

if the water is given in the stable and they are never turned out. As soon as the hair commences to loosen they should be frequently curried.

The feed mangers need not be expensive. A plank trough eight inches high and fourteen inches wide at the front of the cattle with a slanting manger for the hay or stray is all that is necessary.

The daily ration which we have been feeding is twelve pounds of clover hay, thirty pounds of roots, and ten pounds of mixed meal. Although we do not feed any meal the first two weeks, the full limit of ten pounds is reached after the cattle have been in the stable one month.

I place great importance in giving clover hay as the bulky part of the ration for beefing animals. It is an evenly balanced ration in itself. So by feeding clover hay, roots (turnips or sugar beets) and mixed meals (oats, peas and corn in equal bulk with ten per cent. of oil meal) there is no difficulty in having the nutritive ratio for beefing animals just exact. How different with corn ensilage, straw, or timothy hay as the bulky part of the ration. The nutritive ratio is not nearly right, and it is a hard matter to balance it with other foods to make a properly balanced ration.

Another point in the feeding of clover is the saving of labor required in cutting bulky feed and in pulping roots.

I feed three times a day. I first see that the troughs are perfectly clean. The roots are then put in and the meal placed on top of them. If obtainable a little wheat chaff is a good thing to mix with the meal. The hay is then laid on the slide manger. Salt is fed in a small box attached to the partition and should never be put in the feed.

In England our beef at present does not command the highest price. I would advise all cattle feeders as far as possible never to sell their animals until they are in first-class condition, for I know of nothing so injurious to the cattle trade as the sending of unfinished animals to the British market.

Feeding Loose for the Export Trade.

By George R. Barrie, Galt, Ont.

We have for seventeen years been in the habit of purchasing from 20 to 30 steers in the fall according to the amount of feed on hand, and fattening them for the export trade. We have followed the usual plan of stall feeding, letting them out once a day for half an hour for water, with varied success, some years with a fair profit but most years in latter years with little more than the manure for profit. They would usually gain in the six or seven months' feeding from 250 to 300 pounds, or an average of about 275 pounds per head. There is a great amount of work in

connection with this style of feeding, more especially if we have to feed on till the middle of June, as we often have to do.

I observed from accounts of those who tried feeding loose in pens that the cattle did much better. We decided to try that plan. Having a very large barn we made a pen 40x80 feet, with a feeding rack in the middle 50 feet long. The pen is open all around the rack. This rack is made 4 ft. 4 in. wide, with a plank six inches wide set on edge along the middle, to keep the cut feed at the sides. It is made with upright scantling every three feet around the outside. There are 36 spaces around it. We have a hay car track overhead, use a box large enough to feed them at once, fill the box with cut feed, meal and pulped turnips well mixed. We always mix the feed half a day ahead and let it stand. After the feed has been placed in we wind the box up to the car with a chain and pulley, run the box right through the feed rack and draw the feed out of the end of the box, which we have found to work exceedingly well.

I purchased a carload of twenty-two head at Parkhill, with an average weight of 1,153 lbs. They cost when delivered at the barn \$3.68 per cwt. We dehorned them, as that is necessary in feeding loose. We fed them on hay for the first six weeks, not having our arrangement ready for feeding cut stuff. During Christmas week we commenced to feed meal, nine lbs. per day of one part peas, two parts corn, one part bran and middlings amongst cut oat straw and wheat chaff. No hay was fed for about three months, then we commenced to mix a little cut hay gradually, and finished with pure cut hay and two feeds of long hay per day during the last two months. In mild weather they were allowed to run in the barnyard all the time, except in the afternoon, when the cows and young cattle were out, and if it was cold they were let out three times per day for water. I intend watering in the shed another year. We cleaned the pen out every month, driving the sleigh or wagon right around it, and bedded the pen three times per week. Out of the twenty-two head there was one which did not do well. We tied it up about February, but it made a very poor gain, only weighing, when shipped away, 1,280 lbs. The twenty-two averaged when shipped, the 19th of June, 1,508 lbs. each, which was, I think, seventy or eighty lbs. more than they would have weighed if they had been fed the old way. They were sold for \$5 per cwt.

I was exceedingly pleased with the experiment; the cattle were much healthier, made a better gain, and would eat anything and everything placed before them, and it was only one third of the work to feed them. They kept much cleaner, and, while you may require a little more bedding in cold weather, in mild weather, when

they got the use of the barnyard, especially in May and June, they require a great deal less.

Fields on the Farm.

By DUNCAN C. ANDERSON, Rugby, Ont.

Where the surface of the country is level, without hills, ravines or gullies, it is an easy matter to shape the farm fields as we choose, but where the country is uneven, made up of hills and low land, it requires some thought to skilfully plan to the best advantage the fencing of the farm so that there will be economy of labor in cultivating or harvesting. On what is called a square hundred acres a convenient farm is made by having a lane up the centre with a row of fields on each side. The fields should be twice as long as they are wide. Ten or twelve acres make a nice working field. When you come to finish with either mower or binder the last swath is a long, narrow strip. In ploughing or harrowing, forty or forty-five rounds make a fair day's work. When the farm is situated in a section where there is much rolling stone, the fields must be made of the right size before there are many stones thrown into the fence corners, otherwise there will be a lot of unnecessary hard labor required to remove the old fence bottom to the right place. But even if a few old fences have to be cleaned out to get the fields put in the right shape, it will in the long run well repay the labor.

In travelling through the province we sometimes see fine farms with good brick houses and large barns. The buildings, house and surroundings indicate that they belong to prosperous, thoughtful owners, but the fields are very small, five or six acres in each and exactly square. There should not be more than eight fields but there are nearly twice that number. It must be aggravating work to finish mowing or reaping one of those little square fields, half of the time would be taken up in end turnings near the finish.

ADVANTAGES OF LONG-SHAPED FIELDS—One of the essentials in modern farming is to cheapen the cost of production, and one way to do this is to have the fields long and narrow. If the fields are small and square there is much loss in hiring men at \$16 or \$17 per month and boarding, keeping and feeding teams which lose much of their time in turning around the ends that should have been used turning up the sod or stubble land. Long-shaped fields enable us to work to the best advantage, besides the saving of expense in keeping up one-half as many fences as have to be maintained when fields are square. If the field is sown with fall wheat there will be fewer fences to gather drift snow which so often kills the wheat during the first few warm days in the early