

1,  $5\frac{1}{4}$  lbs. of corn-meal and water; for lot 2,  $3\frac{1}{4}$  lbs. of corn-meal, 1 gal. of separated milk, and water as much as required; for lot 3, 4 lbs. of corn meal, 2 gals. of whey, and all the water necessary. The corn in all cases was scalded and allowed to soak for a few hours before it was fed to the pigs with the liquids. After twenty days the quantities of corn-meal were increased by 1 lb. per head per day, bringing the cost of ration per pig per day up to 31-6d.

The profits per head were as follows: Lot 1, 12s. 9d.; lot 2, 15s. 3d.; lot 3, 19s. 9. The cost per lb. of increase of carcass weight per day for the several lots were: Lot 1, 3.12d.; lot 2, 2.84d.; lot 3, 2.48d. The carcasses of the pigs fed on corn alone were too thick and fat on the back and thin on the belly, and too big in the leaf; the flesh, too, was soft and did not set well. There was very little difference between the carcasses of the pigs given corn and separated milk and of those fed on corn and whey, both lots showing less leaf and more thickness on the belly, with a good proportion of lean. If anything, the corn and whey lot were firmer in flesh.

The experiments showed that 1 gallon of separated milk equalled in feeding value a little less than 2 gallons of whey; that it is much more profitable to turn the skim-milk and whey into pork than to sell them at the prices named above; that where separated milk and whey can be purchased at those prices and used in conjunction with the same value of corn, the quantity and quality of pork will be greatly increased, without any increase in the cost price. As seen above, in feeding value, corn and whey stood first, followed by corn and skim-milk, with corn alone far behind.

In another experiment to ascertain the relative values of barley-meal and corn-meal when fed in equal weights, together with equal quantities of whey, the flesh of the barley-fed pigs was leaner and set better than that of those fed on corn-meal. The latter, however, was of good quality and sold equally well. Corn-meal, moreover, proved a more profitable food and produced a greater weight of increase than barley-meal. No better prices were paid for the barley-fed pigs than those fed on corn-meal, although the former were pronounced better for the "curing trade." So long as this is done, there is no encouragement for the feeder to feed the dearer feed—barley.

#### GAIN IN FLESH OF SWINE FED ON DIFFERENT PROTEIN COMPOUNDS.

O. Hogamann, in the *Milch Zeitung*, writes on experiments conducted with pigs fed on various protein compounds. The preliminary feeding was on barley-meal. Four lots of pigs were tested, lot 1 receiving meat-meal and potatoes; lot 2, corn-meal, and, later on, ground oats; lot 3, barley-meal; lot 4, peanut cake and potatoes. In addition, all the lots were given salt, calcium phosphate, magnesium phosphate, and potassium chloride, the amounts being proportioned so that the ash content of the different feeding stuffs was equalized.

The largest gains were obtained with the lot of pigs fed on oats. Meat-meal proved to be the next most valuable material, followed by barley-meal and peanut-meal, the two latter being nearly equal as regards the gains made.

## The Future of Horse Breeding

Americans are devoting considerable attention these days to the future of the horse. Some of them are very optimistic as to the possibilities of horse-breeding in so far as the United States are concerned and are looking forward to the time when the world's horse-breeding ground will be transferred from Europe to this continent. If that time should come, a condition which is not at all impossible of being realized, Canada should be in a position to get her share of the trade. But she will not be able to take advantage

of the improvement that seems to be coming to the horse breeding industry of this continent unless the breeders give more attention to breeding and raising the kind of horses the market demands.

The future of horse-breeding in the United States is treated in a very optimistic way by N. J. Harris in a recent letter to the *Chicago Stock Journal*, from which we take the following:

In the production of any article in a commercial way there are three prime factors to be considered, viz., cheapness of production, quality of product and a demand for the goods. The writer ventures the assertion that the horse breeding industry will soon assume proportions the like of which the world has not yet seen. There never has been a time in the world's history when all forms of productive interests, that of horse breeding included, were reduced so nearly to an exact science. First, a clear understanding as to the demands of the market, and secondly, the most economical methods in production. The ordeal through which the horse breeding interests have just passed has taught a very important lesson, viz., that through all those depressed times certain classes and styles of horses were in active demand at prices much above cost of production. Observation has taught the intelligent breeder that the large, active, energetic draft horse can only be grown where feed is abundant and nutritious all the year round and the climate salubrious, and, further, that nerve force and energy, courage and endurance, soundness in wind and limb, are the production of high altitudes, nutritious food, in condensed form in some arid regions. History records the fact that strictly first-class draft horses are found only in England, Scotland, Belgium, France and America, presumably from the fact that the environments of other civilized countries are not such as to produce a first-class draft horse. If any one should doubt for a moment that the United States can not produce live stock the equal, if not the superior to any other country, it is only necessary to refer to the fact that all forms of European live stock are improved on being subjected to Yankee environment and skill. The fleece and carcass of the Merino sheep have increased more than a hundred per cent. since its introduction. The highest price ever paid for a cow was given (at the New York York Mills sale) for the Shorthorn cow, the 8th Duchess of Geneva by an Englishman, to take back across the ocean to improve the English herds.

Shire and Clyde horses have been exported for like purposes. No one can question the quality of our light-harness horse as to wind and limb. Neither is there any question as to our ability and capacity to produce horses largely, nor in the cheapness of production. In these regards we have the advantage of Europe several hundred per cent. The writer heard an importer say that he bought a horse in Belgium that was costing his owner \$9 per month pasturage, about nine times what it would have cost Central Iowa. When the business of breeding fully crystallizes, as it soon will, in America, does it not look as though European breeders would be driven from the field? In fact, it is only a question of time, for the reason that the Americans are learning that a certain conformation is best for moving heavy loads at a walking gait, and not any particular breed. That the draft horse should be low, long and broad, whatever he may be called. Again, it is observed that the horses for moving lighter loads, at a more rapid pace, require a different conformation, but the same for all light work at quick action. The same size, style, action, grace and beauty, in a coach or carriage team, that would attract the attention of a sporty millionaire, in America, would impress a European prince similarly. It is further noticed that the exporter and buyer for home demand require the same class of horse for similar work, and horse, not breed, is called for. The buyer never asks how a horse is bred; he simply wants to see the horse. If he fills the bill he generally changes hands. The belief is gaining ground that all the heavy horses are the descendants of the Flanders horse, and only branches of families of the same origin, and are not fixed breeds, as some would have us be-