

We find in the Old Land the breeders stick to one breed for generations, and that is what made the dairy breeds what they are to-day, and that is one thing we cannot emphasize too strongly in this country. The Holstein breed has been bred for nearly 2,000 years along certain lines, and they cannot be improved by crossing. The Channel Island breeds have also been bred for generations, and I do not think you gain anything by mixing them up.

I am glad to see that there is a desire to breed from pure-bred sires; you can get a better stock of greater vitality and more vigorous constitution. You can get better stock by breeding from old bulls than you can by breeding from a young bull. There are four laws of breeding which are not very difficult to understand: First.—The law of heredity (like begets like); second, the law of variation, which varies from that; third, the law of environment, which has a bearing on our breeding operations; fourth, the law of atavism or breeding back.

Constitution and vigor is something we must maintain in our dairy cows, and one of the things we have to fight for is to keep the constitutional vigor from depreciating, and, therefore, in selecting our sires and our females we must select animals of strong constitution, which is indicated by the strength of the nostrils, the shape of the head, breadth of forehead, good lung capacity, good heart action and strong loin.

As soon as the calf is born, we have the baby cow, and it is in the dairyman's hands to develop that baby cow so that she will become a great producer, and it is possible to spoil it by the treatment you give it. Milk is the natural food of the calf, and if we allow it to suck its mother or feed on the whole milk for a period of two months we will begin to develop in that calf a flesh-forming and beef-forming characteristic; but if we feed it on rations of skim milk, we grow up an animal that will develop bone, muscle and sinew. I like to use linseed meal along with the skim milk. It is best not to overload the stomach of the calf, and I like to feed with the skim milk a preparation composed of one part of pure linseed meal and three parts of flour. Commence this when the calf is three weeks old, when you take off the new milk. One tablespoonful of that mixture, mixed in cold water, and then pour on it boiling water, and allow it to simmer two or three minutes. It has a tendency to keep the digestive organs in good condition.

The following questions were put to Mr. Stephen after he had finished his address:

Q.—Do you think it a good plan to feed the dairy calf three times a day for the first month?

A.—It is not a bad plan. The trouble is many dairymen have not the time to do it. In the Old Land they feed them about three quarts in the morning and evening, and one quart at noon. Of course, it is nature's way to feed the calf often and a little at a time.

Q.—Is there any strength in whey for calves?

A.—Yes; whey has a good value, but the great trouble with whey is that it is too strong in acid.

Q.—How do you cure the scours?

A.—Reduce the feed. If you are feeding skim milk, cut it off, and substitute whole milk, unless it is a Jersey milk, and, if so, add water to it. If it is a Jersey case, a teaspoonful of laudanum will set it right.

Mr. J. H. Grisdale, of the Experimental Farm, Ottawa, gave a very interesting address on feeding dairy cattle. He said Canada was essentially a milk-producing country, and it was very important that the farmers should know how to feed dairy cattle properly, and that in order to get the best returns it was necessary to give the cattle all the feed they would consume profitably. He said that if there was one thing that insured good digestion and the comfort of an animal more than another it was giving the animals sufficient feed to keep them well filled, and then persuade them to eat as much more as possible. He did not advise feeding expensive feeds for the purpose of filling them. Farmers can grow cheap feeds that will come in very handy for roughage, and he thought that the cheapest feed for that purpose was corn ensilage. He advocated feeding twice a day. First in the morning, give them ensilage, pulped roots and cut straw, and on top of that the meal, and after that portion of the ration is consumed, give them the long hay; then, in the afternoon, that is repeated, so that the cattle lie all through the middle of the day, digest the food, just as they lie all through the night digesting their food. He said they had experimented feeding in this way at the Experimental Farm, Ottawa, and they got no better returns either in beef or milk from feeding three times a day. He advised giving them all the salt they would eat, but did not advise feeding it to them with their rations. He also said they had experimented as to whether roots were superior to ensilage, and they did not find that roots were at all superior; but they did find that a mixture of the two gives better results than either one separately. He gives farmers might look out for poor results where the cow had to eat feed whether she liked it or not in order to keep herself comfortable and filled. The best order to keep herself comfortable and filled. The best way to feed them was to give them a mixture so appetizing that they would always like to have a little more. Of the rough feeds, he thought clover hay was the best, except alfalfa.

Mr. Dan Drummond gave an address on judging dairy cattle. He said there was no better way to find the merits of a dairy cow than by the scales and by the Babcock test, together with the duration of feed flow and the feed consumed; and the question of feed flow and the feed consumed should be carefully looked at, because the cow consumed should be carefully looked at, because the cow has got to pay for her feed for the entire year as well

as during the time she is milking. He said the score-card was practically useless in judging a dairy cow. There were five ways in which to look at a dairy cow. There are four systems in the dairy cow—the nervous system, the digestive system, the circulatory system, and the milk-secretion system; and there are five points to look at in judging a dairy cow. Quality to a dairy-man means a good deal. There is a good deal in the way the animal walks. It will tell you as to her vigor and constitution. She should walk in a sprightly manner. The head of a cow should be clean-cut, and not have any surplus flesh on it. The face veins should stand out distinctly, like cords. A cow with a defective quarter will never get a prize in a ring because it is very apt to be hereditary. There should be sufficient chest capacity for the heart and lungs. The dairy cow has to consume a third more than a beef steer, and she must have a larger stomach capacity, and we should see that it is well developed. He said the best producing cows were those that have good handling quality, a soft, pliable skin, oily and soft hair, and the skin not too thick. The cow that has those handling qualities will be a most economical producer of milk. She will assimilate her food better and make better use of it, and give you better results in the pail for the food consumed.

At the meeting devoted to the question of horse-breeding, the resolutions as adopted by the Canadian Horse-breeders' Association were indorsed without any amendment.

Prof. Arkell gave an interesting address on the judging of sheep. He said a good judge must have some experience in handling sheep, and he also should have some experience in exhibiting. He said that one good thing in judging the amount of flesh in proportion to fat on a sheep is at the dock. If the dock is lean and covered with fat, there would be a lack of soft meat on the carcass; but, on the other hand, if it is even and smoothly covered with lean flesh, and if the dock at the juncture with the body is firm and fleshy to the touch, you will find that the carcass has a larger amount of lean in proportion to the fat, and that is what the butcher requires—as much lean meat



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as possible with enough fat to give it quality and delicacy of fibre. You can judge as to the quality of flesh by the touch. It will indicate the way in which the sheep has been fed, and will also indicate the amount of lean on the carcass and the quality of meat, and it will indicate whether there is a lot of surplus tallow or fat. Prof. Arkell said it was hard to describe this touch, and it can only be acquired by practice. The fleece should cover the body evenly throughout, and should not run fine on the back and coarse on the breast and about the legs, and there should be that characteristic fibre that distinguishes the different breeds.

Q.—What points would you lay most stress on?

A.—I should think the breeders' and feeders' standpoint, because when you are emphasizing that you usually emphasize the butchers' standpoint.

Q.—Do you put any stress on the way in which the front legs set under the sheep?

A.—You want width below; in the floor of the chest, the legs should be set strongly and fairly under the body.

Q.—Is there anything in the size of the nostrils?

A.—I do not like too narrow or contracted a face. I like a strong face, not too bold or coarse, but sufficiently strong to indicate substance.

Prof. Day, of the Agricultural College, gave an illustrated address on a bacon hog, in which he said that from the bacon standpoint it was possible to have a pig too deep in the body, and it was also possible to have it too long to be a real desirable one to feed; but at the same time it was not necessary to have a short-bodied pig in order to have a thrifty, profitable pig to feed. He said the farmers could get a pig that would meet the demands of the export trade, and at

the same time meet the demands of the feeder. He said that a little, short pig is not as profitable a feeder as one that runs a little to the other extreme. A short, thick pig simply puts on fat, looks nice, and pleases the eye, but there is not much growth in him. The back should come out even with the shoulder, and the rib should be sprung out even, and sprong from the backbone, and give a flat, straight side-rib. The back should be heavily muscled from the rump to the loin. An extremely wide back is an indication of too much fat. The heavy jawl is not desirable, because it is cheap meat. It is desirable to have a head that is neat in the jawl. Medium weight in the neck, muscular, but not arched with fat. Medium width in the shoulder, and very compact and smooth over the shoulder. The spring of rib coming well out from the backbone and then turned sharply down to give you a flat, straight-sprung top loin, carrying some width right through the heart, over the hams and a good length from the back of the shoulder to the tail, and then we want a ham that is somewhat tapering and that has not an excessive development of fat. We do not want a great, coarse, lanky, slab-sided, shallow-hammed brute. That is not a bacon hog, and is not what the packers want.

ONTARIO HORSE-BREEDERS' EXHIBITION.

Practically the end of the large live-stock conventions and meetings for 1908 will come during the time of the Ontario Horse-breeders' Exhibition, at Toronto, February 12th, 13th and 14th, the last of the association meetings coming on during that week. Persons wishing to attend these meetings and the Show will be able to take advantage of the single-fare rate arranged for the Show.

Round-trip tickets will be sold for single fare from all points in Ontario on Friday, 11th and 12th, and on the 13th and 14th round-trip tickets, for single fare, will be sold from points in Ontario where the regular single fare is \$2.50 or less. All tickets are good to return up to Feb. 15th. This should ensure a good attendance at the meetings, and it will naturally be expected that no one would take advantage of the rates arranged for the Show without putting in an appearance at the Exhibition. The Exhibition is also fortunate in immediately following the National Live-stock Convention, at Ottawa, when so many live-stock men from Eastern and Western Canada will be in the Province, and will be glad to avail themselves of the opportunity of attending. The interest that has been aroused in the horse-breeding industry the last two years through the investigation, the newspaper articles and discussions which have taken place will no doubt increase the attendance at the coming Exhibition. It may also be taken for granted that the greater number of entries which can be assured will also have a corresponding effect on the number of people who will attend.

The advantages to the Exhibition, apart from the actual prize money, will depend upon the number who attend, and from the foregoing it will easily be seen the coming Exhibition will be the largest in the history of the Show. Prospective buyers should, therefore, be plentiful, and anyone desiring to have their inspect his stock should make an exhibit; for it may be taken for granted that as well as having every facility for inspecting the stock at the Exhibition, and it being a much easier and more pleasant method of making a selection, there will be amply sufficient stock on exhibition for buyers to procure what they may require.

MILITARY DRILL.

Enclosed please find \$1.50, for which please send "The Farmer's Advocate" to me for the current year. I consider "The Farmer's Advocate" a first-class paper, but I am disappointed with your disapproval of military drill in the public schools. I believe that the best way to preserve peace in our country is to let any possible combatant know that the average yeoman is both capable and willing, if occasion arise, to bear arms and use them. Apart from this phase of the matter, there are two things which I believe tend to greatly improve the status of the farmer among his fellow men: One is the improvement in physical deportment brought about by military drill, calisthenics, etc., and the other is a thorough knowledge of the English language, and the ability to speak the same in public. I believe attention to these two matters would go a long way towards doing away with the phrase, "only a farmer." In this connection, I am glad to see a discussion on "public speaking and debating" in "The Farmer's Advocate" of January 9th.

Leeds Co., Ont.

WILLIAM JELLY.

It is rumored that many of the largest apple dealers in Nova Scotia will be obliged to compromise with their creditors this year, and there is reason to fear that a number of the Ontario shippers will be in a similar position, although we are officially assured that the Ontario growers have been paid to a greater extent than those in Nova Scotia. It is hinted, however, that two or three co-operative associations in the Upper Province have been hit rather badly, though it is difficult to obtain authentic information at this stage, as those who have lost heavily are very reticent. Some of our cheese factories have also been bitten to a greater or less extent.