

point of direct value to do so. When a breeder has been uniformly bred to a type for a period of twenty years or so the type has become so fixed, that is, uniformly transmitted. Two of the most powerful factors aiding the fixing of the type of a breed are the breeders seeking to produce the animal of ideal type as represented by the scale of points and the judges conforming to it in the show ring. The result is of value to the breeding interests, as it assists in making the breed prepotent or able to transmit its characteristics with a greater degree of certainty.

As a result of our consideration of the good and bad qualities of sheep, there arises the more important problem of breeding to reproduce the former and to remove the latter. In studying the life histories of the eminent breeders I fail to find mention of a single breeder of note who was not considered in his day a good judge of stock. They may each have followed a peculiar system of breeding, but the universal fact is that they were all versed in the good and bad qualities of the animals they bred. While Blakewell, Collins, Bates, Booth, Cruickshank, Watson, Price, and many others followed some method of breeding, yet I believe their success to be due, in the largest measure, to their judgment of the good and bad qualities of domestic animals. I have failed to find up to this date that where success has been obtained by in-and-out breeding, cross breeding, or any other form, but that there was a man behind the system who knew well the merits and demerits of the animal he was breeding. And, further, knowing these, he made his selection to get the best blend. This is the basis of a method of breeding that arises from what has gone before. For want of a better term I have named it balance breeding, and I believe that this method has been the means of developing the good qualities and at the same time lessening and removing the demerits of our domestic animals.

The Farmer as a Horse Producer

By Professor Davenport at National Horse Breeders' Meeting.

While the farmer who is not a horseman cannot produce breeders, and should let fast horses alone, he has certain advantages as a horse producer that ought to be recognized, and that ought to shape his course.

These advantages are: First, a large amount of cheap feed, which puts this feature of the industry on much the same basis as beef production, and leads to the common statement that it costs but little more to grow a horse than to grow a steer. Second, abundant range for proper exercise of growing animals, and, third, he is himself an extensive user of horse labor. Here is an important matter.

The market calls mainly for geldings, and I take it that, broadly speaking, our farm work should be largely done by mares that are fully able also to produce a foal each year. The feasibility of this plan has been abundantly shown by experience. Farm labor is not so severe nor so constant as to preclude the use of breeding mares. In fact, the farm horse should be a breeding animal to fully occupy her time and pay for her maintenance during the long periods of short work and comparative idleness.

On a farm of moderate size I like at least one span of geldings that are always ready for any kind of work, but it is expensive to keep a horse a year for what he can do during the working season, and I have found breeding mares entirely satisfactory and far cheaper. Besides, one can afford a surplus of this kind of horse power which is frequently almost a necessity for a limited time.

I expect to meet with the objection that it is too much trouble to raise foals from working teams, but that matter is greatly magnified in men's minds. To be sure, many farmers owning both smooth and rough lands may be able to let the mares run idle and do the work with geldings, but it is possible only on cheap lands. Putting it from the

other side, the mare that is to devote a year to giving birth to a horse that will go upon the open markets to do the ordinary work of the world—that mare must do something besides all this; she must work or the horse will cost too much, and farm work is well adapted to her conditions. The farm horse that does a year's work upon the farm and produces a foal has performed no more labor than the horse that works every day in the city, or the cow that has been developed to the point of yielding two or three times as much milk as her calf would need.

Not being a horseman, this grain farmer should confine his efforts to the production of such classes of horses as require only plenty of good feed and care, but little or no artificial development. He is admirably adapted to the business of raising heavy horses, though he will not care to keep 1,800-pound mares for farm work. He can use 1,300 to 1,500-pound mares, which, if good milkers, with the proper sire, will produce an excellent class of heavy horses. With the right sires he can keep and profitably use a class of mares that will produce good delivery horses, hack and 'bus horses, and a fair grade of gentlemen's drivers. All these horses will need to be developed after leaving the farm, but it can produce the raw material and ought to do it.

Pure Air in Poultry Houses

Pure air is just as necessary in a poultry building as in any other on the farm. A great many farmers who keep poultry lose sight of this fact and wonder why their hens do not thrive as well as their neighbor's. One of the best ways to get rid of bad odors and impure air in the poultry houses is to disinfect them, and for this purpose nothing is better than a generous supply of whitewash. To make it do its best it should be used without stint on the inside and on the ceiling, on the nest-boxes, and on the roosts, and the floor may have some of it without doing any injury to it. In addition some good prepared disinfectant generously sprinkled over the roosts and the yard will destroy foul odors and will prove fatal to disease germs.

CORRESPONDENCE

Commercial Fertilizers

To the Editor of FARMING:

It is important that the introduction of new ideas, principles or materials affecting the interests of farmers should obtain prominence in the agricultural press, and be discussed in all their bearings. Mr. Wright's letter, therefore, relating his experience with the Thomas-Phosphate Powder is valuable, even though not encouraging, to those contemplating the use of this growingly famous material. However, as it is a matter of interest to hear all sides of the question, I wish to merely add a few notes from my observation and experience during the season of 1898.

I was one of a number who used part of the carload sent to Madoc. I sowed the phosphate during May on wheat, peas and oats, on both sandy loam and stiff, clay soil. I used about 125 pounds per acre in each case, and noticed quite a difference in all the crops. I took time, however, to determine particularly the results on the oats which I wished to preserve for seed. I set aside two acres of clay land for oats and sowed the seed at one bushel per acre and 125 pounds of Thomas-Phosphate Powder. The resulting crop realized 150 bushels from the two acres or seventy-five bushels per acre. I am yet looking for further results from what I have sown, although it is only one quarter the amount recommended, but I learn that when properly applied in sufficient quantity it lasts about four years.

I hope that others will give their experience.

Yours very truly,

JAS. B. AVLESWORTH.

Madoc, Ont., May 10th, 1899.