

demands. The war has caused a great depletion of heavy horses both in Europe and America, and the time will come when a big demand will arise for suitable animals. When such a demand does come, the question naturally arises as to the breed which will receive the greatest support. Of British breeds most popular abroad the Clydesdale holds the pride of place, because of its strength, activity, and clean legs, but yet it is also possible to breed the Shire to these requirements, and in several places they are being bred in that direction.

To take one example, in Westmorland the popular type of Shire is the one approaching more nearly to the Clydesdale in its limbs, yet at the same time possessing greater weight than the Scottish breed, and the active horses of this stamp are most in demand, both for town and agricultural work.

Not only in the North is the disadvantage of hairy legs seen, but also in the Eastern Counties, where we meet with another draft horse of importance—viz., the Suffolk, which stands in a class by itself; and this breed has been gaining much favor of late.

Thus, with this trend of events, one would like to inquire whether there will be any modification in Shire horse breeding type of the future, for it seems that such will have to occur if the popularity of the breed is to be maintained.

LIVE STOCK.

Silage in Districts not Suited for Corn.

Sometimes the corn crop is a failure in certain districts, while in others it does not mature sufficiently to make satisfactory silage. J. M. Trueman, of the Nova Scotia Agricultural College, at Truro, has solved this problem to a certain degree through the use of a crop composed of peas, oats and vetch. They were sown in the proportion of 1½ bushels of oats, ¾ bushel of peas and ½ bushel of vetch, or a total of 2¾ bushels per acre. A field of 5.7 acres produced 65 tons of green feed in the season of 1914. This is an average of 11.4 tons per acre. One part of the field was wet and decreased the total, but 3 acres yielded at the rate of 15 tons per acre. The crop was harvested just when the oats were entering the dough stage. It was put through the regular silage cutting box and blown into the silo. It cured well, and came out in excellent condition for feeding to live stock, which ate it readily. Pound for pound it contains a higher feeding value than corn.

This information is valuable where corn growing is not a success. The mixture of oats, peas and vetch is a reliable crop in almost any locality, and if it gives such a splendid yield per acre and can be ensiled satisfactorily it is worthy of serious consideration and a trial. One point in its favor is the comparative ease with which it may be grown, as it involves less labor than either roots or corn. It requires considerable sunshine to cure it for hay, but when put into the silo one is more or less independent of weather conditions. One of the great needs of live stock in winter is some succulent feed, and this applies most particularly to breeding animals. There are sections where the mortality in young and dams ranges altogether too high, simply on account of the dry character of the fodder used. Farmers should look about them for some practical means of supplying that most necessary for the thrift and well-being of their stock. In Old Ontario this problem is pretty well solved by corn and silos, which should be increased, but there are farming districts which require a little practical experimental and demonstration work in this direction.

Rearing Calves Without Milk.

Since 1912 the Council of the Agricultural Society of Britain has been endeavoring to ascertain some cheaper method of rearing calves than on whole milk. Four years ago an experiment was commenced which demonstrated that skim-milk and crushed oats together make an economical ration for growing calves and that it would materially lessen the cost of bringing the young stock up to the age when it could subsist on pasture or fodder, grain and roots. In a further and recent test the practicability of omitting the skim-milk and introducing different kinds of grain and meal was put on trial. The results have proved interesting to the Old Country farmer and breeder for they show possibilities in a different and cheaper method of rearing calves. Cheapness is a factor, but quality, strength, size and vigor should not be sacrificed in order to obtain a financial advantage of only temporary nature. The English breeders are expert enough and sufficiently experienced to consider these results in their true light.

A lot of four calves fed on palm nut meal and water made the most economical gains of those not receiving milk in any form. Some difficulty was experienced in getting the calves to take it but it was eventually fed dry, with the addition of a little hay chaff, and in this condition the meal was consumed with avidity. It was 12 days before ¼ lb. each would be eaten but in four more days they consumed ½ lb. per day. In another four days they were getting 1 lb. each which increased to 1¼ lbs. at which quantity it remained until the end of the test, lasting over a period of 12 weeks. The calves were about 2 weeks old on the average when weighed into the trial and, consequently,

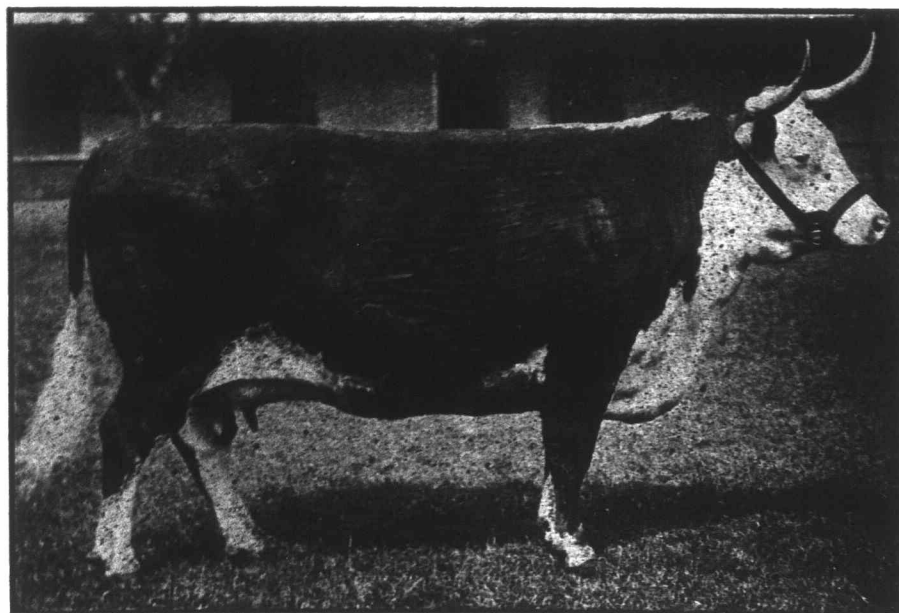
14 weeks old when the experiment concluded. Palm nut meal is practically unknown to feeders in America and little use of this information can be made here until such feed is more common and better understood.

Beans and water comprised the diet of a second lot, and maize and water of a third. The maize was scalded and it was then consumed with considerable relish. The beans were at first scalded in which condition the calves ate them fairly well but when the beans were given dry the young animals cleaned them up well and care had to be exercised that they did not eat too much. Each calf was given ½ lb. of maize or corn per day on the start, and this amount was increased to 1 lb. after 14 days and in 6 weeks it was increased to 1¼ lbs. For the first 14 days the bean-and-water fed calves received ½ lb. of beans each per day. After that period it was increased to 1 lb. but it was subsequently reduced to ¾ lb. Calves fed on palm nut meal and water gained 6 lbs. each per week; those receiving beans and water made 4.56 lbs.; those on maize and water made 4.54 lbs., and those on oats and water, 3.73 lbs. The palm-nut-meal-fed calves also made the cheapest gains.

No calf up to three or four months of age can surpass the sucking calf, but in some instances even skim-milk is not available and rather than destroy this young stock when born it would be wise to experiment with some feeds which can be procured and attempt to make cows or steers out of these young animals and thus increase or renew the herd. Up to two weeks of age a calf requires whole milk under any circumstances for the stomach is such that other feeds are practically indigestible at that time. There is a suggestion in these results even if we do not adopt them in their entirety.

Not Cheaper but Better Calves.

The general trend of experimental work relative to calves is to discover some method of rearing them without expense, or at least to reduce the cost so far as possible. These findings are valuable for the dairyman who delivers his whole milk to the cheese factory, and thus disposes entirely of that product so necessary for the development of the young bovine. These farmers have found it necessary, in many instances, to sell the calves and purchase cows and heifers to maintain their herds up to strength. Investigations have been carried on to ascertain some substitute for milk, that this young stock may be con-



A Winner at this Year's Dublin Show.

served and the herds improved by proper breeding and wise selections. Experimentalists have done excellent work in this regard, but farmers generally should think twice before they attempt to reduce too far the expense of raising their calves up to the time they may properly be weaned from milk and put upon a ration of grass, grain, roots and fodder. The agriculturist who is not selling his whole milk will have skim milk at least, and this should be fed along with grain, and grass or good hay. Whole milk should be fed for two weeks and then it may be gradually replaced by skim-milk. The young calf will soon take rolled oats, oil cake, bran and calf meal from a box if a little is put into the pail, after the milk has been drunk, in order that a taste for it may be developed. Never feed meal or grain mixed with the milk, unless it be during the early stages, and then it is best made into a porridge. Sometimes when meal is rubbed over the mouth of the calf, immediately after drinking, a taste for it is acquired at an early age, and a box placed within reach will soon be patronized in an appreciative manner. Too many farmers attempt, in many ways, to raise calves cheaply, and in the end they are extremely expensive methods. No stunted calf will make a good cow or bullock, and our beef cattle are already below the standard of excellence at which we should aim. From 50 cents to a dollar is a common range of prices on our live-stock markets between the different qualities offered. We are losing money annually by rearing our cattle in what is considered an economical manner, but what is in reality

a very costly manner. Better calves mean better feeding steers and better feeders mean better finished bullocks.

The breeding of a great proportion of our cattle is no better than the feeding methods in vogue. There should be greater efforts put forth to produce the kind the market so earnestly pleads for through a liberal advance in price over that for inferior stock. What is required at this time is an enthusiastic propaganda to encourage the good breeding and good feeding of cattle, and finishing them off at two or two-and-one-half years of age.

The Bacon Industry from a Canadian Viewpoint.

There are certain phases of the bacon-producing industry that should be thoroughly understood at this time, and particularly by Canadian hog raisers. Inasmuch as this is a country where the bacon hog can be grown as cheaply, and in some instances more cheaply than in any other nation or part of this Empire, we should understand our relation to the great bacon markets of the world and to the producing countries with whom we must ever compete in pork and swine products. Moreover, let us constantly bear in mind that the consumers of this Dominion do not regulate the price of pork. Neither can conditions in the United States determine to the full extent what a pound of our product shall be worth so long as we produce the bacon hog. The price is governed by an European demand, and the countries especially catering to that market are Canada, United States, Ireland and Denmark. It would be well and opportune to cast a mental glance at the swine industry in these various countries, after which we shall be able to arrive at some conclusion of vital importance regarding the enterprise at home.

Before entering upon discussion regarding Denmark, the bacon from which country is a standard on the English market, we should review one phase in particular of the swine industry of Germany, for it will have a potent influence over prices until the conditions there assume a normal attitude, which may require several years. Hogs consume much the same food that men eat. Both men and hogs make use of a considerable quantity of wheat and barley in European countries, and, although a portion of ham or bacon may be more tasty than bread or barley cakes, a certain percentage of the grain is lost as it passes through the body of the hog. Thus it was considered in Germany that the grain crop would maintain a greater population when eaten directly, than would be possible were it first fed to swine and the product consumed by the people. Consequently the German farmers were instructed to cut down the number of hogs 25 per cent., and feed themselves on what ordinarily forms a part of the ration of their pigs. This was not so humiliating as it sounds, and it indicates the wonderful organization of our enemy to reduce waste and increase the efficiency of everything within their empire. The effect of this mandate was just what any one would expect. The Germans required or desired more pork, the price rose and importations became necessary. The source of supply

was Denmark, and this is why we have considered it wise to mention the nation with which the world is at war. H. S. Arkell, Assistant Live Stock Commissioner, points out in the last Agricultural War Book that the Danes, according to good authority, were receiving 40 cents per pound for this bacon, and these sales have opened up the promise of a new market, and may result, temporarily at least, in a gradual discontinuance of shipment to the United Kingdom. Proximity to the war and inability to obtain American corn and Russian barley dealt a severe blow to the swine industry of Denmark, increasing the slaughter and curtailing breeding. In spite of the enhanced value of bacon on the English market in 1915 the Danish exports to Britain were considerably lessened even when indicated in shillings rather than pounds avoirdupois, and for December, 1915, the value of the product imported from Denmark was approximately £209,000 less than for the corresponding period of 1914. The fastidious taste of the English bacon lover has been and will be forced to put up with a product somewhat inferior to that produced by the expert and industrious Dane.

Ireland is becoming a factor in the production of bacon, but their supply is not likely to influence our prospects so much as is a country nearer home. Canada and the United States remain as the two great sources of pork to feed the English people, and the neighboring Republic has been very energetic in this regard since the outbreak of war. Since 1913 they have doubled their exports to Britain, and in 1915

supplied an amount provided by Denmark exports from 1915, but during was only exported being provided significant still, to excel that Union, and the of from 10 to 1 competing product. The Wiltshire the Canadian ty United States to bear in mind opportunity to for the product the proper qual unlimited demand.

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Patriotism

EDITOR "THE
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