

be. Without competition and emulation progress would cease and degeneracy would set in.

Why does the packer ask for the bacon type? No doubt because its product realizes his best profits, hence he can pay more for it, and if more costly to produce, the farmer should get more for it. There is less competition in the fancy brands. The United States sends over \$30,000,000 worth of pork products to the British markets; Canada less than \$6,000,000, so the less heavy fat pork we produce the less will we have to compete with the vast mass of that character which brings a lower price. The American farmer, with his model of a Western Poland-China for example, and cheap Dent corn, especially when picked from the undigested droppings of steers—a common system with them, which we cannot think would ever commend itself to the discriminating nostril of the British consumer—says he can produce so cheaply that he makes just as much money and does it easier, even though he gets less for his pigs than the Canadian. We will surely do better to take our chances at the top. Without dictating as to breeds, let the farmer, in the choice of his brood sows, usually grades, and pure-bred males, look to the bacon form, including a good ham, and seek to get with it what is known as a good feeder, according to his best knowledge, judgment, and conditions.

GENERAL MANAGEMENT.—Let the young pigs as they grow up have plenty of exercise, grass to pick in its season, and learn to feed at the trough with the dam. At two or three months old they should be going on well. Don't allow them to get stunted on the one hand nor too fat on the other. Feed them shorts, peas, barley, oats, wheat, etc., mixed with skim milk or whey, so that they will get the elements (protein and ash) necessary to develop flesh and strong bone. At five or six months old the finishing period, with heavier feeding, will begin. The packer seems to prefer attaining 180 average weight in about eight months, providing that lean dominates rather than fat. The fact is demonstrated beyond question that as the hog grows heavier it costs more to put on each pound of flesh; but we are not aware that it has been shown definitely how the cost of a 180 pound pig at six months compares with that of the same weight at eight months. There should still be moderate exercise, pure air in the pens, and scrupulous cleanliness.

FEEDS AND FEEDING.—We recommend feeding mixed grains, ground fine as a rule and soaked 12 to 24 hours before using. By mixing aright we get a ration that will go to make a better class of meat, and, we think, gain in palatability. Something green in summer and pulped roots in winter aid digestion, and access to the soil promotes good health. If the pigs begin to get disordered and crippled up, vary the feeding and try a mixture of sulphur, charcoal and ashes, salt, and a little blue-stone, placed in a separate box or trough where they can take it at will. In a very clear and able article elsewhere in this issue, Prof. Day, of the Ontario Agricultural College, explains the relation of foods to animal increase, which every feeder in Canada should carefully study. No one grain is a perfect food for hogs. Seek to get an economical combination that will be rightly balanced for flesh, fat and heat (or energy) production. Barring peas in Manitoba and the Northwest, and some other sections where "the bug" is troublesome, we grow all the leading grains to perfection, including the hard flint corns. Corn, however, is carbonaceous, largely fat and heat producing, so in feeding the bacon pig must be used in limited quantities along with such foods as shorts, oats, peas, wheat and barley. It is thought by some that the Western dent corns are not equal to the hard Canada corn for fine quality of product. A bad general system of pig management may be responsible for some defects attributed to certain foods. Barley is one of our best "all-round" pig feeds, and for bacon is regarded most favorably in Great Britain and Denmark. Ground peas alone make too heavy and compact a food, but a favorite way with many is to feed them soaked whole, especially to young pigs. Beans, though not unlike peas according to analysis, are regarded in great disfavor as producing pork dark in color, and of soft, inferior quality. In one or two limited districts where grown extensively, owing to depressed prices the lower grades especially have been utilized in hog feeding. From one "bean and corn" locality nearly 50 per cent. of the pigs received by one of our packers were reported as producing soft, oily, undesirable pork; and another packer is equally pronounced against them. Fattening with clover has been condemned, as it is supposed to produce soft, "flannelly" pork; that is, pork with the feel of flannel drawn through the hand. The experience of Mr. Freeman, of South Oxford County, Ont., a very successful bacon swine raiser, related in our issue of July 1st, was that fattening on clover did not pay, and all experiments, except one with alfalfa in Utah, point in the same direction. Pending the results of further investigation in these doubtful points, the Canadian farmer will do well to keep on the safe side, which, in the light of present knowledge, we have above endeavored to indicate.

Professor Babcock is credited with saying that hand separators rightly handled will give five per cent. more butter than any other system, and that you can churn separator cream at a lower temperature and more exhaustively than by any other system of getting cream.

STOCK.

Operations of the Ingersoll Packing Co.

The institution operated by the Ingersoll Packing Company, Ingersoll, Ont., having a capacity for killing and dressing from 6,000 to 8,000 hogs per week in summer to 10,000 weekly in winter, is an interesting concern to visit. We recently spent a portion of a day with the manager, Mr. C. C. L. Wilson, who presented us with the photographs of groups of pigs illustrated herewith. Fig. I. represents a sample bunch of pigs, from which Wiltshire-cut singed sides are produced. While they do not quite fill the bill for



FIG. I.—HOGS OF BACON TYPE.

ideal bacon pigs, they represent a general average of the best sort received. Ideal bacon pigs would be longer, but without greater thickness, except of belly, and having the light shoulder as shown in cut. These are from Yorkshire-Tamworth parentage, the Yorkshire being the sire. They are about 6 months old, and average 180 pounds. Mr. Wilson claims a preference for weights ranging from 170 to 200 pounds, from 7 to 8 months old, that have been given plenty of opportunity to grow lean meat before fattening commences, 6 to 8 weeks before finishing.

Fig. II. represents a bunch quite too heavy and fat for singers. They averaged 217 pounds, and represent a cheaper class of pork, which goes to supply cheaper markets. By comparing these two groups a valuable object lesson can be gained. For the class represented by Fig. I there is an almost unlimited demand at a high price, not only in England, but in Canada it is growing rapidly, especially for a milder cured bacon. The export trade, how-



FIG. II.—HOGS TOO THICK AND FAT FOR BACON.

ever, is the one largely to be depended upon, and the more nearly its requirements are met the more rapid will be its development. We are yet far short of either growing our limit of pigs or supplying our share of pork products to Great Britain, and as it is the fancy brand that commands the best price, it is that sort we will show our wisdom in producing. There will always be an enormous quantity of cheaper pork products demanded by the poorer classes, especially of English cities, but let us be content to allow our American cousins to cater to that trade with their cheap corn-fed pigs. They seem satisfied to produce that sort, and indeed can do it cheaper than we, on their cheaper land especially adapted to corn growing. They laugh at our folly in alleged retrograde breeding and half-finishing our pigs, but so long as we see Canadian best cuts quoted at 52 shillings and American best cuts selling for 42 shillings per cwt. we can laugh too and each have a good time. A point which Mr. Wilson informed us of is that thick-finished hogs, such as Western feeders produce, shrink considerably less in dressing than do the bacon type, such as Fig. I. represents, and which dressed out about 62 per cent., while thick, fat hogs will yield over 70 per cent. of meat and lard.

Live hogs are received at the stock yards adjoining the works every day except Sundays, both by farmers' wagons and by cars. They are run into the large, airy pens and yards, into which streams of cold spring water are running from pipes to cool the animals and provide them drink. They are not given any feed, so that they are in good condition for killing by the following morning. Killing and dressing is an expeditious operation and is much the same in all modern packing establishments. The pigs are driven in bunches into a pen close by the hoist, which pulls them up. They are caught by a chain, which draws tightly around one hind leg, and elevated a few feet, when the fatal stab is given. They are then elevated to an iron track which passes over the scalding-tank. Usually a dozen or more are hanging between the sticker and the tank, so that they are always dead by the time they are plunged into the scalding water. In this they are rolled, aired and turned, and pass out at the other end of the tank. They are then passed through a scraping machine,

which removes most of the hair. They are next slid along a table between two rows of men, who remove the remaining hair, and are then elevated and pass through a burning fiery furnace, which singes them perfectly bare, leaving them smoked and brown. They are now washed, and scraped white and clean, and pass a number of hands with knives, who remove the head, internals, etc., and are split down ready for the cooling room, into which they pass until the next day or the following one. This department, as well as the curing rooms, is kept at as near 40 degrees as possible by means of an ammonia refrigerating system. The refrigerating compartments have a very large area, sufficient to accommodate about three weeks' killing, as that is the time required for curing the meat. While in the curing process the sides are piled in layers, each covered with salt and saltpeter. The layers are piled about three and a half feet high, firmly packed together. After it is cured it is shipped in sides or cuts of various brands. Certain grades and forms of hams, bellies, backs, rolls and shoulders are smoked. The bulk of the bacon made by this company is sent to Liverpool and London mostly in the form of singed sides or Wiltshire cut, and the heavier class of bacon and other cuts are mostly sold here to the local trade. All cuts are deeply branded "Beaver Dairy-Fed Brand" with a burning brand about six inches in diameter. The various markets are intelligently studied, as are also the different qualities and cuts of pigs, and each dealt with to the best advantage. Everything that will make fancy meat is turned in that direction, and what will not is disposed of to the best advantage.

The business is without doubt a complicated one, needing expert hands and careful oversight to avoid serious loss. For instance, in packing the meat in boxes to ship care must be exercised lest a bruised portion should go in with the first grade. Just here it might be stated that serious loss is involved by shippers and others handling the pigs roughly with clubs and other missiles. Sometimes as high as five per cent. of a lot of gammon hocks or hams will show dark bruised spots, which have to go into another case and are sold as seconds. It is well to remember this point while shipping hogs, as losses that occur in this way must be borne by somebody, and the farmer doubtless bears his share in the price of later shipments.

Without carefully observing the disposal of the offal, we could see that nothing is allowed to waste. The blood and other offal are mixed, treated and dried for fertilizer. When finished it consists of a fine brown powder, containing a high per cent. of nitrogenous matter. We also observed that this company are enlarging and improving their extensive plant. At the time of our visit a large cold storage room was being fitted up especially for the curing of hams, and other improvements were going forward in various branches of the works.

Danish Methods in Bacon Production.

Danish bacon, like Danish butter, has been held up for years as being equal to the best in the world, barring that from Ireland. In 1880, Danish bacon sold in England for nearly \$4 per hundred less than Irish. To-day it sells at a price little below the Irish, and over a million and a quarter hogs annually are produced. The increase in bacon output to England has been enormous—from about 17,000 hogs in 1882 to nearly \$14,000,000 worth in 1897, while Canada sends less than \$6,000,000 worth. The improvement in quality created the demand and caused the advance in price, and strict supervision of breeding and feeding has kept up the standard of the rapidly increasing numbers.

The Canadian Packing Co., of London, Ont., is conducted on as nearly strictly Danish lines as the character of the pigs secured will allow, but they complain of too many stout, lardy hogs, and too few of the long, lean, deep-sided, thick-bellied sort which brings the most money to the country. Mr. J. H. Ginge, manager of the above company, was for years in close contact with the Danish bacon industry and has furnished the FARMER'S ADVOCATE with data as to their methods. Danish farmers select long, lean sows from the best mothers, more especially of white color. Pork-packing corporations bring in the right sort of boars, which are usually of the Middle White English Yorkshire breed, as these, he says, produce the best English bacon. Satisfactory sires and dams are retained in the breeding herd for years, but inbreeding is never tolerated. The finest Danish bacon is made by feeding the right sort of pigs on barley, rye, wheat and peas, along with boiled potatoes, raw turnips cut fine, skimmed milk, buttermilk or whey, and grass in summer instead of the roots. The young pigs are allowed to run out and grow without putting on much fat from the time they are weaned till within six or eight weeks from the time they are to go out finished. A finished Danish bacon pig ranges from 180 to 220 pounds live weight. It is a long, lean hog, with plump, well-developed hams; thick, straight belly, and fat on back not exceeding one and a half inches thick. The Danish pigs are raised largely on dairy farms, but many small lots are raised and fed by peasants or laboring men. As a rule the grain feed is ground and soaked over night, mixed with other foods and given to the hogs when on the point of turning sour. The pigs are kept clean and comfortable and are not fed more than is eaten up clean at one meal.

Mr. Ginge is convinced that if Canadian farmers