

imals used were kept as far as possible in complete idleness with this exception: in one or two cases they got one-half an hour a day walking exercise. We believe that every farm horse, young or old, should get regular exercise in the winter, and to maintain the energy used up in this exercise it would be necessary, of course, to add to these rations. If a horse is out in the open yard three or four hours a day he will use up considerable energy, and possibly it would be well to add two or three pounds digestible nutrients to his ration. In looking over the rations it is seen that when straw is fed alone it requires large quantities to maintain the horse at his weight, and it is generally thought advisable in feeding straw to add a little grain to the ration, which makes the amount of straw necessary much smaller and improves the ration greatly. We would not advise feeding strictly to anyone of these rations. As pointed out in the beginning different horses require different amounts of feed, owing largely to their difference in disposition, but these should give some idea of the actual amounts of the various feeds necessary to maintain the weight and condition of farm horses during the winter season. These rations are not heavy enough to fatten horses or prepare them for spring work. They are maintenance rations.

LIVE STOCK.

Feeding and Management of Sows During Gestation.

During the period of gestation the sow should be kept in good, strong condition, but not overloaded with fat. Extremes in condition are to be avoided. The very fat sow is apt to be clumsy with her pigs, and sometimes her pigs are few in number or lacking in vitality. On the other hand, the very thin sow will either not do justice to her pigs, or will become a mere wreck herself during the time she is nursing her litter, and the chances are that both these things will happen. A sow may be kept in fairly high condition and will produce satisfactory litters, provided she takes plenty of exercise.

In districts where corn is plentiful, there is a temptation to feed almost exclusively upon corn. Such a method of feeding cannot give the best results, because corn does not furnish enough bone and muscle-forming constituents to properly develop the unborn pigs. It is also rather too fattening and heating to feed in large quantities to a sow at this stage. It is true that corn may be fed, but, as in the case of the boar, it must be fed with judgment. The ration recommended for the boar—namely, equal parts ground oats, and wheat middlings—will answer very nicely for the sow. The proportion of corn, if fed, should not be over one-third of the meal ration, and wheat middlings or bran may be used to dilute the corn meal without oats. In cold weather, if sows have a good deal of outdoor exercise, they may be fed more corn with safety than when they are kept pretty closely confined.

A meal ration which is preferred by the writer to all others is equal parts ground oats and middlings, leaving out corn altogether. It is possible, however, to use a wide variety of feeds, so long as the feeder realizes the importance of furnishing considerable bulk and of restricting the proportion of heating or highly fattening feeds.

As in the case of the boar, the sow requires something besides meal, and the furnishing of some such feeds as roots, or alfalfa, or red clover hay, is even more important than in feeding the boar. Skim-milk is also excellent, but is not always available for sows.

In summer a pasture field will furnish the bulky part of the ration, and, if sows are in good condition to start with and are given a good pasture, they will get along very well without other feed for two or three months. They should be given a little meal for several weeks before farrowing, to accustom them to its use, and render the change less violent when they are taken into the pens. With regard to the quantity of meal, the feeder must be guided entirely by the condition of the sow.

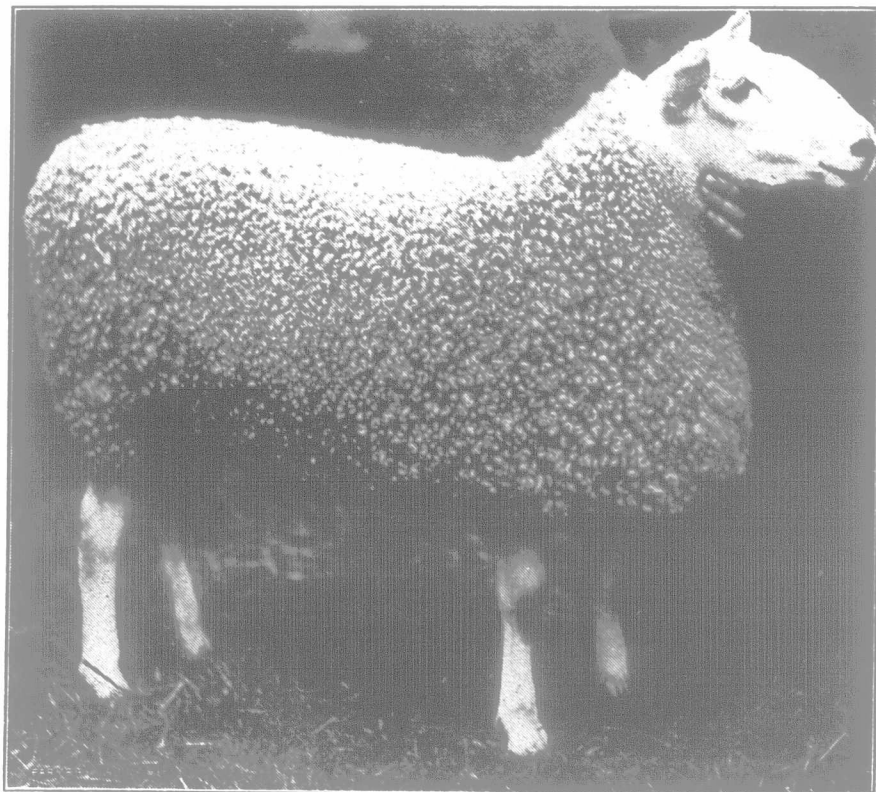
Meal may be fed either wet or dry. When roots are fed, a good plan is to mix the dry meal with pulped roots, though the feeder has wide latitude in regard to the methods he may see fit to follow.

In cold weather, when sows are fed outdoors, very little water should be used in mixing their feed. It will be found better to furnish them with water separately, should they require it. If they are fed roots they will take very little water in cold weather. It should be seen to, however, that they have water when they need it, and in hot weather an abundant supply of fresh water is very important.

A record should be kept of the date of service of each sow, so that the date of farrowing will be known in advance, and due precaution taken. A week or two before farrowing the sow should be placed in the farrowing pen, so as to become

accustomed to her surroundings and changed conditions before the pigs are born.

Constipation is the bane of the swine breeder, and if the sow becomes constipated before she farrows, the chances are that she will lose her pigs and possibly her own life. Constipation, therefore, is one of the main things to be guarded against at this time. When it once occurs very little can be done to overcome it and save the pigs, so that it is almost altogether a matter of prevention. If a sow is taken directly from a pasture field, shut up in a pen, and fed upon an exclusive meal ration, trouble is almost sure to occur. Radical changes in feeding are to be avoided, and the ration should be kept practically the same after taking the sow into the pen as it was before. If anything, the feed should be made rather more sloppy, and the green feed or roots should be supplied the same as they were before the sow was taken in. A small amount of linseed meal (oil meal) or ground flaxseed added to the ration is also helpful in preventing constipation. The wisdom of feeding meal to sows while on pasture for a time before they farrow can be readily appreciated, as it prevents a violent change in their ration. The sow should also be given a chance and encouraged to take exercise.—Prof. G. E. Day, in Bulletin 225.



The Best Leicester Ram at the Royal, 1914.

Up With the Pure-breds.

Editor "The Farmer's Advocate":

We used to point at our Jersey cows with a great deal of pride and say, "These are pure-bred." There was a certain exultation in the feeling that there was no foreign blood mixed with those Jerseys. It was true that they were pure-bred, and upon this fact there rested a great deal. We could often hear references from possible buyers when they would say, "You have the pure stock, haven't you? I will know where to get them now." Every sale, whether of a choice specimen of young bull or two or three heifers, always carried with it the conviction of the pure blood.

There are other considerations to take up in regard to the pure bloods. A man likes to own something of a little bit better grade than his neighbor, and if he can be exclusive to a degree in respect to the privilege of ownership he likes it all the better. To possess the only herd of pure-bred Jerseys or Berkshires in the community is some distinction, and if these same animals have captured the first premium at the fair the owner feels pleased beyond measure. It brings inspiration for greater accomplishment as well as content.

From every viewpoint the pure-breds are the most economical and the most profitable. Economical, because he who owns them is generally satisfied and usually doesn't feel inclined to waste his energy and time in making a fruitless search for something better, or in worrying about his future possibilities, provided he is a person who understands how to take care of his stock as far as the best treatment and consideration of that breed is concerned. It saves time for purchasers when looking round for good stock if they know one can be depended upon to supply their wants. Pure-bred stock generally command a big price without the usual demonstration of protest when the buyers hear of the cost. Buyers are usually willing to pay the price asked if it be not exorbitant and the stock is pure beyond dispute. They know they will have to pay for the real pure-bred.

Some farmers apparently believe that pure-

bred stock is a luxury which can be afforded only by the most progressive farmers, rather than an investment which would add greatly to their own income. Not long since a farmer and myself were in conversation as regards the raising of this class of stock, and after I had mentioned the advantages to be derived from them, he replied: "Pure-bred stock is all right and would no doubt pay, if one could sell it at high prices for breeding purposes, but I'm confident I couldn't do it. I'm obliged to sell my stock in the open market and cannot afford to pay high prices for stock to breed from." This is doubtless the opinion of a great many other farmers.

But let us look at the matter from another standpoint: First, let us see if it is such an expensive matter to get the foundation stock. Suppose a farmer goes to some reliable breeder and buys just one cow already in calf; she drops a heifer calf, and suppose she drops heifer calves half the time, and that her female progeny do the same after two years of age, for a period of ten years. How much of a herd would that farmer then have? By figuring it up, it will be found that if there were no losses, he would have a herd of 32 females, all old enough to become producers at once, besides 31 males to be disposed of in the most profitable manner possible to him.

This rate of production is, of course, extreme and in most cases would probably not be attained, but it is within the bounds of possibility with proper attention to details on the part of the breeder. It would, however, not be necessary that this rate be maintained to give the average farmer a good herd of pure-bred cattle within a single decade, from his original investment in one good cow. Considerable culling out could be done and still have a good herd. If the start were made with sheep instead of cattle, the figures given would be easily attainable with ordinary care, or if hog raising were made the speciality a sufficient number of good ones could be procured from a single female within a period of ten years to supply the entire community with foundation stock for pure-bred herds. With horses the result might be expected to

parallel those with cattle.

Viewed in this light, what farmer will say that he cannot afford to buy a pure-bred animal to get a start in the pure-bred business? Even if he has to pay two or three times the value of an ordinary grade for the first individual, every one of the animals which he produces will have a much greater value than scrubs. The increased value of live stock produced in a single decade would more than pay the first cost of an individual of good quality together with the increased service fees for the use of pure-bred sires, even if all the stock were sold in the open market. But this would not be necessary, for others in the neighborhood would be after them for breeding purposes at more than their market prices.

Johnson Co., Ill.

W. H. UNDERWOOD.

THE FARM.

Use Your Own Power.

Editor "The Farmer's Advocate":

Recently we had a survey in this county (York) and afterwards a vote to decide whether or not we should "put in" Sir Adam Beck's "hired man," namely, Hydro Electric. This was carried by an overwhelming majority in this township (Whitchurch), indeed it was a case of the Beck men first and the rest nowhere, only some 70 odd men going out to vote against it. In the meantime the "big interests" are doing all that they can to stop this popular vote from being carried into effect, but we believe if the township authorities "get busy" and put up a fight as they should, for public ownership, we shall yet see the wheels on farms here being turned by the mighty Niagara.

At present we are making out with other kinds of power; I run a 32-inch circular saw to cut hardwood, it being driven by two light horses and a Holstein bull weighing about twelve or thirteen hundredweight. His dam has a record