The Western Fair.

The directors of the Western Fair, London, are able to report, in their 38th annual statement, a cash surplus in the bank of nearly $10,000. This is a gratifying condition of affairs, and a tribute to the old and successful exhibition at the capital city of Western Ontario. As the center of one of the largest and most uniformly excellent agricultural and live-stock rearing districts on the continent, London is the natural home of a great fair. There is room for, and the present year would seem to be an opportune time for, an advance in the matter of prizes for the exhibits of pure-bred stock, if the fair is to hold its own and serve the interests of agriculture as it should. Live-stock husbandry is the sheet-anchor of successful agriculture, and since the deplorable absence of the once magnificent implement display, the live stock remains, in company with the dairy and farm products, the one really great instructive feature of the show, which must, therefore, not only be preserved, but strengthened. The Fair Association is to be congratulated upon the infusion of "new blood" to the directorate, in the persons of Mr. A. W. Smith, of Maple Lodge, Ont., whose repute as a breeder and exhibition man is deservedly continental, and Dr. G. A. Routledge, of Lambeth, Ont., widely known as a most successful horseman. Being well acquainted with the needs of the farming community and the necessities of the exhibition in the direction of live stock, their presence should be of decided strength to the Board.

Training the Dual-purpose Cow.

The discussion anent the dual-purpose cow raises the question of the influence of liberal feeding of heifer calves upon their milking propensities when brought to lactation. The consensus of opinion among breeders of special-purpose dairy breeds of cattle, we believe, is that a heifer calf, fed freely with whole milk and other fattening foods during its first year is, in most cases, damaged for life as a dairy cow; that such generous treatment has the effect upon herself and her offspring of encouraging a tendency to lay on flesh and tallow, rather than turn her food into milk or butter-fat. Whether this theory will stand the test of investigation in practice, or whether it is one of the fads which, once set going, keeps going on in the minds of those who accept them, we do not presume to decide, but we do know that many a handsome and robust heifer, with good indications of udder development, and bred from a deep-milking dam, has been turned down in the show-ring by an expert judge simply because she was too good-looking or too much like a beef animal, as the result of liberal feeding, to comply with the requirements of the score card for a dairy animal. If this theory be deemed sound, does it not follow, as a natural consequence, that the females of the beef breeds, as commonly treated when young, are continually getting farther from the milk-producing tendency, since it is the usual practice to house the calves, allow them to take all their mother's whole milk, and to freely feed them, in addition, fattening grain foods, while some, in preparation for showring purposes, are also supplied with the luxury of a wet nurse as an extra?

The point we desire to make is that, if too liberal feeding of the heifer is injurious to the milking propensity of the cow, the general farmer who keeps grade cows and raises their calves on skimmed milk, oats, bran and pasture, would appear to be on the right track to produce and perpetuate the dual-purpose cow, and it is with the general-purpose farmer that the general-purpose cow is usually found. And if he is discriminating in the selection of sires for use in his herd bred from deep-milking dams, some of which may be found in nearly every herd of the beef breeds, he may, so long as he continues to use pure-bred bulls of the breed he starts with, found and perpetuate a herd of profitable dual-purpose cattle, the cows paying well in the dairy, and the male calves, as steers, cheaply raised, bringing paying prices when sold at any age, either as stockers, feeders or finished beeves, but, as a rule, paying best as finished. There will doubtless be produced, by such a procedure, a percentage of unprofitable dairy cows, as there is in all special-purpose and grade dairy herds, and this can only be definitely determined by the scales and test.

While pointing out the possibility of producing a profitable dual-purpose herd, we are not advising that course for all farmers, but only for those whose tastes and preferences are in favor of that class of cattle, for we know well that very many of the most successful farmers in this country are using only grade cows of the special dairy breeds, and breeding only from bulls of one breed, bred from dams of known excellence as producers of milk and butter. And we have reason to believe that this class of farmers are, as a rule, owing partly to their being in cheese-factory and creamery districts, or a convenient distance from a city to which milk or cream is shipped, making as much money as any other class of farmers in the country. While this is true, we do not advise all farmers to be satisfied with grade cattle. The ambition to own a pure-bred herd is a commendable aspiration, and if wisely selected and bred, and judiciously managed, there are certainly fewer misfits and a higher percentage of superior producers among pure-breds than among grades.

A Study of Breeds of Swine.

TAMWORTHS.

The Tamworth pigs derive their name from Tamworth, in South Staffordshire, England, where they have been bred for a very long term of years. They are believed to be one of the oldest and purest breeds in Britain. As long ago as the beginning of the nineteenth century they were noted for the large proportion of lean meat which they produced. Before their improvement they were long-legged, long-snouted, and flat-ribbed. They were active, hardy, good rustlers, and very prolific, but were slow feeders and late in maturing. Their improvement has been almost entirely effected by selection and judicious breeding and management, and it is pretty generally conceded that the blood of other breeds has not been used to any appreciable extent in the improvement of the Tamworth. The appear to have been improved to a considerable extent before the middle of last century, as they were given first place at the Royal Society's show in 1847, in competition with other large breeds. Subsequent to this period they sank into obscurity for many years, and were seldom heard of, being confined to some local districts, but within the last 20 years much attention has been given to their improvement, owing to the increasing demand for leaner bacon. They have been bred for many years in the Midland Counties of England, and classes have been made for them at all the leading shows. In recent years they have been exported to many countries. They were first imported into the United States in 1882. They have been imported to Canada in considerable numbers since 1888, and are distributed in all the Provinces of the Dominion.

A Typical Tamworth Sow.

Pedigree records for Tamworths are kept in England, the United States and Canada. Under the National Record System of Canada they are being registered in considerable numbers, the record numbers running up to about 5,000. The registrar for the breed, as for all breeds of swine in Canada, is J. W. Nimmo, Department of Agriculture, Ottawa.

LEADING CHARACTERISTICS.

In size, the Tamworths are a close second to the Large Yorkshires, and their natural vigor and hardihood is in keeping with their size. They are adapted to any climate or environment where other swine thrive, and since they possess much vigor and stamina, they cross well with other breeds to improve the quality of their bacon production. Formerly they were not early maturers, but they have been so improved in recent years that they can be grown and finished for market at seven months old, weighing about 200 pounds. They will also stand well under forced feeding, and when of the best type are not the hard keepers that those not used to feeding them are likely to imagine. The quality of their meat is excellent, fine in the grain, sweet, and of good flavor, the proportion of lean being very large. The back is strong, moderately arched, and well fleshed, the ribs well sprung, and the sides carry their thickness well down to the belly and flanks, and from shoulder to ham. Their shoulders are generally smooth, and fit neatly into the sides. The rather long and narrow head and light jowl of the Tamworth is apt to create prejudice against the breed on the part of those long used to some of the other breeds, but with those who have had experience with the breed this aversion has entirely disappeared, and they claim, with some reason, that heavy jowls make cheap meat, and go with a lard hog rather than a baconer, also that they are apt to be associated with inferior breathing apparatus. Tamworths are unexcelled for prolificacy, and the young pigs possess the hardihood characteristic of the breed. The sows make excellent nurses, and are remarkably successful in rearing nearly every pig born, as they are careful not to overlay their pigs. Some principal points in the standard of excellence of the breed are that the general outline of the frame is long and deep rather than broad, and is well supported by strong limbs and feet. Head long, light, narrow, and having an appearance of leanness; snout long, straight and tapering, but the aim of breeders is to shorten it, and in this they have succeeded to a considerable extent; jowl light; ear medium in size, pointing slightly forward, and fairly erect; neck rather long than short, and deep than wide, and rising gradually from poll to withers; body long in the coupling, and deep, slightly and regularly arched above, and straight below; back moderately wide; ribs well arched; brisket wide; shoulder moderately broad, smooth, and fitting neatly into side; side long, deep, retaining thickness well down to belly; fore and hind flanks full, and heart girth and flank girth nearly equal; hind quarters long, deep and full; ham large, and gradually rounded off, rather than square; tail medium strong; legs medium in length, moderately wide apart, straight, strong, and well placed under the body; skin smooth, and covered fairly well with fine, straight hair; color, red or bright chestnut. In general appearance the Tamworth is long, smooth and fairly deep; the snout is too long to meet the popular ideal of beauty; the ham has a little more depth than the shoulder; the legs are strong and straight, and the carriage is easy and active.

Dried Beet Pulp as a Substitute for Corn Silage.

At many of the American beet-sugar factories vast quantities of beet-pulp have in the past been allowed to rot and waste for want of a demand for it. As it is a heavy product, being charged with water, it cannot be profitably shipped great distances, and American farmers in the vicinities of factories have not shown themselves so much alive to the advantage of cheap stock food as have the Canadians. Lately, however, on the other side of the line, this by-product has been placed on the market in the dried form. The pulp is first put into large presses, and a considerable percentage of the moisture squeezed out. It is then put into large kilns and thoroughly dried by direct heat. The drying process lasts about thirty-five minutes, and the resulting product is sacked and ready for shipment. The advantages of drying are, that it can be kept an indefinite time without affecting its feeding value; that it is easy of shipment, one ton of dried pulp being the equivalent of twelve or fourteen tons of fresh pulp, and soaking the dried pulp with water just before feeding gives it the advantages of a succulent feed.

At the New Jersey Agricultural Experiment Station it was believed that dried beet-pulp, soaked, might, in the absence of other succulent foods, serve as a substitute for silage, and an experiment was conducted by G. A. Billings, Dairy Husbandman, to investigate this point. The object of the experiment was to study the relative value of the dried beet-pulp and of silage, in respect to (1) influence on the yield of milk, (2) effect on the quality of milk, (3) relative cost of milk and butter, (4) individual animals.

Four cows were selected, all of which had been fresh within three months. They were divided into two lots of two each. The experiment was divided into two periods, each of fifteen days' duration. Lot 1 was fed the dried beet-pulp ration, and lot 2 the silage ration, during the first period, while the rations were reversed in the second period, to equalize the natural shrinkage of milk.

The cows were under similar conditions as regards stabling, feeding, watering and milking. Every care was taken to have the weighing and testing of milk done accurately.

The meal part of the ration was composed of three parts dried brewers' grains, three parts buckwheat middlings, and one part cottonseed meal. The amount fed varied according to the weight of the animal and the production of milk of each. The amount of beet-pulp and silage consumed in each ration per cow was the same. Ten pounds of hay was fed with the beet-pulp ration, while only five pounds were given in the silage ration. This was done in order to make the necessary amount of dry matter in each ration comparable and give the necessary bulkiness to the beet-pulp ration. The beet pulp was thoroughly saturated with water at least three hours before feeding time. The rations fed were:

Dried Beet-pulp Ration.—Dried beet-pulp, 9 pounds; mixed hay, 10 pounds; meal mixture, 10½ pounds.

Corn-silage Ration.—Corn silage, 45 pounds; mixed hay, 5 pounds; meal mixture, 10½ pounds.

Nutritive Ratio.—Beet-pulp Ration, 1 : 5.06; Corn-silage Ration, 1 : 5.4.

The beet-pulp ration exceeds the other in the amount of protein and total nutrients, but furnishes less fat.

The total yields from the two rations fed are: 2,016.6 pounds of milk and 97.26 pounds of butter from the beet-pulp ration; and 1,811.0 pounds of milk and 87.82 pounds of butter from the silage ration, a net gain in favor of the beet-pulp ration of about ten per cent.

When the cost of the feeds is considered, however the silage is slightly ahead. In calculating