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- .. 33.—Fruit-growing Possibilities, Skeena River and Porcher Island Districts.
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- .. 50.—The Art of Right Living.
- .. 51.—Information for Fruit-growers.
- .. 52.—Annual Report, Advisory Board of Women's Institutes.

Applications for bulletins should be addressed to the Secretary, Department of Agriculture, Victoria, B.C.

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1913.

EXCHANGE
APR 6 1914

PROVINCE OF BRITISH COLUMBIA

DEPARTMENT OF AGRICULTURE
(LIVE-STOCK BRANCH)

FIELD-CROP COMPETITIONS

1913

BULLETIN NO. 56

Questions asked by the members of Farmers' Institutes and answered
by the Provincial Soil and Crop Instructor. See 1914
Regulations, separate Circular

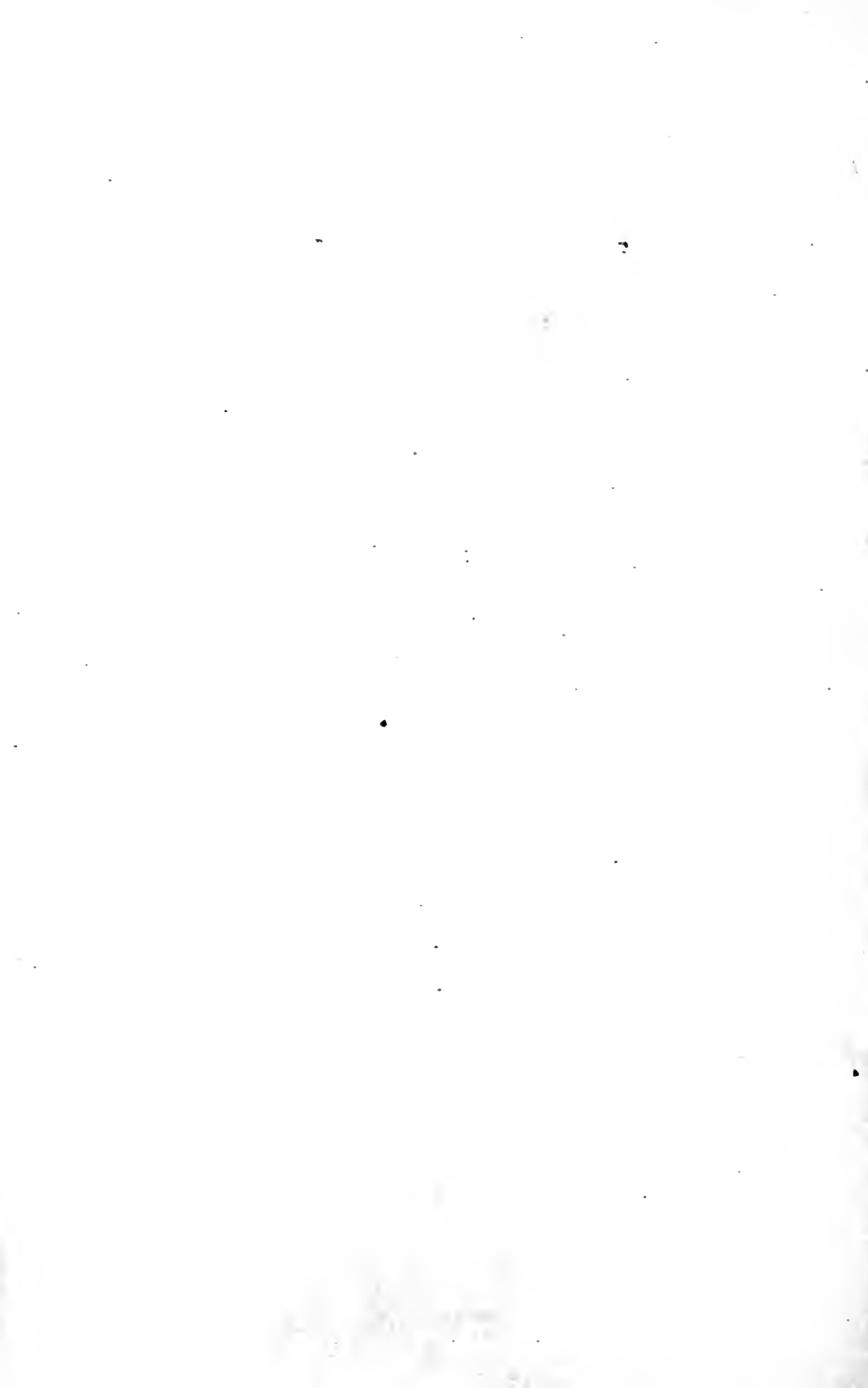


THE GOVERNMENT OF
THE PROVINCE OF BRITISH COLUMBIA.

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VICTORIA, B.C.:

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1914.



DEPARTMENT OF AGRICULTURE,

VICTORIA, B.C., December 13th, 1913.

Hon. Price Ellison,

Minister of Agriculture.

SIR,—I have the honour to submit herewith for your approval Bulletin No. 56, prepared by J. C. Readey, Field and Crop Instructor, dealing with crop-competition work and containing valuable information as to how to increase crop-production.

I have the honour to be,

Sir,

Your obedient servant,

WM. E. SCOTT,

Deputy Minister of Agriculture.



Field of corn—the sovereign crop.

PROVINCE OF BRITISH COLUMBIA.

DEPARTMENT OF AGRICULTURE.

(LIVE-STOCK BRANCH.)

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Minister of Agriculture.

WM. E. SCOTT,
Deputy Minister of Agriculture.

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Chief Veterinary Inspector.

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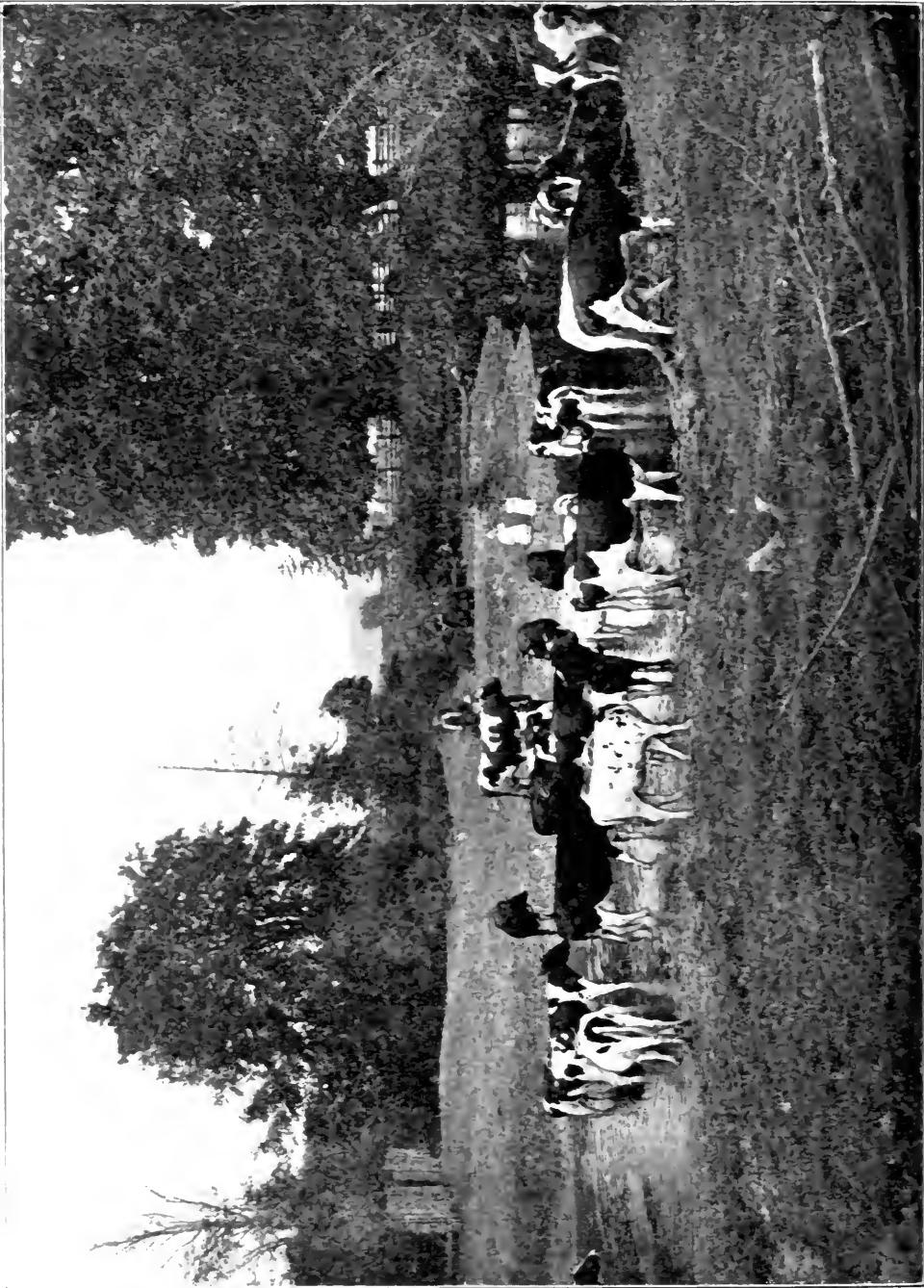
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Veterinary Inspector.

B. R. ILSLEY, V.S.,
Veterinary Inspector.

WM. J. BONAVIA,
Secretary of the Department.



THIS YEAR'S CROP.

BY J. C. READEY, PROVINCIAL SOIL AND CROP INSTRUCTOR.

WHILE out on the work of judging the crop competitions the writer has been asked so many times regarding the problems of soil-cultivation, weed-eradication, and blight-control that this little pamphlet has been prepared in answer to a popular demand. In addition to answering the questions so commonly asked, the writer has ventured to offer a few criticisms of prevalent methods. The whole pamphlet has been inspired by a deep interest in the work, and by a most sympathetic appreciation of the difficulties and disappointments that surround the farmer, in spite of his best endeavours.

IN GENERAL.

An encouraging number of good crops were shown this year. Fields of oats, wheat, turnips, kale, and potatoes were shown that were a credit to the farmers and to the Province. The achievements this year only demonstrate the possibilities. Next year we shall do better.

GRAIN-CROPS.

METHODS OF CULTIVATION.

Some of our farmers do not cultivate thoroughly. The great excuse offered is lack of time. The reason really is that they try to cultivate too much land for the time at their disposal. Try less land, and cultivate it more thoroughly, and watch results. Plough carefully. Don't use the disk harrow for all harrowing purposes; it is a special implement. The spring-tooth cultivator is a safer implement to use. Use the drag-harrow often to prepare a seed-bed and conserve the moisture.

SELECTING AND CLEANING THE SEED.

The best crops are produced from seed selected from the best plants. The next best from seed from the cleanest, best-matured part of the field.

Fairly good returns may come from thorough cleaning with the fanning-mill.

No matter what the method employed to obtain it, nothing but large, plump, clean seed should be sown. Try it, and see.

Try thorough cultivation and more careful selection of seed on a small plot for next year's Crop Competition. See further on for particulars.

WEEDS.

In the grain-growing districts, wild oats, wild buckwheat, tumbling mustard, and lamb's quarter. Some of our farmers are doing heroic work in fighting the weeds. In spite of infested roadsides and slovenly neighbours, their farms were object-lessons in clean, high-class crops. Why are so many of our farmers so careless about weeds? True, weeds get in through no fault of our own, but it is our own fault if they overrun our farms. Some men can take charge of a farm in weed-infested districts, the farm itself polluted with the worst weeds in the noxious-weed catalogue, and in a few years clean it up and completely control the weeds. Some farmers refuse to believe there are weeds in their crops until the weeds have the mastery; then they appeal to the Government to prosecute their slovenly neighbours or to suggest remedies, and are surprised that the weed expert cannot by some short-cut rid the field of the nuisance. Weeds not only reduce the crop, but their ejection is a mighty expensive proceeding when they gain a foothold. No doubt infection by weeds from outside sources is a vexation, but the damage would be lessened easily by one-half if our farmers would cultivate less ground, cultivate it more thoroughly, inspect their growing crops occasionally, and see that the forerunners of the weed army are destroyed. Prevention is better than cure. There are no short-cuts to a cure; more thorough cultivation and pulling the first scattered weeds are good methods of prevention.

SMUT.

Some fields of oats were visited that would lose one-fifth in yield from smut. Every one is familiar with the formalin treatment for this disease, but it is reprinted here for reference.

This work must be done *thoroughly*. Every particle of surface of every grain must come in contact with the solution to give full results. Again—*Be thorough*.

Smut Formula.—One pint formalin to 42 gallons of water. Sprinkle or immerse.

POTATOES.

This crop has, generally speaking, been light. A good deal of damage has been done by scab and blight. Crops that were planted early have often been very weedy, owing to the wet weather after the cultivating season was over.

SELECTING THE SEED.

Best results are obtained by planting tubers from *plants* producing the largest number of the desirable size and type of potato.

Heaviest yields are obtained from single, tall, strong-growing plants. Short, heavily branched vines generally produce a large proportion of small potatoes.

Cut one or two strong eyes to the "set," leaving as much of the potato as possible attached. In light soils plant deeply; in heavier soils plant shallow, and "hill up."

Do not allow the "sets" to dry before being planted. If necessary to cut ahead, sprinkle the sets with slaked lime, plaster, or in some such way prevent drying. Drying-out means a serious decrease in the yield.

SCAB.

Immerse the potatoes for two hours in formalin and water, 1 oz. of formalin to 2 gallons of water.

LATE BLIGHT OF POTATO.

Spots appear on edge or tips of leaves and extend over the leaf. In moist weather they present a dark, water-soaked appearance, with a purplish tint. In dry weather they are brown, without definite markings. Spots are watery and the leaf wilts. Disease extends to the tissue of the potato, rendering it subject to rot.

The disease may be carried over in the potato. Some varieties resist the blight more than others, but this is influenced by the locality in which the potatoes are grown.

CONTROLLING THE DISEASE.

If possible, plant "seed" from non-infected tubers. When the potato-vines are about 6 inches high, spray with Bordeaux mixture, and then spray with the same mixture twice later, at intervals of about ten days. Do not plant potatoes on land on which potatoes had been grown the year before.

How to make "Bordeaux Mixture."—Dissolve 4 lb. of bluestone in 35 gallons of water (or less, and dilute to 35 gallons). Slake 4 lb. of lime and add to the bluestone solution, making a total of 40 gallons.

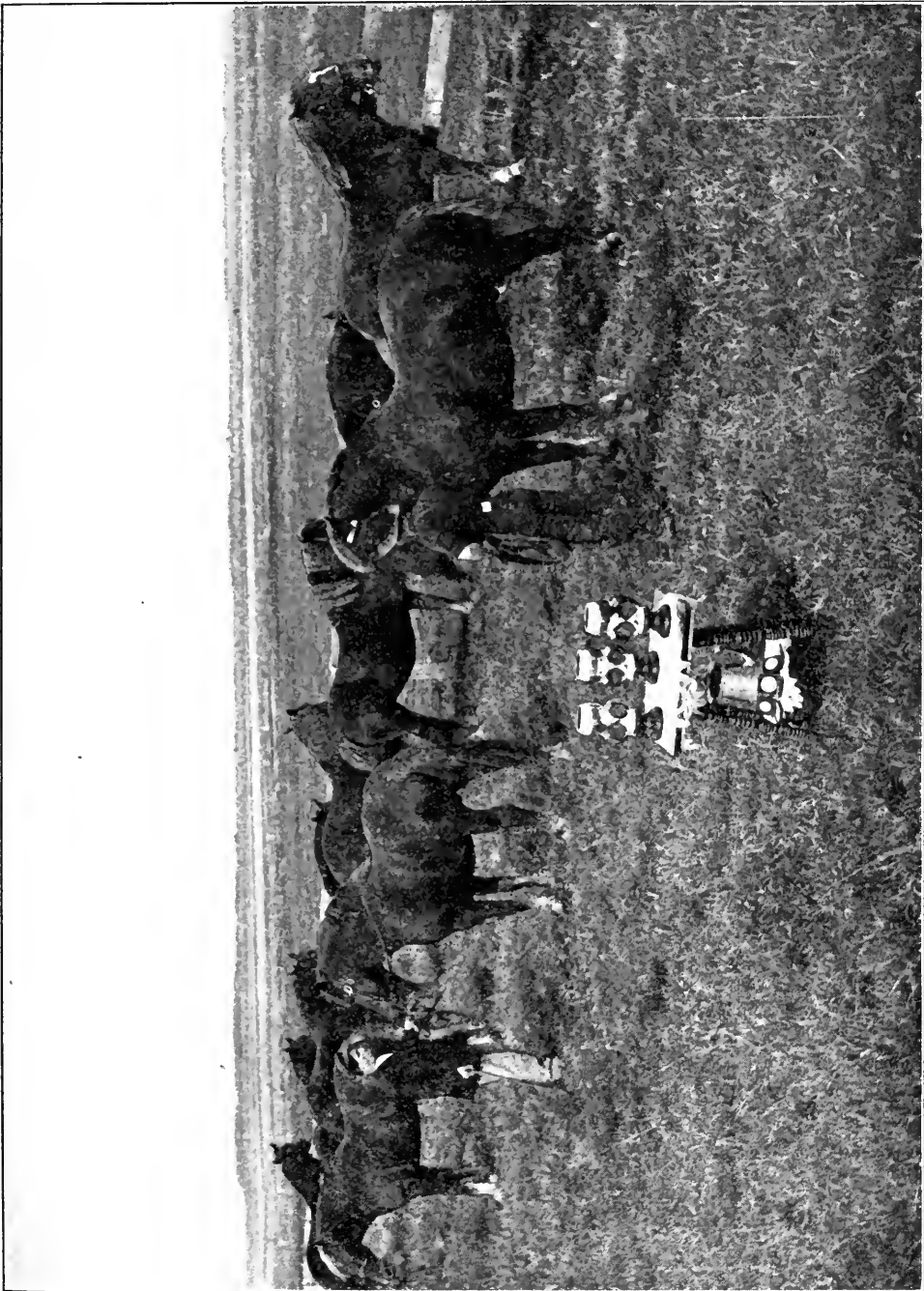
Note well: Always dilute the bluestone solution before adding the lime. Apply with a spray-pump.

Here is a cheap time-saver for use in spraying potatoes: Get two old mower-wheels (or other small wheels), attach shafts to the axle, and build a platform between the wheels. Make the axle long enough that the horse between the shafts can walk between two rows of potatoes and that the wheels straddle these two rows. Fasten the spray-pump and barrel to the platform, use a T on the hose, and fasten two nozzles to the rear of the platform so as to suit the width of the rows. Connect the nozzles with the T. With a slow, reliable horse, one man can operate the outfit.

SOFT ROT IN POTATOES.

This rot should not be confused with the rot caused by the late blight.

The first indication of this disease is that the plant turns to a sickly yellow colour; the leaves seem to contract and turn in on the edges, while growth is retarded or stopped. If one of the affected vines be pulled up, it will be found that they have become almost, if not quite, rotted off, while the "seed" will likely be



Worthy of recognition.

entirely decayed. If new tubers are formed they become infected, if infected at all, through contact with the decayed seed-tuber.

The disease is believed to be due to a bacterial organism. Its spread is brought about by sound tubers coming in contact with infected soil or infected tubers. The bacteria seem to be able to excrete a substance that dissolves the skin of the potato, and thus gains its entrance to the tuber.

In the tuber a dark line separates the diseased from the healthy portions. If the skin over the diseased part is broken, a white watery fluid may be pressed out. In later stages the entire tuber turns to a greyish, watery pulp. Dry storage will arrest the disease, the affected parts becoming corky.

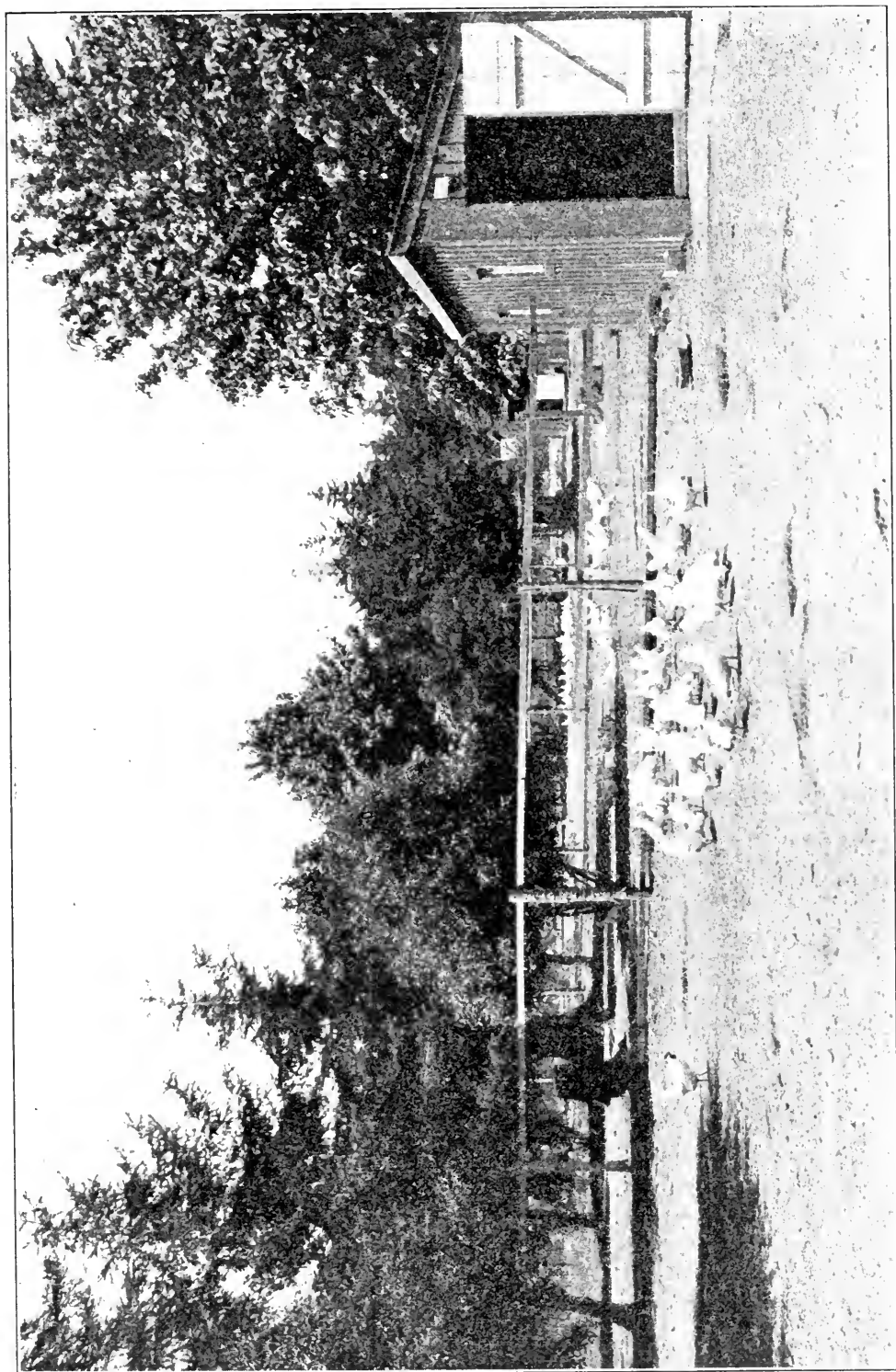
Prevent the disease by sorting the seed-tubers carefully both fall and spring. Any tuber showing a trace of the disease should not be used for planting. Do not plant potatoes two years in succession on the same ground. Soil may remain infected, after a crop of diseased potatoes has been harvested, for three or four years. Careful seed-selection and rotation of crops will overcome the difficulty.



The right type. A 1913 kale-plant. Weight, 30½ lb.

KALE.

This is a most valuable crop for soiling purposes. Cattle, sheep, swine, and poultry relish it. Judging by the crops exhibited this year, it will grow most successfully in this Province. A few plants were weighed and showed a growth of from 27 to 31 lb.; 4,900 plants may be grown per acre. An easy calculation shows the immense yield possibilities of this plant. Very heavy crops were produced. We would recommend our farmers to try this crop. Manure or fertilize heavily. Ask for bulletin for particulars.



Put these against your grocery bill.

COMMERCIAL FERTILIZERS.

Large quantities of these are being used, and will be used. Whether they pay or not, depends on the circumstances under which they are applied.

Here are a few points to be considered:—

To get full value from their use, the land must be thoroughly cultivated. Conserve the moisture in the soil, as the fertilizer is no use to the crop only in solution.

The nitrates are very easily dissolved, potash not so much so, and the phosphates only slowly soluble. Look out for leaching.

The proportionate amount of these that you would apply would depend on, first, the kind of crop the soil has already produced; and, second, the kind of crop you wish to grow. If the preceding crop has been a "potash-feeder," for instance, and the succeeding crop of the same nature, the proportion of potash must be increased.

In short, supply those fertilizers that the soil lacks and that the plant needs.

Above all, be sure that the market value of the crop warrants the use of the fertilizer.

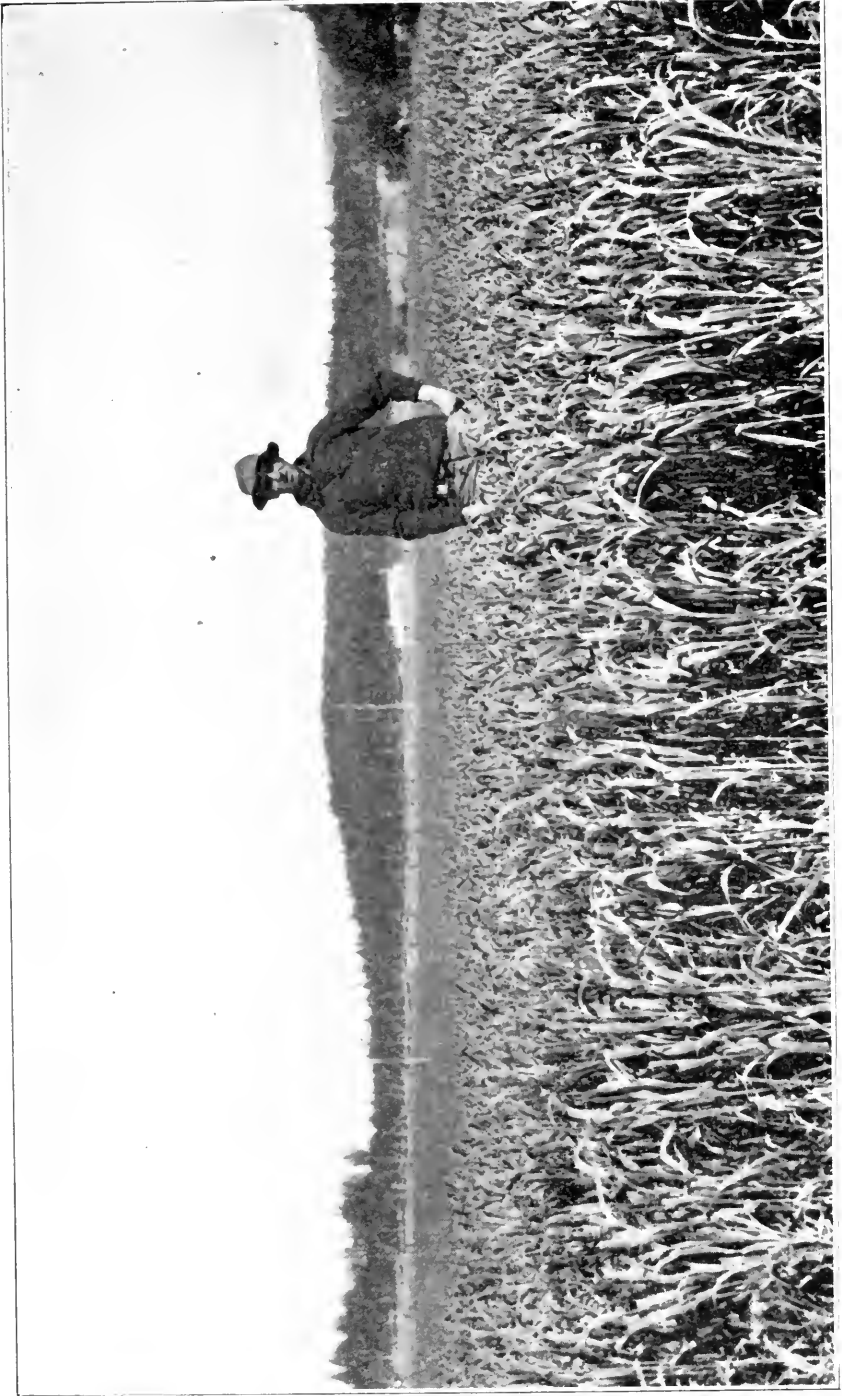
SCORE-CARDS TO BE USED IN JUDGING THE CROPS.

NAME OF VARIETY.....

Wheat, Oats, and Barley.	Possible Score.	
GENERAL APPEARANCE CONSIDERING:—		
1. Stand of crop.....	5	..
2. Type of plant, vigour, and uniformity of growth	10	..
3. Acreage, method of seeding, absence of lodging	5	20
Freedom from weeds .....	..	25
COMMENTS REGARDING KINDS FOUND IN CROP:—		
.....		
.....		
Freedom from smut, rust, blight, and insects.....	..	10
Freedom from other varieties and other kinds of grain .....	..	20
APPARENT YIELD AND QUALITY OF GRAIN CONSIDERING:—		
1. Proportion of well-filled heads of plump grain of good quality..	20	..
2. Uniformity of maturity	5	25
Total .....	...	100

NAME OF VARIETY.....

Potatoes.	Possible Score.	
GENERAL APPEARANCE CONSIDERING:—		
1. Method of planting, stand of crop	7	..
2. Vigour of growth	8	15
Freedom from blight, scabs, and insects .....	..	20
Method and thoroughness of cultivation .....	..	20
Purity of variety .....	..	10
APPARENT YIELD CONSIDERING:—		
1. Number and weight of marketable potatoes per hill	15	..
2. Quality, colour, shape, and smoothness	10	..
3. State and uniformity of maturity and freedom from sunburn...	10	35
Total .....	...	100



A good growth of oats sown on new land. Sown May 5th; photographed July 26th.

NAME OF VARIETY.....

Kale, Mangels, Turnips, Carrots.	Possible Score.	
GENERAL APPEARANCE CONSIDERING:—		
1. Stand of crop, method of planting	7	..
2. Type of plant, vigour, and uniformity of growth	8	15
Freedom from damage .....	..	15
Method and thoroughness of cultivation .....	..	15
Purity of variety .....	..	10
APPARENT YIELD CONSIDERING:—		
1. Size and uniformity of head (kale) or root .....	..	15
2. Quality, soundness, shape, and smoothness .....	..	20
3. Uniformity of maturity .....	..	10
Total .....	...	100

NAME OF VARIETY.....

Red Clover and Alfalfa.	Possible Score.	
GENERAL APPEARANCE CONSIDERING:—		
1. Uniformity of crop (absence of blank spots and thin places)..	20	..
2. Vigour of growth, profusion of blossom and leaves	20	..
3. Apparent yield	25	65
Freedom from weeds .....	..	25
Freedom from disease and insects .....	..	10
Total .....	...	100

Do not get discouraged. There are difficulties in every line of business.

Be proud of your business. You have every reason to be.

Stand for progress, quality of product, and business integrity. There is room for improvement.

Let us stop pitying ourselves; stop growling about our conditions—for a little while, and take a good, honest look at our intellectual equipment, our farm practice, our business methods, and the other fellow's view-point. Reforms will follow.



Turnips par excellence.

BULLETINS AND CIRCULARS AVAILABLE.

Date issued.	No.	Name.
May 21st, 1901.....	8	Feeding Farm Animals (Dairy Cows).
November, 1908.....	25	Orchard Cleansing.
July 19th, 1913.....	26	Practical Poultry-raising (4th Edition).
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April, 1911.....	32	Control of Tuberculosis.
September, 1911....	33	Fruit-growing Possibilities Skeena River.
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January, 1912.....	35	Place and Purpose of Family Life.
November, 1911....	36	Preparation of Food.
January, 1912.....	37	Preservation of Food.
February, 1912....	38	Preparation of Silos.
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	47	" (Part II.).
January 15th, 1913..	48	Exhibiting Fruit and Vegetables.
March 8th, 1913....	49	Market Poultry (1st Edition).
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March 8th, 1913....	51	Information for Fruit-growers.
April 15th, 1913....	52	Annual Report Advisory Board of Women's Institutes.
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September 16th, 1912	3	Construction of Fresh-air Brooders.
October 14th, 1913...	4	Management of Turkeys.

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PROVINCE OF BRITISH COLUMBIA

DEPARTMENT OF AGRICULTURE

BOYS AND GIRLS'
FIELD-CROP COMPETITIONS

IN CONNECTION WITH FARMERS' INSTITUTES

BULLETIN No. 57



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