

factories running. The only way to increase our bacon trade is to keep these factories running at their full capacity, and set the idle ones going. It is, to my mind, the rushing in headlong at high-tide in prices, and dropping out when prices drop, that has much to do with the rise and fall of the markets. What we need to do is for every farmer, as far as possible, to go (moderately, shall I say) in the hog business, and go in to stay. We are practically obliged to stay in the dairy and beef business, because it is not easy to drop out and in, and the man who stays by his job through a depression is there ready to receive the reward of his faithfulness when the advance comes. We certainly should, as J. R. H. says, keep a regular account of receipts and expenses, and by careful attention to the details, by intelligent selection and breeding, and by persistently endeavoring to meet the requirements of the packers and the markets, we shall be able to secure and hold our proper place in the British markets. It appears to me that now is our opportune time to make a united and determined effort to obtain and to retain a still better position in that market. I have some fears that the very remunerative prices of the past season and the present outlook may induce many to go too heavily into the business now. There is not the slightest danger of overproduction, if we increase our output gradually, and stay persistently in the business. Like J. R. H., I believe the hog is a money-maker if properly managed, and that the fault or failure to do so is the man's and not the hog's. J. G. FOSTER.
Ontario Co., Ont.

What is Wrong with the Hog Business?

Editor "The Farmer's Advocate":
I take much pleasure in reading your valuable paper, which is becoming better every week. The reason, I think, is because you are getting practice instead of theory. Amongst other things, there has been a lot of articles lately on the hog question, on which I would like to give you a few facts which I have learned from experience. To my mind, after reading the articles from packers and farmers, the whole trouble is the fact that too many farmers run in and out of the business. When they think hogs will be dear they go in strong, and then when they are going to come down they sell off their sows. My plan is this: Just make a study how many brood sows can I keep on my farm; that is, to feed all their progeny, and stay right with it. I formerly farmed two hundred acres, and I kept four brood sows. I do not figure on buying shorts or other feed; in fact, this is the first season in fourteen years that I have bought any grain to feed. Of course, our oats were not as good last year as usual. For the last two years I have been farming only one hundred acres. I keep two brood sows. Now, to my mind, there is no kind of stock you can go along with more regularly than hogs, if you take proper care of them, though, of course, you will meet with losses in anything. My average has been from eight to nine living pigs per litter. For two years in succession I kept account of total cost of feed, and I put it at 4½ cents per pound. I see an article in "The Farmer's Advocate" claiming that the difference between the total cost of the hog and what you get for him was all your profit; but, to my mind, if you grow the hog and all you feed him on the farm, with the exception of a few expenses, he is all profit. In this section of the country we are very heavily engaged in dairying, and from what I can learn, farmers sending milk to a cheese factory in summer, and to a creamery in winter, and keeping as many hogs as can be fed, are doing well, and I do not know of any other line of farming in Western Ontario that is paying better.

I will give you a few hints on my system. As to breeds, I do not believe all the good qualities are in any one breed; I have tried them all. It costs very little to change a brood sow. I believe you can produce the ideal bacon hog as cheaply as any of them. Of course, you can feed a short hog the cheapest, but you have got to be more careful, or he will go off his feed. What I dislike to see is one sitting back in the corner and not taking any breakfast; I would rather hear him squeal for his food. I like my sows to farrow in January and July. Be careful how you feed sows in winter. Feed ensilage, roots, and a small quantity of grain, give plenty of exercise, and feed a small amount of salt. Have your pigs eating well before weaning. Feed oats ground fine and steamed for first month, mixed with whey or milk; then, as they grow older, feed more strong grain. I think I can feed more cheaply in house all the year round, but, of course, they need some exercise. I have lately kept the Improved Yorkshires, as they seem to stand heavy feeding, with little exercise, better than the short hog.

FARMER FROM ELMA.

I send you enclosed my renewal to your paper, also two new subscribers, for which you will send your paper for the year 1906. I have taken your paper for a number of years, and am well pleased with it; more so since it became a weekly.
Renew Co., Ont. J. T. ANDREWS.

Interesting Experiment in Feeding Cross-bred Bacon Hogs.

Editor "The Farmer's Advocate":

As requested, we have got the cost of Essex grades figured out, and also sale of same, which I trust will be satisfactory to you. You will observe that the pigs were weaned at six weeks old, which is younger than we generally wean them, the reason being that we lost an Essex sow with a litter of ten at three weeks old, by eating too much corn at the cutting-box when filling our silo. We put the young pigs on the sow that had the cross-breds, and she raised them well. This experiment has convinced me that by crossing our finer breed of sows with a pure-bred Yorkshire boar, you will get pigs that can be put on market at eight months old by feeding them cheaply, say on grass in summer or roots in winter. Those pigs did not get many roots, on account of feeding so much milk and house slops, as I wanted them up to the weights for the Ottawa Show in March. When they were getting nothing but milk and grass in October, and on into November, they kept plump and fleshy, while the Yorkshires got lanky and thin looking; the cross-breds would not have stood two more weeks heavy feeding, as they would have got too fat. As it was, I had to order a halt in grain feeding the last ten days; one of them was a little too rich when dressed, and that was what put the first-prize pen alive back to third dressed.

Experiment with six pigs out of a litter of eleven, the produce of an Essex pure-bred sow, and sired by a pure-bred Yorkshire boar: Farrowed Sept. 3rd, 1905; weaned October 14th, 1905. Those six pigs got 20 quarts of milk per day from the separator when warm for one month, to Nov. 15th. From Nov. 15th, same quantity of milk, and from 6 lbs. to 10 lbs. chopped oats at noon, with buttermilk and dish-washing swill, until 15th December, 240 lbs.; the same quantity of separator milk was fed morning and night, with buttermilk and dish-washings at noon, throughout the test, with water added, from Dec. 15th to Jan. 15th, 10 to 20 lbs.; oat and barley chop per day, 450 lbs.; 15th Jan. to Feb. 1st, average 30 lbs. per day, 450 lbs.; Feb. 1st, half peas, other half barley and oats, from 30 lbs. per day to 70 lbs. per day, total 1,500 lbs.; total grain consumed:

2,640 lbs., at \$1.10 per cwt.....	\$29 04
2,750 lbs. separator milk, at 1c. per qt....	27 60
3 pairs pigs, value \$5 per pair.....	15 00
	\$71 64

These pigs were fed for the Ottawa Fat-stock Show, March 5-9. They weighed 1,185 lbs. alive, (at 7c. market price, \$82.95) without feed that morning; they dressed 930 lbs. (payable at the Ottawa Fair); the first-prize pair at \$9.60, the other at \$9.50—\$90.74; and the three heaviest took first prize alive, the three lightest fourth prize. When slaughtered the three lightest took first prize dressed, and the three heaviest took third prize dressed. If the three lightest, that took first prize dressed, had been thirty pounds heavier, they would have beat my pen of three pure-breds, that were first in the pure-bred class, and sweepstakes over all breeds or grades. It will be observed that these pigs cost about six cents per pound live weight, as nearly half of their cost is charged for the skim milk they were fed, and they had to be forced the last month to get the required weight for show purposes. It will also be noticed that if they had been sold alive at market price, which was seven cents that week in Toronto, they would have realized \$82.95; or if they had been sold in Toronto at \$8.75 per cwt. dressed, they would have brought \$81.37, while they were sold in Ottawa for \$90.74.

We also conducted an experiment with a bunch of pure-bred Yorkshires, which cost fifty cents per head more to obtain the same results.

The cross-breds kept the lead when on light feeding; the pure-bred Yorkshires gained much faster when more heavily fed, although they had two weeks more time than the cross-breds to get the same weight.
Peel Co., Ont. JOSEPH FEATHERSTON & SON.

Hog Pasture.

Sufficient good pasture is always necessary to successful swine-raising. Small pasture-lots are not profitable unless enough in number to change from one to another to allow regrowing. But the cost of fence generally overbalances the profit. It is generally claimed that one acre of a good stand of red clover will pasture ten hogs during the season, but my experience shows that this is not a safe rule to follow, for much depends upon the season. Red clover stands at the head of hog pastures, except where alfalfa will grow. But it takes nearly two years for alfalfa to become well established, and when established, it should remain for several years, thus interfering with crop rotation that is so desirable in feeding the soil or keeping up its fertility.

The time to prepare for hog pasture is a year before it will be needed, especially if seeding to clover to be retained for two or three years, for two reasons: First, if the first season should prove to be wet, the tramping by pigs would probably destroy the plant. The writer once sowed a field to winter rye in the fall. The next spring the rye was gone over with a slant-tooth harrow, and it was seeded with ten quarts of red

clover to the acre, and given two more harrowings. On May 15th I turned in fifteen sows with their pigs, 120 all told. The season was favorable, and the rye furnished abundant pasture, and there was a fine stand of clover. But it was necessary to change pasture in August, or the hogs would have destroyed the clover. As it was, I had the finest clover pasture for two years. But in another instance the season was wet, and the tramping of the hogs destroyed the clover. In this case we should not have pastured the rye, but harvested it instead, as there was a good stand of clover soon after seeding. One must put on his thinking cap under such conditions. Timothy makes a poor hog pasture. The oat stubble will give the most pasture for the present season, if sown to Dwarf Essex rape. If sown broadcast, use five pounds to the acre. If you can divide the field with a low, movable wire hog fence, so as to give the rape, when partly eaten down, a chance to regrow, it will be better. Don't turn hogs into rape until it is ten to twelve inches high. You may, as an experiment, sow four quarts of clover to the acre with the rape; but do not sow rape until there seems to be no danger of hard frosts. Kentucky blue grass furnishes a desirable pasture for sows and their litters in April, May and part of June, and also in the fall months, if parts of the farm that are not cultivated, such as timber-lots or creek-bottoms, are seeded with it. But to get quick and temporary pasture, rye and oats, or oats and barley, sown together, answers well. One acre will pasture 30 fall pigs for several days.

When there is no longer danger of killing frost, sow a couple of acres of Dwarf Essex rape. By May 25th they will pasture 30 fall pigs and some sows with their litters, especially if one has movable wire fence, so as to change pasture and allow regrowing. The use of such fences has brought about the possibility of great economy and profit, and they will last, with reasonable care, half a man's lifetime.

In regard to artichokes, prepare the land as for potatoes, mark the rows 3 feet apart, and 3 inches deep at least; drop the bulbs two feet apart, cover, and cultivate as for potatoes. In October turn hogs in, or dig them yourself; but they will throw out roots in every direction, filling the ground with small bulbs. They will not winter-kill. The next year the artichokes will grow as thickly as ragweeds. If hogs harvest them, the land should be smoothed over as soon as they are taken out, and then cultivated as before. All successive crops will be of small tubers, and to exterminate them will take several years. The writer's experience with them moves him to advise going slow in the planting of artichokes. I have known them to become as much of a pest as what are known as wild artichokes.
Fulton Co., N. Y. J. P. FLETCHER.

THE FARM.

Crucial Points in Road Construction.

Editor "The Farmer's Advocate":

Regarding the roads of the Province, I am glad to know that you desire to keep the question before your readers. Railways, lake and ocean shipping are doing much for the Province, but there is no public work of more importance than the construction of good country roads. They are costly, they require skill to build, and constant care to maintain. Without good roads agricultural progress is impossible.

The past season has been exceptionally injurious to the roads of the Province. Ordinarily, the roads during the winter are frozen continuously, and are protected by snow for a considerable period. The extremely mild weather, with alternate conditions of frost, thaw and slush, have worked havoc with the roads, and from every quarter come complaints of their exceedingly bad condition. Earth roads are, in many districts, almost impassable, and gravel and stone roads have been greatly cut up.

Such a winter as the past one must always be a severe test on even the best of macadam and gravel roads. It will always permit a good deal of surface rutting and cutting. Where the injury goes deeper than this it ordinarily proclaims the need of better drainage.

Drainage is the first essential of a good road. Wherever water stands on or under the roads the frost will do its work of heaving and softening. If there were no water in the road, the frost would have no effect, and there would be no "breaking-up" process in time of thaw.

The need of surface drainage is understood by all, but on very few of the country roads is it provided in a reasonable manner. Drains are dug, it is true, by the roadside, but they are seldom graded to a proper outlet. A drain without an outlet is useless. There should be no hollows and pockets in the drain to hold water, but it should have a continuous fall to a natural water-course. In grading the roads and in making the drains, look, in the first place, for the drainage outlets. When these are determined, grade the knolls and hollows so that there will be a constant fall to