

quirements, that there is any advantage in having prices rule high.

This article is not an argument against the desirability of high values for horses from the Eastern farmer's standpoint. It is merely to point out that there is another side to the question, which may have escaped consideration. Our business is to set forth all the facts.

LIVE STOCK.

Origin of the Holstein-Friesian.

Address by Prof. H. H. Dean, Ontario Agricultural College, delivered at the Holstein-Friesian Banquet, Toronto, February 8th, 1911.

"History repeats itself." The people of Holland are noted for their thrift, progressiveness and wealth—being the wealthiest country per head of population of any country. This happy condition has been brought about largely through the influence of the Holstein-Friesian cow upon the agriculture of Holland. This influence is not of recent origin, else it had not been so potent. We read that the Friesian people have dwelt upon the shores of the North Sea since three hundred years before the Christian era. It is supposed that these people came originally from India, bringing with them herds of pure white cattle, and sought the shores of the North Sea as a pasturing ground for their stock. Two hundred years later a German tribe came from the upper Rhine district and also settled on the shores of the North Sea, near the Friesians. They also brought their cattle with them—a black race of animals. It is further supposed that the white cattle of the Friesians and the black cattle of the Germans became crossed, and thus laid the foundation of the present Holstein-Friesian breed of cattle, and also the foundations of the dairy industry in Holland. The cattle have spread to America, where more and better cattle of this breed are found than in their native country. The conditions in Canada and the United States are favorable for breeding large numbers and for developing the breed to their highest capacity. Our large areas of land and immense stocks of food are favorable natural conditions for developing the hereditary tendencies of the breed, while our wide-awake breeders have been quick to see the possibilities of animals of black-and-white color in milk production, and have developed these with all the shrewdness characteristic of the race dwelling in North America, not the least important of whom dwell in the country called Canada.

OFFICIAL TESTS A CONTRIBUTION TO DAIRY SCIENCE.

If we wish to single out one man to whom credit belongs more than any other for developing the milking capacity of Holsteins in America, that man is Solomon Hoxie, of the State of New York, who, so far as we know, conceived and carried out the idea of "Advanced Registry" some 26 years ago. The American Advanced Registry was established in 1885. Mr. Hoxie, in the first volume of the American Advanced Registry, said: "This system is also a slight offering to science (Mr. Hoxie was altogether too modest, as it was one of the greatest offerings to dairy science). There is yet to be a science of cattle selection and cattle-breeding. But such a science can never be established without a multitude of observations such as this system records. Finally, it may be said that it is a step in the direction in which all progressive breeders and thinkers upon cattle subjects are looking. It destroys no institution to take its place. It is simply a step forward into an unoccupied field." For many years, Mr. Hoxie was superintendent of "Advanced Registry" in the United States, and a great deal of credit belongs to him for directing the attention of breeders of this race of cattle to the importance of knowing the actual performance of cows, rather than depending upon external points which may or may not have a relation to milk-producing capacity. The systems of "Advanced Registry" in the United States, and of "Records of Merit" and "Performance" in Canada, have been the main factors in placing the Holstein cow in her pre-eminent position which she occupies in relation to the dairy industry of Canada and the United States. I should like, however, permission to say that there is an element of danger in placing too much stress upon tests for a short time, and at a time when a cow is in condition to do her best—in some cases after long periods of rest. Someone has said that pie-crust and records are made to be broken, but we need to be careful that suspicion as to methods adopted in breaking records does not rise to a point where discredit, rather than credit, will result. I should also like to say that yearly records and records of eight months after calving ought, possibly, to be emphasized more than is the case at present. We have faith enough in the breeders of Holstein cattle to believe that they will adopt whatever is for the permanent, best interests of the breed. Let us have 7-day, 30-day, and 365-day tests. We cannot have too many. The only point to guard against is an unreliable test.

TOO MUCH EMPHASIS ON FAT.

One other phase of the testing question may be referred to, viz., public tests, at which the Holstein cow has always distinguished herself and brought honor to her owner, and this in spite of a serious handicap. I have no wish to criticize adversely those in charge of the various fairs of the country, where public tests of cows are made, and prizes awarded on the basis of a scale of points. These men are living up to the light they have, but, in my judgment, too many points are allowed for the milk-fat in practically all the scales which have been adopted. The milk-fat is the most variable constituent of milk, is most easily influenced by external and internal conditions of the cow, has a more restricted use as a food than other constituents of the milk, is more liable to cause disorder to the user of milk when in excess—then, why place so much emphasis upon it? The only explanation we can offer is that people have gone "fat crazy." It is possible that the public have confused "fad" and "fat," as the former is so popular in these modern times. We would not minimize the value of milk-fat for buttermaking, or when in proper proportion to other constituents of the milk, but a continual use of an excessive amount of milk-fat is disastrous to the human system.

RAISE CATTLE.

It is related of Frederick the Great that, after the cruel Seven Years' War, in which Prussia was almost ruined financially and otherwise, this great king and warrior went about among his people, more particularly farmers, loaning or giving them money to make a fresh start, offering advice and help wherever needed, that he invariably advised the farmers to go in for cattle-raising. A man would come to him and say, "I don't like cattle, I prefer horses," or some other line of farming, but the scarred warrior would reply, "Take my advice and raise cattle; they will restore your soil fertility, and pay dividends from the first." Fortunately, the Prussian farmer profited by this advice, and we have in the German Empire a forceful example of what cattle-raising can do to restore the fortunes of a practically bankrupt nation in the eighteenth century.

What was good advice at that time, is good advice to-day in Canada, and everywhere that nations are making a beginning. Breeders of Holsteins can help very much in national prosperity by selling pure-bred bull calves to the average or ordinary dairy farmer at a reasonable price. We have heard men say that if they could not get their price for a bull, they would sell him to the butcher, rather than take a lower price. This is a great mistake. The ordinary farmer is inclined to be somewhat skeptical of the value of pure-bred stock. A good animal, sold in a locality formerly inclined to undervalue pedigreed stock, would be bound to win favor, and in the end would result in increased demand for pure-bred males, and consequently increase the profits of breeders in the long run.

CO-OPERATIVE BREEDING.

What is a fair price for a pure-bred bull calf, say a month old? This is a difficult question to answer, but, judging from the views of correspondents, I should say that the average farmer considers twenty-five dollars a good price for such a calf. This, of course, would be considered a very low price by breeders of "fancy" stock, but it strikes me that there is a profitable trade to be worked up with dairy farmers who cannot afford to pay high prices. If the plan of co-operate or community breeding were adopted, whereby a number of farmers in a locality would purchase a pure-bred bull for their use, it would enable them to secure the service of a first-class male at a comparatively low cost; but where this is not practicable, and the individual farmer on a rented or mortgaged farm has to buy a bull, then loan him to all his neighbors free of cost, he cannot afford to pay a very high price for an improver of his dairy cattle.

MILK FROM CHEAP ROUGHAGE.

The Holstein cow is characterized by her ability to change cheap roughage into valuable milk. The future of the Province of Ontario, so far as farming is concerned, lies largely along the line of milk production, for town and city trade, for condensed milk, for buttermaking and cheesemaking, and in side-lines of dairying, such as bacon, and poultry, together with the growing of fruit. With the opening of the American market for our concentrated farm produce, dairying is likely to advance more than it has been able to do in the past five years, during which time it has largely been in a state of "as you were."

You may not agree with all the views as set forth in the foregoing, but the dairy teacher must ever set before his hearers what he believes to be the truth. Nothing less than this will satisfy the thinking, progressive members of this Association or of any other body of do-better dairymen. Someone has said that great men are the result of genius and opportunity. Lacking either of these, great men in any walk of life cannot be produced. It looks to me as if this were the

opportunity for breeders of Holsteins to forward their own and the dairy interests of Canada. I am sure that their genius will rise to the occasion.

Grow Clover Hay and Turnips for Sheep.

T. R. Arkell, B. S. A., Animal Husbandman at the New Hampshire Experiment Station, summarizes the result of an experiment in feeding sheep and lambs as follows:

1. Clover hay, as a feed for sheep, is decidedly more profitable and more economical in mutton production than native hay.

2. The native hay contained large quantities of timothy and other grasses that the sheep did not relish. Timothy hay is not a palatable feed for sheep.

3. The relative difference in price between timothy or native hay and clover hay is such that the sheep-raiser in New Hampshire, who is not growing clover, can profitably sell the former and purchase the latter, or, better still, alfalfa, for his sheep.

4. So long as the market price of hay continues high in New Hampshire, with the comparatively low price of grain, when the greater feeding value of the latter is considered, the sheep-feeder can well afford to feed grain in the winter ration.

5. Turnips in the winter ration reduce the cost of mutton production.

6. Turnips, owing to their watery nature, render the ration more palatable, and are distinctly useful, when fed in moderate quantities in conjunction with hay and grain, in preventing constipation and other resultant ills, which so frequently occur when sheep are changed from pasture to dry feed.

7. The chief danger with turnips lies in heavily overfeeding or attempting to make them constitute the bulk of the ration, when they are liable to make a ration too laxative, and produce scouring.

8. Turnips are well adapted to New Hampshire soils and climate.

9. They can be raised and stored at a cost low enough to compete with silage, and in many cases supplant silage for sheep-feeding.

10. Turnips or other roots offer a partial solution to the problem of securing a substitute for high-priced grain.

Sheep-raising in New Hampshire, it might be added, is fast becoming an important phase of the live-stock industry. Its development, or, rather, re-development, within recent years has been rapid, and every year shows a consistent and satisfactory increase in numbers. Farmers are beginning to realize how profitable, when pursued upon a systematic basis, sheep-raising is. Attention is being paid, not only to general sheep-raising, but to that more intensive form of it—winter or "hothouse" lamb production. Early lamb-raising yields large returns, owing to the proximity and easy access to the Boston and New York markets, where the highest prices in America prevail for this product.

Cook Pork Well.

DANGER OF TRICHINOSIS FROM EATING RAW OR IMPERFECTLY-COOKED PORK.

Cases of illness sometimes occur from eating uncooked or insufficiently-cooked pork which is infested with a microscopic parasite commonly known as trichina or flesh-worm, the scientific name being *Trichinella spiralis*. An average of one or two per cent. of the hogs slaughtered in the United States are infested with this parasite. When transmitted to human beings, trichinae may cause serious illness, sometimes resulting in death. Out of about 15,000 cases of trichinosis recorded in medical literature, most of which occurred in Europe, 830 resulted fatally.

No method of inspection has yet been devised by which the presence or absence of trichinae in pork can be determined with certainty, and the Government meat inspection does not include inspection for this parasite. All persons are accordingly warned by the United States Department of Agriculture not to eat pork, or sausage containing pork, whether or not it has been inspected by Federal, State or municipal authorities, until after it has been properly cooked.

A temperature of about 160 degrees Fahrenheit kills the parasite; therefore, pork, when properly cooked, may be eaten without any danger of infection. Fresh pork should be cooked until it becomes white and is no longer red in color in all portions of the piece, at the center, as well as near the surface. Dry salt pork, pickled pork, and smoked pork previously salted or pickled, providing the curing is thorough, are practically safe as far as trichinosis is concerned, but as the thoroughness of the curing is not always certain, such meat should always be cooked before it is eaten.

A pamphlet giving information on the subject is published by the United States Department of Agriculture, Washington, D. C.