

and swine, but more expensive to raise than mangels or turnips. Feed raw to swine. Cost, \$3.00 per ton or more.

Turnips.—Highly commendable for young stock, beef cattle and sheep. Not generally recommended for dairy cattle, on account of flavor. Not suitable for pigs unless cooked. Not very well liked by horses. Cost, \$2.00 to \$3.00 per ton.

Carrots.—Good for all classes of stock. Best horse root. Particularly good for dairy cows, good for swine. Cost, \$2.00 to \$3.00 per ton.

Apples.—Liked by all classes of stock. Must be fed in moderation to insure good results.

Pumpkins.—Good dairy-cow food. Fine for pigs, especially if cooked. Can be raised for about \$2.00 per ton.

CONCENTRATES.

Wheat.—Good for all classes of stock; most suitable for hogs and hens; horses like it, however, and cattle do well on it. Better to mix ground oats or bran along if for cattle or horses. Add shorts or barley when fed to pigs.

Barley.—Rather constipating grain; good for pork and beef production, as well as for dairy cows. Small amounts boiled, particularly good for horses; best fed along with bran or oats. One of the most valuable cereals for all classes of stock. Should be finely ground for cattle and swine; whole for horses.

Oats.—Supposed to be best horse feed known; best when fed whole. Good for cattle, but generally too expensive. Serves a useful purpose as opener for more concentrated feeds, as barley, corn, wheat, rye, etc.

Peas.—Highly nutritious; very valuable for cattle, swine and sheep. Must be fed in moderation. Should never constitute more than one-half of meal ration. Peas, oats and barley, equal parts, make up a meal ration hard to beat for effectiveness, palatability, wholesomeness and, not infrequently, cheapness for all classes of live stock save horses.

Corn.—Excellent feed for all classes of stock, but should be fed with moderation or mixed with other grains, except possibly in the case of steers. Small amounts, fed whole, or cracked, along with other grain, suitable for sheep and young swine. Suitable for horses; add some bran. Good for milch cows, especially for such as are receiving clover hay, cotton-seed meal, in any considerable quantities.

Buckwheat.—Good swine feed; excellent for poultry; good milk-producing feed.

Rye.—Good for swine when fed in moderation along with other meals, such as peas and barley.

Wheat Bran.—A healthful, nutritious, palatable feed, of a laxative character. Particularly valuable where no succulent food is available. Equal to oats for horses when it does not constitute more than one-half the meal ration and is fed dry. Excellent for dairy cattle, beef-production, and growing stock of any kind, save young pigs. A superior food for early or initial feeding of any class of animal it is intended to feed heavily later on.

Shorts.—As sold on Canadian markets at present, hardly distinguishable from bran; more suitable for swine.

Oil-cake Meal.—Probably the best and safest meal to feed cattle. Perfectly wholesome, highly nutritious, and very palatable, it is nearly ideal as a concentrate. Very valuable for dairy cows, as it is rich in protein. Renders butter soft. Highly to be commended as a feed for steers, especially in the finishing-off period. Valuable for sheep, especially in "nut" form. Useful for swine, in moderation.

Cotton-seed Meal.—A feed not very extensively fed in Canada; very valuable for heavy-milking cows, but must be fed in moderation. Hardens butter.

Flaxseed Meal, or Whole Flax.—Very valuable for calves on skim milk. Likewise good for young, newly-weaned pigs. Good for horses when fed in small quantities; laxative, palatable, highly nutritious.

Buckwheat Bran or Middlings.—Good cow feed. Has given excellent results in New Brunswick.

Brewers' Grain.—Good cow feed, but must be fed in moderation.

Malt Sprouts.—Good for dairy cattle.

OIL MEAL THE CHEAPEST SOURCE OF PROTEIN

Editor "The Farmer's Advocate":

Many of your readers are interested in the feed problem this year. Hereabouts all surplus grain and much hay and straw will be sold at the tempting prices now prevailing; and all kinds of stock not easily disposed of will be put on rather short rations for the winter. Fortunately, stock cannot be got rid of suddenly, and farmers will be forced to put their thinking caps on in order to meet successfully the somewhat unusual conditions of the season.

Personally, I feel more than anything else the scarcity of straw. I find it difficult to get enough for bedding. All straw, except that used for bedding pigs, goes through the mangers first, and the best of it is picked out by the cattle and horses. Fortunately, my root crop, of turnips and mangels, was fairly good

(saved, I think, by a thorough scuffling just after a thunderstorm, about August 1st); and I have seven acres of moderately good corn ensiled. Realizing some weeks ago how expensive it would be to feed oats, bran and the like, I bought three tons of oil cake meal at \$30 per ton. I have also some mixed oats and barley, with a little goose wheat and flaxseed intermixed; this I shall have chopped, and feed it to horses and pigs, and to calves that are getting skim milk. The milch cows are getting oil-cake meal (about two quarts per day) and a little bran. I may use also a little mixed chop. The young stock are getting silage or turnips, hay and oat straw, and a little oil-cake meal. Oil-cake meal contains thirty-odd per cent. of protein, and at \$30 per ton is, I think, very much the cheapest source of protein available this year. I have been surprised to find so few farmers making use of it. It seems as though it was not known as a general stock food. Some farmers I spoke to intimated that they sometimes fed it boiled to calves, but it seems never to have occurred to them that it might be used to replace oats. Three years ago I used it almost exclusively as a concentrate with corn silage for milch cows, and never had them do better. This year I am not cutting any of my straw, as I must use some for litter, and find it economy to have all the straw picked over.

Brant Co., Ont.

W. C. GOOD.

LIVE-STOCK MARKET PREFERENCES AND TENDENCIES.

By D. E. Smith.

The live-stock industry in America stands out prominently as one of the great wealth-producing agencies, and as such is worthy our earnest consideration. Furthermore, it might be mentioned, in passing, that the flesh-consuming nations of the world in ancient and modern times have taken a foremost part in promoting the highest type of civilization.

Chicago, situated in the corn belt of the West, lies in close proximity to those States that are so admirably equipped to supply cattle, hogs and sheep for her market.

It may be assumed as a safe guide that whatsoever class of stock proves most profitable and is in most demand on the Chicago market, will naturally, in a less degree, hold the same place in smaller markets. With these facts in view, we wish to discuss this question, knowing at the same time that local and climatic differences have an effect upon the class of stock required.

Then, turning back to the earliest period of the marketable existence of cattle, we find that calves, in good condition, weighing from 130 to 150 pounds, are most in demand here the year round, and command the best prices. Quality and breed can scarcely be considered as a factor at this undeveloped stage.

Next in order, we come to the production of what is popularly called "baby beef." The purchaser and consumer, each from his own standpoint, claims that this is the best and most profitable kind of meat. There is included in this class heifers and steers that range in weight from 600 to 900 pounds. Some place the weight even higher, but of late years there has been a tendency to lower the weight. The better the quality, and the more thoroughly fattened, the more profitable they are. Buyers on the Chicago market are always eager to obtain this kind, and are willing to pay the price. The feeders of this class of stock reap results adequate with the care and ability that they have used in preparing them for the market. The short period of feeding, the necessarily small ration, and the universally high price obtained, indicate positively that they are the best money-makers. It is well to remark here that the scientific feeder can show his skill in feeding for fatness combined with growth. It requires a balanced ration skilfully and intelligently handled to obtain the best results, and economy is only found in giving cattle all they will consume. The demand for baby beef is on the increase, and no doubt it will continue to grow in favor.

The yearlings are the next grade heavier, and are often classed as baby beef. Their beef is tender, sweet, juicy, and convenient to handle. Roasts and steaks meet the requirements of small families, and have become very popular. On the other hand, the producer realizes that well-bred cattle, fed full rations a limited period, bring the most satisfactory results and the most money. Quality becomes a very strong factor in this class; in fact, we cannot too strongly emphasize the importance of quality and thorough fatness in these two classes.

Two-year-olds are the most numerous class that comes to this market. The demand for these is wider and more universal. There is a large home consumption all over the country, and also a good export trade. A very noticeable feature of this class is the large percentage of half-fattened cattle, and these often of inferior quality. Whenever there is a very large run, this class suffers first and most; in fact, with these there are more and heavier losses than all other classes together. Inferior quality is always objectionable in the eyes of the buyer; then, if you add that they are only half fattened, you have a

very undesirable kind, and difficult to sell. The causes that produce such results are not hard to find. Inferior males will account for a large percentage of bad steers, and premature marketing, indifference in care and want of knowledge in feeding will show why they are not fat. Fewer cattle, well fed, would prove more profitable. Steers that have reached the third or fourth year are most easily fattened, as they have finished their growth. These have gradually become fewer each year. They may prove profitable to the feeder, but never to the man who raises them. If thoroughly well fattened, they will bring the top prices on this market. This is due to the very strong demand for a limited number of very heavy cattle. There are very few that come to this market, and the tendency is more to early maturity.

The practical deductions suggested are: Breed up stock by using a better class of males. This will improve the quality. Feed liberally an even, balanced ration, and put on the market as soon as they are thoroughly fattened. Quality, early maturity and fatness always prove the most profitable.

[Note.—Mr. Smith is a well-known Canadian, who has had 10 years' experience in the Union Stock-yards trade, so that he speaks with authority.—Editor.]

HOW THE SWEEPSTAKES LOT OF CATTLE WERE FED.

Editor "The Farmer's Advocate":

It is with pleasure I answer your favor of the 13th, regarding my load of export cattle, which won first-prize and sweepstakes at the Toronto Junction annual show of fat stock. These cattle were a load of three-year-old Shorthorns. I bought them the last of August, and put them on my own grass. I might just say here that I purchased 90 export cattle from one man, and I picked those 16 out of a bunch of 50 that were in one field, not selecting any from the other 40, as I considered them not quite so good a quality. Now, I started feeding those 16 cattle grain on the grass about the first week in October, and did not stable them until 6th of November. I could not tell you just what they weighed when I bought them in, as I bought them by the dollars, but they weighed, going into the stable, 1,530 pounds each. Their feed, while in stable, consisted of cut sheaf oats twice a day, with a gallon of chop (peas and oats mixed) sprinkled on the cut-sheaf oats, and a feed of clover hay at noon. They got no roots, as ours were a failure this year. I shipped December 7th, and they weighed 1,630 pounds (a gain of 100 pounds each). Of course, they were fed and watered the morning I shipped them to Toronto Junction, and had only a few rods to walk from the barn to the scales, so it would not be fair to figure on that gain; but, under usual circumstances, without water, I think I would be safe in saying they gave me 70 pounds each of a gain. I have had one load of export cattle gain, while feeding meal on the grass, 100 pounds each in 31 days. The grass was good, and the meal consisted of one-half gallon of bran to one gallon whole oats, three times per day. Those 16 cattle in question were considered a very good lot, having won first prize in the export class, and sweepstakes over all classes. They were bought by the firm of Maybee, Wilson & Hall, and shipped to Bermuda Islands for butchering purposes.

I am a constant reader of "The Farmer's Advocate and Home Magazine." I feed from 40 to 58 cattle every winter, and would be pleased to let you know how we are doing at any time.

Bruce Co., Ont.

A. S. WALKER.

ANOTHER FARMER'S VIEWS ON THE HOG QUESTION.

Editor "The Farmer's Advocate":

Reading the articles in the newspapers and "The Farmer's Advocate" on the hog problem, one would naturally think there was a profit on hogs at four and a half cents per pound. There are few who would dispute the fact when they are fed at the Experimental Farm on a test. Those feeding trials are all very well, but it is not what we are after. It is the farmers that produce the hogs of this country, and not Experimental Farms, and it is how cheaply can the farmer produce them? Where there is one man on a 100-acre farm, with the exception of a couple of months in haying and harvest, they do not get the same attention. We don't dispute that the different rations fed to the hogs in the test are far superior to what the farmers have to feed. How many of them have the bran, shorts, middlings and skim milk? Where farmers go into mixed farming, the skim milk that they have around during the year the calves consume. Suppose you sell barley or oats, and get docked on the test two or three pounds on the bushel, which means two or three cents on the bushel, and buy the shorts and bran, and drive from seven to twelve miles to do so, and a dollar for expenses,