

CIRCUIT BREEDING OF MILKING SHORTHORNS

Editor "The Farmer's Advocate":

Since 1894, the writer, in connection with Prof. W. M. Hays, has had under consideration the problem of fixing or redeeming the milking qualities in Shorthorn cattle. The movement has slowly gathered strength, until, in the year 1897, it was put in formal shape through aid given by the United States Department of Agriculture, Bureau of Animal Industry. The plan is now formulated, and well under way.

It has been a more or less tedious problem to organize, owing to the wide distribution of the best cattle, and also owing to the fact that it is very difficult, at the present time, to find sires which are known to possess strong milking qualities. The methods employed in this work were as follows:

A thorough canvass of the State of Minnesota was made during the year 1907, and all promising Shorthorn cows were located. A personal inspection of each herd of promise was made by a representative of the Experiment Station. It was made a point to visit the herds at milking time, or at least at such a time that the representative could ascertain accurately the amount of milk given by different animals in the herd, and also something of the method of managing the herd.

From the records and reports thus obtained, eight or ten herds were selected as being good enough foundation stock for an experiment in animal breeding, which is probably of national importance. The eight or ten herds selected were scattered in various parts of the State, making the work of organizing more or less difficult. It was stipulated that no herd would be included which did not pass the tuberculin test. As a consequence, only five or six herds were eligible when the time came for organizing. The men who owned or were interested in the herds that passed the test were called together at the Minnesota Station in December, 1907, and organized into a Minnesota Co-operative Circuit Ass'n. for breeding Shorthorn cattle, with a President, Secretary and Treasurer. The President of the Association, together with the Professor of Animal Husbandry of the Minnesota Agricultural College, and the Animal Husbandman of the United States Department of Agriculture, form the Circuit Council, and a Circuit Superintendent is employed who has general supervision over the feeding and management of each herd in the circuit. He also keeps the milk and butter-fat records, and approximates the feed records, dealing with the members of the Association, and also with the Advisory Board.

The plan followed is to select carefully such individuals as possess the milking form and quality to a considerable extent. These cattle are grouped, stabled, and fed for milk production, largely. All cows must be milked, and a three-days' record per month secured by the Superintendent. This record includes the pounds of milk and the per cent. of butter-fat. Only cows which conform to a certain standard will be retained in the Circuit. So far, no distinction has been made between the Bates-bred and the Scotch-topped cattle, though the best milkers are usually found among the Bates-bred stock.

We are working only with animals registered in the American Shorthorn Herdbook. Special attention is given to securing sires that come from only milking strains. In fact, the strain of animals which we expect to develop will be built upon the performance of the individuals in each herd, and so far as possible upon the record of their ancestors. All records are under the supervision of the Circuit Superintendent, who is responsible to the Department of Agriculture and the State Experiment Station. For the time being, it may be necessary to sacrifice the beef-making qualities of the animals, in order to establish fully the milk yield, which we regard as the important consideration.

While the project appears, on the face of it, to be a movement toward developing the Shorthorn breed of cattle, that matter is one of secondary importance in the minds of the originators of the movement. The real experiment is to determine whether or not it is possible to organize a number of farmers and stock breeders in an effort to breed in one community or locality, or even one State, certain breeds of animals which have great public utility. I believe that any other breeds of stock that are valuable for certain localities can be just as well organized on the circuit plan, and to great mutual advantage. I believe that it is through such steps that the people of the United States and Canada will be able to develop the strains of stock which are more or less locally adapted, just as the people in Herefordshire, Devon, or Shropshire, have developed their valuable strains of animals in restricted localities.

There are many points of interest in connection with this work, which could be brought out, but I fear that I have already burdened you with too many details, and for those who desire further information, I would refer them to an article in the annual report of the American Breeders' Association, which gives a full description of the work, together with the articles of organization. This book can be obtained from

the American Breeders' Association, Washington, D. C., by becoming a member of the Association, which costs only two dollars. The volume is, in itself, well worth the price of membership.

ANDREW BOSS.

Minnesota Experiment Station.

TRUE TYPE OF THE HOLSTEIN.

Considerable public comment appearing in the agricultural press upon the type of Holstein-Friesian cattle is very properly directing attention to the subject of the true type of the breed.

The breeder who, for one moment, in his pursuit of higher fat percentage in the milk, forgets type, is doing incalculable damage to the future of the breed.

The true type of the breed is very accurately delineated in the scale of points. It is to be regretted that illustrations of typical specimens are not used to illustrate and emphasize this description.

Change of environment of this breed from the lowlands of Holland is doubtless effecting a very slight change in the bony structure of the Holstein, tending toward a greater finish or refinement. Aside from this natural process, it is very doubtful whether any improvement can be made, or should be attempted. The Holland type is the result of centuries of selection and environment, and it has distinguished these cattle in all parts of the world. With it has come the marvellous and profitable production or yield, the characteristic tendencies of powerful digestion and perfect assimilation of food. These characteristics, derived from the Holstein, have been important

and the weight of the two-year-old bull, Oppendoes 7th, is 1,597 pounds. The weight of the imported cow, Texelaar, is 1,560 pounds. Lady Midwoud, 1,620 pounds; the four-year-old heifer, Oppendoes 3rd, 1,495 pounds; the three-year-old heifer, Texelaar 5th, 1,500 pounds; the two-year-old heifer, Texelaar 8th, 1,290 pounds; the yearling heifer, Zuider Zee 5th, 900 pounds; the bull calf, Duke of Belmont, nine months old, 710 lbs., and the heifer calf, Midwoud 8th, nine months old, 635 pounds—all raised in the ordinary way, without forcing, the young animals running in pasture from May until November.

Burton W. Potter, in 1906, published the results of his investigations as to the weight of sixty large-record cows, tested under the present Advanced Registry system, 1894 to 1906.

Mr. Potter summarizes thus: "Of the sixty cows, only thirteen weigh more than 1,500 pounds each, and only twenty-seven surpass the 1,400-pound mark. Only nine weigh less than 1,200 pounds, and the average weight of the whole number is 1,383 pounds, etc. Of the twenty-five bulls, not one weighs less than 1,800 pounds, and only five less than 2,000 pounds. Only three weigh more than 2,400 pounds, and the average weight of the whole number is 2,164 pounds.

Mr. S. Hoxie, in the pamphlet, "Holstein-Friesian Cattle," (1905), writing upon the size of cows, states: "In ordinary milking condition, at full age, they range in weight from 1,000 to 1,500 pounds."

With large size as the recognized predominant characteristic of the breed, aside from their beautiful black-and-white color markings in perfectly defined patches or spots, the next general

definition relates to the general conformation of the animal. There are three definite types, described as the milk-and-beef form, the milk form, and the beef-and-milk form.

The average form of this breed, and that towards which conscientious breeders are directing their efforts to maintain and improve, is the milk-and-beef form.

Mr. S. Hoxie thus admirably refers to the milk-and-beef type of the breed: "It is especially strong in all vital particulars. The bones are fine, compared with size, and the chine broad and strong, compared with the high and sharp chine of the extreme milk form. The loin and hips are broad and smooth, and the rump high and level, compared with the angularity usually shown in the milk form. The twist is roomy, and the

thighs and hocks well apart. Passing forward, the shoulders are smoother and more compact than in the milk form, but of lighter weight than in the beef form. The brisket is not so wide and low as in the beef form, and the chest is not so deep, but the width of the beef form through at the heart is closely retained. In the milk form, the abdomen is usually swung low, and the ribs are steep; but in the milk-and-beef form the ribs are wider sprung, and the abdomen more trimly held up, though no less capacious. The general appearance of the bull is strongly masculine, but that of the cow is no less feminine than in the milk form."

It may be further emphasized that the milk-and-beef form describes a cow of the wedge form, with shoulders moderately thick, deep and broad, crops well filled, barrel well rounded, loin and hips broad and full, and quarters straight, wide and full.

To this form of these cattle is due their extraordinary constitutional vigor or vital force, and it affects all their relations to their food, care and productions.

The future of the breed will be greatly endangered by those who, from one consideration or another, the combination of pedigrees to attain large average records or fat percentages, or by neglect of proper feed and care in the early life of the animal, are led to the mating of animals of other than those of large size, and possessing the milk-and-beef form. Neither the breeds of the Channel Islands nor the Ayrshire breed possesses this form even remotely.

Brattleboro, Vt.

F. L. HOUGHTON.



Mina Princess.

Two-year-old Shorthorn heifer. First prize, senior champion, and reserve grand champion female, Canadian National Exhibition, Toronto, 1908. Owned and exhibited by J. A. Watt, Salem, Ont.

factors in the foundation stock of the Shorthorn and Ayrshire breeds, and of many of the Continental offshoots.

In America, it was the Holland type that, by its productive power, directed the attention of agriculturists towards this breed, and it is safe to assert that an examination of the great majority of remarkable yields will show, to those having means of access to photographs or descriptions, the close adherence to the Holland type in all these wonderful animals. Large size in the Holstein is the first thing to impress the casual observer, and its importance should never be disregarded.

In defining pure-bred Holstein cattle, this fact was duly set forth by the founders of the Herdbook Association, in these words, which should never be forgotten, no matter what may be the yield in milk or its fat percentage, viz.: "Pure-bred Holstein-Friesian shall be held to mean and refer to only those large, improved black-and-white cattle, etc." (Art. 4, Sec. 5, By-laws of H.-F. A. of A.)

Scientific investigation in this country, particularly in Wisconsin, has confirmed the wisdom of the early breeders in thus defining the type of the breed as "large," for the large cow of any breed is uniformly the more profitable.

An idea of the size of animals of this breed, at the time of Mr. Cheney's first importations, may be gained from the following quotation (Vol. 2, Holstein H.-B., folio 19):

"The bull, Van Tromp, imported in the womb of Texelaar is now six years old and his girth is 8 feet 5 inches; length, 9 feet 2 inches; height, 5 feet 2 inches; weight, 2,720 pounds."