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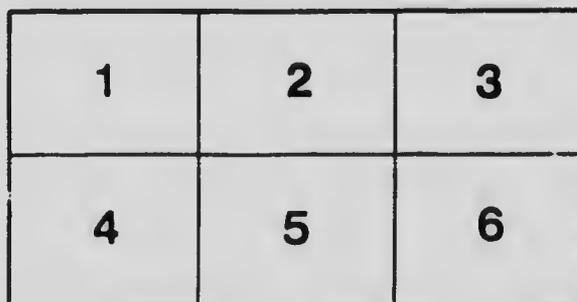
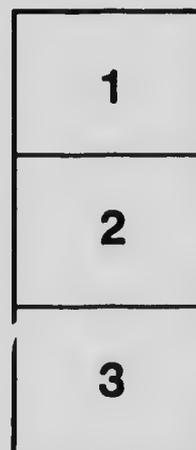
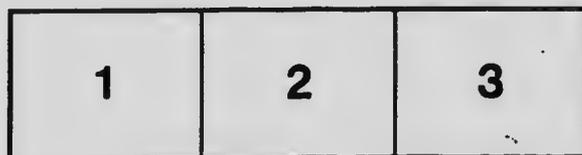
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DOMINION OF CANADA
DEPARTMENT OF AGRICULTURE
DOMINION EXPERIMENTAL FARMS

THE FRENCH-CANADIAN HORSE

"He never gives out, it does not matter what he is at."

BY

GUS. LANGELIER

Superintendent, Experimental Station, Cap Rouge, Que.

BULLETIN No. 95

REGULAR SERIES

Published by direction of Hon. F. S. Tomlin, Minister of Agriculture, Ottawa, Ont.

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The Horse Barn. Experimental Station. Cap Rouge. Que.

APRIL 28, 1920.

The Honourable
THE MINISTER OF AGRICULTURE,
Ottawa, Ont.

SIR,—I have the honour to submit herewith for your approval the manuscript of Bulletin No. 95 of the regular Experimental Farms Series, entitled "The French-Canadian Horse," and prepared by Dr. G. A. Langelier, Superintendent of the Experimental Station at Cap Rouge, Que.

In my opinion, the breeding of French-Canadian horses should be encouraged:—

- (1) Because of the wonderful utility, hardiness and easy-keeping qualities of the breed.
- (2) Because the breed comes very close to the ideal general-purpose horse, so much required on our farms and in our towns and cities.
- (3) It is strictly a Canadian breed.

I would recommend the publication of this bulletin, therefore, as giving further information on this valuable breed of horse, together with a preliminary account of the wider experimental work in French-Canadian horse breeding now being undertaken under the supervision of our Cap Rouge superintendent.

I have the honour to be, sir,

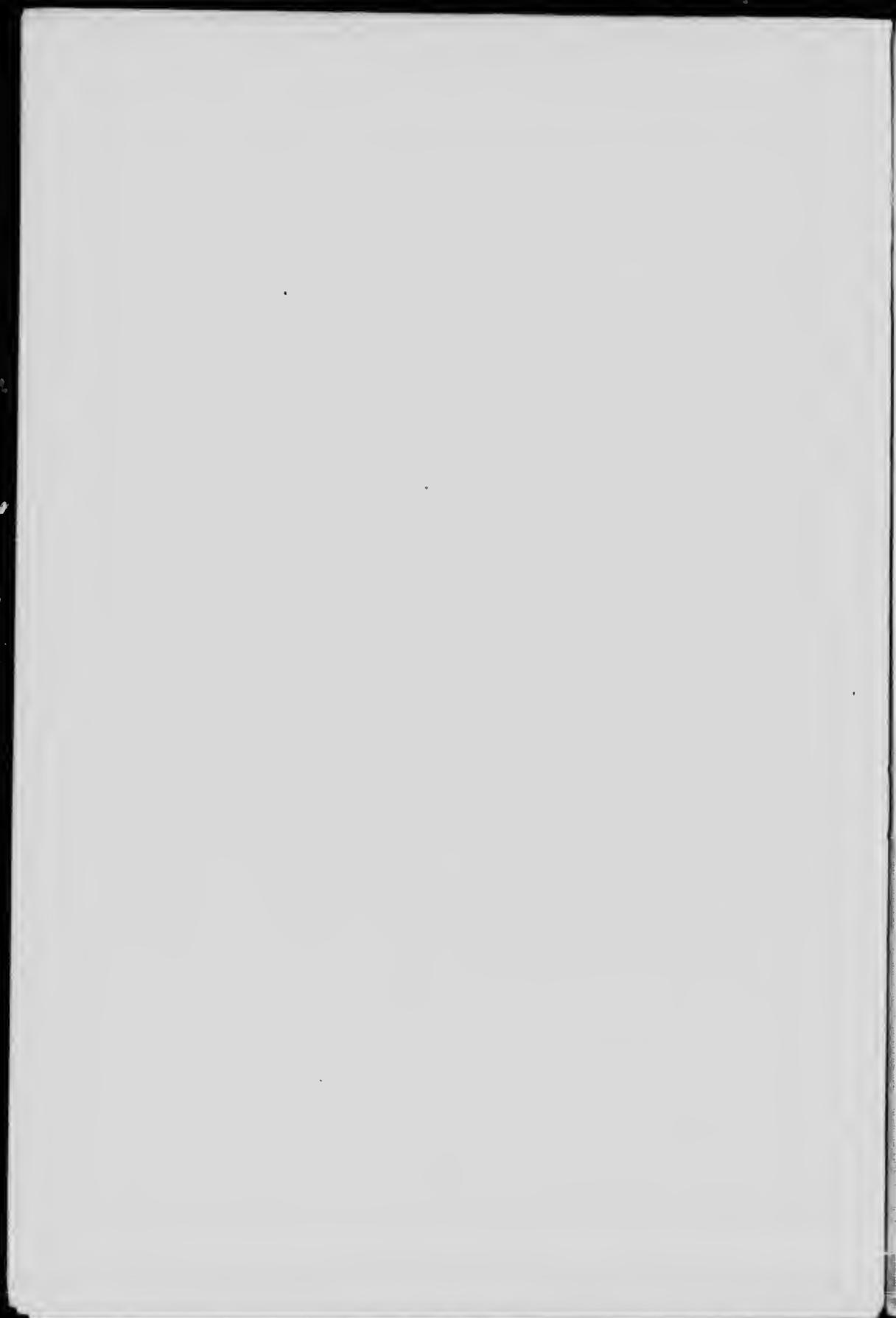
Your obedient servant,

E. S. ARCHIBALD,
Director, Dominion Experimental Farms.



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THE FRENCH-CANADIAN HORSE

By GUS. LANGEIER.

THE PERMANENCY OF THE HORSE.

When the steam plough was first used, when the electric tramways commenced to run, when the bicycle, the automobile, the tractor and the truck were put into service, many saw a horseless age not far distant. Cartoonists depicted a nag as a curiosity to be found only in museums within a very few years; men of good intentions wrote articles in the papers and the feeling became widely spread that it was only a question of time for the horse completely to disappear. And still the official records show that despite the large exportations during the Great War, there were more horses in Canada and in the United States, in 1918, than there ever were in any year since the discovery of the New World.

That this should be so is, at first sight, remarkable, if one takes into consideration the fact that the horse has had practically no advertising agent to extol his merits whilst the very best talent has been employed to push the automotive industry. Small fortunes have been spent to show how horses could be replaced by automobiles, trucks and tractors, whilst nothing has been done to prove that different kinds of work performed by horses could never even be attempted by mechanical power.

But the gradual increase in the number of horses is not so extraordinary after all, and, in fact, is only what might have been expected when one thinks about the very congested city districts where trucks will never be profitable on short hauls, the long winter months, in most northern sections, during which automobiles and tractors will necessarily be idle, and the hilly or even very rolling farms where too much power is lost in propelling the machine itself.

It must be admitted that some of the ordinary work of horses can be done as well and sometimes more cheaply with machines. But this is also true of the labour of men, yet, though during the last three or four decades machines of every description have been invented and placed in factories still manual labour is more than ever.

Besides these considerations, the average farmer is not a mechanic any more than the average mechanic is a farmer. As long as his tractor is new, he gets along very well, but afterwards he commences to have trouble with it, and if the dealer or the service station is far away or busy, he may be stuck in the busiest seasons of seeding, haying or harvesting. On the other hand, the care of horses has been known from generation to generation, and even if one animal is laid up, the whole work does not stop.

That the automotive industry is rendering a service to the country at the same time as it is piling up dividends is admitted; that it will in time crowd the horse away from farms is not believed by anybody who has given the question serious consideration.

THE GENERAL-PURPOSE HORSE.

The automobile has no doubt largely replaced the horses which were bred as a luxury, such as carriage horses, coachers and saddlers, though the latter have probably suffered less than the first two. It has and will continue to replace the roadsters in many districts. Tractors and trucks have also replaced heavy draught horses to no small extent but the permanency of their replacement is not proven.

The farm chunk, in comparison with the draughter, hardly ever had anybody to say a good word in his favour, as there were no breeders interested to boost him. The general-purpose horse has been despised because he was often a misfit, or the result of haphazard crossing. But if a breed existed which regularly furnished horses weighing from 1,100 to 1,300 pounds, that could be hitched to a carriage without looking out of place, and take their turn at farm work with a willing disposition, a fast walk, lots of courage and endurance, it is probable that very few people would scoff at them, for the good reason that thousands of farmers would be eager to get them and would be satisfied after they did get them.

Draughters have always been and will always be profitable to the farmer who produces them. But to pretend that draughters are the only class of profitable horse to raise is to go too far just as it is not right to say that tractors or trucks are always the most economical for the farm or the city.



FRENCH-CANADIAN MARES.
Hitched to a carriage without looking out of place.

Professor Davenport, of the University of Illinois, the state where draughters have probably been more boasted than anywhere else in America, wrote us follows, a few years ago: "Besides the heavy draught, let us have a useful, intelligent horse of medium size, with a deep, thick chest, upstanding neck, full forehead and large, bright eye, an open nostril and erect ear, a short leg, heavily muscled, with a long, low stride that brings the foot lightly to the ground; then, with a short back and strong loin, we shall have a horse of good action, of great endurance, and one that will give good promise of rendering service for twenty years. For such a horse there is a strong and growing demand. Who will breed him and out of what blood lines will he be produced?"

No better description of the French-Canadian horse could have been made.

THE FRENCH-CANADIAN HORSE.

HIS EARLY HISTORY.

The old-time French-Canadian pony, as he was called, was admitted to be a little horse of iron. Though there are no records to prove it, he could probably develop and keep on developing more power per hundred pounds of his weight than any other member of the equine family. This is explained by the fact that the first animals of this breed were sent from France to Canada by Louis XIV, who liked to do things in great style and who had given instructions to his minister Colbert, the latter very much interested to see the new colony prosper, to pick out the best specimens in his country. These horses, which remained the property of the King for three years, were distributed amongst the gentlemen of Canada who had most helped colonization and farming.



FRENCH-CANADIAN MARES.

With their short back and strong loin, they have great endurance.

Afterwards, there was the natural selection, by the survival of the fittest, which eliminated, through the cold climate and the deep winter roads, whatever did not have enough vitality and endurance.

The qualities of the French-Canadian horse were so well known that he was used in forming certain families of the Morgan and of the Standardbred. Thus his blood is flowing in the veins of some of the gamest and fleetest horses in America.

HIS ENDURANCE.

A disinterested party, Mr. J. W. Ingham, of Bradford county, Pennsylvania, wrote as follows in the *Breeders Gazette* (Chicago) of March 19, 1914: "A lumberman bought a Canadian horse not weighing over 1,050 pounds and worked him beside a horse weighing 200 pounds more on an even whiffletree. The Canadian kept up his end at all times and never showed as much weariness as his larger mate. After they had worked together two years, the big horse died. When asked what was the matter,

the driver said: 'The Canadian worked him to death.' A large horse that was mated with him afterwards died within a year, leaving the Canadian still well and sound. The Canadians are undoubtedly descended from a large breed of horse brought over from France in the early settlement of the country. The colts, not being as well fed and warmly stabled as their ancestors, and exposed much of the time to a rigorous climate and hard work, degenerated in size, but improved in hardiness and endurance."

AS A GENERAL-PURPOSE ANIMAL.

Mr. A. W. Smith, ex-M.P. for North Middlesex, Ont., spoke as follows, in 1909, before the Select Standing Committee on Agriculture and Colonization: "There are quite a number of these horses that I have had the pleasure of handling personally, and I know of the good qualities which they possess. I have in mind one particular team which was typical of the large number that I was conversant with. This team weighed 1,250 pounds each as nearly as possible. They were very well matched. They were black. They would travel up to ten miles an hour and continue it for a couple of hours or more; I have seen them do it. On a ten-mile gait they would continue for three or four hours without any trouble whatever. Besides that, they would walk



FRENCH-CANADIAN MARES.

If they have a load behind them they will tug at it until they move it.

with a good ordinary-sized load at about four miles an hour. I think that is one of the best qualities you could have in a farm horse and the French-Canadian is an ideal farmer's horse. Besides that, I have seen the same team matched against other heavier horses that would weigh probably 1,600 to 1,700 pounds. The French-Canadian horses would draw a heavier load than heavier horses. That is one of the characteristics I have found in these French-Canadian horses and I fancy that we have not yet developed any breed, or mixture of breeds, that would come up to the French-Canadian as a general-purpose horse. It is perhaps the most valuable horse that the farmer could have either in Quebec, Ontario or in the West."

FOR MILITARY PURPOSES.

Very few men have a better general knowledge of horses than Dr. J. G. Rutherford, who was at one time chief of the Live Stock and Health of Animals Branches of the Dominion Department of Agriculture. Here is what he says: "There is no reason why this horse should not be bred, and extensively used, for cavalry purposes. They would also make good mounted infantry ponies."

Mr. Currie, ex-M.P. for North Simcoe, Ont., is also quoted: "I saw on one occasion several teams of French-Canadian horses that the Royal Canadian Artillery had. I never saw such magnificent teams in my life. I understand that these horses went through all the South African war and came back home safe and sound."

THIS DISPOSITION.

The Hon. Sydney Fisher, former Minister of Agriculture, expresses himself as follows: "The French-Canadian horse, as a rule, is the most kindly, gentle, and docile animal I have ever had the opportunity of handling, and he is also one of the truest to his work. He never gives out, it does not matter what he is at. If it is on the road he travels along forever, and if he has a load behind him he will tug at it until he moves it. He never balks and children can handle him with the greatest safety. In every way he is docile and kindly."

SCALE OF POINTS.

The following scale of points was prepared by the secretary of the French Canadian Horse Breeders' Association, Dr. J. A. Couture, who has done more for the revival of the breed than any other man connected with this association.

First Group.

Head.

Shape and Carriage.—Square, that is rather short and with straight lines everywhere; lean; carried rather high and slanting.	
Ears.—Not too close, thin, active, rather short.	
Forehead and face.—Broad and flat.	2
Eyes.—Wide apart; flush with the head; large; moderately convex; bright, and kind.	
Eyelids.—Thin, wide apart, clean and mobile.	
Nostrils.—Large and wide apart.	
Lips.—Thin, mobile, covered with delicate skin.	1
Mouth.—Rather small.	
Lower jaw.—Wide apart and rather broad at the angle.	1
Cavity between the jaws.—Wide spread, lean and well hollowed out.	1
Cheeks.—Well developed, firm but not fat.	
Total points for this group.	4

Second Group.

Neck and Throat.

Throat.—Wide across; throatlatch slightly depressed.	1
Neck.—Rather straight than arched; broad at lower and thin at upper edge; sides slightly rounded and firmly muscled; gracefully attached to the head and well fastened to the shoulders.	4
Total points for this group.	5

*Third Group.***Body.**

Withers.—Lean, slightly raised and long.	1
Back.—Strong, broad, straight, short.	4
Loins.—Broad, short, strong, straight.	4
Breast.—Broad, so that the horse's legs are wide apart; covered with well developed and projecting muscles.	1
Chest.—Broad and deep; ribs long, broad, well apart and well arched.	7
Belly.—Somewhat large but not pendulous; gradually rounding in with the curve of the ribs and flanks.	3
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Total points for this group.	20

*Fourth Group.***Fore-quarters.**

Shoulder.—Long, sloping and well muscled.	5
Arm and elbow.—Long, thick, covered with hard and projecting muscles. Arm moderately inclined. Elbow long, parallel to the axis of body and at the same time apart from it.	1
Fore-arm.—Descending as low as possible, broad, thick, perpendicular.	2
Knee.—Lean, long, broad, thick, clean, perpendicular, not turned either in or out.	5
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Total points for this group.	15

*Fifth Group.***Hind-quarters.**

Croup.—As long as possible, wide, slightly sloping; the point of the hip should project but little.	3
Tail.—Large at the root, thick, attached rather high, with an abundance of fine and rather long hair.	1
Buttock.—Descending as near the hock as possible, firm, thick, well muscled.	5
Thigh.—Broad and thick.	5
Stifle.—Clean, close to belly, turned slightly outward.	1
Leg.—Long, wide, the tendon well separated from the bone, large and hard.	5
Hock.—Clean, lean, wide, thick, parallel to the inclined plane of the body, not turned either in or out.	5
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Total points for this group.	14

*Sixth Group.***Lower part of the leg.**

Cannon.—Short, broad, thick, clean, lean, perpendicular. Tendons lean, clean, firm, large and well detached.	
Fetlock.—Broad, thick, lean, clean, slightly slanting.	
Pastern.—Broad, thick, average length, moderately slanting; free from hair—	
For fore leg.	5
For hind leg.	5
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Total points for this group.	10

Seventh Group.

Feet.

Front foot.—Large, strong, as broad as long, resting squarely on the ground face line slightly inclined; height of heels one-half that of front face; heels widely spread, even, resting squarely on the ground; sole hollow, thick; frog, strong and rather hard.	10
Hind foot.—Should possess all the qualities indicated for the fore foot except that it is more oval in shape and the heels are higher and more spread.	5
Total points for this group.	15

Eighth Group.

Exterior.

Skin.—Soft, pliant, mellow, loose; hair smooth.	1
Colour.—Any colour is acceptable.	
Height.—Males not to exceed 5 feet 4 inches; females not to exceed 5 feet 3 inches. inches; the height preferred is from 5 feet 1 inch to 5 feet 3 inches.	1
Weight.—Males not to exceed 1,450 pounds; females not to exceed 1,300 pounds; the weights preferred are from 1,100 to 1,350 pounds for males and from 1,050 to 1,250 pounds for females.	1
Action.—Lively, brisk, rather long than high; hoek, knee, fetlock and pastern bending easily.	7
Total points for this group.	10

Temperament and Nervous System.

The animal must be of a docile temperament but full of vigour and spirit without being nervous.	4
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General Appearance.

The animal must be graceful in carriage and demeanour as well as in symmetry and shape.	5
Grand total of points.	100

WHAT HAS BEEN DONE.

THE STORY OF ALBERT DE CAP ROUGE.

During the autumn of 1912, a black mare of typical shape, but weighing less than eleven hundred pounds, was bought for the Cap Rouge Station. Having lots of grit, a good gait, and a conformation which gives her more strength than animals two hundred pounds heavier, she is about as tough a piece of horseflesh as ever walked on four legs. Many a time she spent the full ten hours on the corn binder, with a mate weighing nearly fifteen hundred pounds, but never for a moment did her whiffletree get behind the other. Every teamster who worked with her said that she always looked as lively after a hard day as she did in the morning, even when only a couple of weeks before foaling.

This mare, Hélène—49—, had been served, before she was bought by Wilfrid, —1012—, a black stallion weighing less than twelve hundred pounds, but all horse, to

use a common expression. It was thought that the offspring would be small, though it seemed reasonable to expect that the descendants would be chokeful of quality, of endurance, of courage.

May 31, 1913, was certainly a red letter day for the breed of French-Canadian horses, as on that date was born a black colt, Albert de Cap Rouge, —1489—, from the union of the two just mentioned. On June 2, he weighed 110 pounds, which was certainly not too much, but at one month, he tipped the scales at 190, at two months 290, and, as the mare was milking heavily, at three months 465 pounds. He was exhibited, out of competition, at Quebec and at Sherbrooke, that autumn, and an offer was refused for him which would have nearly paid what his dam cost. But he was developing so well that it was decided to keep him, the intention then being to see what the old and time-honoured cross of feed and breed would make of him.

Weaned at five months, he was wintered in a single-boarded, open-front shed, and he was never seen to shiver once, although he spent practically all his time outside.



FRENCH-CANADIAN MARES.

They are fast walkers, and this counts at the end of a day ploughing.

At twelve months, he weighed 750 pounds; at fourteen months, 850; at eighteen months, exactly 1,000; and at twenty-six months, 1,105, though he had been used for service when just about two years old and had fretted very much all through that season. When he was thirty-eight months old, he tipped the scales at 1,210 pounds, which was a little more than his sire and much more than his dam ever weighed. And finally, he matured into a horse of about 1,300, during the service season, and 1,350 outside of it.

A PREPOTENT STALLION.

After it was seen that Albert was over the weight of either his sire or his dam at the early age of twenty-six months, the fears that he might be too small, though very good, were allayed. But—and herein lies the trouble for some, and the charm for others, in live stock breeding—there was much uncertainty for the future, that is, fears were now entertained as to the size of his progeny.

A small but select band of pure-bred mares had been collected from various sources. Each and every one of them seemed very good at the time of purchase, but when the dozen or so were assembled at Cap Rouge, it was felt that they were not by any means as uniform as they might have been. In colour they ranged from a light bay to a pure black, with intermediate shades of dark bay, brown and brown-black. In weight, they went from under 1,100 to over 1,400 pounds. With a couple of exceptions, though, the conformation was such as denoted strength and made one feel that they would last, that they would be able to do lots of work for a long time.

There were a few important characteristics, however, that every one kept for breeding had: they were gritty, they would pull all day at a barn without baulking; they never looked tired or drawn up after a hard day's work, and they were hearty feeders.

It was thought that this was certainly a good foundation to work upon, as it seemed less difficult to breed for size and conformation than for courage and endurance.

In 1915, when Albert was about two years old, he served, amongst others, Black Princess, —693—, a black mare weighing over 1,400 pounds and Brunette Coulombe, —1324—, a dark brown mare weighing less than 1,100 pounds. The following spring, two black fillies were born: Delphine de Cap Rouge, —1670—, from the first mentioned, Dianora de Cap Rouge, —1673—, from the other. Though there was such a difference in the weight of the dams, Delphine and Dianora respectively weighed 130 and 125 at birth, 565 and 600 at six months, 765 and 795 at twelve months, 1,075 and 1,125 at two years, 1,175 and 1,215 at three years.

This was certainly very encouraging, as it showed Albert's prepotency, which probably came through his dam, for the two fillies, out of mares quite unlike in conformation and in size, also somewhat different in colour, looked very much alike, were practically of the same weight and were both jet black.

Six other of his fillies, dropped from 1917 to 1919 inclusive, also show that he turns them out quite uniform and that he will no doubt be one of the main factors in regenerating the breed.

BREEDING PROBLEMS.

Line breeding.

Though Albert throws very good stock, he might be lost any day and provision is made to continue, through his male offspring, the work which he has so well started of regenerating the breed. Sébastienne—1249—, a typical black mare weighing about 1,250 pounds, was bred to him and dropped on October 20, 1916, a black colt, Daniel de Cap Rouge—1672—which weighed 1,265 pounds at three years, which is 110 more than his sire at the same age. This stallion is for use on his own paternal half sisters, and his fillies will only have 50 per cent of the blood of Albert or no more than their sire has himself. It is intended, if possible, to continue this line breeding with a son, by Albert, either of Brunette Coulombe—1324— or of Princesse—907—, as they have both thrown exceedingly good fillies to his service. In doing so, there will still only be 50 per cent of his blood, whilst blood of different mares will tentatively be brought in.

In-breeding.

If, later on, it is found out that the blood of some of these mares "mixes" better with Albert than that of others, then it can be concentrated by in-breeding. For instance, if the Albert and Brunette combination proved to be one that practically each time gave nearly what was looked for, a Brunette filly would be bred back to her sire, or Brunette herself could be covered by her son sired by Albert. In each case, the progeny would have 75 per cent of the blood of Albert instead of 50 per cent when line breeding.

This is the quickest way to improvement, but one must not forget that defects, as well as good qualities, can thus be accentuated. It is thus very important that both parents should have vigour, health and constitution, the real foundation without which success is impossible.

Out-breeding.

It is possible, in fact very probable, that with the scant material available with which to regenerate the French-Canadian horse, it may be necessary to resort to out-breeding. This means that use would be made, on a few mares, of a stallion of some breed which might bring in certain desired characters. Besides helping to revitalize the breed, it would also throw light on the whole question of horse raising in general, as it would afford a comparison of the three principal methods of breeding.

FEEDING QUESTIONS.

What to feed.

The question of feeding stuffs is a large one as it takes in roughages: hay from the grasses, clovers, or corn stover; concentrates; grains and mill by-products; succulent feeds; roots and silage; molasses, and pastures. Most investigators pretend that in preparing rations for horses, the main thing is to see that the desirable nutrients are present and that it matters little what feed or combination of feeds is given. No doubt the horse adapts himself to a wide range of variation as to food, for he thrives at certain places with timothy, or alfalfa, or corn fodder as single roughage, whilst he does well in the east of the United States with oats, in the middle west with corn, and on the Pacific coast with barley as the one concentrate.

But until more light is thrown on the subject, it is best to use as roughage, in eastern Canada at least, timothy for animals which work, and clover—but this should be of first-class quality and not fed in too large quantities—for horses at rest and young stuff, whilst the safest concentrates are oats and bran.

How much to feed.

This depends upon the weight and class of stock, stallion, brood mare, work horse, idle animal, or young growing stuff. For instance, it has been found at Cap Rouge that a horse doing nothing, during winter, could be kept in good shape on one pound carrots or swedes—with a preference for the first—one pound oat straw, and one pound common hay per hundred pounds live weight, per day, taking a couple of weeks in the autumn and as long in the spring gradually to change the ration. On the other hand, it required about $1\frac{1}{2}$ pound of timothy hay and $1\frac{1}{2}$ pound of a 5 to 1 mixture of oats and bran per 100 pounds live weight, per day, to feed horses working 2,130 hours during a year.

Generally, a horse requires from 1 to $1\frac{1}{2}$ pounds of good hay and from 1 to 1 $\frac{1}{2}$ pounds of a 3 to 1 mixture, by weight, of oats and bran per 100 pounds of his weight, per day, according to the work he is doing.

Method of feeding.

The feed may be given cooked or raw, soaked or dry, long or cut, whole or ground. But the general practice is neither to cook nor soak anything, and to feed the coarse fodder uncut and the grain whole. Exception is made only for very old or convalescent animals.

HORSING HORSES.

Special horse barns are required for a regular breeding plant and these generally contain boxes, standing stalls, carriage and harness rooms, medicine chests, grain bins, also hay and straw storage above.

The average farmer can keep this kind of stock at one end of the cattle barn, which should be partitioned off for this purpose. The same principles of construction, however, apply in both cases.

At the Cap Rouge Experimental Station, only animals which work are kept in the horse barn, as all others, either stallions, brood mares, or young stock, are wintered in open-front, single-boarded sheds.

Ventilation is a hard problem to solve in a horse barn as, very often, there are not enough animals to keep it sufficiently warm if the ventilators are working, whilst a few hours afterwards a team or two may come in and suddenly raise the temperature. Whatever system is put in, one must ever be on the lookout and open or shut inlets or outlets according to the weather, the direction of the wind, and the number of animals inside.

Light should come in through windows which are easily opened and placed in such a way that the animals which are tied will not have the glare directly in their face, whilst those which are loose cannot break the glass. It is well to remember that sunshine is by far the best and cheapest known destroyer of germs and microbes.

Floors may be of concrete as it is more sanitary than wood and cheaper in the end. The alleys should be roughened so that animals will not slip. In boxes, lots of bedding can be used or blue clay put in to a depth of about three inches, well tamped, and replaced once a year. For the standing stalls, concrete alone will do for horses that are worked regularly, when sufficient litter is available; otherwise blue clay can be used as in the boxes, or, better, movable false floors of 2" x 4" hardwood spaced 1/2" apart and placed lengthways on crosspieces.

Mangers are generally two feet wide with sheet iron on projecting parts to prevent horses from gnawing them. High racks may be all right for giraffes but not for horses. If feeding could be done without waste, the best thing would be to give the hay on the floor and the grain in portable boxes.

Partitions should be of 2" strong lumber and all sharp edges rounded off, as horses are more restless than other stock.

Individual bowls are hard to keep clean; a good way is to have a trough where horses can drink going in or out, or to which they can be brought.

Plans will be gladly sent to persons who will give details of what they require to the Dominion Animal Husbandman, Central Experimental Farm, Ottawa.

CARE AND MANAGEMENT.

The stallion.

He should be worked reasonably, if possible. Where he would be liable to cause trouble or delay in the farm operations, a good large paddock adjoining a box stall, or a small pasture with an open-front, single-boarded shed will do very well. Hay, oats and bran are practically all the feeds which are required, in quantities to suit the size of the animal and the duties he has to perform in the collar or in the stud. Condition powders and other stimulants will never give to a stallion the vitality necessary to sire strong foals.

The mare.

She should certainly get exercise, but an experiment made with the same mare, five years in succession, at the Cap Rouge Experimental Station, shows that the mode of exercising is not of importance. In this case, Black Princess—693—, during two winters, was worked all the time until foaling; two others, she spent outside with an open-front, single-boarded shed as shelter, and once she was kept in a box stall, but turned out often. Every year she raised a good foal. Hay, oats and bran should be

the principal feeds, but roots and a little oil meal are good to keep the bowels loose, which is a most important point. After the wax forms on the teats, it is well to keep a watchful eye on her, as the foal is generally born within two or three days.

The foal.

An attendant should be at hand, though not seen by the mare, when the foal is dropped, as there is a membrane which might choke him if not quickly taken away from his nostrils. In case of malpresentation, unless it be a very easy one to remedy, the best thing is to call a veterinarian. If the youngster is as strong as he should be, he will



FRENCH-CANADIAN MARES.

The most kindly, gentle, and docile animals to handle.

be suck'ing within an hour, and it is as well to give that length of time for his awkward legs to straighten a bit. The main troubles to guard against are navel-ill* and constipation. For the first, tincture of iodine should be applied as soon as possible after birth on the navel and this treatment continued until that part is completely healed up. For the second the hard faeces should be taken out with the oiled finger and an injection of soapy water given.

PROPOSED EXPERIMENTAL WORK.

The Dominion Department of Agriculture, through the Experimental Farms Branch, has decided upon a policy in regards to experimental horse breeding, feeding, housing, and management. This naturally involves a large expenditure over a great many years as there are quite a number of problems to investigate and everything must be done thoroughly.

*Where trouble from navel-ill has been experienced, it is well to make use of one of the proven commercial vaccines as a preventive. This may be administered to the mares previous to foaling—pre-inoculation—and to the foal at birth. The services of a veterinary surgeon are recommended for the work.

Although proof of the efficacy of this treatment is not yet clear as a result of our investigations, yet it has apparently a beneficial influence.

This is certainly a big undertaking, but some of the work has already been started at over a dozen of the Experimental Farms, from the Atlantic to the Pacific. Mares of different breeds have been bought and bred, and useful data have been collected and published. Some of the information, such as the cost of raising horses to a marketable age, for instance, was at first looked upon as detrimental to horse breeding, because it was found out that this cost was much higher than usually thought. But afterwards farmers commenced to realize the importance of knowing this and understood that to make money they had to raise only the best.

Experiments of this kind are not flashy, but any reasonable-minded person can see of what pecuniary benefit they are to Canadian agriculture.

However, there are a great many things to be investigated: the problems of breeding—close, in line, or outcrossing should be studied; the questions of feeds, including roughages, concentrates, roots, molasses, pasture, also watering, the quantities to give to different classes of animals—idle, work, or breeding—the methods of feeding, raw or cooked, dry or soaked, cut or long, whole or ground, should be looked into; different kinds of housing, the stable by itself, or a part of the cattle barn partitioned off for horses, also the cheap shelters for young stock and animals which are at rest, should be studied; diverse systems of management, such as work or no work for stallions and brood mares, ways of preventing common diseases of foals, of raising young stuff, of breeding mares in the autumn, should have some attention.

It was evident that though good investigational work was being done at many Stations, there was not a sufficient number of animals at any one place to permit of going thoroughly into the matter. Realizing this, it was decided to start a large horse-breeding plant where at least thirty brood mares would be kept and where, at times, over one hundred head might be available for experimental purposes.

THE ST. JOACHIM HORSE FARM.

An excellent opportunity arose for commencing this work on a co-operative basis, whereby not only would the Department enlist the cordial support and assistance of the horse-breeder, but would be able to make known the results of the work in the quickest and most direct way.

The French Canadian Horse Breeders' Association has turned over to the Federal Department of Agriculture for a period of twenty years a farm having some 500 acres under cultivation. The farm is located at St. Joachim, less than 25 miles east of Quebec city on a good macadamized road and near a trolley station.

The farm was inspected by the Deputy Minister of Agriculture and the Director of Experimental Farms and pronounced very suitable for the purpose.

It is planned to conduct this as a horse farm, under the direct supervision of the superintendent of the Cap Rouge Station. Some thirty mares were bought, and these, together with about fifteen of the best mares at Cap Rouge, form the foundation stock from which it is hoped to regenerate the breed. An opportunity will also be afforded to study, on a fairly large scale, the various problems relating to the breeding, feeding, housing and management of horses.

THE VALUE OF ACCURATE RECORDS.

There are two ways of keeping track of lines of ancestry: by official pedigrees and by private records.

Official pedigrees.

Official pedigrees are used to trace lineage, and sometimes performance of ancestry, as in the case of running horses and dairy cattle.

They are generally a guarantee of purity of breeding, but, to have value, they must be authentic and genuine. By authenticity is meant the truthfulness of such

details as date of birth, colour, relationship; whilst the genuineness refers to the non-substitution of an animal for another, as if a colt from an extraordinary dam was replaced by one out of a common mare.

Though Breed Societies and Live Stock Record Associations may correct certain mistakes and detect some misrepresentations, it must be admitted that an official pedigree may be neither authentic nor genuine, which shows the importance of dealing with breeders of good reputation.

Besides, a pedigree in itself is not a guarantee of individual excellence, as, individually, pure-bred animals, on account of improper breeding, are sometimes inferior to grades.

Private records.

More important than pedigree is history of ancestry, such as relate to breeding qualities, disposition, weight, colour. And this can only be had from private records.

The Cap Rouge Experimental Station does not pretend that it is the only breeder of French-Canadian horses to have correct and complete private records, but it may prove interesting to prospective customers to know how these are kept.

There is, for each brood mare, a "progeny" card on which are entered her name, her registration, also her stud numbers, the date of her birth, and her extended pedigree taking in three generations. Below are recorded the dates of service and of foaling; if there was more than one service, it is entered, with the name of the stallion in each case, to see if the mare is a shy breeder or if it was the fault of the stallion. Then come the colour of the foal, if it lived, its sex, its stud number, its name, with notes on heredity, its weight at birth, six months, one, two, three years. And there are three photographs of the animal—front, side, and rear views—at six months and again at two years.

Obtaining Good Stallions.

There are several possible plans whereby farmers may obtain the use of good stallions. In the past this matter has been conducted altogether by the Live Stock Branch, Department of Agriculture, Ottawa.

Undoubtedly, a very good plan and that in most common use is as follows:—

A number of farmers organize into a club for the hiring of the very best available stallion for use in their district during the season. These farmers, after making careful selection of the horse, get into touch with the Live Stock Branch and receive therefrom, through a regular channel, assistance in the form of a bonus to the stallion owner. This bonus, in addition to the fees paid by those using the stallion, makes it worth the while of the owner to travel a high-class horse in the district in question. The stallion owner gets fair fees and the breeder exceedingly cheap service. Undoubtedly high-class French-Canadian stallions will continue to command this privilege, as in the past, so that there will be no excuse for travelling a poor French-Canadian horse. The stallions for sale from the Cap Rouge Experimental Farm are undoubtedly of the highest quality and should be appreciated by stallion purchasers. Through the above plan of organization, breeders may have hopes of getting, at a low fee, the services of these and similar first-class horses.

Hiring Out Stallions.

Though colts and stallions ready for service will be sold, it might be thought more desirable, from the dual standpoint of improving the French-Canadian breed and of gathering fuller information in regards to horse breeding generally, to place good sires in localities where the raising of general purpose animals is popular and especially where there is a group of suitable mares.

This is indirectly encouraging community breeding which has been such a potent factor in live stock improvement and agricultural prosperity. It will also give a

chance to see what the stallions produce, to note how prepotent they are in transmitting certain characteristics, and to get back to Cap Rouge or to St. Joachim the ones which are thought capable either of correcting certain faults of the mares or of accentuating some of their good qualities. Horse breeding is a complex proposition at best, and too much light cannot be thrown on some of its intricate problems.

This system of hiring out stallions has been a success for a great many years in Scotland, where it has contributed very much to the advancement of Clydesdales, and there is no reason why it should not be given a more extended trial in Canada.

An agricultural society, a farmers' club, or even a group of men pay so much for the use of a sire during a season, generally after having insured the horse against accidents or death. They bind themselves to take good care of the animal, not to let him serve more than so many times a day during a determined period, also to refuse all mares which are not sound or which are known to be shy breeders. After the season, the stallion is returned to the owner and the responsibility of the people who hired him ceases.

Thus, an agricultural society, a farmers' club, or a group of men who wish to get a stallion can inquire from the parties who had him last, or even wait a year to see the foals, before hiring him. As the people who had the horse are not financially interested in him, an unbiased opinion can be had, whilst if they owned him, there might be some chance of praising him more than he deserved, of covering up some fault or other, so as to get rid of him.

All questions relating to horse breeding, feeding, care and management, etc., will be gladly discussed with you by the Superintendent of your nearest Experimental Farm. Why not write him about your problems?

