

curry comb, in which every other row of teeth have been flattened down, run lines parallel along the body from the neck to rear, lines to be about two inches or less apart. Start these lines just low enough to give the appearance of plenty of width of back. With the same comb, then comb back against the hair, that is, from the underline to the top. This operation curls the hair in lines across the body. The hair along the back and loin is combed down flat to bring out the width along these parts. The same thing is done behind on the hams to bring out the width behind. This style of treatment applies more particularly to Shorthorns. The hair of the Hereford is waved also, but not in the parallel lines across the body as a rule, although that is sometimes done. With the Hereford, a spiral comb is generally used, working from top to underline in a zig-zag manner, giving a wavy effect along the side, which is very pleasing. As a rule, the Angus is shown with hair flat, and with the head clipped to behind the poll. This gives a clean-cut appearance to the polled head, and adds quality to the animal throughout. One thing is left to be done, and that is, clipping the tail. It should be close clipped from a little below the twist to right up to the tail head. If a tail head is high it may be clipped well back in order to give the appearance of smoothness at this part, whereas if there is a tendency to droop there, the hair should not be clipped off. The scissors should be used at the tail head in order to blend the hair off smoothly. A rough job at this point is worse than not trying to trim the tail at all, because it only serves to draw the judge's or buyer's attention to a defect.

With proper feed the bull has been given a chance to put on flesh to show off his body conformation to the best advantage, and with proper fitting, he is ready to go into the sale or judging-ring to give the best possible account of himself. While we realize that the method of feeding outlined early in this talk might not fit a calf for the larger show, on account of the nurse cow not having been strongly emphasized, yet we know that it will bring out a bull which no man need feel ashamed of so far as condition is concerned. Feeding and fitting will not give more depth of body, spring of rib, nor smooth off a rough head, but it will do a great deal towards improving the general appearance nevertheless.

Make the Auction Sale Snappy.

Selling by auction is the general way of disposing of surplus stock, and the way in which the sale is conducted largely determines its success. Considerable has been written in these columns regarding the handling of a sale, but so important is this that a few requirements will bear repeating. The farmer intending to dispose of his live stock and farm effects will find it in his own interests to take extra pains to condition the animals. Most men will pay more for individuals in good fit than for those that are thin, even though equal to others in breed, character, type, etc. Then it is important that there be a spacious sale-ring. Allowing spectators to crowd in on the animals being offered results in loss of interest on the part of the bidders, with the resultant dragginess of bidding. Vendors of common cattle are not the only transgressors in this point—it occurs in sales of pure-bred stock where much more is at stake. By all means have a ring roped off and make the people stay outside the rope and keep their seats so that those behind can see and hear. The sale manager and the auctioneer are in reality responsible for order around the sale-ring. To allow men to do about as they please is not fair to either the consignors of the animals or to the bidders. Then, too, when an animal is knocked down to a bidder the auctioneer should abide by his own decision. When an animal is sold lead it out and bring in another. To put an animal up again because some one thought

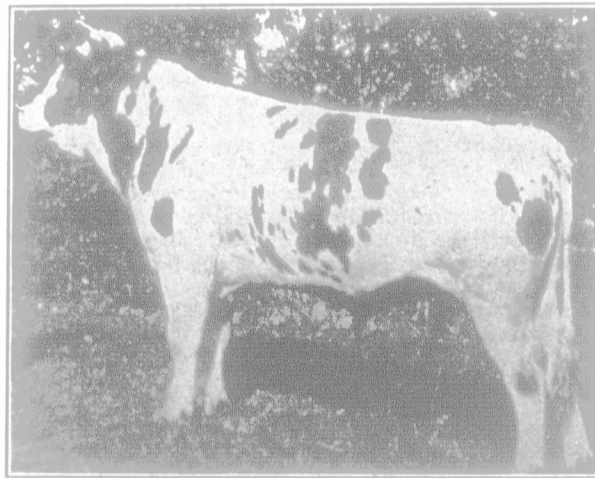
he made a bid before the auctioneer had let the hammer drop, tends to encourage tardiness in bidding. At a recent sale this practice was indulged in altogether too much. If a sale is to be snappy the auctioneer must sell the animals quickly. If bidders see that they must bid quickly or someone else gets the animal, they wake up and the sale goes lively.

THE FARM.

Storage of Plant Food.

Plants, like hibernating animals, may live for a considerable time on themselves. In this case they use up a supply of food material laid up in some part of the plant. The stored food was taken in by the roots and leaves in the regular way, but instead of being used immediately to build up the tissue of the plant it is set aside in either the root, stem or leaves.

There is a special advantage to the plant in thus storing up a supply of food which it can use at a time when it cannot conveniently take very much from the



Sovereign Alcartra Joseph.

Three-year-old Holstein sire. Owned by R. Honey & Sons, Dartford, Ont.

soil. The onion and the potato are good examples of this. The onion stores up food in its bulb which consists largely of the thickened bases of the leaves, and since the upper parts of the leaves die off in the fall the plant is able to start again early in the spring by using the food stored up in the bulb. The potato does likewise by storing up starch in its tubers. The tops die off each year, and the food supply of the tubers gives the plant a strong start in the spring. This was true of the potato in its wild state, and it is true still, but in this climate the tubers will not as a rule live in the ground over winter. They must be protected from the severity of our winter frost.

The farmer takes advantage of the storage of plant food in dozens of ways. The potato tuber he eats and thus uses the very food that the potato plant had stored up for itself. He is also able to increase his supply of this form of human food by taking a potato tuber and making as many "sets" as there are "eyes", and each set has enough food to give the new plant a good start. Most of our vegetables are used because of the food stored up in some part of the plant. Turnips, beets, carrots and all such plants store surplus food in their roots. This is accumulated during the growing season of one summer and is used up in the production of seed the next year. Potatoes store in an underground stem or tuber, while cabbage and onions use the fleshy bases of the leaves.

There is still another side to the storage of plant food. All seeds are made up of a living germ plant and a supply of food sufficient to keep this little plant growing until it gets firmly rooted and able to take food from the soil in the regular way. The stored-up starch of seeds forms perhaps the most important source of human food, and is the basis for the demand for the product of all the cereal crops. The storage of food in seeds is the plan Nature uses to enable this plant to tide over a period of rest or a period of climatic severity such as would destroy the plant completely. It is true that winter wheat will live through a great degree of cold, but the little germ plant enclosed in the wheat grain will stand a cold ten times as great as the green plant. In fact, we never hear of the wheat germ being frozen once it has matured in the regular way and has become thoroughly dry. Dry wheat never freezes.

Plants also seem to store up food which they themselves do not appear to use but which is very acceptable to animals. The fleshy part of most fruits is of this nature. The apple, for instance, has sufficient food stored in the seed proper to give the young plant a start while all the material outside the core is apparently not used by the new sprout, but this is the part which attracts the animal. Man usually eats the pulp and throws away all inside the bony core. Thus nature has provided an inducement for the animal to help the plant by distributing the seeds in return for a supply of food. This is also true of plums, peaches, pears, berries and, in fact, all fleshy fruits.

Hence the feeding of the plant becomes a very important function. Upon this depends all future results, not only as to the growth of root, stem and leaves, but the supply of stored food will also depend upon how the plant is able to feed during its life time, and it is the plumpness of the seed or the size of the bulb that determines largely the nature of the crop that grows as a continuation of the older plant which often disappears before the second generation is mature. Sound, well-filled seed will give sound, vigorous and prolific plants.

It has been shown that the root-hairs formed an important means of entrance into the plant. There is only one other way by which building material may enter. The leaves of all plants have an enormous number of very small openings through their surface into the inside. These pores or stomata are sometimes called "breathing pores." Animals take in gas, mostly air, into their lungs and after using a part of the oxygen they breathe it out again. The oxygen of the air in the lungs unites with the waste carbon of the body and forms carbon dioxide gas which passes out with the breath.

It is this carbon dioxide which plants breathe in from the air. Carbon dioxide is formed largely too when wood or coal is burning. The black carbon of the coal or wood unites with the oxygen of the air and the resulting carbon dioxide passes off in the smoke. The carbon dioxide gas taken in by the leaves meets the food material brought up from the roots, and they are digested or united in the leaves. The leaves form the stomach or digestive organs of the plant, as it were. Thus it is seen that the roots take in liquid food and the leaves take in gaseous food. The breathing of plants is merely a second method of taking in building material from which the tissues of the plant are formed.

THE DAIRY.

Control By Producers Favored.

EDITOR "THE FARMER'S ADVOCATE":

Allow me to congratulate you on the excellent article in November 11th issue, on the subject of Milk Marketing. We hope the milk-producers will consider your suggestions very carefully and act along the lines indicated. One large central organization is needed to look after the marketing of milk in the various channels which flow from the farm to the market. Since a number of dairy manufacturing firms are closing, or are offering the use of their plant to farmers, now would seem to be an opportune time to acquire control of these plants by lease or purchase. Surely the farmers of the Province of Ontario have sufficient capital and business sense to carry through successfully such an enterprise. Such a favorable opportunity to secure manufacturing machinery and control of marketing systems may never occur again, in the history of Ontario dairying. Already the U. F. O. have purchased a large creamery in the City of Toronto, and have secured the services of the former owner as manager. This insures good management, and practically means an assurance of financial success. No doubt other businesses could be acquired in a similar way by the U. F. O., or, what would be better, as you suggest, an extension of the functions of the O. M. P. A. with branches covering all phases of the dairy business. The only drawback mentioned by you is lack of funds. If the 100,000 milk producers of the Province were to subscribe \$100 each, this would provide ten million dollars capital which would make the Milk-Producers a strong organization financially. With a backing of ten million dollars there is hardly any limit to the business which could be swung by such a company. The other concerns would be "small potatoes" in the game, comparatively. All this, however, requires good organization and good managing ability. I believe the men are available for such a move. Several exceptionally good men, and a large number of men above the average in skill and ability to look after local plants, have been thrown out of employment by the recent disorganization of some large dairy concerns. Why not utilize the services of these men in promoting the new scheme of control by the producers of milk, for manufacturing and marketing?

O. A. C., Guelph.

H. H. DEAN.



A Well-graded Road Which is Good in Fall and Spring.