

in the pastures is largely nitrogenous. When a second litter is reared it should, if possible, come in September. The young brood are then weaned while the weather is still mild. After they have been weaned the dam should get a mixed ration, in which the carbonaceous and nitrogenous elements should be well blended, for her system must be well sustained in flesh and fortified against the cold weather of winter which is then approaching.

Brood sows should be given large liberty of exercise. It is not only good for the sows, but it is also good for their young. It is a mistake to shut a brood sow up in close quarters either in winter or summer for any length of time, but it would seem less justifiable in summer than in winter, for a brood sow can pick up a large proportion of her living in the pastures in the summer if only allowed to do so.

When the farrowing time draws near, the brood sow should be confined to a pen. She should be thus confined for a week or two to become accustomed to her new quarters. If not so confined she will be restive and uneasy, and will probably expend a good deal of energy in trying to gnaw her way to liberty.

### The Pure Breeds of Cattle.

By PROF. THOM SHAW, St. Anthony Park, Minn.

#### POLLED DURHAMS: THEIR TRADING CHARACTERISTICS.

The leading characteristics of Polled Durhams are essentially the same as those of the Shorthorns, with three elements or points of difference. These consist, first, in the absence of horns; second, in the blood elements imbibed from the muley foundation; and, third, in the superior milking qualities which, in consequence, they retain.

The attempt will not be made here to discuss the advantages of hornlessness as compared with the presence of horns. It will answer my purpose, at present, to cite the extraordinary revulsion of public opinion that has taken place with reference to the question of horns or no horns. Why, it is only yesterday, as it were, when men in all Christian lands were prosecuting individuals for dehorning, on the ground that it was cruel. To day men so kind and tender hearted that they would step aside rather than tread on a serpent, lest they should needlessly give it pain, are anxious to have the horns removed from their bovines, on the ground that it will prevent further cruelty. It has been affirmed, and it is probably true, that more than half the cattle reared in the entire West are reared without horns; that is to say, the horns are taken from them after they have appeared. This extraordinary revulsion in public opinion is a high tribute to the sagacity of the earliest breeders of Polled Durhams, in thus anticipating, as it were, this coming change before it had come, and, indeed, before the indications of it had got well above the horizon.

It may be that some persons would depreciate the presence of the percentage of muley blood now found in Polled Durhams. That is not my opinion by any means. I regard it as an element of strength rather than of weakness, a strong recommendation to them rather than a reproach. It is, to me, a source of regret, rather than the opposite, that efforts so persistent were made to get the muley blood elements so quickly reduced to a minimum. I speak thus for the reason, first, that, through injudicious and over-close breeding, the stamina of very many Shorthorns has been

impaired, and, along with impaired stamina, shy breeding and shy milking qualities have appeared; and for the reason, second, that healthful and vigorous blood elements of the muleys would tend to correct these unfortunate tendencies.

The muleys have all along been noted for their good milking qualities. In fact, it is owing to the possession of these that they have been enabled to survive the prejudice of centuries. Their meekness, too, the outcome of an unoffending disposition, has at last been recognized, and they are, in consequence, going to share in the inheritance of the earth.

There may have been commercial reasons which impelled the early moulders of Polled Durhams to try to obscure the glory of the muley blood as quickly as possible. They had to cater to tastes as they were, and not as they ought to be. They had to meet the prejudices of men, and these are strong and stubborn, and useless oftentimes, and supremely childish. We find evidence of this in the unceremonious rejection of Shorthorn bulls, because they are off in color, by those who are rearing beef cattle. But, if these things could be viewed in the light of common sense, and without prejudice, would it not be found that men would welcome the increment of muley blood, rather than despise it? Is it a fact, breeders of Polled Durham, that the pure Shorthorns recorded in your book are essentially superior in useful characteristics to their less aristocratic neighbors and brethren which possess the muley blood? And remember, please, that this question is asked by one who has a superlatively high opinion of the worth of undiluted blood.

It was mentioned that the essential qualities of Shorthorns were possessed by Polled Durhams, with certain points of difference that have been stated. But what are those essentials, it may be asked? I answer, size, adaptability to arable lands that are at least fairly productive, good feeding qualities, and good milking qualities.

In the size possessed by Shorthorns, we find another evidence of the sagacity of the pioneers in Polled Durham breeding. They could have got polled cattle in the Angus, Galloway, and Red Poll breeds, and good ones, as everybody knows who understands those excellent breeds. But in these they could not get as much size as they wanted. And they had also to consider the popularity of Shorthorns with the multitude, viewed from the standpoint of disposal. There is no denying the fact that the Shorthorns are the largest class of cattle found in the world to-day.

Because of their size the Polled Durhams, like the Shorthorns, will be best adapted to arable lands where food abounds. Of course, large size means abundance of food during the period of growth in order to make it. It does not mean, however, an undue consumption of food in proportion to the gain. But it means plenty of food to accomplish the end sought. Whether three animals weighing together 3,000 pounds at two years old will consume more food than two animals weighing the same at an equal age, the other conditions being the same, has not been determined; but it is certainly probable that the food of maintenance would be more in the three animals than in the two.

The Polled Durhams, like the Shorthorns, are good for meat-making; whether quite as good as the Shorthorns will depend upon those who handle them. Will the moulders of this useful breed tolerate a suggestion from an earnest admirer of their noble work? If so, the suggestion would read: Be content to

sacrifice something in beef-making, that you may gain something in milk-making. Let the breeders of Shorthorns win the prizes on the old beef lines. The Polled Durhams should stand on higher ground. They should milk well enough to satisfy the demands of the dairy at the present time, and they should have good beefing properties as well. In fact, they should occupy the position in America to-day which the dairy Shorthorns occupy in England. It was the desire to have good milking qualities with size and without horns that led the formers of this breed to the muley. They could have got milking qualities in the Red Polls without horns, but these were not possessed of the requisite size. Just a little over-anxiety to have the Polled Durhams lead in the beef show rings may soon bring them to exactly the same plane as is occupied by the average Shorthorn, viz., the possession of good beef-making qualities, but the milk-making qualities will be indifferent and impaired.

### Manitoba Breeders' Convention.

The first annual live stock breeders' convention under the auspices of the Purebred Cattle Breeders' and the Sheep and Swine Breeders' Associations was held in the city hall, Winnipeg, on Thursday, February 21st.

Business sessions of both associations were held previous to the joint meeting, and the following were elected officers of the Sheep and Swine Breeders' Association: President, James Elder, Virden; vice-presidents, Wm. Kitchson and J. S. McMillan; secretary-treasurer, Geo. H. Craig; representative on Winnipeg Exhibition Board, A. Graham; directors for sheep, D. Fraser, F. Menzie, James Bray, and John Oughton; directors for swine, A. B. Potter, J. Scott, F. L. Lang, and J. L. Mitchell.

The first address was by Mr. James Elder, Virden, on "The Care and Management of Breeding Swine." He was followed by Mr. Kitchson, who took for his subject, "The Breeding and Management of Pigs from Birth to Market." Mr. Donald Fraser, Emerson, spoke on the sheep industry of Manitoba, and Mr. Walter Lynch, Westbourne, read a paper on "The Rounding of a Herd."

The question of railroads charging half fare for the attendant in charge of stock and full fare return when they are shipped a distance over one hundred miles was discussed, and a resolution passed calling on the railroad companies to amend such regulations.

Mr. Angus McKay, superintendent of the Indian Head Experimental Farm, had prepared a paper on "Stockbreeding in the Territories," which was read by Mr. Leech. In it the writer criticized the practice so generally followed in the Northwest of allowing cattle to get so thin in winter time. Pure-blooded stock should always be used. A good sod stable, if dry and warm, was better than a more elegant one that lacked these features. He favored oats cut green as a suitable feed for stock.

Dr. Rutherford read a valuable paper on "Abortion in Cows." Among the causes of this trouble were accidents, hooking, slipping, or goring; violent muscular action, foul air or water, frozen food, and lastly, but most important of all, contagion. He laid especially stress upon this last cause, and advocated isolation and the most stringent disinfection. He could not speak positively of the efficacy of the internal carbolic acid treatment.

Mr. Bedford, superintendent of the Brandon Experimental Farm, spoke on "Corn as

compared with Roots." He recommended sugar beets as a food for calves. At Brandon it cost \$22.50 per acre to produce turnips. This included interest on land costing \$20 an acre. The cost of producing corn ensilage was \$18.30 per acre, and dry corn \$15.95 per acre. Besides this difference in cost of production, corn does not require frost-proof storage, as is the case with turnips, and the last named requires richer soil than corn. Taking all these facts into consideration, the speaker decided that he could do better with corn than with turnips.

### Agriculture and Arts Association.

The fiftieth annual meeting of the Agriculture and Arts Association was held in the Parliament buildings, March 7th and 8th, President Wm. Dawson in the chair.

The members present were Messrs. N. Awrey, M.P.P., Hamilton; J. C. Snell, Edmonton; W. C. Edwards, M.P., Rockland; D. P. McKinnon, South Finch; John I. Holson, Moshoro; Joshua Legge, Gananoque; Albin Rawlings, Forest; John E. Cohoe, Wellandport; Jonathan Sissons, Crown Hill; R. Mallory, Frankford; Henry Wade, secretary, Toronto.

The minutes of the last annual meeting were adopted as read. Prof. C. C. James, Deputy Minister of Agriculture, wrote announcing that the following members had been elected for the respective districts: For No. 5 district, W. J. Westington, Plainville, Ont.; for No. 6 district, J. C. Snell, Edmonton, Ont.; for No. 7 district, N. Awrey, M.P.P., Hamilton; for No. 8 district, John E. Cohoe, Wellandport, Ont.

The secretary's annual report was then read and adopted.

The recent fire that destroyed the association's offices on the corner of Yonge and Queen streets was discussed, and it was decided to pay off the mortgage of \$10,000 at present existing on the property with the insurance money. The Hon. Mr. Dryden, Minister of Agriculture, kindly consented to attend the meeting when the affairs of the board were thoroughly reviewed. A reduction in the membership was considered, and a proposition will be made to the Minister at an early date, including this and other matters.

Mr. John I. Holson, on behalf of the Guelph Fat Stock Club, invited the association to hold their annual fat stock show at Guelph. It was eventually agreed upon to do so. The secretary was authorized to secure temporary offices, paying therefor not more than \$20 a month, until some more suitable location is obtained.

Mr. D. M. McPherson, M.P.P., Lancaster, addressed the board, and presented his scheme for the general benefit of farmers.

Mr. Jonathan Sissons was elected president and Mr. W. C. Edwards, M.P., vice-president for the current year, and the following are the standing committees:

Executive Committee—Messrs. Awrey, Snell, Rawlings, Edwards, and Legge.

Finance Committee—Messrs. McEwen, Rowand, Dawson, Cohoe, Mallory, and Westington.

Horse Show—Messrs. Snell, Awrey, McEwen, Legge, Rawlings, McKinnon, and Wade.

Fat Stock Show—Messrs. Awrey, Rowand, Snell, McEwen, Dawson, and Wade.

Dairy Show—Messrs. Legge, McKinnon, Edwards, Mallory, Westington, and Awrey.

Herdbook—Messrs. Snell, Dawson, Rowand, Cohoe, Westington, and Wade.