

age and appetite. Where loose boxes are not available, the calves should be let out each day for exercise; in fact, this is often good practice, even where they are run in loose stalls. Do not crowd the calves into small, cramped, poorly-ventilated, dark stalls. The best stall in the stable is none too good for the future herd-header or the young heifers which are the making of the heaviest producers and the best breeders in the herd of a few years hence.

### Root Crop Dry Matter of Equal Feeding Value.

Has the dry matter in different root crops the same feeding value? This has been the subject of investigation for three years (1908-10), by Dr. N. Hansoun, the necessary experiments being carried out on two Swedish dairy farms. In the latter, the feeding value of mangels, kohlrabi, turnips, and carrots were compared in rations for dairy cows. Complete chemical analyses were made of all the foods which the cows received during the trials, and these showed but little variation in the dry matter of the different root crops, except in that of sugar content. There is no need to go into the rather elaborate details of the experiments, except to say that they bear out the general conclusion drawn, viz., that no difference could be traced as regards the influence of the several root crops on the yields of milk, on the live weight of the cows, or on the fat contents of the milk produced, and that the dry matter in the various root crops may, therefore, in general, be considered of equal value, weight for weight, in milk production.—[Live-stock Journal.

### Pork Raising and Winter Dairying.

During the winter months, when the field work is not pressing, pork-making furnishes an opportunity to utilize the farm labor to advantage. Where winter dairying is carried on, laborers must be constantly maintained to do chores and care for the milk. There are always several hours between milkings when the labor needs to be otherwise employed. Most large dairymen keep one or two barn hands to do the chores and care for the dairy herd, exclusive of the milking. As the hogs can be fed between the hours in which the herd demands attention, we find that it is very profitable to follow winter pork-making as an adjunct to the dairy, because we can furnish steady employment to the necessary farm labor. It requires only a few minutes for one or two hands to feed 50 or 75 hogs, and this in no way need interfere with their regular work.—[Coburn's "Swine in America,"

### Indications of a Good Feeder.

Farmers who make cattle-fattening a special branch of their business are busy scouring the country in search of desirable animals to fill their stalls for the coming winter. There are always plenty of cattle to be purchased, and especially is this so in the fall, when the prospects for feed for the coming winter are none too good, but first-class feeders are never on the market in abundance, and it takes some time to pick up even a small number of cattle of the most desirable feeding type.

In feeding cattle, the amount of profit depends largely on the kind of steer bought. The heavy steer is usually the surest proposition. Markets are always better in the winter and spring for the heavy-shipping steer than for the light butcher's animal. The heavy steer is also a safer investment than the light steer, because the spread in price is reckoned on a larger weight, to begin with. Suppose the spread in price is one and one-half cents per pound; a steer weighing 1,200 pounds when he is put in in the fall would show an increase in price of \$18 on his original weight alone, to say nothing of the 300 pounds or so he had gained during the feeding season. Now, a steer of 800 pounds when placed in to feed would only show \$12 gain in price by reason of the spread. This shows a difference of \$6 in favor of the heavier steer. The greater the spread, the greater the difference between the light and the heavy steer. A well-finished, heavy bullock always commands the top price on the market, and it should be the aim of every feeder to produce for sale nothing but market-toppers.

To buy cattle that will make the best returns for feeding, requires skill and thorough knowledge of the difference in type between poor and good doers. Some steers that are a good proposition from the butcher's viewpoint are disappointing from the feeder's end of the business. A small, deep-fleshed steer, lacking in bone and constitution, and showing a nearly finished condition, is often a failure if fed longer. Such an animal is at his best, and will kill out a fine carcass, with a large percentage of high-class meat, but to feed him longer is generally useless, because he hasn't

the frame and the constitution necessary to make economical gains for further food consumed. It is useless to purchase a finished butcher's animal, with the hope of making him into a choice shipper, at a profit. The kind of animal to buy is the big, heavy-boned steer that is in good thriving condition, one that shows by his appearance that he has been making the best use of the feed given him. The younger he is, the better, provided he has the growth. The animal should show straight top and under lines, be low-set, deep and thick, with a short, broad head and strong muzzle, a short thick neck, with a full neck vein; a broad, compact shoulder and a deep, full heart-girth, with great spring of rib and a large, trim middle. The loin should be broad and the hook-bones smooth, with a long, level quarter and a low twist, with the meat carried well down to the hock. He must show good quality by having a long, thick coat of fine, silky hair covering a soft, pliable skin. The trained eye can "spot" the thrifty steer at a glance. The strong muzzle, bright, full eye, soft coat and sappy appearance is well known to stockmen, and the steer that has the foregoing strong points can usually be relied upon to make economic gains. The age of the animal is important. Some inferior steers are allowed to run until they are four or five years old, at which time they present a fair feeding appearance, but such animals have attained their full growth, and usually will not make as rapid gains for food consumed as will a younger animal of desired conformation. In selecting feeders, care must be exercised if the best results are to be obtained. Haphazard buying will prove disastrous. Make a careful selection.

## THE FARM

### A Model Barn Approach.

The old-fashioned, bank-barn basement, with its dark, damp and dismal passages, is now hopelessly discredited with all who have regard for the health and comfort either of live stock or attendants. Many barns are not yet placed on high enough walls for ideal stabling. They are kept down in some cases to avoid the extra outlay for an approach of easy grade. Steep, narrow approaches are difficult to climb with heavy loads, and dangerous in case of backing out. Underneath them, a good deal of useful space for box stalls, root house or milk rooms is created. The floor space should properly be on a level with that of the barn stabling proper, to facilitate handling roots or other work. The accompanying illustration shows one of two very sensible approaches erected during the past season, in the reconstruction of an old barn by Nelson Smith, Middlesex Co., Ont. The grade is easy and wide, further broadened by a couple of cement wings or retaining walls. The side walls and a cross wall which divides the space below into a root house and box stall, are of large hollow brick, with a protecting top of cement concrete, in which are bedded a row of hollow iron posts, on which a top bar is yet to be placed, which will thoroughly protect the bridge. The approach space is 15 feet by 26 feet, and the top is of cement concrete 10 inches thick, reinforced by two old steel-bridge girders from barn floor to cross wall, and two from the latter to bottom wall of approach. The cross reinforcing material consisted of two layers of woven-wire fencing. The compartments are floored with cement, and the walls cement-plastered. Altogether, 42 barrels of cement were

used. On the opposite side of the barn is a similar though shorter approach, with milk room, including cement water tank for cooling purposes below, Mr. Smith being engaged in the production of milk for the London city trade. The cost of the two approaches was about \$150. The wooden silo to the left of the approach has a cement bottom, the wall of which, 10 inches thick at bottom and 8 inches at top, extends up four feet, and supports the stave structure. There is an inside and outside water supply, furnished by windmill from a splendid well beside the home. The stabling is all cement-floored, with single cow stalls and swinging stanchions.

## THE DAIRY.

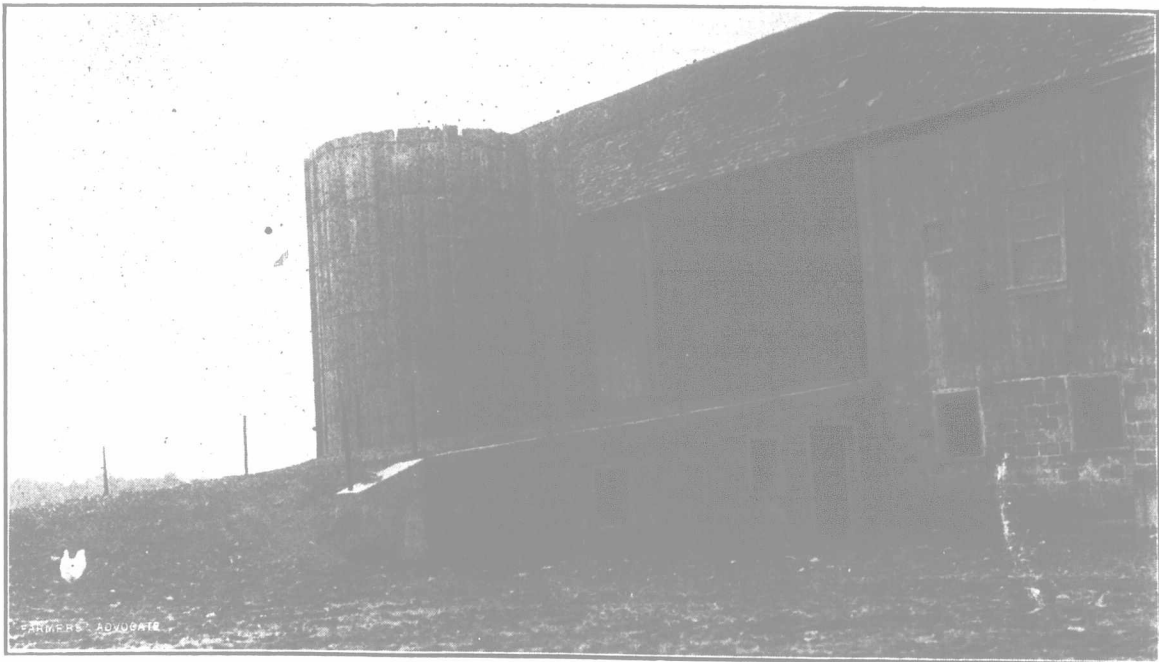
One prime object of cow-testing is that each separate cow must be rated according to her particular individual ability as a producer.

No scrub sire is likely to assist in improving the herd's record. The head of the dairy herd is no place for the scrub, and the more quickly he is disposed of, the sooner will the herd be placed on a paying basis.

The herd average is not fair to either the good cow or the poor one. The best cow in the herd is represented far below her actual record, and the poorest cow in the herd much above her performance. The good cow's record is lowered out of all proportion to her real earning capacity, and the poor cow's record soars far above her actual milking value.

### "Casein" in Demand.

"Casein," the dried curd of skimmed milk, is likely to become an important product, if the present demand continues. The outline of its manufacture as given in the 1911 report of the Dairy and Cold-storage Commissioner, is as follows: Casein is made by curdling skim milk with a weak solution of sulphuric acid, and then getting rid of the free whey by heating and stirring in much the same manner as in the early stages of cheese manufacture. After the whey is run off, the curd is pressed for a few hours and then passed through a special mill which tears it into small pieces. It is then put into a steam drier, out of which it comes as hard as bone, and ready for shipment in sacks. One hundred pounds of skimmed milk will yield 3 to 3½ pounds of dry casein. The special equipment required for making this product, including vats, cost from \$300 to \$500, according to the size of the creamery, and the dried casein has sold during the past year for seven cents per pound, f.o.b. cars, and higher prices are now being offered. The demand for the product arises from its adaptability to a great variety of purposes in the technical arts. It is used for paper-sizing and wood-filling, in the manufacture of paints, pencil erasers, toilet creams and adhesives; as substitutes for ivory; in the preparation of certain proprietary foods, and for many other purposes. Its manufacture may prove a strong inducement to patrons of separator creameries to continue that system in preference to the cream-gathering or hand-separator plan.



Easy Barn Approach.

On the farm of Nelson Smith, Middlesex Co., Ont.