolle prosequi.*

TABLEAU I. Délits sans violence contre la propriété. CLASSE III.

SENTENCE.					OCCUPATIONS.						CIVIL CONDITION. — ÉTAT CIVIL.		
PENITENTIARY. — PÉNITENCIER.													
Two years and under five. — Deux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie	D'th. — De mort	Committed to Reformatories. — Envoyés à la prison de Réforme.	Other Sentences. — Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels.	Professional — Professions libérales.	Labourers — Journaliers.	Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
Vol de chevaux, bétail et moutons—*Fin.*														
1											1			1
2											3	1		2
					*a*1						1			1
1							1							1
					*a*2	1					3	2		2
1											1			1
					*a*1									1
1											2		1	
					*a*1					1		1		
					*a*1						1			1
	1										1			1
1					*a*2	2					2	3		1
1									1			1		
									1					
											2	2		
											1			1
				1	*a*1						3			5
5	1			1	9	3	1		2	1	17	9	1	15
	4			1		4								5
											1			1
1											1			1
3	1				*a*8									
9	6				*a*2	7	1					11		11
12	7				10	7	1					11		11
1														
1	1													
					*a*2, *b*1						1			
2	1				3						1			
23	13			2	22	14	2		2	1	24	21	1	36
Larcin.														
1										1	2			3
					*c*1	1			1		1			8
														1
											2			2

a Sentence suspended—Sentence suspendue. *b* To pay costs and delivery of calf—A payer les frais et à remettre le veau. *c* Bound to be of a good behaviour—Pris l'engagement de tenir une meilleure conduite.

TABLE I. Offences against property without violence. CLASS III.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non-donné.		Immoderate — Immoderé	Immoderate — Immoderé
				M. H.	F	M. H.	F.	M. H.	F.	M. H.	F.	M. H.	F		
Horse, cattle and sheep stealing—*Concluded.*															
Ottawa, Qué		1						1							1
St. François, Qué															
Totaux de Québec		3						3						1	2
Brant, Ont	1					1									1
Essex, Ont		1						1							1
Grey, Ont		4				1		1				2		1	3
Huron, Ont		1				1									1
Kent, Ont															
Lambton, Ont		1		1										1	
Oxford, Ont	1							1				1		1	
Peel, Ont		1								1				1	
Peterborough, Ont		1				1								1	
Renfrew, Ont		1						1						1	
Simcoe, Ont		4				1		3						2	2
Victoria, Ont		1						1							1
Waterloo, Ont												1			
Welland, Ont	2							2							2
Wellington, Ont															
Wentworth, Ont		1						1						1	
York, Ont		5				2		3						5	
Totaux d'Ontario	4	21		1		7		14		1		4		14	11
Manitoba, Est		5		1				4						1	4
Manitoba, Ouest								1							
Caribou, Col.-B	1							1						1	
Westminster, Col.-B															
Alberta, Nord, Al'ta												14			
Alberta, Sud, Al'ta	10	12				3		16		3				21	1
Totaux d'Alberta	10	12				3		16		3		14		21	1
Assiniboia, Est, Saskat												2			
Assiniboia, Ouest, Saskat												4			
Saskatchewan, Saskat												3			
Totaux de Saskatchewan												9			
Totaux du Canada	15	42		2		10		40		4		27		39	18
Larceny.															
Prince, I. du P.-E.		2	1			2		1						3	
Queen's, I. du P.-E.		8				5		2	1					8	
Annapolis, N.-E.		1		1										1	
Antigonish, N.-E.		2		1		1								2	

TABLEAU I. Délits sans violence contre la propriété. CLASSE III.

BIRTH PLACES. — LIEUX DE NAISSANCE.							RELIGIONS.							RESIDENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.			Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists — Méthodistes.	Presbyterians. — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.													
Vol de chevaux, bétail et moutons—*Fin.*															
			1					1							1
			3					2			1				3
			1				1								1
			1						1					1	
1		1	1	1					1	1	2			3	1
			1					1						1	
1									1						1
			1										1		1
	1								1						1
			1				1							1	
					1							1			1
1			3						1	2	1			2	2
			1								1				1
															1
			2					2						2	
			1				1							1	
2			3					2	2		1			5	
5	1	1	16	1	1		3	5	7	3	5	1	1	16	10
				1	4			1	4						5
			1								1				1
			1					1							1
2		2	14	3	1			13	2		2	2	3	1	21
2		2	14	3	1			13	2		2	2	3	1	21
			1											1	1
			1											1	1
7	1	3	37	5	6		3	22	13	3	9	3	5	19	42
Larcin.															
			3					1	1	1					3
			5	3				6				2		7	1
			1									1		1	
			2					1			1			2	

TABLE I. Offences against property without violence. CLASS III.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	Number of Charges — Nombre d'accusations.	Acquitted. — Acquittés. M.	F	Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No OPTION. — SANS OPTION. Under one year. — Moins d'un an.	One year and over. — Un an et plus.
Larceny—*Continued.*											
Cape Breton, N.S.	20	8	2	..	10	8	2	.....	1	5	1
Colchester, N.S.	7	2	..	.....	5	2	3	....	.....	5	...
Cumberland, N.S.	12	3	..	.....	9	9	.....	.....	3	2	..
Digby, N.S.	3	1	..	...	2	2	.....	.....	.....	.....	...
Guysborough, N.S	5	.....	..	.....	5	5	.....	.....	.....	*a*4	.....
Halifax, N.S	102	11	2	.....	89	74	10	5	.....	29	.....
Hants, N.S	3	1	1	.....	1	1	.....	.....	.....	.....	...
Inverness, N.S.	1	.....	..	.....	1	1	.....	.....	.....	.....	..
King's, N.S.	10	1	..	.....	9	9	.....	.....	.....	3	.....
Lunenburg, N.S.	6	....	..	.....	6	6	.....	.....	1	3	.....
Pictou, N.S.	11	.....	..	.....	11	9	1	1	.....	3	.....
Queen's, N.S.	6	4	..	.....	2	2	.....	.....	.....	1	.....
Shelburne, N.S.	6	3	..	.....	3	2	1	.....	.....	.....	.....
Yarmouth, N.S	18	8	1	.....	9	8	1	....	1	5	1
Totals of Nova Scotia..	213	42	6	....	165	141	18	6	6	63	2
Carleton, N.B.	2	....	..	.....	2	2	.....	.....	...	1	.....
Gloucester, N.B.	2	2	..	.....	.....	.....	.....	.....	.....	.....	.....
King's, N.B.	1	1	..	.....	.....	.....	.....	.....	.....	.....	...
Madawaska, N.B.	1	1	..	.....	.....	.....	.....	.....	.....	.....	.....
Northumberland, N.B.	5	1	..	.....	4	4	.....	.....	1	3	....
Queen's, N.B.	*b*1	....	..	.....	.....	.....	.....	.....	.....	.....	.....
St. John, N.B.	44	14	1	.....	29	29	.....	.....	.....	4	.....
Victoria, N.B.	1	..	..	.....	1	1	.....	.....	.....	1	.....
Westmoreland, N.B.	28	2	..	.....	26	24	2	....	.....	15	....
York, N,B.	3	1	..	.. .	2	1	....	1	.....	1	.....
Totals of New Brunswick...	88	22	1	....	64	61	2	1	1	25	.....
Arthabaska, Que.	2	1	..	.....	1	1	.....	.....	.....	1	.....
Beauce, Que.	5	1	..	.....	4	4	.....	.....	.....	4	.....
Beauharnois, Que.	6	....	..	.....	6	5	1	...	.....	3	.....
Bedford, Que	13	2	..	.....	11	6	3	2	....	3	...
Chicoutimi, Que,	1	....	..	.....	1	1	.....	.....	.....	1	...
Iberville, Que	7	....	..	.....	7	7	...	.....	.....	6	...
Joliette, Que.	3	....	..	.....	3	3	.....	.....	...	3	.....
Kamouraska, Que.	2	....	..	.....	2	2	.....	.....	.....	1	...
Montmagny, Que.	1	....	..	.....	1	1	.....	.....	.....	1	...
Montreal, Que.	854	96	10	2m, 2f	744	546	77	121	170	*c*342	8
Ottawa, Que.	20	2	..	.....	18	15	2	1	....	14	4
Pontiac, Que	1	1	..	.....	.....	.....	.....	.....	.....	.....	.....
Quebec, Que.	112	24	1	.....	87	71	9	7	2	49	.....
Richelieu, Que.	9	....	..	.....	9	5	2	2	.....	8	...
Rimouski, Que.	27	7	..	.....	20	17	1	2	4	5	.....
Saguenay, Que	1	....	..	.....	1	1	...	.....	...	1	.....
St. Francis, Que.	40	13	..	.....	27	13	8	6	4	13	...
St. Hyacinthe, Que	6	2	..	1m	3	3	.....	.....	.....	3	...
Terrebonne, Que.	5	....	..	.....	5	5	.....	.....	.....	4	...
Three Rivers, Que.	21	4	1	.....	16	15	1	.....	6	9	.....
Totals of Quebec.	1,136	153	12	5	966	721	104	141	186	471	12

a 1, *c* 6, Both jail and fine—La prison et l'amende. *b* Jury disagreed and prisoner discharged—Les jurés ne se sont pas accordés et le prisonnier est libéré.

TABLEAU I. Délits sans violence contre la propriété. CLASSE III.

SENTENCE.						OCCUPATIONS.						CIVIL CONDITION. — ETAT CIVIL.		
PENITENTIARY. — PÉNITENCIER.														
Two years and under five. — Deux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie	D'th. — De mort	Committed to Reformatories. — Envoyés à la prison de Réforme.	Other Sentences. — Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels	Professional — Professions libérales.	Labourers — Journaliers.	Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
Larcin—*Suite.*														
2					*a*1		2		5		2	2		7
								1	2			1		2
4											5	1		8
					*a*2		2					2		
1									1		3	1		3
6	*b*1			12	*a*41	1	8	11	8	1	34	9	3	70
				1		1								1
1											1			1
				5	*c*1									9
					*a*2	1	1				4			6
6					*a*2		1	1			6			8
				1			1	1				1		1
1				1	*a*1									3
1					*a*1		1	1	1		6	1		8
22	1			20	51	3	16	15	17	1	63	18	3	130
1											2	1		1
						3					1	4		
1				8	*a*7,*b*5,*d*3,*c*1		4		1		6	2	1	26
						1						1		
9	2						1	3			14	6		20
1											2			2
12	2			8	16	4	5	3	1		25	14	1	49
											1			1
											4			4
				3							1			3
				3	*a*5						7	2		9
1									1		5			6
						1	2					1		2
				1							1	1		1
26	1			51	*a*137, *b*9	8	158	28	146	3	229	160	20	564
									4		10	8		10
6				6	*a*24		20	8	18	4	26	14	6	67
1						4					3			7
4				7		3	1	1	1		5	1		18
6					*a*4	1	1		2		22	4		23
											2			2
					*a*1						5	4		1
1							1		3		10	4	1	11
45	1			71	180	17	183	37	175	7	331	199	27	729

a Sentence suspended—Sentence suspendue. *b* For five charges—Pour cinq accusations.
c Bound to be of good behaviour—Pris l'engagement de tenir une meilleure conduite. *d* Parents agree to look after them—Les parents s'engagent à les surveiller. *e* Sent back to England—Renvoyé en Angleterre.

TABLE I. Offences against property without violence. CLASS III.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non-donné.		Moderate — Modéré	Immoderate — Immodéré
				M.	F.	M.	F.	M.	F.	M.	F.	M.	F.		
				H.	F.	H.	F.	H.	F.	H.	F.	H.	F.		
Larceny—*Continued.*															
Cape-Breton, N.-E.	7	2			5		3		1		1			8	1
Colchester, N.-E.	3				2		1				2			3	
Cumberland, N.-E.	7			4			4		1					6	3
Digby, N.-E.	2											2		2	
Guysborough, N.-E.	1						2		2		1			3	1
Halifax, N.-E.	71			18		29	1	28	2	3	6	2		69	5
Inverness, N.-E.	1					1								1	
Hants, N.-E.	1							1						1	
King's, N.-E	9			9										9	
Lunenburg, N.-E.	4	2				2		2		2				6	
Pictou, N.-E.		8				1	1	6				3		2	6
Queen's, N.-E.	2						1	1						2	
Shelburne, N.-E.	1	2		2		1								3	
Yarmouth, N.-E.	2	7				5		3		1				7	2
Totaux de la N.-Ecosse	18	126	2	35		47	3	51	2	10	6	11		125	18
Carleton, N.-B.		2						2						2	
Gloucester, N.-B															
King's, N.-B															
Madawaska, N.-B															
Northumberland, N.-B.		4						3		1				4	
Queen's, N.-B.															
St. Jean, N.-B.	8	21		12		4		6	2	5				17	12
Victoria, N.-B.		1						1							1
Westmoreland, N.-B.	6	20		3		3		13	2	5				12	14
York, N.-B.		2				1		1						2	
Totaux du N.-Brunswick	14	50		15		8		26	4	11				37	27
Arthabaska, Qué.		1				1									1
Beance, Qué.	1	3						4						2	2
Beauharnois, Qué.		3		4				1				1		3	
Bedford, Qué	3	8		4		1		5		1				9	2
Chicoutimi, Qué												1			
Iberville, Qué.		6						6				1		2	4
Joliette, Qué.	1	2				1		1		1				2	1
Kamouraska, Qué.		2		1				1						1	1
Montmagny, Qué.												1			
Montréal, Qué.	81	660	3	125	5	173	8	324	35	71	3			354	390
Ottawa, Qué		12	6			6		8		4				4	14
Pontiac, Qué.															
Québec, Qué	22	62	3	7		25	3	40	3	8	1			49	38
Richelieu, Qué	2	5				6		1				2		4	3
Rimouski, Qué.	9	10		7	1	4		6		1		1		17	2
Saguenay, Qué.												1			
St. François, Qué.	9	18				4		16	1	6				15	12
St. Hyacinthe, Qué.		2						1		1		1		2	
Terrebonne, Qué.	1	4						4			1			5	
Trois-Rivières, Qué.	8	8		1				14			1			14	2
Totaux de Québec	137	806	12	149	6	221	11	432	39	93	6	9		483	472

TABLEAUX I. Délits sans violence contre la propriété. CLASSE III.

BIRTH PLACES. — LIEUX DE NAISSANCE.							RELIGIONS.							RESIDENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.															
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.	Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists — Méthodistes.	Presbyterians. — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.
Larcin—*Suite.*															
...	...	...	5	1	1	2	...	3	...	...	3	2	...	9	1
...	...	...	3	...	...	...	2	...	...	1	...	...	...	3	...
...	...	..	9	...	...	...	...	3	...	1	5	...	2	6	3
...	...	...	2	...	...	...	...	2	...	...	...	...	...	...	2
...	...	...	4	...	...	...	1	2	...	1	...	...	...	1	3
10	2	6	52	...	2	5	3	38	23	5	3	...	2	71	7
...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	1
...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	1
.	..	...	5	4	...	...	...	3	...	...	1	5	...	5	4
..	...	...	6	...	..	...	...	3	2	...	1	...	...	4	2
1	...	...	7	...	..	...	...	3	2	1	2	...	...	8	...
...	...	...	2	...	...	...	1	...	1	...	...	...	...	...	2
...	...	. .	3	...	...	...	...	...	...	...	...	3	...	3	...
...	...	...	7	...	2	...	3	3	...	2	...	1	...	6	3
11	2	6	110	5	5	7	10	61	29	11	15	12	4	119	29
...	...	.	2	..	...	..	...	1	...	...	..	1	... ..	1	1
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
.. ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
. . .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	4	...	...	...	...	1	2	...	1	...	...	1	3
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2	1	...	25	..	1	...	3	15	6	2	3	...	...	29	...
...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	1
1	...	...	22	...	3	...	7	11	3	2	1	...	4	18	8
...	...	...	2	...	...	...	2	...	...	...	...	...	...	2	...
3	1	...	56	.	4	...	12	28	11	4	5	2	4	51	13
...	...	...	1	...	...	...	...	1	...	...	...	...	...	1	...
2	...	1	1	...	...	...	...	1	2	...	1	...	...	...	4
...	...	...	4	2	...	...	...	6	...	...	...	...	...	...	3
...	...	...	9	2	...	...	...	7	...	...	...	4	...	3	8
. .	. .	...	1	...	...	...	...	1	...	...	...	...	...	...	...
...	...	...	5	2	...	...	...	4	2	1	...	...	...	4	3
...	...	...	3	...	...	...	...	3	...	...	...	...	...	2	1
...	...	...	2	...	...	...	...	1	...	...	...	...	...	1	1
...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	1
37	12	2	680	13	13	1	3	599	85	10	25	16	20	695	45
...	...	...	18	...	...	...	...	18	* ...	...	...	...	...	9	9
3	1	...	77	1	5	...	...	73	2	...	...	8	4	73	14
...	...	...	7	...	...	...	...	7	...	...	...	...	...	3	4
...	...	...	20	...	...	...	...	20	...	...	...	...	...	3	17
...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...
3	...	...	18	5	1	...	...	17	3	...	...	7	...	20	7
...	...	...	2	...	...	...	...	2	...	...	...	...	...	2	...
...	...	...	5	...	...	...	...	5	...	...	...	...	...	...	5
...	...	..	16	...	...	...	...	15	1	...	...	...	...	11	5
45	13	3	871	25	19	1	3	782	95	11	26	35	24	827	127

TABLE I. Offences against property without violence. CLASS III.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE	Number of Charges — Nombre d'accusations.	Acquitted. — Acquittés. M.	F	Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No option. — SANS OPTION. Under one year. — Moins d'un an.	One year and over. — Un an et plus.
Larceny—*Continued.*											
Algoma & Manitoulin, Ont.	39	6			33	27	5	1	5	21	2
Brant, Ont.	113	15	1		97	72	8	17	56	6	1
Bruce, Ont.	11	4			7	6		1		5	
Carleton, Ont.	146	21	4		121	83	17	21	7	57	9
Dufferin, Ont.	1				1	1					
Elgin, Ont.	29	13	1		15	13	1	1		3	2
Essex, Ont.	48	3			45	39	5	1		23	4
Frontenac, Ont.	27	6			21	18	3		1	7	6
Grey, Ont.	28	10	2		16	11	4	1	1	9	3
Haldimand, Ont.	11	3			8	3	4	1		2	1
Halton, Ont.	9	4			5	3	2			3	1
Hastings, Ont.	39	11	3		25	21	3	1		10	1
Huron, Ont.	11	3			8	6	2			4	
Kent, Ont.	a57	28	3		25	23	1	1	1	10	2
Lambton, Ont.	41	10			31	23	5	3	2	3	8
Lanark, Ont.	9	1			8	8				2	1
Leeds and Grenville, Ont.	34	5			29	23	4	2		6	5
Lennox and Addington, Ont.	6	3			3	3				2	
Lincoln, Ont.	22	3	1		18	12	3	3	1	3	3
Middlesex, Ont.	80	18	2		60	42	9	9	2	21	1
Muskoka and Parry Sound, Ont.	12				12	12				2	3
Nipissing, Ont.	52	9			43	42	1		1	26	4
Norfolk, Ont.	16	8			8	8				2	
Northumberland & Durham, O.	19	4			15	9	3	3	2	7	1
Ontario, Ont.	12	1			11	11				5	
Oxford, Ont.	14	2			12	9	2	1	2	5	1
Peel, Ont.	10	2			8	8				3	
Perth, Ont.	66	25			41	38	3		4	3	
Peterborough, Ont.	57	15			42	29	6	7	1	11	
Prescott and Russell, Ont.	4				4	4				4	
Prince Edward, Ont.	1				1	1				1	
Renfrew, Ont.	11	3			8	7	1			4	
Simcoe, Ont.	36	8			28	16	7	5		12	7
Stormont, D'das & Glengarry, O.	16	4			12	9	2	1	1	5	
Thunder Bay & Rainy River, O.	54	9			45	42	1	2	6	13	2
Victoria, Ont.	7	1			6	6				1	1
Waterloo, Ont.	48	9			39	34	3	2		7	2
Welland, Ont.	24	4	2		18	18				8	1
Wellington, Ont.	18	6			12	6	5	1		7	
Wentworth, Ont.	145	52	9		84	58	10	16		19	8
York, Ont.	1,115	351	52		712	614	72	26	8	345	33
Totals of Ontario	2,498	680	80		1,737	1,418	192	127	101	687	113
Manitoba, Central	23	4			19	17	1	1	1	13	2
Manitoba, Eastern	346	44	4		298	221	33	44	79	55	3
Manitoba, Western	42	9	3		30	29	1		1	21	4
Totals of Manitoba	411	57	7		347	267	35	45	81	89	9

a One escaped before trial—Un s'est évadé avant son procès.

TABLEAU I. Délits sans violence contre la propriété. CLASSE III.

SENTENCE.						OCCUPATIONS.						CIVIL CONDITION. — ÉTAT CIVIL.		
PENITENTIARY. — PÉNITENCIER.														
Two years and under five. — Deux ans et m'ns de cinq	Five years and over. — Cinq ans et plus.	Life. — A vie	D'th. — De mort	Committed to Reformatories. — Envoyés à la prison de Réforme.	Other Sentences. — Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels.	Professional — Professions libérales.	Labourers — Journaliers.	Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
					Larcin—*Suite.*									
1					*a*4		13		2		12	8	2	20
				4	*a*29, *b*1		7	4	37		41	12		85
					*a*2	1	2	1	1		2	5	1	1
1	2			3	*a*42	2	22	16	15		44	18	9	94
					*a*1									1
					*a*4, *b*1, *c*5	1	1				7	2		12
1					*a*17		4	5	7		21	7	1	36
1					*a*4, *d*1, *e*1				3	1	15	4		17
					*a*2, *e*1		4				7	2		12
	2				*a*3	3			2		3	2		6
					*a*1	1					3			5
				1	*a*6, *b*6, *c*1	1		1	1		13	5		19
					*a*4	1	4	1	1		1	2		6
2					*a*7, *b*3	5	2		1		7	8	1	16
				1	*a*16, *e*1	2	2		3		20	7		24
					*a*5		1		1		4	2		6
					*a*18	2	2	3	3		14	7	1	20
					*a*1						3	1	1	1
	2			1	*a*8	4	2		3		7	2	1	15
6				1	*a*29	1	18	2	8		20	15	3	42
					*a*7		1				5	1		6
					*a*12		5	1	6		29	6	2	33
				2	*a*4						2			7
				1	*a*3, *e*1		5	1	2		2	2	2	11
				2	*a*4				3		3	2		9
3					*a*1		1		2		8	3		8
					*a*5	3			1		3	1	1	6
2	2			4	*a*26	3	4		6		15	2		39
	1				*a*22, *b*5, *f*2	1	3	1	5		12	5		37
									1		1	1		3
									1					1
				1	*a*3	1			1		3	3		3
1				3	*a*5			2	9		11	2		23
1				1	*a*4	1	2		1		5			12
				1	*a*20, *b*2, *c*1		4		1		24	6		35
				2	*a*2		2					2		3
					*a*30				1		19	4		15
				3	*a*5, *c*1			1	1		5	2		9
					*a*5			2	4		6	5		6
	1			18	*a*38		8	5	8		40	16	1	66
7	4			82	*a*233		18	40	27	1	371	142	1	547
26	14			131	665	33	137	86	168	2	808	314	27	1,317
					*a*3	5	4	1			6	4		15
51	1			7	*a*98, *b*4	5	63	10	27		148	75	11	212
					*a*4	2	5	2	4		12	5		18
51	1			7	109	12	72	13	31		166	84	11	245

a Sentence suspended—Sentence suspendue. *b* Bound to be of a good behaviour—Engagement de tenir une meilleure conduite. *c* Acquitted having made restitution—Acquittés, ayant fait restitution. *d* Whipped with consent of parents—Fouetté avec le consentement des parents. *e* Handed over to Children Aid Society—Mis entre les mains de la Société de Secours. *f* Fathers undertaking to punish boys—Les pères devant punir les enfants.

TABLE I. Offences against property without violence. CLASS III.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non-donné.		Moderate — Modéré	Immoderate — Immoderé
				M. — H.	F	M.	F.	M.	F.	M.	F.	M.	F		
Larceny — *Continued.*															
Algoma et Manitoulin, Ont.	11	17	2	1	..	9	....	14	1	5	....	2	1	22	8
Brant, Ont.	2	90	5	23	..	38	4	23	3	6	....	....	..	87	10
Bruce, Ont.	1	6	....	..	..	1	....	4	....	2	....	....	..	1	6
Carleton, Ont.	14	99	8	20	2	27	7	39	7	15	4	...	.	94	27
Dufferin, Ont.	.....	1	.....	1	..	....	....	....	....	....	....	....	.	1	....
Elgin, Ont.	.....	14	.....	5	..	4	....	5	....	....	....	1	..	13	1
Essex, Ont.	3	41	.....	7	..	16	1	16	....	4	....	1	..	23	21
Frontenac, Ont.	2	19	....	2	..	4	....	11	....	4	....	...	.	4	17
Grey, Ont.	2	12	..	2	..	...	1	6	....	....	....	7	..	5	9
Haldimand, Ont	..	8	.....	....	..	2	....	3	....	3	....	....	..	3	5
Halton, Ont.	.....	5	.....	1	..	1	....	1	....	2	....	....	..	1	4
Hastings, Ont.	.. .	24	.....	8	..	5	....	6	1	4	....	1	..	20	4
Huron, Ont.	....	8	.....	....	..	2	....	3	1	2	....	....	..	4	4
Kent, Ont.	2	22	1	4	..	3	1	11	1	4	....	1	..	21	4
Lambton, Ont.	1	27	.....	4	..	1	....	16	..	4	...	5	1	18	7
Lanark, Ont.	....	8	....	2	..	2	....	4	....	....	....	....	..	5	3
Leeds et Grenville, Ont.	6	22	....	4	2	10	2	10	....	....	....	1	..	21	7
Lennox et Addington, Ont	.....	3	.....	....	....	....	....	3	....	....	....	....	.	1	2
Lincoln, Ont.	3	15	....	2	..	1	....	9	....	6	....	....	..	13	5
Middlesex, Ont.	8	51	1	7	..	15	2	26	1	9	..	....	..	39	21
Muskoka et Parry Sound, O.	.....	1	...	2	..	1	....	3	1	....	....	4	1	2	....
Nipissing, Ont.	8	32	1	....	..	8	....	29	.	3	....	3	..	8	33
Norfolk, Ont.	....	7	.....	3	1	2	....	1	....	1	....	....	..	7	....
Northumberl'd et Durham, O.	.....	15	....	5	..	....	....	8	1	1	....	....	..	12	3
Ontario, Ont.	.....	11	.....	1	1	2	....	5	1	1	....	....	..	3	8
Oxford, Ont.	.....	11	.....	1	..	6	...	2	....	2	....	1	..	7	4
Peel, Ont.	.....	8	.....	....	..	2	....	4	....	1	1	....	..	6	2
Perth, Ont.	.....	41	.....	14	2	10	....	15	....	....	....	....	..	35	6
Peterborough, Ont.	5	37	....	20	..	5	1	11	1	4	....	....	..	31	11
Prescott et Russell, Ont.	.....	3	1	1	..	....	....	2	....	1	....	....	..	1	3
Prince-Edouard, Ont.	.....	1	.....	....	..	1	....	..	....	....	....	....	..	1	....
Renfrew, Ont.	1	5	....	2	..	1	....	2	...	2	....	1	..	5	1
Simcoe, Ont.	....	25	.....	3	..	4	....	16	...	3	....	2	..	5	20
Storm't, D'das et Gleng'ry, O.	4	8	.....	4	..	5	....	3	....	....	....	....	..	7	5
Th'der Bay et Rainy Riv., Ont.	5	26	1	13	..	2	....	19	....	7	..	3	1	33	8
Victoria, Ont.	1	4	.....	2	..	....	....	1	1	1	...	1	..	3	....
Waterloo, Ont.	1	18	.....	2	..	5	....	10	....	2	....	20	..	14	5
Welland, Ont.	2	9	.....	5	..	1	....	4	....	1	...	7	..	8	3
Wellington, Ont.	3	8	.....	1	..	2	....	6	....	2	....	1	..	8	3
Wentworth, Ont.	8	75	....	18	8	15	....	34	1	7	....	1	..	68	15
York, Ont.	5	683	12	120	16	153	22	251	41	62	30	17	..	600	92
Totaux d'Ontario	98	1,520	32	310	32	366	41	636	62	171	35	80	4	1260	387
Manitoba, Centre	5	12	2	1	..	1	....	10	..	1	....	6	..	9	3
Manitoba, Est	60	236	2	38	3	50	7	161	5	30	1	3	.	278	20
Manitoba, Ouest	2	7	1	...	..	5	2	13	....	1	....	9	.	8	2
Totaux de Manitoba	67	255	5	39	3	56	9	184	5	32	1	18	..	295	25

TABLEAU I. Délits sans violence contre la propriété. CLASSE III.

BIRTH PLACES. — LIEUX DE NAISSANCE.							RELIGIONS.							RESIDENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.															
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.	Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists — Méthodistes.	Presbyterians — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns — Villes.	Rural Districts — Districts ruraux.
Larcin—*Suite.*															
3	. .	1	22	1	4	.....	.....	20	3	4	3	1	. ....	21	9
4	1	2	86	4	....	....	.....	13	4	3	6	58	.....	86	11
2	.....	.....	4	1	..	.....	..	.....	.....	3	2	1	1	.....	7
7	1	1	97	4	11	... ..	2	72	17	3	5	22	.....	114	7
.....	.....	...	1	.....	..	..	..	.....	1	....	.....	..	.....	1	....
1	...	....	13	.....	..	.....	.....	.....	3	7	1	...	3	10	4
..	.....	....	31	12	1	.....	. .	19	4	10	6	.....	5	33	11
3	2	....	14	2	.....	.....	.....	9	2	.....	.....	10	....	18	3
2	.....	...	11	1	....	...	.....	2	2	4	2	4	.....	11	3
1	. .	....	7	....	...	.....	..	1	3	2	.....	1	1	5	3
1	....	.....	4	.....	....	.....	.....	.....	.....	3	2	....	.....	4	1
2	1	..	21	... .	....	.....	.....	8	1	6	.....	9	.....	22	2
2	.....	.....	6	.....	.....	.....	.....	2	4	1	1	.....	.....	6	2
1	....	....	24	.....	...	...	1	6	5	11	2	.....	.....	16	9
..	...	.....	22	3	1	....	1	3	6	10	2	3	....	29	2
.	.....	1	7	.....	.....	.....	.....	1	....	2	3	....	.	5	1
2	.....	1	22	1	2	....	3	8	5	9	1	.....	2	22	7
....	1	.. ..	2	.....	.....	.....	.....	1	.....	2	.....	.....	.. .	3	.....
3	.....	..	12	3	.....	.....	.....	8	6	1	2	.....	1	14	4
.....	....	1	53	4	2	....	2	9	3	1	1	42	2	58	2
.....	. .	. .	2	....	.....	.....	.....	3	1	1	1	.....	...	8	4
1	....	1	34	2	3	.....	1	26	1	6	4	.....	3	27	14
.....	.....	.....	7	.....	.....	.....	.....	.....	.....	.....	.....	7	..	7	1
1	....	....	14	....	.....	.....	1	1	2	10	...	1	....	12	2
1	....	...	6	4	.....	.....	.....	6	4	....	1	.....	.....	11	.
1	.....	.....	7	2	1	... .	.....	2	3	2	3	.....	1	10	1
1	1	.....	6	..	.....	. .	....	3	2	3	...	.....	....	2	6
.....	.....	... .	41	...	.....	.....	2	8	10	11	8	2	..	35	6
4	1	... .	36	1	..	....	1	5	7	15	11	....	3	33	9
1	.....	1	2	..	.....	.....	.....	2	1	.....	1	....	.....	2	2
.....	.....	...	1	...	.....	.....	.....	.....	.....	1	.....	.....	.....	1	...
.....	1	1	3	....	2	.. ..	.....	4	.....	.....	1	1	.. ...	3	3
1	...	1	21	2	.....	.....	.....	4	5	10	6	.....	.....	20	5
.....	.....	.....	12	.....	.....	.....	.....	9	2	.....	1	.....	.....	6	6
2	.....	.....	25	5	9	.....	.....	12	4	.....	5	4	7	27	5
.....	.....	. .	5	.....	.....	.....	.....	.....	.....	.....	1	.....	2	3	2
....	..	....	15	1	3	..	3	2	1	....	5	.....	1	15	8
1	.....	... .	8	1	1	...	....	2	3	2	.....	2	....	7	3
2	.....	.....	9	.....	.....	.....	.....	4	5	1	1	1	.....	8	3
3	....	1	72	5	1	.. ..	2	27	14	18	19	...	3	83	.....
99	31	13	498	26	23	4	13	142	284	117	110	9	19	694	4
152	40	25	1,283	85	64	4	32	444	418	279	217	178	54	1,492	172
1	.....	.....	10	2	5	....	....	3	2	3	2	....	4	2	17
63	13	7	70	15	130	.....	1	137	79	21	18	14	28	259	39
8	2	1	8	1	1	...	.....	3	7	4	3	.....	2	20	5
72	15	8	88	18	136	.. ..	1	143	88	28	23	14	34	281	61

TABLE I. Offences against property without violence. CLASS III.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	Number of Charges — Nombre d'accusations.	Acquitted. — Acquittés. M.	F	Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No Option. — Sans option Under one year. — Moins d'un an.	One year and over. — Un an et plus.
Larceny—*Concluded.*											
Cariboo, B.C.	3	2			1	1					
Vancouver, B.C.	122	39	7		76	75	1			45	10
Victoria, B.C	*a*34	1			32	27	4	1		24	2
Westminster, B.C.	40	8	1		31	27	2	2	2	10	1
Yale, B.C	29	1			28	22	4	2		*b*26	2
Totals of British Columbia.	228	51	8		168	152	11	5	2	105	15
Alberta, Northern, Al'ta	86	30	2		54	52	2			44	7
Alberta, Southern, Al'ta	45	15			30	28	2			23	2
Totals of Alberta.	131	45	2		84	80	4			67	9
Assiniboia, Eastern, Saskat.	100	40	2		58	52	5	1		50	1
Assiniboia, Western, Saskat	88	19			69	60	7	2	1	*c*49	6
Saskatchewan, Saskat.	62	36			26	25	1			23	
Totals of Saskatchewan.	250	95	2		153	137	13	3	1	122	7
Yukon	39	23	1		15	12	2	1	1	9	
Totals of Canada	5,007	1170	119	3m, 2f	3,710	2,998	382	330	379	1,647	167
Larceny from dwelling houses.											
Hastings, Ont	1				1	1				1	
Northumberland & Durham, O.	2				2	1		1		1	
Manitoba, Central.	1	1									
Yale, B.C.	1				1	1					
Alberta, Southern, Al'ta	1				1	1					
Yukon	5				5	2	2	1			4
Totals of Canada.	11	1			10	6	2	2		2	4
Larceny from the person.											
Cape Breton, N.S.	2		1		1	1					1
Halifax, N.S.	3	1			2	1	1				
St. John, N.B.	2	2									
York, N.B	2	2									
Bedford, Que.	1	1									
Iberville, Que.	1				1	1				1	
Montreal, Que.	21	4	1		16	6	3	7		*d*7	2
Quebec, Que.	1				1	1					1
St. Francis, Que.	3	2			1	1				1	
St. Hyacinthe, Que.	1				1	1					
Totals of Quebec.	28	7	1		20	10	3	7		9	3

a 1, *Nolle prosequi*. *b* One, both jail and $50—Un, la prison et $50.
c 4, jail and $191 in all—4, la prison et $191 en tout. *d* Jail and $25—La prison et $25.

TABLEAU I. Délits sans violence contre la propriété. CLASSE III.

SENTENCE.						OCCUPATIONS.						CIVIL CONDITION. — ÉTAT CIVIL.		
PENITENTIARY. — PÉNITENCIER.														
Two years and under five. — Deux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie.	D'th. — De mort	Committed to Reformatories — Envoyés à la prison de Réforme.	Other Sentences. — Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels.	Professional — Professions libérales.	Labourers — Journaliers.	Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
Larcin—*Fin.*														
.....	.....	.....	.....	.....	*a*1	.....	.....	.....	.....	...	1	.....	.....	1
6	.....	.....	.....	2	*a*11, *d*2	1	19	.....	10	1	18	3	1	55
3	.....	.....	.....	1	*a*2	.....	9	1	4	.....	8	7	18	1
10	2	.....	.....	2	*a*4	.....	8	.....	1	.....	16	8	.....	21
.....	.....	.....	.....	.....	.....	.....	.....	.....	3	.....	10	7	3	7
19	2	.....	.....	5	20	1	36	1	18	1	53	25	22	85
3	.....	.....	.....	.....	.....	3	.....	.....	.....	1	.....	3	.....	.....
4	.....	.....	.....	.....	*a*1	1	1	.....	1	.....	8	2	.....	10
7	.....	.....	.....	.....	1	4	1	.....	1	1	8	5	.....	10
1	1	.....	.....	1	*a*4	.....	.....	.....	.....	.....	.....	.....	.....	.....
11	.....	.....	.....	.....	*a*2	5	5	.....	4	1	9	5	.....	20
.....	.....	.....	.....	.....	*a*3	1	1	.....	.....	.....	4	1	.....	5
12	1	.....	.....	1	9	6	6	.....	4	1	13	6	.....	25
1	.....	.....	.....	.....	*a*3, *b*1	.....	3	1	2	.....	2	3	.....	9
196	22	.....	.....	243	1,056	81	459	156	418	14	1,472	668	91	2,610
Vol dans des maisons habitées.														
.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	.....	*a*1	.....	.....	.....	.....	.....	1	1	.....	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	*a*1	.....	1	.....	.....	.....	.....	.....	.....	1
1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	.....	*a*1	.....	3	.....	2	.....	.....	3	.....	2
1	.....	.....	.....	.....	3	.....	5	1	2	.....	1	4	.....	6
Vol sur la personne.														
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
2	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	.....	1	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
4	.....	.....	.....	1	*a*2	.....	3	.....	3	.....	6	6	3	7
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
.....	.....	.....	.....	.....	*a*1	.....	.....	.....	.....	.....	.....	.....	.....	.....
4	.....	.....	.....	1	3	.....	3	.....	5	.....	7	6	3	10

a Sentence suspended—Sentence suspendue. *b* Bound to be of a good behaviour—Engagement de tenir une meilleure conduite. *c* Whipped with consent of parents—Fouettés avec le consentement des parents.

TABLE I. Offences against property without violence. CLASS III.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non-donné.		Moderate — Modéré	Immoderate — Immodéré
				M. H.	F	M. H.	F.	M. H.	F.	M. H.	F.	M. H.	F		
Larceny—*Concluded.*															
Caribou, Col.-B.	1											1		1	
Vancouver, Col.-B.	21	38	1	14		4		33		9		16		16	1
Victoria, Col.-B.	3	22	1	3		1		12	1	9		6		13	13
Westminster, Col.-B.	6	25		3		1		11		4		12		17	14
Yale, Col.-B.		14	1					9	3	3	1	11	1	5	10
Totaux de la Col.-Britann.	31	99	3	20		6		65	4	25	1	46	1	52	38
Alberta, Nord, Al'ta.	2	1						1		2		51		2	1
Alberta, Sud, Al'ta.		12		1		4		6	1			18		10	2
Totaux d'Alberta	2	13		1		4		7	1	2		69		12	3
Assiniboia, Est, Sask				1								57			
Assiniboia, Ouest, Saskat.	3	20	4			11		12		1		45		22	2
Saskatchewan, Sask.	1	5				2		4				20		5	1
Totaux de Saskatchewan.	4	25	4	1		13		16		1		122		27	3
Yukon		10		2		1		6		1		3	2	8	2
Totaux du Canada	371	2,914	59	572	41	729	64	1426	118	346	49	358	7	2310	975
Larceny from dwelling houses.															
Hastings, Ont.		1					1							1	
Northumberl'd et Durham, O.	1	1						1	1					2	
Manitoba, Centre															
Yale, Col.-B.		1				1								1	
Alberta, Sud., Al'ta.		1				1								1	
Yukon		5						2		3				5	
Totaux du Canada	1	9				2	1	3	1	3				10	
Larceny from the person.															
Cap-Breton, N.-E.	1							1						1	
Halifax, N.-E.		2						1	1					2	
St. Jean, N.-B															
York, N.-B.															
Bedford, Qué.															
Iberville, Qué.		1						1						1	
Montréal, Qué.	2	14		1		1		7	4	3				5	11
Québec, Qué.		1						1							1
St. François, Qué.	1									1					1
St. Hyacinthe, Qué.													1		
Totaux de Québec	3	16		1		1		9	4	4		1		6	13

TABLEAU I. Délits sans violence contre la propriété. CLASSE III.

BIRTH PLACES. — LIEUX DE NAISSANCE							RELIGIONS.							RESIDENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.															
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.	Canada.	United States — Etats Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists. — Méthodistes.	Presbyterians. — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns Villes.	Rural Districts Districts ruraux.
Larcin—*Fin.*															
.....	.....	.....	1	..	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
11	4	1	26	6	12	.....	.....	2	1	.....	.....	.....	2	72	4
11	.....	2	6	3	4	.....	1	4	11	2	3	3	2	24	2
2	3	.....	7	6	10	.....	.....	5	1	.....	.....	8	2	17	14
2	4	.....	5	5	.....	.....	.....	7	.....	4	.....	2	3	8	7
26	11	3	55	20	26	.....	1	19	13	6	3	13	9	121	28
.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	3	.....	4
2	.....	.....	6	4	.....	.....	1	4	2	3	1	1	.....	6	6
2	.....	.....	6	4	3	.....	1	4	2	3	1	1	3	6	10
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
8	1	..	10	2	3	.....	3	8	5	5	1	2	.....	15	11
1	.....	.....	4	1	.....	.....	.....	3	1	2	.....	.....	.....	4	2
9	1	.....	14	3	3	.....	3	11	6	7	1	2	.....	19	13
.....	.....	1	3	3	3	.....	.....	4	2	.....	1	.....	3	11	3
320	83	46	2,484	166	263	12	63	1,503	665	350	292	259	135	2,934	460
Vol dans des maisons habitées.															
.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	1	.....
.....	.....	.....	2	.....	.....	.....	.....	1	.....	1	.....	.....	.....	2	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....
.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....	.....
.....	.....	.....	.....	.....	5	.....	.....	.....	.....	.....	.....	.....	5	5	.....
.....	.....	.....	4	1	5	.....	.....	2	1	1	1	.....	5	10	.....
Vol sur la personne.															
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....
.....	.....	1	1	.....	.....	.....	.....	1	1	.....	.....	.....	.....	1	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....
.....	.....	.....	14	.....	2	.....	.....	14	.....	.....	1	.....	1	16	.....
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	18	.....	2	.....	.....	18	.....	.....	1	.....	1	19	.....

TABLE I. Offences against property without violence. CLASS III.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	Number of Charges — Nombre d'accusations.	Acquitted. — Acquittés. M.	F.	Detained for Lunacy. — Detenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No Option. — SANS OPTION Under one year. — Moins d'un an.	One year and over. — Un an et plus.
Larceny from the person—*Concluded.*											
Algoma and Manitoulin, Ont.	1				1	1				1	
Brant, Ont.	1	1									
Carleton, Ont.	11	6			5	5				5	
Elgin, Ont.	1				1	1				1	
Grey, Ont.	5	2			3	2		1		1	
Lincoln, Ont.	1	1									
Middlesex, Ont.	4	3			1		1				1
Ontario, Ont.	2				2	1		1		1	
Oxford, Ont.	4	3			1	1				1	1
Peterborough, Ont.	1				1	1				1	
Prescott and Russell, Ont.	1				1	1					
Thunder Bay & Rainy River, O.	2	1			1	1				1	
York, Ont.	13	8	1		4	3	1			2	1
Totals of Ontario	47	25	1		21	17	2	2		13	3
Manitoba, Central	1				1	1					1
Manitoba, Eastern	5				5	5				1	1
Manitoba, Western	1	1									
Totals of Manitoba	7	1			6	6				1	2
Vancouver, B.C	1				1	1					
Victoria, B.C.	3	2			1	1					
Yale, B.C	1				1	1					1
Totals of British Columbia	5	2			3	3					1
Saskatchewan, Saskat.	1				1	1					
Totals of Canada	97	40	3		54	39	6	9		23	10
Stealing registered letters and other mail matters.											
Albert, N.B.	1				1	1					
Montreal, Que.	2				2	2					
St. Francis, Que.	1	1									
Three Rivers, Que	1				1	1					
Totals of Quebec	4	1			3	3					
Muskoka and Parry Sound, Ont.	1				1			1			
Oxford, Ont.	1				1		1				
York, Ont.	2				2	2					
Totals of Ontario	4				4	2	1	1			
Alberta, Northern, Al'ta.	3	2			1	1					
Alberta, Southern, Al'ta.	a2				1		1				
Totals of Canada	14	3			10	7	2	1			

a 1, *Nolle prosequi.*

TABLEAU 1. Délits sans violence contre la propriété. CLASSE III.

SENTENCE.						OCCUPATIONS.						CIVIL CONDITION. — ÉTAT CIVIL.		
PENITENTIARY. — PÉNITENCIER.														
Two years and under five. — Deux ans et m'ns de cinq	Five years and over — Cinq ans et plus.	Life. — A vie	D'th. — De mort	Committed to Reformatories. — Envoyés à la prison de Réforme.	Other Sentences. — Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels.	Professional — Professions libérales.	Laborers — Journaliers.	Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
Vol sur la personne—*Fin.*														
									1					1
							1				4	2	1	2
											1	1		
					*a*2				1		1			3
									1					1
					*a*1	1					1	1		1
											1			1
											1	1		
				1										1
							1							1
				1							3			4
				2	3	1	2		3		12	5	1	15
												1		
					*a*3	1	3		1			1		4
					3	1	3		1			2		4
1														
1											1			1
									1			1		
2									1		1	1		1
					*a*1									
8				3	10	2	8	1	10		22	14	5	32
Vol de lettres chargées et autres matières postales.														
1											1			1
2							2					2		
1											1			1
3							2				1	2		1
1											1			1
1	1				*a*1		2					2		
2	1				1		2				1	2		1
1														
1							1							1
8	1				1		5				3	4		4

a Sentence suspended—Sentence suspendue.

TABLE I. Offences against property without violence. CLASS III.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non donné.		Moderate — Modéré	Immoderate — Immodéré
				M. — H.	F	M.	F.	M.	F.	M.	F.	M.	F		
Larceny from the person—*Concluded.*															
Algoma et Manitoulin, Ont.		1						1							1
Brant, Ont															
Carleton, Ont.	2	3				1		1		3				2	3
Elgin, Ont.		1						1							1
Grey, Ont.		3				1		1				1			3
Lincoln, Ont.															
Middlesex, Ont.		1						1							1
Ontario, Ont.		2				1				1					2
Oxford, Ont.		1						1							1
Peterborough, Ont.		1								1					1
Prescott et Russell, Ont.		1			1									1	
Th'der Bay et Rainy Riv., O.		1						1						1	
York, Ont.		4				2		1	1					3	1
Totaux d'Ontario.	2	19			1	5		8	1	5		1		7	14
Manitoba, Centre												1			
Manitoba, Est.		5						3		2				3	2
Manitoba, Ouest															
Totaux de Manitoba		5						3		2		1		3	2
Vancouver, Col.-B												1			
Victoria, Col.-B.		1						1						1	
Yale, Col.-B.		1								1				1	
Totaux de la Col.-Britann.		2						1		1		1		2	
Saskatchewan, Saskat.												1			
Totaux du Canada	6	44		1	1	6		23	6	12		5		21	29
Stealing registered letters and other mail matters.															
Albert, N.-B.		1				1								1	
Montréal, Qué.		2						1		1				1	1
St. François, Qué.															
Trois-Rivières, Qué.	1							1							1
Totaux de Québec.	1	2						2		1				1	2
Muskoka et Parry Sound, O.		1				1									1
Oxford, Ont.												1			
York, Ont.		2						2						2	
Totaux d'Ontario		3				1		2				1		2	1
Alberta, Nord, Alta.												1			
Alberta, Sud, Alta.		1				1								1	
Totaux du Canada	1	7				3		4		1		2		5	3

TABLEAU I. Délits sans violence contre la propriété. CLASSE III.

BIRTH PLACES. — LIEUX DE NAISSANCE.							RELIGIONS.							RESIDENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.			Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists — Méthodistes.	Presbyterians. — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.
England and Wales — Angleterre et Galles	Ireland. — Irlande	Scotland. — Ecosse.													
Vol sur la personne—*Fin.*															
			1					1						1	
			5					3	1		1			5	
			1				1							1	
1			1		1			1	2					2	1
			1					1						1	
			2					2						2	
			1				1							1	
			1						1					1	
			1					1						1	
				1						1				1	
			3	1				1	2			1		4	
1			17	2	1		2	10	6	1	1	1		20	1
				1										1	
	1		3	1				1		1	1		2	4	1
	1		3	2				1		1	1		2	5	1
														1	
				1								1		1	
				1				1						1	
				2				1				1		3	
1	1	1	40	6	3		2	32	7	2	3	2	3	49	3
Vol de lettres chargées et autres matières postales.															
			1				1								1
			2					2						2	
			1					1							1
			3					3						2	1
			1								1			1	
1			1					1	1					2	
1			2					1	1		1			3	
			1									1			1
1			7				1	4	1		1	1		5	3

TABLE I. Malicious offences against property. CLASS IV.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	Number of Charges — Nombre d'accusations.	Acquitted. — Acquittés. M.	F	Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No OPTION. — SANS OPTION. Under one year. — Moins d'un an.	One year and over. — Un an et plus.
Arson.											
Cape Breton, N.S.	1				1	1					
Halifax, N.S.	3	1			2			2			
King's, N.S.	3	2			1	1					
Totals of Nova Scotia	7	3			4	2		2			
Gloucester, N.B.	1	1									
St. John, N.B.	1				1	1					
Arthabaska, Que.	1				1	1					1
Bedford, Que	1	1									
Montreal, Que.	1			1f							
Ottawa, Que.	1	1									
St. Francis, Que.	3	1			2	1		1			
Terrebonne, Que.	1	1									
Totals of Quebec	8	4		1	3	2		1			1
Algoma and Manitoulin, Ont.	1	1									
Bruce, Ont.	1				1			1			
Carleton, Ont.	2	1			1	1				1	
Frontenac, Ont.	1				1		1				
Halton, Ont.	1				a1	1					
Hastings, Ont.	2		1		1	1					
Leeds and Grenville, Ont.	1				1	1					
Lincoln, Ont.	1	1									
Nipissing, Ont.	2	1			1	1					1
Northumberland & Durham, Ont.	1				1	1				1	
Peel, Ont.	6				6	1	3	2			
Thunder Bay & Rainy River, Ont.	2	2									
Waterloo, Ont.	1				1	1					
Wellington, Ont.	2	2									
Wentworth, Ont.	1	1									
York, Ont.	6	3			3	2	1				1
Totals of Ontario	31	12	1		18	10	5	3		2	2
Manitoba, Central	2	1			1	1					1
Manitoba, Eastern	1	1									
Manitoba, Western	1				1	1					1
Westminster, B.C.	1				1	1					
Yale, B.C.	1	1									
Alberta Northern, Alta	1	1									
Alberta, Southern, Alta.	3		3								
Assiniboia, Eastern, Saskat.	2	2									
Saskatchewan, Saskat.	3	3									
Yukon	1		1								
Totals of Canada	64	29	5	1f	29	18	5	6		2	5

a Threats of arson—Menaces d'incendier.

TABLEAU I. Dommages malicieux à la propriété. CLASSE IV.

SENTENCE.						OCCUPATIONS.						CIVIL CONDITION. — ÉTAT CIVIL.		
PENITENTIARY. — PÉNITENCIER.														
Two years and under five. — Deux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie	D'th. — De mort.	Committed to Reformatories — Envoyés à la prison de Réforme.	Other Sentences. — Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels.	Professional — Professions libérales.	Labourers — Journaliers.	Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
Incendie criminel.														
.....	1	... .	....	.....	... .	..	.....	.....	.....	.....	1	.....	.....	1
.....	2	.....	.....	.....	... .	.....	.....	.....	2	.	.....	2	.....	.....
.....	1	.... .	..	.. ...	.....	1	.....	...	.....	.....	.....	.....	.....	1
.....	4	...	....	.....	.....	1	.....	.....	2	.. ..	1	2	.....	2
.....	...	... .	....	....	.....	.....	.....	.....	.....	... .	.....	.....	.....	.....
.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	.....	... . ..	1	.....	.....	.....	.....	... .	1	....	... .
...	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	2	.....	.....	.....	.....	1	.....	.....	.....	....	1	1	.....	1
...	...	.....	...	.....	.....	....	..	...	.....	.....	.....	.....	.....	..
.....	2	.....	.....	.....	.....	2	.....	.....	.....	..	1	2	....	1
....	...	.....	....	.....	.....	.....	.....	.....	.....	.....	.....	.. ..	..	... .
1	.....	... .	.....	. ..	.....	..	....	.....	1	.....	.....	....	1	.....
.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	.....	...
1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
...	...	....	.....	... ..	a1	..	.....	.....	..	.....	1	1	.....	.....
.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	...	.....	1
...	1	.....	.....	.....	.....	...	1	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
.....	.....	.....	.....	.....	a6	6	... .	.....	.....	.....	.....	.....	.....	6
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	...	... .	a1	...	.....	.....	.....	.....	.....	.....	....	1
.....	... .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	....	a2	.....	...	.....	.....	.....	1	.....	.....	3
2	2	.....	.....	.....	10	6	2	....	1	.....	6	2	1	15
.....	.....	....	.....	...	.....	.....	... ..	...	.....	.....	.....	...	.....	1
. ...	.....	.....	.....	.....	.....	.....	... ..	...	.....	.....	.....	.....	.....	.....
.....	.. ..	.....	.....	.....	.....	.....	1	.....	.. .	...	.....	.....	.....	1
.....	.....	.....	....	.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....
....	.....	. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	...
.....	.....	.....	.....	... ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	... .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
2	9	.....	... .	1	10	9	4	.....	3	.....	8	7	1	21

a Sentence suspended—Sentence suspendue.

TABLE I. Malicious offences against property. CLASS IV.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ni d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non-donné.		Moderate — Modéré	Immoderate — Immodéré
				M.	F	M.	F.	M.	F.	M.	F.	M.	F		
				H.	F	H.	F.	H.	F.	H.	F.	H.	F		
Arson.															
Cap-Breton, N.-E.		1				1								1	
Halifax, N.-E.		2						2							2
King's, N.-E		1				1								1	
Totaux de la N.-Ecosse		4				2		2						2	2
Gloucester, N.-B.															
St. Jean, N.-B.		1				1								1	
Arthabaska, Qué		1								1				1	
Bedford, Qué.															
Montréal, Qué															
Ottawa, Qué															
St. François, Qué.	1	1						2						2	
Terrebonne, Qué.															
Totaux de Québec	1	2						2		1				3	
Algoma et Manitoulin, Ont.															
Bruce, Ont		1						1							1
Carleton, Ont.		1						1							1
Frontenac, Ont.	1									1					1
Halton, Ont		1								1					1
Hastings, Ont.		1						1							1
Leeds et Grenville, Ont		1						1						1	
Lincoln, Ont.															
Nipissing, Ont		1								1					1
Northumberl'd et Durham, O.		1						1							1
Peel, Ont.		6				4		2						6	
Th'der Bay et Rainy Riv., Ont.															
Waterloo, Qué.		1										1		1	
Wellington, Ont.															
Wentworth, Ont.															
York, Ont.		3		2				1						3	
Totaux d'Ontario	1	17		2		4		8		3		1		11	7
Manitoba, Centre		1										1			
Manitoba, Est.															
Manitoba, Ouest		1						1							1
Westminster, Col.-B.		1								1				1	
Yale, Col.-B.															
Alberta, Nord, Al'ta															
Alberta, Sud, Al'ta															
Assiniboia, Est, Saskat.															
Saskatchewan, Saskat.															
Yukon															
Totaux du Canada.	2	27		2		7		13		5		2		18	10

TABLEAU I. Dommages malicieux à la propriété. CLASSE IV.

BIRTH PLACES. — LIEUX DE NAISSANCE.							RELIGIONS.							RESIDENCE	
BRITISH ISLES. — ILES BRITANNIQUES.															
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.	Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists — Méthodistes.	Presbyterians. — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.
Incendie criminel.															
			1								1			1	
			2						2					2	
			1									1			1
			4						2		1	1		3	1
			1									1		1	
			1					1							1
			1		1			1				1			2
			2		1			2				1			3
				1						1					1
			1									1		1	
			1									1		1	
		1									1			1	
			1					1						1	
			1					1						1	
		1									1				1
1										1				1	
			6							4	2				6
			1											1	
			3						2		1			3	
1		2	14	1				2	2	6	5	2		10	8
1									1						1
			1								1			1	
			1											1	
2		2	23	1	1			4	5	6	7	5		16	13

TABLE I. Malicious offences against property. CLASS IV.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	Number of Charges — Nombre d'accusations.	Acquitted. — Acquittés. M.	F	Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No Option. — Sans option. Under one year. — Moins d'un an.	One year and over. — Un an et plus.
Malicious injury to horses, cattle and other wilful damage to property.											
Queen's, P.E.I	8	4			4	4				4	
Antigonish, N.S.	1	1									
Cape Breton, N.S.	2	1	1								
Colchester, N.S.	1	1									
Cumberland, N.S.	1	1									
Halifax, N.S.	2	1			1	1				1	
Gloucester, N.B.	1	1									
Kent, N.B.	1	1									
Arthabaska, Que.	1				1	1					1
Bedford, Que	2	1	1								
Gaspé, Que.	1				1	1				1	
Montreal, Que.	6				6	2	2	2		3	
Ottawa, Que.	2				2	2				2	
Richelieu, Que.	2	2									
St. Francis, Que.	6	2			4	3		1	2	1	
Three Rivers, Que.	3	3									
Totals of Quebec	23	8	1		14	9	2	3	2	7	1
Brant, Ont.	3	3									
Carleton, Ont.	3	2			1	1			1		
Hastings, Ont.	3	2			1	1				1	
Kent, Ont.	1	1									
Lambton, Ont.	1				1		1				
Lincoln, Ont.	1				1	1			1		
Middlesex, Ont	3	2			1	1					
Northumberland & Durham, Ont.	1	1									
Perth, Ont	1				1	1				1	
Peterborough, Ont.	4	1			3	3			3		
Stormont, D'das & Glengary, O.	1				1	1			1		
Victoria, Ont.	6	4			2	2				1	
Welland, Ont.	1				1	1				1	
York, Ont.	9	2	1		6	6			1		
Totals of Ontario	38	18	1		19	18	1		7	4	
Manitoba, Central	1				1	1			1		
Manitoba, Eastern	6	1			5	5					
Vancouver, B.C	6	6									
Westminster, B.C.	4				4	4			4		
Yale, B.C.	6	1			5	4		1	2	2	1
Alberta Northern, Alta.	7	7									
Alberta, Southern, Alta.	9	4			5	5					1
Assiniboia, Eastern, Saskat.	3	3									
Assiniboia, Western, Saskat	7	4			3	3			3		
Saskatchewan, Saskat.	9	7			2	2			2		
Yukon	8	6			2	1	1		2		
Totals of Canada	144	76	3		65	57	4	4	23	18	3

TABLEAU I. Dommages malicieux à la propriété. CLASSE IV.

SENTENCE.						OCCUPATIONS.						CIVIL CONDITION. — ÉTAT CIVIL.		
PENITENTIARY. — PÉNITENCIER.														
Two years and under five. — Deux ans et moins de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie	D'th. — De mort.	Committed to Reformatories — Envoyés à la prison de Réforme.	Other Sentences. — Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels.	Professional — Professions libérales.	Labourers — Journaliers.	Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
Dommages malicieux aux chevaux, bestiaux et autres dommages volontaires à la propriété.														
							1				3			4
										1		1		
											1			1
												1		
					a3		2		1				2	4
											1			2
					a1						4	1		3
					4		2		1		6	2	2	10
											1			1
											1			1
					a1						1			1
							1					1		
1											1			1
											1			1
								2						
											1			1
					a1						1	1		1
											1	1		
					a5			1	2		3	1	1	4
1					7		1	3	2		11	4	1	14
						1						1		
					a5	5						4		1
							2					1		3
									3		2	3		2
					a4						5		1	4
						3						1		2
						2								2
											2			2
1					20	11	6	3	6	1	29	17	4	44

a Sentence suspended—Sentence suspendue.

TABLE I. Malicious offences against property CLASS IV.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE	EDUCATIONAL STATUS. — INSTRUCTION.			AGES										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non-donné.		Moderate — Modéré	Immoderate — Immodéré
				M. H.	F	M. H.	F.	M. H.	F.	M. H.	F.	M. H.	F		
Malicious injury to horses, cattle and other wilful damage to property.															
Queen's, I. du P.-E.		4						4							4
Antigonish, N.-E															
Cap-Breton, N.-E															
Colchester, N.-E															
Cumberland, N.-E															
Halifax, N.-E		1						1						1	
Gloucester, N.-B															
Kent, N.-B															
Arthabaska, Qué		1						1							1
Bedford, Qué															
Gaspé, Qué	1									1					1
Montréal, Qué		6		3						3				3	3
Ottawa, Qué	1	1				2								2	
Richelieu, Qué															
St. François, Qué	3	1						4						1	3
Trois-Rivières, Qué															
Totaux de Québec	5	9		3		2		5		4				6	8
Brant, Ont															
Carleton, Ont		1						1							1
Hastings, Ont		1						1						1	
Kent, Ont															
Lambton, Ont		1						1							1
Lincoln, Ont		1								1				1	
Middlesex, Ont		1				1									1
Northumberl'd et Durham, O.															
Perth, Ont		1						1						1	
Peterborough, Ont		3		1		2								3	
Stormt, D'das et Glengarry, O.	1					1									1
Victoria, Ont	1	1									1	1		1	1
Welland, Ont		1								1					1
York, Ont		6				1		4		1				6	
Totaux d'Ontario	2	17		1		5		8		3	1	1		13	6
Manitoba, Centre	1							1						1	
Manitoba, Est		5						4		1				5	
Vancouver, Col.-B															
Westminster, Col.-B		3	1					3	1					2	2
Yale, Col.-B		5						5						5	
Alberta, Nord, Al'ta															
Alberta, Sud, Al'ta	3	2				4		1						3	2
Assiniboia, Est, Saskat															
Assiniboia, Ouest, Saskat		3				1		1				1		2	
Saskatchewan, Saskat		2						2						2	
Yukon			2					2						2	
Totaux du Canada	11	51	3	4		12		37	1	8	1	2		42	22

TABLEAU I. Dommages malicieux à la propriété. CLASSE IV.

BIRTH PLACES. — LIEUX DE NAISSANCE.							RELIGIONS.							RESIDENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.			Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists. — Méthodistes.	Presbyterians. — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.													
Dommages malicieux aux chevaux, bestiaux et autrss dommages volontaires à la propriété.															
.....	.....	...	4	...	...	.....	.....	4	.....	...	...	.....	.....	4	....
.....	.....	...	.....	.....	.....	.....	.....	.....	.....	...	....	.....	.....	.....	.....
.....	.....	...	.....	.....	.....	.....	.....	.....	.....	...	..	.....	.....	.....	.....
.....	.....	...	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	.....	.....
.....	.....	...	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	.....	.....
1	.....	...	.....	.....	.....	.....	.....	.....	1	.....	..	.....	.....	1	.
.....	.....	.....	.....	.....	.....	.....	..	.....	..	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	...	1	...	...	.....	....	1	...	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	....	1	...	...	.....	.....	1	...	.....	.....	.....	.....	.....	1
.....	.....	....	6	.....	...	....	.....	4	2	.....	.....	.....	.....	6	.....
.....	.....	....	2	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	2
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	4	.....	...	..	.....	4	...	.....	.....	.....	.....	1	3
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	....	14	.....	.....	.....	.....	12	2	.....	...	..	.....	7	7
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	... ..	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....
...	.....	... ..	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	...	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....
.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	1	.....
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	.....
.....	.....	.....	3	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	3	.....
.....	.....	...	1	....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....
.....	.....	.....	2	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	2
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....
2	.....	.....	4	.....	.....	.....	.....	2	4	.....	.....	.....	.....	6	.....
2	.....	.....	16	.....	1	...	...	9	5	2	.....	2	.....	16	3
.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	1
.....	.....	.....	.....	.....	5	.....	.....	.....	.....	.....	.....	.....	5	.....	5
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1	.....	.....	1	1	1	.....	.....	1	1	.....	.....	1	1	3	1
.....	.....	.....	.....	5	.....	.....	.....	1	.....	4	.....	.....	.....	5	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	4	1	.....	.....	4	.....	.....	.....	.....	1	.....	5
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	2	1	.....	.....	3
.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	2
2	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	2	.....
6	...	2	37	10	9	...	.....	31	11	6	4	4	8	38	27

TABLE I. Forgery and offences against the currency. CLASS V.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE	Number of Charges — Nombre d'accusations.	Acquitted. — Acquittés. M.	F	Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No option. — Sans option. Under one year. — Moins d'un an.	One year and over. — Un an et plus.
Currency, offences against											
Cape Breton, N.S.	3	1			2	2					
Kamouraska, Que	1				1	1				1	
Montreal, Que	1				1	1			1		
St. Francis, Que	1				1			1			
Leeds and Grenville, Ont.	2				2	2					
Perth, Ont.	2				2	2				1	
York, Ont.	3	2			1	1					
Totals of Canada	13	3			10	9		1	1	2	
Forgery and uttering forged documents.											
Cape Breton, N.S.	1				1	1					
Colchester, N.S.	3				3	3				2	
Halifax, N.S.	4	3			1	1				1	
Totals of Nova Scotia	8	3			5	5				3	
Madawaska, N.B.	1				1	1					
Arthabaska, Que	1				1	1					
Montreal, Que	12	1			11	9	1	1		5	
St. Francis, Que.	5	1			4	1	1	2			
Totals of Quebec	18	2			16	11	2	3		5	
Algoma and Manitoulin, Ont.	4	1			3	2		1			2
Bruce, Ont.	1				1	1					1
Carleton, Ont.	14	2			12	5	3	4		2	5
Frontenac, Ont.	1				1	1					
Grey, Ont.	2	1	1								
Haldimand, Ont.	2				2	1	1				
Halton, Ont.	1				1	1					1
Huron, Ont.	1				1	1					
Lambton, Ont.	4				4	1	3			2	
Lincoln, Ont.	1				1	1				1	
Middlesex, Ont.	2	1			1		1				
Muskoka and Parry Sound, Ont.	3	1			2	2				1	
Nipissing, Ont.	3	1			2	2				2	
Oxford, Ont.	2				2	1	1				
Simcoe, Ont.	2	1			1	1			1		
Thunder Bay & Rainy River, Ont.	8	4			4	4				1	2
Waterloo, Ont.	5	1			4	2	1	1		3	1
Welland, Ont.	7				7	4	3			3	2
Wentworth, Ont.	2				2	2				2	
York, Ont.	14				14	12	2			7	
Totals of Ontario	79	13	1		65	44	15	6	1	24	14

TABLEAU I. Faux et délits par rapport à la monnaie. CLASSE V.

SENTENCE.						OCCUPATIONS.						CIVIL CONDITION. — ÉTAT CIVIL.		
PENITENTIARY. — PÉNITENCIER.														
Two years and under five. — Deux ans et m'ns de cinq	Five years and over. — Cinq ans et plus.	Life. — A vie	D'th. — De mort	Committed to Reformatories. — Envoyés à la prison de Réforme.	Other Sentences. — Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels.	Professional — Professions libérales.	Labourers — Journaliers.	Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
Delits par rapport à la monnaie.														
.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	2	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....
.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....
.....	.....	.....	.....	.....	*a*1	.....	.....	.....	.....	.....	1	.....	.....	1
.....	.....	.....	.....	.....	*a*2	.....	1	.....	.....	.....	.....	.....	.....	2
.....	.....	.....	.....	.....	*a*1	.....	.....	1	.....	.....	1	.....	.....	2
.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	.....	.....
.....	3	.....	.....	.....	4	.....	2	1	1	.....	5	5	.....	5
Faux et émission de faux documents.														
1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....
.....	.....	.....	.....	.....	*a*1	.....	1	.....	.....	.....	2	.....	.....	3
.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
1	.....	.....	.....	.....	1	.....	2	.....	1	.....	2	1	.....	4
.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....
1	2	.....	.....	.....	*a*3	.....	8	.....	3	.....	.....	2	.....	9
1	1	.....	.....	1	*a*1	.....	.....	.....	.....	.....	3	.....	.....	4
3	3	.....	.....	1	4	.....	9	.....	3	.....	3	3	.....	13
.....	.....	.....	.....	.....	*a*1	.....	.....	.....	.....	.....	2	1	.....	2
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
4	.....	.....	.....	.....	*a*1	.....	7	.....	3	.....	2	5	.....	7
.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	2
.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	.....	*a*1	1	.....	.....	.....	.....	.....	.....	.....	1
1	1	.....	.....	.....	.....	1	.....	.....	.....	.....	3	.....	.....	4
.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....
.....	.....	.....	.....	.....	*a*1	.....	.....	.....	1	.....	1	.....	.....	2
2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	2
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1	.....	.....	.....	.....	.....	.....	2	.....	1	.....	1	1	.....	3
.....	.....	.....	.....	.....	.....	.....	3	.....	.....	.....	1	1	3	.....
.....	.....	.....	.....	.....	*a*2	3	.....	.....	2	.....	2	1	.....	6
.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	2	.....	.....
2	.....	.....	.....	1	*a*4	1	7	.....	2	.....	2	2	.....	12
13	2	.....	..	1	10	7	22	.....	11	.....	19	14	3	45

a Sentence suspended—Sentence suspendue.

TABLE I. Forgery and offences against the currency. CLASS V.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non-donné.		Moderate — Modéré	Immoderate — Immodéré
				M. H.	F	M. H.	F.	M. H.	F.	M. H.	F.	M. H.	F		
Currency, offences against.															
Cap-Breton, N.-E	2							2							2
Kamouraska, Qué		1								1					1
Montréal, Qué		1						1						1	
St. François, Qué		1						1						1	
Leeds et Grenville, Ont		2						2						2	
Perth, Ont		2		1				1						2	
York, Ont		1						1						1	
Totaux du Canada	2	8		1				8		1				7	3
Forgery and uttering forged documents.															
Cap-Breton, N.-E		1								1					1
Colchester, N.-E		3				1		2						3	
Halifax, N.-E		1						1						1	
Totaux de la N.-Ecosse		5				1		3		1				4	1
Madawaska, N.-B		1						1							1
Arthabaska, Qué			1					1							1
Montréal, Que		11				2		8		1				5	6
St. François, Qué		4		1				3						2	2
Totaux de Québec		15	1	1		2		12		1				7	9
Algoma et Manitoulin, Ont	1	2		1		2								2	1
Bruce, Ont		1						1							1
Carleton, Ont		5	7					8		4				6	6
Frontenac, Ont		1								1					1
Grey, Ont															
Haldimand, Ont		2				2									2
Halton, Ont		1						1							1
Huron, Ont		1				1								1	
Lambton, Ont		4				1						3			1
Lincoln, Ont		1				1								1	
Middlesex, Ont		1								1					1
Muskoka et Parry Sound, Ont		1						2						1	
Nipissing, Ont		2				1				1				1	1
Oxford, Ont			2							2					2
Simcoe, Ont												1			
Th'der Bay et Rainy Riv., O	1	3						4						2	2
Waterloo, Ont		4						1		3				4	
Welland, Ont		3	4					7						3	4
Wentworth, Ont		2						2						2	
York, Ont		10	4	2		1		11						14	
Totaux d'Ontario	2	44	17	3		9		37		12		4		37	23

TABLEAU I. Faux et délits par rapport à la monnaie. CLASSE V.

BIRTH PLACES. — LIEUX DE NAISSANCE							RELIGIONS.							RESIDENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.															
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.	Canada.	United States — Etats Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britannique.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists. — Methodistes.	Presbyterians. — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns Villes.	Rural Districts Districts ruraux.
Délits par rapport à la monnaie.															
			2					1			1			2	
			1					1							1
					1								1	1	
					1							1			1
			2						2					2	
			1	1				2						1	1
1									1					1	
1			6	1	2			4	3		1	1	1	7	3
Faux et émission de faux documents.															
			1								1			1	
			3					1			1		1	2	1
			1						1					1	
			5					1	1		2		1	4	1
			1					1						1	
			1					1							1
2			7	1	1			6	4				1	11	
1			2	1					1			3		2	2
3			10	2	1			7	5			3	1	13	3
			3					1		1			1	3	
1									1						1
			11	1				11	1					12	
			1									1		1	
			2							2				2	
1									1						1
			1							1					1
			1								1			3	1
					1								1	1	
					1			1						1	
				1					1	1				1	1
			1		1			2						2	
2									2					2	
1			2		1			1	1	1			1	2	2
			4							1	3				4
			3	2	2			2	2		2		1	4	3
			1		1						1		1	2	
2			9	1	2				6	1	4	1	2	13	1
7			39	5	9			18	15	8	11	2	7	49	15

TABLE I. Forgery and offences against the currency. CLASS V.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	Number of Charges — Nombre d'accusations.	Acquitted. — Acquittés. M.	Acquitted. — Acquittés. F.	Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No OPTION. — SANS OPTION Under one year. — Moins d'un an.	One year and over. — Un an et plus.
Forgery and uttering forged documents—*Concluded.*											
Manitoba, Central	2				2	2				1	
Manitoba, Eastern	44				44	21	10	13		4	5
Manitoba, Western	6				6	5	1			6	
Totals of Manitoba	52				52	28	11	13		11	5
Vancouver, B.C.	6	1			5	5				3	
Victoria, B.C	5				5	3	2				
Westminster, B.C.	1	1									
Yale, B.C	6				6	4	2		1	1	2
Totals of British Columbia	18	2			16	12	4		1	4	2
Alberta, Northern, Al'ta	3	2			1	1					
Alberta, Southern, Al'ta	2				2	1	1				
Assiniboia, Western, Saskat	4				4	4				1	
Saskatchewan, Saskat	2	1			1	1					1
Yukon	2	2									
Totals of Canada	189	25	1		163	108	33	22	2	48	22
Other offences not included in the foregoing classes. CLASS VI.											
Carrying unlawful weapons.											
Queen's, P.E.I.	2	1			1		1			1	
Cape Breton, N.S.	1				1	1			1		
Colchester, N.S	2				2	2				2	
King's, N.B.	1	1									
Montreal, Que	41	4			37	36		1	30	2	
Quebec, Que.	2	1			1			1	1		
St. Francis, Que	2				2	1	1		1		
Totals of Quebec	45	5			40	37	1	2	32	2	
Brant, Ont.	1				1	1			1		
Carleton, Ont.	3				3	3			3		
Elgin, Ont.	1	1									
Essex, Ont	1				1		1				
Frontenac, Ont.	3	1			2	2			2		
Grey, Ont.	1	1									
Kent, Ont.	4	1			3	2	1		2	1	
Middlesex, Ont.	2	1			1		1		1		
Nipissing, Ont.	2				2	2			1	1	
Oxford, Ont.	2		1		1		1				

TABLEAU I. Faux et délits par rapport à la monnaie. CLASSE V.

SENTENCE. PENITENTIARY. — PÉNITENCIER. Two years and under five. — Deux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie.	D'th. — De mort	Committed to Reformatories — Envoyés à la prison de Réforme.	Other Sentences. — Autres Sentences.	OCCUPATIONS. Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels.	Professional — Professions libérales.	Labourers — Journaliers.	CIVIL CONDITION. — ÉTAT CIVIL Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
Faux et émission de faux documents—*Fin.*														
1											2			2
16	6			1	*a*12		24	2	9		8	18	3	22
							4	1			1	3		2
17	6			1	12		28	3	9		11	21	3	26
1	1						2		1				1	2
3	2						2		3					5
2								1	3		2			6
6	3						4	1	7		2		1	13
1														
	2										2			2
2					*a*1	1			1			1		1
											1			1
43	17			3	28	8	66	4	32		40	40	7	106
Autres délits non compris dans les classes précédentes. CLASSE VI. Port d'armes illégal.														
											1			1
							1							1
							1		1					2
					*a*5	1	8	1	8		17	10	2	25
										1			1	
					*a*1						2			2
					6	1	8	1	8	1	19	10	3	27
											1			1
											3	2		1
	*b*1										1			1
							1		1					2
							1		1		1	1		2
						1						1		
							1				1	1		1
					*a*1						1			1

a Sentence suspended—Sentence suspendue. *b* Concurrent with five years for burglary—Concourant avec cinq ans pour vol avec effraction.

TABLE I. Forgery and offences against the currency. CLASS V.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non donné.		Moderate — Modéré	Immoderate — Immodéré
				M. H.	F	M. H.	F.	M. H.	F.	M. H.	F.	M. H.	F		
Forgery and uttering forged documents—*Concluded.*															
Manitoba, Centre		2										2			
Manitoba, Est	1	41	1			7		34		2		1		40	3
Manitoba, Ouest		1	1			1		3				1	1	2	
Totaux de Manitoba	1	44	2			8		37		2		4	1	42	3
Vancouver, Col.-B		3						3				2			
Victoria, Col.-B		3	2					5						4	1
Westminster, Col.-B															
Yale, Col.-B		6				2		2		2				5	1
Totaux de la Col.-Britann		12	2			2		10		2		2		9	2
Alberta, Nord, Alta												1			
Alberta, Sud, Alta		2						2						2	
Assiniboia, Ouest, Saskat		1	1			1		1				2		2	
Saskatchewan, Sask		1						1						1	
Yukon															
Totaux du Canada	3	125	23	4		23		104		18		13	1	104	39

Other offences not included in the foregoing classes. CLASS VI.

Carrying unlawful weapons.															
Queen's, I.-du P.-E		1						1							1
Cap-Breton, N.-E			1					1						1	
Colchester, N.-E		2						2						2	
King's, N.-B															
Montréal, Qué	2	35		2		9		22	1	3				10	27
Québec, Qué		1						1							1
St. François, Qué		2						2						2	
Totaux de Québec	2	38		2		9		25	1	3				12	28
Brant, Ont		1				1								1	
Carleton, Ont		3						3						2	1
Elgin, Ont															
Essex, Ont		1						1							1
Frontenac, Ont		2						2							2
Grey, Ont															
Kent, Ont		3						2		1				3	
Middlesex, Ont		1						1							1
Nipissing, Ont		2						1		1					2
Oxford, Ont		1				1								1	

TABLEAU I. Faux et délits par rapport à la monnaie. CLASSE V.

BIRTH PLACES. — LIEUX DE NAISSANCE.							RELIGIONS.							RESIDENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.															
England and Wales — Angleterre et Galles	Ireland. — Irlande	Scotland. — Ecosse.	Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions — Autr's possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists — Méthodistes.	Presbyterians. — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns — Villes.	Rural Districts — Districts ruraux.
Faux et émission de faux documents—*Fin.*															
.....	..	..	1	..	1	..	.....	.....	..	..	.....	.....	.....	.....	2
26	4	4	8	1	1	.....	.....	6	25	...	12	...	1	31	13
1	.....	1	...	...	1	...	.....	1	1	.....	1	.....	.....	6	.....
27	4	5	9	1	3	.....	.....	7	26	....	13	...	1	37	15
...	.....	.....	3	.....	...	...	.....	.....	...	..	...	...	.....	4	1
.....	.....	.....	...	2	2	....	...	.....	1	...	...	4	...	5	.....
.....	.....	.....	.....	...	...	...	...	...	...	...	...	...	...	...	.....
1	.....	...	.....	5	...	...	...	1	1	4	..	.....	.....	5	1
1	.....	.....	3	7	2	.....	.....	1	2	4	.....	4	.....	14	2
.....	.....	.....	.....	...	...	...	...	...	...	...	...	...	...	...	...
.....	.....	.....	.....	2	...	...	...	.....	...	...	...	...	2	.....	2
...	....	....	2	.....	...	...	...	...	...	...	2	.....	...	2	.....
...	....	1	..	...	....	.....	...	...	1	.....	...	.....	.....	.....	1
...	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	.....	.....	.....	.....
38	4	6	69	17	15	...	.....	35	50	12	28	9	12	120	39

Autres délits non compris dans les classes précédentes. CLASSE VI.

Port d'armes illégal.

.....	....	.....	1	....	...	...	.....	1	..	..	..	..	.....	1	....
.. ..	.....	....	1	....	...	...	.....	.....	1	....	..	..	.....	.....	1
....	1	...	1	...	..	....	.....	.....	...	.....	1	1	...	....	2
....	..	.	.....	.....	.....	.....	.....	...	...	...	...	...	...	...	...
6	1	..	12	2	15	1	.....	23	9	1	..	4	...	37	.....
.	....	..	1	...	.....	...	...	1	.....	.....	.....	.....	.....	1	.....
.....	..	.....	2	.....	...	.....	...	2	.....	.....	.....	.....	.....	2	..
6	1	.....	15	2	15	1	....	26	9	1	..	4	...	40	.....
1	.....	.....	.....	.....	.....	.....	.....	.....	1	...	.....	.....	.....	1	....
.....	.....	.....	2	...	1	..	.....	2	..	...	.....	1	...	3	.....
...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	.....
...	...	.....	2	.....	.....	.....	.....	2	...	...	.....	.....	.....	2	....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	3	.....	.....	.....	2	1	.....	.....	.....	.....	.....	3	..
.....	.....	.....	1	...	.....	...	.....	.....	...	1	.....	.....	.....	.....	1
...	...	.....	.....	.....	2	...	.....	1	.....	.....	.....	.....	1	.....	2
..	..	.....	.....	.....	1	..	.....	1	.....	.....	.....	.....	.....	1	.....

TABLE I. Other offences not included in the foregoing classes. CLASS VI.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	Number of Charges. — Nombre d'accusations.	Acquitted. — Acquittés. M.	F	Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No OPTION. — SANS OPTION Under one year. — Moins d'un an.	One year and over. — Un an et plus.
Carrying unlawful weapons—*Concluded.*											
Perth, Ont.	2				2	2			2		
Prince Edward, Ont.	1				1	1			1		
Simcoe, Ont.	2				2	2			1		
Welland, Ont.	29				29	28	1		29		
Wellington, Ont.	2				2	2			2		
Wentworth, Ont.	10	5			5	4	1		5		
Totals of Ontario.	66	10	1		55	49	6		50	2	
Manitoba, Eastern.	1				1	1					1
Manitoba, Western.	3				3	3			3		
Vancouver, B.C.	2	1			1	1			1		
Victoria, B.C.	1				1	1			1		
Alberta, Northern, Al'ta.	1	1									
Alberta, Southern, Al'ta.	4	1			3	3				3	
Assiniboia, Eastern, Saskat.	1	1									
Totals of Canada.	130	21	1		108	98	8	2	88	10	1
Conspiracy.											
Montreal, Que.	7	2	1		4	4				*a*3	
Wentworth, Ont.	1	1									
York, Ont.	14	3	7		4	4					
Victoria, B.C.	8	8									
Totals of Canada.	30	14	8		8	8				3	
Electoral Act, violation of the											
Halifax, N.S.	2	2									
Hastings, Ont.	4	3			1	1					1
Middlesex, Ont.	1	1									
Welland, Ont.	1	1									
Westminster, B.C.	2				2	2					
Alberta, Southern, Al'ta.	5	3			2	1	1		2		
Totals of Canada.	15	10			5	4	1		2		1

a Two, both jail and $200 each—Deux, la prison et $200 chaque.

TABLEAU I. Autres délits non compris dans les classes précédentes. CLASSE VI.

SENTENCE.						OCCUPATIONS.						CIVIL CONDITION. — ÉTAT CIVIL.		
PENITENTIARY. — PÉNITENCIER.				Committed to Reformatories.	Other Sentences.									
Two years and under five. — Deux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie	D'th. — De mort	— En voyés à la prison de Réforme.	— Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels.	Professional — Professions libérales.	Laborers — Journaliers.	Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
Port d'armes illégal—*Fin.*														
											2			2
											1			1
					*a*1						2			2
							2				27	22		7
											2			2
								1	2		2	3		2
	1				2	1	5	1	4		44	30		25
							1							1
											2			3
											1			1
														1
	1				8	2	16	2	13	1	67	40	3	62
Conspiration.														
					*a*1		2		2			2		2
					*b*4		1					3	1	
					5		3		2			5	1	2
Infractions à la loi électorale.														
										1				1
					*a*2						2	2		
					2					1	2	2		1

a Sentence suspended—Sentence suspendue. *b* Crown case reserved—Cas de la Couronne réservé.

TABLE I. Other offences not included in the foregoing classes. CLASS VI.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ni d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non-donné.		Moderate — Modéré	Immoderate — Immodéré
				M. H.	F	M. H.	F.	M. H.	F.	M. H.	F.	M. H.	F		
Carrying firearms and unlawful weapons—*Concluded.*															
Perth, Ont.		2				1				1				2	
Prince-Edouard, Ont.		1						1							1
Simcoe, Ont.		2						2						1	1
Welland, Ont.		29				1		28						27	2
Wellington, Ont.	2							2						2	
Wentworth, Ont.		5						4		1				2	3
Totaux d'Ontario	2	53				4		47		4				41	14
Manitoba, Est		1								1				1	
Manitoba, Ouest								2				1			
Vancouver, Col.-B.		1						1							
Victoria, Col.-B.		1				1								1	
Alberta, Nord, Al'ta															
Alberta, Sud, Al'ta												3			
Assiniboia, Est, Saskat.															
Totaux du Canada	4	97	1	2		14		79	1	8		4		58	43
Conspiracy.															
Montréal, Qué.	1	3						3		1				2	2
Wentworth, Ont.															
York, Ont.		2	2						1	1	2			4	
Victoria, Col.-B.															
Totaux du Canada	1	5	2					3	1	2	2			6	2
Electoral Act, violation of the															
Halifax, N.-E.															
Hastings, Ont.			1					1						1	
Middlesex, Ont.															
Welland, Ont.															
Westminster, Col.-B.	2											2		2	
Alberta, Sud, Al'ta												2			
Totaux du Canada	2		1					1				4		3	

TABLEAUX I. Autres délits non compris dans les classes précédentes. CLASSE VI.

BIRTH PLACES. — LIEUX DE NAISSANCE.							RELIGIONS.							RESIDENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.															
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.	Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists — Méthodistes.	Presbyterians. — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.

Port d'armes illégal—*Fin.*

			2					1		1				2	
1									1					1	
1					1			1	1						2
			4		25			27					2	26	3
					2			2						2	
1	1		1		3			2		1	1		1	5	
4			16		35		2	40	4	3	1	1	4	47	8
					1			1							1
1				1	1				1					3	
		1									1			1	
					1								1	1	
11	2	1	34	3	53	1	2	68	15	4	3	6	5	93	12

Conspiration.

			2		2			2					2	4	
1			3										4	4	
1			5		2			2					6	8	

Infractions à la loi électorale.

			1					1						1	
					2									2	
			1		2			1						3	

TABLE I. Other offences not included in the foregoing classes. CLASS VI.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OU L'OFFENSE A ÉTÉ COMMISE.	Number of Charges — Nombre d'accusations.	Acquitted. — Acquittés. M.	Acquitted. — Acquittés. F	Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No OPTION. — SANS OPTION. Under one year. — Moins d'un an.	One year and over — Un an et plus.
Forcible entry.											
Halifax, N.S	1				1	1					
Montreal, Que	3				3	3			3		
Yukon	1	1									
Totals of Canada	5	1			4	4			3		
Gambling and lottery Acts offences against											
Halifax, N.S	8	8									
Bedford, Que	1				1	1			1		
Montreal, Que	189	19			170	165	5		97	57	
Quebec, Que	1				1	1			1		
St. Hyacinthe, Que	6				6	6			6		
Totals of Quebec	297	19			178	173	5		105	57	
Algoma and Manitoulin, Ont	1				1	1			1		
Carleton, Ont	5	3			2	2			2		
Leeds and Grenville, Ont	2				2	2			2		
Lincoln, Ont	1				1	1			1		
Middlesex, Ont	2				2	2			2		
Perth, Ont	9	1			8	8			8		
Welland, Ont	7				7	7			5		
Wellington, Ont	1	1									
Wentworth, Ont	13	7			6	6			5		
York, Ont	4	3			1	1			1		
Totals of Ontario	45	15			30	30			26	1	
Manitoba, Western	1	1									
Vancouver, B.C	125	28			97	97			89	2	
Westminster, B.C	104	1			103	103			103		
Yale, B.C	18				18	14	2	2	18		
Totals of British Columbia	247	29			218	214	2	2	210	2	
Alberta, Northern, Alta	1				1	1			1		
Alberta, Southern, Alta	1	1									
Assiniboia, Western, Saskat	2	2									
Saskatchewan, Saskat	1				1	1					
Yukon	9	1			8	5	3		6	*a*2	
Totals of Canada	512	76			436	424	10	2	348	62	

a One, both jail and $55—Un, la prison et $55.

TABLEAU I. Autres délits non compris dans les classes précédentes. CLASSE VI.

SENTENCE.						OCCUPATIONS.						CIVIL CONDITION. — ÉTAT CIVIL.		
PENITENTIARY. — PÉNITENCIER.														
Two years and under five. — Deux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie	D'th. — De mort	Committed to Reformatories. — Envoyés à la prison de Réforme.	Other Sentences. — Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels.	Professional — Professions libérales.	Labourers — Journaliers.	Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
Entrée forcée.														
					a1		1					1		
											3	3		
					1		1				3	4		
Infractions aux lois défendant le jeu et les loteries.														
							1					1		
					a16		81		81		6	104		66
											1	1		
							1				5			6
					16		83		81		12	106		72
							1					1		
							2					2		
							1		1			2		
											1	1		
							1					2		
									4		4			8
					a2		3		2			5		2
					a1		2		3		1	2		4
							1					1		
					3		11		10		6	16		14
					a6	1	16		14		54	9		79
						6	7	5	1		79	14	6	83
							2		9	1		5		13
					6	7	25	5	24	1	133	28	6	175
							1							1
					a1						1			
							2				2	1		3
					26	7	122	5	115	1	154	151	6	265

a Sentence suspended—Sentence suspendue.

TABLE I. Other offences not included in the foregoing classes. CLASS VI.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non-donné.		Moderate — Modéré	Immoderate — Immodéré
				M.	F	M.	F.	M.	F.	M.	F.	M.	F		
				H.	F	H.	F.	H.	F.	H.	F.	H.	F		
Forcible entry.															
Halifax, N.-E.		1								1				1	
Montréal, Qué.		3						3							3
Yukon															
Totaux du Canada		4						3		1				1	3
Gambling and lottery Acts, offences against															
Halifax, N.-E.															
Bedford, Qué.		1								1				1	
Montréal, Qué	3	167				5		135	2	28				130	40
Québec, Que		1						1						1	
St. Hyacinthe, Qué		6				5		1						6	
Totaux de Québec	3	175				10		137	2	29				138	40
Algoma et Manitoulin, Ont		1								1				1	
Carleton, Ont		2						1		1				2	
Leeds et Grenville, Ont		2						1		1				2	
Lincoln, Ont		1								1				1	
Middlesex, Ont		2						1		1					2
Perth, Ont		8		2		4		2						8	
Welland, Ont		7		2				3		2				7	
Wellington, Ont															
Wentworth, Ont		6						5		1				5	1
York, Ont			1					1						1	
Totaux d'Ontario		29	1	4		4		14		8				27	3
Manitoba, Ouest															
Vancouver, Col.-B.	53	34				7		57		19		14			
Westminster, Col.-B.		6				14		64		25				6	
Yale, Col.-B.	2	16						17		1				16	2
Totaux de la Col.-Britan.	55	56				21		138		45		14		22	2
Alberta, Nord, Al'ta	1											1		1	
Alberta, Sud, Al'ta															
Assiniboia, Ouest, Saskat															
Saskatchewan, Sask.												1			
Yukon		4						2		1		5		4	
Totaux du Canada	59	264	1	4		35		291	2	83		21		192	45

TABLEAU I. Autres délits non compris dans les classes précédentes. CLASSE VI.

BIRTH PLACES. — LIEUX DE NAISSANCE.						RELIGIONS.							RESIDENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.														
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.	Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists — Méthodistes.	Presbyterians. — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns — Villes.	Rural Districts — Districts ruraux.
Entrée forcée.														
			1						1				1	
			3				3						3	
			4				3		1				4	
Infractions aux lois défendant le jeu et les loteries.														
			1									1		1
8			88		74		86	36	3	3	1	41	170	
			1				1						1	
			6				6						6	
8			96		74		93	36	3	3	2	41	177	1
				1				1					1	
	1		1				2						2	
			2				1				1		2	
				1			1						1	
			2								2			
			8				4	3	1			2	8	
			5	1	1		1	4				2	3	4
			6				2	1	3				6	
			1					1					1	
	1		25	3	1		11	10	4		3	2	26	4
6		2	13	7	61								91	
					103							103	95	8
1	1		9	5	2		4	1	8			1	18	
7	1	2	22	12	166		4	1	8			104	204	8
					1							1	1	
			1										1	
1			2	1			1		3				7	1
16	2	2	146	16	242		1	108	47	18	3	5	146	416	14

TABLE I. Other offences not included in the foregoing classes. CLASS VI.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	Number of Charges. — Nombre d'accusations.	Acquitted. — Acquittés. M.	F	Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No OPTION. — SANS OPTION. Under one year. — Moins d'un an.	One year and over. — Un an et plus.
Indecent exposure and other offences against public morals.											
Colchester, N.S.	1	1									
Halifax, N.S.	2				2	2					
Yarmouth, N.S.	1				1	1			1		
Bedford, Que.	1	1									
Montreal, Que.	70	1	2		67	64	2	1	50	08	4
Quebec, Que.	1				1	1			1		
St. Francis, Que.	3				3	1	1	1	3		
Totals of Quebec	75	2	2		71	66	3	2	54	8	4
Brant, Ont.	4	2			2	2			2		
Carleton, Ont.	10				10	8	1	1	7	3	
Grey, Ont.	3	1			2	2			1		1
Huron, Ont.	1			nil							
Kent, Ont.	2	1	1								
Lincoln, Ont.	1				1			1			
Oxford, Ont.	1				1			1		1	
Perth, Ont.	1	1									
Simcoe, Ont.	2				2	2					
Victoria, Ont.	1				1	1					1
Welland, Ont.	2				2	2			2		
Wentworth, Ont.	1				1	1			1		
York, Ont.	22	7	1		14	14			12		
Totals of Ontario	51	12	2	1	36	32	1	3	25	4	2
Manitoba, Eastern	1				1	1				1	
Vancouver, B.C.	7	1			6	6			4	2	
Westminster, B.C.	2	1			1	1					1
Alberta, North and South, Alta.	2	2									
Assiniboia, Eastern, Saskat.	17				17	17				17	
Assiniboia, Western, Saskat.	2				2	2				2	
Saskatchewan, Saskat.	1	1									
Yukon	1				1	1			1		
Totals of Canada	163	20	4	nil	138	129	4	5	85	34	7
Perjury and subornation of perjury.											
Cape Breton, N.S.	5	4			1	1				1	
Cumberland, N.S.	1	1									
Halifax, N.S.	9	5	3		1	1					
Totals of Nova Scotia	15	10	3		2	2				1	
Carleton, N.B.	1				1		1				

a Five, both jail and $190 in all—Cinq, la prison et $190 en tout.

TABLEAU I. Autres délits non compris dans les classes précédentes. CLASSE VI.

SENTENCE.					OCCUPATIONS.						CIVIL CONDITION. — ETAT CIVIL.		
PENITENTIARY. — PÉNITENCIER.													
Two years and under five. — Deux ans et moins de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie	D'th. — De mort	Committed to Reformatories. — Envoyés à la prison de Réforme.	Other Sentences. — Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels	Professional — Professions libérales.	Labourers — Journaliers.	Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
Exposition indecente et autres delits contre la morale publique.													
				2				2					2
									1				1
					a5	1	7	2	18		19	18	3	46
											1	1		
						1			2			2		1
					5	2	7	2	20		20	21	3	47
											2			2
							1				2	3		4
							2					1		1
				1										1
											1			1
					/2				1			1		2
						1								
										1	1	1		1
											1	1		
					/2						12	3		11
				1	4	1	3		1	1	19	10		26
									1					1
							3		2		1	4		2
								1						1
							1							1
				3	9	3	14	5	25	1	40	35	3	81
Parjure et subornation de parjure.														
									1			1		
					a1			1						1
					1			1	1			1		1
1						1								1

a Sentence suspended—Sentence suspendue. b Unlawfully cohabiting, acquitted having married
Cohabitation illégale, acquittés, s'étant mariés.

TABLE I. Other offences not included in the foregoing classes. CLASS VI.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ETÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non-donné.		Moderate — Modéré	Immoderate — Immodéré
				M. H.	F	M. H.	F.	M. H.	F.	M. H.	F.	M. H.	F		
Indecent exposure and other offences against public morals.															
Colchester, N.-E															
Halifax, N.-E		2				2								2	
Yarmouth, N.-E		1						1						1	
Bedford, Qué															
Montréal, Qué	1	66		3		4	5	33	11	11				34	33
Québec, Qué		1						1						1	
St. François, Qué	3					1				2					3
Totaux de Québec	4	67		3		5	5	34	11	13				35	36
Brant, Ont		2				1		1						1	1
Carleton, N.-B	1	9		4		1		3	2					9	1
Grey, Ont		2						1		1				1	1
Huron, Ont															
Kent, Ont															
Lincoln, Ont	1			1										1	
Oxford, Ont		1						1							1
Perth, Ont															
Simcoe, Ont		2						1	1					1	1
Victoria, Ont		1										1		1	
Welland, Ont		1	1					1		1					2
Wentworth, Ont		1						1						1	
York, Ont		13	1	2				8		4				11	3
Totaux d'Ontario	2	22	2	7		2		17	3	6		1		26	10
Manitoba, Est		1				1								1	
Vancouver, Col.-B		6						3		3					
Westminster, Col.-B		1						1						1	
Alberta, Nord et Sud, Alta															
Assiniboia, Est, Saskat												17			
Assiniboia, Ouest, Saskat												2			
Saskatchewan, Sask															
Yukon		1						1						1	
Totaux du Canada	6	111	2	10	2	8	5	57	14	22		20		67	46
Perjury and subordination of perjury.															
Cap-Breton, N.-E		1								1				1	
Cumberland, N.-E															
Halifax, N.-E	1								1					1	
Totaux de la N.-Ecosse	1	1							1	1				2	
Carleton, N.-B		1						1						1	

TABLEAU I. Autres délits non compris dans les classes précédentes. CLASSE VI.

BIRTH PLACES. — LIEUX DE NAISSANCE.							RELIGIONS.							RESIDENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.															
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.	Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists — Méthodistes.	Presbyterians — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.
Exposition indécente et autres délits contre le morale publique.															
			1			1		2						2	
			1					1						1	
6	1		52	2	6			48	10	1	3	2	3	49	18
			1					1							1
			3					3						2	1
6	1		56	2	6			52	10	1	3	2	3	51	20
1			1						1			1		2	
			10					5				5		10	
			1		1						1	1		2	
			1							1				1	
			1						1					1	
			2						1			1		2	
			1												1
	1			1				1			1			1	1
					1			1						1	
4			8	1	1			2	10	1	1			14	
5	1		25	2	3			9	13	2	3	8		34	2
1									1					1	
1			2	2	1				1					5	1
				1									1	1	
				1						1				1	
13	2		85	8	10	1		64	25	4	6	10	4	96	23
Parjure et subornation de parjure.															
			1					1						1	
			1					1						1	
			2					2						2	
			1				1								1

TABLE I. Other offences not included in the foregoing classes. CLASS VI.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	Number of Charges — Nombre d'accusations.	Acquitted. — Acquittés. M.	F.	Detained for Lunacy. — Detenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No Option. — Sans option Under one year. — Moins d'un an.	One year and over. — Un an et plus.
Perjury and subornation of perjury—*Concluded.*											
Bedford, Que.	1			1							
Montreal, Que.	4	1			3	2		1		*a*2	
Quebec, Que.	1	1									
St. Francis, Que.	3	2	1								
Totals of Quebec	9	4	2		3	2		1		2	
Brant, Ont.	1	1									
Bruce, Ont.	3	1			2	1	1		2		
Carleton, Ont.	2	2									
Elgin, Ont.	1				1			1			
Haldimand, Ont.	2	1			1	1					
Hastings, Ont.	3	2	1								
Lambton, Ont.	5	2			3	1	2				
Leeds and Grenville, Ont.	2	2									
Lincoln, Ont.	1	1									
Middlesex, Ont.	4	3			1	1					1
Nipissing, Ont.	1				1	1				1	
Norfolk, Ont.	2	2									
Northumberland & Durham, O.	2	2									
Stormont, D'das & Glengarry, O.	1	1									
Welland, Ont.	4				4	4				1	
Wellington, Ont.	2				2		2				
York, Ont.	3	2			1	1					
Totals of Ontario	39	22	1		16	10	5	1	2	2	1
Manitoba, Eastern	1	1									
Vancouver, B.C.	*b*5	4									
Victoria, B.C.	*b*4	2			1		1				
Alberta, Northern, Alta.	1	1									
Alberta, Southern, Alta.	*b*5	1			3	3					2
Assiniboia, Western, Saskat.	2	2									
Totals of Canada.	82	47	6		26	17	7	2	2	5	3
Prison breach, escape, attempt and aiding to escape from prison.											
Queen's, P.E.I.	1				1		1			1	
Colchester, N.S.	1				1		1				1
Halifax, N.S.	6	2			4		3	1		1	2
Madawaska, N.B.	1				1	1					
Westmoreland, N.B.	1	1									
Bedford, Que.	1				1		1			1	
Iberville, Que.	1				1		1				

a Both jail and 875. La prison et 875. *b* 1, *Nolle prosequi.*

TABLEAU 1. Autres délits non compris dans les classes précédentes. CLASSE VI.

SENTENCE.						OCCUPATIONS.						CIVIL CONDITION. — ÉTAT CIVIL.		
PENITENTIARY. — PÉNITENCIER.				Committed to Reformatories.	Other Sentences.									
Two years and under five. — Deux ans et m'ns de cinq	Five years and over — Cinq ans et plus.	Life. — A vie	D'th. — De mort	— Envoyés à la prison de Réforme.	— Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic. — Serviteurs.	Industrial. — Industriels.	Professional. — Professions libérales.	Laborers — Journaliers.	Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
Parjure et subornation de parjure—*Fin.*														
					*a*1		1		1		1	3		
					1		1		1		1	3		
							2					2		
1														1
					*a*1	1								1
2					*a*1	1		1			1	1		2
											1			1
											1	1		
					*a*3				1		3	2		2
					*a*2	1			1			2		
					*a*1	1						1		
3					8	4	2	1	2		6	9		7
	1								1			1		
1						2						2		1
5	1				10	7	3	2	5		7	16		10
Infractions aux lois des prisons, évasion, tentative et aide à l'évasion.														
											1			1
							1							1
					*a*1	1			2		1			4
					*a*1				1					1
											1			1
1									1					1

a Sentence suspended. Sentence suspendue.

TABLE I. Other offences not included in the foregoing. CLASS VI.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non-donné.		Moderate — Modéré	Immoderate — Immoderé
				M.	F	M.	F.	M.	F.	M.	F.	M.	F		
				H.	F	H.	F.	H.	F.	H.	F.	H.	F		
Perjury and subornation of perjury—*Concluded.*															
Bedford, Que															
Montreal, Que		3						2		1				2	1
Québec, Que															
St. François, Que															
Totaux de Québec		3						2		1				2	1
Brant, Ont															
Bruce, Ont		2						2						2	
Carleton, Ont															
Elgin, Ont		1				1								1	
Haldimand, Ont		1						1						1	
Hastings, Ont															
Lambton, Ont	1	2		1				2						1	2
Leeds et Grenville, Ont															
Lincoln, Ont															
Middlesex, Ont	1							1							1
Nipissing, Ont		1								1				1	
Norfolk, Ont															
Northumberl'd et Durham, O															
Storm't, D'das et Gleng'ry, O															
Welland, Ont		4						2	1	1				4	
Wellington, Ont		2						2						2	
York, Ont			1							1				1	
Totaux d'Ontario	2	13	1	1		1		10	1	3				13	3
Manitoba, Est															
Vancouver, Col.-B															
Victoria, Col.-B	1							1						1	
Alberta, Nord, Al'ta															
Alberta, Sud, Al'ta	1	2						3						3	
Assiniboïa, Ouest, Sasket															
Totaux du Canada	5	20	1	1		1		17	2	5				22	4
Prison breach, escape, attempt and aiding to escape from prison.															
Queen's, I. du P.-E		1						1							1
Colchester, N.-E		1						1							1
Halifax, N.-E		4				2		2						2	2
Madawaska, N.-B		1					1							1	
Westmoreland, N.-B															
Bedford, Que		1						1						1	
Iberville, Que		1						1						1	

TABLEAU I. Autres délits non compris dans les classes précedentes. CLASSE VI.

BIRTH PLACES. — LIEUX DE NAISSANCE.							RELIGIONS.							RESI-DENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.			Canada.	United States. — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists. — Méthodistes.	Presbyterians. — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns Villes.	Rural Districts—Districts ruraux.
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.													
Parjure et subornation de parjure—*Fin.*															
			3					2					1	3	
			3					2					1	3	
			2					2							2
				1				1						1	
			1										1		1
			3				1			1	1			2	1
			1					1						1	
					1								1	1	
			1	1	2			3				1		3	1
			2				1				1			1	1
1										1					1
1			10	2	3		2	7		2	2	1	2	9	7
					1								1	1	
1			1	1				1	1				1		3
2			17	3	4		3	12	1	2	2	1	5	15	11
Infractions aux lois des prisons, évasion, tentative et aide d'evasion.															
			1					1						1	
			1	1							1				1
			3	1				1	2		1			3	1
			1					1						1	
			1									1			1
			1					1						1	

TABLE I. Other offences not included in the foregoing classes. CLASS VI.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	Number of Charges — Nombre d'accusations	Acquitted. — Acquittés. M.	F	Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No OPTION. — SANS OPTION Under one year. — Moins d'un an.	One year and over. — Un an et plus.
Prison breach, escape, attempt and aiding to escape from prison—*Concluded.*											
Kamouraska, Que	1				1		1			1	
Montreal, Que	2				2	1	1		2		
St. Francis, Que	2				2			2			
Totals of Quebec	7				7	1	4	2	2	2	
Algoma and Manitoulin, Ont	1				1		1			1	
Brant, Ont	2				2		2				1
Elgin, Ont	1				1		1			1	
Essex, Ont	1				1	1					
Grey, Ont	1				1		1			1	
Hastings, Ont	1				1		1				
Leeds and Grenville, Ont	1				1		1			1	
Lincoln, Ont	1				1		1				
Nipissing, Ont	1				1		1			1	
Northumberland & Durham, O	1				1			1		1	
Ontario, Ont	2				2		1	1	1	1	
Oxford, Ont	3	1			2		2				2
Peel, Ont	1				1			1			
Peterborough, Ont	1				1		1		1		
Simcoe, Ont	1				1		1			1	
Victoria, Ont	1				1		1				
Welland, Ont	1				1		1			1	
Wentworth, Ont	1	1									
York, Ont	9	1			8	1	7			3	
Totals of Ontario	31	3			28	2	23	3	2	12	3
Manitoba, Central	2				2		2				
Manitoba, Eastern	1				1		1			1	
Victoria, B.C	1				1		1			1	
Westminster, B.C	1				1		1			1	
Alberta, Northern, Al'ta	7				7		7		1	5	
Alberta, Southern, Al'ta	6				6	1	4	1	1		1
Assiniboia, Eastern, Saskat	2				2		2				
Assiniboia, Western, Saskat	4				4		4			3	
Saskatchewan, Saskat	1				1		1			1	
Totals of Canada	73	6			67	5	55	7	6	28	7
Revenue Laws, offences against											
Carleton, Ont	1				1	1			1		
Leeds and Grenville, Ont	1				1	1			1		
Welland, Ont	3				3	3			2	1	
York, Ont	2	1			1	1					1
Totals of Ontario	7	1			6	6			4	1	1

TABLEAU I. Autres délits non compris dans les classes précédentes. CLASSE VI.

SENTENCE.						OCCUPATIONS.						CIVIL CONDITION. — ÉTAT CIVIL.		
PENITENTIARY. — PÉNITENCIER.														
Two years and under five. — Deux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie	D'th. — De mort	Committed to Reformatories — Envoyés à la prison de Réforme.	Other Sentences. — Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels.	Professional — Professions libérales.	Labourers — Journaliers.	Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
Infractions aux lois des prisons, évasion, tentative et aide d'évasion—*Fin.*														
											1	1		
									1		1	1		1
					*a*2		1				1			2
1					2		1		2		4	2		5
									1			1		
					*a*1				1		1			2
														1
1														
											1			1
					*b*1									
											1	1		
					*a*1				1					1
											1	1		
									2					2
				1					1					1
											1	1		
					*a*1		1							1
														1
				3	*a*2				1		3			8
1				4	6		1		7		8	4		18
					*a*2									2
											1			1
											1			1
							1							1
					*a*1									
					*a*1, *b*3	2					1			3
					*b*2									
					*b*1	1			1		1	1		2
											1	1		
2				4	20	4	4		13		19	8		40
Délits contre le revenu de l'Etat.														
							1					1		
							1							
							3					2		1
							1							1
							6					3		2

a Sentence suspended—Sentence suspendue. *b* Taken back to jail—Réintégrés en prison.

TABLE I. Other offences not included in the foregoing classes. CLASS VI.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ETÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non-donné.		Moderate — Modéré	Immoderate — Immodéré
				M. H.	F	M. H.	F.	M. H.	F.	M. H.	F.	M. H.	F		
Prison breach, escape, attempt and aiding to escape from prison—*Concluded.*															
Kamouraska, Qué		1								1					1
Montréal, Qué	1	1				1		1						1	1
St. François, Qué		2				1		1						2	
Totaux de Québec	1	6				2		4		1				5	2
Algoma et Manitoulin, Ont		1						1							1
Brant, Ont		2				1		1						2	
Elgin, Ont		1				1								1	
Essex, Ont												1			
Grey, Ont		1										1			1
Hastings, Ont												1			
Leeds et Grenville, Ont		1								1					1
Lincoln, Ont		1						1						1	
Nipissing, Ont												1			
Northumberl'd et Durham, O		1								1					1
Ontario, Ont		2				1		1							2
Oxford, Ont												2			
Peel, Ont		1				1								1	
Peterborough, Ont		1						1							1
Simcoe, Ont												1			
Victoria, Ont		1						1						1	
Welland, Ont		1		1										1	
Wentworth, Ont															
York, Ont		8		1	1	5	1							8	
Totaux d'Ontario		22		2	1	9	1	6		2		7		15	7
Manitoba, Centre	1	1		1								1		1	
Manitoba, Est		1				1								1	
Victoria, Col.-B		1								1				1	
Westminster, Col.-B	1							1						1	
Alberta, Nord, Al'ta												7			
Alberta, Sud, Al'ta		3						3				3		3	
Assiniboia, Est, Sask												2			
Assiniboia, Ouest, Sask	1	2						3				1		2	1
Saskatchewan, Saskat		1						1							1
Totaux du Canada	4	44		3	1	14	2	22		4		21		32	15
Revenue Laws, offences against															
Carleton, Ont		1								1				1	
Leeds et Grenville, Ont		1										1			
Welland, Ont		3						3						2	1
York, Ont			1					1						1	
Totaux d'Ontario		5	1					4		1		1		4	1

TABLEAU I. Autres délits non compris dans les classes précédentes. CLASSE VI.

BIRTH PLACES. — LIEUX DE NAISSANCE.							RELIGIONS.							RESIDENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.															
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.	Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists — Méthodistes.	Presbyterians. — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.
Infractions aux lois des prisons, évasion, tentative et aide d'évasion—*Fin.*															
			1					1							1
			2					2						1	1
			1		1							2			2
			6		1			4				3		2	5
			1								1				1
			2							1		1		1	1
				1				1						1	
			1											1	
			1						1					1	
1									1					1	
			1						1						1
			2					2						2	
			1					1						1	
			1					1						1	
			1						1						1
1			7					2	4	2				8	
2			18	1				7	8	3	1	1		17	4
					1								1	1	1
1									1						1
		1									1			1	
			1					1							1
				2				1					2	1	2
	1		2					2		1				2	1
			1						1						1
3	1	1	35	4	2			18	12	4	4	4	3	29	18
Délits contre le revenu de l'Etat.															
			1									1		1	
					1									1	
				1	2		1	1					1	2	1
			1						1					1	
			2	1	3		1	1	1			1	1	5	1

TABLE I. Other offences not included in the foregoing classes. CLASS VI.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE	Number of Charges — Nombre d'accusations.	Acquitted. — Acquittés. M.	F	Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNES. With the option of a fine. — Sur option entre la prison ou l'amende	No option. — Sans option. Under one year. — Moins d'un an.	One year and over. — Un an et plus.
Revenue laws, offences against—*Concluded.*											
Vancouver, B.C	1	1									
Alberta, Southern, Alta	2				2	2				1	
Assiniboia, Eastern, Saskat.	1	1									
Totals of Canada	11	3			8	8			4	2	1
Riot and affray.											
Yarmouth, N.S	7	7									
Elgin, Ont	4				4	3		1	3	1	
Totals of Canada	11	7			4	3		1	3	1	
Suicide, attempt at											
Montreal, Que	7				7	7				3	
Algoma and Manitoulin, Ont	1				1	1				1	
Carleton, Ont	1				1	1					
Grey, Ont	1				1	1				1	
Hastings, Ont	1			1m							
Kent, Ont	1	1									
Lanark, Ont	1				1	1					
Middlesex, Ont	1				1	1					
Nipissing, Ont	2				2	1	1			1	
Northumberland & Durham, O.	1				1	1					
Ontario, Ont	1			1m							
Simcoe, Ont	1				1	1					
Waterloo, Ont	1			1m							
Welland, Ont	1				1	1					
Wentworth, Ont	1				1	1					
York, Ont	2				2	2				1	
Totals of Ontario	17	1		3m	13	12	1			4	
Vancouver, B.C	3		*a*1		2	2				2	
Alberta, Southern, Alta	2	1			1	1					
Assiniboia, Eastern, Saskat.	1				1	1				1	
Assiniboia, Western, Saskat	3				3	3					
Yukon	1				1	1					
Totals of Canada	34	2	1	3m	28	27	1			10	

a Aiding and abetting suicide—Aide et encouragement au suicide.

TABLEAU I. Autres delits non compris dans les classes précédentes. CLASSE VI.

SENTENCE.						OCCUPATIONS.						CIVIL CONDITION. — ÉTAT CIVIL.		
PENITENTIARY. — PÉNITENCIER.														
Two years and under five. — Deux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie	D'th. — De mort	Committed to Reformatories. — Envoyés à la pi'son de Réforme.	Other Sentences. — Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels.	Professional — Professions libérales.	Labourers — Journaliers.	Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
Délits contre le revenu de l'Etat—*Fin.*														
					*a*1									
					1		6					3		2
Emeute et tumulte.														
											4	1		3
											4	1		3
Tentative de suicide.														
					*a*3, *b*1		1		2		2	3		4
											1			1
					*a*1							1		
									1					1
					*a*1									1
				1				1						1
					*a*1						2			2
					*a*1						1			1
					*a*1						1			1
					*a*1				1			1		
					*a*1						1			1
					*a*1		1				1			2
				1	8		1	1	2		7	2		11
					*a*1						1			1
					*a*3							1		
					*a*1					1				1
				1	17		2	1	4	1	10	6		17

a Sentence suspended—Sentence suspendue. *b* To give bail—A donner des cautions.

TABLE I. Other offences not included in the foregoing classes. CLASS VI.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ETÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non-donné.		Moderate — Modéré	Immoderate — Immodéré
				M.	F	M.	F.	M.	F.	M.	F.	M.	F		
				H.	F	H.	F.	H.	F.	H.	F.	H.	F		
Revenue Laws, offences against—*Concluded.*															
Vancouver, Col.-B.															
Alberta, Sud., Al'ta												2			
Assiniboia, Est, Saskat															
Totaux du Canada		5	1					4		1		3		4	1
Riot and affray.															
Yarmouth, N.-E															
Elgin, Ont.		4						4						3	1
Totaux du Canada		4						4						3	1
Suicide, attempt at.															
Montreal, Que	1	6				1	1	2	1	2				1	6
Algoma et Manitoulin, Ont		1								1					1
Carleton, Ont		1							1					1	
Grey, Ont		1										1		1	
Hastings, Ont															
Kent, Ont															
Lanark, Ont		1					1							1	
Middlesex, Ont		1					1							1	
Nipissing, Ont		2				1				1				1	1
Northumberl'd et Durham, O.		1						1							1
Ontario, Ont															
Simcoe, Ont		1						1							1
Waterloo, Ont															
Welland, Ont		1								1					1
Wentworth, Ont		1				1								1	
York, Ont		1	1			1		1						2	
Totaux d'Ontario		12	1			3	2	3	1	3		1		8	5
Vancouver, Col.-B												2			
Alberta, Sud, Al'ta		1						1							1
Assiniboïa, Est, Sask												1			
Assiniboia, Ouest, Saskat		1							1			2		1	
Yukon		1					1							1	
Totaux du Canada	1	21	1			4	4	6	3	5		6		11	12

TABLEAU I. Autres délits non compris dans les classes précédentes. CLASSE VI.

BIRTH PLACES. — LIEUX DE NAISSANCE.							RELIGIONS.							RESIDENCE	
BRITISH ISLES. — ILES BRITANNIQUES.															
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.	Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's posses. Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists — Méthodistes.	Presbyterians. — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.
Délits contre le revenu de l'Etat—*Fin.*															
. .	. .	. .	2	1	3	. .	1	1	1	. .	. .	1	1	5	1
Emeute et tumulte.															
1	. .	. .	3		. .				1	3	. .	. .	. .	2	2
1	. .	. .	3	. .	. .				1	3	. .	. .	. .	2	2
Tentative de suicide.															
3	1	. .	1	. .	2	. .	. .	2	3	1	. .	. .	1	7	. .
. .	. .	. .	. .	. .	1	. .	. .	. .	. .	. .	1	. .	. .	. .	1
1	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	. .	. .	. .	1	. .
1	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	. .	. .	. .	. .	1
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
. .	. .	. .	1	. .	. .	. .	. .	. .	. .	1	. .	. .	. .	1	. .
. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	1	. .
. .	. .	. .	. .	1	1	. .	. .	1	. .	. .	. .	. .	1	2	. .
1	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	. .	. .	1	. .
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
. .	. .	. .	1	. .	. .	. .	. .	. .	1	. .	. .	. .	. .	. .	1
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
1	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	. .	. .	. .	. .	1
1	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	. .	. .	. .	1	. .
1	. .	. .	1	. .	. .	. .	. .	. .	2	. .	. .	. .	. .	2	. .
6	. .	. .	4	1	2	. .	. .	1	7	2	. .	2	1	9	4
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	. .	1
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
1	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	. .	. .	. .	1	. .
.	. .	. .	. .	1	. .	. .	. .	. .	. .	1	. .	. .	. .	1	. .
10	1	. .	6	2	4	. .	. .	3	11	4	. .	3	2	18	5

TABLE I. Other offences not included in the foregoing classes. CLASS VI.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	Number of Charges — Nombre d'accusations	Acquitted. — Acquittés. M.	Acquitted. — Acquittés. F	Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No OPTION. — SANS OPTION Under one year. — Moins d'un an.	One year and over. — Un an et plus.
Various other misdemeanours.											
Colchester, N.S	2				2		2				
Halifax, N.S.	1	1									
Montreal, Que.	12	9	2		1	1			1		
Brant, Ont.	1				1	1					1
Haldimand, Ont.	6	3			3	2	1				
Kent, Ont.	1	1									
Lanark, Ont.	1				1	1					
Lincoln, Ont.	2	1			1	1			1		
Middlesex, Ont.	3	2			1	1			1		
Nipissing, Ont	1				1	1				1	
York, Ont.	4	1	1		2		2				
Totals of Ontario	19	8	1		10	7	3		2	1	1
Manitoba, Central	3				3	3					
Vancouver, B.C.	1				1	1				1	
Totals of Canada	38	18	3		17	12	5		3	2	1

TABLEAU I. Autres delits non compris dans les classes precedentes. CLASSE VI.

SENTENCE.					OCCUPATIONS.						CIVIL CONDITION. — ÉTAT CIVIL.		
PENITENTIARY. — PÉNITENCIER.			Committed to Reformatories	Other Sentences.									
Two years and under five.	Five years and ov r.	Life.	D'th.	—	Agricultural.	Commercial.	Domestic	Industrial.	Professional	Laborers	Married.	Widowed	Single
—	—	—	De mort	En-voyés à la prison de Réforme.	Autres Sentences.	—	—	—	—	—	—	—	—
Deux ans et m'ns de cinq.	Cinq ans et plus.	A vie			Agriculteurs.	Commerçants.	Serviteurs.	Industriels.	Professions libérales.	Journaliers.	Mariés.	En veuvage.	Célibataires.
Divers autres delits.													
b2						1		1					2
						1							1
										1	1		
				a3	3								3
				a1							1		
												1	
									1				1
										1			1
				c1, d1				1		1			2
				6	3			1	1	3	2	1	7
				a3	3								3
2				9	6	2		2	1	3	2	1	13

a Sentence suspended—Sentence suspendue. *b* Having explosive in possession—Avant des matieres explosives en possession. *c* Recommitted in Central Prison—Reintégre dans la prison centrale.
d Fine of $1,000 to be imposed if dumping is continued or if nuisance not abated—Amende de $1,000 devant être imposée si les incommodites ne sont pas enlevees.

TABLE I. Other offences not included in the foregoing classes. CLASS VI.

JUDICIAL DISTRICTS IN WHICH OFFENCE WAS COMMITTED. — DISTRICTS JUDICIAIRES OÙ L'OFFENSE A ÉTÉ COMMISE.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ni d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non-donné.		Moderate — Modéré	Immoderate — Immodéré
				M. H.	F	M. H.	F.	M. H.	F.	M. H.	F.	M. H.	F		
Various other misdemeanours.															
Colchester, N.-E.	..	2	....	....	..	....	....	....	....	....	..	....	..	2	....
Halifax, N.-E.	....	....	....	....	..	....	....	2	....	....	..	....	..	....	....
Montréal, Qué.	....	1	....	....	..	....	....	1	....	....	....	....	..	....	1
Brant, Ont.	1	....	....	....	..	....	....	1	....	....	..	....	..	1	....
Haldimand, Ont.	....	3	....	....	..	....	....	3	....	....	....	....	..	3	....
Kent, Ont.	....	....	....	....	..	....	....	....	....	....	....	....	..	....	....
Lanark, Ont.	....	1	....	....	..	....	....	....	....	....	1	....	..	1	....
Lincoln, Ont.	....	1	....	....	..	....	....	....	....	....	1	....	..	1	....
Middlesex, Ont.	....	....	1	....	..	....	....	1	....	....	....	....	..	1	....
Nipissing, Ont.	....	1	..	....	..	....	....	1	....	....	....	....	..	1	....
York, Ont.	.	2	..	....	..	....	....	1	....	1	....	....	..	1	1
Totaux d'Ontario	1	8	1	....	..	....	....	....	....	1	2	....	..	9	1
Manitoba, Centre	....	3	....	....	..	3	....	7	....	....	....	....	..	3	....
Vancouver, Col.-B.	....	....	....	....	..	....	....	....	....	....	....	1	..	....	....
Totaux du Canada	1	14	1	....	..	3	....	10	....	1	2	1	..	14	2

TABLEAU I. Autres délits non compris dans les classes précédentes. CLASSE VI.

BIRTH PLACES. — LIEUX DE NAISSANCE							RELIGIONS.								RESIDENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.																
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.	Canada.	United States — Etats Unis.	Other Foreign Countries. — Autres pays etrangers.	Other British Possessions. — Autr's possessions Britannique.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists. — Methodistes.	Presbyterians. — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns — Villes.	Rural Districts — Districts ruraux.	
Divers autres délits.																
.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....	2	
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	
1	.....	.....	2	.....	.....	.....	.....	.....	1	.....	2	.....	.....	.....	3	
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....	
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....	
.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	
.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	
.....	.....	.....	2	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	2	.....	
1	.....	.....	8	1	.....	.....	.....	1	1	5	2	1	.....	6	4	
.....	.....	.....	3	.....	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	3	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
1	1	.....	13	1	.....	.....	.....	2	1	8	3	2	.....	7	9	

TABLE II.

SUMMARY BY CLASSES AND PROVINCES WITH TOTALS OF EACH PROVINCE AND CANADA FOR THE YEARS 1904 AND 1905.

TABLEAU II.

RÉCAPITULATION PAR CLASSES ET PAR PROVINCES AVEC TOTAUX DE CHAQUE PROVINCE ET DU CANADA POUR LES ANNÉES 1904 ET 1905.

TABLE II. Summary by classes and provinces.

PROVINCES.		Number of Charges — Nombre d'accusations.	Acquitted. — Acquittés. M.	F	Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No Option. — Sans option. Under one year. — Moins d'un an.	One year and over. — Un an et plus.
Class I.—Offences against the person.												
Prince Edward Island	1905	24	5	..	2	17	15	2	.....	2	15	....
	1904	23	7	1	....	15	14	1	.....	8	7	.....
Nova Scotia	1905	293	117	23	1	152	119	21	12	69	34	2
	1904	254	66	6	...	179	123	37	19	71	45	6
New Brunswick	1905	57	7	1	.....	47	24	21	2	35	6	.....
	1904	59	18	1	.	36	27	2	7	21	3	1
Quebec	1905	535	120	7	2	403	343	44	16	264	81	6
	1904	559	119	11	1	429	384	32	13	290	75	6
Ontario	1905	1,160	436	27	12	684	612	52	20	286	186	31
	1904	1,152	435	31	2	670	593	50	27	232	200	45
Manitoba	1905	131	29	.	...	102	90	10	2	48	27	6
	1904	97	24	..	.....	73	65	6	2	48	14	1
British Columbia	1905	186	68	..	.....	116	108	7	1	58	33	9
	1904	116	29	2	.....	83	74	6	3	18	27	7
The Territories	1905	248	147	5	1	94	89	5	.	33	40	2
	1904	220	110	3	1	105	100	4	1	27	53	3
Yukon	1905	13	7	1	.....	5	5	....	....	2	2	...
	1904	41	24	..	.....	15	12	3	....	3	9	.....
Canada	1905	2,647	936	64	18	1,620	1,405	162	53	797	424	56
	1904	2,521	832	55	4	1,605	1,392	141	72	718	433	69
Class II.—Offences against property with violence.												
Prince Edward Island	1905	9	7	.....	..	2	2	.....	.....	.....	2	.....
	1904	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nova Scotia	1905	46	22	1	.....	23	18	....	5	....	4	1
	1904	62	22	..	.....	40	32	7	1	.....	2	4
New Brunswick	1905	12	3	..	.....	9	7	2	....	..	3	.....
	1904	20	6	..	.....	11	11	.....	.....	.....	3	.....
Quebec	1905	257	30	..	1	225	111	53	61	2	82	5
	1904	186	39	..	.....	147	76	23	48	.	50	8
Ontario	1905	424	117	..	....	307	218	50	39	2	108	38
	1904	419	129	4	.....	286	198	40	48	21	76	47
Manitoba	1905	62	8	..	.....	54	31	12	11	....	3	2
	1904	31	9	..	.....	22	12	7	3	.....	1	3
British Columbia	1905	32	9	..	.....	23	20	3	.....	.....	1	3
	1904	49	19	..	.....	28	21	5	2	..	5	3
The Territories	1905	34	21	..	.....	13	11	1	1	1	5	1
	1904	29	12	..	.....	17	17	.....	.....	...	7	1
Yukon	1905	1	1	..	.....	...	.....	.....	....	.....	...	.....
	1904	1	...	..	.....	1	1	.....	.....	.....	.....	.....
Canada	1905	877	218	1	1	656	418	121	117	5	208	50
	1904	797	236	4	....	552	368	82	102	21	144	66

TABLEAU II. Récapitulation par classes et provinces.

SENTENCE.						OCCUPATIONS.						CIVIL CONDITION. — ÉTAT CIVIL.		
PENITENTIARY. — PÉNITENCIER.														
Two years and under five. — Deux ans et m'ns de cinq	Five years and over. — Cinq ans et plus.	Life. — A vie	D'th. — De mort	Committed to Reformatories. — Envoyés à la prison de Réforme.	Other Sentences. — Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels.	Professional — Professions libérales.	Labourers — Journaliers.	Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
CLASSE I.—Outrages contre la personne.														
.....	.....	.....	.....	.....	.....	2	2	..	1	.....	12	4	...	13
.....	.....	.....	.....	.....	.....	...	2	1	4	.....	7	4	.	11
19	2	1	1	1	23	3	21	11	18	.....	55	35	4	79
19	6	.....	1	2	29	8	18	5	13	4	53	37	...	70
4	.....	.....	1	.....	1	4	10	..	6	1	8	10	..	21
3	.....	.....	1	.....	7	5	1	1	3	.....	20	6	..	26
11	4	.....	2	4	31	22	57	2	49	5	150	161	3	158
9	7	.....	2	.....	40	32	46	13	57	7	198	176	8	194
20	16	1	5	7	132	45	40	4	89	8	303	283	6	318
16	8	.....	1	7	161	42	47	9	73	4	373	273	10	300
5	3	.....	.....	.....	13	6	17	2	13	1	44	29	...	54
3	2	...	.....	.....	5	13	17	1	9	1	27	24	.....	40
7	2	...	2	.....	5	3	23	..	23	2	30	33	2	52
7	3	.....	8	.....	13	6	7	2	6	.....	32	15	...	45
5	4	.....	1	.....	9	11	4	2	2	...	4	5	..	13
9	7	.....	1	...	5	8	5	.	1	..	7	17	...	20
.....	.....	.....	.....	.....	1	.....	.....	..	1	..	1	1	...	2
.....	1	.....	.....	.....	2	.....	5	.....	2	.....	3	2	.....	9
71	31	2	12	12	215	96	174	19	202	17	697	561	15	710
66	34	...	14	9	262	114	148	34	168	16	720	554	18	715
CLASSE II.—Délits avec violence contre la propriété.														
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
11	2	...	...	2	3	...	4	.....	2	...	14	4	1	17
12	6	.....	...	9	7	...	2	2	5	.....	19	3	...	36
4	.....	.....	.....	.....	2	.....	.....	.....	1	.....	2	4	.....	5
5	.....	..	....	.....	3	5	.....	.....	1	.....	3	1	.....	4
50	8	...	.....	8	70	.....	23	5	46	1	122	22	1	201
45	7	.....	.....	1	36	...	20	1	34	3	86	24	2	120
47	25	.....	.....	12	75	9	9	3	33	.....	168	25	2	270
26	27	...	....	18	71	5	13	7	25	.....	150	28	2	250
3	12	.....	...	5	29	.....	9	2	7	.	9	6	1	47
15	....	.....	....	1	2	1	3	.....	3	.....	13	2	....	20
12	3	...	...	3	1	.	2	.....	3	.....	8	1	.....	16
10	6	...	.....	1	3	1	3	..	2	.....	14	2	1	21
3	2	..	...	.....	1	1	.....	...	...	.....	1	1	.....	1
6	1	.....	.....	.....	2	.....	..	.....	.....	.....	3	...	.....	6
.....	.....	....	.....	..	..	....	.....	.....	.....	.....	.....	.....	.....	.....
.....	1	.....	.....	..	...	.....	.....	.....	.....	.....	1	.....	..	1
130	52	...	.....	30	181	10	47	16	98	1	324	63	5	559
119	48	...	...	30	124	12	41	10	70	3	289	60	5	458

TABLE II. Summary by classes and provinces.

PROVINCES.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non donné.		Moderate — Modéré	Immoderate — Immodéré
				M. — H.	F	M.	F.	M.	F.	M.	F.	M.	F		
Class I.—Offences against the person.															
Ile du Prince-Edouard	1905	17						13		4				4	13
	1904 1	12	2			3		9	1	2				7	8
Nouvelle-Ecosse	1905 14	103		2		13		72	10	16		34	5	85	32
	1904 13	93	1	4		13	1	63	4	22		58	14	93	14
Nouveau-Brunswick	1905 3	27		1		1		13		13		18	1	15	15
	1904 6	26				1		19		7	2	7		8	21
Québec	1905 60	257	4	13		30	1	204	13	58	1	75	8	96	223
	1904 49	326	3	8	1	59	3	209	18	72	7	52		139	249
Ontario	1905 46	543	10	11	1	72		373	7	132	6	79	3	369	240
	1904 41	526	14	15	1	62	2	328	16	146	8	91	3	379	203
Manitoba	1905 15	62	3	1		8		61		9		23		66	11
	1904 4	57	3	3		5		42		11		12		52	12
Colombie-Britannique	1905 7	79	2	1		5		62	2	14	1	31		59	23
	1904 11	39	2	5		5		32		10		30	1	44	15
Les Territoires	1905 4	16	2	1		1		9		6		74	3	15	2
	1904 12	23	1	1		6		16	2	9	2	65	4	27	10
Yukon	1905	3		1				2				2		2	1
	1904	10	1					8	1	2		4		7	3
Canada	1905 149	1,107	21	31	1	130	1	809	32	252	8	336	20	702	560
	1904 137	1,112	27	34	2	154	6	726	42	281	19	319	22	756	535
Class II.—Offences against property with violence.															
Ile du Prince-Edouard	1905	2		2										2	
	1904														
Nouvelle-Ecosse	1905 1	19	2	1		10		10		1		1		15	7
	1904 5	34		11	1	11		14		1	1	1		34	5
Nouveau-Brunswick	1905 2	7				1		8						5	4
	1904 1	5		1		1		4				5		3	8
Québec	1905 28	195	1	24	1	101		83	1	13	1	1		130	94
	1904 26	120		5		46		80		15		1		73	73
Ontario	1905 13	280	4	47		93		142	1	13		11		239	58
	1904 15	365		63	1	71		131	1	10	1	8		197	83
Manitoba	1905 3	50	1	28	2	5		18		1				52	2
	1904	22		1		6		13		2				20	2
Colombie-Britannique	1905 2	15		3		3		7		3		7		9	6
	1904 2	19	1	1		4		13		3		7		14	9
Les Territoires	1905 1	1				1		1				11			2
	1904 2	4				2		2		1		12		4	2
Yukon	1905														
	1904	1								1				1	
Canada	1905 50	569	8	105	3	214		269	2	31	1	31		452	173
	1904 51	476	1	82	2	141		257	1	33	2	34		346	182

TABLEAU II. Récapitulation par classes et provinces.

BIRTH PLACES. — LIEUX DE NAISSANCE.							RELIGIONS.							RESIDENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.															
England and Wales — Angleterre et Galles	Ireland. — Irlande	Scotland. — Ecosse.	Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists — Méthodistes.	Presbyterians. — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns Villes.	Rural Districts—Districts ruraux.

CLASSE I.—Outrages contre la personne.

			17					14				3		13	4
1			13			1		10	1			4		14	1
11	1	1	88	3	5	8	17	52	21	4	8	8	5	97	20
13	1		72	2	17	2	13	42	27	8	6	10	1	99	12
			28		2		6	9	2	5	2	4	2	25	6
			31				5	17	1	3	1	2		22	10
8	6	3	293	10	31		1	279	11	5	5	42	7	306	61
11	13	2	329	8	18			296	9	4	9	62	2	304	78
43	31	10	451	19	53		16	189	138	103	76	52	30	482	133
36	32	9	431	26	46	1	11	186	148	87	75	47	25	471	115
15	6	5	24	1	36		1	34	15	8	10	7	8	68	18
7	2		29	10	23		1	28	11	9	6	2	7	47	25
11	5	3	34	20	13	1	1	18	10	16	4	14	15	93	9
6	1	2	22	6	21			13	5	4	3	12	8	46	14
1			10	4	4			7	1	3	2	3	3	9	14
3	1		15	6	11			18	5	2		4	2	14	22
			4					1	1	2				2	1
	1		6	3	1		2	3	2	2	1	1		5	6
89	49	22	949	57	144	9	42	603	199	146	107	133	70	1,095	266
77	51	13	948	61	137	4	32	613	209	119	101	144	45	1,022	283

CLASSE II.—Delits avec violence contre la propriété.

			2					2						2	
3		1	18				1	7	8		3	2	1	18	4
2			36			1	3	17	8	3	1	6		22	17
			4		5		2	2	1		3	1		6	3
5	1		5				2	4	5					5	6
12	2	2	187	13	8		2	163	37	3	5	12	3	192	32
3	2		135		6			124	6		7	4	5	130	17
10	5	2	239	21	18	2	9	87	77	41	34	23	23	269	29
14	11	2	233	17	3		8	78	67	52	30	38	6	254	27
5			34	1	14		2	23	6	8	5	7	3	46	8
4	1		11	3	3			6	6	5	2		3	14	8
2			8	5	2			2	1	3		7	1	22	1
2	2	1	9	5	3			4	3	5	3	2		18	6
			1	1				1					1	1	1
2				1	2			2	2				1	5	2
				1								1			1
32	7	5	493	41	47	2	16	287	130	55	50	52	32	556	78
32	17	3	429	27	17	1	13	235	97	65	43	51	15	448	84

TABLE II. Summary by classes and provinces.

PROVINCES.		Number of Charges — Nombre d'accusations.	Acquitted. — Acquittés. M.	F	Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No Option. — Sans option. Under one year. — Moins d'un an.	One year and over — Un an et plus.
Class III.—Offences against property without violence.												
Prince Edward Island	1905	18	6			12	10	1	1		9	
	1904	7	3			4	4			1	2	
Nova Scotia	1905	249	55	13		181	155	20	6	6	68	4
	1904	297	100	15		182	145	28	9	4	55	6
New Brunswick	1905	99	31	1		66	63	2	1	1	26	
	1904	112	45	2		63	57	3	3	2	16	
Quebec	1905	1,323	210	19	5	1,087	800	123	164	198	523	21
	1904	1,224	183	11		1,026	691	167	168	144	479	15
Ontario	1905	2,865	841	87		1,935	1,572	219	144	120	759	128
	1904	2,711	808	96	2	1,802	1,458	210	134	118	725	112
Manitoba	1905	450	61	7		382	295	38	49	83	98	13
	1904	409	64	6		339	258	43	38	55	95	15
British Columbia	1905	284	76	9		198	177	15	6	3	123	19
	1904	311	76	4		228	179	30	19	7	171	19
The Territories	1905	575	221	4		346	317	24	5	12	219	22
	1904	511	208	6		295	272	19	4	8	180	15
Yukon	1905	50	24	1		25	16	5	4	1	13	4
	1904	70	38	2		30	21	5	4		16	2
Canada	1905	5,913	1325	141	5	4,232	3,405	447	380	424	1,838	211
	1904	5,652	1525	142	2	3,969	3,085	505	379	339	1,739	184
Class IV.—Malicious offences against property.												
Prince Edward Island	1905	8	4			4	4				4	
	1904	6	1			5	5			5		
Nova Scotia	1905	14	8	1		5	3		2		1	
	1904	15	6			9	7	2		1	2	
New Brunswick	1905	4	3			1	1					
	1904	8	7			1	1				1	
Quebec	1905	31	12	1	1	17	11	2	4	2	7	2
	1904	35	11			23	22	1		10	7	
Ontario	1905	69	30	2		37	28	6	3	7	6	2
	1904	80	39	2	2	37	33	3	1	8	8	2
Manitoba	1905	11	3			8	8			1		2
	1904	8	6			2	2					
British Columbia	1905	18	8			10	9		1	6	2	1
	1904	8	1			5	4	1			2	1
The Territories	1905	44	31	3		10	10			5		1
	1904	34	18			16	16				1	1
Yukon	1905	9	6	1		2	1	1		2		
	1904	12	9	1		2	1	1		2		
Canada	1905	208	105	8	1	94	75	9	10	23	20	8
	1904	206	98	3	2	100	91	8	1	26	21	4

TABLEAU II. Récapitulation par classes et provinces.

SENTENCE.						OCCUPATIONS.						CIVIL CONDITION. — ÉTAT CIVIL.		
PENITENTIARY. — PÉNITENCIER.														
Two years and under five. — Deux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie	D'th. — De mort	Committed to Reformatories. — Envoyés à la prison de Réforme.	Other Sentences. — Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels.	Professional — Professions libérales.	Labourers — Journaliers.	Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
Classe III.—Délits sans violence contre la propriété.														
2					1	1			1	1	4			12
					1	1						1		3
27	1			21	54	3	19	18	21	1	67	22	6	137
36	1			27	53		33	13	12	2	47	43	4	124
13	2			8	16	5	5	3	1		26	15	1	50
19	2			3	30	3	9	3	4	1	26	10		51
59	3			73	210	19	226	38	205	7	365	253	31	788
61	8			56	263	13	208	93	155	6	461	281	29	709
39	16			135	738	44	191	88	189	6	873	386	30	1,414
57	23			84	683	65	153	77	172	4	818	363	38	1,317
51	5			8	124	19	83	14	34		174	93	11	268
18	6			13	137	19	53	16	37		104	64	8	224
25	2			5	21	2	43	2	21	3	59	31	26	97
19					21	5	57	10	21	2	68	28	5	171
46	10			1	36	25	13		8	5	24	31	2	55
52	9				31	28	13	3	4	3	36	33	2	77
1					6		9	1	6		2	9		13
3					9	1	6	1	10		5	8		20
263	39			251	1,206	118	589	164	486	23	1,594	840	107	2,834
247	49			183	1,228	135	532	216	415	18	1,565	831	86	2,696
Classe IV.—Dommages malicieux contre la propriété.														
							1				3			4
											5	1		4
	4					1			2	1	1	3		2
1	1			3	1	2					2	3		4
				1										1
											1			1
	2				4	2	2		1		7	4	2	11
	2			2	2	8	2	1	3		6	13		10
3	2				17	6	3	3	3		17	6	2	29
2	1			4	12	3	3		5		10	8		24
					5	6	1					5		3
1					1	1						1		1
	1						3		3		2	5		5
	2						1			1	1	1		3
					4	5					5	1	1	8
8					6	3					2	3		3
											2			2
							1							2
3	9			1	30	20	10	3	9	1	37	24	5	65
12	6			9	22	17	7	1	8	1	27	30		52

TABLE II. Summary by classes and provinces.

PROVINCES.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non-donné.		Moderate — Modéré	Immoderate — Immodéré
				M.	F.	M.	F.	M.	F.	M.	F.	M.	F.		
				H.	F.	H.	F.	H.	F.	H.	F.	H.	F.		
Class III.—Offences against property without violence.															
Ile du Prince-Edouard	1905		11	1			8		3	1				11	1
	1904		3	1	2		1				1			4	
Nouvelle-Ecosse	1905	20	137	3	37		49	4	58	3	12	7	11	137	20
	1904	18	145	8	47	1	35	4	57	9	12	6	8	3 155	16
Nouveau-Brunswick	1905	14	52		15		9		26	4	12			39	27
	1904	8	53		13		5		23	2	1	3	16	36	18
Québec	1905	149	907	16	151	6	240	12	501	45	112	7	13	531	531
	1904	231	778	9	102	5	254	13	476	41	117	9	8	1 598	421
Ontario	1905	108	1,662	51	317	33	393	45	722	69	207	35	110	4 1372	446
	1904	105	1,568	37	287	16	346	28	714	52	222	20	108	9 1309	402
Manitoba	1905	68	280	9	40	3	58	9	204	5	36	1	26	313	34
	1904	26	246	4	70	7	54	11	133	4	19	4	33	4 248	35
Colombie-Britannique	1905	34	115	6	20		7		81	4	30	1	54	1 65	43
	1904	20	144	16	7		27		116	1	36		41	112	40
Les Territoires	1905	19	62	8	2		24		51	1	10		258	77	11
	1904	16	86	8	3		19		55	1	23		189	5 77	22
Yukon	1905		17	3	2		1		13		4		3	2 18	2
	1904	5	22	1	3		1		8	2	14	1	1	21	8
Canada	1905	412	3,243	97	584	42	789	70	1659	132	423	51	475	7 2563	1115
	1904	429	3,045	84	534	29	742	56	1582	112	445	43	404	22 2560	962
Class IV.—Malicious offences against property.															
Ile du Prince-Edouard	1905		4						4						4
	1904		5						5						5
Nouvelle-Ecosse	1905		5				2		3					3	2
	1904	1	6		2		1		1		3		2	6	1
Nouveau-Brunswick	1905		1				1							1	
	1904		1						1					1	
Québec	1905	6	11		3		2		7		5			9	8
	1904	5	18		3				11		9			16	7
Ontario	1905	3	34		3		9		16		6	1	2	24	13
	1904	4	25	2	7	1	5		10	1	7	1	5	20	12
Manitoba	1905	1	7						6		1		1	6	1
	1904		2						2					2	
Colombie-Britannique	1905		9	1					8	1	1			8	2
	1904	1	2						3				2	3	
Les Territoires	1905	3	7				5		4				1	7	2
	1904	1	5				1		2		2		11	6	
Yukon	1905			2					2					2	
	1904		2						1	1					2
Canada	1905	13	78	3	6		19		50	1	13	1	4	60	32
	1904	12	66	2	12	1	7		36	2	21	1	20	54	27

TABLEAU II. Récapitulation pas classes et provinces.

BIRTH PLACES. — LIEUX DE NAISSANCE.							RELIGIONS.							RESIDENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.			Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's posses sions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists. — Méthodistes.	Presbyterians. — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns—Villes.	Rural Districts—Districts ruraux.
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.													
			9	3				7	1	2		2		7	5
			4					2				2		2	2
11	3	7	121	5	6	7	10	69	32	11	17	12	5	131	31
5	3	3	146	5	5	5	32	80	16	14	8	24	4	147	28
3	1		58		4		14	28	11	4	5	2	4	51	15
3	4	2	45	2		1	13	17	7	10	5		1	46	15
47	13	3	974	28	31	1	3	879	97	11	30	41	35	926	145
29	11	8	933	18	20	1	2	786	66	35	57	46	28	918	104
167	44	32	1,407	95	75	4	40	489	458	296	246	199	62	1,637	203
173	74	29	1,259	117	55	2	57	464	414	285	218	223	38	1,510	228
76	18	10	99	22	143		2	150	96	30	28	14	38	301	73
54	17	15	134	20	89		11	101	70	32	26	18	36	263	76
30	16	3	51	25	28	1	1	28	15	9	4	14	11	147	30
27	6	3	76	28	61		6	46	29	19	10	22	15	174	29
19	1	7	41	13	8		4	30	16	16	8	7	7	36	58
15	3	2	50	34	5		3	27	22	15	6	23	4	51	60
		1	6	4	9			4	5	1	1		9	21	3
2			11	7	5	4		6	3	2	8	2	3	19	10
353	96	63	2,766	195	304	13	74	1,684	731	380	339	291	171	3,257	563
308	118	62	2,658	231	240	13	124	1,529	627	412	338	360	129	3,130	552

CLASSE III.—Délits sans violence contre la propriété.

CLASSE IV.—Dommages malicieux contre la propriété.

			4					4						4	
			5					5						5	
1			4						3		1	1		4	1
			7					2	3	1		1		3	4
			1									1		1	
			1									1			1
			16		1			14	2			1		7	10
1	1		18	2	1		1	15	2			4		11	12
3		2	30	1	1			11	7	8	5	4		26	11
4	1		21	4	1			11	9	3	4	3	1	23	8
1			1		6				1		1		6	1	7
2									2						2
1			2	6	1			2	1	4		1	1	9	1
1			2	1				1	1			1		1	3
		2	2	4	1			4			4	1	1		10
			1	2	3		1	1					2		6
2									2					2	
			1	1					2					2	
8		4	60	11	10			35	16	12	11	9	8	54	40
8	2		56	10	5		2	35	19	4	4	10	3	45	36

TABLE II. Summary by classes and provinces.

PROVINCES.	Number of Charges — Nombre d'accusations.	Acquitted. — Acquittés. M.	F	Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No OPTION. — SANS OPTION Under one year. — Moins d'un an.	One year and over. — Un an et plus.
Class V.—Forgery and offences against the currency.											
Prince Edward Island	1905										
	1904	1			1	1					
Nova Scotia	1905	11	4		7	7				3	
	1904	5	1		4	3	1			2	
New Brunswick	1905	1			1	1					
	1904	3	2								
Quebec	1905	21	2		19	13	2	4	1	6	
	1904	20	3	1	16	11	4	1		4	2
Ontario	1905	86	15	1	70	49	15	6	1	25	14
	1904	75	17	1	57	35	9	13		8	4
Manitoba	1905	52			52	28	11	13		11	5
	1904	42			42	17	9	16		5	16
British Columbia	1905	18	2		16	12	4		1	4	2
	1904	11	1		10	10				9	1
The Territories	1905	11	3		8	7	1			1	1
	1904	27	5		22	17	3	2		3	1
Yukon	1905	2	2								
	1904	3	2	1							
Canada	1905	202	28	1	173	117	33	23	3	50	22
	1904	187	31	3	152	94	26	32		31	24
Class VI.—Other offences not included in the foregoing classes.											
Prince Edward Island	1905	3	1		2		2			2	
	1904	4	1		3	2	1		2	1	
Nova Scotia	1905	50	31	3	16	9	6	1	2	4	3
	1904	31	11		20	6	10	4	4	10	2
New Brunswick	1905	4	2		2	1	1				
	1904	11			11	2	8	1	2	4	
Quebec	1905	362	41	7	314	294	13	7	197	77	4
	1904	115	15	3	97	82	5	10	77	9	
Ontario	1905	300	81	12	4	203	156	39	8	114	28	9
	1904	264	74	6	2	182	137	35	10	104	36	9
Manitoba	1905	13	2			11	8	3		3	2	1
	1904	24	12	1		11	9	2		5	4	
British Columbia	1905	285	47	1		235	228	5	2	216	9	1
	1904	34	9			25	13	10	2	1	12	1
The Territories	1905	75	18			56	36	19	1	5	33	3
	1904	41	20			21	8	10	3		9	8
Yukon	1905	12	2			10	7	3		7	2	
	1904	14	6	2		6	6			3	1	
Canada	1905	1,104	225	23	4	849	739	91	19	544	157	21
	1904	538	148	12	2	376	265	81	30	198	86	20

TABLEAU II. Récapitulation par classes et provinces.

SENTENCE.						OCCUPATIONS.						CIVIL CONDITION. — ÉTAT CIVIL.		
PENITENTIARY. — PÉNITENCIER.				Committed to Reformatories.	Other Sentences.									
Two years and under five.	Five years and over	Life.	D'th.	—	—	Agricultural.	Commercial.	Domestic	Industrial.	Professional	Labourers	Married.	Widowed	Single
—	—	—	De mort	En-voyés à la prison de Réforme.	Autres Sentences.	—	—	—	—	—	—	—	—	—
Deux ans et m'ns de cinq	Cinq ans et plus.	A vie				Agriculteurs.	Commerçants.	Serviteurs.	Industriels.	Professions libérales.	Journaliers.	Mariés.	En veuvage..	Célibataires.
1											1			1
1	2				1		2		1		4	3		4
	2						3							3
	1						1							1
3	3			1	5		10		3		5	5		14
5					5		2	4	1	1	6	10		6
13	3			1	13	7	23	1	12		20	15	3	49
7	9				29	2	32	3	5	2	8	17	1	35
17	6			1	12		28	3	9		11	21	3	26
12					9	1	23		7		8	10	1	31
6	3						4	1	7		2		1	13
						1	1		1		5	1		7
3	2				1	1			1		3	1		4
15	2				1	1			1		10	2		16
43	29			3	32	8	68	5	33		45	45	7	111
40	13				44	5	61	7	15	3	38	40	2	99

CLASSE VI.—Autres delits non compris dans les classes precédentes.

											2			2
									1		2	1		2
2				2	3	1	5	3	6		1	2		14
2					2	2	1		4	1	11	11		9
1					1	1			1					2
				1	4						10	1		10
1					35	3	104	3	116	1	61	150	6	158
2					9	1	57	2	17		12	67	4	23
4	1			6	41	9	30	3	27	3	97	80	2	114
9	2				22	5	18	3	28	1	99	74	3	96
					5	3	1		1		3			11
					2	2	4		1		2	2	1	5
	1				8	7	29	6	27	1	138	35	6	182
1	3				7		3			1	7	4		15
1					14	5	1		1		5	5		8
2	1				1	3	1				8	3	1	10
					1		3			1	2	1		5
1					1		1				5	1		5
9	2			8	108	29	173	15	179	6	309	273	14	496
17	6			1	48	13	85	5	51	3	156	164	9	175

TABLE II. Summary by classes and provinces.

PROVINCES.	EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
	Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non-donné.		Moderate. — Modéré	Immoderate. — Immodéré
				M. — H.	F	M.	F.	M.	F.	M.	F.	M.	F		
Ile du Prince-Edouard	1905														
	1904		1					1						1	
Nouvelle-Ecosse	1905	2	5			1		5		1				4	3
	1904		1	2				3				1		3	
Nouveau-Brunswick	1905		1					1							1
	1904														
Québec	1905		18	1	1	2		14		2				9	10
	1904	2	14			1		7	1	5		2		8	8
Ontario	1905	2	49	17	4	9		41		12		4		42	23
	1904		39	15		18		23	1	8		6	1	43	11
Manitoba	1905	1	44	2		8		37		2		4	1	42	3
	1904		41	1		13		25	2	2				26	16
Colombie-Britannique	1905		12	2		2		10		2		2		9	2
	1904		3	3		1		5		1		3		5	1
Les Territoires	1905		4	1		1		4				3		5	
	1904		18			2		15				5		11	7
Yukon	1905														
	1904														
Canada	1905	5	133	23	5	23		112		19		13	1	111	42
	1904	2	117	21		35		79	4	16		17	1	97	43

CLASS V.—Forgery and offences against the currency.

CLASS VI.—Other offences not included in the foregoing classes.

Ile du Prince-Edouard	1905		2					2							2	
	1904		3					3						2	1	
Nouvelle-Ecosse	1905	1	14	1	2	2		9	1	2				13	3	
	1904	3	16	1		1		11		7	1			13	7	
Nouveau-Brunswick	1905		2				1	1						2		
	1904		11			1		4		4		2		7	4	
Québec	1905	12	302		5	27	6	211	15	50				195	119	
	1904	5	90			5		65	3	21	1	2		84	11	
Ontario	1905	7	180	10	14	1	23	3	113	6	29	4	10		151	45
	1904	15	152	6			17	2	112		33	1	16	1	128	45
Manitoba	1905	1	7		1		5		2		1		2		7	
	1904		8					1	7				3		8	
Colombie-Britannique	1905	59	66				22		145		49		19		29	2
	1904	1	16	1	1		1		12		1		10		14	4
Les Territoires	1905	3	10						11	1			44		10	3
	1904	3	11						11		2		8		13	1
Yukon	1905		6					1	3		1		5		6	
	1904	1	5						4		2				3	3
Canada	1905	83	589	11	20	3	79	11	497	23	132	4	80		413	174
	1904	28	312	8	1		25	3	229	3	70	3	41	1	272	76

TABLEAU II. Recapitulation par classes et provinces.

BIRTH PLACES. — LIEUX DE NAISSANCE.							RELIGIONS.							RESIDENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.															
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.	Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists — Méthodistes.	Presbyterians. — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns — Villes.	Rural Districts — Districts ruraux.
			1					1							1
								2	1		3		1	6	1
			1	2			3							3	
			1					1						1	
3			11	2	3			8	5			4	2	14	5
1			13		2			12	1	1	1	1		10	6
8			42	6	9			20	18	8	11	2	7	53	16
8	3	2	41	1	1			14	14	8	8	5	5	42	12
27	4	5	9	1	3			7	26		13		1	37	15
24	1		12	4	1		1	3	32	4	2			29	13
1			3	7	2			1	2	4		4		14	2
1			4	1				2	2		2	1		5	3
		1	2	2					1		2		2	2	3
8		1	6	1	1		2	2	9	1	2		1	13	5
39	4	6	75	18	17			39	53	12	29	10	13	127	42
42	4	3	78	9	5		6	34	58	14	15	7	6	102	40

CLASSE V.—Faux et délits par rapport à la monnaie.

			1					1							1
								2	1		3		1	6	1
			1	2			3							3	
			1					1						1	
3			11	2	3			8	5			4	2	14	5
1			13		2			12	1	1	1	1		10	6
8			42	6	9			20	18	8	11	2	7	53	16
8	3	2	41	1	1			14	14	8	8	5	5	42	12
27	4	5	9	1	3			7	26		13		1	37	15
24	1		12	4	1		1	3	32	4	2			29	13
1			3	7	2			1	2	4		4		14	2
1			4	1				2	2		2	1		5	3
		1	2	2					1		2		2	2	3
8		1	6	1	1		2	2	9	1	2		1	13	5
39	4	6	75	18	17			39	53	12	29	10	13	127	42
42	4	3	78	9	5		6	34	58	14	15	7	6	102	40

CLASSE VI.—Autre délits non compris dans les classes précédentes.

			2					2						2	
			3					3						3	
	2		12	1		1		6	3	1	4	2		9	
	1		16	2	1		1	14	1	1		3		17	3
			2				1	1						1	1
			10				2	5	1	1	1			5	6
23	3		183	4	100	1		185	58	6	6	11	48	288	26
	1		75	2	17			74		2	2	1	16	92	5
21	2		115	11	47		5	78	45	24	9	18	14	160	36
15	4	2	93	6	52		12	85	29	15	16	19	5	147	27
3			3	1	3			1	3	3			1	5	6
1			6	2	1		1	1	3	2		1		7	4
8	1	4	25	15	171			5	2	8	2		107	216	10
1	1	1	7	6	1			3	1	2	1	3	2	15	5
2	1		7	3	1			4	3	1		1	4	6	8
2			8	2	2			6	3	2		2	1	6	8
1			2	3			1			5				9	1
	1	1	3		1			2	1		2		1	3	3
58	9	4	351	38	322	2	7	282	114	48	21	32	174	696	95
19	8	4	221	20	75		16	193	30	25	22	29	25	295	61

TABLE II. Summary by classes and provinces.

PROVINCES.		Number of Charges. — Nombre d'accusations.	Acquitted. — Acquittés.		Detained for Lunacy. — Détenus pour cause de folie.	CONVICTIONS. — CONDAMNATIONS. Total.	Convicted 1st. — Condamnés une fois.	Convicted 2nd. — Condamnés deux fois.	Reiterated. — Plus de 2 récidives.	SENTENCE. COMMITTED TO JAIL — EMPRISONNÉS. With the option of a fine. — Sur option entre la prison ou l'amende	No Option. — Sans option. Under one year. — Moins d'un an.	One year and over. — Un an et plus.
			M.	F								
Grand totals by provinces.												
Prince Edward Island	1905	62	23	..	2	37	31	5	1	2	32	.....
	1904	41	12	1	..	28	26	2	.....	16	10	.....
Nova Scotia	1905	663	237	41	1	384	311	47	26	77	114	10
	1904	664	206	21	....	434	316	85	33	80	116	18
New Brunswick	1905	177	46	2	...	126	97	26	3	36	35	....
	1904	213	78	3	.. ..	122	98	13	11	25	27	1
Quebec	1905	2,529	415	34	9	2,065	1,572	237	256	664	776	38
	1904	2,139	370	26	1	1,738	1,266	232	240	521	624	31
Ontario	1905	4,904	1520	129	16	3,236	2,635	381	220	530	1,112	222
	1904	4,701	1502	140	8	3,034	2,454	347	233	483	4,053	219
Manitoba	1905	719	103	7	.....	609	460	74	75	135	141	29
	1904	611	115	7	.....	489	363	67	59	108	119	35
British Columbia	1905	823	210	10	....	598	554	34	10	284	172	35
	1904	529	135	6	...	379	301	52	26	26	226	32
The Territories	1905	987	441	12	1	527	470	50	7	56	298	30
	1904	862	373	9	1	476	430	36	10	35	253	29
Yukon	1905	87	42	3	....	42	29	9	4	12	17	4
	1904	141	79	6	..	54	41	9	4	8	26	2
Canada	1905	10,951	3037	228	29	7,624	6,159	863	692	1,796	2,697	368
	1904	9,901	2870	219	10	6,754	5,295	843	616	1,302	2,454	367

TABLEAU II. Récapitulation par classes et provinces.

SENTENCE.						OCCUPATIONS.						CIVIL CONDITION. — ÉTAT CIVIL.		
PENITENTIARY. — PÉNITENCIER.														
Two years and under five. — Deux ans et m'ns de cinq.	Five years and over. — Cinq ans et plus.	Life. — A vie.	D'th. — De mort	Committed to Reformatories — Envoyés à la prison de Réforme.	Other Sentences. — Autres Sentences.	Agricultural. — Agriculteurs.	Commercial. — Commerçants.	Domestic — Serviteurs.	Industrial. — Industriels.	Professional — Professions libérales.	Labourers — Journaliers.	Married. — Mariés.	Widowed — En veuvage.	Single — Célibataires.
Grands totaux par provinces.														
2	.....	.....	.....	.....	.....	1	3	3	.....	2	1	21	4	.....	33
1	.....	.....	.....	.....	.....	1	1	2	1	5	.....	15	7	.....	21
66	11	1	1	26		84	8	51	32	50	2	142	69	11	253
70	16	.....	1	41		92	12	57	20	34	7	132	97	4	246
22	3	.....	1	9		20	10	16	3	15	1	36	29	1	80
18	2	.....	1	4		44	13	10	4	8	1	50	18	.	92
124	20	.....	2	86		355	46	422	48	420	14	710	595	43	1,330
122	24	.....	2	59		355	54	335	114	267	17	769	571	43	1,062
126	63	1	5	161		1,016	120	296	102	353	17	1,568	795	45	2,194
117	70	.....	1	113		978	122	266	99	308	11	1,458	763	54	2,022
76	26	.....	.....	14		188	34	139	21	64	1	241	154	15	409
49	8	.....	.....	14		156	37	100	17	57	1	154	103	10	321
50	12	.....	2	8		35	12	104	9	84	6	239	105	35	365
28	14	.....	8	1		44	13	72	12	30	4	127	51	6	262
58	18	.....	1	1		65	48	18	.	12	5	42	44	3	89
92	20	.....	1	.....		46	43	19	5	6	3	66	58	3	132
1	.....	.....	.....	.....		8	.....	12	1	7	1	7	11	.....	22
4	2	.....	.....	.....		12	1	13	1	12	.....	14	11	.....	37
519	153	2	12	305		1,772	281	1,061	216	1,007	48	3,006	1,806	153	4,775
501	156	.....	14	232		1,728	296	874	273	727	44	2,795	1,679	120	4,195

TABLE II Summary by classes and provinces.

PROVINCES.		EDUCATIONAL STATUS. — INSTRUCTION.			AGES.										USE OF LIQUORS. — USAGE DE LIQUEURS	
		Unable to read or write. — Incapable de lire ou d'écrire.	Elementary. — Elémentaire.	Superior. — Supérieure	Under 16 years. — Moins de 16 ans.		16 years and under 21. — 16 ans et moins de 21.		21 years and under 40. — 21 ans et moins de 40.		40 years and over. — 40 ans et plus.		Not given. — Non-donné.		Moderate — Modéré	Immoderate — Immodere
					M. H.	F	M.	F.	M.	F.	M.	F.	M.	F		
Ile du Prince-Edouard	1905	....	36	1	2	..	8	..	22	1	4	....	.....	.....	17	20
	1904	1	24	3	2	..	4	..	18	1	3	....	.....	.....	14	14
Nouvelle-Ecosse	1905	38	283	6	40	2	77	4	157	14	32	7	46	5	257	67
	1904	40	295	12	64	2	61	5	149	13	45	8	70	17	304	43
Nouveau-Brunswick	1905	19	90	....	16		12	1	49	4	25	....	18	1	62	47
	1904	15	96	.	14	.	8	...	51	2	14	3	30	..	55	51
Québec	1905	255	1,690	22	197	7	102	19	1020	74	240	9	89	8	970	985
	1904	318	1,346	12	118	6	365	16	848	63	239	17	65	1	918	769
Ontario	1905	179	2,748	92	396	35	599	48	1407	83	399	46	216	7	2188	825
	1904	180	2,575	74	370	19	519	32	1318	71	426	31	234	14	2076	756
Manitoba	1905	89	450	15	70	5	84	9	328	5	50	1	56	1	486	51
	1904	30	376	8	74	7	78	12	222	6	34	4	48	4	356	65
Colombie-Britannique	1905	102	296	11	24	..	39	....	313	7	99	2	113	1	179	78
	1904	35	223	23	14	..	38	....	181	1	51	...	93	1	192	69
Les Territoires	1905	30	100	11	3	..	32	....	80	2	16	....	391	3	114	20
	1904	44	147	9	4	...	30	....	101	3	37	2	290	9	138	42
Yukon	1905	....	26	5	3	..	1	1	20	....	5	....	10	2	28	3
	1904	6	40	2	3	..	1	...	21	4	19	1	5	..	32	16
Canada	1905	712	5,719	163	751	49	1254	82	3396	190	870	65	939	28	4301	2096
	1904	659	5,122	143	663	34	1104	65	2909	164	868	66	835	46	4085	1825

Grand totals by provinces.

TABLEAU II. Récapitulation par classes et provinces.

BIRTH PLACES. — LIEUX DE NAISSANCE.							RELIGIONS.								RESIDENCE.	
BRITISH ISLES. — ILES BRITANNIQUES.																
England and Wales — Angleterre et Galles	Ireland. — Irlande.	Scotland. — Ecosse.	Canada.	United States — Etats-Unis.	Other Foreign Countries. — Autres pays étrangers.	Other British Possessions. — Autr's possessions Britanniques.	Baptists. — Baptistes.	R. Catholics. — Catholiques.	Ch. of England. — Eglise d'Angleterre.	Methodists — Méthodistes.	Presbyterians — Presbytériens.	Protestants	Other Denominations. — Autr's confessions.	Cities and Towns — Villes.	Rural Districts — Districts ruraux.
Grand totaux par provinces.																
....	.....	....	31	3	....	.....	.....	29	1	2	....	5	....	28	9
1	.....	...	26	.....	...	1	.....	21	1	....	.....	6	....	24	4
26	6	9	250	9	11	16	28	136	68	16	36	25	12	265	64
20	5	3	278	11	23	8	52	155	55	27	15	44	5	291	64
3	1	.....	94	.....	11	....	23	41	14	9	10	8	6	85	25
8	5	2	92	2	..	1	22	43	14	14	7	3	1	78	38
93	24	8	1,664	57	174	2	6	1528	210	25	46	111	95	1733	279
45	28	10	1,503	30	64	1	3	1307	84	42	76	118	51	1465	222
252	82	46	2,284	153	203	6	70	874	743	480	381	298	136	2627	428
250	125	44	2,078	171	158	3	88	838	672	450	351	335	80	2447	417
127	28	20	170	26	205	.	5	215	147	49	57	28	57	458	127
92	21	15	192	39	117	.. ...	14	139	124	52	36	21	46	360	128
53	22	10	123	78	217	2	2	56	31	44	10	40	135	501	53
38	10	7	120	47	86	.....	6	69	41	30	19	41	25	259	60
22	2	10	63	27	14	.....	4	46	21	20	16	12	18	54	94
30	4	3	80	46	24	.. ..	6	56	41	20	8	29	11	89	103
3	....	1	12	7	9	....	1	5	8	8	1	.....	9	34	5
2	2	1	21	12	7	4	2	11	8	4	11	4	4	29	20
579	165	104	4694	360	844	26	139	2930	1243	653	557	527	468	5785	1084
486	200	85	4390	358	479	18	193	2639	1040	639	523	601	223	5042	1056

TABLE III.

SUMMARY CONVICTIONS.

TABLEAU III.

CONDAMNATIONS SOMMAIRES.

TABLE III.—Summary convictions by police magistrates and other justices.

OFFENCES.	PROVINCE OF PRINCE EDWARD ISLAND.											
	KING'S.					PRINCE.						
	Convictions Total Condamnations.		Sentence.			Convictions Total Condamnations.		Sentence.				
			Option of a fine. — Sur option	Committed without option — Emprisonnés sans option.	Deferred &c. — Remise, etc.			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.		
	M.	F.				M.	F.					
Adulteration of food												
Assaults						1		1				
Breach of peace	1			1		7		7				
Carrying fire-arms and unlawful weapons												
Contempt of court												
Cruelty to animals												
Disturbing religious and like meetings												
Fishery Acts, offences against												
Gambling Acts "						1		1				
Game Laws "												
Incorrigible												
Larceny												
" of dogs, birds, &c												
" of timber, trees, fruits, &c												
Liquor License Acts, offences against												
Breach of Canada Temperance Act						30	3	33				
Selling liquor during prohibited hours												
" without license												
Violation of Indian liquor law												
Malicious injury to property												
Other damage to property												
Master's and Servant's Acts, offences against												
Medical and Dentistry Acts, offences against												
Militia Acts "												
Miscellaneous minor offences												
Municipal Acts and By-laws, breaches of												
Exercising various callings without license						2		2				
Health By-laws, offences against												
Highways, offences relating to												
Neglecting to support family												
Pharmacy Acts, offences against												
Profanation of the Lord's Day												
Railway Acts, offences against												
Revenue Laws "												
Seamen Acts "												
Statute Labour, offences relating to												
Threats and abusive language	1			1								
Trespass												
Vagrancy						2				2		
Drunkenness						57		57				
Indecent exposure												
Insulting, obscene and profane language						1		1				
Keeping, frequenting bawdy houses and inmates thereof.												
Loose, idle, disorderly												
Weights and Measures Acts, offences against												
Insanity												
Totals	2			2		101	3	102		2		

TABLEAU III.—Condamnations sommaires par magistrats de police et autres juges de paix.

PROVINCE DE L'ILE DU PRINCE-EDOUARD.												OFFENSES.
QUEEN'S.						Totals of P. E. Island. — Totaux de l'Ile du P.-E.						
Sentence.						Sentence.						
Convictions Total Condamnations.		Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.		Convictions Total Condamnations.		Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.		
M.	F.					M.	F.					
....	....	....	....	....	....	....	....	....	....	....	....	Falsification de substances alimentaires.
3	....	3	....	....	....	4	....	4	....	....	....	Voies de fait.
2	....	2	....	....	....	10	....	10	....	....	....	Perturbation de la paix.
....	....	....	....	....	....	....	....	....	....	....	....	Port d'armes illégal.
1	....	1	....	....	....	1	....	1	....	....	....	Mépris de cour.
....	....	....	....	....	....	....	....	....	....	....	....	Cruauté envers les animaux.
....	....	....	....	....	....	....	....	....	....	....	....	Perturbation de réunions religieuses et autres.
....	....	....	....	....	....	....	....	....	....	....	....	Infractions aux lois des pêcheries.
....	....	....	....	....	....	1	....	1	....	....	....	" défendant le jeu.
....	....	....	....	....	....	....	....	....	....	....	....	" de chasse.
....	....	....	....	....	....	....	....	....	....	....	....	Incorrigible.
....	....	....	....	....	....	....	....	....	....	....	....	Larcin.
....	....	....	....	....	....	....	....	....	....	....	....	Vol de chiens, oiseaux, etc.
....	....	....	....	....	....	....	....	....	....	....	....	" bois, arbres, fruits, etc.
....	....	....	....	....	....	....	....	....	....	....	....	Infractions aux lois des licences de boissons.
34	7	41	....	....	....	64	10	74	....	....	....	Contraventions aux lois de tempérance du Canada.
....	....	....	....	....	....	....	....	....	....	....	....	Vente de boissons durant les heures défendues
....	....	....	....	....	....	....	....	....	....	....	....	" sans licence.
....	....	....	....	....	....	....	....	....	....	....	....	Contravention à la loi relative à la vente de boisson aux Sauvages.
....	....	....	....	....	....	....	....	....	....	....	....	Dommages malicieux à la propriété.
....	....	....	....	....	....	....	....	....	....	....	....	Autres dommages à la propriété.
....	....	....	....	....	....	....	....	....	....	....	....	Infractions aux lois concernant les maitres et serviteurs.
....	....	....	....	....	....	....	....	....	....	....	....	Inf. aux lois concernant la méd. et les dent.
....	....	....	....	....	....	....	....	....	....	....	....	" de la milice.
....	....	....	....	....	....	....	....	....	....	....	....	Divers petits délits.
23	1	24	....	....	....	23	1	24	....	....	....	Contraventions aux lois municipales.
....	....	....	....	....	....	2	....	2	....	....	....	Pratiquant divers états sans licence.
2	....	2	....	....	....	2	....	2	....	....	....	Infractions aux lois sur l'hygiène publique.
18	....	18	....	....	....	18	....	18	....	....	....	Délits ayant rapport aux chemins publics.
....	....	....	....	....	....	....	....	....	....	....	....	Négligé. de pourvoir aux besoins de la famille.
....	....	....	....	....	....	....	....	....	....	....	....	Infract. aux lois concernant les pharmaciens.
....	....	....	....	....	....	....	....	....	....	....	....	Profanation du dimanche.
....	....	....	....	....	....	....	....	....	....	....	....	Infractions aux lois des chemins de fer.
....	....	....	....	....	....	....	....	....	....	....	....	Délits contre le revenu de l'Etat.
....	....	....	....	....	....	....	....	....	....	....	....	Infractions aux lois maritimes.
....	....	....	....	....	....	....	....	....	....	....	....	Délits ayant rapport à la corvée.
....	....	....	....	....	....	1	....	1	....	....	....	Menaces et langage injurieux.
....	....	....	....	....	....	....	....	....	....	....	....	Empietement.
2	2	....	4	....	....	4	2	....	6	....	....	Vagabondage.
114	1	115	....	....	....	171	1	172	....	....	....	Ivresse.
....	....	....	....	....	....	....	....	....	....	....	....	Exposition indécente.
3	....	3	....	....	....	4	....	4	....	....	....	Langage insultant, obscène, profane.
....	....	....	....	....	....	....	....	....	....	....	....	Tenant, habitant et fréquentant des maisons de désordre.
5	2	7	....	....	....	5	2	7	....	....	....	Conduite déréglée.
....	....	....	....	....	....	....	....	....	....	....	....	Infractions aux lois des poids et mesures.
3	2	....	....	5	....	3	2	....	....	5	....	Aliénation mentale.
210	15	216	4	5	....	313	18	320	6	5	....	Totaux.

TABLE III.—Summary convictions by police magistrates and other justices.

OFFENCES.	PROVINCE OF NOVA SCOTIA.									
	ANNAPOLIS.					ANTIGONISH.				
	Convictions Total Condamnations.	Sentence.				Convictions Total Condamnations.	Sentence.			
		Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	
	M.	F.				M.	F.			
Adulteration of food										
Assaults										
Breach of peace										
Carrying fire-arms and unlawful weapons										
Contempt of court										
Cruelty to animals										
Disturbing religious and like meetings										
Fishery Acts, offences against										
Gambling Acts "										
Game Laws "										
Incorrigible										
Larceny										
" of dogs, birds, &c										
" of timber, trees, fruits, &c										
Liquor License Acts, offences against										
Breach of Canada Temperance Act	15		15							
Selling liquor during prohibited hours										
" without license						13	3	16		
Violation of Indian liquor law										
Malicious injury to property										
Other damage to property										
Master's and Servant's Acts, offences against										
Medical and Dentistry Acts, offences against										
Militia Acts "										
Miscellaneous minor offences										
Municipal Acts and By-Laws, breaches of										
Exercising various callings without license										
Health By-laws, offences against										
Highways, offences relating to										
Neglecting to support family										
Pharmacy Acts, offences against										
Profanation of the Lord's Day										
Railway Acts, offences against										
Revenue Laws "										
Seamen Acts "										
Statute Labour, offences relating to										
Threats and abusive language										
Trespass										
Vagrancy										
Drunkenness	10		8	2		13		13		
Indecent exposure										
Insulting, obscene and profane language						2		2		
Keeping, frequenting bawdy houses and inmates thereof										
Loose, idle, disorderly	5		5							
Weights and Measures Acts, offences against										
Insanity										
Totals	30		28	2		28	3	31		

TABLEAU III.—Condamnations sommaires par magistrats de police et autres juges de paix.

PROVINCE DE LA NOUVELLE-ECOSSE.

CAPE BRETON.						COLCHESTER.						OFFENSES.
Convictions Total Condamnations.		Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.		Convictions Total Condamnations.		Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.		
M.	F.					M.	F.					
												Falsification de substances alimentaires.
73	7	79		1		7	3	10				Voies de fait.
27	2	29				8		7	1			Perturbation de la paix.
2		2										Port d'armes illégal.
2		2										Mépris de cour.
2		2										Cruauté envers les animaux.
						1			1			Perturbation de reunions religieuses et autres
												Infractions aux lois des pêcheries.
4		4										" défendant le jeu.
												" de chasse.
												Incorrigible.
9		8		1		1		1				Larcin.
												Vol de chiens, oiseaux, etc.
												" bois, arbres, fruits, etc.
												Infractions aux lois des licences de boissons.
148	7	155										Contraventions aux lois de tempérance du Canada.
												Vente de boissons durant les heures défendues
						12	2	14				" sans licence.
												Contravention a la loi relative à la vente de boisson aux Sauvages.
1		1										Dommages malicieux à la propriété.
26	1	27				1	1	2				Autres dommages à la propriété.
												Infractions aux lois concernant les maîtres et serviteurs.
												Inf. aux lois concernant la med. et les dent.
												" de la milice.
												Divers petits delits.
5		4		1								Contraventions aux lois municipales.
9		9										Pratiquant divers états sans licence.
1		1										Infractions aux lois sur l'hygiene publique.
27		27				2		2				Delits ayant rapport aux chemins publics.
												Neglig. de pourvoir aux besoins de la famille.
												Infract. aux lois concernant les pharmaciens.
						1			1			Profanation du dimanche.
1		1										Infractions aux lois des chemins de fer.
1		1										Delits contre le revenu de l'Etat.
3		3										Infractions aux lois maritimes.
												Delits ayant rapport à la corvée.
1		1				2		2				Menaces et langage injurieux.
2		2										Empiètement.
54	10	58		6		3		2			1	Vagabondage.
1258	49	1,296		11		154	6	134	11		15	Ivresse.
2		2										Exposition indécente.
32	1	33				1	1	2				Langage insultant, obscene, profane.
3		2		1								Tenant, habitant et fréquentant des maisons de desordre.
13	1	14				4	1	5				Conduite dereglée.
												Infractions aux lois des poids et mesures.
1	1			2								Aliénation mentale.
1707	79	1,763		23		197	14	181	14		16	Totaux.

TABLE III.—Summary convictions by police magistrates and other justices.

PROVINCE OF NOVA SCOTIA—*Continued.*

OFFENCES.	CUMBERLAND.					DIGBY.				
	Convictions Total Condamnations.		Sentence.			Convictions Total Condamnations.		Sentence.		
			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.
	M.	F.				M.	F.			
Adulteration of food										
Assaults	34	3	37			3		3		
Breach of peace	26		24		2	3		3		
Carrying fire-arms and unlawful weapons										
Contempt of court	1		1							
Cruelty to animals	1		1							
Disturbing religious and like meetings										
Fishery Acts, offences against										
Gambling Acts "										
Game Laws "										
Incorrigible										
Larceny	1		1							
" of dogs, birds, &c										
" of timber, trees, fruits, &c										
Liquor License Acts, offences against										
Breach of Canada Temperance Act	17		17			5	1	6		
Selling liquor during prohibited hours										
" without license										
Violation of Indian liquor law										
Malicious injury to property										
Other damage to property	18	1	19			1		1		
Master's and Servant's Acts, offences against										
Medical and Dentistry Acts, offences against										
Militia Acts "										
Miscellaneous minor offences										
Municipal Acts and By-Laws, breaches of	3		3			2		2		
Exercising various callings without license										
Health By-laws, offences against										
Highways, offences relating to	6		6							
Neglecting to support family										
Pharmacy Acts, offences against										
Profanation of the Lord's Day										
Railway Acts, offences against										
Revenue Laws "										
Seamen Acts "										
Statute Labour, offences relating to										
Threats and abusive language										
Trespass										
Vagrancy		2		2		1		1		
Drunkenness	164	3	167			3		3		
Indecent exposure										
Insulting, obscene and profane language	1	1	2			1		1		
Keeping, frequenting bawdy houses and inmates thereof.										
Loose, idle, disorderly	25	1	26							
Weights and Measures Acts, offences against										
Insanity										
Totals	297	11	304	2	2	19	1	20		

TABLEAU III.—Condamnations sommaires par magistrats de police et autres juges de paix.

PROVINCE DE LA NOUVELLE-ECOSSE—*Suite.*

GUYSBOROUGH.						HALIFAX.						OFFENCES.
Convictions Total Condamnations.	Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	Convictions Total Condamnations.		Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.		
M.	F.				M.	F.					
										Falsification de substances alimentaires.
3		2		1	65	5	44		26	Voies de fait.
8		8			58	31	86	2	1	Perturbation de la paix.
					1		1			Port d'armes illégal.
										Mépris de cour.
					10		10			Cruauté envers les animaux.
										Perturbation de réunions religieuses et autres
										Infractions aux lois des pêcheries.
					2				2	" défendant le jeu.
										" de chasse.
										Incorrigible.
										Larcin.
										Vol de chiens, oiseaux, etc.
										" bois, arbres, fruits, etc.
					55	24	79			Infractions aux lois des licences de boissons.
										Contraventions aux lois de tempérance du Canada.
					1		1			Vente de boissons durant les heures défendues.
					9		9			" sans licence.
										Contravention à la loi relative à la vente de boisson aux Sauvages.
										Dommages malicieux à la propriété.
					17		16		1	Autres dommages à la propriété.
										Infractions aux lois concernant les maitres et serviteurs.
					1		1			Inf. aux lois concernant la méd. et les dent.
					1				1	" la milice.
										Divers petits délits.
					172	11	164	17	2	Contraventions aux lois municipales.
					7		7			Pratiquant divers états sans licence.
										Infractions aux lois sur l'hygiène publique.
										Délits ayant rapport aux chemins publics.
										Néglig. de pourvoir aux besoins de la famille.
										Infract. aux lois concernant les pharmaciens.
										Profanation du dimanche.
					4		4			Infractions aux lois des chemins de fer.
					1		1			Délits contre le revenu de l'Etat.
					17		5		12	Infractions aux lois maritimes.
					1		1			Délits ayant rapport à la corvée.
					26		7		19	Menaces et langage injurieux.
					2		2			Empiétement.
					4		1	3		Vagabondage.
					502	46	527	21		Ivresse.
					2		1		1	Exposition indécente.
					73	7	80			Langage insultant, obscène, profane.
					1	2		2	1	Tenant, habitant et fréquentant des maisons de désordre.
					1		1			Conduite déréglée.
										Infractions aux lois des poids et mesures.
					1	1			2	Aliénation mentale.
11		10		1	1034	127	1,048	45	68	Totaux.

TABLE III.—Summary convictions by police magistrates and other justices.

PROVINCE OF NOVA SCOTIA—*Continued.*

OFFENCES.	HANTS.					INVERNESS.				
	Convictions Total Condamnations.	Sentence.				Convictions Total Condamnations.	Sentence.			
		Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	
	M.	F.				M.	F.			
Adulteration of food										
Assaults	1		1							
Breach of peace										
Carrying fire-arms and unlawful weapons										
Contempt of court										
Cruelty to animals										
Disturbing religious and like meetings										
Fishery Acts, offences against										
Gambling Acts "										
Game Laws "										
Incorrigible										
Larceny										
" of dogs, birds, &c										
" of timber, trees, fruits, &c	3				3					
Liquor License Acts, offences against	4		4							
Breach of Canada Temperance Act										
Selling liquor during prohibited hours										
" without license	9		9							
Violation of Indian liquor law										
Malicious injury to property										
Other damage to property										
Master's and Servant's Acts, offences against										
Medical and Dentistry Acts, offences against										
Militia Acts "										
Miscellaneous minor offences										
Municipal Acts and By-Laws, breaches of										
Exercising various callings without license										
Health By-laws, offences against										
Highways, offences relating to										
Neglecting to support family										
Pharmacy Acts, offences against										
Profanation of the Lord's Day										
Railway Acts, offences against										
Revenue Laws "										
Seamen Acts "										
Statute Labour, offences relating to										
Threats and abusive language	1		1							
Trespass										
Vagrancy										
Drunkenness	10		9		1	3		3		
Indecent exposure										
Insulting, obscene and profane language										
Keeping, frequenting bawdy houses and inmates thereof.										
Loose, idle, disorderly										
Weights and Measures Acts, offences against										
Insanity										
Totals	28		24		4	3		3		

TABLEAU III.—Condamnations sommaires par magistrats de police et autres juges de paix.

PROVINCE DE LA NOUVELLE-ECOSSE—*Suite.*

KING'S.				LUNENBURG.				OFFENSES.
Convictions. Total Condamnations.	Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	Convictions Total Condamnations.	Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	
M. | F.				M. | F.				
... ...	... ...	... ...	... ...	... ...	... ...	... ...	...	Falsification de substances alimentaires.
7 ...	7 ...	... ...	... ...	4 ...	3 ...	... ...	1	Voies de fait.
2 ...	2 ...	... ...	... ...	1 2	3 ...	... ...	...	Perturbation de la paix.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	...	Port d'armes illégal.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	...	Mépris de cour.
... ...	... ...	... ...	... ...	2 ...	2 ...	... ...	...	Cruauté envers les animaux.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	...	Perturbation de réunions religieuses et autres.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	...	Infractions aux lois des pêcheries.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	...	" défendant le jeu.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	...	" de chasse.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	...	Incorrigible.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	...	Larcin.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	...	Vol de chiens, oiseaux, etc.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	...	" bois, arbres, fruits, etc.
1 ...	... ...	1 ...	... ...	1 2	3 ...	... ...	...	Infractions aux lois des licences de boissons.
22 ...	21 ...	1 ...	... ...	... ...	... ...	... ...	...	Contraventions aux lois de tempérance du Canada.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	...	Vente de boissons durant les heures défendues
... ...	... ...	... ...	... ...	26 8	34 ...	... ...	...	" sans licence.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	...	Contravention à la loi relative à la vente de boisson aux Sauvages.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	...	Dommages malicieux à la propriété.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	...	Autres dommages à la propriété.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	...	Infractions aux lois concernant les maîtres et serviteurs.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	...	Inf. aux lois concernant la méd. et les dent.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	...	" de la milice.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	...	Divers petits délits.
5 ...	5 ...	... ...	... ...	3 ...	3 ...	... ...	...	Contraventions aux lois municipales.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	...	Pratiquant divers états sans licence.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	...	Infractions aux lois sur l'hygiène publique.
2 ...	2 ...	... ...	... ...	... ...	... ...	... ...	...	Délits ayant rapport aux chemins publics.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	...	Néglig. de pourvoir aux besoins de la famille.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	...	Infrac. aux lois concernant les pharmaciens.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	...	Profanation du dimanche.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	...	Infractions aux lois des chemins de fer.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	...	Délits contre le revenu de l'Etat.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	...	Infractions aux lois maritimes.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	...	Délits ayant rapport à la corvée.
17 ...	14 ...	... ...	3 ...	... ...	... ...	... ...	...	Menaces et langage injurieux.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	...	Empiètement.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	...	Vagabondage.
23 ...	23 ...	... ...	... ...	25 ...	23 ...	... ...	2	Ivresse.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	...	Exposition indécente.
7 ...	7 ...	... ...	... ...	... ...	... ...	... ...	...	Langage insultant, obscène, profane.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	...	Tenant, habitant et fréquentant des maisons de désordre.
1 ...	1 ...	... ...	... ...	1 ...	1 ...	... ...	...	Conduite déréglée.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	...	Infraction aux lois des poids et mesures.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	...	Aliénation mentale.
87 ...	82	2	3	63 12	72 ...		3	.....Totaux.

TABLE III.—Summary convictions by police magistrates and other justices.

OFFENCES.	PROVINCE OF NOVA SCOTIA—*Concluded.*									
	PICTOU.					QUEEN'S.				
	Convictions Total Condamnations.		Sentence.			Convictions Total Condamnations.		Sentence.		
			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.
	M.	F.				M.	F.			
Adulteration of food										
Assaults	7		7			8		6		2
Breach of peace	7	1	8			1	1	2		
Carrying fire-arms and unlawful weapons										
Contempt of court										
Cruelty to animals						5		5		
Disturbing religious and like meetings	2		2			4		4		
Fishery Acts, offences against						8		8		
Gambling Acts "										
Game Laws "										
Incorrigible										
Larceny										
" of dogs, birds, &c										
" of timber, trees, fruits, &c.						1		1		
Liquor License Acts, offences against	23	7	29		1					
Breach of Canada Temperance Act										
Selling liquor during prohibited hours										
" without license	10	2	11	1						
Violation of Indian liquor law										
Malicious injury to property										
Other damage to property	6		6							
Master's and Servant's Acts, offences against										
Medical and Dentistry Acts, offences against										
Militia Acts "										
Miscellaneous minor offences										
Municipal Acts and By-laws, breaches of						3		3		
Exercising various callings without license	5		5							
Health By-laws, offences against										
Highways, offences relating to	9		9			1		1		
Neglecting to support family										
Pharmacy Acts, offences against										
Profanation of the Lord's Day										
Railway Acts, offences against										
Revenue Laws "										
Seamen Acts "										
Statute Labour, offences relating to										
Threats and abusive language						1				1
Trespass										
Vagrancy	8	1		6	3					
Drunkenness	164	1	156		9	43	1	42	2	
Indecent exposure										
Insulting, obscene and profane language	2		2							
Keeping, frequenting bawdy houses and inmates thereof						1	2	3		
Loose, idle, disorderly	9		7		2					
Weights and Measures Acts, offences against										
Insanity										
Totals	252	12	242	7	15	76	4	75	2	3

TABLEAU III.—Condamnations sommaires par magistrats de police et autres juges de paix.

PROVINCE DE LA NOUVELLE-ECOSSE—*Fin.*

VICTORIA.					YARMOUTH.					OFFENSES.
	Sentence.					Sentence.				
Convictions Total Condamnations.	Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.		Convictions Total Condamnations.	Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.		
M. F.					M. F.					
										Falsification de substances alimentaires.
					14		11		3	Voies de fait.
										Perturbation de la paix.
										Port d'armes illégal.
										Mépris de cour.
					1		1			Cruauté envers les animaux.
					1		1			Perturbation de réunions religieuses et autres
					30		30			Infractions aux lois des pêcheries.
										" défendant le jeu.
										" de chasse.
										Incorrigible.
2		2								Larcin.
										Vol de chiens, oiseaux, etc.
										" bois, arbres, fruits, etc.
										Infractions aux lois des licences de boissons.
					16	3	16	3		Contraventions aux lois de tempérance du Canada.
										Vente de boissons durant les heures défendues.
										" sans licence.
										Contravention à la loi relative à la vente de boisson aux Sauvages.
										Dommages malicieux à la propriété.
					1		1			Autres dommages à la propriété.
										Infractions aux lois concernant les maîtres et serviteurs.
										Inf. aux lois concernant la méd. et les dent.
										" de la milice.
										Divers petits délits.
					1		1			Contraventions aux lois municipales.
					2		2			Pratiquant divers états sans licence.
										Infractions aux lois sur l'hygiène publique
										Délits ayant rapport aux chemins publics.
					1			1		Négligé. de pourvoir aux besoins de la famille.
										Inf. aux lois concernant les pharmaciens.
										Profanation du dimanche.
										Infractions aux lois des chemins de fer.
										Délits contre le revenu de l'Etat.
					3		1	2		Infractions aux lois maritimes.
										Délits ayant rapport à la corvée.
					3	2	5			Menaces et langage injurieux.
										Empiètement.
					1	1	1	1		Vagabondage.
					51		17	1	3	Ivresse.
										Exposition indécente.
					2		2			Langage insultant, obscène, profane.
										Tenant, habitant et fréquentant des maisons de désordre.
										Conduite déréglée.
										Infractions aux lois des poids et mesures.
3				3	1				1	Aliénation mentale
5		2		3	128	6	119	8	7	Totaux.

TABLE III.—Summary convictions by police magistrates and other justices.

OFFENCES.	PROVINCE OF NEW BRUNSWICK.									
	ALBERT.					CARLETON.				
	Convictions Total Condamnations.		Sentence.			Convictions Total Condamnations.		Sentence.		
			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.
	M.	F.				M.	F.			
Adulteration of food										
Assaults	2		2			1		1		
Breach of peace	1		1			3		3		
Carrying fire-arms and unlawful weapons										
Contempt of court										
Cruelty to animals										
Disturbing religious and like meetings										
Fishery Acts, offences against										
Gambling Acts "										
Game Laws "										
Incorrigible										
Larceny	1		1							
" of dogs, birds, &c.										
" of timber, trees, fruits, &c										
Liquor License Acts, offences against										
Breach of Canada Temperance Act						43	1	44		
Selling liquor during prohibited hours										
" without license										
Violation of Indian liquor law										
Malicious injury to property										
Other damage to property	3		3							
Master's and Servant's Acts, offences against										
Medical and Dentistry Acts "										
Militia Acts "										
Miscellaneous minor offences										
Municipal Acts and By-Laws, breaches of										
Exercising various callings without license										
Health By-laws, offences against										
Highways, offences relating to										
Neglecting to support family										
Pharmacy Acts, offences against										
Profanation of the Lord's Day										
Railway Acts, offences against										
Revenue Laws "										
Seamen Acts "										
Statute Labour, offences relating to										
Threats and abusive language										
Trespass										
Vagrancy										
Drunkenness						18	1	19		
Indecent exposure										
Insulting, obscene and profane language										
Keeping, frequenting bawdy houses and inmates thereof										
Loose, idle, disorderly										
Weights and Measures Acts, offences against										
Insanity										
Totals	7		7			64	3	67		

TABLEAU III.—Condamnations sommaires par magistrats de police et autres juges de paix.

PROVINCE DU NOUVEAU-BRUNSWICK.										
CHARLOTTE.					GLOUCESTER.					
Convictions Total Condamnations.		Sentence.			Convictions Total Condamnations.		Sentence.			OFFENSES.
		Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	
M.	F.				M.	F.				
										Falsification de substances alimentaires.
6		6			8	1	9			Voies de fait.
4		3	1							Perturbation de la paix.
										Port d'armes illégal.
										Mépris de cour.
										Cruauté envers les animaux.
										Perturbation de réunions religieuses et autres
										Infractions aux lois des pêcheries.
										" défendant le jeu.
					4		4			" de chasse.
										Incorrigible.
										Larcin.
										Vol de chiens, oiseaux, etc.
										" bois, arbres, fruits, etc.
1		1								Infractions aux lois des licences de boissons.
55	1	56								Contraventions aux lois de tempérance du Canada.
										Vente de boissons durant les heures défendues
										" sans licence.
										Contravention à la loi relative à la vente de boisson aux Sauvages.
										Dommages malicieux à la propriété.
										Autres dommages à la propriété.
										Infractions aux lois concernant les maîtres et serviteurs.
										Inf. aux lois concernant la méd. et les dent.
										" de la milice.
										Divers petits délits.
										Contraventions aux lois municipales.
										Pratiquant divers états sans licence.
										Infractions aux lois sur l'hygiène publique.
2		2								Délits ayant rapport aux chemins publics.
										Néglig. de pourvoir aux besoins de la famille.
										Infract. aux lois concernant les pharmaciens.
										Profanation du dimanche.
										Infractions aux lois des chemins de fer.
										Délits contre le revenu de l'Etat.
2		1	1							Infractions aux lois maritimes.
										Délits ayant rapport à la corvée.
1		1								Menaces et langage injurieux.
										Empiétement.
3		3			3		3			Vagabondage.
161	4	165			3		3			Ivresse.
										Exposition indécente.
1		1			2	1	3			Langage insultant, obscène, profane.
										Tenant, habitant et fréquentant des maisons de désordre.
3		3								Conduite déréglée.
										Infractions aux lois des poids et mesures.
										Aliénation mentale.
239	5	242	2		20	2	22			Totaux.

TABLE III.—Summary convictions by police magistrates and other justices.

OFFENCES.	PROVINCE OF NEW BRUNSWICK—*Continued.*									
	KENT.					KING'S.				
	Convictions Total Condamnations.		Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	Convictions Total Condamnations.		Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.
	M.	F.				M.	F.			
Adulteration of food										
Assaults	1			1		6		6		
Breach of peace						2		2		
Carrying fire-arms and unlawful weapons										
Contempt of court										
Cruelty to animals										
Disturbing religious and like meetings						6		6		
Fishery Acts, offences against										
Gambling Acts "										
Game laws "						7		7		
Incorrigible										
Larceny						1		1		
" of dogs, birds, &c										
" of timber, trees, fruits, &c										
Liquor License Acts, offences against										
Breach of Canada Temperance Act										
Selling liquor during prohibited hours										
" without license										
Violation of Indian liquor law										
Malicious injury to property										
Other damage to property	1			1						
Master's and Servant's Acts, offences against										
Medical and Dentistry Acts, offences against										
Militia Acts "										
Miscellaneous minor offences										
Municipal Acts and By-laws, breaches of										
Exercising various callings without license										
Health By-laws, offences against										
Highways, offences relating to										
Neglecting to support family										
Pharmacy Acts, offences against										
Profanation of the Lord's Day										
Railway Acts, offences against										
Revenue Laws "										
Seamen Acts "										
Statute Labour, offences relating to										
Threats and abusive language										
Trespass										
Vagrancy										
Drunkenness						1		1		
Indecent exposure										
Insulting, obscene and profane language										
Keeping, frequenting bawdy houses and inmates thereof										
Loose, idle, disorderly	1			1						
Weights and Measures Acts, offences against										
Insanity										
Totals	3		2	1		23		23		

TABLEAU III.—Condamnations sommaires par magistrats de police et autres juges de paix.

PROVINCE DU NOUVEAU-BRUNSWICK—*Suite.*

NORTHUMBERLAND.					ST. JOHN. — ST-JEAN.					OFFENSES.
	Sentence.					Sentence.				
Convictions Total Condamnations.	Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.		Convictions Total Condamnations.	Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.		
M. F.					M. F.					
										Falsification de substances alimentaires.
19	19				38 3	39		2		Voies de fait.
1	1				17 3	20				Perturbation de la paix.
										Port d'armes illégal.
										Mépris de cour.
					1	1				Cruauté envers les animaux.
										Perturbation de réunions religieuses et autres
										Infractions aux lois des pêcheries.
										" défendant le jeu.
15	15									" de chasse.
										Incorrigible.
										Larcin.
										Vol de chiens, oiseaux, etc.
										" bois, arbres, fruits, etc.
					12	12				Infractions aux lois des licences de boissons.
59 2	61									Contraventions aux lois de tempérance du Canada.
					3	3				Vente de boissons durant les heures défendues
					7 3	10				" sans licence.
										Contravention à la loi relative à la vente de boisson aux Sauvages.
										Dommages malicieux à la propriété.
1	1				6	6				Autres dommages à la propriété.
										Infractions aux lois concernant les maitres serviteurs.
										Inf. aux lois concernant la méd. et les dent.
										" de la milice.
										Divers petits délits.
5	5				18 1	19				Contraventions aux lois municipales.
1	1									Pratiquant divers états sans licence.
1	1									Infractions aux lois sur l'hygiène publique.
3	3				1	1				Délits ayant rapport aux chemins publics.
2	2									Néglig. de pourvoir aux besoins de la famille.
										Infrac. aux lois concernant les pharmaciens
					3 1	4				Profanation du dimanche.
										Infractions aux lois des chemins de fer.
										Délits contre le revenu de l'Etat.
9	9				3			3		Infractions aux lois maritimes.
										Délits ayant rapport à la corvée.
1 1	2				3 1	4				Menaces et langage injurieux.
										Empietement.
4				4	31 3	16		18		Vagabondage.
152	152				801 42	843				Ivresse.
					2	2				Exposition indecente.
					30 4	33		1		Langage insultant, obscène, profane.
					17 19	16		7	13	Tenant, habitant et fréquentant des maisons de desordre.
										Conduite déréglée.
										Infractions aux lois des poids et mesures.
										Alienation mentale.
273 3	272			4	993 80	1,029		31	13	.....Totaux.

TABLE III.—Summary convictions by police magistrates and other justices.

PROVINCE OF NEW BRUNSWICK—*Concluded.*

PROVINCE DU NOUVEAU-BRUNSWICK—*Fin.*

OFFENCES.	WESTMORELAND.					YORK.				
	Convictions Total Condamnations.		Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	Convictions Total Condamnations.		Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.
	M.	F.				M.	F.			
Adulteration of food										
Assaults	5	1	6			11	3	14		
Breach of peace	3		3			2	1	3		
Carrying fire-arms and unlawful weapons										
Contempt of court										
Cruelty to animals	1		1							
Disturbing religious and like meetings										
Fishery Acts, offences against										
Gambling Acts "										
Game Laws "	1		1							
Incorrigible										
Larceny	1			1		1				1
" of dogs, birds, &c										
" of timber, trees, fruits, &c										
Liquor License Acts, offences against	5		5							
Breach of Canada Temperance Act	68	4	72			45		45		
Selling liquor during prohibited hours										
" without license	18		18							
Violation of Indian liquor law										
Malicious injury to property										
Other damage to property						1		1		
Master's and Servant's Acts, offences against										
Medical and Dentistry Acts, offences against										
Militia Acts, offences against										
Miscellaneous minor offences										
Municipal Acts and By-laws, breaches of	3		3							
Exercising various callings without license										
Health By-laws, offences against	1	1	2							
Highways, offences relating to						3		3		
Neglecting to support family										
Pharmacy Acts, offences against										
Profanation of the Lord's Day										
Railway Acts, offences against	9		9							
Revenue Laws "										
Seamen Acts "										
Statute Labour, offences relating to										
Threats and abusive language						4		4		
Trespass										
Vagrancy	1		1			1				1
Drunkenness	399	4	403			144	4	147	1	
Indecent exposure	1		1			1		1		
Insulting, obscene and profane language						1		1		
Keeping, frequenting bawdy houses and inmates thereof		4	3	1		2	2	2	2	
Loose, idle, disorderly										
Weights and Measures Acts, offences against										
Insanity	5	3			8		1			1
Totals	521	17	528	2	8	216	11	221	3	3

TABLEAU III.—Condamnations sommaires par magistrats de police et autres juges de paix.

PROVINCE OF QUEBEC.

PROVINCE DE QUÉBEC.

ARTHABASKA.				BEAUCE.				OFFENSES.
Convictions Total Condamnations.	Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	Convictions Total Condamnations.	Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	
M. F.				M. F.				
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	Falsification de substances alimentaires.
10 ...	10 ...	... ...	... ...	... ...	... ...	... ...	... ...	Voies de fait.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	Perturbation de la paix.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	Port d'armes illégal.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	Mépris de cour.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	Cruauté envers les animaux.
... ...	... ...	... ...	... ...	1 ...	1 ...	... ...	... ...	Perturbation de réunions religieuses et autres.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	Infractions aux lois des pêcheries.
2 ...	2 ...	... ...	... ...	... ...	... ...	... ...	... ...	" défendant le jeu.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	" de chasse.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	Incorrigible.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	Larcin.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	Vol de chiens, oiseaux, etc.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	" bois, arbres, fruits, etc.
13 ...	13 ...	... ...	... ...	16 ...	16 ...	... ...	... ...	Infractions aux lois des licences de boissons.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	Contraventions aux lois de tempérance du Canada.
6 ...	6 ...	... ...	... ...	... ...	... ...	... ...	... ...	Vente de boissons durant les heures défendues.
23 ...	23 ...	... ...	... ...	90 2	92	... ...	... ...	" sans licence.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	Contravention à la loi relative à la vente de boisson aux Sauvages.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	Dommages malicieux à la propriété.
4 ...	3 ...	... ...	1 ...	... ...	... ...	... ...	... ...	Autres dommages à la propriété.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	Infractions aux lois concernant les maîtres et serviteurs.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	Inf. aux lois concernant la méd. et les dent.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	" de la milice.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	Divers petits délits.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	Contraventions aux lois municipales.
1 ...	1 ...	... ...	... ...	... ...	... ...	... ...	... ...	Pratiquant divers états sans licence.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	Infractions aux lois sur l'hygiene publique.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	Délits ayant rapport aux chemins publics.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	Néglig. de pourvoir aux besoins de la famille.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	Infract. aux lois concernant les pharmaciens.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	Profanation du dimanche.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	Infractions aux lois des chemins de fer.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	Délits contre le revenu de l'Etat.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	Infractions aux lois maritimes.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	Délits ayant rapport à la corvée.
2 ...	2 ...	... ...	... ...	... ...	... ...	... ...	... ...	Menaces et langage injurieux.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	Empiètement.
8 ...	6 ...	... ...	2 ...	5 ...	... ...	5 ...	... ...	Vagabondage.
18 ...	18 ...	... ...	... ...	... ...	... ...	... ...	... ...	Ivresse.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	Exposition indécente.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	Langage insultant, obscène, profane.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	Tenant, habitant et fréquentant des maisons de désordre.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	Conduite déréglée.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	Infractions aux lois des poids et mesures.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	Aliénation mentale.
87 ...	84 ...	... ...	3	112 2	109	5	... ...	Totaux.

TABLE III.—Summary convictions by police magistrates and other justices.

OFFENCES.	PROVINCE OF QUEBEC—*Continued.*									
	BEAUHARNOIS.					BEDFORD.				
	Convictions Total Condamnations.		Sentence.			Convictions Total Condamnations.		Sentence.		
			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.
	M.	F.				M.	F.			
Adulteration of food										
Assaults	5		5			6		6		
Breach of peace						5		4		1
Carrying fire-arms and unlawful weapons	1		1							
Contempt of court										
Cruelty to animals						3		3		
Disturbing religious and like meetings		1	1							
Fishery Acts, offences against										
Gambling Acts "										
Game Laws "										
Incorrigible										
Larceny										
" of dogs, birds, &c										
" of timber, trees, fruits, &c										
Liquor License Acts, offences against	1		1			27		27		
Breach of Canada Temperance Act										
Selling liquor during prohibited hours	14	1	15			2		2		
" without license	7	2	9			3		3		
Violation of Indian liquor law										
Malicious injury to property	1		1							
Other damage to property	1		1			1		1		
Master's and Servant's Acts, offences against						1				1
Medical and Dentistry Acts, offences against										
Militia Acts "										
Miscellaneous minor offences										
Municipal Acts and By-laws, breaches of	18		15		3					
Exercising various callings without license	7	2	6		3	2		2		
Health By-laws, offences against										
Highways, offences relating to						2		2		
Neglecting to support family										
Pharmacy Acts, offences against										
Profanation of the Lord's Day										
Railway Acts, offences against						3			1	2
Revenue Laws "										
Seamen Acts "										
Statute Labour, offences relating to										
Threats and abusive language		1	1			3		1		2
Trespass										
Vagrancy						22	1		19	4
Drunkenness	5		4	1		6		6		
Indecent exposure										
Insulting, obscene and profane language	1		1							
Keeping, frequenting bawdy houses and inmates thereof										
Loose, idle, disorderly										
Weights and Measures Acts, offences against										
Insanity										
Totals	61	7	61	1	6	86	1	57	20	10

TABLEAU III.—Condamnations sommaires par magistrats de police et autres juges de paix.

PROVINCE DE QUÉBEC—*Suite.*

CHICOUTIMI.					GASPÉ.					OFFENSES.
		Sentence.				Sentence.				
Convictions Total Condamnations.		Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	Convictions Total Condamnations.		Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	
M.	F.				M.	F.				
										Falsification de substances alimentaires.
1			1		3			1	2	Voies de fait.
										Perturbation de la paix.
										Port d'armes illégal.
										Mépris de cour.
										Cruauté envers les animaux.
										Perturbation de réunions religieuses et autres.
										Infractions aux lois des pêcheries.
										" défendant le jeu.
										" de chasse.
										Incorrigible.
										Larcin.
										Vol de chiens, oiseaux, etc.
										" bois, arbres, fruits, etc.
										Infractions aux lois des licences de boissons.
										Contraventions aux lois de tempérance du Canada.
										Vente de boissons durant les heures défendues.
					2		1	1		" sans licence.
										Contravention à la loi relative à la vente de boisson aux Sauvages.
										Dommages malicieux à la propriété.
1			1							Autres dommages à la propriété.
1			1		1				1	Infractions aux lois concernant les maitres et serviteurs.
										Inf. aux lois concernant la méd. et les dent.
										" " la milice.
										Divers petits délits.
										Contraventions aux lois municipales.
										Pratiquant divers états sans licence.
										Infractions aux lois sur l'hygiène publique.
										Délits ayant rapport aux chemins publics.
										Négligé. de pourvoir aux besoins de la famille.
										Infrac. aux lois concernant les pharmaciens.
										Profanation du dimanche.
										Infractions aux lois des chemins de fer.
										Délits contre le revenu de l'Etat.
6			6							Infractions aux lois maritimes.
										Délits ayant rapport à la corvée.
										Menaces et langage injurieux.
					2		2			Empiétement.
2		1	1		4		4			Vagabondage.
										Ivresse.
										Exposition indécente.
										Langage insultant, obscène, profane.
	2		1	1						Tenant, habitant et fréquentant des maisons de désordre.
										Conduite déréglée.
										Infractions aux lois des poids et mesures.
										Aliénation mentale.
17	2	10	8	1	12		8	1	3	Totaux.

TABLE III.—Summary convictions by police magistrates and othesr justices.

OFFENCES	PROVINCE OF QUEBEC—*Continued.*									
	IBERVILLE.					JOLIETTE.				
	Convictions Total Condamnations.		Sentence.			Convictions Total Condamnations.		Sentence.		
			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.
	M.	F.				M.	F.			
Adulteration of food										
Assaults	9		4		5	1		1		
Breach of peace						6		6		
Carrying fire-arms and unlawful weapons										
Contempt of court										
Cruelty to animals						1				1
Disturbing religious and like meetings										
Fishery Acts, offences against										
Gambling Acts "										
Game Laws "										
Incorrigible										
Larceny						1				1
" of dogs, birds, &c										
" of timber, trees, fruits, &c										
Liquor License Acts, offences against										
Breach of Canada Temperance Act										
Selling liquor during prohibited hours	8		8							
" without license						1		1		
Violation of Indian liquor law										
Malicious injury to property										
Other damage to property										
Master's and Servant's Acts, offences against										
Medical and Dentistry Acts, offences against										
Militia Acts "										
Miscellaneous minor offences										
Municipal Acts and By-laws, breaches of						6		6		
Exercising various callings without license						1		1		
Health By-laws, offences against										
Highways, offences relating to						3		3		
Neglecting to support family										
Pharmacy Acts, offences against										
Profanation of the Lord's Day										
Railway Acts, offences against										
Revenue Laws "										
Seamen Acts "										
Statute Labour, offences relating to										
Threats and abusive language										
Trespass						1				1
Vagrancy	22		20	1	1	5		3	2	
Drunkenness						32		29		3
Indecent exposure										
Insulting, obscene and profane language										
Keeping, frequenting bawdy houses and inmates thereof										
Loose, idle, disorderly										
Weights and Measures Acts, offences against										
Insanity										
Totals	39		32	1	6	58		50	2	6

TABLEAU III.—Condamnations sommaires par magistrats de police et autres juges de paix.

PROVINCE DE QUÉBEC—*Suite.*

KAMOURASKA.					MONTMAGNY.					OFFENSES
Convictions Total Condamnations.	Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.		Convictions Total Condamnations.	Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.		
M. F.					M. F.					
										Falsification de substances alimentaires.
					7	7				Voies de fait.
15	15									Perturbation de la paix.
										Port d'armes illégal.
										Mépris de cour.
										Cruauté envers les animaux.
										Perturbation de réunions religieuses et autres
										Infractions aux lois des pêcheries.
										" défendant le jeu.
2	2									" de chasse.
										Incorrigible.
1		1								Larcin.
										Vol de chiens, oiseaux, etc.
										" bois, arbres, fruits, etc.
1	1									Infractions aux lois des licences de boissons.
										Contraventions aux lois de tempérance du Canada.
2	2									Vente de boissons durant les heures défendues
30 1	31				1 1	2				" sans licence.
										Contravention à la loi relative à la vente de boisson aux Sauvages.,
										Dommages malicieux à la propriété.
										Autres dommages à la propriété.
										Infractions aux lois concernant les maitres et serviteurs.
										Inf. aux lois concernant la méd. et les dent.
										" de la milice.
										Divers petits délits.
										Contraventions aux lois municipales.
2	2									Pratiquant divers états sans licence.
										Infractions aux lois sur l'hygiène publique.
										Délits ayant rapport aux chemins publics.
										Négligence de pourvoir aux besoins de la famille.
										Infract. aux lois concernant les pharmaciens.
										Profanation du dimanche.
11	10	1								Infractions aux lois des chemins de fer.
										Délits contre le revenu de l'Etat.
										Infractions aux lois maritimes.
										Délits ayant rapport à la corvée.
1	1									Menaces et langage injurieux.
					2					Empiétement.
									2	Vagabondage.
										Ivresse.
										Exposition indécente.
					2	2				Langage insultant, obscène, profane.
										Tenant, habitant et fréquentant des maisons de désordre.
1	1									Conduite déréglée.
										Infractions aux lois des poids et mesures.
										Aliénation mentale.
66 1	65	2			12 1	11			2	Totaux.

TABLE III.—Summary convictions by police magistrates and other justices.

OFFENCES.	PROVINCE OF QUEBEC—*Continued.*									
	MONTREAL.					OTTAWA.				
	Convictions Total Condamnations.		Sentence.			Convictions Total Condamnations.		Sentence.		
			Option of a fine. — Sur option	Committed without option — Emprisonnés sans option.	Deferre &c. — Remise, etc.			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.
	M.	F.				M.	F.			
Adulteration of food	24	1	25							
Assaults	457	90	499		48	16	1	17		
Breach of peace	33	2	29	2	4	16	1	17		
Carrying fire-arms and unlawful weapons	1		1							
Contempt of court	2		1	1						
Cruelty to animals	86	1	85	1	1					
Disturbing religious and like meetings	8		8							
Fishery Acts, offences against										
Gambling Acts "	27		23		4	30		30		
Game Laws "	7		7							
Incorrigible										
Larceny	38	1	28	1	10	8	2	10		
" of dogs, birds, &c										
" of timber, trees, fruits, &c										
Liquor License Acts, offences against	80	23	103							
Breach of Canada Temperance Act										
Selling liquor during prohibited hours	74	3	77							
" without license	51	37	88							
Violation of Indian liquor law	4		4							
Malicious injury to property										
Other damage to property	173	19	179	1	12	2		2		
Master's and Servant's Acts, offences against	20	4	22	1	1					
Medical and Dentistry Acts, offences against										
Militia Acts "	1		1							
Miscellaneous minor offences										
Municipal Acts and By-laws, breaches of	125	7	117		15	53	1	54		
Exercising various callings without license	278	8	273		13					
Health By-laws, offences against	69	4	72		1					
Highways, offences relating to	23	1	17		7	2		2		
Neglecting to support family	12		4	1	7					
Pharmacy Acts, offences against										
Profanation of the Lord's Day	12	3	15							
Railway Acts, offences against	26		19	5	2	2			2	
Revenue Laws "	6		6							
Seamen Acts "	17		3	14						
Statute Labour, offences relating to										
Threats and abusive language	22	6	12		16	4	4	7	1	
Trespass	25		23	1	1	1		1		
Vagrancy	1314	432	1,129	246	371	5		3	2	
Drunkenness	3038	689	2,887	278	562	199	7	199	7	
Indecent exposure	10	1	9	1	1					
Insulting, obscene and profane language	1		1			1		1		
Keeping, frequenting bawdy houses and inmates thereof.	256	541	736	26	35	12	4	11	5	
Loose, idle, disorderly	159	10	142	12	15	5	1	6		
Weights and Measures Acts, offences against	2		2							
Insanity	42	18			60					
Totals	6523	1901	6,647	591	1,186	356	21	360	17	

TABLEAU III.—Condamnations sommaires par magistrats de police et autres juges de paix.

PROVINCE DE QUÉBEC—*Suite.*

PONTIAC.					QUÉBEC.					OFFENSES.
Convictions Total Condamnations.		Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	Convictions Total Condamnations.		Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	
M.	F.				M.	F.				
...	...	.....	.....	...	1	...	1	.....	.....	Falsification de substances alimentaires.
...	...	.....	.....	..	71	4	75	.....	.....	Voies de fait.
...	...	..	.....	.....	63	8	71	.....	.....	Perturbation de la paix.
...	...	.....	.....	.....	6	...	6	.....	.....	Port d'armes illégal.
...	...	.....	.....	...	...	...	.....	.....	.....	Mépris de cour.
...	...	....	.....	.....	3	...	3	.....	.....	Cruauté envers les animaux.
..	...	.....	.....	.. ...	1	...	1	.....	....	Perturbation de réunions religieuses et autres.
...	...	....	.....	..	1	...	1	.....	.....	Infractions aux lois des pêcheries.
...	...	...	.....	...	...	...	...	.....	.....	" défendant le jeu.
3	...	3	...	...	...	...	...	.....	.....	" de chasse.
...	...	.....	.....	.....	...	...	.....	.....	.....	Incorrigible.
...	...	.....	.....	.....	...	...	.....	.....	.....	Larcin.
...	...	.....	.....	.....	...	...	.....	.....	.....	Vol de chiens, oiseaux, etc.
...	...	.....	.. ....	.....	...	...	.....	. ....	..	" bois, arbres, fruits, etc.
...	...	.....	.....	....	6	...	6	... .	.....	Infractions aux lois des licences de boissons.
...	...	.....	... .	.....	...	...	.....	... ...	..	Contraventions aux lois de tempérance du Canada.
2	...	2	.....	.....	19	1	20	. ....	...	Vente de boissons durant les heures défendues
10	...	10	.....	...	73	42	115	.....	.....	" sans licence.
...	...	.. .	.....	.....	4	...	4	.....	.....	Contravention à la loi relative à la vente de boisson aux Sauvages.
..	..	.....	. .. ...	.....	...	1	1	.....	.....	Dommages malicieux à la propriété.
...	...	.....	.....	.....	6	2	7	.....	1	Autres dommages à la propriété.
...	...	.....	.....	.....	35	4	39	.....	.. ..	Infractions aux lois concernant les maîtres et serviteurs.
...	...	....	... ...	... ..	. ..	...	.....	.....	...	Inf. aux lois concernant la méd. et les dent.
...	...	.....	.....	.....	...	...	...	.....	.....	" de la milice.
...	...	.....	.....	.....	...	...	...	... ...	.....	Divers petits délits.
...	...	. ..	.....	.....	336	38	371	. ....	3	Contraventions aux lois municipales.
2	...	2	.....	.....	69	1	61	.....	.....	Pratiquant divers états sans licence.
...	...	.....	.....	.....	7	1	8	.....	...	Infractions aux lois sur l'hygiène publique.
...	...	.....	... ..	.. ..	5	...	5	.....	.....	Délits ayant rapport aux chemins publics.
...	...	.....	.....	....	5	...	4	.....	1	Négligé. de pourvoir aux besoins de la famille.
...	...	.....	. ....	.....	...	...	...	... ..	....	Infract. aux lois concernant les pharmaciens.
...	..	....	.....	....	...	...	..	....	....	Profanation du dimanche.
...	...	.....	.....	.....	2	...	2	.....	.....	Infractions aux lois des chemins de fer.
...	...	.....	... ..	.. ..	2	...	2	.....	.....	Délits contre le revenu de l'Etat.
...	...	.	.....	.. ..	...	.	.	.....	.....	Infractions aux lois maritimes.
...	...	.....	.....	...	...	...	...	.....	...	Délits ayant rapport à la corvée.
...	...	.....	... .	.....	1	...	...	.....	1	Menaces et langage injurieux.
...	...	.....	.....	. ...	...	...	...	.....	.....	Empiétement.
...	...	.....	.....	.	118	16	128	4	2	Vagabondage.
...	...	.	.. ....	.....	392	24	398	.....	18	Ivresse.
...	...	.....	.. ....	..	4	...	4	.....	.....	Exposition indécente.
...	...	.	.. ..	..	...	4	4	.....	.....	Langage insultant, obscène, profane.
...	...	.....	.....	.....	2	14	16	... . .	. .	Tenant, habitant et fréquentant des maisons de désordre.
..	...	.....	.....	. .	4	...	4	.....	.....	Conduite déréglée.
...	...	.....	.....	.....	...	...	...	.. ....	.....	Infractions aux lois des poids et mesures.
...	...	..	.....	...	...	...	...	.....	.....	Aliénation mentale.
17	...	17	.....	..	1227	160	1,357	4	26	..... Totaux.

TABLE III.—Summary convictions by police magistrates and other justices.

OFFENCES.	PROVINCE OF QUEBEC—*Continued.*											
	RICHELIEU.					RIMOUSKI.						
	Convictions Total Condamnations.		Sentence.			Convictions Total Condamnations.		Sentence.				
			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.		
	M.	F.				M.	F.					
Adulteration of food												
Assaults	1		1			13	1	11		3		
Breach of peace	34		33		1	8				8		
Carrying fire-arms and unlawful weapons						1		1				
Contempt of court						4		4				
Cruelty to animals												
Disturbing religious and like meetings						5		5				
Fishery Acts, offences against						10		10				
Gambling Acts "												
Game Laws "	2		2			4		4				
Incorrigible												
Larceny												
" of dogs, birds, &c												
" of timber, trees, fruits, &c	1		1			1		1				
Liquor License Acts offences against	10		10									
Breach of Canada Temperance Act												
Selling liquor during prohibited hours	6	2	8									
" without license	11		11			35	3	38				
Violation of Indian liquor law												
Malicious injury to property												
Other damage to property	1		1									
Master's and Servant's Acts, offences against												
Medical and Dentistry Acts, offences against												
Militia Acts "												
Miscellaneous minor offences												
Municipal Acts and By-Laws, breaches of	1		1			1		1				
Exercising various callings without license												
Health By-laws, offences against												
Highways, offences relating to												
Neglecting to support family												
Pharmacy Acts, offences against												
Profanation of the Lord's Day												
Railway Acts, offences against						1		1				
Revenue Laws "												
Seamen Acts "												
Statute Labour, offences relating to												
Threats and abusive language	1		1			1		1				
Trespass						5		2		3		
Vagrancy	6	14	11	8	1	43	1	24	17	3		
Drunkenness	1	2	3			2		2				
Indecent exposure	4	2	5	1								
Insulting, obscene and profane language												
Keeping, frequenting bawdy houses and inmates thereof.	6	1	7									
Loose, idle, disorderly	1		1									
Weights and Measures Acts, offences against												
Insanity												
Totals	86	21	96	9	2	134	5	105	17	17		

TABLEAU III.—Condamnations sommaires par magistrats de police et autres juges de paix.

PROVINCE DE QUÉBEC—*Suite.*

SAGUENAY.				ST. FRANCIS. — ST. FRANÇOIS.				OFFENSES.
	Sentence.				Sentence.			
Convictions Total Condamnations.	Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	Convictions Total Condamnations.	Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	
M. F.				M. F.				
				1	1			Falsification de substances alimentaires.
				38 1	37		2	Voies de fait.
				2	2			Perturbation de la paix.
								Port d'armes illegal.
								Mépris de cour.
				8	8			Cruauté envers les animaux.
				2	2			Perturbation de réunions religieuses et autres.
				6	6			Infractions aux lois des pêcheries.
								" défendant le jeu.
				1			1	" de chasse.
								Incorrigible.
				1			1	Larcin.
								Vol de chiens, oiseaux, etc.
								" bois, arbres, fruits, etc.
				6	6			Infractions aux lois des licences de boissons.
								Contraventions aux lois de tempérance du Canada.
				1	1			Vente de boissons durant les heures défendues.
7 6			1	36 3	39			" sans licence.
								Contravention à la loi relative à la vente de boisson aux Sauvages.
								Dommages malicieux à la propriété.
				1	1			Autres dommages à la propriété.
				1	1			Infractions aux lois concernant les maitres et serviteurs.
								Inf. aux lois concernant la méd. et les dent.
								" de la milice.
								Divers petits délits.
				2	2			Contraventions aux lois municipales.
1 1				7	6		1	Pratiquant divers états sans licence.
								Inf. aux lois sur l'hygiène publique.
				1	1			Délits ayant rapport aux chemins publics.
								Négligence de pourvoir aux besoins de la famille.
								Infract. aux lois concernant les pharmaciens.
								Profanation du dimanche.
				7	2	2	3	Infractions aux lois des chemins de fer.
1 1				1	1			Délits contre le revenu de l'Etat.
								Infractions aux lois maritimes.
								Délits ayant rapport à la corvée.
				3			3	Menaces et langage injurieux.
								Empiètement.
				8	2	6		Vagabondage.
				237 4	235	2	4	Ivresse.
				3	3			Exposition indécente.
				1	1			Langage insultant, obscène, profane.
				5 9	6	6	2	Tenant, habitant et fréquentant des maisons de désordre.
				6	6			Conduite déréglée.
								Infractions aux lois des poids et mesures.
				1			1	Aliénation mentale.
9 8			1	385 18	369	16	18	Totaux.

TABLE III.—Summary convictions by police magistrates and othesr justices.

OFFENCES	PROVINCE OF QUEBEC—*Concluded.*									
	ST. HYACNITHE.					TERREBONNE.				
	Convictions Total Condamnations.		Sentence.			Convictions Total Condamnations.		Sentence.		
			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.
	M.	F.				M.	F.			
Adulteration of food										
Assaults	7	2	9							
Breach of peace	4	1	5							
Carrying fire-arms and unlawful weapons										
Contempt of court										
Cruelty to animals										
Disturbing religious and like meetings										
Fishery Acts, offences against										
Gambling Acts "										
Game Laws "										
Incorrigible										
Larceny	7		7							
" of dogs, birds, &c										
" of timber, trees, fruits, &c										
Liquor License Acts, offences against										
Breach of Canada Temperance Act										
Selling liquor during prohibited hours										
" without license										
Violation of Indian liquor law										
Malicious injury to property										
Other damage to property	1		1							
Master's and Servant's Acts, offences against										
Medical and Dentistry Acts, offences against										
Militia Acts "										
Miscellaneous minor offences										
Municipal Acts and By-laws, breaches of	9		9							
Exercising various callings without license	1		1							
Health By-laws, offences against										
Highways, offences relating to	3		3							
Neglecting to support family						1				1
Pharmacy Acts, offences against										
Profanation of the Lord's Day										
Railway Acts, offences against	6		6							
Revenue Laws "										
Seamen Acts "										
Statute Labour, offences relating to										
Threats and abusive language						2				2
Trespass						1		1		
Vagrancy	12	2	9	3	2	1		1		
Drunkenness	66		63		3					
Indecent exposure										
Insulting, obscene and profane language										
Keeping, frequenting bawdy houses and inmates thereof.							2		2	
Loose, idle, disorderly										
Weights and Measures Acts, offences against										
Insanity										
Totals	116	5	113	3	5	5	2	2	2	3

TABLEAU III.—Condamnations sommaires par magistrats de police et autres juges de paix.

PROVINCE DE QUÉBEC—*Fin.*

THREE RIVERS. — TROIS-RIVIÈRES.					TOTALS OF QUEBEC. — TOTAUX DE QUÉBEC.					OFFENSES.
Convictions Total Condamnations.		Sentence.			Convictions Total Condamnations.		Sentence.			
		Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	
M.	F.				M.	F.				
...	...	.....	.....	.....	26	1	27	.....	...	Falsification de substances alimentaires.
11	...	11	.....	.....	656	99	695	.....	60	Voies de fait.
1	...	1	.....	.....	187	12	183	2	14	Perturbation de la paix.
...	...	.....	.....	.....	9	...	9	.....	.....	Port d'armes illégal.
...	...	.....	.....	.....	6	...	5	1	.....	Mépris de cour.
...	...	.....	.....	.....	101	1	99	1	2	Cruauté envers les animaux.
...	...	.....	.....	.....	17	1	18	.....	....	Perturbation de réunions religieuses et autres
...	...	.....	.....	.....	17	...	17	.....	...	Infractions aux lois des pêcheries.
...	...	.....	.....	.....	59	...	55	.....	4	" défendant le jeu.
...	...	.....	.....	.....	19	...	18	.....	1	" de chasse.
...	...	.....	.....	.....	.....	.....	.....	.....	...	Incorrigible.
...	...	.....	.....	.....	56	3	45	2	12	Larcin.
...	...	.....	.....	.....	.....	.....	.....	.....	.....	Vol de chiens, oiseaux, etc.
...	...	.....	.....	.....	2	...	2	.....	...	" bois, arbres, fruits, etc.
1	...	1	.....	.....	161	23	184	.....	...	Infractions aux lois des licences de boissons.
...	...	.....	.....	.....	.....	.....	.....	.....	...	Contraventions aux lois de tempérance du Canada.
7	...	7	.....	.....	141	7	148	.....	...	Vente de boissons durant les heures défendues
43	4	47	.....	.....	423	95	516	1	1	" sans licence.
...	...	.....	.....	.....	8	...	8	.....	.....	Contravention à la loi relative à la vente de boisson aux Sauvages.
...	...	.....	.....	.....	1	1	2	.....	.....	Dommages malicieux à la propriété.
...	...	.....	.....	.....	191	21	197	1	14	Autres dommages à la propriété.
5	...	5	.....	.....	69	9	74	1	3	Infractions aux lois concernant les maîtres et serviteurs.
...	...	.....	.....	.....	.....	.....	.....	.....	...	Inf. aux lois concernant la méd. et les dent.
...	...	.....	.....	.....	1	...	1	.....	.....	" de la milice.
...	...	.....	.....	.....	.....	.....	.....	.....	.....	Divers petits délits.
1	...	1	.....	.....	552	46	577	.....	21	Contraventions aux lois municipales.
4	...	4	.....	.....	366	11	360	.....	17	Pratiquant divers états sans licence.
3	...	3	.....	.....	79	5	83	.....	1	Infractions aux lois sur l'hygiène publique.
...	...	.....	.....	.....	39	1	33	.....	7	Délits ayant rapport aux chemins publics.
1	...	1	.....	.....	19	...	9	1	9	Néglig. de pourvoir aux besoins de la famille.
...	...	.....	.....	.....	.....	.....	.....	.....	.....	Infract. aux lois concernant les pharmaciens.
...	...	.....	.....	.....	12	3	15	.....	...	Profanation du dimanche.
...	...	.....	.....	.....	58	...	40	11	7	Infractions aux lois des chemins de fer.
...	...	.....	.....	.....	10	...	10	.....	.....	Délits contre le revenu de l'Etat.
...	...	.....	.....	.....	23	...	3	20	.....	Infractions aux lois maritimes.
...	...	.....	.....	.....	.....	.....	.....	.....	.....	Délits ayant rapport à la corvée.
...	...	.....	.....	.....	40	11	26	1	24	Menaces et langage injurieux.
...	...	.....	.....	.....	35	...	29	1	5	Empiétement.
3	2	5	.....	.....	1580	468	1,346	314	388	Vagabondage.
59	...	58	.....	1	4055	726	3,902	288	591	Ivresse.
...	...	.....	.....	.....	21	3	21	2	1	Exposition indécente.
...	...	.....	.....	.....	6	4	10	.....	...	Langage insultant, obscène, profane.
2	5	3	4	...	283	578	779	44	38	Tenant, habitant et fréquentant des maisons de désordre.
6	...	6	.....	.....	182	11	166	12	15	Conduite déréglée.
...	...	.....	.....	.....	2	...	2	.....	.....	Infractions aux lois des poids et mesures.
...	...	.....	.....	.....	43	18	.....	.....	61	Aliénation mentale.
147	11	153	4	1	9555	2158	9,714	703	1,296	..... Totaux.

TABLE III.—Summary convictions by police magistrates and other justices.

OFFENCES.	PROVINCE OF ONTARIO.										
	ALGOMA AND MANITOULIN.					BRANT.					
	Convictions Total Condamnations.		Sentence.			Convictions Total Condamnations.		Sentence.			
			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.
	M.	F.				M.	F.			
Adulteration of food										
Assaults	65	1	65		1	48		46		2
Breach of peace	1		1			4		4		
Carrying fire-arms and unlawful weapons	7	1	8			1		1		
Contempt of court										
Cruelty to animals	2		1		1	3		3		
Disturbing religious and like meetings	4		4							
Fishery Acts, offences against	2		2			1		1		
Gambling Acts "	6		6			1		1		
Game Laws "	9		9			1		1		
Incorrigible										
Larceny	2		2			2		1		1
" of dogs, birds, &c						1			1	
" of timber, trees, fruits, &c										
Liquor License Acts, offences against	13		13			8	4	12		
Breach of Canada Temperance Act										
Selling liquor during prohibited hours	4		4							
" without license	3	1	4			3		3		
Violation of Indian liquor law	26	2	28							
Malicious injury to property										
Other damage to property	7		7			12		12		
Master's and Servant's Acts, offences against	9		9			1		1		
Medical and Dentistry Acts, offences against										
Militia Acts, offences against						1		1		
Miscellaneous minor offences										
Municipal Acts and By-laws, breaches of	29		26		3	73	3	75		1
Exercising various callings without license	30	1	31			1		1		
Health By-laws, offences against	9		9							
Highways, offences relating to						1		1		
Neglecting to support family						1				1
Pharmacy Acts, offences against										
Profanation of the Lord's Day	8		8			1		1		
Railway Acts, offences against										
Revenue Laws "	3		3							
Seamen Acts "										
Statute Labour, offences relating to										
Threats and abusive language	3		3			5		3		2
Trespass	5		5			19		19		
Vagrancy	39	4	29	13	1	26	2	23	5	
Drunkenness	234	5	239			234	4	233		5
Indecent exposure	6		6			3		3		
Insulting, obscene and profane language	9	3	12			7	1	8		
Keeping, frequenting bawdy houses and inmates thereof	7	46	50	2	1	1	2	2	1	
Loose, idle, disorderly	22		22			12		12		
Weights and Measures Acts, offences against										
Insanity		1			1					
Totals	564	65	606	15	8	471	16	468	7	12

TABLEAU III.—Condamnations sommaires par magistrats de police et autres juges de paix.

PROVINCE D'ONTARIO.

BRUCE.					CARLETON.					OFFENSES.
Convictions. Total Condamnations.		Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc	Convictions Total Condamnations.		Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	
M.	F.				M.	F.				
										Falsification de substances alimentaires.
42		42			70	2	69	2	1	Voies de fait.
					107	15	122			Perturbation de la paix.
1		1								Port d'armes illégal.
					1		1			Mépris de cour.
3		1		2	6		6			Cruauté envers les animaux.
					1		1			Perturbation de reunions religieuses et autres.
5		5								Infractions aux lois des pêcheries.
										" défendant le jeu.
					3		3			" de chasse.
					8	5		13		Incorrigible.
7		5		2						Larcin.
5		5								Vol de chiens, oiseaux, etc.
										" bois, arbres, fruits, etc.
14		14			19	4	23			Infractions aux lois des licences de boissons.
										Contraventions aux lois de tempérance du Canada.
					29	2	31			Vente de boissons durant les heures défendues
1		1			12	4	16			" sans licence.
1		1								Contravention à la loi relative à la vente de boisson aux Sauvages.
										Dommages malicieux à la propriété.
12		11		1	10		10			Autres dommages à la propriété.
15		15			21	1	22			Infractions aux lois concernant les maitres et serviteurs.
1		1			2		2			Inf. aux lois concernant la méd. et les dent.
										" de la milice.
					1		1			Divers petits délits.
34	1	34		1	126	10	136			Contraventions aux lois municipales.
11		11			9	6	15			Pratiquant divers états sans licence.
1		1			4		4			Infractions aux lois sur l'hygiène publique.
5		5			52		52			Délits ayant rapport aux chemins publics.
1				1						Néglig. de pourvoir aux besoins de la famille.
1		1								Infrac. aux lois concernant les pharmaciens.
12		12			8	1	8		1	Profanation du dimanche.
					11		11			Infractions aux lois des chemins de fer.
					1		1			Délits contre le revenu de l'Etat.
										Infractions aux lois maritimes.
										Délits ayant rapport à la corvée.
2		1		1	2		2			Menaces et langage injurieux.
6		6			4		4			Empiétement.
3	1		4		39	5	7	35	2	Vagabondage.
12		12			280	21	301			Ivresse.
1		1			1	1	2			Exposition indécente.
18		18			17	11	28			Langage insultant, obscène, profane.
					12	34	30	15	1	Tenant, habitant et fréquentant des maisons de désordre.
35	1	36			59	5	64			Conduite déréglée.
					3	1	4			Infraction aux lois des poids et mesures.
										Aliénation mentale.
249	3	240	4	8	918	128	976	65	5	Totaux.

TABLE III.—Summary convictions by police magistrates and other justices.

OFFENCES.	PROVINCE OF ONTARIO—*Continued.*											
	DUFFERIN.					ELGIN.						
	Convictions Total Condamnations.		Sentence.			Convictions Total Condamnations.		Sentence.				
			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.		
	M.	F.				M.	F.					
Adulteration of food												
Assaults	13	2	15			8		8				
Breach of peace						5	1	4		2		
Carrying fire-arms and unlawful weapons												
Contempt of court												
Cruelty to animals												
Disturbing religious and like meetings												
Fishery Acts, offences against												
Gambling Acts "												
Game Laws "												
Incorrigible												
Larceny												
" of dogs, birds, &c.												
" of timber, trees, fruits, &c												
Liquor License Acts, offences against	1		1			3	1	4				
Breach of Canada Temperance Act												
Selling liquor during prohibited hours						2		2				
" without license							1	1				
Violation of Indian liquor law												
Malicious injury to property												
Other damage to property												
Master's and Servant's Acts, offences against						3		3				
Medical and Dentistry Acts "												
Militia Acts "												
Miscellaneous minor offences												
Municipal Acts and By-Laws, breaches of	3		3			20		13		7		
Exercising various callings without license						2		2				
Health By-laws, offences against	1		1			1		1				
Highways, offences relating to						31		31				
Neglecting to support family						2				2		
Pharmacy Acts, offences against						1		1				
Profanation of the Lord's Day												
Railway Acts, offences against						38		26		12		
Revenue Laws "												
Seamen Acts "												
Statute Labour, offences relating to												
Threats and abusive language	1				1	2		1		1		
Trespass						8		8				
Vagrancy	19			19		10	3	2	5	6		
Drunkenness						61	2	43	1	19		
Indecent exposure												
Insulting, obscene and profane language						6	3	6	1	2		
Keeping, frequenting bawdy houses and inmates thereof												
Loose, idle, disorderly	11		11			11		11				
Weights and Measures Acts, offences against												
Insanity	1	1			2	1				1		
Totals	50	3	31	19	3	215	11	167	7	52		

TABLEAU III.—Condamnations sommaires par magistrats de police et autres juges de paix.

PROVINCE D'ONTARIO—*Suite.*

ESSEX.					FRONTENAC.					OFFENSES.
Convictions Total Condamnations.		Sentence.			Convictions Total Condamnations.		Sentence.			
		Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	
M.	F.				M.	F.				
										Falsification de substances alimentaires.
69	1	69		1	11		10		1	Voies de fait.
2		2			5		5			Perturbation de la paix.
1		1								Port d'armes illégal.
					1		1			Mépris de cour.
2		2			2		2			Cruauté envers les animaux.
2	1	3								Perturbation de réunions religieuses et autres
										Infractions aux lois des pêcheries.
3		3								" defendant le jeu.
4		4								" de chasse.
										Incorrigible.
26		26			2		2			Larcin.
1		1								Vol de chiens, oiseaux, etc.
1		1								" bois, arbres, fruits, etc.
39	3	42			3	1	4			Infractions aux lois des licences de boissons.
										Contraventions aux lois de tempérance du Canada.
1		1								Vente de boissons durant les heures défendues
1		1								" sans licence.
1		1								Contravention à la loi relative à la vente de boisson aux Sauvages.
										Dommages malicieux à la propriété.
7		7								Autres dommages à la propriété.
1		1			1		1			Infractions aux lois concernant les maîtres et serviteurs.
					1		1			Inf. aux lois concernant la méd. et les dent.
										" de la milice.
										Divers petits délits.
12		12			28		28			Contraventions aux lois municipales.
					1		1			Pratiquant divers états sans licence.
										Infractions aux lois sur l'hygiène publique.
10		10			2		2			Délits ayant rapport aux chemins publics.
										Néglig. de pourvoir aux besoins de la famille.
										Infract. aux lois concernant les pharmaciens.
1				1	1		1			Profanation du dimanche.
19		19								Infractions aux lois des chemins de fer.
										Délits contre le revenu de l'Etat.
										Infractions aux lois maritimes.
					30		30			Délits ayant rapport à la corvée.
2		2			1	1	1		1	Menaces et langage injurieux.
1		1			1		1			Empiétement.
23		6	17		3	5	1	7		Vagabondage.
107	2	109			104	3	90	17		Ivresse.
1		1								Exposition indécente.
7	1	8			5		5			Langage insultant, obscène, profane.
										Tenant, habitant et fréquentant des maisons de désordre.
24	2	26			4		4			Conduite déréglée.
										Infractions aux lois des poids et mesures.
2				2						Aliénation mentale.
382	10	371	17	4	206	10	190	24	2	Totaux.

TABLE III.—Summary convictions by police magistrates and other justices.

PROVINCE OF ONTARIO—*Continued.*

OFFENCES.	GREY.					HALDIMAND.				
	Convictions Total Condamnations.		Sentence.			Convictions Total Condamnations.		Sentence.		
			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.
	M.	F.				M.	F.			
Adulteration of food										
Assaults	43	3	44		2	17		17		
Breach of peace	2		2			1			1	
Carrying fire-arms and unlawful weapons										
Contempt of court										
Cruelty to animals	4		4			2		2		
Disturbing religious and like meetings	4		4							
Fishery Acts, offences against										
Gambling Acts "						10		10		
Game Laws "	1		1							
Incorrigible										
Larceny	6	1	3		4	2				2
" of dogs, birds, &c	2		2							
" of timber, trees, fruits, &c										
Liquor License Acts, offences against	20	3	23			2		2		
Breach of Canada Temperance Act										
Selling liquor during prohibited hours	2		2							
" without license										
Violation of Indian liquor law						1		1		
Malicious injury to property										
Other damage to property	8		8			6		6		
Master's and Servant's Acts, offences against	1		1			1		1		
Medical and Dentistry Acts, offences against										
Militia Acts "										
Miscellaneous minor offences										
Municipal Acts and By-Laws, breaches of	20		20			3		3		
Exercising various callings without license	3		3							
Health By-laws, offences against										
Highways, offences relating to	8		8			1		1		
Neglecting to support family										
Pharmacy Acts, offences against										
Profanation of the Lord's Day	2		2			1		1		
Railway Acts, offences against	3		3							
Revenue Laws "										
Seamen Acts "										
Statute Labour, offences relating to	1		1							
Threats and abusive language	9		8		1	1	1			2
Trespass	5		5			3		3		
Vagrancy	32	3	2	32	1	2	1		3	
Drunkenness	22		21		1	13		11		2
Indecent exposure						1		1		
Insulting, obscene and profane language	15	4	19			3	2	5		
Keeping, frequenting bawdy houses and inmates thereof		2		2						
Loose, idle, disorderly	35		35							
Weights and Measures Acts, offences against										
Insanity										
Totals	248	16	221	34	9	70	4	64	4	6

TABLEAU III.—Condamnations sommaires par magistrats de police et autres juges de paix.

PROVINCE D'ONTARIO—*Suite.*

HALTON.					HASTINGS.					OFFENSES.
Convictions Total Condamnations.	Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.		Convictions Total Condamnations.	Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.		
M. F.					M. F.					
										Falsification de substances alimentaires.
8	8				46 1	32			15	Voies de fait.
					23 1	22			2	Perturbation de la paix.
										Port d'armes illégal.
										Mépris de cour.
					8	5			3	Cruauté envers les animaux.
					1	1				Perturbation de réunions religieuses et autres
										Infractions aux lois des pêcheries.
					1	1				" défendant le jeu.
					3	3				" de chasse.
					1		1			Incorrigible.
1	1				5	5				Larcin.
										Vol de chiens, oiseaux, etc.
										" bois, arbres, fruits, etc.
1	1				14 2	16				Infractions aux lois des licences de boissons.
										Contraventions aux lois de tempérance du Canada.
					5	5				Vente de boissons durant les heures défendues.
					4	4				" sans licence.
					10	10				Contravention à la loi relative à la vente de boisson aux Sauvages.
					1		1			Dommages malicieux à la propriété.
2	2				13	10			3	Autres dommages à la propriété.
					14 5	18			1	Infractions aux lois concernant les maîtres et serviteurs.
										Inf. aux lois concernant la méd. et les dent.
										" de la milice.
										Divers petits délits.
					33 3	36				Contraventions aux lois municipales.
1	1									Pratiquant divers états sans licence.
					3	2			1	Infractions aux lois sur l'hygiène publique
1	1				12	12				Délits ayant rapport aux chemins publics.
					1	1				Néglig. de pourvoir aux besoins de la famille.
										Inf. aux lois concernant les pharmaciens.
					1	1				Profanation du dimanche.
3	2	1								Infractions aux lois des chemins de fer.
										Délits contre le revenu de l'Etat.
										Infractions aux lois maritimes.
										Délits ayant rapport à la corvée.
2	1			1	7 2	9				Menaces et langage injurieux.
					4 2	6				Empietement.
26	17	9			15 5	1	12		7	Vagabondage.
20	18	2			103 2	60	1		44	Ivresse.
					3	3				Exposition indécente.
2	2				27 8	30			5	Langage insultant, obscène, profane.
					1 3		4			Tenant, habitant et fréquentant des maisons de désordre.
2	2				42 2	38			6	Conduite déréglée.
										Infractions aux lois des poids et mesures.
					3 1				4	Aliénation mentale
69	55	13		1	404 37	331	19		91	....Totaux.

TABLE III.—Summary convictions by police magistrates and other justices.

OFFENCES.	PROVINCE OF ONTARIO—*Continued.*											
	HURON.					KENT.						
	Convictions Total Condamnations.		Sentence.			Convictions Total Condamnations.		Sentence.				
			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.		
	M.	F.				M.	F.					
Adulteration of food												
Assaults	20		20			29		28		1		
Breach of peace	8		8			18		18				
Carrying fire-arms and unlawful weapons												
Contempt of court												
Cruelty to animals	1				1	17		17				
Disturbing religious and like meetings						1		1				
Fishery Acts, offences against												
Gambling Acts "						7		7				
Game laws "						1		1				
Incorrigible												
Larceny	2		1		1	3		2		1		
" of dogs, birds, &c						1			1			
" of timber, trees, fruits, &c												
Liquor License Acts, offences against	13		13			9		9				
Breach of Canada Temperance Act												
Selling liquor during prohibited hours	3	1	4									
" without license						2		2				
Violation of Indian liquor law						1			1			
Malicious injury to property												
Other damage to property	4	2	6			1		1				
Master's and Servant's Acts, offences against	20		20			1				1		
Medical and Dentistry Acts, offences against												
Militia Acts "												
Miscellaneous minor offences												
Municipal Acts and By-laws, breaches of	39	3	38		4	28		28				
Exercising various callings without license	1		1			4		4				
Health By-laws, offences against												
Highways, offences relating to	1		1			28	1	29				
Neglecting to support family	1				1							
Pharmacy Acts, offences against												
Profanation of the Lord's Day						1		1				
Railway Acts, offences against												
Revenue Laws "	2		2									
Seamen Acts "												
Statute Labour, offences relating to												
Threats and abusive language						1		1				
Trespass	5	1	6			1		1				
Vagrancy	29	3		28	4	3	2		5			
Drunkenness	12		12			114	2	115		1		
Indecent exposure						2		2				
Insulting, obscene and profane language	11		11			20	3	22		1		
Keeping, frequenting bawdy houses and inmates thereof						1				1		
Loose, idle, disorderly	7		7			2		2				
Weights and Measures Acts, offences against												
Insanity	3				3	2	1					3
Totals	182	10	150	28	14	297	10	291	9	7		

TABLEAU III.—Condamnations sommaires par magistrats de police et autres juges de paix.

PROVINCE D'ONTARIO—*Suite.*

LAMBTON.						LANARK.						OFFENSES.
Convictions Total Condamnations.		Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.		Convictions Total Condamnations.		Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.		
M.	F.					M.	F.					
												Falsification de substances alimentaires.
32	3	34			1	25		24			1	Voies de fait.
6		6				14	1	15				Perturbation de la paix.
3		3				3		3				Port d'armes illégal.
												Mépris de cour.
						5		5				Cruauté envers les animaux.
												Perturbation de réunions religieuses et autres
						4		4				Infractions aux lois des pêcheries.
11		11										" défendant le jeu.
						6		6				" de chasse.
												Incorrigible.
												Larcin.
						1		1				Vol de chiens, oiseaux, etc.
												" bois, arbres, fruits, etc.
13		13				18	1	19				Infractions aux lois des licences de boissons.
												Contraventions aux lois de tempérance du Canada.
						11	2	13				Vente de boissons durant les heures défendues
						1		1				" sans licence.
1		1										Contravention à la loi relative à la vente de boisson aux Sauvages.
												Dommages malicieux à la propriété.
2		2				7		7				Autres dommages à la propriété.
4		4				1		1				Infractions aux lois concernant les maîtres serviteurs.
						1		1				Inf. aux lois concernant la méd. et les dent.
						1					1	" de la milice.
												Divers petits délits.
35		35				8		8				Contraventions aux lois municipales.
6	1	7				1		1				Pratiquant divers états sans licence.
												Infractions aux lois sur l'hygiène publique.
8		8				8		8				Délits ayant rapport aux chemins publics.
												Néglig. de pourvoir aux besoins de la famille.
1		1										Infrac. aux lois concernant les pharmaciens
3		3										Profanation du dimanche.
22		20			2	1		1				Infractions aux lois des chemins de fer.
												Délits contre le revenu de l'Etat.
												Infractions aux lois maritimes.
												Délits ayant rapport à la corvée.
3		3				6		6				Menaces et langage injurieux.
7		6			1	1		1				Empiètement.
46	9	18		10	27	66	2	6	58		4	Vagabondage.
193	2	172			23	60	1	59	2			Ivresse.
												Exposition indécente.
6		6				7		7				Langage insultant, obscène, profane.
							1				1	Tenant, habitant et fréquentant des maisons de désordre.
12		12				21		21				Conduite déréglée.
4		4										Infractions aux lois des poids et mesures.
5					5	2	1				3	Aliénation mentale.
423	15	369		10	59	279	9	218	60		10	.....Totaux.

TABLE III.—Summary convictions by police magistrates and other justices.

OFFENCES.	PROVINCE OF ONTARIO—*Continued.*											
	LEEDS AND GRENVILLE.					LENNOX AND ADDINGTON.						
	Convictions Total Condamnations.		Sentence.			Convictions Total Condamnations.		Sentence.		
			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.
	M.	F.				M.	F.			
Adulteration of food										
Assaults	57	2	58		1	8		8		
Breach of peace						7		7		
Carrying fire-arms and unlawful weapons	2		2							
Contempt of court										
Cruelty to animals	4		4							
Disturbing religious and like meetings						5		5		
Fishery Acts, offences against	1		1							
Gambling Acts "	3		3							
Game Laws "						1		1		
Incorrigible										
Larceny										
" of dogs, birds, &c										
" of timber, trees, fruits, &c										
Liquor License Acts, offences against	17		17			6	1	7		
Breach of Canada Temperance Act										
Selling liquor during prohibited hours	3		3			2		2		
" without license						1		1		
Violation of Indian liquor law										
Malicious injury to property										
Other damage to property	3	2	5			2		2		
Master's and Servant's Acts, offences against	1		1			3		3		
Medical and Dentistry Acts, offences against	1		1							
Militia Acts "										
Miscellaneous minor offences										
Municipal Acts and By-laws, breaches of	14	3	16		1	5		5		
Exercising various callings without license	5		5							
Health By-laws, offences against										
Highways, offences relating to	8		8			1		1		
Neglecting to support family	4		2	2						
Pharmacy Acts, offences against										
Profanation of the Lord's Day										
Railway Acts, offences against										
Revenue Laws "										
Seamen Acts "										
Statute Labour, offences relating to										
Threats and abusive language	3		1	1	1	3		3		
Trespass	3		3							
Vagrancy	19		3	15	1	5		2	3	
Drunkenness	168	1	169			31		29	1	1
Indecent exposure	1		1							
Insulting, obscene and profane language	45	5	50			4	1	5		
Keeping, frequenting bawdy houses and inmates thereof	1	3	4							
Loose, idle, disorderly	50	2	52			2		2		
Weights and Measures Acts, offences against										
Insanity	4	1			5					
Totals	417	19	409	18	9	86	2	83	4	1

TABLEAU III.—Condamnations sommaires par magistrats de police et autres juges de paix.

PROVINCE D'ONTARIO—*Suite.*

LINCOLN.					MIDDLESEX.					OFFENSES.
Convictions Total Condamnations.		Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	Convictions Total Condamnations.		Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	
M.	F.				M.	F.				
....	....	....	....	....	....	....	....	....	....	Falsification de substances alimentaires.
28	....	26	....	2	54	2	54	....	2	Voies de fait.
....	....	....	....	....	8	....	8	....	....	Perturbation de la paix.
2	....	2	....	....	4	....	4	....	....	Port d'armes illégal.
....	....	....	....	....	2	....	2	....	....	Mépris de cour.
....	....	....	....	....	3	....	2	....	1	Cruauté envers les animaux.
....	....	....	....	....	....	....	....	....	....	Perturbation de réunions religieuses et autres.
2	....	2	....	....	7	....	6	....	1	Infractions aux lois des pêcheries.
4	....	4	....	....	20	....	20	....	....	" défendant le jeu.
....	....	....	....	....	....	....	....	....	....	" de chasse.
....	....	....	....	....	....	....	....	....	....	Incorrigible.
1	....	....	1	....	....	....	....	....	....	Larcin.
....	....	....	....	....	3	....	2	....	1	Vol de chiens, oiseaux, etc.
2	....	....	....	2	....	....	....	....	....	" bois, arbres, fruits, etc.
7	....	7	....	....	23	2	25	....	....	Infractions aux lois des licences de boissons.
....	....	....	....	....	....	....	....	....	....	Contraventions aux lois de tempérance du Canada.
....	....	....	....	....	1	....	1	....	....	Vente de boissons durant les heures défendues.
3	....	3	....	....	....	....	....	....	....	" sans licence.
....	....	....	....	....	1	....	1	....	....	Contravention à la loi relative à la vente de boisson aux Sauvages.
....	....	....	....	....	1	....	1	....	....	Dommages malicieux à la propriété.
2	....	1	....	1	21	....	20	....	1	Autres dommages à la propriété.
....	2	2	....	....	3	....	2	....	1	Infractions aux lois concernant les maîtres et serviteurs.
....	....	....	....	....	....	1	1	....	....	Inf. aux lois concernant la méd. et les dent.
....	....	....	....	....	....	....	....	....	....	" " la milice.
....	....	....	....	....	....	....	....	....	....	Divers petits délits.
56	4	59	....	1	178	4	181	....	1	Contraventions aux lois municipales.
....	....	....	....	....	1	....	1	....	....	Pratiquant divers états sans licence.
....	....	....	....	....	1	....	1	....	....	Infractions aux lois sur l'hygiène publique.
....	....	....	....	....	4	....	2	....	2	Délits ayant rapport aux chemins publics.
1	....	....	....	1	1	....	....	....	1	Négligé. de pourvoir aux besoins de la famille.
....	....	....	....	....	....	....	....	....	....	Infrac. aux lois concernant les pharmaciens.
....	....	....	....	....	1	....	1	....	....	Profanation du dimanche.
....	....	....	....	....	6	....	....	....	6	Infractions aux lois des chemins de fer.
....	....	....	....	....	....	....	....	....	....	Délits contre le revenu de l'Etat.
....	....	....	....	....	....	....	....	....	....	Infractions aux lois maritimes.
....	....	....	....	....	....	....	....	....	....	Délits ayant rapport à la corvée.
....	....	....	....	....	9	....	7	....	2	Menaces et langage injurieux.
25	....	24	....	1	18	....	15	....	3	Empiétement.
7	....	1	5	1	27	5	6	23	3	Vagabondage.
110	2	105	3	4	270	17	287	....	....	Ivresse.
....	....	....	....	....	2	....	1	....	1	Exposition indécente.
5	....	5	....	....	10	....	10	....	....	Langage insultant, obscène, profane.
....	1	....	1	....	4	7	10	1	....	Tenant, habitant et fréquentant des maisons de désordre.
3	....	3	....	....	78	....	78	....	....	Conduite déréglée.
....	....	....	....	....	....	....	....	....	....	Infractions aux lois des poids et mesures.
3	....	....	....	3	1	1	....	....	2	Aliénation mentale.
261	9	244	10	16	762	39	749	24	28	Totaux.

TABLE III.—Summary convictions by police magistrates and other justices.

OFFENCES.	PROVINCE OF ONTARIO—*Continued.*									
	MUSKOKA AND PARRY SOUND.					NIPISSING.				
	Convictions Total Condamnations.		Sentence.			Convictions Total Condamnations.		Sentence.		
			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.
	M.	F.				M.	F.			
Adulteration of food										
Assaults	32		28		4	23		23		
Breach of peace	2		2			54		53	1	
Carrying fire-arms and unlawful weapons	1			1		2		1	1	
Contempt of court	1		1							
Cruelty to animals	3		3			2		2		
Disturbing religious and like meetings	2		2							
Fishery Acts, offences against	1		1							
Gambling Acts "										
Game Laws "	8		8			12		12		
Incorrigible										
Larceny	7		1		6	9	1	7		3
" of dogs, birds, &c										
" of timber, trees, fruits, &c.	1		1							
Liquor License Acts, offences against	7		7			12	3	15		
Breach of Canada Temperance Act										
Selling liquor during prohibited hours		1	1			5		5		
" without license	11	1	12			20	1	21		
Violation of Indian liquor law	2		1	1		3	1	4		
Malicious injury to property										
Other damage to property						3	1	4		
Master's and Servant's Acts, offences against	39		31		8	5		5		
Medical and Dentistry Acts, offences against	3		3			1		1		
Militia Acts "										
Miscellaneous minor offences										
Municipal Acts and By-laws, breaches of	16	3	19			23	6	29		
Exercising various callings without license	4		4			1		1		
Health By-laws, offences against										
Highways, offences relating to	1		1			3		3		
Neglecting to support family	2		2							
Pharmacy Acts, offences against										
Profanation of the Lord's Day	3		3			2		2		
Railway Acts, offences against						5		4	1	
Revenue Laws "										
Seamen Acts "										
Statute Labour, offences relating to										
Threats and abusive language	4		2		2	1		1		
Trespass	4		4			2		1		1
Vagrancy	18	4	13	8	1	59	7	25	38	3
Drunkenness	33		22	1	10	276		256	11	9
Indecent exposure	2		2			1		1		
Insulting, obscene and profane language	8	1	6		3	3		3		
Keeping, frequenting bawdy houses and inmates thereof	3	5	8			10	30	37		3
Loose, idle, disorderly	105		95	5	5	33		32		1
Weights and Measures Acts, offences against										
Insanity						1				1
Totals	323	15	283	16	39	571	50	548	52	21

TABLEAU III.—Condamnations sommaires par magistrats de police et autres juges de paix.

PROVINCE D'ONTARIO—*Suite.*

NORFOLK.					NORTHUMBERLAND AND DURHAM.				
Convictions Total Condamnations.		Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	Convictions Total Condamnations.		Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	OFFENSES.
M.	F.				M.	F.				
										Falsification de substances alimentaires.
21	1	18		4	43	2	44		1	Voies de fait.
4		2		2	21		19		2	Perturbation de la paix.
1		1								Port d'armes illégal.
										Mepris de cour.
3		3			3		3			Cruauté envers les animaux.
										Perturbation de réunions religieuses et autres
										Infractions aux lois des pêcheries.
2		2			2		2			" défendant le jeu.
										" de chasse.
1			1							Incorrigible.
9		4		5	5		1		4	Larcin.
3	1			4						Vol de chiens, oiseaux, etc.
	2			2						" bois, arbres, fruits, etc.
2		2			16		16			Infractions aux lois des licences de boissons.
										Contraventions aux lois de tempérance du Canada.
4		4			4		4			Vente de boissons durant les heures défendues.
3		3			4	1	5			" sans licence.
										Contravention à la loi relative à la vente de boisson aux Sauvages.
										Dommages malicieux à la propriété.
5		5			5		5			Autres dommages à la propriété.
1	1	2			1	1	2			Infractions aux lois concernant les maitres et serviteurs.
										Inf. aux lois concernant la méd. et les dent.
2		2								" la milice.
										Divers petits délits.
10		9		1	21		20		1	Contraventions aux lois municipales.
					2		2			Pratiquant divers états sans licence.
					6		6			Infractions aux lois sur l'hygiène publique.
14		14			4		4			Délits ayant rapport aux chemins publics.
					1				1	Néglig. de pourvoir aux besoins de la famille.
										Infract. aux lois concernant les pharmaciens.
					1		1			Profanation du dimanche.
										Infractions aux lois des chemins de fer.
					7		7			Délits contre le revenu de l'Etat.
										Infractions aux lois maritimes.
										Delits ayant rapport à la corvée.
5	3	7		1	15	4	17	1	1	Menaces et langage injurieux.
4				4	10		10			Empiétement.
5			3	2	42	6	5	33	10	Vagabondage.
37		31	1	5	99		94	3	2	Ivresse.
					1		1			Exposition indécente.
2		2			23	2	25			Langage insultant, obscène, profane.
										Tenant, habitant et fréquentant des maisons de désordre.
1		1			18		16		2	Conduite déréglée.
					4		4			Infractions aux lois des poids et mesures.
5				5	1	2			3	Aliénation mentale.
144	8	112	5	35	359	18	313	37	27	...Totaux.

TABLE III.—Summary convictions by police magistrates and other justices.

OFFENCES.	PROVINCE OF ONTARIO—*Continued.*											
	ONTARIO.					OXFORD.						
	Convictions Total Condamnations.		Sentence.			Convictions Total Condamnations.		Sentence.				
			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.		
	M.	F.				M.	F.					
Adulteration of food						1		1				
Assaults	25	1	25		1	23		19		4		
Breach of peace	1		1			11		8		3		
Carrying fire-arms and unlawful weapons												
Contempt of court	1		1									
Cruelty to animals	2		2									
Disturbing religious and like meetings												
Fishery Acts, offences against												
Gambling Acts "												
Game Laws "												
Incorrigible												
Larceny						15	3	10		8		
" of dogs, birds, &c												
" of timber, trees, fruits, &c												
Liquor License Acts, offences against	13		13			5		5				
Breach of Canada Temperance Act												
Selling liquor during prohibited hours		1	1			1		1				
" without license						3		3				
Violation of Indian liquor law												
Malicious injury to property												
Other damage to property	5		5			6		6				
Master's and Servant's Acts, offences against	5		5									
Medical and Dentistry Acts, offences against												
Militia Acts "												
Miscellaneous minor offences												
Municipal Acts and By-Laws, breaches of	16		16			16		16				
Exercising various callings without license	3		3			2		2				
Health By-laws, offences against						1		1				
Highways, offences relating to	18		16		2	27		21		6		
Neglecting to support family						1		1				
Pharmacy Acts, offences against												
Profanation of the Lord's Day	1		1			1		1				
Railway Acts, offences against	9		9			9		4		5		
Revenue Laws "												
Seamen Acts "												
Statute Labour, offences relating to												
Threats and abusive language	1			1		3		2		1		
Trespass	11		11			1		1				
Vagrancy	55	2	1	55	1	82	5	22	38	27		
Drunkenness	119		119			128	2	94	5	31		
Indecent exposure	2		2			1		1				
Insulting, obscene and profane language	7		7			7	1	7		1		
Keeping, frequenting bawdy houses and inmates thereof						1	1	1		1		
Loose, idle, disorderly	26		26			20		17	1	2		
Weights and Measures Acts, offences against						1		1				
Insanity		1			1	2	2			4		
Totals	320	5	564	56	5	368	14	245	44	93		

TABLEAU III.—Condamnations sommaires par magistrats de police et autres juges de paix.

PROVINCE D'ONTARIO—*Suite.*

PEEL.					PERTH.					OFFENSES.
Convictions Total Condamnations.	Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.		Convictions Total Condamnations.	Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.		
M. F.					M. F.					
										Falsification de substances alimentaires.
7	7				29	27			2	Voies de fait.
										Perturbation de la paix.
1	1				1	1				Port d'armes illégal.
										Mépris de cour.
					3	3				Cruauté envers les animaux.
										Perturbation de réunions religieuses et autres.
										Infractions aux lois des pêcheries.
										" défendant le jeu.
										" de chasse.
										Incorrigible.
1				1						Larcin.
										Vol de chiens, oiseaux, etc.
										" bois, arbres, fruits, etc.
8	8				4	4				Infractions aux lois des licences de boissons.
										Contraventions aux lois de tempérance du Canada.
					4	4				Vente de boissons durant les heures défendues.
										" sans licence.
										Contravention à la loi relative à la vente de boisson aux Sauvages.
										Dommages malicieux à la propriété.
2 1	3				7	7				Autres dommages à la propriété.
2	2				5	5				Infractions aux lois concernant les maîtres et serviteurs.
										Inf. aux lois concernant la méd. et les dent.
										" de la milice.
										Divers petits délits.
6	6				187 2	185			4	Contraventions aux lois municipales.
										Pratiquant divers états sans licence.
										Infractions aux lois sur l'hygiène publique.
					9	9				Délits ayant rapport aux chemins publics.
										Négligence de pourvoir aux besoins de la famille.
										Infract. aux lois concernant les pharmaciens.
										Profanation du dimanche.
					3	3				Infractions aux lois des chemins de fer.
										Délits contre le revenu de l'Etat.
										Infractions aux lois maritimes.
										Délits ayant rapport à la corvée.
2	2				3	3				Menaces et langage injurieux.
3	3				16	16				Empiétement.
8	2		6		26	23		3		Vagabondage.
1	1				47	46			1	Ivresse.
					1	1				Exposition indécente.
					3	3				Langage insultant, obscène, profane.
										Tenant, habitant et fréquentant des maisons de désordre.
1	1				7	7				Conduite déréglée.
										Infractions aux lois des poids et mesures.
					8 2				10	Aliénation mentale.
42 1	36		6	1	363 4	347		3	17	Totaux.

TABLE III.—Summary convictions by police magistrates and other justices.

OFFENCES.	PROVINCE OF ONTARIO—*Continued.*										
	PETERBOROUGH.					PRESCOTT AND RUSSELL.					
	Convictions Total Condamnations.		Sentence.			Convictions Total Condamnations.		Sentence.			
			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.
	M.	F.				M.	F.			
Adulteration of food										
Assaults	28		23		5	22	1	22		1
Breach of peace	7	2	8	1		3		3		
Carrying fire-arms and unlawful weapons						1		1		
Contempt of court										
Cruelty to animals	4		3	1		2		2		
Disturbing religious and like meetings	2		2							
Fishery Acts, offences against	2		2							
Gambling Acts "	2		2							
Game Laws "										
Incorrigible										
Larceny										
" of dogs, birds, &c										
" of timber, trees, fruits, &c						3		3		
Liquor License Acts, offences against	7		7			6		6		
Breach of Canada Temperance Act										
Selling liquor during prohibited hours	4		4			16		16		
" without license	1			1		2		2		
Violation of Indian liquor law	3		3							
Malicious injury to property										
Other damage to property	2		2			7		6		1
Master's and Servant's Acts, offences against	3		3							
Medical and Dentistry Acts, offences against	1	1	2							
Militia Acts "										
Miscellaneous minor offences										
Municipal Acts and By-Laws, breaches of	40		31		9					
Exercising various callings without license	4	2	6			1		1		
Health By-laws, offences against	4	1	5							
Highways, offences relating to	34	2	32		4					
Neglecting to support family	5				5					
Pharmacy Acts, offences against										
Profanation of the Lord's Day										
Railway Acts, offences against						4		4		
Revenue Laws "										
Seamen Acts "										
Statute Labour, offences relating to	12		12							
Threats and abusive language	2		2			7	3	9		1
Trespass	4	1	4		1					
Vagrancy	39	3		34	8	10			10	
Drunkenness	75	1	67		9	20		20		
Indecent exposure	11		11							
Insulting, obscene and profane language	10		10			1		1		
Keeping, frequenting bawdy houses and inmates thereof	6	1	6	1			1	1		
Loose, idle, disorderly	18		18			2		2		
Weights and Measures Acts, offences against										
Insanity	4	1			5					
Totals	334	15	265	38	46	107	5	99	10	3

TABLEAU III.—Condamnations sommaires par magistrats de police et autres juges de paix.

PROVINCE D'ONTARIO—*Suite.*

PRINCE EDWARD.					RENFREW.					OFFENSES.
Convictions Total Condamnations.	Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.		Convictions Total Condamnations.	Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.		
M.	F.				M.	F.				
										Falsification de substances alimentaires.
7		3		4	50	2	52			Voies de fait.
					14		14			Perturbation de la paix.
					1		1			Port d'armes illégal.
										Mépris de cour.
					1		1			Cruauté envers les animaux.
										Perturbation de réunions religieuses et autres
					1		1			Infractions aux lois des pêcheries.
1		1				1	1			" défendant le jeu.
					10	1	11			" de chasse.
										Incorrigible.
										Larcin.
										Vol de chiens, oiseaux, etc.
										" bois, arbres, fruits, etc.
					2	2	4			Infractions aux lois des licences de boissons.
										Contraventions aux lois de tempérance du Canada.
3		3			11	3	14			Vente de boissons durant les heures défendues.
					1		1			" sans licente.
										Contravention à la loi relative à la vente de boisson aux Sauvages.
1		1								Dommages malicieux à la propriété.
					1		1			Autres dommages à la propriété.
										Infractions aux lois concernant les maîtres et serviteurs.
										Inf. aux lois concernant la méd. et les dent.
										" de la milice.
										Divers petits délits.
					9		9			Contraventions aux lois municipales.
1		1			10		10			Pratiquant divers états sans licence.
										Infractions aux lois sur l'hygiène publique
					13		13			Délits ayant rapport aux chemins publics.
										Néglig. de pourvoir aux besoins de la famille.
										Inf. aux lois concernant les pharmaciens.
					4		4			Profanation du dimanche.
					5		5			Infractions aux lois des chemins de fer.
3		3								Délits contre le revenu de l'Etat.
										Infractions aux lois maritimes.
										Délits ayant rapport à la corvée.
1				1	3		3			Menaces et langage injurieux.
					2		2			Empiètement.
					8	4	5	7		Vagabondage.
27		27			43	1	43	1		Ivresse.
										Exposition indécente.
1		1			22	6	27	1		Langage insultant, obscène, profane.
										Tenant, habitant et fréquentant des maisons de désordre.
1		1			34		34			Conduite déréglée.
										Infractions aux lois des poids et mesures.
2				2						Aliénation mentale
48		41		7	245	20	256	9		Totaux.

TABLE III.—Summary convictions by police magistrates and other justices.

OFFENCES.	PROVINCE OF ONTARIO—*Continued.*									
	SIMCOE.					STORMONT, DUNDAS AND GLENGARRY.				
	Convictions Total Condamnations.		Sentence.			Convictions Total Condamnations.		Sentence.		
			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.
	M.	F.				M.	F.			
Adulteration of food										
Assaults	54	1	55			20	2	21		1
Breach of peace	10		10			2		2		
Carrying fire-arms and unlawful weapons	1		1			1		1		
Contempt of court										
Cruelty to animals	4		3		1	2		2		
Disturbing religious and like meetings	1		1							
Fishery Acts, offences against	1		1							
Gambling Acts "						4		4		
Game laws "										
Incorrigible		2		2						
Larceny	1		1			1		1		
" of dogs, birds, &c										
" of timber, trees, fruits, &c	1		1							
Liquor License Acts, offences against	10		10			5	1	6		
Breach of Canada Temperance Act										
Selling liquor during prohibited hours	3		3			7	2	9		
" without license						4		4		
Violation of Indian liquor law	5		1	3	1					
Malicious injury to property	2		2							
Other damage to property	5		5			4		4		
Master's and Servant's Acts, offences against	3		3							
Medical and Dentistry Acts, offences against										
Militia Acts "										
Miscellaneous minor offences										
Municipal Acts and By-laws, breaches of	17	1	17		1	13		12		1
Exercising various callings without license	3		3			9		9		
Health By-laws, offences against	3		3							
Highways, offences relating to	55	2	57			16		16		
Neglecting to support family	1				1	1				1
Pharmacy Acts, offences against										
Profanation of the Lord's Day	2		2			4		4		
Railway Acts, offences against	24		17	4	3	18		18		
Revenue Laws "										
Seamen Acts "										
Statute Labour, offences relating to										
Threats and abusive language	17	2	18		1	3		3		
Trespass	14		13		1	1		1		
Vagrancy	22		9	10	3	8	2	1	8	1
Drunkenness	117	3	111	4	5	31	1	32		
Indecent exposure	2		2			2		2		
Insulting, obscene and profane language	10		10			6		6		
Keeping, frequenting bawdy houses and inmates thereof		2	2							
Loose, idle, disorderly	15		15			12		12		
Weights and Measures Acts, offences against										
Insanity	1				1	3				3
Totals	404	13	376	23	18	177	8	170	8	7

TABLEAU III.—Condamnations sommaires par magistrats de police et autres juges de paix.

PROVINCE D'ONTARIO—*Suite.*

THUNDER BAY AND RAINY RIVER.					VICTORIA.					OFFENSES.
		Sentence.					Sentence.			
Convictions Total Condamnations.		Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	Convictions Total Condamnations.		Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	
M.	F.				M.	F.				
										Falsification de substances alimentaires.
46	1	46		1	57		54		3	Voies de fait.
3		2		1	8		8			Perturbation de la paix.
3		3								Port d'armes illégal.
										Mépris de cour.
3		2		1						Cruauté envers les animaux.
3		3								Perturbation de réunions religieuses et autres
										Infractions aux lois des pêcheries.
										" défendant le jeu.
					2		2			" de chasse.
										Incorrigible.
18		14		4						Larcin.
										Vol de chiens, oiseaux, etc.
										" bois, arbres, fruits, etc.
19	2	21			3		3			Infractions aux lois des licences de boissons.
										Contraventions aux lois de tempérance du Canada.
6		6								Vente de boissons durant les heures défendues
3	7	10								" sans licence.
13	1	10	3	1						Contravention à la loi relative à la vente de boisson aux Sauvages.
5		5								Dommages malicieux à la propriété.
8	1	9			1		1			Autres dommages à la propriété.
11		11			1	1	2			Infractions aux lois concernant les maitres serviteurs.
					1		1			Inf. aux lois concernant la méd. et les dent.
										" de la milice.
										Divers petits délits.
37		36		1	21	4	23		2	Contraventions aux lois municipales.
2		2			5		5			Pratiquant divers états sans licence.
15		15			1		1			Infractions aux lois sur l'hygiène publique.
7		7			8		8			Délits ayant rapport aux chemins publics.
										Néglig. de pourvoir aux besoins de la famille.
					1		1			Infrac. aux lois concernant les pharmaciens
2		2								Profanation du dimanche.
2		2								Infractions aux lois des chemins de fer.
										Délits contre le revenu de l'Etat.
										Infractions aux lois maritimes.
										Délits ayant rapport à la corvée.
2		2			16		16			Menaces et langage injurieux.
5		5								Empiètement.
30	5	22	7	6	16			12	4	Vagabondage.
624	22	486	36	124	90	1	87		4	Ivresse.
2		2								Exposition indécente.
14		13		1	7		7			Langage insultant, obscène, profane.
7	72	79								Tenant, habitant et fréquentant des maisons de désordre.
50	12	55	1	6	28		22		6	Conduite déréglée.
										Infractions aux lois des poids et mesures.
					3				3	Aliénation mentale.
940	123	870	47	146	269	6	241	12	22	Totaux.

TABLE III.—Summary convictions by police magistrates and other justices.

OFFENCES.	PROVINCE OF ONTARIO—*Continued.*									
	WATERLOO.					WELLAND.				
	Convictions Total Condamnations.		Sentence.			Convictions Total Condamnations.		Sentence.		
			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.
	M.	F.				M.	F.			
Adulteration of food										
Assaults	26	1	26		1	65	3	58	1	9
Breach of peace	18		18			1		1		
Carrying fire-arms and unlawful weapons	4		3		1					
Contempt of court						1		1		
Cruelty to animals	4		3	1		4		2		2
Disturbing religious and like meetings										
Fishery Acts, offences against										
Gambling Acts "										
Game Laws "						2		2		
Incorrigible										
Larceny						13	2	11		4
" of dogs, birds, &c										
" of timber, trees, fruits, &c										
Liquor License Acts, offences against	20		20			2		2		
Breach of Canada Temperance Act										
Selling liquor during prohibited hours	4	1	5			3		3		
" without license						3		3		
Violation of Indian liquor law										
Malicious injury to property						1				1
Other damage to property	1		1			12		4		8
Master's and Servant's Acts, offences against	6	1	7			2	1	3		
Medical and Dentistry Acts, offences against	1		1							
Militia Acts "	1		1			1				1
Miscellaneous minor offences										
Municipal Acts and By-laws, breaches of	26	1	23		4	53	2	47		8
Exercising various callings without license						2		2		
Health By-laws, offences against						2		1		1
Highways, offences relating to	15		15			3		3		
Neglecting to support family	1				1	3				3
Pharmacy Acts, offences against	1		1							
Profanation of the Lord's Day						10		10		
Railway Acts, offences against	5		4	1		118		91	3	24
Revenue Laws "										
Seamen Acts "										
Statute Labour, offences relating to										
Threats and abusive language	5		2		3	11		6		5
Trespass	14		12		2	29		17	3	9
Vagrancy	46	1	28	16	3	150	5	26	86	43
Drunkenness	30		30			19		17		2
Indecent exposure										
Insulting, obscene and profane language	14	2	15		1	8	1	8		1
Keeping, frequenting bawdy houses and inmates thereof	3	6	9							
Loose, idle, disorderly	39		39			246	1	195	1	51
Weights and Measures Acts, offences against										
Insanity	1	1			2	2	2			4
Totals	285	14	263	18	18	766	17	513	94	176

TABLEAU III.—Condamnations sommaires par magistrats de police et autres juges de paix.

PROVINCE D'ONTARIO—*Suite.*

WELLINGTON.						WENTWORTH.						OFFENSES.
Convictions. Total Condamnations.		Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc		Convictions Total Condamnations.		Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.		
M.	F.					M.	F.					
												Falsification de substances alimentaires.
35		34		1		58	4	61		1		Voies de fait.
						15		14		1		Perturbation de la paix.
2		2				4		4				Port d'armes illégal.
												Mépris de cour.
2		2				8		8				Cruauté envers les animaux.
												Perturbation de réunions religieuses et autres.
												Infractions aux lois des pêcheries.
						3		3				" défendant le jeu.
						1		1				" de chasse.
												Incorrigible.
2		1		1		8		1		7		Larcin.
												Vol de chiens, oiseaux, etc.
												" bois, arbres, fruits, etc.
26	2	28				15		15				Infractions aux lois des licences de boissons.
												Contraventions aux lois de tempérance du Canada.
1	2	3				4		4				Vente de boissons durant les heures défendues
2		2										" sans licence.
												Contravention à la loi relative à la vente de boisson aux Sauvages.
						3		3				Dommages malicieux à la propriété.
8		8				19		17		2		Autres dommages à la propriété.
						3	1	2		2		Infractions aux lois concernant les maîtres et serviteurs.
												Inf. aux lois concernant la méd. et les dent.
												" de la milice.
												Divers petits délits.
17	1	18				175	13	163		25		Contraventions aux lois municipales.
5		5				3		3				Pratiquant divers états sans licence.
3		3										Infractions aux lois sur l'hygiène publique.
12		12				3		3				Délits ayant rapport aux chemins publics.
												Néglig. de pourvoir aux besoins de la famille.
												Infrac. aux lois concernant les pharmaciens.
2				2		11		10		1		Profanation du dimanche.
8		8				12		12				Infractions aux lois des chemins de fer.
												Délits contre le revenu de l'Etat.
												Infractions aux lois maritimes.
												Délits ayant rapport à la corvée.
8		6		2		3		1		2		Menaces et langage injurieux.
1		1				22	1	21	1	1		Empietement.
24		4	20			45	4	28	29	1		Vagabondage.
39	2	41				568	35	601	2			Ivresse.
3		2		1								Exposition indécente.
2		2				10		10				Langage insultant, obscène, profane.
												Tenant, habitant et fréquentant des maisons de désordre.
86		82	1	3		131	10	139		2		Conduite déréglée.
												Infraction aux lois des poids et mesures.
1				1								Aliénation mentale.
289	7	264	21	11		1124	68	1.124	23	45		Totaux.

TABLE III.—Summary convictions by police magistrates and other justices.

PROVINCE OF ONTARIO—*Concluded.*

PROVINCE D'ONTARIO—*Fin.*

OFFENCES.	YORK.					Totals of Ontario. — Totaux d'Ontario.				
	Convictions Total Condamnations.		Sentence. Option of a fine. — Sur option	Committed without option — Emprisonnés sans option.	Deferre &c. — Remise, etc.	Convictions Total Condamnations.		Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.
	M.	F.				M.	F.			
Adulteration of food						1		1		
Assaults	207	26	144	6	83	1571	62	1,467	9	157
Breach of peace	17	1	7		11	492	21	396	3	24
Carrying fire-arms and unlawful weapons	31		29		2	78	1	74	2	3
Contempt of court						7		7		
Cruelty to animals	144		136		8	256		234	2	20
Disturbing religious and like meetings	3		3			29	1	30		
Fishery Acts, offences against						27		26		1
Gambling Acts "	24	2	25		1	104	3	106		1
Game Laws "						64	1	65		
Incorrigible						10	7		17	
Larceny	27		10		17	175	7	109	2	71
" of dogs, birds, &c						17	1	11	2	5
" of timber, trees, fruits, &c	1		1			9	2	7		4
Liquor License Acts, offences against	61	9	70			486	41	527		
Breach of Canada Temperance Act										
Selling liquor during prohibited hours						143	15	158		
" without license						88	16	103	1	
Violation of Indian liquor law						68	4	62	8	2
Malicious injury to property		1	1			14	1	13	1	1
Other damage to property	49	5	24		30	269	12	234		47
Master's and Servant's Acts, offences against	56		54		2	243	14	242		15
Medical and Dentistry Acts, offences against	4		4			17	2	19		
Militia Acts "	5		1		4	11		5		6
Miscellaneous minor offences						1		1		
Municipal Acts and By-laws, breaches of	2623	236	2,138	1	720	4076	360	3,573	301	796
Exercising various callings without license	1		1			134	10	144		
Health By-laws, offences against	3	1	4			58	2	58		2
Highways, offences relating to	3		3			426	5	417		14
Neglecting to support family	2				2	29		6	2	21
Pharmacy Acts, offences against						5		5		
Profanation of the Lord's Day	96	7	71		32	179	8	150		37
Railway Acts, offences against	3		3			328		266	10	52
Revenue Laws "	7		4		3	23		20		3
Seamen Acts "										
Statute Labour, offences relating to						43		43		
Threats and abusive language	6	1	1		6	180	17	155	3	39
Trespass	342	15	301	1	55	607	20	543	5	79
Vagrancy	215	57	121	88	63	1347	155	459	810	233
Drunkenness	1005	339	1,329		15	5576	471	5,639	91	317
Indecent exposure	3		3			58	1	57		2
Insulting, obscene and profane language	6	2	6		2	388	57	426	3	16
Keeping, frequenting bawdy houses and inmates thereof	74	104	106	30	42	130	322	345	58	49
Loose, idle, disorderly	911	35	721	2	223	2216	70	1,968	11	307
Weights and Measures Acts, offences against	3	1	4			15	2	17		
Insanity	2				2	63	18			81
Totals	5934	842	5,325	128	1,323	19065	1669	18,188	1,041	2,405

TABLEAU III.—Condamnations sommaires par magistrats de police et autres juges de paix.

PROVINCE OF MANITOBA.

PROVINCE DU MANITOBA.

CENTRAL—CENTRE.					EASTERN—EST.					OFFENSES
Convictions Total Condamnations.		Sentence.			Convictions Total Condamnations.		Sentence.			
		Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	
M.	F.				M.	F.				
										Falsification de substances alimentaires.
27		26		1	180	8	159		29	Voies de fait.
5		5			17		14		3	Perturbation de la paix.
3		2	1		28		18		10	Port d'armes illégal.
					1		1			Mépris de cour.
3		3			12		10		2	Cruauté envers les animaux.
					3		3			Perturbation de réunions religieuses et autres
										Infractions aux lois des pêcheries.
1		1			83	1	64		20	" défendant le jeu.
8		8			2		2			" de chasse.
					1			1		Incorrigible.
11		9		2	7		6		1	Larcin.
										Vol de chiens, oiseaux, etc.
										" bois, arbres, fruits, etc.
7		6		1	10		10			Infractions aux lois des licences de boissons.
										Contraventions aux lois de tempérance du Canada.
3		3			5		5			Vente de boissons durant les heures défendues
7	2	8	1		1	1	2			" sans licence.
22	1	22		1	10	1	10	1		Contravention à la loi relative à la vente de boisson aux Sauvages..
1		1			6		6			Dommages malicieux à la propriété.
11		11			44	1	36		9	Autres dommages à la propriété.
37	4	41			210	11	221			Infractions aux lois concernant les maitres et serviteurs.
										Inf. aux lois concernant la méd. et les dent.
										" de la milice.
										Divers petits délits.
65	1	63		3	368	5	350		23	Contraventions aux lois municipales.
8		7		1	93	1	84		10	Pratiquant divers états sans licence.
					434	9	384		59	Infractions aux lois sur l'hygiène publique.
3		3			355	2	324		33	Délits ayant rapport aux chemins publics.
						1			1	Négligé de pourvoir aux besoins de la famille.
					1		1			Infract. aux lois concernant les pharmaciens.
1		1			98		98			Profanation du dimanche.
9		7	2		6		2		4	Infractions aux lois des chemins de fer.
										Délits contre le revenu de l'Etat.
										Infractions aux lois maritimes.
										Délits ayant rapport à la corvée.
2		2			35	2	12		25	Menaces et langage injurieux.
3		3			25		14		11	Empêtement.
16		2	8	6	236	23	5	76	178	Vagabondage.
264	2	258	1	7	2893	134	2,594	1	432	Ivresse.
3		3			10		10			Exposition indécente.
11		11			7		7			Langage insultant, obscène, profane.
					16	13	26	2	1	Tenant, habitant et fréquentant des maisons de désordre.
9		8		1	218	4	174		48	Conduite déréglée.
										Infractions aux lois des poids et mesures.
4	1			5						Aliénation mentale.
544	11	514	13	28	5415	217	4,652	81	899	Totaux.

TABLE III.—Summary convictions by police magistrates and other justices.

OFFENCES.	PROVINCE OF MANITOBA—*Concluded.* / PROVINCE DU MANITOBA—*Fin.*									
	SOUTHERN—SUD.					WESTERN—OUEST.				
	Convictions Total Condamnations.		Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	Convictions Total Condamnations.		Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.
	M.	F.				M.	F.			
Adulteration of food										
Assaults	7		7			28	1	29		
Breach of peace	2		2			1		1		
Carrying fire-arms and unlawful weapons	1		1							
Contempt of court										
Cruelty to animals										
Disturbing religious and like meetings						1		1		
Fishery Acts, offences against										
Gambling Acts "										
Game Laws "						2		2		
Incorrigible										
Larceny	1		1			9		6		3
" of dogs, birds, &c										
" of timber, trees, fruits, &c										
Liquor License Acts, offences against						1		1		
Breach of Canada Temperance Act										
Selling liquor during prohibited hours	1		1							
" without license						1		1		
Violation of Indian liquor law						1	1	1	1	
Malicious injury to property										
Other damage to property	1		1			3		3		
Master's and Servant's Acts, offences against	13		13			15	2	17		
Medical and Dentistry Acts, offences against										
Militia Acts, offences against										
Miscellaneous minor offences										
Municipal Acts and By-laws, breaches of	10	1	11			56	1	56		1
Exercising various callings without license										
Health By-laws, offences against										
Highways, offences relating to										
Neglecting to support family										
Pharmacy Acts, offences against										
Profanation of the Lord's Day										
Railway Acts, offences against										
Revenue Laws "										
Seamen Acts "										
Statute Labour, offences relating to										
Threats and abusive language										
Trespass						28		16		12
Vagrancy						29	4		17	16
Drunkenness	48		48			189		171	1	17
Indecent exposure						1			1	
Insulting, obscene and profane language		1	1			7	1	8		
Keeping, frequenting bawdy houses and inmates thereof						16	41	56	1	
Loose, idle, disorderly						12	1	12	1	
Weights and Measures Acts, offences against										
Insanity	1				1	4				4
Totals	85	2	86		1	404	52	381	22	53

TABLEAU III.—Condamnations sommaires par magistrats de police et autres juges de paix.

PROVINCE OF BRITISH COLUMBIA.
—
PROVINCE DE LA COLOMBIE-BRITANNIQUE.

VANCOUVER.					VICTORIA.					OFFENSES.
Convictions Total Condamnations.		Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	Convictions Total Condamnations.		Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	
M.	F.				M.	F.				
										Falsification de substances alimentaires.
30		24		6	9		9			Voies de fait.
16		15		1	2		1		1	Perturbation de la paix.
1		1			1		1			Port d'armes illégal.
										Mépris de cour.
2		2			1		1			Cruauté envers les animaux.
1		1								Perturbation de réunions religieuses et autres.
					3		3			Infractions aux lois des pêcheries.
					47		47			" défendant le jeu.
3		3			4		4			" de chasse.
1			1		1			1		Incorrigible.
6		6			2		1		1	Larcin.
										Vol de chiens, oiseaux, etc.
										" bois, arbres, fruits, etc.
21		20		1						Infractions aux lois des licences de boissons.
										Contraventions aux lois de tempérance du Canada.
3		3								Vente de boissons durant les heures défendues
										" sans licence.
58	17	62	11	2	35	2	33	4		Contravention à la loi relative à la vente de boisson aux Sauvages.
										Dommages malicieux à la propriété.
12		12			6		4		2	Autres dommages à la propriété.
1				1						Infractions aux lois concernant les maîtres et serviteurs.
										Inf. aux lois concernant la méd. et les dent.
					3		3			" de la milice.
										Divers petits délits.
107	1	99		9						Contraventions aux lois municipales.
4		4								Pratiquant divers états sans licence.
42		41		1						Infractions aux lois sur l'hygiène publique.
46		45		1						Délits ayant rapport aux chemins publics.
1				1						Néglig. de pourvoir aux besoins de la famille.
										Infract. aux lois concernant les pharmaciens.
										Profanation du dimanche.
7		7								Infractions aux lois des chemins de fer.
										Délits contre le revenu de l'Etat
1		1								Infractions aux lois maritimes.
										Délits ayant rapport à la corvée.
7		2		5						Menaces et langage injurieux.
7		4		3						Empiétement.
186	9	21	74	100	6	1	1	6		Vagabondage.
623	25	590	21	37	250	8	257	1		Ivresse.
					5		4	1		Exposition indécente.
11	2	13			8		2		6	Langage insultant, obscène, profane.
18	33	33	10	8	1	2	3			Tenant, habitant et fréquentant des maisons de désordre.
1		1			1		1			Conduite déréglée.
										Infractions aux lois des poids et mesures.
										Aliénation mentale.
1216	87	1,010	117	176	385	13	375	13	10	Totaux.

TABLE III.—Summary convictions by police magistrates and other justices.

OFFENCES.	PROVINCE OF BRITISH COLUMBIA—*Concluded.* / PROVINCE DE LA COLOMBIE-BRITANNIQUE—*Fin.*									
	WESTMINSTER.					YALE AND CARIBOO.				
	Convictions Total Condamnations.		Sentence.			Convictions Total Condamnations.		Sentence.		
			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.
	M.	F.				M.	F.			
Adulteration of food										
Assaults	2	2	4			29	1	28		2
Breach of peace	8		8			12	2	11	2	1
Carrying fire-arms and unlawful weapons	2		2							
Contempt of court						2		1	1	
Cruelty to animals						1		1		
Disturbing religious and like meetings										
Fishery Acts, offences against										
Gambling Acts "	2		2			30		26		4
Game Laws "	2		2			7		7		
Incorrigible										
Larceny						4	2	3		3
" of dogs, birds, &c										
" of timber, trees, fruits, &c										
Liquor License Acts, offences against	3		3			6	1	4	1	2
Breach of Canada Temperance Act										
Selling liquor during prohibited hours						4		4		
" without license						1		1		
Violation of Indian liquor law	39	5	19	21	4	46	9	46	4	5
Malicious injury to property						2		2		
Other damage to property	7	1	8			12		8		4
Master's and Servant's Acts, offences against										
Medical and Dentistry Acts, offences against										
Militia Acts " "										
Miscellaneous minor offences										
Municipal Acts and By-laws, breaches of	26		25		1	24	1	25		
Exercising various callings without license	1		4			4	1	5		
Health By-laws, offences against	5		5			3		3		
Highways, offences relating to						3		3		
Neglecting to support family										
Pharmacy Acts, offences against										
Profanation of the Lord's Day	1		1							
Railway Acts, offences against										
Revenue Laws "	2		2							
Seamen Acts "										
Statute Labour, offences relating to										
Threats and abusive language	2		2			4			1	3
Trespass	1	1	2							
Vagrancy	14			2	12	33	36	40	22	7
Drunkenness	144	4	141	3	4	263	24	185	16	26
Indecent exposure	1			1		1		1		
Insulting, obscene and profane language	6	1	6	1		6	2	7	1	
Keeping, frequenting bawdy houses and inmates thereof	16	48	59	1	4	13	235	206	41	1
Loose, idle, disorderly	28		1	4	20	2		1		1
Weights and Measures Acts, offences against										
Insanity	1				1					
Totals	316	62	299	33	46	452	314	618	89	59

TABLEAU III.—Condamnations sommaires par magistrats de police et autres juges de paix.

THE TERRITORIES—LES TERRITOIRES.

Alberta, Northern—Nord.					Alberta, Southern—Sud.					OFFENSES.
Convictions Total Condamnations.		Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	Convictions Total Condamnations.		Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	
M.	F.				M.	F.				
										Falsification de substances alimentaires.
118	6	118		6	70	8	71		7	Voies de fait.
20		20			15	1	15	1		Perturbation de la paix.
3		3			7		7			Port d'armes illégal.
1		1								Mépris de cour.
17	1	17		1	2		2			Cruauté envers les animaux.
										Perturbation de réunions religieuses et autres
2		2			1		1			Infractions aux lois des pêcheries.
19		19								" défendant le jeu.
10		9		1	1		1			" de chasse.
										Incorrigible.
32	2	14		20	13	1	7		7	Larcin.
					9		3		6	Vol de chiens, oiseaux, etc.
3		3			4		3		1	" bois, arbres, fruits, etc.
10	2	12			15	2	16		1	Infractions aux lois des licences de boissons.
										Contraventions aux lois de tempérance du Canada.
1		1			2		2			Vente de boissons durant les heures défendues
2	3	5			4	5	9			" sans licence.
54	5	42	17		75	7	56	22	2	Contravention à la loi relative à la vente de boisson aux Sauvages.
					2			2		Dommages malicieux à la propriété.
14		13		1	25		17		8	Autres dommages à la propriété.
74		21	9	44	24		20		4	Infractions aux lois concernant les maîtres et serviteurs.
4		3	1							Inf. aux lois concernant la méd. et les dent.
3			3							" de la milice.
										Divers petits délits.
112		108	1	3	41		39		2	Contraventions aux lois municipales.
					4		3		1	Pratiquant divers états sans licence.
4		4			7	1	7		1	Infractions aux lois sur l'hygiène publique.
36		36			56		49	1	6	Délits ayant rapport aux chemins publics.
1				1						Néglig. de pourvoir aux besoins de la famille.
										Infract. aux lois concernant les pharmaciens.
2		2			6		6			Profanation du dimanche.
24		8	16		14		10	4		Infractions aux lois des chemins de fer.
					2		1		1	Délits contre le revenu de l'Etat.
										Infractions aux lois maritimes.
										Délits ayant rapport à la corvée.
5		2		3	5	1	2	1	3	Menaces et langage injurieux.
1		1			10		7		3	Empiétement.
65	2	21	45	1	51		19	27	5	Vagabondage.
269	4	214	52	7	264	1	207	33	25	Ivresse.
1			1		3		1		2	Exposition indécente.
7		7			12	1	8	4	1	Langage insultant, obscène, profane.
42	80	118	4		25	32	52		5	Tenant, habitant et fréquentant des maisons de désordre.
6		6			6		4	1	1	Conduite déréglée.
										Infractions aux lois des poids et mesures.
21	7			28	7	2			9	Aliénation mentale.
983	112	830	149	116	780	62	645	96	101	Totaux.

TABLE III.—Summary convictions by police magistrates and other justices.

OFFENCES.	THE TERRITORIES—*Concluded.*											
	Assiniboia, Eastern—Est.					Assiniboia, Western—Ouest.						
	Convictions Total Condamnations.		Sentence.			Convictions Total Condamnations.		Sentence.				
			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.		
	M.	F.				M.	F.					
Adulteration of food												
Assaults	132	5	133		4	92	4	93		3		
Breach of peace	17		16		1	27		26	1			
Carrying fire-arms and unlawful weapons	6		6			8		5	3			
Contempt of court	1			1		1		1				
Cruelty to animals	11		10		1	2		2				
Disturbing religious and like meetings						1			1			
Fishery Acts, offences against	3		3			2		2				
Gambling Acts "	5		5			1		1				
Game Laws "	12		12			4		4				
Incorrigible												
Larceny	41		30		11	59	4	48		15		
" of dogs, birds, &c	3		3									
" of timber, trees, fruits, &c	29		28		1							
Liquor License Acts, offences against	21		21			4	1	5				
Breach of Canada Temperance Act												
Selling liquor during prohibited hours												
" without license	4		4			3	2	5				
Violation of Indian liquor law	52		32	15	5	13		10	3			
Malicious injury to property	5		5			1			1			
Other damage to property	28		20		8	20		18		2		
Master's and Servant's Acts, offences against	40		16		24	40		29		11		
Medical and Dentistry Acts, offences against	2		2			1		1				
Militia Acts "						1		1				
Miscellaneous minor offences												
Municipal Acts and By-laws, breaches of	106	2	106		2	46		46				
Exercising various callings without license	21		21			5		5				
Health By-laws, offences against	25		25			23		22		1		
Highways, offences relating to	3		3			1				1		
Neglecting to support family	1				1							
Pharmacy Acts, offences against												
Profanation of the Lord's Day	7		7									
Railway Acts, offences against	27		16	11		87		61	26			
Revenue Laws "						9		6	3			
Seamen Acts "												
Statute Labour, offences relating to												
Threats and abusive language	9		6	1	2	9		7		2		
Trespass	5		5			10		7		3		
Vagrancy	32		8	18	6	134	2	54	72	10		
Drunkenness	268	1	244	18	7	303	3	258	32	16		
Indecent exposure	6		5	1		4		2	2			
Insulting, obscene and profane language	7		7			3		3				
Keeping, frequenting bawdy houses and inmates thereof	6	1	4		3	15	4	17	2			
Loose, idle, disorderly	5		5			25	1	23	1	2		
Weights and Measures Acts, offences against												
Insanity	18	6			24	16	2			18		
Totals	958	15	808	65	100	970	23	762	147	84		

TABLEAU III.—Condamnations sommaires par magistrats de police et autres juges de paix.

LES TERRITOIRES—*Fin.*										
SASKATCHEWAN.					YUKON.				OFFENSES.
Convictions Total Condamnations.		Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	Convictions Total Condamnations.		Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	
M.	F.				M.	F.				
										Falsification de substances alimentaires.
75	7	79		3	21	1	22			Voies de fait.
7		7			5		5			Perturbation de la paix.
7		7			2		2			Port d'armes illégal.
2		1	1							Mepris de cour.
8		8			2		2			Cruauté envers les animaux.
										Perturbation de réunions religieuses et autres.
										Infractions aux lois des pêcheries.
2		1	1		46		7		39	" défendant le jeu.
5		4	1		2		2			" de chasse.
										Incorrigible.
27		16		11	1		1			Larcin.
										Vol de chiens, oiseaux, etc.
7		5		2						" bois, arbres, fruits, etc.
15	1	16			17	1	18			Infractions aux lois des licences de boissons.
										Contraventions aux lois de tempérance du Canada.
1		1			1		1			Vente de boissons durant les heures défendues.
7		7			2	14	16			" sans licence.
12	4	4	12		10		6	4		Contravention à la loi relative à la vente de boisson aux Sauvages.
										Dommages malicieux à la propriété.
8		8			2		1		1	Autres dommages à la propriété.
15		7		8	13		13			Infractions aux lois concernant les maîtres et serviteurs.
										Inf. aux lois concernant la méd. et les dent.
										" de la milice.
										Divers petits délits.
49	1	46	1	3	14	1	9		5	Contraventions aux lois municipales.
7		7			1		1			Pratiquant divers états sans licence.
8		7		1	1				1	Inf. aux lois sur l'hygiène publique.
1		1			2		1		1	Délits ayant rapport aux chemins publics.
										Néglig. de pourvoir aux besoins de la famille.
										Infract. aux lois concernant les pharmaciens.
2		2								Profanation du dimanche.
										Infractions aux lois des chemins de fer.
					1		1			Délits contre le revenu de l'Etat.
										Infractions aux lois maritimes.
										Délits ayant rapport à la corvée.
1					3		2	1		Menaces et langage injurieux.
5		5								Empiétement.
31	2	20	10	3	9			2	7	Vagabondage.
228	4	196	22	14	176	9	117	10	58	Ivresse.
3		3				1	1			Exposition indécente.
3		3			1				1	Langage insultant, obscène, profane.
6	5	11				1	1			Tenant, habitant et fréquentant des maisons de désordre.
7		6		1	7		7			Conduite déréglée.
										Infractions aux lois des poids et mesures.
5	2			7	8	2			10	Aliénation mentale.
554	26	478	48	54	347	30	237	17	123	Totaux.

TABLE III.—Summary convictions by police magistrates and other justices.

PRINCE EDWARD ISLAND—ILE DU PRINCE-EDOUARD.

OFFENCES.	1904.					1905.				
	Convictions Total Condamnations.		Sentence.			Convictions Total Condamnations.		Sentence.		
			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.
	M.	F.				M.	F.			
Adulteration of food										
Assaults	9		9			4		4		
Breach of peace	3		3			10		10		
Carrying fire-arms and unlawful weapons										
Contempt of court	2		2			1		1		
Cruelty to animals	2		2							
Disturbing religious and like meetings	6		6							
Fishery Acts, offences against										
Gambling Acts "						1		1		
Game Laws "										
Incorrigible										
Larceny										
" of dogs, birds, &c.										
" of timber, trees, fruits, &c										
Liquor License Acts, offences against										
Breach of Canada Temperance Act	44	15	49	7	3	64	10	74		
Selling liquor during prohibited hours										
" without license										
Violation of Indian liquor law										
Malicious injury to property										
Other damage to property	2		2							
Master's and Servant's Acts, offences against										
Medical and Dentistry Acts "										
Militia Acts "										
Miscellaneous minor offences										
Municipal Acts and By-Laws, breaches of	25		25			23	1	24		
Exercising various callings without license						2		2		
Health By-laws, offences against						2		2		
Highways, offences relating to	1		1			18		18		
Neglecting to support family										
Pharmacy Acts, offences against										
Profanation of the Lord's Day										
Railway Acts, offences against										
Revenue Laws "										
Seamen Acts "	2		1	1						
Statute Labour, offences relating to										
Threats and abusive language	4	1	5			1		1		
Trespass										
Vagrancy	3	1		3	1	4	2		6	
Drunkenness	285	3	288			171	1	172		
Indecent exposure										
Insulting, obscene and profane language	2		2			4		4		
Keeping, frequenting bawdy houses and inmates thereof.										
Loose, idle, disorderly	9	2	11			5	2	7		
Weights and Measures Acts, offences against										
Insanity						3	2			5
Totals	399	22	406	11	4	313	18	320	6	5

TABLEAU III.—Condamnations sommaires par magistrats de police et autres juges de paix.

NOVA SCOTIA—NOUVELLE-ECOSSE.

1904.					1905.					OFFENSES.
Convictions Total Condamnations.		Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	Convictions Total Condamnations.		Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	
M.	F.				M.	F.				
...	...	...	...	...	...	...	...	...	...	Falsification de substances alimentaires.
241	9	227	1	22	226	18	210	...	34	Voies de fait.
173	44	190	11	16	141	37	172	3	3	Perturbation de la paix.
8	...	8	...	...	3	...	3	...	...	Port d'armes illégal.
3	...	3	...	...	3	...	3	...	...	Mépris de cour.
10	...	10	...	...	21	...	21	...	...	Cruauté envers les animaux.
12	1	13	...	...	8	...	7	1	...	Perturbation de réunions religieuses et autres
28	...	28	...	...	38	...	38	...	...	Infractions aux lois des pêcheries.
1	...	1	...	...	6	...	4	...	2	" défendant le jeu.
...	...	...	...	...	...	...	...	...	...	" de chasse.
...	...	...	...	...	...	...	...	...	...	Incorrigible.
6	...	6	...	...	13	...	12	...	1	Larcin.
...	...	...	...	...	...	...	...	...	...	Vol de chiens, oiseaux, etc.
...	...	...	...	...	4	...	1	...	3	" bois, arbres, fruits, etc.
49	15	64	...	...	84	33	115	1	1	Infractions aux lois des licences de boissons.
234	11	234	11	...	223	11	230	4	...	Contraventions aux lois de tempérance du Canada.
1	...	1	...	...	1	...	1	...	...	Vente de boissons durant les heures défendues
54	7	61	...	...	79	15	93	1	...	" sans licence.
...	...	...	...	...	...	...	...	...	...	Contravention à la loi relative à la vente de boisson aux Sauvages.
4	...	4	...	...	1	...	1	...	...	Dommages malicieux à la propriété.
68	1	65	...	4	70	3	72	...	1	Autres dommages à la propriété.
...	...	...	...	...	...	...	...	...	...	Infractions aux lois concernant les maitres serviteurs.
1	...	1	...	...	1	...	1	...	...	Inf. aux lois concernant la méd. et les dent.
1	...	...	...	1	1	...	...	...	1	" de la milice.
2	...	...	...	2	...	...	...	...	...	Divers petits délits.
139	5	99	44	1	194	11	185	17	3	Contraventions aux lois municipales.
9	...	9	...	...	23	...	23	...	...	Pratiquant divers états sans licence.
8	...	8	...	...	1	...	1	...	...	Infractions aux lois sur l'hygiène publique.
25	...	25	...	...	47	...	47	...	...	Délits ayant rapport aux chemins publics.
5	4	6	...	3	1	...	...	1	...	Négligé. de pourvoir aux besoins de la famille.
...	...	...	...	...	...	...	...	...	...	Infrac. aux lois concernant les pharmaciens
1	1	2	...	...	1	...	...	1	...	Profanation du dimanche.
17	...	13	...	4	5	...	5	...	...	Infractions aux lois des chemins de fer.
...	...	...	...	...	2	...	2	...	...	Délits contre le revenu de l'Etat.
9	...	6	3	...	23	...	9	2	12	Infractions aux lois maritimes.
...	...	...	...	...	1	...	1	...	...	Délits ayant rapport à la corvée.
40	15	33	...	22	51	2	30	...	23	Menaces et langage injurieux.
8	...	8	...	...	4	...	4	...	...	Empiètement.
55	11	53	8	5	71	14	63	12	10	Vagabondage.
2257	87	2,262	53	29	2423	106	2,451	37	41	Ivresse.
11	1	9	3	...	4	...	3	...	1	Exposition indécente.
76	9	84	...	1	121	10	131	...	...	Langage insultant, obscène, profane.
4	15	9	10	...	5	4	5	2	2	Tenant, habitant et fréquentant des maisons de désordre.
20	3	21	...	2	59	3	60	...	2	Conduite déréglée.
...	...	...	...	...	...	...	...	...	...	Infractions aux lois des poids et mesures.
...	...	...	...	...	6	2	...	...	8	Aliénation mentale.
3580	239	3,563	144	112	3965	269	4,004	82	148	..... Totaux.

TABLE III.—Summary convictions by police magistrates and other justices.

OFFENCES.	NEW BRUNSWICK NOUVEAU-BRUNSWICK.									
	1904.					1905.				
	Convictions Total Condamnations.		Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	Convictions Total Condamnations.		Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.
	M.	F.				M.	F.			
Adulteration of food										
Assaults	117	5	111		11	96	9	103	2	
Breach of peace	74	2	69		7	33	4	36	1	
Carrying fire-arms and unlawful weapons	3		2		1					
Contempt of court										
Cruelty to animals	8	1	9			2		2		
Disturbing religious and like meetings	11		11			6		6		
Fishery Acts, offences against										
Gambling Acts "										
Game Laws "	18		18			27		27		
Incorrigible										
Larceny						4		2	1	1
" of dogs, birds, &c										
" of timber, trees, fruits, &c.										
Liquor License Acts, offences against	3	1	3		1	18		18		
Breach of Canada Temperance Act	348	10	357	1		270	8	278		
Selling liquor during prohibited hours	8		8			3		3		
" without license	4	1	5			25	3	28		
Violation of Indian liquor law										
Malicious injury to property	4		3		1					
Other damage to property	17		17			12		12		
Master's and Servant's Acts, offences against	1				1					
Medical and Dentistry Acts, offences against										
Militia Acts "										
Miscellaneous minor offences										
Municipal Acts and By-laws, breaches of	44	1	44		1	26	1	27		
Exercising various callings without license	2		2			1		1		
Health By-laws, offences against	2		2			2	1	3		
Highways, offences relating to	13	1	14			9		9		
Neglecting to support family						2		2		
Pharmacy Acts, offences against										
Profanation of the Lord's Day						3	1	4		
Railway Acts, offences against	23		22		1	9		9		
Revenue Laws "	4		3	1						
Seamen Acts "	14		1	7	6	14		10	4	
Statute Labour, offences relating to										
Threats and abusive language	27	3	24		6	9	2	11		
Trespass	1		1							
Vagrancy	85	4	33	16	40	43	3	23	18	5
Drunkenness	1628	48	1,643	7	26	1679	55	1,733	1	
Indecent exposure	4		4			4		4		
Insulting, obscene and profane language	39	2	39		2	34	5	38	1	
Keeping, frequenting bawdy houses and inmates thereof	19	16	21	13	1	19	25	21	19	13
Loose, idle, disorderly	3		3			4		3	1	
Weights and Measures Acts, offences against										
Insanity	3	2			5	5	4			9
Totals	2527	97	2,469	45	110	2359	121	2,413	39	28

TABLEAU III.—Condamnations sommaires par magistrats de police et autres juges de paix.

QUEBEC.

1904.					1905.					
Convictions Total Condamnations.		Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	Convictions Total Condamnations.		Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	OFFENSES.
M.	F.				M.	F.				
4	...	4	...	...	26	1	27	...	...	Falsification de substances alimentaires.
706	100	742	17	47	661	99	700	...	60	Voies de fait.
221	3	216	...	8	195	12	191	2	14	Perturbation de la paix.
29	...	25	...	4	9	...	9	...	...	Port d'armes illégal.
1	...	1	...	...	6	...	5	1	...	Mépris de cour.
111	1	107	1	4	101	1	99	1	2	Cruauté envers les animaux.
45	3	47	...	1	17	1	18	...	...	Perturbation de réunions religieuses et autres
8	1	9	...	...	17	...	17	...	...	Infractions aux lois des pêcheries.
72	1	57	...	16	59	...	55	...	4	" défendant le jeu.
15	2	16	...	1	19	...	18	...	1	" de chasse.
...	...	...	...	...	...	...	...	...	...	Incorrigible.
28	1	26	...	3	58	3	47	2	12	Larcin.
1	...	1	...	...	...	...	...	...	...	Vol de chiens, oiseaux, etc.
2	...	...	...	2	2	...	2	...	...	" bois, arbres, fruits, etc.
86	18	102	1	1	161	23	184	...	...	Infractions aux lois des licences de boissons.
...	...	...	...	...	...	...	...	...	...	Contraventions aux lois de tempérance du Canada.
90	11	101	...	...	141	7	148	...	...	Vente de boissons durant les heures défendues.
299	71	368	1	1	423	95	516	1	1	" sans licence.
8	...	8	...	...	8	...	8	...	...	Contravention à la loi relative à la vente de boisson aux Sauvages.
...	...	...	...	...	1	1	2	...	...	Dommages malicieux à la propriété.
198	18	193	...	23	191	21	197	1	14	Autres dommages à la propriete.
23	...	20	...	3	69	9	74	1	3	Infractions aux lois concernant les maîtres et serviteurs.
4	...	4	...	...	...	...	...	...	...	Inf. aux lois concernant la méd. et les dent.
...	...	...	...	...	1	...	1	...	...	" de la milice.
...	...	...	...	...	...	...	...	...	...	Divers petits délits.
430	24	428	...	26	557	46	582	...	21	Contraventions aux lois municipales.
117	1	117	...	1	366	11	360	...	17	Pratiquant divers états sans licence.
13	...	13	...	...	79	5	83	...	1	Infractions aux lois sur l'hygiene publique
10	...	10	...	...	39	1	33	...	7	Délits ayant rapport aux chemins publics.
8	...	3	1	4	19	...	9	1	9	Négligence de pourvoir aux besoins de la famille.
14	1	5	...	10	...	...	...	...	...	Inf. aux lois concernant les pharmaciens.
...	...	...	...	...	12	3	15	...	...	Profanation du dimanche.
282	1	258	8	17	58	...	40	11	7	Infractions aux lois des chemins de fer.
5	...	4	1	...	10	...	10	...	...	Délits contre le revenu de l'Etat.
84	...	14	66	4	23	...	3	20	...	Infractions aux lois maritimes.
...	...	...	...	...	...	...	...	...	...	Délits ayant rapport à la corvée.
161	14	59	...	56	40	11	26	1	24	Menaces et langage injurieux.
31	2	32	...	1	35	...	29	1	5	Empietement.
1372	373	1,221	255	269	1580	468	1,346	314	388	Vagabondage.
3404	582	3,345	251	390	4055	726	3,902	288	591	Ivresse.
43	8	43	6	2	21	3	21	2	1	Exposition indécente.
12	1	13	...	...	6	4	10	...	...	Langage insultant, obscène, profane.
209	281	425	11	54	283	578	779	44	38	Tenant, habitant et fréquentant des maisons de désordre.
54	2	48	6	2	182	11	166	12	15	Conduite déréglée.
2	...	2	...	...	2	...	2	...	...	Infractions aux lois des poids et mesures.
...	...	...	...	...	43	18	...	...	61	Aliénation mentale
8142	1520	8,087	625	950	9575	2158	9,734	703	1,296	....Totaux.

TABLE III.—Summary convictions by police magistrates and other justices.

OFFENCES.	ONTARIO.									
	1904.					1905.				
	Convictions Total Condamnations.		Sentence.			Convictions Total Condamnations.		Sentence.		
			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.			Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.
	M.	F.				M.	F.			
Adulteration of food	9	12	12			1	1	1		
Assaults	1615	76	1559	2		130	1571	62	1467	9	157
Breach of peace	245	15	243	7		10	402	21	396	3	24
Carrying fire-arms and unlawful weapons	75		69	4		2	78	1	74	2	3
Contempt of court	11		11				7		7		
Cruelty to animals	281		266			15	256		234	2	20
Disturbing religious and like meetings	33	1	28			6	29	1	30		
Fishery Acts, offences against	61		59			2	27		26		1
Gambling Acts "	117		111			6	104	3	106		1
Game laws "	61		57			4	64	1	65		
Incorrigible	13	2		15			10	7		17	
Larceny	109	3	73			39	175	7	109	2	71
" of dogs, birds, &c	12		12				17	1	11	2	5
" of timber, trees, fruits, &c	14		8			6	9	2	7		4
Liquor License Acts, offences against	636	55	687	4			486	41	527		
Breach of Canada Temperance Act											
Selling liquor during prohibited hours	188	16	204				143	15	158		
" without license	67	6	73				88	16	103	1	
Violation of Indian liquor law	60		55	5			68	4	62	8	2
Malicious injury to property	9	1	8	2			14	1	13	1	1
Other damage to property	371	13	300			84	269	12	234		47
Master's and Servant's Acts, offences against	240	1	232	4		5	243	14	242		15
Medical and Dentistry Acts, offences against	20	10	30				17	2	19		
Militia Acts "	3		1			2	11		5		6
Miscellaneous minor offences	3		2			1	1		1		
Municipal Acts and By-laws, breaches of	2988	114	2573	1		528	4070	300	3573	1	796
Exercising various callings without license	82	3	75			10	134	10	144		
Health By-laws, offences against	36		34			2	58	2	58		2
Highways, offences relating to	414	17	429			2	426	5	417		14
Neglecting to support family	22	1	12	5		6	29		6	2	21
Pharmacy Acts, offences against	2		2				5		5		
Profanation of the Lord's Day	167	4	101	1		69	179	8	150		37
Railway Acts, offences against	576		476	20		80	328		266	10	52
Revenue Laws "	16		15			1	23		20		3
Seamen Acts "											
Statute Labour, offences relating to	7		7				43		43		
Threats and abusive language	362	27	351	2		36	180	17	155	3	39
Trespass	683	21	588	15		101	607	20	543	5	79
Vagrancy	1113	133	427	594		225	1347	155	459	810	233
Drunkenness	4996	469	5010	94		361	5576	471	5639	91	317
Indecent exposure	64	3	60	4		3	58	1	57		2
Insulting, obscene and profane language	340	46	380	2		4	388	57	426	3	16
Keeping, frequenting bawdy houses and inmates thereof	136	315	366	41		44	130	322	345	58	49
Loose, idle, disorderly	2041	71	1750	19		343	2216	70	1968	11	307
Weights and Measures Acts, offences against	9	1	6			4	15	2	17		
Insanity	39	9				48	63	18			81
Totals	18446	1433	16762	841		2180	19965	1659	18188	1041	2405

TABLEAU III.—Condamnations sommaires par magistrats de police et autres juges de paix.

MANITOBA.										
1904.					1905.					
Convictions Total Condamnations.		Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	Convictions Total Condamnations.		Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	OFFENSES.
M.	F.				M.	F.				
										Falsification de substances alimentaires.
199	5	190		14	250	9	229		30	Voies de fait.
3		3			32		29		3	Perturbation de la paix.
31		24	1	6	32		21	1	10	Port d'armes illégal.
					1		1			Mépris de cour.
16		14		2	15		13		2	Cruauté envers les animaux.
2		1		1	4		4			Perturbation de réunions religieuses et autres.
										Infractions aux lois des pêcheries.
5		5			85	1	66		20	" défendant le jeu.
3		3			12		12			" de chasse.
					1			1		Incorrigible.
6		6			29		23		6	Larcin.
										Vol de chiens, oiseaux, etc.
										" bois, arbres, fruits, etc.
39	1	34	1	5	24		23		1	Infractions aux lois des licences de boissons.
										Contraventions aux lois de tempérance du Canada.
19	1	18		2	11		11			Vente de boissons durant les heures défendues.
24	1	25			9	3	11	1		" sans licence.
33	4	34	2	1	33	3	33	2	1	Contravention à la loi relative à la vente de boisson aux Sauvages.
6		6			7		7			Dommages malicieux à la propriété.
49	2	48			62	1	54		9	Autres dommages à la propriété.
199	2	201			286	17	303			Infractions aux lois concernant les maîtres et serviteurs.
1		1								Inf. aux lois concernant la méd. et les dent.
										" de la milice.
										Divers petits délits.
483	8	458		33	505	8	486		27	Contraventions aux lois municipales.
14		14			101	1	91		11	Pratiquant divers états sans licence.
62	3	60		5	434	9	384		59	Infractions aux lois sur l'hygiène publique.
142		126		16	358	2	327		33	Délits ayant rapport aux chemins publics.
						1			1	Négligé de pourvoir aux besoins de la famille.
					1		1			Infract. aux lois concernant les pharmaciens
223	8	231			99		99			Profanation du dimanche.
58		46	2	10	15		9	2	4	Infractions aux lois des chemins de fer.
6		6								Délits contre le revenu de l'Etat.
										Infractions aux lois maritimes.
										Délits ayant rapport à la corvée.
28		14		14	37	2	14		25	Menaces et langage injurieux.
31	1	16		16	56		33		23	Empiètement.
145	22	5	50	112	281	27	7	101	200	Vagabondage.
2425	80	2328	18	159	3408	136	3085	3	456	Ivresse.
15		12	1	2	14		13	1		Exposition indécente.
14		12		2	26	2	28			Langage insultant, obscène, profane.
104	214	310	4	4	32	54	82	3	1	Tenant, habitant et fréquentant des maisons de désordre.
149	3	135		17	239	5	194	1	49	Conduite déréglée.
										Infractions aux lois des poids et mesures.
1				1	8	1			9	Aliénation mentale.
4535	355	4386	79	425	6507	282	5633	116	980	Totaux.

TABLE III.—Summary convictions by police magistrates and other justices.

OFFENCES.	BRITISH COLUMBIA—COLOMBIE-BRITANNIQUE.									
	1904.					1905.				
	Convictions Total Condamnations.		Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	Convictions Total Condamnations.		Sentence. Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.
	M.	F.				M.	F.			
Adulteration of food										
Assaults	108	5	96		17	74	3	69		8
Breach of peace	35	1	29	4	3	40	2	37	2	3
Carrying fire-arms and unlawful weapons	13		13			4		4		
Contempt of court		1		1		2		1	1	
Cruelty to animals	13		9	1	3	5		5		
Disturbing religious and like meetings						1		1		
Fishery Acts, offences against						3		3		
Gambling Acts "	190		183		7	83		79		4
Game Laws "	11		10		1	16		16		
Incorrigible						2			2	
Larceny	8		5		3	13	2	11		4
" of dogs, birds, &c										
" of timber, trees, fruits, &c										
Liquor License Acts, offences against	6		3		3	32	1	29	1	3
Breach of Canada Temperance Act										
Selling liquor during prohibited hours	4		4			7		7		
" without license		1	1			1		1		
Violation of Indian liquor law	115	7	110	10	2	181	34	164	40	11
Malicious injury to property	2		1	1		2		2		
Other damage to property	24	1	24		1	37	1	32		6
Master's and Servant's Acts, offences against						1				1
Medical and Dentistry Acts, offences against										
Militia Acts, offences against						3		3		
Miscellaneous minor offences										
Municipal Acts and By-laws, breaches of	74	5	72		7	157	2	149		10
Exercising various callings without license	4		4			13	1	14		
Health By-laws, offences against	32		28		4	50		49		1
Highways, offences relating to	67	1	67		1	53		52		1
Neglecting to support family	3		1		2	1				1
Pharmacy Acts, offences against	1		1							
Profanation of the Lord's Day						1		1		
Railway Acts, offences against	13		8	5		7		7		
Revenue Laws "	13		11		2	2		2		
Seamen Acts "	24		5	5	14	1		1		
Statute Labour, offences relating to										
Threats and abusive language	5		2	1	2	13		4	1	8
Trespass						8	1	6		3
Vagrancy	233	16	28	110	111	239	46	62	104	119
Drunkenness	1183	105	1,211	16	61	1223	61	1,176	41	67
Indecent exposure	15		11	4		7		5	2	
Insulting, obscene and profane language	12	1	12		1	33	5	30	2	6
Keeping, frequenting bawdy houses and inmates thereof	53	460	497	9	7	48	319	302	52	13
Loose, idle, disorderly						32		7	4	21
Weights and Measures Acts, offences against	4		4							
Insanity						1				1
Totals	2265	604	2,450	167	252	2396	478	2,331	252	291

TABLEAU III.—Condamnations sommaires par magistrats de police et autres juges de paix.

THE TERRITORIES—LES TERRITOIRES.

1904.						1905.					
Convictions Total Condamnations.		Sentence.				Convictions Total Condamnations.		Sentence.			OFFENSES
		Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.				Option of a fine. — Sur option	Committed without option. — Emprisonnés sans option.	Deferred &c. — Remise, etc.	
M.	F.					M.	F.				
...	...	...	...	...	...	...	...	...	...	...	Falsification de substances alimentaires.
399	17	393	...	23	508	31	516	...		23	Voies de fait.
154	5	130	10	19	91	1	89	2		1	Perturbation de la paix.
37	1	28	4	6	33	...	30	3	...		Port d'armes illégal.
6	1	5	...	2	5	...	3	2	..		Mépris de cour.
33	..	28	3	2	42	1	41	...	...	2	Cruauté envers les animaux.
...	...	...	...	...	1	...	...	...	1	...	Perturbation de réunions religieuses et autres
42	...	32	...	10	8	..	8	...	..	...	Infractions aux lois des pêcheries.
79	...	51	...	28	73	...	33	1		39	" défendant le jeu.
40	...	38	...	2	34	..	32	1		1	" de chasse.
...	...	...	...	...	...	...	...	...	...	..	Incorrigible.
114	5	91	...	28	173	7	116	...		64	Larcin.
3	...	3	...	...	12	..	6	...		6	Vol de chiens, oiseaux, etc.
44	...	44	...	...	43	...	39	...		4	" bois, arbres, fruits, etc.
92	11	86	13	4	82	7	88	...		1	Infractions aux lois des licences de boissons.
...	...	...	...	...	...	...	...	...		...	Contraventions aux lois de tempérance du Canada.
15	...	15	...	...	5	...	5	...		...	Vente de boissons durant les heures défendues
12	16	28	...	...	22	24	46	...		...	" sans licence.
188	13	111	80	10	214	16	150	73		7	Contravention à la loi relative à la vente de boisson aux Sauvages..
7	.	4	2	1	8	...	5	3		...	Dommages malicieux à la propriété.
72	1	71	...	2	97	...	77	...		20	Autres dommages à la propriété.
207	3	119	2	89	206	...	106	9		91	Infractions aux lois concernant les maitres et serviteurs.
5	1	6	...	...	7	...	6	1		...	Inf. aux lois concernant la méd. et les dent.
9	...	7	2	...	4	...	1	3		...	" de la milice.
1	...	...	1	...	...	...	...	...		...	Divers petits délits.
217	5	185	7	30	368	4	355	2		15	Contraventions aux lois municipales.
17	...	17	...	...	38	...	37	...		1	Pratiquant divers états sans licence.
21	...	19	...	2	68	1	65	...		4	Infractions aux lois sur l'hygiène publique.
13	...	12	...	1	99	.	90	1		8	Délits ayant rapport aux chemins publics.
1	...	...	1	...	2	...	...	...		2	Négligence de pourvoir aux besoins de la famille.
4	...	3	...	1	...	...	...	...		...	Infract. aux lois concernant les pharmaciens.
21	...	21	...	...	17	...	17	...		...	Profanation du dimanche.
122	1	84	35	4	152	...	95	57		..	Infractions aux lois des chemins de fer.
2	...	2	...	...	12	...	8	3		1	Délits contre le revenu de l'Etat.
1	...	1	...	...	...	..	...	...		...	Infractions aux lois maritimes.
...	...	...	...	...	...	..	...	...		...	Délits ayant rapport à la corvée.
32	..	30	...	2	32	1	19	3		11	Menaces et langage injurieux.
34	...	31	3	...	31	...	25	...		6	Empiétement.
275	6	116	144	21	322	6	122	174		32	Vagabondage.
1292	51	1,092	126	125	1508	22	1,236	167		127	Ivresse.
13	...	11	2	...	17	1	12	4		2	Exposition indécente.
37	2	35	2	2	33	1	28	4		2	Langage insultant, obscène, profane.
69	89	151	4	3	94	123	203	6		8	Tenant, habitant et fréquentant des maisons de désordre.
70	2	63	1	3	56	1	51	2		4	Conduite déréglée.
...	...	...	...	...	...	...	...	...		...	Infractions aux lois des poids et mesures.
70	24	...	...	94	75	21	...	...		96	Aliénation mentale.
3870	254	3,163	447	514	4592	268	3,760	522		578	.....Totaux.

TABLEAU III.—Condamnations sommaires par magistrats de police et autres juges de paix.

CANADA.

OFFENSES	1904. Convictions Total Condamnations. M.	1904. F.	1904. Sentence. Option of a fine. — Sur option	1904. Committed without option. — Emprisonnés sans option.	1904. Deferred &c. — Remise, etc.	1905. Convictions Total Condamnations. M.	1905. F.	1905. Sentence. Option of a fine. — Sur option	1905. Committed without option. — Emprisonnés sans option.	1905. Deferred &c. — Remise, etc.
Adulteration of food	13	4	16		1	27	1	28		
Assaults	3394	217	3327	20	264	3390	231	3298	11	312
Breach of peace	908	70	883	32	63	944	77	960	13	48
Carrying firearms and unlawful weapons	196	1	169	9	19	159	1	141	6	13
Contempt of court	23	2	22	1	2	25		21	4	
Cruelty to animals	474	2	445	5	26	442	2	415	3	26
Disturbing religious and like meetings	109	5	106		8	66	2	66	2	
Fishery Acts, offences against	139	1	128		12	93		92		1
Gambling Acts "	464	1	408		57	411	4	344	1	70
Game Laws "	148	2	142		8	172	1	170	1	2
Incorrigible	13	2		15		13	7		20	
Larceny	271	9	207		73	465	19	320	5	159
" of dogs, birds, &c	16		16			29	1	17	2	11
" of timber, trees, fruits, &c	60		52		8	58	2	49		11
Liquor License Acts, offences against	911	101	979	19	14	887	105	984	2	6
Breach of Canada Temperance Act	626	36	640	19	3	557	29	582	4	
Selling liquor during prohibited hours	325	28	351		2	311	22	333		
" without license	460	103	561	1	1	647	156	798	4	1
Violation of Indian liquor law	404	24	318	97	13	504	57	417	123	21
Malicious injury to property	32	1	26	5	2	33	2	30	4	1
Other damage to property	801	36	720		117	738	38	678	1	97
Master's and Servant's Acts, offences against	670	6	572	6	98	805	40	725	10	110
Medical and Dentistry Acts, offences against	31	11	42			25	2	26	1	
Militia Acts "	13		8	2	3	20		10	3	7
Miscellaneous minor offences	6		2	1	3	1		1		
Municipal Acts and By-laws, breaches of	4400	162	3884	52	626	5006	373	5381	20	872
Exercising various callings without license	245	4	238		11	678	23	672		29
Health By-laws, offences against	174	3	164		13	694	18	645		67
Highways, offences relating to	685	19	684		20	1049	8	993	1	63
Neglecting to support family	39	5	22	7	15	54	1	17	4	34
Pharmacy Acts, offences against	21	1	11		11	6		6		
Profanation of the Lord's Day	412	13	355	1	69	312	12	286	1	37
Railway Acts, offences against	1091	2	907	70	116	574		431	80	63
Revenue Laws "	46		41	2	3	49		42	3	4
Seamen Acts "	134		28	82	24	61		23	26	12
Statute Labour, offences relating to	7		7			44		44		
Threats and abusive language	599	60	518	3	138	363	35	260	8	130
Trespass	788	24	676	18	118	741	21	640	6	116
Vagrancy	3281	566	1883	1180	784	3887	721	2082	1539	987
Drunkenness	17420	1425	17179	565	1151	20042	1352	19394	628	1599
Indecent exposure	165	12	150	20	7	125	5	115	9	6
Insulting, obscene and profane language	532	61	577	4	12	645	84	695	10	24
Keeping, frequenting bawdy houses and inmates thereof	594	1390	1779	92	113	611	1425	1737	175	124
Loose, idle, disorderly	2346	83	2031	31	367	2793	92	2456	31	398
Weights and Measures Acts, offences against	15	1	12		4	17	2	19		
Insanity	113	35			148	204	66			270
Totals	43064	4728	41286	2359	4547	49672	5263	46443	2761	5731

TABLE IV.

NUMBER OF PERSONS FINED AND AMOUNTS OF FINES.

TABLEAU IV.

NOMBRE DE PERSONNES MISES À L'AMENDE ET MONTANTS DES AMENDES.

TABLE IV. Number of persons fined and amounts of fines.

SUMMARY CONVICTIONS.	PRINCE EDWARD ISLAND. — ILE DU PRINCE-EDOUARD.					NOVA SCOTIA. — NOUVELLE-ECOSSE.				
	No. of persons fined. — Nombre de personnes mises à l'amende	Amount of fines, costs or damages. — Montant des amendes, frais ou dommages.			No. of pers. com. to jail in defa'lt to pay fines. — Nomb. de per. mises en prison à défaut de payer l'am.	No. of persons fined. — Nombre de personnes mises à l'amende	Amount of fines, costs or damages. — Montant des amendes, frais ou dommages.			No. of pers. com. to jail in defa'lt to pay fines. — Nomb. de per. mises en prison à défaut de payer l'am.
		Total am'nt. — Montant total.	Paid. — Payé.	Not paid. — Non payé.			Total am'nt. — Montant total.	Paid. — Payé.	Not paid. — Non payé.	
		$	$	$			$	$	$	
Adulteration of food										
Assaults	4	10	1	9		210	1,503	1,200	303	17
Breach of peace	10	25	16	9	1	172	844	802	42	2
Carrying fire-arms & unlawf. weapons						3	35	35		
Contempt of court	1	5		5		3	18	18		
Cruelty to animals						21	159	134	25	1
Disturbing religious & like meetings						7	48	31	17	1
Fishery Acts, offences against						38	1,465	1,327	138	1
Gambling Acts "	1	5	5			4	35	35		
Game Laws "										
Larceny						12	85	85		
" of dogs, birds, etc.										
" of timber, trees, fruits, &c.						1	2	2		
Liquor License Acts, offences against						115	4,040	3,573	467	6
Breach of Canada Temperance Act	74	6,822	3,451	3,371	14	230	12,495	10,651	1,844	21
Selling liquor during prohib'd hours						1	50	50		
" without license						93	5,244	3,385	1,859	4
Violation of Indian liquor law										
Malicious injury to property						1	15	15		
Other damage to property						72	361	325	36	6
Master's and Servant's Acts, offences against.										
Medical & Dent'y Acts, off. against						1	12	12		
Militia Acts, offences against										
Miscellaneous minor offences										
Munic. Acts & By-laws, breaches of	24	28	7	21	16	185	464	459	5	
Exercis'g various callings with't lic.	2	2		2		23	146	146		
Health By-laws, offences against	2	9	9			1	13	13		
Highways, offences relating to	18	63	40	23		47	173	168	5	1
Neglecting to support family										
Pharmacy Acts, offences against										
Profanation of the Lord's Day										
Railway Acts, offences against						5	20	20		
Revenue Laws "						2	175	175		
Seamen Acts "						9	19	7	12	
Statute Labour, offences relating to						1	2	2		
Threats and abusive language	1	10	10			30	118	107	11	
Trespass						4	32	32		
Vagrancy						63	988	438	550	17
Drunkenness	172	1,145	490	655	44	2,451	8,916	7,802	1,114	195
Indecent exposure						3	17	17		
Insulting, obscene & prof. language	4	38	38			131	372	308	64	15
Keeping, frequenting bawdy houses and inmates thereof.						5	220	220		
Loose, idle, disorderly	7	45		45	3	60	234	227	7	2
Weights & Meas. Acts, offenc. against										
Totals	320	8,207	4,067	4,140	78	4,004	38,320	31,821	6,499	289

TABLEAU IV. Nombre de personnes mises à l'amende et montants des amendes.

NEW BRUNSWICK, — NOUVEAU-BRUNSWICK.					QUEBEC.					CONDAMNATIONS SOMMAIRES.
No. of persons fined. — Nombre de personnes mises à l'amende	Amount of fines, costs or damages. — Montant des amendes, frais ou dommages. Total am'nt. — Montant total.	Paid. — Payé.	Not paid. — Non payé.	No. of per. com. to jail in defa'lt to pay fines. — Nomb. de per. mises en prison à défaut de payer l'am.	No. of persons fined. — Nombre de personnes mises à l'amende	Amount of fines, costs or damages. — Montant des amendes, frais ou dommages. Total am'nt. — Montant total.	Paid. — Payé.	Not paid. — Non payé.	No. of pers. com. to jail in defa'lt to pay fines. — Nomb. de per. mises en prison à défaut de payer l'am.	
	$	$	$			$	$	$		
.....	.....	.....	.....	.....	27	320	320	.....	.....	Falsification de subst. alimentaires.
103	1,135	651	484	18	700	5,300	3,552	1,747	152	Voies de fait.
36	411	183	228	9	191	870	687	183	55	Perturbation de la paix.
.....	.....	.....	.....	.....	9	152	114	38	3	Port d'armes illegal.
.....	.....	.....	.....	.....	5	22	22	.....	.....	Mépris de cour.
2	15	15	.....	.....	99	446	412	34	2	Cruauté envers les animaux.
6	80	80	.....	.....	18	135	85	50	2	Perturb. de réunions relig. et autres.
.....	.....	.....	.....	.....	17	105	60	45	2	Infractions aux lois des pêcheries.
.....	.....	.....	.....	.....	55	1,070	1,070	.....	.....	" défendant le jeu.
27	1,086	638	448	4	18	549	365	184	2	" de chasse.
2	27	7	20	.....	47	345	171	174	19	Larcin.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Vol de chiens, oiseaux, etc.
.....	.....	.....	.....	.....	2	14	14	.....	.....	" bois, arbres, fruits, etc.
18	485	345	140	2	184	6,318	6,143	175	2	Infrac. aux lois des lic. de boissons.
278	14,255	13,224	1,031	7	.....	.....	.....	.....	.....	Contravention aux lois de tempérance du Canada.
3	250	250	.....	.....	148	5,168	5,168	.....	.....	Vente de boiss. dur. les heures déf.
28	1,600	1,150	450	5	516	26,310	25,062	1,248	20	" sans licence.
.....	.....	.....	.....	.....	8	300	300	.....	.....	Contravention à la loi ralative à la vente de boisson aux Sauvages.
.....	.....	.....	.....	.....	2	59	59	.....	.....	Dommages malicieux à la propriété.
12	154	49	105	4	197	1,247	786	461	55	Autres dommages à la propriété.
.....	.....	.....	.....	.....	74	843	272	571	31	Infractions aux lois concernant les maitres et serviteurs.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Inf. aux lois conc. la méd. et les dent.
.....	.....	.....	.....	.....	1	3	3	.....	.....	Infractions aux lois de la milice.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Divers petits délits.
27	141	114	27	2	582	1,779	1,614	165	24	Contravention aux lois municipales.
1	11	11	.....	.....	360	1,845	1,700	145	5	Pratiq. divers états sans licence.
3	32	12	20	.....	83	346	331	15	1	Int. aux lois sur l'hygiène pub.
9	67	47	20	.....	33	93	93	.....	.....	Délits ayant rap. aux chem. pub.
2	14	14	.....	.....	9	94	13	81	4	Négligence de pourvoir aux besoins de la famille.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Inf. aux lois conc. les pharmaciens.
4	8	8	.....	.....	15	737	737	.....	.....	Profanation du dimanche.
9	66	10	56	3	40	342	204	138	12	Infrac. aux lois des chemins de fer.
.....	.....	.....	.....	.....	10	1,210	610	600	1	Délits contre le revenu de l'Etat.
10	32	24	8	.....	3	6	6	.....	.....	Infractions aux lois maritimes.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Délits ayant rapport à la corvée.
11	83	40	43	1	26	151	120	31	1	Menaces et langage injurieux.
.....	.....	.....	.....	.....	29	89	64	25	2	Empiètement.
23	392	32	360	14	1,346	11,656	3,654	8,002	668	Vagabondage.
1,733	8,244	4,708	3,536	187	3,902	19,501	6,800	12,692	1,883	Ivresse.
4	31	13	18	2	21	308	190	118	4	Exposition indécente.
38	248	91	157	18	10	81	57	24	1	Langage insultant, obscène et profane.
21	1,120	1,025	95	1	779	17,253	11,486	5,767	200	Tenant, habitant et fréquentant des maisons de désordre.
3	12	12	.....	.....	166	811	523	288	48	Conduite dereglée.
.....	.....	.....	.....	.....	2	52	52	.....	.....	Inf. aux lois des poids et mesures.
2,413	29,999	22,753	7,246	277	9,734	105930	72,928	33,002	3,197	..... Totaux

TABLE IV.—Number of persons fined and amounts of fines.

SUMMARY CONVICTIONS.	ONTARIO.					MANITOBA.				
	No. of persons fined. — Nombre de personnes mises à l'amende	Amount of fines, costs or damages. — Montant des amendes, frais ou dommages.			No. of pers. com. to jail in defa'lt to pay fine. — Nomb. de per. mises en prison à défaut de payer l'am.	No. of persons fined. — Nombre de personnes mises à l'amende	Amount of fines, costs or damages. — Montant des amendes, frais ou dommages.			No. of pers. com. to jail in defa'lt to pay fine. — Nomb. de per. mises en prison à défaut de payer l'am.
		Total am'nt. — Montant total.	Paid. — Payé.	Not paid. — Non payé.			Total am'nt — Montant total.	Paid. — Payé.	Not paid. — Non payé.	
		$	$	$			$	$	$	
Adulteration of food	1	28	28							
Assaults	1,467	7,489	6,648	841	54	229	1,368	1,241	127	8
Breach of peace	396	1,926	1,389	537	36	29	171	169	2	
Carrying fire-arms & unlawf. weapons	74	593	331	262	24	21	189	189		
Contempt of court	7	60	58	2	1	1	2	2		
Cruelty to animals	234	916	862	114	4	13	92	92		
Disturb'g religious & like meetings	30	107	79	28	3	4	34	34		
Fishery Acts, offences against	26	247	247							
Gambling Acts "	106	1,573	1,253	320	11	66	1,968	1,838	130	2
Game Laws "	65	954	789	165		12	255	225	30	
Larceny	109	685	509	176	4	23	244	238	6	2
" of dogs, birds, &c	11	63	43	20	1					
" of timber, trees, fruits, &c.	7	24	19	5						
Liquor License Acts, offences against	527	11,534	10,623	911	16	23	991	891	100	1
Breach of Canada Temperance Act										
Selling liq. during prohib'd hours	158	3,977	3,869	108	1	11	563	583		
" without license	103	5,395	4,780	615	3	11	863	863		
Violation of Indians liquor law	62	1,435	1,327	108	4	33	406	356	50	
Malicious injury to property	13	374	334	40	2	7	226	226		
Other damage to property	234	1,167	970	197	18	54	358	321	37	3
Master's and Servant's Acts, offences against	242	3,239	1,932	1,307	6	303	7,498	7,014	484	3
Medical & Dent'y Acts, off. against	19	530	530							
Militia Acts, offences against	5	20	20							
Miscellaneous minor offences	1	20		20	1					
Munic. Acts & By-laws, breaches of	3,573	8,354	7,537	817	51	486	1,294	1,135	159	3
Exerc'g various callings with't lic.	144	1,976	1,825	151	5	91	385	345	40	1
Health By-laws, offences against	58	246	228	18	1	384	1,347	1,347		
Highways, offences relating to	417	1,087	1,018	69	6	327	1,145	1,139	6	2
Neglecting to support family	6	84	14	70	2					
Pharmacy Acts, offences against	5	106	106			1	20	20		
Profanation of the Lord's Day	150	368	363	5		99	347	347		
Railway Acts, offences against	266	1,073	464	609	85	9	28	14	14	2
Revenue Laws "	20	439	137	302						
Seamen Acts "										
Statute Labour, offences relating to	43	67	62	5	1					
Threats and abusive language	155	731	596	135	7	14	119	97	22	1
Trespass	543	1,412	737	675	38	33	237	120	117	10
Vagrancy	459	2,851	590	2,261	324	7	60	35	25	2
Drunkenness	5,639	18,466	11,114	7,332	1,740	3,085	14,014	10,915	3,099	629
Indecent exposure	57	441	307	134	5	13	80	80		
Insulting, obscene & prof. language	426	1,551	1,391	160	15	28	223	203	20	
Keeping, frequenting bawdy houses and inmates thereof	345	5,722	4,565	1,157	63	82	1,346	1,223	123	5
Loose, idle, disorderly	1,968	6,283	4,703	1,580	256	194	1,117	1,031	86	15
Weights & Meas. Acts, offen. against	17	103	103							
Totals	18,188	93,696	72,440	21,256	2,788	5,693	37,010	32,333	4,677	689

TABLEAU IV.—Nombre de personnes mises à l'amende et montants des amendes.

British Columbia. — Colombie-Britannique.					N.-W. Territories and Yukon. — Ter. du Nord-Ouest et le Yukon.					
No. of persons fined. — Nombre de personnes mises à l'amende	Amount of fines, costs or damages. — Montant des amendes, frais ou dommages. Total am'nt. — Montant total	Paid. — Payé.	Not paid. — Non payé.	No. of pers. com.to jail in defa'lt to pay fine. — Nomb. de per. mises en prison à défaut de payer l'am.	No. of persons fined. — Nombre de personnes mises à l'amende	Amount of fines, costs or damages. — Montant des amendes, frais ou dommages. Total am'nt. — Montant total.	Paid. — Payé.	Not paid. — Non payé.	No. of pers. com.to jail in defa'lt to pay fine. — Nomb. de per. mises en prison à défaut de payer l'am.	CONDAMNATIONS SOMMAIRES.
	$	$	$			$	$	$		
										Falsificat. des subst. alimentaires.
69	661	615	46	5	516	3,690	3,690			Voies de fait.
37	323	308	15	2	89	575	575			Perturbation de la paix.
4	57	37	20		30	447	447			Port d'armes illégal.
1	10	10			3	20	20			Mépris de cour.
5	60	60			41	488	488			Cruauté envers les animaux.
1	8	8								Perturb. de réunions relig. et autres.
3	47	47			8	64	64			Infractions aux lois des pêcheries.
79	2,284	1,681	603	21	33	595	595			" défendant le jeu.
16	207	267			32	350	350			" de chasse.
11	213	71	142	4	116	1,166	1,166			Larcin.
					6	108	108			Vol de chiens, oiseaux, etc.
					39	333	333			" bois, arbres, fruits, etc.
29	494	469	25	2	88	3,846	3,640	205	1	Infrac. aux lois des lic. de boissons.
										Contravention aux lois de tempérance du Canada.
7	278	258	25		5	242	242			Vente de boiss. dur. les heures déf.
1	52	52			46	3,043	3,043			" sans licence.
164	5,787	2,188	3,599	65	150	6,928	6,928			Contraven. à la loi relative à la vente de boisson aux Sauvages.
2	58	58			5	200	200			Dommages malicieux à la propriété.
32	230	172	58	5	77	687	687			Autres dommages à la propriété.
					106	4,001	4,001			Infractions aux lois concernant les maîtres et serviteurs.
					6	184	184			Inf. aux lois conc. la méd. et les dent.
3	15	15			1	18	18			" milice.
										Divers petits délits.
149	744	587	157	10	355	4,494	4,494			Contravent. aux lois municipales.
14	351	351			37	441	441			Pratiq. divers états sans licence.
49	282	230	52	8	65	851	851			Inf. aux lois sur l'hygiène publ.
52	235	224	11	2	90	532	532			Délits ayant rap. aux chem. pub.
										Négligence de pourvoir aux besoins de la famille.
										Inf. aux lois conc. les pharmaciens.
1	7		7		17	57	57			Profanation du dimanche.
7	86	21	65	4	95	973	945	28	3	Infrac. aux lois des chemins de fer.
2	10	10			8	390	390			Délits contre le revenu de l'Etat.
1	2	2								Infractions aux lois maritimes.
										Délits ayant rapport à la corvée.
4	24	19	5	1	19	173	173			Menaces et langage injurieux.
6	41	41			25	127	127			Empietement.
62	818	571	247	14	122	1,016	1,016			Vagabondage.
1,176	3,241	4,753	1,488	273	1,236	8,175	8,175			Ivresse.
5	228	78	150	2	12	51	51			Exposition indécente.
30	203	148	55	5	28	182	182			Langage insultant, obscène et profane.
302	6,688	6,548	142	3	203	3,522	3,522			Tenant, hal itant et fréquentant des maisons de désordre.
7	62	55	7	1	51	352	352			Conduite déréglée.
										Inf. aux lois des poids et mesures
2,331	26,806	19,887	6,919	427	3,760	48,315	48,082	233	4	.....Totaux.

TABLE IV.—Number of persons fined and amounts of fines.

CANADA.

SUMMARY CONVICTIONS.	Number of persons fined. — Nombre de personnes mises à l'amende.	Amount of fines, costs or damages. — Montant des amendes, frais ou dommages.			Number of persons committed in default to pay fine. — Nombre de personnes mises en prison à défaut de payer l'amende.
		Total amount. — Montant total.	Paid. — Payé.	Not paid. — Non payé.	
		$	$	$	
Adulteration of food	28	348	348		
Assaults	3,298	21,156	17,598	3,558	254
Breach of peace	960	5,145	4,129	1,016	103
Carrying fire-arms and unlawful weapons	141	1,473	1,153	320	27
Contempt of court	21	137	130	7	1
Cruelty to animals	415	2,176	2,003	173	7
Disturbing religious and like meetings	66	412	317	95	6
Fishery Acts, offences against	92	1,928	1,745	183	3
Gambling Acts "	344	7,530	6,477	1,053	34
Game Laws "	170	3,405	2,578	827	6
Larceny	320	2,755	2,237	518	29
" of dogs, birds, &c	17	171	151	20	1
" of timber, trees, fruit, &c	49	373	368	5	
Liquor License Act, offences against	984	27,708	25,685	2,023	30
Breach of Canada Temperance Act	582	33,572	27,326	6,246	42
Selling liquor during prohibited hours	333	10,548	10,415	133	1
" to Indians	798	42,507	38,335	4,172	32
" without license	417	14,856	11,099	3,757	69
Malicious injury to property	30	932	892	40	2
Other damage to property	678	4,204	3,310	894	91
Master's and Servant's Acts, offences against	725	15,581	13,219	2,362	40
Medical and Dentistry Acts "	26	726	726		
Militia Acts, offences against	10	56	56		
Miscellaneous minor offences	1	20		20	1
Municip. Acts & By-laws, breaches of	5,381	17,298	15,947	1,351	106
Exercising various callings without license	672	5,157	4,819	338	11
Health By-laws, offences against	645	3,126	3,021	105	10
Highways, offences relating to	993	3,395	3,261	134	11
Neglecting to support family	17	192	41	151	6
Pharmacy Acts, offences against	6	126	126		
Profanation of the Lord's Day	286	1,524	1,512	12	
Railway Acts, offences against	431	2,588	1,678	910	109
Revenue Laws "	42	2,224	1,322	902	1
Seamen Acts "	23	59	39	20	
Statute Labour, offences relating to	44	69	64	5	1
Threats and abusive language	260	1,409	1,162	247	11
Trespass	640	1,938	1,121	817	50
Vagrancy	2,082	17,781	6,336	11,445	1,039
Drunkenness	19,394	84,682	54,766	29,916	4,951
Indecent exposure	115	1,156	736	420	13
Insulting, obscene and profane language	695	2,898	2,418	480	54
Keeping, frequenting bawdy houses and inmates thereof	1,737	35,871	28,587	7,284	272
Loose, idle, disorderly	2,456	8,916	6,903	2,013	325
Weights and Measures Acts, offences against	19	155	155		
	46,443	388,283	304,311	83,972	7,749

TABLE V.

SUMMARY CONVICTIONS AND CASES SUBJECT TO TRIAL BY JURY.

TABLEAU V.

CONDAMNATIONS SOMMAIRES ET CAUSES JUSTICIABLES D'UN JURY.

TABLE V.—Summary convictions and cases subject to trial by jury.

JUDICIAL DISTRICTS. — DISTRICTS JUDICIAIRES.	Summary Convictions. — Condamnations sommaires.			CASES SUBJECT TO TRIAL BY JURY BUT TRIED SUMMARILY BY CONSENT. — CAUSES JUSTICIABLES D'UN JURY MAIS JUGÉES SOMMAIREMENT DE CONSENTEMENT.											
				By Police or other Magistrate. — Par un Magistrat de Police ou autre.						Under the Speedy Trials Act. — En vertu de l'Acte des procès expéditifs.					
				Convictions. — Condamnations.		Acquittals. — Acquittements.		Totals. — Totaux.		Convictions. — Condamnations.		Acquittals. — Acquittements.		Totals. — Totaux.	
	M.	F.	Totals. — Totaux.	M.	F.	H.	F.	M.	F.	H.	F.	M.	F.	H.	F.
King's, P.E.I.—I. du P.-E.	2	....	2	....	....	....	....	....	....	....	....	....	....	....	....
Prince, P.E.I.—I. du P.-E.	101	3	104	....	....	....	....	....	....	....	....	....	....	....	....
Queen's, P.E.I.—I. du P.-E.	210	15	225	32	1	23	....	55	1	....	....	....	....	....	....
Totals of P.E. Island.. / Totaux de l'I. du P.-E.	313	18	331	32	1	23	....	55	1	....	....	....	....	....	....
Province of Ontario.															
Algoma and Manitoulin	564	65	629	45	2	4	....	49	2	10	....	2	....	12	....
Brant	471	16	487	118	6	36	5	154	11	9	1	8	....	17	1
Bruce	249	3	252	5	....	....	....	5	....	13	1	7	....	20	1
Carleton	918	128	1,046	164	23	48	5	212	28	17	....	9	....	26	....
Dufferin	50	3	53	4	....	....	....	4	....	....	....	....	....	....	....
Elgin	215	11	226	33	....	21	1	54	1	4	....	8	....	12	....
Essex	382	10	392	53	1	....	....	53	1	8	....	7	....	15	....
Frontenac	206	10	216	27	....	8	....	35	....	4	....	....	....	4	....
Grey	248	16	264	23	1	23	4	46	5	12	....	3	....	15	....
Haldimand	70	4	74	4	....	7	....	11	....	24	....	....	....	24	....
Halton	69	..	69	....	....	....	....	....	....	11	....	5	....	16	....
Hastings	404	37	441	34	4	26	5	60	9	9	....	8	1	17	1
Huron	182	10	192	5	....	7	....	12	....	14	2	2	....	16	2
Kent	297	10	307	34	5	44	6	78	11	17	..	6	....	23	....
Lambton	423	15	438	35	1	9	....	44	1	23	....	6	....	29	....
Lanark	279	9	288	4	....	....	....	4	....	9	2	2	....	11	2
Leeds and Grenville	417	19	436	20	2	5	....	25	2	25	3	4	....	29	3
Lennox and Addington	86	2	88	8	....	1	....	9	....	1	....	1	..	2	....
Lincoln	261	9	270	16	1	2	....	18	1	11	....	6	1	17	1
Middlesex	762	39	801	81	6	41	4	122	10	15	..	6	2	21	2
Muskoka and Parry Sound	323	15	338	17	3	1	....	18	3	4	....	2	....	6	..
Nipissing	571	50	621	60	....	7	....	67	....	21	....	18	....	39	....
Norfolk	144	8	152	10	4	10	....	20	4	3	....	1	....	4	....
Northumberland & Durham	359	18	377	19	2	1	....	20	2	15	....	12	....	27	....
Ontario	320	5	325	13	2	....	....	13	2	7	....	....	....	7	....
Oxford	368	14	382	23	....	9	1	32	1	8	....	5	....	13	....
Peel	42	1	43	....	....	....	....	....	....	20	1	5	....	25	1
Perth	363	4	367	82	2	37	....	119	2	4	....	3	....	7	....
Peterborough	334	15	349	55	2	17	....	72	2	7	....	3	..	10	....
Prescott and Russell	107	5	112	7	1	3	1	10	2	4	2	2	....	6	2
Prince Edward	48	....	48	3	....	....	....	3	..	....	....	....	....	....	....
Renfrew	245	20	265	8	....	....	....	8	....	9	....	3	....	12	....
Simcoe	404	13	417	28	1	1	....	29	1	36	....	6	..	42	....
Storm't, D'das and Gleng'ry	177	8	185	13	....	7	....	20	....	4	....	1	....	5	....
Thunder Bay & Rainy River	940	123	1,063	76	1	13	....	89	1	3	....	....	....	3	..
Victoria	269	6	275	17	1	7	....	24	1	4	....	1	....	5	....
Waterloo	285	14	299	35	....	14	..	49	....	16	....	2	....	18	....
Welland	766	17	783	89	1	8	2	97	3	7	1	5	..	12	1
Wellington	289	7	296	14	....	11	....	25	....	18	..	5	....	23	....
Wentworth	1,124	68	1,192	120	10	130	11	250	21	48	1	14	1	62	2
York	5,934	842	6,776	931	110	641	68	1572	178	66	8	31	4	97	12
Totals of Ontario.... / Totaux d'Ontario....	19,965	1,669	21,634	2333	192	1199	113	3532	305	540	22	209	9	749	31

TABLEAU V.—Condamnations sommaires et causes justiciables d'un jury.

CASES TRIED BY JURY. — CAUSES JUGÉES PAR JURÉS.						TOTALS OF INDICTABLE OFFENCES. — TOTAUX DES DÉLITS JUSTICIABLES D'UN JURY.						GRAND TOTALS OF INDICTABLE OFFENCES AND SUMMARY CONVICTIONS. — GRANDS TOTAUX DES DÉLITS JUSTICIABLES D'UN JURY ET DES CONDAMNATIONS SOMMAIRES.						Grand Totals of all offences. — Grands Totaux de toutes les offences.
Convictions. — Condamnations.		Acquittals. — Acquittements.		Totals. — Totaux.		Convictions. — Condamnations.		Acquittals. — Acquittements.		Totals. — Totaux.		Convictions. — Condamnations.		Acquittals. — Acquittements.		Totals. — Totaux.		
M.	F.	H.	F.	M.	F.	H.	F.	M.	F.	H.	F.	M.	F.	H.	F.	M.	F.	
....	....	....	....	....	..	....	....	....	....	....	....	2	..	..	....	2	....	2
4	....	....	....	4	...	4	....	....	....	4	..	105	3	....	....	105	3	108
....	....	....	....	..	....	32	1	23	.....	55	1	242	16	23	...	265	16	281
4	....	....	..	4	..	36	1	23	.....	59	1	349	19	23	....	372	19	391
Province d'Ontario.																		
1	....	3	....	4	....	56	2	9	...	65	2	620	67	9	....	629	67	696
3	..	....	....	3	....	130	7	44	5	174	12	601	23	44	5	645	28	673
....	....	....	....	....	....	18	1	7	.....	25	1	267	4	7	....	274	4	278
4	....	3	....	7	....	185	23	60	5	245	28	1,103	151	60	5	1,163	156	1,319
1	....	....	....	1	....	5	....	....	....	5	....	55	3	....	....	55	3	58
2	....	..	....	2	...	39	....	29	1	68	1	254	11	29	1	283	12	295
3	...	3	....	6	....	64	1	10	.....	74	1	446	11	10	....	456	11	467
4	....	....	....	4	....	35	....	8	.....	43	....	241	10	8	....	249	10	259
2	....	3	....	5	....	37	1	29	4	66	5	285	17	29	4	314	21	335
3	...	1	....	4	....	31	....	8	.....	39	.....	101	4	8	....	109	4	113
....	....	1	....	1	....	11	....	6	.....	17	.....	80	....	6	...	86	....	86
2	...	8	....	10	....	45	4	42	6	87	10	449	41	42	6	491	47	538
1	...	....	....	1	..	20	2	9	.....	29	2	202	12	9	....	211	12	223
1	....	4	....	5	....	52	5	54	6	106	11	349	15	54	6	403	21	424
4	..	2	....	6	....	62	1	17	.....	79	1	485	16	17	....	502	16	518
....	....	1	...	1	...	13	2	3	.....	16	2	292	11	3	....	295	11	306
....	....	....	....	....	....	45	5	9	.....	54	5	462	24	9	...	471	24	495
....	...	4	....	4	....	9	...	6	.....	15	.....	95	2	6	....	101	2	103
6	...	2	....	8	....	33	1	10	1	43	2	294	10	10	1	304	11	315
10	....	10	...	20	...	106	6	57	6	163	12	868	45	57	6	925	51	976
...	1	4	1	4	2	21	4	7	1	28	5	344	19	7	1	351	20	371
2	....	3	....	5	....	83	....	28	.....	111	.....	654	50	28	....	682	50	732
....	....	2	....	2	....	13	4	13	....	26	4	157	12	13	....	170	12	182
3	..	....	....	3	....	37	2	13	.....	50	2	396	20	13	....	409	20	429
....	....	1	....	1	....	20	2	1	.....	21	2	340	7	1	....	341	7	348
1	....	2	....	3	....	32	....	16	1	48	1	400	14	16	1	416	15	431
2	..	1	..	3	....	22	1	6	.....	28	1	64	2	6	....	70	2	72
5	...	5	...	10	....	91	2	45	.....	136	2	454	6	45	...	499	6	505
2	....	1	..	3	....	64	2	21	.....	85	2	398	17	21	...	419	17	436
..	....	....	....	....	....	11	3	5	1	16	4	118	8	5	1	123	9	132
....	....	....	....	....	....	3	...	....	.....	3	..	51	..	....	....	51	....	51
....	....	....	....	....	....	17	....	3	.....	20	..	262	20	3	....	265	20	285
...	..	5	2	5	2	64	1	12	2	76	3	468	14	12	2	480	16	496
3	....	4	....	7	....	20	....	12	.....	32	.....	197	8	12	....	209	8	217
8	....	7	....	15	....	87	1	20	.....	107	1	1,027	124	20	...	1,047	124	1,171
4	1	4	....	8	1	25	2	12	.....	37	2	294	8	12	....	306	8	314
3	....	2	....	5	..	54	..	18	...	72	.....	339	14	18	....	357	14	371
7	...	3	..	10	....	103	2	16	2	119	4	869	19	16	2	885	21	906
..	...	3	1	3	1	32	..	19	1	51	1	321	7	19	1	340	8	348
4	....	3	1	7	1	172	11	147	13	319	24	1,295	79	147	13	1,443	92	1,535
53	3	17	2	70	5	1950	121	689	74	1,739	195	6,984	963	689	74	7,673	1037	8,710
144	5	112	7	256	12	3017	219	1,520	129	4,537	348	22,982	1888	1,520	129	24,502	2017	26,519

TABLE V.—Summary convictions and cases subject to trial by jury.

JUDICIAL DISTRICTS. — DISTRICTS JUDICIAIRES.	Summary Convictions. — Condamnations sommaires.			CASES SUBJECT TO TRIAL BY JURY BUT TRIED SUMMARILY BY CONSENT. — CAUSES JUSTICIABLES D'UN JURY MAIS JUGÉES SOMMAIREMENT DE CONSENTEMENT.											
				By Police or other Magistrate. — Par un Magistrat de Police ou autre.						Under the Speedy Trials Act. — En vertu de l'Acte des procès expéditifs.					
				Convictions. — Condamnations.		Acquittals. — Acquittements.		Totals. — Totaux.		Convictions. — Condamnations.		Acquittals. — Acquittements.		Totals. — Totaux	
	M.	F.	Totals. — Totaux.	M.	F.	H.	F.	M.	F.	H.	F.	M.	F.	H.	F.
Province of Quebec.															
Arthabaska	87		87	3	1	2		5	1	2				2	
Beauce	112	2	114							5		1		6	
Beauharnois	61	7	68	3	1			3	1	6				6	
Bedford	86	1	87	31	1	16	4	47	5						
Chicoutimi	17	2	19	2				2							
Gaspé	12		12	4		1		5							
Iberville	39		39	2				2		10				10	
Joliette	58		58							4		2		6	
Kamouraska	66	1	67							7				7	
Montmagny	12	1	13	1		3		4							
Montreal	6,523	1,901	8,424	972	75	138	12	1110	87	486	21	78	11	564	32
Ottawa	356	21	377	1	1			1	1	34	1	4		38	1
Pontiac	17		17	1				1				1		1	
Quebec	1,227	160	1,387	127	8	43	1	170	9	11		2		13	
Richelieu	86	21	107		2				2	13		5		18	
Rimouski	134	5	139	20	1	11		31	1						
Saguenay	9		9	1				1							
St. Francis	385	18	403	86	2	35	2	121	4						
St. Hyacinthe	116	5	121	16				16		6		2		8	
Terrebonne	5	2	7	1				1		5	1	1		6	1
Three Rivers	147	11	158			1		1		25	1	8	1	33	2
Totals of Quebec / Totaux de Québec	9,555	2,158	11,713	1271	92	250	19	1521	111	614	24	104	12	718	36
Province of New Brunswick.															
Albert	7		7							2				2	
Carleton	64	3	67	2				2		3				3	
Charlotte	239	5	244	2				2		1				1	
Gloucester	20	2	22									3		3	
Kent	3		3			1		1							
King's	23		23			9		9							
Madawaska										1	1	2		3	1
Northumberland	273	3	276	12		1		13							
Queen's															
Restigouche															
St. John	993	80	1,073	45	2	14	1	59	3	4	1	2	1	6	2
Sunbury															
Victoria										1				1	
Westmoreland	521	17	538	18	2			18	2	5		2		7	
York	216	11	227	4				4		1		3		4	
Totals of New Brunswick / Totaux du N.-Brunswick	2,359	121	2,480	83	4	25	1	108	5	18	2	12	1	30	3

TABLEAU V.—Condamnations sommaires et causes justiciables d'un jury.

CASES TRIED BY JURY. — CAUSES JUGÉES PAR JURÉS.						TOTALS OF INDICTABLE OFFENCES. — TOTAUX DES DÉLITS JUSTICIABLES D'UN JURY.						GRAND TOTALS OF INDICTABLE OFFENCES AND SUMMARY CONVICTIONS. — GRANDS TOTAUX DES DÉLITS JUSTICIABLES D'UNJURY ET DES CONDAMNATIONS SOMMAIRES.						Grand Totals of all offences. — Grands Totaux de toutes les offenses.
Convictions. — Condamnations.		Acquittals. — Acquittements.		Totals. — Totaux.		Convictions. — Condamnations.		Acquittals. — Acquittements.		Totals. — Totaux.		Convictions. — Condamnations.		Acquittals. — Acquittements.		Totals. — Totaux.		
M.	F.	H.	F.	M.	F.	H.	F.	M.	F.	H.	F.	M.	F.	H.	F.	M.	F.	
Province de Québec.																		
6	...	....	....	6	..	11	1	2	....	13	1	98	1	2	....	100	1	101
..	....	.	....	....	..	5	...	1	...	6	...	117	2	1	....	118	2	120
....	....	....	....	....	....	9	1	.	..	9	1	70	8	.....	....	70	8	78
...	...	..	...	...	....	31	1	16	4	47	5	117	2	16	4	133	6	139
....	....	....	....	....	....	2	....	.	....	2	....	19	2	..	....	19	2	21
....	....	....	....	....	....	4	...	1	..	5	....	16	....	1	...	17	....	17
....	....	...	..	...	....	12	...	.....	....	12	....	51	.....	.....	....	51	....	51
....	....	..	....	....	....	4	....	2	....	6	....	62	...	2	....	64	....	64
....	....	....	....	....	....	7	...	.....	....	7	...	73	1	.....	.	73	1	74
....	....	....	....	....	....	1	....	3	....	4	...	13	1	3	....	16	1	17
40	1	46	3	86	4	1,498	97	262	26	1,760	123	8,021	1998	262	26	8,283	2024	10,307
4	...	3	....	7	...	39	2	7	....	46	2	395	23	7	....	402	23	425
2	...	2	....	4	....	3	....	3	....	6	....	20	...	3	....	23	....	23
3	...	5	....	8	..	141	8	50	1	191	9	1,368	168	50	1	1,418	169	1,587
....	....	....	....	....	....	13	2	5	....	18	2	99	23	5	..	104	23	127
....	....	....	..	...	....	20	1	11	....	31	1	154	6	11	..	165	6	171
....	....	....	....	....	....	1	...	.....	....	1	....	10	....	.....	....	10	....	10
8	..	5	....	13	...	94	2	46	2	134	4	479	20	40	2	519	22	541
.	....	...	....	..	..	22	.	2	....	24	...	138	5	2	....	140	5	145
....	....	....	....	....	....	6	1	1	....	7	1	11	3	1	....	12	3	15
....	....	....	....	....	....	25	1	9	1	34	2	172	12	9	1	181	13	194
63	1	61	3	124	4	1,948	117	415	34	2,363	151	11,503	2275	415	34	11,918	2309	14,227
Province du Nouveau-Brunswick.																		
....	...	1	....	1	..	2	....	1	....	3	....	9	....	1	....	10	....	10
1	...	....	...	1	...	6	....	.	....	6	....	70	3	.....	....	70	3	73
....	....	1	....	1	....	3	..	1	....	4	....	242	5	1	....	243	5	248
....	....	1	....	1	..	.....	....	4	....	4	...	20	2	4	....	24	2	26
....	....	....	....	....	....	.....	....	1	....	1	....	3	...	1	....	4	....	4
1	....	1	...	2	....	1	....	10	..	11	....	24	....	10	....	34	....	34
..	....	..	....	....	....	1	1	2	....	3	1	1	1	2	....	3	1	4
5	....	....	....	5	....	17	....	1	..	18	...	290	3	1	....	291	3	294
1	....	....	....	1	....	1	....	.....	....	1	....	1	....	.....	....	1	....	1
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	
1	....	3	...	4	..	50	3	19	2	69	5	1,043	83	19	2	1,062	85	1,147
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	
....	....	....	....	....	....	1	...	.....	....	1	....	1	...	.....	....	1	....	1
9	..	2	....	11	...	32	2	4	....	36	2	553	19	4	....	557	19	576
1	..	..	...	1	....	6	....	3	....	9	....	222	11	3	....	225	11	236
19	....	9	....	28	...	120	6	46	2	166	8	2,479	127	46	2	2,525	129	2,654

TABLE V—Summary convictions and cases subject to trial by jury.

JUDICIAL DISTRICTS. — DISTRICTS JUDICIAIRES.	Summary Convictions. — Condamnations sommaires.			CASES SUBJECT TO TRIAL BY JURY BUT TRIED SUMMARILY BY CONSENT, — CAUSES JUSTICIABLES D'UN JURY MAIS JUGÉES SOMMAIREMENT DE CONSENTEMENT.											
				By Police or other Magistrate. — Par un Magistrat de Police ou autre.						Under the Speedy Trials Act. — En vertu de l'Acte des procès expéditifs.					
				Convictions — Condamnations.		Acquittals. — Acquittements.		Totals. — Totaux.		Convictions — Condamnations.		Acquittals. — Acquittements.		Totals. — Totaux.	
	M.	F.	Totals. — Totaux.	M.	F.	H.	F.	M.	F.	H.	F.	M.	F.	H.	F.
Province of Nova Scotia.															
Annapolis	30		30												
Antigonish	28	3	31	3		1		4							
Cape Breton	1707	79	1786	37	3	29	5	66	8	15		12	1	27	1
Colchester	197	14	211	2		5	1	7	1	9				9	
Cumberland	297	11	308	10		3		13		5	1	2		7	1
Digby	19	1	20		2				2						
Guysborough	11		11	4				4		1				1	
Halifax	1034	127	1161	101	11	95	16	196	27	42	9	24	10	66	19
Hants	28		28							3		2	1	5	1
Inverness	3		3							1				1	
King's	87		87	10		4		14		6		3		9	
Lunenburg	63	12	75			1		1		6				6	
Pictou	252	12	264	7				7		16	1	2		18	1
Queen's	76	4	80		1				1	6	1	6		12	1
Richmond															
Shelburne										3		3		6	
Victoria	5		5												
Yarmouth	128	6	134	20		16	1	36	1	1				1	
Totals of Nova Scotia.. / Totaux de la N.-Ecosse	3965	269	4234	194	17	154	23	348	40	114	12	54	12	168	24
Central Manitoba—Centre	544	11	555	32		7		39		8				8	
Eastern Manitoba—Est	5415	217	5632	457	17	55	3	512	20	18		7	1	25	1
Southern Manitoba—Sud	85	2	87												
Western Manitoba—Ouest	404	52	456	33	3	14	2	47	5	13	1	3	1	16	2
Totals of Manitoba.... / Totaux de Manitoba	6448	282	6730	522	20	76	5	598	25	39	1	10	2	49	3
Cariboo, B.C.—C.-B.	1216	87	1303	185	1	110	9	295	10	37		15		52	
Victoria, B.C.—C.-B	385	13	398	67	1	8		75	1	13		11		24	
Westminster, B.C.—C.-B.	316	62	378	156	2	29	1	185	3	19		5		24	
Yale, B.C.—C.-B.	452	314	766	85	6	2		87	6	6		6		12	
Totals of B. Columbia. / Totaux de la Col.-Brit.	2369	476	2845	493	10	149	10	642	20	75		37		112	
Alberta N.—N., N.W.T.	983	112	1095	103	1	91	3	194	4						
Alberta S.—Sud, N.W.T.	780	62	842	41		43		84		52	1	23	3	75	4
Assiniboia E.—E., N.W.T.	958	15	973	82	2	85	3	167	5						
Assiniboia W.—O., N.W.T.	970	23	993	82	1	56	1	138	2	38		3		41	
Saskatchewan, N.W.T.	554	26	580	38		84	2	122	2	15		13		28	
Totals of the Territories. / Totaux des Territoires	2482	64	2546	202	3	225	6	427	9	53		16		69	
	4245	238	4483	346	4	359	9	705	13	105	1	39	3	144	4
Yukon	347	30	377	39	3	42	3	81	6						
Totals of Canada / Totaux du Canada	49566	5261	54827	5312	343	2277	183	7590	526	1505	62	465	39	1970	101

TABLEAU V.—Condamnations sommaires et causes justiciables d'un jury.

CASES TRIED BY JURY. — CAUSES JUGÉES PAR JURÉS.						TOTALS OF INDICTABLE OFFENCES. — TOTAUX DES DÉLITS JUSTICIABLES D'UN JURY.						GRAND TOTALS OF INDICTABLE OFFENCES AND SUMMARY CONVICTIONS. — GRANDS TOTAUX DES DÉLITS JUSTICIABLES D'UN JURY ET DES CONDAMNATIONS SOMMAIRES.						Grand Totals of all offences. — Grands Totaux de toutes les offences.
Convictions. — Condamnations.		Acquittals. — Acquittements.		Totals. — Totaux.		Convictions. — Condamnations.		Acquittals. — Acquittements.		Totals. — Totaux.		Convictions. — Condamnations.		Acquittals. — Acquittements.		Totals. — Totaux.		
M.	F.	H.	F.	M.	F.	H.	F.	M.	F.	H.	F.	M.	F.	H.	F.	M.	F.	
Province de la Nouvelle Ecosse.																		
3				3		3				3		33				33		33
						3		1		4		31	3	1		32	3	35
13		9	1	22	1	65	3	50	7	115	10	1772	82	50	7	1822	89	1911
8		4		12		19		9	1	28	1	216	14	9	1	225	15	240
1		2		3		16	1	7		23	1	313	12	7		320	12	332
5		1		6		5	2	1		6	2	24	3	1		25	3	28
3	1.			3	1	8	1			8	1	19	1			19	1	20
5	2.	11	5	16	7	148	22	130	31	278	53	1182	149	130	31	1312	180	1492
						3		2	1	5	1	31		2	1	33	1	34
2				2		3				3		6				6		6
						16		7		23		103		7		110		110
						6		1		7		69	12	1		70	12	82
1		1		2		24	1	3		27	1	276	13	3		279	13	292
						6	2	6		12	2	82	6	6		88	6	94
						3		3		6		3		3		6		6
												5				5		5
3		1		4		24		17	1	41	1	152	6	17	1	169	7	176
44	3	29	6	73	9	352	32	237	41	589	73	4317	301	237	41	4554	342	4896
4		4		8		44		11		55		588	11	11		599	11	610
19		13		32		494	17	75	4	569	21	5909	234	75	4	5984	238	6222
												85	2			85	2	87
4				4		50	4	17	3	67	7	454	56	17	3	471	59	530
27		17		44		588	21	103	7	691	28	7036	303	103	7	7139	310	7449
10		11		21		232	1	136	9	368	10	1448	88	136	9	1584	97	1681
1		5		6		81	1	24		105	1	466	14	24		490	14	504
6		3		9		181	2	37	1	218	3	497	64	37	1	534	65	599
3		5		8		94	6	13		107	6	546	320	13		559	320	879
20		24		44		588	10	210	10	798	20	2957	486	210	10	3167	496	3663
15		13		28		118	1	104	3	222	4	1101	113	104	3	1205	116	1321
6		6		12		99	1	72	3	171	4	879	63	72	3	951	66	1017
28		14		42		110	2	99	3	209	5	1068	17	99	3	1167	20	1187
10		5		15		130	1	64	1	194	1	1100	24	64	1	1164	25	1189
12		5		17		65		102	2	167	2	619	26	102	2	721	28	749
50		24		74		305	3	265	6	570	9	2787	67	265	6	3052	73	3125
71		43		114		522	5	441	12	963	17	4767	243	441	12	5208	255	5463
						39	3	42	3	81	6	386	33	42	3	428	36	464
392	9	295	16	687	25	7209	414	3037	238	10247	652	56775	5675	3037	238	59813	5913	65726

TABLE VI.

SHOWING THE NUMBER OF CONVICTIONS AND THE NUMBER OF PERSONS TO EACH CONVICTION BY GROUPS OF OFFENCES, FROM 1899 TO 1905, FOR EACH PROVINCE AND CANADA.

TABLEAU VI.

INDIQUANT LE NOMBRE DE CONDAMNATIONS ET LE NOMBRE DE PERSONNES POUR CHAQUE CONDAMNATION PAR GROUPES D'OFFENSES, DEPUIS 1896 A 1905, POUR CHAQUE PROVINCE ET LE CANADA.

INDICTABLE OFFENCES AND SUMMARY CONVICTIONS.

TABLE VI.—Showing the number of convictions and the number of persons to each conviction, from 1896 to 1905, for each province and Canada.

YEARS. — ANNÉES.	P. E. ISLAND. — ILE DU P.-E.		NOVA SCOTIA. — NOUV.-ECOSSE.		NEW BRUNSWICH. — NOUV.-BRUNSWICK.		QUÉBEC.	
	Number of convictions.	Number of persons to each conviction	Nombre de condamnations.	Nombre de personnes pour chaque condamnation	Number of convictions.	Number of persons to each conviction	Nombre de condamnations	Nombre de personnes pour chaque condamnation
Murder; attempt at; manslaughter; shooting, stabbing and wounding.								
1896			2	227,596	5	65,281	10	157,068
1897			5	91,222	3	109,131	24	66,118
1898	1	104,826	12	38,086	1	328,386	24	66,799
1899	2	52,127	4	114,489	2	164,690	32	50,614
1900			7	65,554	4	82,594	14	116,871
1901			11	41,800			12	137,761
1902	2	51,276	15	30,716	5	66,474	25	66,805
1903	2	50,993	21	21,984	2	166,687	13	129,793
1904			20	23,129	5	66,876	23	74,116
1905			7	66,279	2	167,695	18	95,677
Rape and other offences against females.								
1896	1	105,979	4	113,798	4	81,601	40	39,267
1897	2	52,700	7	65,159	3	109,131	77	20,608
1898	3	34,942	4	114,258	4	82,096	37	43,328
1899	2	52,127	4	114,489	3	109,793	38	42,622
1900	2	51,842	7	65,594	2	165,188	39	41,956
1901			7	65,689			49	33,737
1902			15	30,716	3	110,790	48	34,794
1903			23	20,072	4	83,344	44	38,348
1904			11	42,054	3	111,460	32	53,271
1905	1	101,104	16	28,971	4	83,848	41	42,004
Aggravated assault; assault on peace officer and assault and battery.								
1896	43	2,465	313	1,454	255	1,280	866	1,814
1897	44	2,396	222	2,055	203	1,612	885	1,793
1898	36	2,912	228	2,005	211	1,556	839	1,911
1899	43	2,424	214	2,140	177	2,861	838	1,933
1900	20	5,184	289	1,589	203	1,627	861	1,900
1901	35	2,946	307	1,498	215	1,541	930	1,777
1902	27	3,799	381	1,209	194	1,713	922	1,811
1903	41	2,488	372	1,241	189	1,764	1,146	1,472
1904	24	4,226	393	1,177	150	2,229	1,155	1,476
1905	20	5,055	366	1,267	143	2,345	1,065	1,617
Other offences against the person.								
1896	2	52,989	52	8,754	26	12,554	52	30,205
1897	7	15,057	56	8,145	20	16,369	72	22,040
1898	7	14,975	50	9,140	30	10,946	81	19,792
1899	4	26,063	41	11,170	31	10,625	66	24,540
1900			39	11,766	25	13,211	79	20,713
1901			48	9,579	21	15,780	111	14,893
1902	3	34,184	57	8,083	25	13,294	101	16,536
1903	6	16,998	73	6,324	7	47,625	171	9,867
1904	5	20,284	69	6,704	30	11,146	148	11,518
1905	1	101,104	61	7,599	16	20,962	104	16,559

DÉLITS JUSTICIABLES D'UN JURY ET CONDAMNATIONS SOMMAIRES.

TABLEAU VI.—Indiquant le nombre de condamnations et le nombre de personnes pour chaque condamnation, depuis 1896 à 1905, pour chaque province et le Canada.

ONTARIO.		MANITOBA.		BRITISH COLUMBIA. — COL.-BRITANNIQUE.		THE TERRITORIES, YUKON. LES TERRITOIRES.		CANADA.		YEARS — ANNÉES
Number of convictions.	Number of persons to each conviction	Nombre de condamnations.	Nombre de personnes pour chaque condamnation.	Number of convictions.	Number of persons to each conviction	Nombre de condamnations.	Nombre de personnes pour chaque condamnation	Number of convictions.	Number of persons to each conviction.	
Meurtre; tentative de meurtre; homicide non prémédité; usage d'armes avec intention criminelle.										
71	30,273	6	32,695	5	26,895	.....	.....	99	51,374	1896
69	31,260	1	207,308	3	47,591	5	22,982	110	46,741	1897
54	40,071	1	219,079	12	12,632	8	15,665	113	46,011	1898
58	37,427	6	38,586	11	14,449	3	45,555	118	44,571	1899
82	26,565	6	40,778	9	18,918	10	14,904	132	41,078	1900
80	27,308	3	86,189	13	13,955	9	18,060	128	42,093	1901
47	46,632	4	68,378	15	12,840	4	44,314	117	46,640	1902
73	30,119	2	144,551	11	18,590	9	21,478	133	41,570	1903
69	31,967	8	38,215	21	10,324	5	42,162	151	37,115	1904
66	33,527	22	15,000	12	20,833	10	36,000	137	42,153	1905
Viol et autres outrages contre la femme.										
75	28,668	5	39,234	3	44,826	4	26,342	136	37,398	1896
56	38,517	10	20,730	3	47,591	5	22,982	163	31,543	1897
63	34,347	4	54,769	3	50,527	5	25,063	123	42,254	1898
65	33,397	1	231,519	7	22,991	10	13,666	130	40,457	1899
63	34,567	7	34,952	7	24,324	7	21,291	134	39,719	1900
58	37,666	5	51,713	8	22,676	5	32,507	132	40,818	1901
64	34,245	4	68,378	5	38,521	10	17,725	149	36,624	1902
96	22,903	11	26,282	10	20,449	13	14,870	201	27,506	1903
66	33,420	15	20,381	8	27,138	19	11,100	154	36,392	1904
96	24,586	11	33,000	17	14,706	13	27,692	193	29,922	1905
Voies de fait graves; sur un officier de la paix et agression avec voies de fait.										
1,954	1,100	70	2,802	136	988	137	770	3,774	1,347	1896
1,949	1,108	61	3,398	149	958	107	1,078	3,620	1,420	1897
2,072	1,044	52	4,213	186	815	184	681	3,808	1,365	1898
1,855	1,170	70	3,307	169	952	119	1,165	3,485	1,509	1899
1,996	1,091	95	2,575	182	935	181	850	3,827	1,391	1900
1,962	1,113	98	2,638	147	1,234	197	840	3,891	1,385	1901
1,860	1,178	106	2,580	208	926	232	764	3,930	1,389	1902
2,003	1,097	139	2,080	173	1,182	457	423	4,520	1,223	1903
2,107	1,047	249	1,228	163	1,332	496	425	4,737	1,183	1904
2,053	1,078	312	1,057	155	1,613	612	588	4,726	1,122	1905
Autres outrages contre la personne.										
367	5,858	7	27,881	16	8,405	13	8,105	535	9,506	1896
333	6,477	9	23,634	16	8,923	12	9,576	525	9,793	1897
325	6,658	10	21,907	32	4,737	15	8,355	550	9,453	1898
297	7,309	17	13,619	21	7,664	16	8,541	493	10,668	1899
310	7,025	15	16,311	21	8,108	16	9,315	505	10,539	1900
311	7,024	18	14,364	18	10,080	20	8,276	547	9,850	1901
319	6,870	27	10,167	23	8,374	22	8,057	577	9,457	1902
299	7,360	29	9,969	25	8,180	22	8,786	632	8,748	1903
531	4,156	33	9,262	12	18,092	49	4,302	877	6,390	1904
334	6,625	48	6,875	19	13,158	38	9,474	621	9,299	1905

TABLE VI.—Showing the number of convictions and the number of persons to each conviction, from 1896 to 1905.

YEARS. — ANNÉES.	P. E. ISLAND. — ILE DU P.-E.		NOVA SCOTIA. — NOUV.-ECOSSE.		NEW BRUNSWICK. — NOUV.-BRUNSWICK.		QUEBEC.	
	Number of convictions.	Number of persons to each conviction	Nombre de condamnations.	Nombre de personnes pour chaque condamnation	Number of convictions.	Number of persons to each conviction	Nombre de condamnations.	Nombre de personnes pour chaque condamnation
Robbery with violence; burglary; house, shop, warehouse and freight car robbery.								
1896	6	17,663	16	28,449	3	108,802	94	16,709
1897	4	26,350	11	41,464	1	327,394	111	14,296
1898	5	20,965	14	32,645	4	82,096	169	9,486
1899			9	50,884	8	41,172	157	10,316
1900	3	34,561	25	18,355	1	330,376	164	9,977
1901	1	103,118	37	12,127	7	47,339	148	11,170
1902	6	17,092	37	12,452	2	166,185	159	10,504
1903			59	7,825	6	55,562	159	10,612
1904			40	11,565	11	30,398	147	11,596
1905	2	50,552	23	20,153	9	37,266	225	7,654
Arson; malicious injury to horses, cattle, and other damage to property.								
1896	12	8,832	44	10,345	34	9,693	196	8,014
1897	13	8,108	38	12,003	25	13,095	202	7,855
1898	9	11,647	32	14,282	27	12,162	231	6,940
1899	5	20,851	41	11,170	29	11,359	196	8,262
1900	11	9,426	50	9,177	32	10,324	186	8,797
1901	1	103,118	53	8,676	30	11,046	189	8,747
1902	4	25,638	71	6,489	39	8,522	188	8,883
1903	5	20,397	81	5,699	24	13,891	262	6,440
1904	7	14,569	82	5,641	22	15,199	239	7,132
1905	4	25,276	79	5,867	13	25,799	231	7,445
Larceny; larceny from dwelling house, from the person, of letters and of horses and cattle.								
1896	15	7,065	125	3,641	65	5,022	882	1,781
1897	30	3,513	121	3,753	55	5,953	1,098	1,574
1898	17	6,166	125	3,656	59	5,566	980	1,636
1899	6	17,376	138	3,318	74	4,451	1,087	1,490
1900	17	6,099	149	3,080	84	3,933	924	1,771
1901	10	10,311	152	3,025	65	5,099	916	1,805
1902	14	7,325	182	2,531	84	3,957	778	2,147
1903	10	10,198	158	2,922	72	5,630	944	1,787
1904	4	25,496	165	2,803	60	5,573	985	1,731
1905	11	9,191	186	4,492	69	4,861	1,053	1,635
Other offences against property.								
1896			6	75,865	1	326,405	47	33,418
1897			1	456,112	6	54,566	91	17,438
1898			7	65,290	3	109,462	63	25,447
1899	1	104,254	7	65,422	2	164,690	73	22,187
1900			7	65,554	3	110,125	45	36,362
1901			6	76,634	4	82,842	46	35,938
1902	1	102,552	7	65,819			44	37,957
1903			10	46,166	1	333,375	86	19,620
1904			23	20,113	3	111,460	73	23,351
1905	1	101,104	12	38,628	1	335,391	95	18,022

TABLEAU VI.—Indiquant le nombre de condamnations et le nombre de personnes pour chaque condamnation depuis 1896 à 1905.

ONTARIO.		MANITOBA.		BRITISH COLUMBIA. — COL.-BRITANNIQUE.		THE TERRITOIRES, YUKON, LES TERRITOIRES.		CANADA.		YEARS. — ANNÉES.
Number of convictions.	Number of persons to each convictions.	Nombre de condamnations.	Nombre de personnes pour chaque condamnation.	Number of convictions.	Number of persons to each conviction	Nombre de condamnations.	Nombre de personnes pour chaque condamnation	Number of convictions.	Number of persons to each conviction	
Vol avec violence et effraction ; bris de maison, magasin, entrepôts et wagons.										
266	8,083	7	28,024	12	11,206	4	26,342	408	12,467	1896
274	7,872	27	7,678	41	3,482	6	19,152	475	10,824	1897
280	7,728	25	8,763	37	4,097	6	20,886	540	9,626	1898
210	10,337	26	8,904	25	6,437	9	15,185	444	11,846	1899
178	12,234	16	15,292	17	10,015	9	16,560	413	12,911	1900
202	10,815	16	16,160	23	7,888	17	9,561	451	11,947	1901
157	13,960	18	15,195	22	8,754	12	14,755	413	13,213	1902
216	10,180	53	5,455	35	5,842	17	11,371	545	10,145	1903
286	7,712	22	13,896	28	7,754	18	11,712	552	10,153	1904
307	7,207	54	6,111	23	10,434	13	37,692	656	8,803	1905
Incendie criminel ; dommages malicieux aux chevaux, bestiaux et autres dommages à la propriété.										
298	7,215	12	16,348	12	11,206	23	4,581	631	8,060	1896
341	6,325	31	6,687	29	4,927	17	6,760	696	7,387	1897
348	6,218	8	27,325	35	4,332	29	4,321	719	7,231	1898
371	5,851	18	12,862	35	4,598	30	4,555	725	7,255	1899
379	5,746	19	12,877	39	4,366	26	5,732	742	7,174	1900
317	6,891	21	12,312	60	3,023	49	3,317	720	7,483	1901
446	4,914	32	8,547	31	6,213	36	4,918	847	6,442	1902
410	5,362	33	8,761	27	7,573	109	1,773	951	5,813	1903
431	5,118	59	5,182	32	6,785	98	2,151	970	5,778	1904
333	6,645	75	4,400	50	5,060	117	3,078	902	6,402	1905
Larcin ; vol dans des maisons habitées, sur la personne, vol de lettres, chevaux et bestiaux.										
1,813	1,186	113	1,736	142	947	98	1,074	3,253	1,532	1896
1,819	1,186	154	1,346	98	1,457	122	942	3,407	1,509	1897
1,889	1,145	139	1,576	217	699	172	728	3,598	1,445	1898
1,722	1,261	168	1,378	183	879	158	865	3,536	1,487	1899
1,779	1,224	194	1,261	197	864	178	837	3,522	1,511	1900
1,821	1,199	141	1,834	222	817	144	1,129	3,471	1,552	1901
1,804	1,215	140	1,953	203	948	232	764	3,437	1,584	1902
1,760	1,249	236	1,225	218	938	261	740	3,648	1,515	1903
1,777	1,241	325	941	204	1,064	445	473	3,965	1,413	1904
2,003	1,104	387	852	187	1,336	541	665	4,437	1,301	1905
Autres délits contre la propriété.										
134	16,045	6	32,695	15	8,965	11	9,580	220	23,119	1896
163	13,233	18	11,517	38	3,757	11	10,446	328	15,675	1897
149	14,522	12	18,256	35	4,331	8	15,665	277	18,769	1898
126	17,228	12	19,293	33	4,877	26	5,266	280	18,784	1899
180	12,098	21	11,651	30	5,675	21	7,099	307	17,337	1900
123	17,761	7	36,938	47	3,860	17	9,561	250	21,552	1901
132	16,603	31	8,823	23	8,374	19	9,329	257	21,233	1902
146	15,060	20	14,455	55	3,718	28	6,904	357	15,487	1903
163	13,532	20	15,286	32	6,785	46	4,584	360	15,576	1904
143	15,474	23	14,348	25	10,000	65	5,538	365	15,821	1905

TABLE VI.—Showing the number of convictions and the number of persons to each conviction, from 1896 to 1905.

YEARS. — ANNÉES.	P. E. ISLAND. — ILE DU P.-E.		NOVA SCOTIA. — NOUV.-ECOSSE.		NEW BRUNSWICK. — NOUV.-BRUNSWICK.		QUEBEC.	
	Number of convictions.	Number of persons to each conviction	Nombre de condamnations.	Nombre de personnes pour chaque condamnation	Number of convictions.	Number of persons to each conviction	Nombre de condamnations.	Nombre de personnes pour chaque condamnation
Breaches of various municipal acts and other laws.								
1896	88	1,204	565	805	514	635	1,369	1,147
1897	149	707	497	837	443	739	1,459	1,088
1898	78	1,344	482	948	492	667	1,312	1,222
1899	41	2,543	382	1,199	465	708	1,895	855
1900	32	3,240	399	1,150	442	748	1,710	956
1901	44	2,344	472	974	471	704	1,778	930
1902	53	1,952	596	773	430	773	1,943	859
1903	79	1,291	807	572	438	761	1,715	925
1904	90	1,133	644	719	511	654	1,943	877
1905	122	828	828	559	419	806	2,605	661
Drunkenness and other offences against vagrancy Act.								
1896	138	746	2,181	208	1,386	236	7,155	219
1897	311	339	1,707	267	1,511	217	6,610	240
1898	303	346	1,720	265	1,518	216	6,261	256
1899	347	300	1,405	326	1,469	224	5,839	277
1900	342	303	1,598	287	1,512	218	5,840	280
1901	247	418	1,870	246	1,475	225	5,150	321
1902	249	412	2,494	186	1,588	209	5,099	327
1903	295	346	3,280	141	1,678	199	5,343	316
1904	315	324	2,783	166	1,944	172	6,618	259
1905	204	495	3,018	153	1,927	174	8,281	208
Other felonies and misdemeanours.								
1896			13	35,013	4	81,601	26	60,411
1897	1	105,401	11	41,464	4	81,848	69	22,998
1898	1	104,826	6	76,172	5	65,677	29	55,316
1899	1	104,254	14	32,711	1	329,380	54	29,093
1900	2	51,842	25	18,355	3	110,125	55	29,751
1901			14	32,843	4	82,842	55	30,057
1902	1	102,552	22	20,942	8	41,546	39	42,824
1903			22	20,985	12	27,781	61	23,765
1904	4	25,496	23	20,113	7	47,769	37	46,072
1905	2	50,552	22	21,069	3	111,797	60	28,703
Total convictions.								
1896	305	347	3,321	137	2,297	142	10,737	146
1897	561	188	2,676	170	2,274	144	10,608	149
1898	460	228	2,680	170	2,354	139	10,026	159
1899	452	231	2,259	203	2,261	146	10,275	157
1900	429	242	2,595	177	2,311	143	9,917	165
1901	338	314	2,977	155	2,292	144	9,384	176
1902	360	285	3,877	119	2,378	140	9,346	179
1903	438	233	4,906	94	2,433	137	9,944	169
1904	449	227	4,253	109	2,746	122	11,400	150
1905	368	275	4,618	100	2,606	128	13,778	122

TABLEAU VI.—Indiquant le nombre de condamnations et le nombre de personnes pour chaque condamnation, depuis 1896 à 1905.

ONTARIO.		MANITOBA.		BRITISH COLUMBIA. — COL.-BRITANNIQUE.		THE TERRITORIES. YUKON, LES TERRITOIRES.		CANADA.		YEARS. — ANNÉES.
Number of convictions.	Number of persons to each conviction	Nombre de condamnations.	Nombre de personnes pour chaque condamnation.	Number of convictions.	Number of persons to each conviction	Nombre de condamnations.	Nombre de personnes pour chaque condamnation	Number of convictions.	Number of persons to each conviction.	
Diverses contraventions aux lois municipales et autres lois.										
5,425	396	305	643	228	789	384	315	8,828	577	1896
5,418	368	302	686	451	316	666	172	9,389	548	1897
5,056	428	289	758	520	291	552	227	8,795	591	1898
5,274	411	253	915	596	270	1,242	110	10,151	518	1899
5,729	397	326	750	732	232	1,821	82	11,214	474	1900
5,851	373	813	317	931	195	972	167	11,394	473	1901
6,526	351	628	435	979	197	673	263	11,847	460	1902
7,221	304	696	415	924	321	1,158	167	13,054	424	1903
7,132	309	1,418	215	607	357	1,238	170	13,607	412	1904
7,793	284	1,999	165	868	288	1,552	232	16,186	356	1905
Ivresse et autres délits contre le vagabondage.										
6,357	338	791	248	777	173	404	261	19,179	265	1896
6,442	335	853	243	954	149	616	187	19,001	271	1897
6,453	335	775	282	1,353	112	1,066	117	19,444	267	1898
6,674	325	911	254	1,273	126	1,191	115	19,169	275	1899
7,597	287	982	250	1,743	98	1,003	148	20,603	258	1900
8,173	267	1,086	238	1,686	108	1,277	127	20,909	258	1901
8,035	272	1,269	216	1,971	98	1,051	169	21,755	251	1902
9,645	228	1,816	159	2,098	97	1,905	101	26,048	212	1903
10,124	217	3,183	96	2,114	102	2,184	97	29,244	192	1904
11,569	191	4,348	76	2,059	121	2,419	149	33,816	178	1905
Divers autres délits.										
132	16,288	7	28,024	16	8,405	7	15,053	215	23,656	1896
142	15,190	12	17,276	17	8,399	10	11,491	265	19,402	1897
122	17,736	13	16,852	43	3,525	28	4,475	239	21,754	1898
131	16,571	7	33,074	9	17,882	24	5,694	238	22,099	1899
126	17,283	11	22,242	17	10,015	24	6,210	254	21,348	1900
139	15,718	12	21,547	16	11,334	22	7,206	255	21,129	1901
72	30,440	13	21,040	27	7,134	43	4,122	207	26,362	1902
127	17,312	28	10,325	16	12,780	52	3,717	314	17,608	1903
131	16,838	47	6,505	27	8,041	56	3,765	329	17,034	1904
179	12,362	59	2,592	28	8,929	58	6,207	411	14,051	1905
Total des condamnations.										
16,892	127	1,329	147	1,362	98	1,035	102	37,278	136	1896
17,006	127	1,478	140	1,799	79	1,577	73	37,979	135	1897
16,811	128	1,328	165	2,473	61	2,074	60	38,206	146	1898
16,783	129	1,489	155	2,362	68	2,828	49	38,709	135	1899
18,419	118	1,692	144	2,994	57	3,296	45	41,653	128	1900
19,037	115	2,220	117	3,171	57	2,729	59	42,148	128	1901
19,462	113	2,272	120	3,507	55	2,334	75	43,536	125	1902
21,996	100	3,063	94	3,592	57	4,031	48	50,403	110	1903
22,817	97	5,379	57	3,248	67	4,654	45	54,946	102	1904
24,870	89	7,338	45	3,443	73	5,429	66	62,450	92	1905

TABLE VII.

PARDONS AND COMMUTATIONS.

TABLEAU VII.

PARDONS ET COMMUTATIONS.

TABLE VII.—Cases in which the Prerogative of Mercy has been exercised during the year ended the 30th September, 1905, in favour of prisoners committed to the following prisons.

(Province of Ontario.) Provincial Penitentiary—Kingston.

CRIME.	Sentence.	Date of Sentence or Committal.	Date of Pardon or Commutation.	Conditions upon which Pardon or Commutation was granted.	Age and Sex M	Age and Sex F	By what Court tried.
Arson	Life.	Dec. 31,'88	Dec. 22,'04		65		County, Sarnia.
"	5 yrs.	Jan. 15,'03	Sept. 27,'05 *		37		" Brockville.
Assault and wounding with intent.	4 "	Nov. 25,'03	June 20,'05 *		40		King's Bench, Winnipeg.
Assault with intent	4 "	Sept. 9,'02	Sept. 27,'05 *		28		Police, Toronto.
Attempt at rape and escape from jail.	4 "	Oct. 29,'03	July 14,'05 *		30		Assize, Parry Sound.
							Police "
Attempt to have carnal knowledge of girl under 14 years and assault.	3 "	May 6,'03	June 20,'05		28		County, Sarnia.
Burglary	7 "	Sept. 30,'01	Dec. 22,'04 *		32		Police, Sudbury.
"	5 "	Nov. 12,'01	" 22,'04 *		24		King's Bench, Montreal.
"	4 "	Feb. 28,'03	Feb. 22,'05		22		Police, Chatham.
" and theft	3 "	Dec. 22,'02	June 11,'05		20		" Owen Sound.
" shooting and highway robbery.	6 "	" 29,'02	Nov. 14'04 *		17		County, Berlin.
Cattle stealing	3 "	Jan. 27,'04	Feb. 22,'05 *		24		" London.
Causing an explosion and endangering life.	a7 "	Oct. 23,'01	" 14,'05 *		31		Assize, Cornwall.
Defiling child under 14 years.	6 "	Apr. 14,'02	May 24,'05 *		21		County, St. Catherines.
Forgery	3 "	Mar. 19,'04	Dec. 22,'04		19		" Toronto.
Forging Dominion notes	4 "	Nov. 18,'02	July 14,'05 *		73		Police "
Grievous bodily harm on children and assault.	b Life.	Apr. 17,'96	Apr. 28,'05			59	Assize, Ottawa.
Having explosive in his possession.	10 yrs.	Oct. 19,'98	Sept. 27,'05 c*		44		" Guelph.
" "	7 "	Jan. 13,'00	Apr. 12,'05 *		49		" Toronto.
Horse stealing	7 "	June 1,'01	July 31,'05 *		27		County, Stratford.
"	3 "	Nov. 10,'03	Sept. 27,'05 *		36		Police, Delhi.
Housebreaking	2½ "	Jan. 16,'05	Feb. 1,'05 *		19		" Toronto.
" & larceny	10 "	Nov. 4,'97	July 31,'05		51		" Kingston.
" "	5 "	Sept. 10, 02	Jan. 18,'05 *		30		" Peterborough.
Incest	d9 "	May 29,'00	Mar. 4,'05 *		47		Sessions, Gore Bay.
"	7 "	Dec. 30,'00	July 19,'05 *		51		County, Guelph.
"	7 "	Oct. 5,'01	May 20,'05 *		58		Sessions, Toronto.
"	3 "	July 2,'03	Feb. 8,'05		29		Police, London.
Manslaughter	3 "	Apr. 16,'03	Sept. 27,'05 *		78		Assize, Perth.
"	3 "	Nov. 23,'04	Jan. 9,'05 e*			20	King's Bench, Montreal.
Perjury	3 "	June 16,'04	July 31,'05 *		65		Sessions, Cayuga.
"	3 "	Nov. 26,'04	Mar. 15,'05			35	Sup., Macleod, N.W.T.
Rape	15 yrs. (reduced to 10 yrs)	Sept. 8,'98	" 10,'05 *		30		Assize, Stratford.

a Sentence reduced to 5 years prior to his liberty on T. of L., prisoner not to reside in any part of the counties of Stormont, Dundas and Glengary, during continuance of his license. *b*. Life sentence reduced to 15 years prior to his pardon. *c*. Prisoner to reside on his father's farm and to keep out of the cities of Canada. *d*. And 50 lashes. *e*. Upon condition that prisoner be received at a convent in Montreal to be detained therein for the remainder of her sentence, her T. of L. standing for cancellation in case of disobedience of orders or breach of discipline.

* Released on ticket of leave.

TABLEAU VII.—Cas où le droit de grâce a été exercé durant l'année finissant le 30 septembre 1905, en faveur des prisonniers envoyés aux prisons suivantes.

(*Province d'Ontario.*) Pénitencier provincial—Kingston.

CRIME.	Sentence.	Date de Sentence ou emprisonnement.	Date de Pardon ou commutation.	Conditions sur lesquelles le pardon ou commutation a été accordé.	Age et sexe H	Age et sexe F	Par quelle cour mis en jugement.
Incendie criminel	A vie.	31 déc '88	22 déc. '04		65	..	Comté, Sarnia.
" "	5 ans	15 jan. '03	27 sept. '05 *		37	..	" Brockville.
Voies fait et blessures avec intention.	4 "	25 nov. '03	20 juin '05 *		40	..	Banc du Roi. Winnipeg.
Voies avec intention	4 "	9 sept. '02	27 sept. '05 *		28	..	Police, Toronto.
Viol. tentative de, et tentative d'evasion.	4 "	29 oct. '03	14 juil. '05 *		30	.	Assises, Parry Sound.
							Police "
Tentative de commerce charnel avec une fille audessous de 14 ans. et voies de fait.	3 "	6 mai '03	20 " '05		28	..	Comté, Sarnia.
Effraction de nuit	7 "	30 sept. '03	22 déc. '05 *		32	..	Police, Sudbury.
" "	5 "	12 nov. '01	22 " '04 *		24	.	Banc du Roi, Montreal.
" "	4 "	28 fév. '03	22 fév. '05		22	..	Police, Chatham.
" " et vol.	3 "	22 déc. '02	11 juin '05		20	..	" Owen Sound.
" " usage d'armes et vol de grands chemins.	6 "	29 " '02	14 nov. '04 *		17	..	Comté, Berlin.
Vol de bestiaux	3 "	27 jan. '04	22 fév. '05 *		24	..	" London.
Causant une explosion et mett. la vie en danger.	*a* 7 "	23 oct. '01	14 " '05 *		31	..	Assises, Cornwall.
Souiller un enfant audessous 14 ans.	6 "	14 avril '02	24 mai '05 *		21	.	Comté, Ste Catherines.
Faux	3 "	19 mars '04	22 déc. '04		19	..	" Toronto.
Forgeant des billets de b. du Dom.	4 "	18 nov. '02	14 juil. '05 *		73	..	Police "
Voies de fait graves et lésions corporelles sur des enfants.	*b* à vie	17 avril '96	28 avril '05			.. 59	Assises, Ottawa.
Ayant des matiéres explosives en sa possession.	10 ans	19 oct. '98	27 sept. '05 *c**		44	..	" Guelph.
" "	7 "	13 jan. '00	12 avril '05 *		49	..	" Toronto.
Vol de chevaux	7 "	1 juin '01	31 juil. '05 *		27	..	Comté, Stratford.
"	3 "	10 nov. '03	27 sept. '05 *		36	..	Police, Delhi.
Bris de maison	2½ "	16 jan. '05	1 fév. '05 *		19	..	" Toronto.
" et larcin	10 "	4 nov. '97	31 juil. '05		51	..	" Kingston.
" "	5 "	10 sept. '02	18 jan. '05 *		30	..	" Peterborough.
Inceste	*d* 9 "	29 mai '00	4 mars '05 *		47	..	Sessions, Gore Bay.
"	7 "	30 déc. '00	19 juil. '05 *		51	..	Comté, Guelph.
"	7 "	5 oct. '01	20 mai '05 *		58	..	Sessions, Toronto.
"	3 "	2 juil. '03	8 fév. '05		29	.	Police, London.
Homicide non prémédité	3 "	16 avril '03	27 sept. '05 *		78	..	Assises, Perth.
" "	3 "	23 nov. '04	9 jan. '05 *e**			.. 20	Banc du Roi, Montreal.
Parjure	3 "	16 juin '04	31 juil. '05 *		65	.	Sessions, Cayuga.
"	3 "	26 nov. '04	15 mars '05			.. 35	Sup., Macleod, T.N.-O.
Viol	15 ans (réduite à 10 ans).	8 sept. '05	10 " '05 *		30	..	Assises, Stratford.

a Sentence réduite à cinq ans avant d'être libéré sur parole, le prisonnier ne devant pas habiter dans les comtés de Stormont, Dundas et Glengary durant la continuation de sa license. *b* Sentence à vie reduite à 15 ans avant son pardon. *c* Le prisonnier devant habiter sur la ferme de son père et éviter les villes du Canada. *d* Et 50 coups de fouets. *e* A condition que la prisonniére soit reçue dans un couvent à Montréal pour y être détenue pour le temps de sa sentence, sa liberté sur parole devant être cancellée en cas de désobéissance aux ordres et d'infraction à la discipline.

* Libéré sur parole.

TABLE VII.—Cases in which the Prerogative of Mercy has been exercised during the year ended the 30th September, 1905, in favour of prisoners committed to the following prisons.

(Province of Ontario.) Provincial Penitentiary—Kingston—*Concluded.*

CRIME.	Sentence.	Date of Sentence or Committal.	Date of Pardon or Commutation.	Conditions upon which Pardon or Commutation was granted.	Age and Sex. M	Age and Sex. F	By what Court tried.
Receiving stolen property	3 yrs.	Apr. 7,'04	July 31,'05	*	31	..	Police, Toronto.
Setting fire to building..	3 "	July 20,'03	Jan. 16,'05	*	17	..	County, Brantford.
Shopbreaking and theft.	3 "	Jan. 26,'04	Mar. 10,'05	*	28	..	" Hamilton.
Stealing	3 "	Nov. 10,'03	May 20,'05	*	27	..	Police, Delta.
" from the person	3 "	Mar. 24,'04	Apr. 12,'05	*	23	..	Stip. M. Sault St. Marie.
" " ..	3 "	" 24,'04	May 20,'05	*	29	..	" "
" horse and buggy	3 "	Dec. 11,'02	Dec. 22,'04	*	25	..	County, Napanee.
Stealing post letter. ...	3 yrs	Nov. 20,'03	Feb. 3,'05		19	..	Police, Toronto.
Theft	5 "	Apr. 29,'02	June 9,'05		37	..	" Pembroke.
"	3 "	Feb. 3,'03	Mar. 10,'05	*	31	..	" London.
"	3 "	Nov. 12,'03	" 10,'05		21	..	" Sudbury.
"	2 " & 3 m.	June 16,'03	Nov. 22,'04	*	30	..	" Hamilton.
"	2 yrs	Aug. 24,'03	Dec. 22,'04	*	38		County, Hamilton.
"	25 m	Mar. 24,'04	Feb. 2,'05	*	25	..	District, North Bay.
"	25 "	Dec. 21,'04	Apr. 14,'05	*	27	..	Police, Fort William.
Wounding..	7 yrs	June 22,'03	Jan. 16,'05		18	..	Assize, Port Arthur.

(Province of Ontario.) Mercer Reformatory—Toronto, etc.

Good Shepherds, Ottawa—							
Vagrancy	6 m	Aug. 24,'05	Sept. 22,'05	*a*	33		Police, Ottawa.
Mercer Reformatory—							
Vagrancy	6 "	May 29,'05	July 19,'05	**b*	17		" Tilsonburg.

(Province of Ontario.) Industrial School—Mimico.

Burglary and theft.. ...	2 yrs.	Sept. 24,'04	May 18,'05		15	..	County, Cayuga.

(Province of Ontario.) Central Prison—Toronto.

Accepting bribe	1 yr. & 364 d.	Mar. 19,'04	Feb. 16,'05	*c*	50	..	Sessions, Toronto.
Assault and battery....	6 m	Nov. 20,'04	Mar. 10,'05	*	42	..	Police, Chatham.
" Indecent.. ...	1 yr.	Aug. 15,'04	Oct. 16,'04	*	19	..	" "
" and occasioning bodily harm.	14 m.	Sept. 29,'04	Mar. 30,'05	*	35	..	Assize, Ottawa.
" on police officer.	18 "	Apr. 24,'04	Apr. 24,'05	*	27	..	" "
" " ..	16 "	Sept. 29,'04	" 24,'05	*	27	..	" "
" " ..	16 "	" 29,'04	Mar. 30,'05	*	29	..	" "
Attempt to utter forged cheque.	15 "	Nov. 23,'04	July 6,'05	*	28	..	County "
Bigamy	1 yr..	Feb. 3,'05	June 22,'05	*	31	..	Police, Toronto.
Breaking and stealing .	1 " ..	June 8,'04	Apr. 11,'05		17	..	" Chatham.
Drunk and disorderly..	18 m..	" 4,'04	Mar. 28,'05		29	..	" Toronto.
" " ..	3 " .	July 4,'05	Sept. 22,'05		23	..	" Barrie.

a. Released upon condition that she joins, immediately, her husband in Moosejaw.

**b* Granted upon condition that she be sent to the House of Refuge of the Co. of Oxford until she is removed to some charitable institution.

c. Prisoner to be released when he shall have served one year's imprisonment.

* Released on ticket of leave.

TABLEAU VII.—Cas où le droit de grâce a été exercé durant l'année finissant le 30 septembre 1905, en faveur des prisonniers envoyés aux prisons suivantes.

CRIME.	Sentence.	Date de Sentence ou emprisonnement.	Date de Sentence ou commutation.	Conditions sur lesquelles le pardon ou commutation a été accordé.	Age et sexe. H.	F	Par quelle cour mis en jugement.
(Province d'Ontario.)		Pénitencier Provincial—Kingston—*Fin.*					
Recel d'objets volés	3 ans	7 avril '04	31 juil. '05 *		31		Police, Toronto.
Incendie criminel	3 "	29 juil. '03	16 jan. '05 *		17		Comté, Brantford.
Bris de magasin et vol	3 "	26 jan. '04	10 mars '05		28		" Hamilton.
Vol	3 "	10 nov. '03	20 mai '05 *		27		Police, Delta.
Vol sur la personne	3 "	24 mars '04	12 avril '05 *		23		M. Stip., Sault Ste. Marie.
" "	3 "	24 "	'04 20 mai '05 *		29		" "
" de cheval et voiture	3 "	11 déc. '02	22 déc. '04 *		25		Comté, Napanee.
Vol de lettres	3 ans.	29 nov. '03	3 fév. '05		19		Police, Toronto.
Vol	5 "	29 avril '02	9 juin '05		37		" Pembroke.
"	3 "	3 fév. '03	10 mars '05 *		31		" London.
"	3 "	12 nov. '03	10 " '05		21		" Sudbury.
"	2¼ "	16 juin '03	22 nov. '04 *		30		" Hamilton.
"	2 "	24 août '03	22 déc. '04 *		38		Comté "
"	25 mos	24 mars '04	2 fév. '05 *		25		District, North-Bay.
"	25 "	21 déc. '04	14 avril '05 *		27		Police, Fort-William.
Blessures	7 ans.	22 juin '03	16 janv. '05		18		Assises, Port-Arthur.
(Province d'Ontario.)		Maison de réforme Mercer—Toronto, etc.					
Bon Pasteur, Ottawa—							
Vagabondage	6 mos	24 août '05	22 sept. '05 *a*		33		Police, Ottawa.
Maison de Réf. Mercer—							
Vagabondage	6 "	29 mai '05	19 juil. '05 *b*		17		" Tilsonburg.
(Province d'Ontario.)		Ecole industrielle—Mimico.					
Effraction de nuit et vol.	2 ans.	24 sept. '04	18 mai '05		15		Comté, Cayuga.
(Province d'Ontario.)		Prison centrale—Toronto.					
Acceptant la corruption.	1 an. et 364 j.	19 mars '04	16 fév. '05 *c*		50		Sessions, Toronto.
Agress. avec voies de fait	6 mos	20 nov. '04	10 mars '05 *		42		Police, Chatham.
Attentat à la pudeur	1 an.	15 août '04	16 oct. '04 *		19		" "
Voies de fait causant des blessures corporelles.	14 mos	29 sept. '04	30 mars '05 *		35		Assises, Ottawa.
Voies de fait sur un officier de la paix.	18 "	24 avril '04	24 avril '05 *		27		" "
" "	16 "	29 sept. '04	24 " '05 *		27		" "
" "	16 "	29 "	'04 30 mars '05 *		29		" "
Tentative et mettant en circulation de faux billets de banque.	15 "	23 nov. '04	6 juil. '05 *		28		Comte "
Biganie	1 an.	3 fév. '05	22 juin '05 *		31		Police, Toronto.
Effraction et vol	1 "	8 juin '04	11 avril '05		17		" Chatham.
Ivresse et désordre	18 mos	4 "	'04 28 mars '05		29		" Toronto.
" "	3 "	4 juil. '05	22 sept. '05		23		" Barrie.

a Libérée à condition qu'elle rejoigne son mari immédiatement à Moosejaw. *b* A condition qu'elle soit envoyée à la maison de refuge du comté d'Oxford jusqu'à ce qu'elle puisse entrer dans une institution de charité. *c* Le prisonnier devant être libéré aussitôt après l'expiration d'un an d'emprisonnement.

* Libéré sur parole.

TABLE VII.—Cases in which the Prerogative of Mercy has been exercised during the year ended the 30th September, 1905, in favour of prisoners committed to the following prisons.

(Province of Ontario.) Central Prison—Toronto—*Concluded.*

CRIME.	Sentence.	Date of Sentence or Committal.	Date of Pardon or Commutation.	Conditions upon which Pardon or Commutation was granted.	Age and Sex. M	Age and Sex. F	By what Court tried.
Extortion	9 mos.	Mar. 18, '05	Sept. 18, '05 *		49		County, London.
Forgery	9 "	Jan. 24, '05	June 22, '05 *		36		" Hamilton.
"	6 "	Mar. 16, '05	" 20, '05 *		22		" Welland.
Horse stealing and larceny	23 "	Jan. 27, '04	Apr. 14, '05 *		24		Police, Niagara Falls.
Interfering with police	18 "	Sept. 29, '04	May 18, '05 *		21		Assize, Ottawa.
Keeping common gaming house.	*d*	May 20, '05	July 3, '05		30		Sessions, Toronto.
" "	*d*	" 20, '05	" 3, '05		36		" "
Larceny	6 m.	Jan. 21, '05	" 6, '05		30		Police, Kingston.
Non support	6 "	" 21, '05	Apr. 19, '05		42		" Hamilton.
Perjury	1 yr.	June 13, '04	Mar. 10, '05 *		26		" Chatham.
Posting immoral letter	1 "	Nov. 30, '04	May 20, '05 *		66		" Normandy.
Rape, attempted	1 "	" 11, '04	Mar. 10, '05		20		Assize, Stratford.
Receiving	1 " & 364 d.	Aug. 8, '04	Mar. 28, '05 *		15		Police, St. Thomas.
Shopbreaking and theft	1 yr.	May 5, '04	Feb. 2, '05 *		43		" Galt.
" and larceny	1 "	July 23, '04	June 10, '05		16		" St. Thomas.
Shopbreaking and theft	1 yr.	Oct. 21, '04	Apr. 3, '05 *		19		County, Hamilton.
Stealing	6 mos	July 14, '04	Dec. 24, '04 *		18		Police, Ottawa.
"	6 "	Feb. 23, '05	Mar. 24, '05 *a*		19		" "
"	6 "	Mar. 25, '05	May 8, '05 *		27		" "
Theft	2 yrs. less 1 d	May 3, '04	Mar. 28, '05 *		24		" Parry Sound.
"	23 mos	Aug. 14, '03	Jan. 16, '05 *		49		" Barrie.
"	23 "	Mar. 4, '04	Sept. 27, '05 *		20		County, Hamilton.
"	18 "	Dec. 28, '04	July 6, '05 *		19		Police, Galt.
"	1 yr.	Sept. 8, '04	June 22, '05 *		21		County, Bracebridge.
"	1 "	Nov. 21, '04	July 6, '05		28		Police, Rainy River.
"	13 mos	June 18, '04	Mar. 21, '05 *		36		" Fort William.
"	6 "	Aug. 17, '04	Dec. 22, '04 *		21		" Ottawa.
"	6 "	Mar. 16, '05	May 20, '05 *		28		" "
"	4 "	Apr. 1, '05	June 3, '05 *		46		" London.
"	4 "	" 1, '05	" 3, '05 *		27		" "
Vagrancy	6 "	July 29, '04	Dec. 22, '04		28		" Woodstock.
"	6 "	" 28, '04	Nov. 23, '04		47		" Beamsville.
"	6 "	Nov. 30, '04	Apr. 11, '05		24		" Toronto.
"	6 "	Dec. 21, '04	Mar. 24, '05		21		" Hamilton.
"	6 "	Feb. 23, '05	July 24, '05		44		" Barrie.
"	6 "	May 30, '05	" 31, '05		32		J. P's., North Bay.
"	6 "	" 30, '05	" 31, '05		34		" "
Wounding	1 yr.	July 14, '04	Jan. 21, '05 *		45		County, London.

(Province of Ontario.) Common Jails.

Barrie jail—							
Drunk and disorderly	6 mos	July 4, '05	Aug. 26, '05		42		Police, Barrie.
Belleville jail—							
Assault	4 "	Sept. 12, '04	Nov. 22, '04 *		45		" Belleville.

a To be released on ticket of leave when he shall have served two months.
d. Three months and $50 fine, or three months more in default of payment.
* Released on ticket of leave

TABLEAU VII.—Cas où le droit de grâce a été exercé durant l'année finissant le 30 septembre 1905, en faveur des prisonniers envoyés aux prisons suivantes.

(*Province d'Ontario.*) Prison centrale—Toronto—*Fin.*

CRIME.	Sentence.	Date de Sentence ou emprisonnement.	Date de Pardon ou commutation.	Conditions sur lesquelles le pardon ou commutation a été accordé.	Age et sexe. H	F	Par quelle cour mis en jugement.
Extorsion	9 mos.	18 mars '05	18 sept. '05	*	49		Comté, London.
Faux	9 "	24 juin '05	22 juin '05	*	36		" Hamilton.
"	6 "	16 mars '05	20 " '05	*	22		" Welland.
Vol de chevaux et larcin	23 "	27 janv. '04	14 avril '05	*	24		Police, Niagara Falls.
Entravant un officier de paix.	18 "	29 sept. '04	18 mai '05	*	21		Assises, Ottawa.
Tenant une maison de jeu	*d*	20 mai '05	3 juil. '05		30		Sessions, Toronto.
" "	*d*	29 " '05	3 " '05		36		" "
Larcin	6 mos	21 janv. '05	6 " '05		30		Police, Kingston.
Refus de support	6 "	21 " '05	19 avril '05		42		" Hamilton.
Parjure	1 an.	13 juin '04	10 mars '05	*	26		" Chatham.
Mettant à la poste une lettre immorale.	1 "	30 nov. '04	20 mai '05	*	66		" Normandy.
Viol, tentative de	1 "	11 " '04	10 mars '05		20		Assises, Stratford.
Recel	1 an et 364 j.	8 août '04	28 " '05	*	15		Police, St. Thomas.
Bris de magasin et vol.	1 an.	5 mai '04	2 fév. '05	*	43		" Galt.
" " larcin.	1 "	23 juil. '04	10 juin '05		16		" St. Thomas.
Bris de magasin et vol	1 an.	21 oct. '04	3 avril '05	*	19		Comté, Hamilton.
Vol	6 mos	14 juil. '04	24 déc. '04	*	18		Police, Ottawa.
"	6 "	23 fév. '05	24 mars '05	*a*	19		" "
"	6 "	25 mars '05	8 mai '05	*	27		" "
"	1 an et 364 j.	3 mai '04	28 mars '05	*	24		" Parry Sound.
"	23 mos	14 août '03	16 janv. '05	*	49		" Barrie.
"	23 "	4 mars '04	27 sept. '05	*	20		Comté, Hamilton.
"	18 "	28 déc. '04	6 juil. '05	*	19		Police, Galt.
"	1 an.	8 sept. '04	22 juin '05	*	21		Comté, Bracebridge.
"	1 "	21 nov. '04	6 juil. '05		28		Police, Rainy River.
"	13 mos	18 juin '04	21 mars '05	*	30		" Fort William.
"	6 "	17 août '04	22 déc. '04	*	21		" Ottawa.
"	6 "	16 mars '05	20 mai '05	*	28		" "
"	4 "	1 avril '05	3 juin '05	*	46		" London.
"	4 "	1 " '05	3 " '05	*	27		" "
Vagabondage	6 "	29 juil. '04	22 déc. '04		28		" Woodstock.
"	6 "	28 " '04	23 nov. '04		47		" Beamsville.
"	6 "	30 nov. '04	11 avril '05		24		" Toronto.
"	6 "	21 déc. '04	24 mars '05		21		" Hamilton.
"	6 "	23 fév. '05	24 juil. '05		44		" Barrie.
"	6 "	30 mai '05	31 " '05		32		J. de P., North Bay.
"	6 "	30 " '05	31 " '05		34		" "
Blessures	1 an.	14 juil. '04	21 janv. '05	*	45		Comté, London.

(*Province d'Ontario.*) Prisons communes.

Prison de Barrie—							
Ivresse et désordre	6 mos	4 juil. '05	26 août '05		42		Police, Barrie.
Prison de Belleville—							
Voies de fait	4 "	12 sept. '04	22 nov. '04	*	45		" Belleville.

a Pour être libéré sur parole après deux mois de détention.
d Trois mois et $50 d'amende, ou trois de plus à défaut de paiement.
* Libéré sur parole.

TABLE VII.—Cases in which the Prerogative of Mercy has been exercised during the year ended the 30th September, 1905, in favour of prisoners committed to the following prisons.

(Province of Ontario.) Common jails—*Continued.*

CRIME.	Sentence.	Date of Sentence or Committal.	Date of Pardon or Commutation.	Conditions upon which Pardon or Commutation was granted.	Age and Sex. M	Age and Sex. F	By what Court tried.
Brockville jail—							
Vagrancy	60 dys	Apr. 26, '05	June 3, 05		21		J. P's., Kemptville.
"	40 "	" 26, '05	" 3, '05		32		" "
"	30 "	" 26, '05	" 3, '05		25		" "
"	6 mos	June 9, '05	July 19, '05		21		Police, Brockville.
"	6 "	" 9, '05	" 19, '05		18		" "
Goderich jail—							
Theft as a servant	4 "	Mar. 28, '05	June 29, '05			45	County, Goderich.
Hamilton jail—							
Aggravated assault	*b*	May 3, '05	May 30, '05		26		Police, Hamilton.
Fraud	1 yr.	June 25, '04	Mar. 4, '05		44		" "
North Bay jail—							
Theft	3 mos	May 1, '05	May 30, '05		30		J. P's., North Bay.
Ottawa jail—							
Assault and wounding	3 "	" 4, 05	July 6, '05		43		County, Ottawa.
" causing actual bodily harm.	3 "	Aug. 19, '04	Oct. 16, '04	*	25		" "
Attempted indecent assault.	3 "	May 5, '05	June 14, '05		21		Police "
Grievous assault	4 "	" 5, '05	July 15, '05	*c*	31		County "
Theft	6 mos	June 27, '05	July 31, '05		19		Police, Ottawa.
"	3 "	Jan. 4, '05	Feb. 15, '05	*	27		" "
Vagrancy	3 "	Mar. 17, '05	Mar. 25, '05		45		" "
Parry Sound jail—							
Obtaining money under false pretences.	3 "	Mar. 4, '05	Apr. 27, '05		35		" Burk Falls.
Theft	18 "	June 28, '04	Feb. 2, '05	*	35		" Parry Sound.
Pembroke jail—							
Assault	6 "	May 15, '05	Sept. 7, '05		37		" Arnprior.
Perth jail—							
Vagrancy	6 "	" 22, '05	June 16, '05		23		" Perth.
"	6 "	" 22, '05	" 16, '05		26		" "
"	6 "	" 22, '05	" 16, '05		32		" "
"	6 "	" 22, '05	" 16, '05		22		" "
"	4 "	Dec. 16, '04	Mar. 24, '05		66		J. P's., Carleton Place.
"	4 "	" 6, '04	" 10, '05		60		Police, Perth.
Peterborough jail—							
Theft	1 mo.	July 4, '05	July 19, '05		18		" Peterborough.
"	1 "	" 4, '05	" 19, '05		17		" "
Vagrancy	1 "	June 14, '05	June 20, '05		35		" "
St. Thomas jail—							
Burglary and Theft	1 yr.	July 23, '04	" 9, '05		16		" St. Thomas.
Theft	4 mos	" 4, '05	Sep. 27, '05		38		County "
"	3 "	Nov. 23, '04	Jan. 9, '05		24		Police "
Vagrancy	6 "	July 20, '05	Sept. 5, '05		26		" "
Sandwich jail—							
Vagrancy	6 "	Nov. 14, '04	Mar. 4, '04		79		" Leamington.
"	4 "	Apr. 25, '05	June 3, '05		22		" Windsor.
"	3 "	Dec. 3, '04	Mar. 4, '05		69		" "
Toronto jail—							
Assault	30 dys	Nov. 28, '04	Dec. 15, '04		43		" Toronto.
Obtaining goods under false pretences.	60 "	Apr. 12, '05	Apr. 19, '05		45		Sessions "

b Two months and $7.50 costs, or three months more in default of payment.
c To be released when he shall have served three months.
* Released on ticket of leave.

TABLEAU VII.—Cas où le droit de grâce a été exercé durant l'année finissant le 30 septembre 1905, en faveur des prisonniers envoyés aux prisons suivantes.

(Province d'Ontario.) Prisons communes—*Suite.*

CRIME.	Sentence.	Date de Sentence ou emprisonnement.	Date de Pardon ou commutation.	Conditions sur lesquelles le pardon ou commutation a été accordé.	Age et sexe. H	Age et sexe. F	Par quelle cour mis en jugement.
Prison de Brockville—							
Vagabondage	60 jrs.	26 avril '05	3 juin '05		21		J. de P., Kemptville.
"	40 "	26 " '05	3 " '05		32		" "
"	30 "	26 " '05	3 " '05		25		" "
"	6 mos	9 juin '05	19 juil. '05		21		Police, Brockville.
"	6 "	9 " '05	19 " '05		18		" "
Prison de Goderich—							
Vol comme serviteur	4 "	28 mars '05	29 juin '05		45		Comté, Goderich.
Prison de Hamilton—							
Voies de fait graves	*b*	3 mai '05	30 mai '05		26		Police, Hamilton.
Faux	1 an.	25 juin '04	4 mars '05		44		" "
Prison, North Bay—							
Vol	3 mos	1 mai '05	30 mai '05		30		J. de P., North Bay.
Prison d'Ottawa—							
Voies de fait et blessures.	3 "	4 " '05	6 juil. '05		43		Comté, Ottawa.
Voies de fait et infligeant des blessures corporelles.	3 "	19 août '04	16 oct. '04	*	23		" "
Attentat à la pudeur	3 "	5 mai '05	14 juin '05		21		Police "
Voies de fait graves	4 "	5 " '05	15 juil. '05	*c*	31		Comté "
Vol	6 mos	27 juin '05	31 juil '05		19		Police, Ottawa.
"	3 "	4 janv. '05	15 feb. '05	*	27		" "
Vagabondage	3 "	17 mars '05	25 mars '05		45		" "
Prison de Parry Sound—							
Obtention d'argent sous de faux prétextes.	3 "	4 " '05	27 Apr. '05		35		" Burk Falls.
Vol	18 "	28 juin. '04	2 feb. '05	*	35		" Parry Sound.
Prison de Pembroke—							
Voies de fait	6 "	15 mai. '05	7 Sept. '05		37		" Arnprior.
Prison de Perth—							
Vagabondage	6 "	22 " '05	16 juin '05		23		" Perth.
"	6 "	22 " '05	16 " '05		26		" "
"	6 "	22 " '05	16 " '05		32		" "
"	6 "	22 " '05	16 " '05		22		" "
"	4 "	16 déc. '04	24 mars '05		66		J. de P., Carleton Place.
"	4 "	6 " '04	10 " '05		60		Police, Perth.
Prison de Peterborough—							
Vol	1 moi	4 juil. '05	19 juil '05		18		" Peterborough.
"	1 "	4 " '05	19 " '05		17		" "
Vagabondage	1 "	14 juin '05	20 juin '05		35		" "
Prison de St. Thomas—							
Effract. de nuit et vol	1 an.	23 juil. '04	9 " '05		16		" St. Thomas.
Vol	4 mos	4 " '05	27 sept. '05		38		Comté "
"	3 "	23 nov. '04	9 janv. '05		24		Police "
Vagabondage	6 "	20 juil. '05	5 sept. '05		26		" "
Prison de Sandwich—							
Vagabondage	6 "	14 nov. '04	4 mars '04		79		" Leamington.
"	4 "	25 avril '05	3 juin '05		22		" Windsor.
"	3 "	3 déc. '04	4 mars '05		69		" "
Prison de Toronto—							
Voies de fait	30 jr.	28 nov. '04	15 dec. '04		43		" Toronto.
Obtention d'effet sous de faux prétextes.	60 "	12 avril '05	19 avril '05		45		Sessions "

b Deux mois et $87.50 de frais, ou trois mois de plus à défaut de paiement.
c Pour être libéré après trois mois de détention.
* Libérés sur parole.

TABLE VII.—Cases in which the Prerogative of Mercy has been exercised during the year ended the 30th September, 1905, in favour of prisoners committed to the following prisons

CRIME.	Sentence.	Date of Sentence or Committal.	Date of Pardon or Commutation.	Conditions upon which Pardon or Commutation was granted.	Age and Sex. M	Age and Sex. F	By what Court tried.
(*Province of Ontario.*)		Common Jails—*Concluded.*					
Toronto jail—Con.							
Stealing	30 dys	Mar. 2, '05	Mar. 14, '05		24		Police, Toronto.
"	10 "	Feb. 16, '05	Feb. 22, '05		22		" "
Theft	6 mos	Oct. 28, '05	Mar. 15, '05 *		21		" "
Vagrancy	6 "	Nov. 30, '04	Dec. 30, '04		29		" Toronto Junction.
"	1 "	May 29, '05	June 10, '05		40		" Toronto.
Whitby jail—							
Vagrancy	6 mos	June 12, '05	July 31, '05		40		" Whitby.
"	5 "	" 9, '05	" 6, '05 *a*		86		" "
(*Province of Quebec.*)		Provincial Penitentiary—St Vincent de Paul.					
Assault with intent to rob.	6 yrs.	Dec. 13, '00	Dec. 22, '00 *		26		Sessions, Montreal.
Attempt to murder	5 "	Apr. 5, '04	Apr. 3, '05 *		39		King's Bench, Valleyfield
" "	5 "	" 15, '03	Nov. 22, '04 *		24		" Quebec.
" to procure abortion.	5 "	June 15, '03	June 5, '05		38		" Montreal.
Attempt to steal from the person.	3 "	Oct. 29, '03	May 8, '05 *		28		Sessions, "
Breaking into a place of public worship.	3 "	Jan. 27, '03	" 20, '05 *		47		" "
Cattle stealing	5 yrs.	May 14, '03	Feb. 8, '05 *		40		Supreme, Calgary.
False pretences	2 "	Apr. 7, '04	" 13, '05 *		34		Sessions, Montreal.
"	2 "	" 14, '04	Mar. 21, '05 *		35		" "
Forgery	4 "	Sept 27, '04	May 8, '05		26		" "
"	2 "	June 16, '04	April 3, '05 *		19		" "
" of a notarial deed	4 "	Apr. 20, '03	Dec. 23, '04		60		King's Bench, Montreal.
" " "	3 "	" 20, '03	Feb. 8, '05		54		" "
Gross indency on male person.	3 "	July 21, '03	July 31, '05 *		20		Sessions, Montreal.
Horse stealing	5 "	Oct. 27, '03	Oct. 21, '04 *		23		Dist. Mag., Sherbrooke.
"	27 mos	Aug. 27, '03	Mar. 10, '05		36		" Arthabaska.
House breaking and theft	2 yrs.	June 27, '03	" *		19		" Rimouski.
" "	10 "	Jan. 15, '03	May 30, '05 *		26		Sessions, Montreal.
Incest	8 "	Apr. 5, '00	June 16, '05 *		42		Queen's Bence, Hull.
Perjury	2 "	Mar. 28, '04	Dec. 22, '04 *		48		King's Bch, Beauharnois.
Rec. stolen property	5 "	Dec. 17, '02	Feb. 2, '05		30		Supreme, Maple Creek.
Robbery	5 "	Nov. 14, '01	June 27, '05 *b*		32		Sessions, Montreal.
" with violence	10 "	" 27, '02	May 20, '05 *		27		King's Bench, Montreal.
" "	9 "	" 22, '02	June 27, '05 *		30		" "
" "	6 "	Jan. 21, '02	Jan. 16, '05 *		26		Sessions, Montreal.
" "	5 "	Mar. 23, '04	July 31, '05		21		Dist. Mag., Sherbrooke.
Shooting with intent to kill and murder	14 "	" 16, '96	Jan. 16, '05 *		31		Queen's Bench, Montreal.
Shopbreaking	5 "	Jan. 29, '03	Sept 27, '05 *		20		Sessions, Montreal.
"	4 "	Feb. 10, '03	Mar. 10, '05 *		24		" "
"	4 "	May 19, '03	July 6, '05 *		19		" "
"	4 "	" 19, '03	Jan. 16, '05 *		25		" "
" and theft	5 "	Aug. 3, '02	Mar. 10, '05 *		27		" Quebec.
Theft	3 "	Apr. 28, '04	Dec. 23, '04 *		17		" Montreal.
"	4 "	July 13, '03	July 19, '05 *		18		" "

a Released upon condition that he pays cost of prosecution.
b Released upon condition that he accepts employment provided for him.
* Released on ticket of leave.

TABLEAU VII.—Cas où le droit de grâce a été exercé durant l'année finissant le 30 septembre 1905, en faveur des prisonniers envoyés aux prisons suivantes.

(*Province d'Ontario.*)	Prisons Communes—*Fin.*						
CRIME.	Sentence.	Date de Sentence ou emprisonnement.	Date de Pardon ou commutation.	Conditions sur lesquelles le pardon ou commutation a été accordé.	Age et sexe. H	F	Par quelle cour mis en jugement.
Prison de Toronto—Fin.							
Vol	30 jrs.	2 mars '05	14 mars '05		24		Police, Toronto.
"	10 "	16 feb. '05	22 fév. '05		22		" "
"	6 mos	28 oct. '05	15 mars '05 *		21		" "
Vagabondage	6 "	30 nov. '04	30 dec. '04		29		" Toronto Junction.
"	1 "	29 mai '05	10 jun '05		40		" Toronto.
Prison de Whitby—							
Vagabondage	6 "	12 juin '05	31 juil '05		40		" Whitby.
"	5 "	9 " '05	6 " '05	*a*	86		" "
(*Province de Québec.*)	Penitencier Provincial—St. Vincent de Paul.						
Voies de fait avec intention de vol.	6ans.	13 déc. '00	22 déc. '04 *		26		Sessions, Montréal.
Meurtre, tentative de	5 "	5 avril '04	3 avril '05 *		39		Banc du Roi, Valleyfield.
" "	5 "	15 " '03	22 nov. '04 *		24		" " Québec.
Tentative d'avortement.	5 "	15 juin '03	5 juin '05		38		" " Montréal.
" de vol sur la personne.	3 "	29 oct. '03	8 mai '05 *		28		Sessions "
Entrant avec fracas dans une place du culte public.	3 "	27 janv. '03	20 " '05 *		47		" "
Vol de bestiaux	5ans.	14 mai '03	8 fév. '05 *		40		Suprême, Calgary.
Faux prétextes	2 "	7 avril '04	18 " '05 *		34		Sessions, Montréal.
"	2 "	14 " '04	21 mars '05 *		35		" "
Faux	4 "	27 sept. '04	8 mai '05		26		" "
"	2 "	16 juin '04	3 avril '05 *		19		" "
Forgeant un acte notarié	4 "	20 avril '03	23 dec. '04		60		Banc du Roi, Montréal.
" "	3 "	20 " '03	8 feb. '05		54		" "
Indécence grossiere sur une personne du sexe masculin	3 "	21 juil. '03	31 juil. '05 *		29		Sessions, Montréal.
Vol de chevaux	5 "	27 oct. '03	21 oct. '04 *		23		M. de Dist., Sherbrooke.
" "	27 mos	27 août. '03	10 mars '05		36		" Arthabaska.
Bris de maison et vol	2 ans.	27 juin '03	10 " '05 *		19		" Rimouski.
" "	10 "	15 janv. '03	30 mai '05 *		26		Sessions, Montréal.
Inceste	8 "	5 avril '00	16 juin '05 *		42		Banc de la Reine, Hull.
Parjure	2 "	28 mars '04	22 déc. '04 *		48		" Roi, Beauharnois.
Recel d'objets volés	5 "	17 déc. '02	2 féb. '05		30		Suprême, Maple Creek.
Vol	5 "	14 nov. '01	27 juin '05 *b*		32		Sessions, Montréal.
" avec violence	10 "	27 " '02	20 mai '05 *		27		Banc du Roi, Montréal.
" "	9 "	22 " '02	27 juin '05 *		30		" "
" "	6 "	21 janv. '02	16 janv. '05 *		26		Sessions, Montréal.
" "	5 "	23 mars '04	31 juil. '05		21		M. de Dist., Sherbrooke.
Usage d'arme à feu avec int. de meurtre	14 "	16 " '96	16 janv. '05 *		31		Banc de la Reine, Mont'l.
Bris de magasin	5 "	19 janv. '03	27 sept. '05 *		20		Sessions, Montréal,
"	4 "	10 fév. '03	10 mars '05 *		24		" "
"	4 "	19 mai '03	6 juil. '05 *		19		" "
"	4 "	19 " '03	16 janv. '05 *		25		" "
" et vol	5 "	3 août '02	10 mars '05 *		27		" Québec.
Vol	3 "	28 avril '04	23 déc. '04 *		17		" Montréal.
"	4 "	13 juin '03	19 juil. '05 *		18		" "

a Libéré à condition qu'il paye les frais de poursuite.
b Libéré à condition qu'il accepte l'emploi qui lui sera offert.
* Libérés sur parole.

TABLE VII.—Cases in which the Prerogative of Mercy has been exercised during the year ended the 30th September, 1905, in favour of prisoners committed to the following prisons.

CRIME.	Sentence.	Date of Sentence or Committal.	Date of Pardon or Commutation.	Conditions upon which Pardon or Commutation was granted.	Age and Sex. M	Age and Sex. F	By what Court tried.
(Province of Quebec.) Provincial Penetentiary—St. Vincent de Paul—*Concluded.*							
Theft	6 yrs.	Jan. 29, 03	Aug. 23, 05 *		22		Sessions, Montral.
"	2 "	Sept 27, '04	Feb. 13, '05 *		49		" "
"	2 "	Nov. 28, '03	Nov. 22, '04		37		" "
"	2 "	Aug. 7, '03	Oct. 21, '04 *		27		" "
"	3 "	" 3, '04	July 22, '05 *		39		" "
"	7 "	April 6, '00	" 12, '05		40		Dist. Mag., Sweetsburg.
"	4 "	July 19, '02	Jan. 16, '05 *		24		" "
"	3 "	Jan. 26, '04	Mar. 24, '05 *		34		" "
"	3 "	Mar. 15, '04	" 10, '05 *		32		King's Bch., Valleyfield.
"	3 "	Dec. 18, '03	June 10, '05 *		43		J. P's., Montreal.
" as a servant	5 "	Mar. 18, '02	July 6, '05 *		29		" "
" "	2 "	Oct. 20, '03	June 9, '05		25		Sessions. "
" "	2½ "	Sept 26, '04	July 6, '05 *		32		Dist. Mag., Hull.
" from a dwelling	3 "	Aug. 25, '04	Mar. 11, '05		24		J. P's., Montreal.
" the person	7 "	June 5, '02	Apr. 12, '05 *		32		Dist. Mag., Sorel.
" " "	7 "	Sept 25, '02	Aug. 26, '05		35		Sessions, Montreal.
Wounding	4 "	Mar. 25, '04	Apr. 28, '05		28		" Quebec.
(Province of Quebec.) Reformatories.							
Montreal Reform School—							
Theft	3 yrs.	May 4, '03	Aug. 26, '05		16		Sessions, Quebec.
(Province of Quebec.) Common jails.							
Hull Jail—							
Assault causing bodily harm.	14 mos	Jan. 20, '05	Apr. 17, '05 *		40		Dist. Mag., Hull.
" "	14 "	" 20, '05	June 20, '05 *		40		" "
Larceny	12 "	Mar. 12, '04	Oct. 18, '04		32		King's Bench "
Receiving stolen goods	12 "	Apr. 5, '05	Aug. 4, '05		49		" "
Seduction	6 "	" 12, '05	May 18, '05		36		" "
Taking hand car (prop. of C.P.R.)	23 "	Dec. 23, '04	Feb. 17, '05		16		Dist. Mag. "
Theft	9 "	June 10, '04	Dec. 22, '04 *		23		" "
Montreal Jail—							
Assault & drunkenness *a*		Nov. 18, '04	May 30, '05 *		22		Recorder, Montreal.
Drunk and disorderly and assaulting wife.	2 m & $20 or 6 mos.	Jan. 4, '05	Apr. 19, '05		40		" "
2nd charge	6 mos.						
False pretences	3 mos.	Mar. 3, '05	May 8, '05		28		Sessions "
Forgery	23 m.	Feb. 9, '04	Nov. 29, '04 *	Illness	31		" "
Frequenting disorderly house.	3 m. & $50 or 3 a. m.	Feb. 18, '05	Mar. 8, '05		28		Recorder "
Inflicting grievous bodily harm.	6 mos.	Sept. 23, '04	Dec. 22, '04 *		23		King's Bench "
Keeping a disorderly house.	3m $50 or 3a.m	July 7, '04	Oct. 20, '04		35		Recorder "
" "	2m $50 or 3a m	Feb. 17, '05	Apr. 14, '05 *		28		" "
Loitering	2 mos.	Oct. 5, '04	Nov. 14, '04 *		21		" "

a Six months and $110 fine, or seven months more in default of payment.
Released on ticket of leave.

TABLEAU VII.—Cas où le droit de grâce a été exercé durant l'année finissant le 30 Septembre 1905, en faveur des prisonniers envoyés aux prisons suivantes.

(Province of Quebec.) Pénitencier provincial—Saint-Vincent-de-Paul—*Fin.*

CRIME.	Sentence.	Date de Sentence ou emprisonnement.	Date de Pardon ou commutation.	Condition sur lesquelles le pardon ou commutation a été accordé.	Age et sexe. H	F	Par quelle cour mis en jugement.
Vol	6 ans.	29 janv. '03	23 août '05 *		22		Sessions, Montreal.
"	2 "	27 sept. '04	13 fév. '05 *		29		" "
"	2 "	28 nov. '03	22 nov. '04		37		" "
"	2 "	7 août '03	21 oct. '04 *		27		" "
"	3 "	3 " '04	22 juil. '05 *		39		" "
"	7 "	6 avril '00	12 " '05		40		M. de Dist., Sweetsburg.
"	4 "	19 juil. '02	16 janv. '05 *		24		" "
"	3 "	26 juin '04	24 mars '05 *		34		" "
"	3 "	15 mars '04	10 " '05 *		32		Banc du Roi, Valleyfield.
"	3 "	18 déc. '03	10 juin '05 *		43		J. de P., Montreal.
" comme serviteur	5 "	18 mar. '02	6 juil. '05 *		29		" "
" " "	2 "	20 oct. '03	9 juin '05		25		Sessions, "
" " "	2¾ "	26 sept. '04	6 juil. '05 *		32		M. de Dist., Hull.
" dans une maison	3 "	25 août '04	11 mars '05		24		J. de P., Montreal.
" sur la personne	7 "	5 juin '02	12 avril '05 *		32		M. de Dist., Sorel.
" "	7 "	25 sept. '02	26 août '05		35		Sessions, Montreal.
Blessures	4 "	25 mars '04	28 avril '05		28		" Quebec.

(Province de Quebec.) Maisons de reforme.

Maison de Réforme, Montreal—							
Vol	3 ans.	4 mar. '03	26 Août '05		16		Sessions, Quebec.

(Province de Quebec.) Prisons communes.

Prison de Hull—							
Voies de fait causant des bless. corporelles.	14 mos	20 juin '05	17 avril '05 *		40		Mag. de Dist. Hull.
" "	14 "	20 " '05	20 juin '05 *		40		" "
Larcin	12 "	12 mars '04	18 oct. '04		32		Banc du Roi "
Recel d'objets volés	12 "	5 avril '05	4 août '05		49		" "
Séduction	6 "	12 " '05	18 mai '05		36		" "
Prenant un *hand car* (prop. du C.P.R.)	2 "	23 déc. '04	17 fév. '05		16		Mag. de Dist. "
Vol	9 "	10 juin '04	22 déc. '04		23		" "
Prison de Montréal—							
Voies de fait et ivresse	a	18 nov. '04	30 mai '05 *		22		Recorder, Montreal.
Ivresse et désordre et agression sur sa femme.	2 m. & $20 ou 6 mos.	4 janv. '05	19 avril '05		40		" "
2e accusation	6 mos.						
Faux prétextes	3 mos	3 mars '05	8 mai '05		28		Sessions "
Faux	23 "	9 fév. '04	29 nov. '04	Maladie	31		" "
Fréquentant une maison de désordre.	3 m. et $50 ou enc3m	18 " '05	8 mai '05		28		Recorder "
Infligeant des blessures corporelles.	6 mois	23 sept. '04	22 déc. '04 *		23		Banc du Roi "
Tenant une maison de désordre.	3 m. et $50 ou enc3m	7 juil. '04	20 oct. '04		35		Recorder "
" "	2 m. et $50 ou enc3m	17 fév. '05	14 avril '05 *		28		" "
Fainéantise	2 mos	5 oct. '04	14 nov. '04 *		21		" "

a Six mois et $110 d'amende, ou sept mois de plus à défaut de paiement.
* Libérés sur parole.

TABLE VII.—Cases in which the Prerogative of Mercy has been exercised during the year ended the 30th September, 1905, in favour of prisons committed to the following prisons.

(Province of Quebec.) Common jails—*Concluded.*

CRIME	Sentence.	Date of Sentence or Committal.	Date of Pardon or Commutation.	Conditions upon which Pardon or Commutation was granted.	Age and Sex. M	Age and Sex. F	By what Court tried.
Montreal Jail—Con.							
Obtaining goods under false pretences.	1 mo.	Mar. 30, '05	Apr. 11, '05		38		Sessions, Montreal.
Rape	23 mos	Nov. 21, '03	Dec. 22, '04	*	19		King's Bench "
Receiving stolen goods	3 "	May 4, '05	June 3, '05		40		Sessions "
Shopbreaking	6 "	Jan. 24, '05	Apr. 12, '05	*	16		" "
Stealing	12 "	Aug. 2, '04	Dec. 23, '04			21	" "
"	6 "	Dec. 6, '04	Feb. 10, '04	*b*	44		J. P.'s "
" a post bag	9 "	July 18, '04	Oct. 17, '04	*	16		Sessions "
Theft	12 "	Mar. 3, '04	Dec. 22, '04	*	22		" "
"	6 "	Apr. 29, '05	Sept. 27, '05	*	28		" "
"	1 mo.	Sept. 30, '04	Oct. 20, '04		22		J. P.'s "
" as a servant	9 mos	Aug. 24, '04	Feb. 2, '05	*	22		" "
" from employer	18 "	Nov. 14, '04	June 20, '05		43		King's Bench "
" of a st. ry. con. box & contents.	9 "	" 23, '04	May 20, '05	*	43		" "
Uttering forged papers	6 "	Apr. 4, '05	July 31, '05		21		Sessions "
Vagrancy	4 "	June 14, '05	Aug. 4, '05		25		" "
"	4 "	" 14, '05	" 4, '05		23		" "
"	4 "	" 14, '05	" 4, '05		19		" "
"	4 "	" 14, '05	" 4, '05		24		" "
"	4 "	" 14, '05	" 4, '05		23		" "
"	4 "	" 14, '05	" 4, '05		24		" "
"	4 "	" 14, '05	Sept. 21, '05		23		" "
Vagrancy	3 mos	June 20, '05	Aug. 11, '05			22	Recorder, Montreal.
"	*a*	Oct. 14, '04	Dec. 6, '04	*	30		Sessions, "
Quebec Jail—							
Indecent assault	18 mos	Nov. 7, '04	June 10, '05	*	20		King's Bench, Quebec.
Stealing	3 "	Dec. 9, '04	Dec. 23, '04			22	Dist. Mag., "
" from the person	4 "	Mar. 20, '05	July 6, '05		23		" "
Theft	6 "	" 5, '05	June 27, '05	*		21	Sessions, "
"	6 "	" 6, '05	July 19, '05	*	17		Dist. Mag., "
"	6 "	" 27, '05	" 6, '05	*	23		Sessions, "
"	3 "	June 13, '05	" 22, '05	*		20	" "
" as a servant	6 "	Mar. 18, '05	June 22, '05		37		" "
St. John's Jail—							
Drunkenness	6 "	July 26, '04	Oct. 20, '04	*c*	68		Dist. Mag., St. Johns.
Ste. Scholastique Jail—							
Indecent assault	20 "	Feb. 20, '04	Feb. 3, '05	*	25		King's Bench, St. Scholastique.
Sherbrooke Jail—							
Theft	6 "	May 30, '04	Oct. 20, '04	*	22		Dist. Mag., Sherbrooke.
Vagrancy	6 "	Aug. 8, '04	" 30, '04		26		" "
Working an illicit still	$100 & cos. or 3 mos	Jan. 31, '05	Apr. 3, '05		47		" "
Sweetsburg Jail—							
Theft	5 "	" 13, '50	May 20, '05		24		" Sweetsburg.
"	5 "	" 27, '05	Apr. 11, '05		28		" "
Three Rivers Jail—							
Causing grievous bodily harm with intent to maim.	23 "	Mar. 16, '04	Oct. 27, '04		26		King's Bch. Three Rivers

a Three months with bail to keep the peace.
b Ticket of leave issued in order that prisoner may receive medical treatment.
c Prisoner released upon condition that relations take him back to Three Rivers.
* Released on ticket of leave.

TABLEAU VII.—Cas où le droit de grâce a été exercé durant l'année finissant le 30 septembre 1905, en faveur des prisonniers envoyés aux prisons suivantes.

(Province de Québec.) Prisons communes—*Fin.*

CRIME.	Sentence.	Date de Sentence ou emprisonnement.	Date de Pardon ou commutation.	Conditions sur lesquelles le pardon ou commutation a été accordé.	Age et sexe. H	F	Par quelle cour mis en jugement.
Prison de Montréal—Fin							
Obtention d'effets sous de faux prétextes.	1 mos	30 mars '05	11 avril '05		38		Sessions, Montréal.
Viol	23 "	21 nov. '03	22 déc. '04	*	19		Banc du Roi "
Recel d'objets volés	3 "	4 mai '05	3 juin '05		40		Sessions "
Bris de magasin	6 "	24 janv. '05	12 avril '05	*	16		" "
Vol	12 "	2 août. '04	22 déc. '04			21	" "
"	6 "	6 déc. '04	10 fév. '04	* *b*	44		J. de P. "
" d'un sac postal	9 "	18 juil. '04	17 oct. '04	*	16		Sessions "
"	12 "	3 mars '04	22 déc. '04	*	22		" "
"	6 "	20 avril '05	27 sept. '05	*	28		" "
"	1 "	30 sept. '04	20 oct. '04		22		J. de P. "
" comme serviteur	9 "	24 août. '04	2 fév. '05	*	22		" "
" chez un patron	18 "	14 nov. '04	20 juin. '05		43		Banc du Roi "
" d'une boite de conducteur de tramway avec contenu	9 "	23 " '04	20 mai '05	*	43		" "
Emiss. de faux papiers	6 "	4 avril '05	31 juil. '05		21		Sessions "
Vagabondage	4 "	14 juin '05	4 août. '05		25		" "
"	4 "	14 " '05	4 " '05		23		" "
"	4 "	14 " '05	4 " '05		19		" "
"	4 "	14 " '05	4 " '05		24		" "
"	4 "	14 " '05	4 " '05		23		" "
"	4 "	14 " '05	4 " '05		24		" "
"	4 "	14 " '05	21 sept. '05		23		" "
Vagabondage	3 mos	20 juin '05	11 août '05			22	Recorder, Montréal.
"	*a*	14 oct. '04	6 déc. '04	*	30		Sessions, "
Prison de Québec—							
Attentat à la pudeur	18 mos	7 nov. '04	10 juin '05	*	20		Banc du Roi, Québec.
Vol	3 "	9 déc. '04	23 déc. '04			22	Mag. de Dist., "
" sur la personne	4 "	20 mars '05	6 juil. '05		3		" "
"	6 "	5 " '05	27 juin '05	*		21	Sessions, "
"	6 "	6 " '05	19 juil. '05	*	17		Mag. de Dist., "
"	6 "	27 " '05	6 " '05	*	23		Sessions, "
"	3 "	13 juin '05	22 " '05	*		20	" "
" comme serviteur	6 "	18 mars '05	22 juin '05		37		" "
Prison de St. Jean—							
Ivresse	6 "	26 juil. '04	20 oct. '04	*c*	68		Mag. de Dist., St-Jean.
Prison de St. Scholastique							
Attentat à la pudeur.	20 "	29 fév. '04	3 fév. '05	*	25		B. du Roi, Ste Scholastique
Prison de Sherbrooke—							
Vol	6 "	30 mai '04	20 oct. '04	*	22		Mag. de Dist., Sherbrooke
Vagabondage	6 "	8 août '04	30 " '04		26		" " "
Travaillant un alambic	$100 et les frais ou 3 mois	31 janv. '05	3 avril '05		47		" " "
Prison de Sweetsburg—							
Vol	5 mos	13 " '05	20 mai '05		24		" " Sweetsburg
"	5 "	27 " '05	11 avril '05		28		" " "
Prison de Trois-Rivières							
Causant des blessures corpor. graves avec intention d'estropier	23 "	16 mars '04	27 oct. '04		26		B. du Roi, Trois-Rivières

a Trois mois avec caution pour garder la paix.
b Libéré sur parole afin que le prisonnier reçoive un traitement médical.
c Prisonnier libéré à condition que ses parents le ramènent à Trois-Rivières.
* Libéré sur parole.

TABLE VII.—Cases in which the Prerogative of Mercy has been exercised during the year ended the 30th September, 1905, in favour of prisoners committed to the following prisons.

(P.E.I., N.S. & N.B.) Provincial Penitentiary—Dorchester, N.B.

CRIME.	Sentence.	Date of Sentence or Committal.	Date of Pardon or Commutation.	Conditions upon which Pardon or Commutation was granted	Age and Sex. M	Age and Sex. F	By what Court tried.
Assault, causing grievous bodily harm.	4 yrs.	Dec. 14, '03	June 5, '05	*		27	Stip. Mag., Halifax, N.S.
Assault, causing bodily harm.	2 "	June 27, '03	Dec. 22, '04	*		21	Supreme, Sydney, N.S.
Assault, indecent	2 "	Mar. 11, '04	Apr. 15, '05	*		24	" St. John, N.B.
Arson	5 "	May 30, '02	July 6, '05	*		36	" Windsor, N.S.
"	5 "	Jan. 27, '03	Dec. 22, '04			61	County, Kentville, N.S.
"	5 "	July 18, '05	Sept 18, '05	*		61	Supreme, Windsor, N.S.
Attempt to have carnal knowledge of girl under 14 years.	*a*	May 29, '03	Dec. 22, '04	Remis. of 10 lashes.		45	Assize, St. John, N.B.
Breaking and entering	6 yrs.	Mar. 2, '00	Mar. 15, '05	*		24	County, "
" " "	2 "	Apr. 4, '04	Sept 27, '05	*		20	" "
Breaking, entering and stealing.	5 "	May 3, '02	June 10, '05	*		24	Police, Halifax, N.S.
" "	5 "	June 4, '01	May 8, '05	*		19	County, Hampton, N.B.
" "	4 "	Aug. 27, '02	Feb. 4, '05	*		58	Circuit, St. John, N.B.
" "	4 "	Mar. 19, '03	Apr. 11, '05	*		24	County, Sydney, N.S.
" "	4 "	Aug. 7, '03	June 20, '05	*		35	" Kentville, N.S.
" "	4 "	Sept 21, '03	July 19, '05	*		16	Police, Halifax, N.S.
" "	3 "	Feb. 5, '03	Mar. 11, '05	*		32	County, Sydney, N.S.
" "	2 "	May 11, '04	June 9, '05	*		34	" Halifax, N.S.
Breaking, entering and stealing	3 yrs.	Apr. 28, '04	July 6, '04	*		21	County, Port Hood, N.S.
" " "	3 "	Dec. 17, '03	Feb. 10, '05	*		19	" " " "
" with intent	2½ "	June 27, '03	Dec. 25, '04	*		20	Supreme, Sidney, N.S.
Burglary and theft	10 "	May 22, '99	Sept 27, '05	*		23	County, Dorchester N.B.
False pretences	1¼ "	Jan. 4, '04	June 10, '05			20	Police, Halifax, N.S.
Larceny and resisting arrest &	4 " & 30d.	June 25, '03	Jan. 16, '05	*b*		30	Stip. Mag. " "
Larceny	3 yrs.	Dec. 6, '02	Dec. 22, '04	*		40	Supreme, St. John, N.B.
"	3 "	Mar. 24, '03	May 5, '05			28	County, Dalhousie, "
"	3 "	Nov. 9, '03	Feb. 4, '05	*		27	Police, Woodstock, "
Manslaughter	2 "	May 11, '04	June 9, '05	*		34	County, Halifax, N.S.
Obtaining money under false pretences	2 " & 7 d.	Feb. 6, '04	July 14, '05	*		46	Supreme, Sydney. "
Rape and arson.	25 yrs.	Oct. 18, '94	Oct. 16, '04	Sent. red. to 15 yrs.		34	Assize, Woodstock, N.B.
Receiving stolen goods	2 "	Jan. 30, '04	Feb. 4, '05			71	County, Digby, N.S.
" "	2 "	July 6, '04	July 19, '05	*		21	Supreme, Sydney, "
Shooting with intent	4 "	June 27, '03	Apr. 15, '05	*		28	" " "
" "	2 "	" 1, '04	Sept. 27, '05	*c*		38	" Victoria, "
Shopbreaking and theft	5 "	" 27, '03	Dec. 22, '04	*		23	" Sydney, "
Stealing	3 "	Aug. 17, '03	July 6, '05	*		24	Police, Fredericton, N.B.
"	3 "	July 15, '03	Jan. 18, '05	*		56	County, St. John, "
"	2 "	" 14, '04	Apr. 12, '05	*		24	" Amherst, N.S.
"	3 "	Mar. 8, '04	June 20, '05	*		18	" " "
Theft	2 "	Oct. 23, '03	May 16, '05	*		22	" Sydney, N.S.
"	4 "	June 27, '03	Feb. 4, '05	*		35	" " "
"	3 "	Sept 12, '03	July 31, '05	*		37	Supreme, Amherst, N.S.

a Two years and 20 lashes.

b A ticket of leave to issue for one month and to be cancelled if prisoner does not return to his home in Ireland.

c Released on ticket of leave with the condition that prisoner is not to re-visit Cape Breton until June 1st, 1906.

* Released on ticket of leave.

TABLEAU VII.—Cas où le droit de grâce a été exercé durant l'année finissant le 30 septembre 1905, en faveur des prisonniers envoyés aux prisons suivantes.

(I. du P.-E., N.-E. et N.-B.) Pénitencier Provincial—Dorchester, N.B.

CRIME.	Sentence.	Date de Sentence ou emprisonnement.	Date de Pardon ou commutation.	Conditions sur lesquelles le pardon ou commutation a été accordé.	Age et sexe H	Age et sexe F	Par quelle cour mis en jugement.
Voies de fait causant des blessures corpor. graves	4 ans	14 déc '03	5 juin '05	*	27		Mag. stip., Halifax, N.-E.
Voies de fait causant des blessures corporelles..	2 "	27 juin '03	22 dec. '04	*	21		Suprême, Sydney, N.-E.
Attentat à la pudeur ...	2 "	11 mars '04	15 avril '05	*	24		" St-Jean, N.-B.
Incendie	5 "	30 mai '02	6 juil. '05	*	36		" Windsor, N.-E.
"	5 "	27 janv. '03	22 déc. '04		61		Comté, Kentville, N.-E
"	5 "	18 juil. '05	18 sept '05	*	61		Suprême, Windsor, N.-E.
Tentative de commerce charnel avec une fille au-dessous de 14 ans.	*a*	29 mai '03	22 dec. '04	Remission de 10 coups de fouet.	45		Assises, St-Jean, N.-B.
Effraction et entrée.....	6 ans	2 mars '00	15 mars '05	*	24		Comté "
" "	2 "	4 avril '04	27 sept. '05	*	20		" "
" " et vol.	5 "	3 mai '02	10 juin '05	*	24		Police, Halifax, N.-E.
" " "	5 "	4 juin '01	8 mai '05	*	19		Comte, Hampton, N.-B.
" " "	4 "	27 août '02	4 fév. '05	*	58		Circuit, St-Jean, N. B.
" " "	4 "	19 mars '03	11 avril '05	*	24		Comté, Sydney, N.-E.
" " "	4 "	7 août '03	20 juin '05	*	35		" Kentville, N.E.
" " "	4 "	21 sept. '03	19 juil. '05	*	16		Police, Halifax, N.-E.
" " "	3 "	5 fév. '03	11 mars '05	*	32		Comté, Sydney, N.-E.
" " "	2 "	11 mai '04	9 juin '05	*	34		Halifax, N.-E.
Effraction, entrée et vol.	3 ans.	28 avril '04	6 juil '04	*	21		Comté, Port-Hood, N.-E.
" " "	3 "	17 déc. '03	10 fév. '05	*	19		" " "
" avec intention	2½ "	27 juin '03	25 déc. '04	*	20		Suprême Sydney, N.-E.
Effraction de nuit et vol.	10 "	22 mai '99	22 sept. '05	*	23		Comté, Dorchester. N.-B.
Faux prétextes.....	1¼ "	4 janv. '04	10 juin '05		20		Police, Halifax, N.-E.
Vol. et resistant à une arrestation	4 a. et 30 jrs.	25 juin '03	16 janv. '05	*b*	30		Mag. stip. " "
Vol	3 ans.	6 déc. '02	22 déc. '04	*	40		Suprême, St-Jean. N.-B.
"	3 "	24 mars '03	5 mai '05	*	28		Comte, Dalhousie, "
"	3 "	9 nov. '03	4 fév. '05	*	27		Police, Woodstock, "
Homicide non prémédité	2 "	11 mai '04	9 juin '05	*	34		Comté, Halifax, N.-E.
Obtention d'argent sous de faux prétextes.	2 a. et 7 jrs.	6 fév. '04	14 juil. '05	*	46		Suprême, Sydney, "
Viol et incendie	25 ans.	18 oct. '94	16 oct. '04	*Sent. com. à 15 ans	34		Assises, Woodstock, N-B
Recel d'objets volés.....	2 "	30 janv. '04	4 fév. '05		71		Comte, Digby, N.-E.
" " "	2 "	6 juil. '04	19 juil. '05	*	21		Suprême, Sydney, "
Usage d'armes avec int.	4 "	27 juin '03	15 avril '05	*	28		" " "
" " "	2 "	1 " '04	27 sept. '05	*c*	38		" Victoria, "
Bris de magasin et vol..	5 "	27 " '03	22 déc. '04	*	23		" Sydney, "
Vol	3 "	17 août '03	6 juil. '05	*	24		Police, Fredericton, N.-B.
"	3 "	15 juil. '03	18 janv. '05	*	56		Comté, St-Jean. "
"	2 "	14 " '04	12 avril '05	*	24		" Amherst, N.-E.
"	3 "	8 mars '04	20 juin '05	*	18		" " "
"	2 "	23 oct. '03	16 mai '05	*	22		" Sydney, "
"	4 "	27 juin '03	4 fév. '05	*	35		" " "
"	3 "	12 sept. '03	31 juil. '05	*	37		Suprême, Amherst, "

a Deux ans et 20 coups de fouet.
**b* Libération sur parole pour un mois devant être annulée si le prisonnier ne retourne pas en Irlande.
**c* Libéré sur parole à condition que le prisonnier ne retourne pas au Cap-Breton avant le 1er juin 1906.
* Libérés sur parole.

TABLE VII.—Cases in which the Prerogative of Mercy has been exercised during the year ended the 30th September, 1905, in favour of prisoners committed to the following prisons.

CRIME.	Sentence.	Date of Sentence or Committal.	Date of Pardon or Commutation.	Conditions upon which Pardon or Commutation was granted.	Age and Sex. M	Age and Sex. F	By what Court tried.
(P.E.I., N.S. & N.B.) Provincial Penitentiary, Dorchester, N.B.—*Concluded.*							
Theft	2½ yrs	Feb. 1,'04	Dec. 30,'04	*	24	..	Supreme, Sydney, N.S.
"	2½ "	" 1,'04	" 30,'04	*	30	..	" " "
"	3 "	" 11,'04	" 30,'04	*	24	..	" " "
"	2½ "	July 4,'04	May 30,'04	*	25	..	" " "
"	2 "	" 6,'04	Apr. 14,'05	*	24	..	" " "
"	2 "	Dec. 1,'04	July 22,'05	*	18	..	" Summerside, PEI
"	3 "	" 11,'03	Dec. 22,'04	*	57	..	Assize, St. John, N.B.
"	3 "	July 30,'03	Jan. 16,'05	*	21	..	Stip. Mag. Halifax, N.S.
" and receiving stolen goods	3 "	Dec. 1,'04	July 22,'05	*	18	.	Supreme, Summerside, P.E.I.
" from the person	3 "	Mar. 3,'04	" 6,'05	*	51	..	Police, Halifax, N.S.
			Common Jails.				
Charlottetown jail—							
Assault and occasioning actual bodily harm.	6 mos	Oct. 26,'04	Dec. 20,'04		33	..	Stip. Mag. Charlottetown, P.E.I.
Halifax County jail—							
Indecent assault	6 "	Jan. 23,'05	June 19,'05	*	37	..	County, Halifax, N.S.
Keeping disorderly house.	6 "	June 10,'05	" 22,'05		..	26	" " "
Keeping baudy house	1 yr.	Aug. 18,'04	Apr. 18,'05		..	29	" " "
Theft	9 mos	" 4,'04	Dec. 22,'04		22	..	" " "
" and escape	1½ yrs	Mar. 2,'04	May 8,'05	*	41	..	Stip. Mag. " "
Yarmouth jail—							
Assault with intent to wound.	1 yr.	Jan. 2,'05	July 31,'05		39	..	" Yarmouth, N.S.
Infraction of Canada Temp. Act.	*a*	June 17,'04	Mar. 4,'05		22	..	" " "
			British Columbia Penitentiary.				
Aiding and abetting in committing a felony	10 yrs.	July 3,'02	Jan. 16,'05		39	..	Territorial, Dawson, Y.T.
Arson	3 "	Feb. 20,'03	June 10,'05	*	52	..	County, Vancouver, B.C.
Burglary, housebreaking and assault	6 "	Apr. 26,'01	Jan. 18,'05	*	40	..	Supreme, Victoria, B.C.
Fraud	3 "	Feb. 9,'04	July 6,'05		23	.	County, Vancouver, B.C.
Sheep stealing	4 "	July 24,'03	Sept. 27,'05	*	28	.	" Nanaimo, B.C.
"	4 "	" 24,'03	" 27,'05	*	35	..	" " "
"	4 "	" 24,'03	" 27,'05	*	25	..	" " "
Shopbreaking and theft	3 "	" 20,'03	Mar. 10,'05	*	26	.	Territorial, Dawson, Y.T.
Theft	4 "	Oct. 7,'02	Sept. 27,'05	*	41	..	Supreme, Clinton, B.C.
(Prov. of Brit. Columbia.)			Common Jails.				
Kamloops jail—							
Manslaughter	1 yr.	July 14,'04	Dec. 22,'04		46	.	Assize, Barkerville, B.C.
Nelson jail—							
Assault	3 mos	Mar. 30,'05	May 8,'05		29	..	County, Fernie, B.C.
Obstructing peace officer.	6 "	Sept. 26,'04	Dec. 22,'04	*	26	..	Stip. Mag., Cranbrook, B.C.

a Fine of $50 in each of five cases and in default of payment two months in jail in each case.
* Released on ticket of leave.

TABLEAU VII.—Cas où le droit de grâce a été exercé durant l'année finissant le 30 septembre 1905, en faveur des prisonniers envoyés aux prisons suivantes.

(*I. du P. E., N.S. & N.B.*) Pénitencier provincial—Dorchester, N.-B.—*Fin.*

CRIME.	Sentence.	Date de Sentence ou emprisonnement.	Date de Pardon ou commutation.	Conditions sur lesquelles le pardon ou commutation a été accordé.	Age et sexe. H	F	Par quelle cour mis en jugement.
Vol	2½ ans.	1 fév. '04	30 déc. '04	*	24		Suprême, Sydney, N.-E.
"	2½ "	1 " '04	30 " '04	*	30		" " "
"	3 "	11 " '04	30 " '04	*	24		" " "
"	2½ "	4 juil. '04	30 mai '04	*	25		" " "
"	2 "	6 " '04	14 avril '05	*	24		" " "
"	2 "	1 déc. '04	22 juil. '05	*	18		" Summerside, I.-P.-E.
"	3 "	11 " '03	22 déc. '04	*	37		Assises, St-Jean, N.-B.
"	3 "	30 juil. '03	16 janv. '05	*	21		Mag. stip, Halifax, N.-E.
" et recel d'objets volés	3 "	1 déc. '04	22 juil. '05	*	18		Suprême, Summerside, I. du P.-E.
" sur la personne	3 "	3 mars '04	6 " '05	*	51		Police, Halifax, N.-E.
Prisons communes.							
Pr. de Charlottetown—							
Voies de fait causant des blessures corporelles.	6 mos.	26 oct. '04	20 déc. '04		33		Mag. stipend., Charlottetown, I. du P.-E.
Pr. du comté d'Halifax—							
Attentat à la pudeur	6 "	23 janv. '05	19 juin '05	*	37		Comté, Halifax, N.-E.
Tenant une maison de désordre.	6 "	10 juin '05	22 " '05			26	" " "
" " "	1 an.	18 août. '04	18 avril '05			20	" " "
Vol	9 mos.	4 " '04	22 déc. '04		22		" " "
" et évasion	1½ ans.	2 mars '04	8 mai '05	*	41		Mag. stip " "
Prison de Yarmouth—							
Voies de fait avec intention de blessure.	1 "	2 janv. '05	31 juil. '05		30		" Yarmouth, "
Contrav. aux lois de tempér. du Canada.	*a*	17 juin '04	4 mars '05		22		" " "
Pénitencier de la Colombie-Britannique.							
Aidant et excitant à commettre un crime.	10 ans	3 juil. '02	16 janv. '05		39		Territoriale, Dawson.
Incendie	3 "	20 fév. '03	10 juin '05	*	52		Comté, Vancouver.
Effraction de nuit, bris de maison et voies de fait	6 "	26 avril '01	18 janv. '05	*	40		Suprême, Victoria.
Faux	3 "	9 fév. '04	6 juil. '05		23		Comté, Vancouver.
Vol de moutons	4 "	24 juil. '03	27 sept. '05	*	28		" Nanaimo.
"	4 "	24 " '03	27 " '05	*	35		" "
"	4 "	24 " '03	27 " '05	*	25		" "
Bris de magasin et vol	3 "	20 " '03	10 mars '05	*	26		Territoriale, Dawson.
Vol	4 "	7 oct. '02	27 sept. '05	*	41		Suprême, Clinton.
(*Prov. de la Col.-Britannique.*) **Prisons communes.**							
Prison de Kamloops—							
Homicide non prémédité	1 an.	14 juil. '04	22 déc. '04		46		Assises, Barkerville.
Prison de Nelson—							
Voies de fait	3 mois	30 mars '05	8 mai '05		29		Comté, Fernie.
Obstruant une officier de la paix.	6 "	26 sept. '04	22 dec. '04		26		Mag. stip., Cranbrook.

a Amende de $50 dans chacun des cinq cas, et à défaut de paiement deux mois de prison dans chaque cas.

* Libérés sur parole.

TABLE VII.—Cases in which the Prerogative of Mercy has been exercised during the year ended the 30th September, 1905, in favour of prisoners committed to the following prisons.

(Prov. of Brit. Columbia.) Common jails—*Concluded.*

CRIME.	Sentence.	Date of Sentence or Committal.	Date of Pardon or Commutation.	Conditions upon which pardon or Commutation was granted.	Age and Sex. M	Age and Sex. F	By what Court tried.		
New Westminster jail—									
Theft	1 yr.	Oct. 18,'04	Sept. 27,'05	*	25	..	Police,	Vancouver,	B.C.
Unlawful wounding	1 "	Nov. 2,'04	July 3,'05	*	28	..	Assize,	"	"
Vancouver jail—									
Carnally knowing a girl under 14 yrs.	*a	Oct. 19,'03	Jan. 6,'05	120 l'sh's remitted by Gov. Gen., Mar. 16,'04	21	..	Police,	"	"
Vagrancy	6 mos	Aug. 27,'04	Nov. 26,'04		22	..	"	"	"
"	6 "	" 27,'04	" 26,'04		22	..	"	"	"
"	6 "	" 27,'04	" 26,'04		19	..	"	"	"
"	6 "	Jan. 20,'05	Apr. 15,'05		15	..	"	"	"
Victoria jail—									
Killing a cow	18 "	Oct. 7,'03	Jan. 16,'05		24	..	"	Victoria,	B.C.
Manitaba Penitentiary.									
Being intoxicated while on duty as railway engineer.	2 yrs.	Sept. 20,'04	Apr. 3,'05	*	29	..	Supreme,	Regina,	N.W.T.
Breaking, entering and stealing.	3 "	Jan. 7,'04	Sept. 27,'05	*	19	..	"	Whitewood,	"
Cattle stealing	4 "	Mar. 17,'04	Apr. 11,'05		49	..	"	Maple Creek,	"
Damaging property	2 "	Nov. 7,'03	" 11,'05		47	..	"	Yorkton,	"
" "	2 "	" 7,'03	" 11,'05		44	..	"	"	"
" "	2 "	" 7,'03	May 8,'05		41	..	"	"	"
" "	2 "	" 7,'05	" 8,'05		51	..	"	"	"
" "	2 "	" 7,'03	" 8,'05		46	..	"	"	"
False pretences	3 "	Dec. 13,'04	Sept. 27,'05		39	..	"	Maple Creek,	"
Horse stealing	5 "	Oct. 4,'02	Oct. 21,'04	*	22	..	"	Regina,	"
" "	5 "	" 4,'02	" 21,'04	*	24	..	"	"	"
" "	3 "	Feb. 5,'04	Mar. 15,'05		22	..	"	MacLeod,	"
" "	3 "	" 5,'04	" 15,'05		30	..	"	"	"
" "	2 "	July 22,'03	Jan. 16,'05		25	..	"	Edmonton,	"
" "	2 "	Jan. 18,'04	July 6,'05	*	38	..	"	Carlyle,	"
" " and theft	4 "	Nov. 14,'03	May 23,'05		28	..	"	MacLeod,	"
" " "	3 "	" 14,'03	July 6,'05	*	20	..	"	"	"
Killing a calf with intent to steal.	3 yrs.	May 14,'04	June 10,'05	*	25	..	Supr.,	Calgary,	N.W.T.
Perjury	3 "	Mar. 7,'03	Mar. 10,'05	*	34	..	"	McLeod	"
Rape	3 "	July 13,'03	June 10,'05		40	..	"	"	"
Rape, attempted	5 "	Nov. 8,'02	Dec. 22,'04	*	24	..	"	Edmonton	"
Robbery	b10 "	Mar. 13,'05	July 3,'05	*	22	..	King's B.,	Winnipeg,	Man
Shooting with intent	7 "	" 20,'00	May 20,'05		34	..	Queen's	"	"
Theft	2 "	July 29,'03	Dec. 22,'04	*	24	..	Police	"	"
"	2 "	Oct. 5,'04	June 22,'05	*	49	..	Supr.,	Regina,	N.W.T.
"	1 yr.	May 26,'01	Dec. 22,'04	*	36	..	"	Moosomin	"
Uttering and trying to forcibly break out of his cell with intent to escape.	3 yrs.	Nov. 3,'03	Sept 27,'05	*	20	..	"	Calgary	"

a 23 months and 160 lashes.
b And 75 lashes in three whippings.
* Released on ticket of leave.

TABLEAU VII.—Cas où le droit de grâce a été exercé durant l'année finissant le 30 septembre 1905, en faveur des prisonniers envoyés aux prisons suivantes.

(Prov. de la Col.-Britannique.) Prisons communes—*Fin.*

CRIME.	Sentence.	Date de — Sentence ou emprisonnement.	Date de — Pardon ou commutation.	Conditions lesquelles le pardon ou commutation a été accordé.	Age et sexe. — H	F	Par quelle cour mis en jugement.
Prison de N. Westminster							
Vol	1 an	18 oct. '04	27 sept. '05	*	25		Police, Vancouver.
Blessures	1 "	2 nov. '04	3 juil. '05	*	28		Assises, "
Prison de Vancouver—							
Commerce charnel avec une fille au-dessous de 14 ans.	*a	19 oct. '03	6 janv. '05	120 coups de fouet remis par Gov.-Gen. mars 16, '04.	21		Police, "
Vagabondage	6 mois	27 août '04	26 nov. '04		22		" "
"	6 "	27 " '01	26 " '04		22		" "
"	6 "	27 " '04	23 " '04		19		" "
"	6 "	20 janv. '05	15 avril '05			15	" "
Prison de Victoria—							
Tuant une vache	18 "	7 oct. '03	16 janv. '05		24		" Victoria.
Pénitencier du Manitoba.							
Etant en état d'ivresse pendant qu'il était en devoir comme ingénieur d'une locomotive.	2 ans	20 sept. '04	3 avril '05	*	29		Suprême, Regina.
Effraction, entrée et vol.	3 "	7 janv. '04	27 sept. '05	*	19		" Whitewood.
Vol de bétail	4 "	17 mars '04	11 avril '05		49		" Maple-Creek.
Dommage à la propriété	2 "	7 nov. '03	11 " '05		47		" Yorkton.
" "	2 "	7 " '03	11 " '05		44		" "
" "	2 "	7 " '03	8 mai '05		41		" "
" "	2 "	7 " '03	8 " '05		51		" "
" "	2 "	7 " '03	8 " '05		46		" "
Faux prétextes	3 "	13 déc. '04	27 sept. '05		39		" Maple-Creek.
Vol de chevaux	5 "	4 oct. '02	21 oct. '04	*	22		" Regina.
" "	5 "	4 " '02	21 " '04	*	24		" "
" "	3 "	5 fév. '04	15 mars '05		22		" MacLeod.
" "	3 "	5 " '04	15 " '05		30		" "
" "	2 "	22 juil. '03	16 janv. '05		25		" Edmonton.
" "	2 "	18 janv. '04	6 juil. '05	*	38		" Carlyle.
" " et vol.	4 "	14 nov. '03	23 mai '05		28		" MacLeod.
" " "	3 "	14 " '03	6 juil. '05	*	20		" "
Tuant un veau avec intention de vol.	3 ans	14 mai '04	10 juil. '05	*	25		Suprême, Calgary.
Parjure	3 "	7 mars '03	10 mars '05	*	34		" MacLeod.
Viol	3 "	13 juil. '03	10 juin '05		40		" "
Viol tentative de	5 "	8 nov. '02	22 déc. '04	*	24		" Edmonton.
Vol	*b*10 "	13 mars '05	3 juil. '05	*	22		B. du Roi Winnipeg.
Usage d'armes avec intentions.	7 "	20 " '06	20 mai '05		34		B. de la Reine, Winnipeg
Vol	2 "	29 juil. '03	22 déc. '04	*	24		Police, Winnipeg.
"	2 "	3 oct. '04	22 juin '05	*	49		Suprême Regina.
"	1 "	26 mai '04	22 déc. '04	*	36		" Moosomin.
Menace et tentative de bris de cellule avec l'intention de s'évader	3 "	3 nov. '03	27 sept. '05	*	20		" Calgary.

a 23 mois et 160 coups de fouet.
b Et 75 coups de fouet en trois fouettements.
* Libérés sur parole.

TABLE VII.—Cases in which the Prerogative of Mercy has been exercised during the year ended the 30th September, 1905, in favour of prisoners committed to the following prisons.

(Province of Manitoba.) Portage la Prairie Reformatory.

CRIME.	Sentence.	Date of Sentence or Committal.	Date of Pardon or Commutation.	Conditions upon which Pardon or Commutation was granted.	Age and Sex. M	Age and Sex. F	By what Court tried.
Shopbreaking and theft.	2 yrs.	July 18,'04	Dec. 30,'04		17		Police, Winnipeg, Man.
Theft	3 "	May 22,'05,	July 31,'05		15		" "
"	1½ "	" 9,'04	" 14,'05		19		" "
"	3 "	Sept 20,'04	" 15,'05		13		" "
"	3 "	" 20,'04	" 15,'05		15		" "

(Province of Manitoba.) Common Jails.

Brandon jail—							
Attempt to commit suicide	3 mos	Sept. 7,'04	Oct. 22,'04		18		Police, Brandon.
Shopbreaking and theft	1 yr. & 11 ms.	July 18,'04	May 8,'05 *		18		" Winnipeg.
Theft	6 mos	Aug. 23,'04	Dec. 11,'04		20		County Brandon.
Winnipeg jail—							
Assault and drunkenness	*a*	Apr. 24,'05	June 3,'05		27		Police, Winnipeg.
Forgery	1½ yrs	Mar. 21,'04	Jan. 16,'05 *		20		" "
"	13 mos	Nov. 8,'04	June 9,'05		22		" "
"	1 yr.	Sept 15,'04	May 24,'05 *		24		" "
"	6 mos	Aug. 25,'04	Jan. 16,'05		23		County, "

Common Jails—North-west territories.

Dawson jail—							
Receiving stolen goods	15 mos	Apr. 6,'04	May 20,'05		43		J. P's. Dawson.
Theft	2 yrs.	Aug. 1,'04	Oct. 20,'04		51		Territorial, Dawson.
Prince Albert jail—							
Obtaining money under false pretences.	2 "	July 10,'03	Jan. 21,'05 *		41		Supreme, Macleod.
Rape, attempted	9 mos	May 27,'04	Dec. 22,'04 *		38		" Battleford.
Regina jail—							
Assault	1 yr.	Apr. 23,'04	Mar. 30,'05		22		" Regina.
Assaulting a police constable	*b* 6 mos	Oct. 24,'04	" 10,'05 *		35		Police, Moosejaw.
Cattle stealing	2 yrs.	Aug. 1'03	Feb. 10,'05		46		Supreme, Calgary.
Concealing cattle	1 yr.	May 31,'04	" 10,'05 *		31		" Red Deer.
Obtaining goods under false pretences.	1 "	Aug. 1,'04	May 20,'05 *		24		" Calgary.
Receiving stolen money	18 mos	June 16,'04	June 22,'05		43		Supreme, Regina.
Selling intoxicants to Indians.	*c*	Feb. 22,'05	Mar. 24,'05		62		Indian Agent, South Qu'Appelle.
Stealing	1 yr.	Aug. 1,'04	May 20,'05		38		Supreme, Calgary.
"	6 mos	Nov. 12,'04	Apr. 15,'05		22		" Regina.
Theft	1 yr.	Dec. 24,'04	" 14,'05 *		25		" "
"	1 "	June 21,'04	June 5,'05		29		" Maple Creek.
"	1 "	Nov. 21,'04	" 26,'05 *		20		" Regina.
"	6 mos	Mar. 6,'05	" 22,'05 *		30		" "

a Fine $25 and $2.25 costs or two months for assault and $3 fine and $3 costs for drunkenness and disorderly conduct.

b And $97 fine and $2.50 costs or in default of payment 6 additional months.

c Fine of $100 and $9.50 or two months.

* Released on ticket of leave.

TABLEAU VII—Cas où le droit de grâce a été exercé durant l'année finissant le 30 septembre 1905, en faveur des prisonniers envoyés aux prisons suivantes.

CRIME.	Sentence.	Date de Sentence ou emprisonnement.	Date de Pardon ou commutation.	Condition sur lesquelles le pardon ou commutation a été accordé.	Age et sexe. H	F	Par quelle cour mis en jugement.
(Prov. de Manitoba.)		Ecole de réforme—Portage-la-Prairie.					
Bris de magasin et vol	2ans.	18 juil. '04	30 déc. '04		17	..	Police, Winnipeg.
Vol	3 "	22 mai '05	31 juil. '05		15	..	" "
"	1½ "	9 " '04	14 " '05		19	..	" "
"	3 "	20 sept. '04	15 " '05		13	..	" "
"	3 "	20 " '04	15 " '05		15	..	" "
(Prov. de Manitoba.)		Prisons communes.					
Prison de Brandon—							
Tentative de suicide	3mos	7 sept. '04	22 oct. '04		18	..	Police, Brandon.
Bris de magasin et vol	1 an et 11 m.	18 juil. '04	8 mai '05	*	18	..	" Winnipeg.
Vol	6mos	23 août '04	14 déc. '04		20	..	Comté, Brandon.
Prison de Winnipeg—							
Voies de fait et ivresse	*a*	24 avril '05	3 juin. '05		27	..	Police, Winnipeg.
Faux	1½ans.	21 mars '04	16 janv. '05	*	20	..	" "
"	13mos	8 nov. '04	9 juin. '05		22	..	" "
"	1 an.	15 sept. '04	24 mai. '05	*	24	..	" "
"	6mos	25 août '04	16 janv. '05		23	..	Comté "
		Prisons communes—Territoires du Nord-ouest.					
Prison de Dawson—							
Recel d'objets volés	15mos	6 avril '04	20 mai '05		43	..	J. de P. Dawson.
Vol	2ans.	1 août '04	20 oct. '04		51	..	Territoriale, Dawson.
Prison de Prince Albert—							
Obtention d'argent sous de faux pretextes.	2ans.	10 juil. '03	21 janv. '05	*	41	..	Suprême, MacLeod.
Viol, tentative de	9mos	27 mai '04	22 déc. '04	*	38	..	" Battleford.
Prison de Regina—							
Voies de fait	1 an	23 avril '04	30 mars '05		22	..	" Regina.
" sur un agent de police	*b* 6mos	24 oct. '04	10 " '05	*	35	..	Police, Moosejaw.
Vol de bestiaux	2ans.	1 août '03	10 fev. '05		46	..	Suprême, Calgary.
Recel de bestiaux	1 "	31 mai '04	10 " '05	*	31	..	" Red Deer.
Obtention d'effets sous faux prétextes	1 "	1 août '04	20 mai '05	*	24	..	" Calgary.
Recel d'argent volé	18mos	16 juin '04	22 juin '05		43	..	Suprême, Regina.
Vente de boisson aux sauvages.	*c*	22 fév. '05	24 mars '05		62	..	Agent des sauvag., South-Qu'Appelle.
Vol	1 an.	1 août '04	20 mai '05		38	..	Suprême, Calgary.
"	6 mos	12 nov. '04	15 avril '05		22	..	" Regina.
"	1 an.	21 déc. '04	14 " '05	*	25	..	" "
"	1 "	21 juin '04	5 juin '05		20	..	" Maple-Creek.
"	1 "	21 nov '04	26 " '05	*	20	..	" Regina.
"	6mos	6 mars '05	22 " '05	*	30	..	" "

a Amende de $25 et $2.25 de frais ou deux mois pour voies de fait, et amende de $3 et $3 de frais pour ivresse et mauvaise conduite.

b Et $97 d'amende et $2.50 de frais, ou à défaut de paiement six mois additionnels.

c Amende de $100 et $9.50 ou deux mois.

* Libérés sur parole.

TABLE VII.—Cases in which the Prerogative of Mercy has been exercised during the year ended the 30th September, 1905, in favour of prisoners committed to the following prisons.

Guard Rooms, Northwest Territories.

CRIME.	Sentence.	Date of Sentence or Committal.	Date of Pardon or Commutation.	Conditions upon which Pardon or Commutation was granted.	Age and Sex. M	Age and Sex. F	By what Court tried.
Calgary guard room—							
Assisting constable to desert.	6 mos	Nov. 28, '04	Jan. 28, '05		19		J.P's., Calgary.
Drunkenness	3 "	Aug. 25, '04	Oct. 17, '04		34		Police, Moosejaw.
Having liquor in his possession.	6 "	July 30, '04	" 16, '04		30		J.P's., Calgary.
Fort Saskatchewan guard room—							
Unlawful wounding	6 "	Dec. 6, '04	Apr. 3, '05		44		King's Bch., Wetaskiwin.
Lethbridge guard room—							
Selling liquor to Indians	6 "	May 26, '05	June 20, '05		54		J.P's., Lethbridge.
Macleod guard room—							
Vagrancy	4 "	Nov. 28, '04	Dec. 27, '04		30		" Pincher Creek.
Maple Creek guard room—							
Larceny	3 yrs.	June 23, '04	Oct. 3, '04		21		Supreme, Maple Creek.
Regina guard room—							
Theft	6 mos	May 5, '05	July 6, '05		23		J.P., Estivan.
White Horse guard room—							
Perjury	2 yrs.	Apr. 8, '04	June 10, '05		27		Police, White Horse.

Freedom Granted to Ticket of Leave Men.

British Columbia penitentiary.							
Forgery	4 yrs.	Oct. 24, '01	Sept 24, '04	Unconditional freedom granted, Mar. 10, 1905.	21		Police, Grand Forks, B.C.
Theft	3 "	Nov. 3, '03	May 2, '04	Dispensed from reporting change of residence, Feb. 4, '05	23		County, Vernon, B.C.
Kingston penitentiary—							
Arson	12 "	May 21, '97	Dec. 5, '02	Unconditional freedom granted, Feb. 4, 1905.	40		Assize, Orangeville, Ont.
Highway robbery with violence.	2 "	Aug. 24, '03	Apr. 18, '04	Unconditional release granted, Apr. 19, 1905.	23		Police, Port Arthur, Ont.
Stealing money letters	6 "	Apr. 2, '02	Aug. 8, '03	Unconditional freedom granted, May 4, 1905.	26		Police, Toronto, Ont.

Death Sentences Commuted during the Year ended September 30, 1905.

Murder	Death	Sept 28, '05	Dec. 4, '05	Life imprisonment.	45		Assize, Brantford, Ont.
"	"	Dec. 14, '04	May 6, '05	"	35		King's Bch., Sherbrooke, Q.
"	"	Nov. 21, '04	Jan. 23, '05	"	47		" Montreal, Q.
"	"	Oct. 7, '04	Dec. 5, '04	"	23		Assize, Sandwich, Ont.
"	"	" 18, '04	Nov. 21, '04	"	24		" Sault St. Marie, O.
"	"	Aug. 23, '05		Confined in asylum.	n.g		" Brantford, Ont.

[1] Released on ticket of leave.

TABLEAU VII.—Cas où le droit de grâce a été exercé durant l'année finissant le 30 septembre 1905, en faveur des prisonniers envoyés aux prisons suivantes.

Postes de police, Territoires de Nord-Ouest.

CRIME.	Sentence.	Date de Sentence ou emprisonnement.	Date de Pardon ou commutation.	Conditions sur lesquelles le pardon ou commutation a été accordé.	Age et sexe. H	Age et sexe. F	Par quelle cour mis en jugement.
Poste de Police, Calgary—							
Aidant un agent de pol. à déserter.	6 mos	28 nov. '04	28 janv. '05		19		J. de P., Calgary.
Ivresse	3 "	25 août '04	17 oct. '04		34		Police, Moosejaw.
Ayant de la bois. en sa possession	6 "	30 juin '04	16 " '04		30		J. de P., Calgary.
P. de pol., Fort-Saskatchewan—							
Blessures	6 "	6 déc. '04	3 avril '05	*	44		B. du Roi, Wetaskiwin.
P. de pol., Lethbridge—							
Vente de bois aux Sau.	6 "	26 mai '05	20 juin '05		54		J. de P., Lethbridge.
P. de pol., Macleod—							
Vagabondage	4 "	28 nov. '04	27 déc. '04		30		" Pincher-Creek.
P. de pol., Maple Creek							
Vol	3 ans	23 juin '04	3 oct. '04		21		Suprême, Maple-Creek.
P. de pol., Regina—							
Vol	6 mos	5 mai '05	6 juil. '05		23		J. de P., Estivan.
P. de pol., White Horse—							
Parjure	2 ans	8 avril '04	10 juin '05		27		Police, White-Horse.

Liberté accordée aux libérés sur parole.

Pénitencier de la Col.-Britannique—							
Faux	4 ans	24 oct. '01	24 sept. '04	Liberté non conditionnelle accordée, 10 mars '05.	21		Police, Grand Forks, C.-B.
Vol	3 "	3 nov. '03	2 mai '04	Dispensé de faire rapport du changement de résidence.	23		Comté, Vernon, C.-B.
Pénitencier de Kingston—							
Incendie	12 "	21 mai '97	5 déc. '02	Liberté non conditionnelle accordée, 4 fév. '04.	40		Assises, Orangeville, Ont.
Vol de grand chemins avec violence.	2 "	24 août '03	18 avril '04	Liberté non conditionnelle accordée, 19 avril '05.	23		Police, Port-Arthur.
Vol de lettres chargées	6 "	2 avril '02	8 août '03	Liberté non conditionnelle accordée, 4 mai '05.	26		" Toronto.

Sentences de mort commuées durant l'année finissant le 30 sept. 1905.

Meutre	Mort.	28 sept. '05	4 déc. '05	Emprisonnem. à vie	45		Assises, Brantford, Ont.
"	"	14 déc. '04	6 mai '05	"	35		B. du Roi, Sherbrooke, Q.
"	"	21 nov. '04	23 janv. '05	"	47		" Montréal, Q.
"	"	7 oct. '04	5 déc. '04	"	23		Assises, Sandwich, Ont.
"	"	18 " '04	21 nov. '04	"	24		" Sault-Ste-Marie, O.
"	"	23 août '05		Internée dans un asile	n.d		" Brantford, Ont.

* Libéré sur parole.

INDICTABLE OFFENCES.

DELITS JUSTICIABLES D'UN JURY.

SUMMARY CONVICTIONS BY DISTRICTS.

CONDAMNATIONS SOMMAIRES PAR DISTRICTS.