

ply them with too concentrated foods, and thus derange the animals constitution. The structure of the digestive apparatus of the ruminants points to the fact that they were calculated to consume bulky and fibrous food. Nature never intended that they should be fed on concentrated food alone. The stalk has twice the weight of the grain, and animals naturally masticate both together. In this condition it goes into the first stomach from whence it is brought back, re-chewed, and more thoroughly mixed with saliva, and then in this finely divided state it goes through the second and third stomachs into the fourth, where, owing to its porous condition it becomes thoroughly saturated with digestive fluids, and is passed on, receiving digestive fluids and giving up nutrients as it goes.

In many parts of our Province ignorance is shown of the nature of ruminants by feeding corn meal and other concentrated foods alone. This, being moistened with saliva, passes into the third and fourth stomachs. The gastric juice cannot, because of its doughy nature, penetrate and circulate through it, and consequently much of the meal is found to be undigested. Physiologists tell us that the muscular coat of the stomach by its contraction gives a gentle motion to the contents of the stomach intermixing these with the gastric fluid, but in the case of food like corn meal, this muscular action can only succeed in rolling it over, but could not break it or render it porous for the entrance or absorption of the gastric juice. But if this meal is fed with cut hay or straw so that both must be eaten together, the coarse fodder will separate the particles of the meal and thus make the mass porous. When thus fed, the meal is raised and re-masticated with the coarse fodder.

In selection of cattle for fattening the feeder should pay particular attention to the general conformation and age of the animal. These two points are sometimes overlooked by young feeders in buying cattle and they are points which cannot be too strongly emphasized, for the success or failure of the business depends largely on whether the right or wrong kind of animals are chosen.

The animals selected should have a general appearance of thrift about them indicating the absence of disease, and active digestion. The eye should be mild, the skin soft and pliable, hair silky; these when connected with an animal of the beef type (low, square build with roomy respiratory and digestive apparatus) go to make up all that is desirable as far as appearance is concerned.

The age of an animal also has a great influence on the rapidity of fattening. While an animal is young and immature, its appetite, digestive and assimilative functions, are most active, and these functions grow less and less active after maturity. After the period of perfect development the natural habit of the animal is to eat and digest only so much as is necessary to supply the waste of the tissues; and consequently its weight remains nearly stationary. Another most important point is, that while the animal is young, and in an active stage of growth, the percentage of waste in its system is much less than at and after maturity. The food of support or what is necessary to supply the constant waste of the system, and keep the animal without loss has accumulated to a large item at maturity. It then becomes very clear that the interest of the feeder requires that the animal be young. According to this we gather also that the time required for the growth of a calf of his own breeding should be as

short as possible. It must be evident that the cost of supplying the waste of the system during a period of four years, will be as great as to produce animals of the same weight in 24 to 30 months: or in other words, a skillful feeder of young animals will produce twice as much weight at 24 as at 48 months with the same food.

It is hardly necessary to mention the fact that good stables are absolute necessities where cattle are being fattened. Although all admit this yet many who make a business of fattening cattle actually lose hundreds of dollars every year through carelessness. They are not particular about keeping their stables clean, which is so important, for cleanliness is a great promoter of good health. Often we enter stables, where great currents of cold air, caused by a broken window, seem to have taken possession of the lower stratum of atmosphere, causing the cattle to draw heavily upon the fat forming materials of the food to keep up heat. There are other essentials of almost equal importance such as pure water, salt, a temperature of about 60°, and quietness, of which space will not permit me to treat; but will only say in conclusion that some times it is the attention to these details which may seem small in themselves but which determine the margin of profit in cattle feeding.

A. A. E.

A Harvest-Time Trip to Manitoba.

(CONCLUDED).



ALTHOUGH our railway journey was ended as our train steamed into Brandon station, we still had a good ten miles to accomplish before our final destination was reached. We decided to make use of our limbs for this part of the journey, and accordingly set out early on the morning following our arrival for our first prairie walk. The sun shone bright and warm as we passed the last straggling cottages of the town and descended the gentle slope toward the Assiniboine River. Away to the left the wigwams of the red men were seen in groups, herds of cattle grazed peacefully near us, while in front the opposite slope looked forbidding enough. We are on the "Rapid City Trail, (although so far the trail appears like an ordinary road), and soon see three dusky young braves swinging along in front of us. They must know we are strangers, for their manner of stopping and glaring at us until we pass them is unpleasant. However, we leave them aiming at some birds which are perched on the bridge we have just crossed, and begin our climb of the hill in front of us. We now are passing the Manitoba Experimental Farm, where Superintendent Bedford is doing his best to teach the farmers that, even in Manitoba, neatness, care, and forethought accomplish a great deal. We notice with pleasure the neat fences, handsome substantial buildings, and attractive rows of trees, which are all features of this station, but of few Manitoba farms. As we reach the level plain again our eyes behold a real Manitoba landscape in all its glory of waving wheat. Immense fields of the golden grain stretch away on either side, broken sometimes by the virgin prairie or the rude trails which run in different directions. We pause and hear the gentle rustle of the grain as the waves come sweeping subtly toward us, and catch the glint of