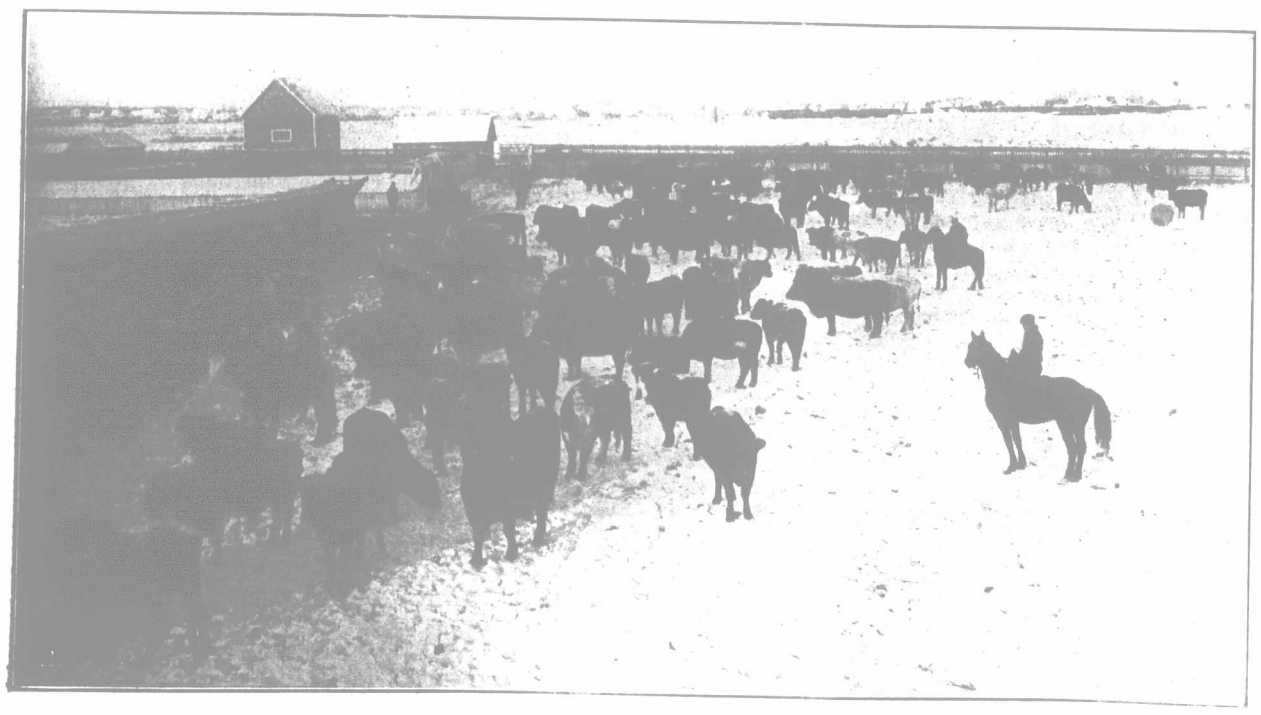
the principal market for Danish produce, and it would therefore seem that the limit of production in that country has been reached. The future supplies, therefore, must be to a large extent grown in the United Kingdom, and this would seem to be not impossible of realization, when it is considered that feeding material for pigs is likely, at least during the present year, to be more plentiful than it has ever been before."

Alberta Rack Feeding.

The accompanying illustration affords a bird's-eye view of a system of cattle-feeding pursued on an extensive scale at Lacombe, in Alberta. For particulars, "The Farmer's Advocate" is indebted to A. Gilmour, during a recent visit to Ontario. He has had some fifteen years' experience in feeding under Western conditions. One thousand acres of land are devoted to the enterprise, some of it used for summer grazing and some under cultivation, in addition to the use of some ranch land. Adjoining the town, there are about 286 acres, and the yards proper, where the winter feeding is done, cover from ten to twenty acres. Counting the two sides, there are about 1,500 feet of rack space, accommodating nicely about 300 head. In summer, on an average, from 500 to 1,000 head of cattle are grazed, and as they are finished, in summer or winter, are sold off. The racks are V-shaped, about four feet clear of the ground, with the space beneath boarded up tight to form a draft-proof wind-break. Cold winds blowing through cracks on the joints of the legs are found to stiffen the animals and cause freezing. The slats of the racks are inch stuff, and spaced three, three and a half to four inches, according to the size of the cattle. They are supposed just to be able to insert their tongues. This spacing tends to prevent waste of hay. This season the cattle have been fed natural hay, which costs about $7 per ton, delivered at the yards, with oat sheaves, costing from 1½ to 2 cents per sheaf, delivered. No other grain is used, as a rule, and the cattle finish and kill out well. If required, there are large quantities of frozen wheat available, and also barley. At the time the photograph was taken there were about 200 in the yards. The cattle are picked up from farmers throughout the country during summer and fall at from 3 to 3½ cents per pound, and, when finished, have been selling at about 4¼ cents, mostly cows and heifers. Lots of such stock have been sold averaging 1,200 pounds in weight. Large numbers of hogs are fed in the lots, following the cattle and picking up the undigested oat grain. The hay is eaten up very clean, but there is more or less waste of straw, which is tramped into the manure and goes on the land being cropped. The cattle have no other shelter than what appears in the engraving, and the snow being dry, is not troublesome. Calves are occasionally dropped in these yards, but usually come along all right. They are vealed at four or five weeks old, and the dams finished off with the rest. Some trouble is experienced from wet teats freezing. After the calves are weaned, the cows may be put into a big "squeezer," and milked out once.

That cattle will finish off successfully under such conditions, is a fact commended to Eastern feeders who have thought basement stables necessary for fattening cattle. While some shelter is necessary in the East, evidence accumulates that well-bedded sheds, open part or all the time to the south side, are fully as good as and more economical than stone basements. The East is indebted to the West for some suggestive object-lessons in cattle-fattening methods.



Open-air cattle feeding at Lacombe, Alta.

Feeding the Pregnant Ewes.

The in-lamb ewe, like any pregnant animal, must be handled with a reasonable amount of care, and the fact that she is pregnant demands that she get sufficient and proper feed to aid in in the development of the growing fœtus and to prepare her for the ordeal of yeaning, and at the same time stimulate her mammary organs into increased activity, insuring that there be an ample quantity of milk secreted for the development of the youngsters after birth. High prices of hay and grain make economic feeding a difficult proposition, and, for best results, enough feed must be given to insure strong, healthy lambs at birth, and a supply of food to keep them thriving. Plenty of dry food is absolutely essential, and good clover hay is one of the best. Pea straw, especially if it is flail-threshed, is a good feed, and with hay valued so high as it is at present, and where a few peas have been grown the past summer, good returns from the extra labor would follow the practice of flailing them, so as to have the straw in good condition for the sheep. The few peas left in the straw will aid materially in keeping the ewes in good flesh.

Many writers decry turnips as a winter feed for sheep, but, if used judiciously, few more profitable feeds are produced on the farm. If fed exclusively, or almost so, they tend to produce an abnormal, flabby growth of the fœtus, causing difficult parturition and weak lambs; but, fed in moderation, in conjunction with an abundance of dry feed, they are of inestimable value to the breeding ewes. Some claim they contain too much water, but it must be remembered that grass, nature's most luscious, palatable and succulent stock food contains upwards of 80 per cent. of this material, and feeders and stock-tonic manufacturers have exhausted their ingenuity, and still no equal of pasture grass as a stock food has been found. There is, however, a danger that, where turnips are fed in large quantity, the sheep may incorporate more water into her system than is in the best interests of economy in winter feeding. Water is a difficult substance to heat, and, in order to bring it up to body temperature, much of the energy produced by the food is used. It is seen that turnips or roots of any kind must be fed in moderation. There is an effect caused by the succulency which they add to the ration which makes roots almost imperative as a part of the winter feed of in-lamb ewes. After yeaning, the quantity of roots should be increased, as they aid in stimulating milk production.

Grain fed in small quantities, while not always absolutely necessary, is generally advisable. Oats are greatly relished, and make a good food for our pregnant ewes. Like the roots, the grain ration should be increased after lambing.

Water is necessary at all times. It is a mistake to suppose that sheep do not require this essential to all successful animal husbandry. In-lamb ewes, or those suckling lambs, are in special need of pure water at all times. The more roots the sheep get, the less water they will drink.

Exercise has been reiterated time and again as necessary for pregnant animals. Sheep are no exception. Give them as much outdoor exercise as possible. The trouble at yeaning time varies directly as the exercise and general care of the flock during the ewe's pregnancy are good or otherwise.

The United States Department of Agriculture estimated the value of live stock per head in that country on January 1st, 1910, as: Horses, $108.19; mules, $119.84; milch cows, $35.79; other cattle, $19.41; sheep, $4.08; swine, $9.14.

Heavy Root Feeding.

James B. Hendrick, B.Sc., F.I.C., Consulting Chemist to the Highland and Agricultural Society, says: "The production of beef is one of the main agricultural industries of the Aberdeen district, and that beef has obtained a considerable reputation. The chief foods used in producing it are turnips and straw. Along with these, more concentrated foods, such as bruised oats and barley, and various oil cakes, are used. The proportion of concentrated food used is not very great. The ordinary Aberdeen feeder does not use more than 4 to 6 pounds per day of cake and corn, even when finishing a beast, and often uses less. On the other hand, he uses a very heavy ration of turnips. From 100 to 120 pounds per day is an ordinary allowance for a beast of 8 to 10 cwt. live weight. The typical North-Eastern cattle-feeder, farmer and cattleman has an extraordinary belief in the efficacy of turnips in feeding cattle. If you tell him turnips contain 90 per cent. of water, he confidently replies, 'But it is far better water than is in the burn.' Many analyses of the turnips and Swedes grown in the Aberdeen district have been made by myself and others. So far as analytical results go, Aberdeen turnips are not found to differ greatly from those grown in other districts, numerous series of analyses of which have been published. Despite the widespread belief that Aberdeen turnips are better than those grown elsewhere, it is not found on analysis that they contain any less water on the average. Like others, they contain about 90 per cent. of water, or, perhaps, in the case of yellow turnips, a little more. Feeding cattle readily eat the great quantities of turnips mentioned above, consequently they consume far more water than is necessary for their life processes. There are very numerous experiments on record showing the weights and composition of the fæces and urine of cattle under what might be called normal conditions as to consumption of water; that is, where the animals were consuming only the amount of water necessary for healthy existence, and were not consuming excessive quantities in watery food. These experiments show that, under such conditions the weight of the urine is not more than half the weight of the fæces. On the other hand, as the above experiments show, where heavy rations of roots are fed, the urine may weigh more than twice as much as the fæces. When the urine is abundant, it is weak, and only a small part of it can be kept in the manure. It is impossible to use sufficient litter to absorb 60 or 80 pounds of urine per beast per day; and even if it were absorbed, it contains such a low percentage of nitrogen and potash that it would diminish and not increase the percentages of these in the resulting manure, for straw itself contains higher percentages of nitrogen and potash than such weak urine. On the other hand, when an animal passes only 10 or 15 pounds of urine per day, it is comparatively easy to retain the whole or the greater part of it in the dungheap, and, as it is comparatively rich in nitrogen and potash, it makes comparatively rich dung. Such urine, when absorbed by the straw, raises the percentage of nitrogen and potash, since it contains higher percentages of these valuable constituents than does the straw."

Do Not Part with the Tried Sire.

The old bull has the advantage of having proven his worth. Think the matter over before deciding to replace him, and after weighing the circumstances carefully decide to keep him another year, rather than trust the work of herd improvement to a young, untried bull which may undo the old bull's years of good service. Many an old sire has been turned away to the butcher's block years before he should have been, and many a young sire has gone into service at the head of the herd, which, in the best interests of that herd, should have gone to the block in his early life. A sire which has been tried, not one year, but several years, and has by his get proven the right to his position, is a solid rock upon which to build up the herd. There is no better corner-stone for the foundation, and this surrounded by a female herd selected with discrimination and good judgment, culled and weeded as quality and circumstances warrant, cannot fail, under proper conditions of feeding and management, to produce, maintain and improve the class of animals most in demand. If your bull has proved satisfactory during his two, three or four years in service, and he is still active and a sure getter of the right type of stock, keep him, and don't part with him until you are quite sure that he has outlived his usefulness. Buying a young sire is somewhat of a lottery. The best of conformation, backed up by the strongest of pedigreed ancestry often fails to show its expected effect in the offspring. True, such conditions are more likely to give good results than when an indifferently-bred common sire is used, but the point is that no one can accurately estimate the value of a bull as a breeder until he is tried; and if he proves satisfactory, he is invaluable, and should be retained as long as possible at the head of the herd.