

have time to accustom themselves to the dry feed before there is a total secession of the more succulent feed of the pasture. But the brood mare, the colt and the young animals should receive particular attention at this time. If the mare has raised a colt during the summer she is probably reduced in flesh and in just that condition when she should receive good and careful feeding. The best time to begin this feeding is a little before the colt is weaned, when she should be given a small quantity of crushed oats and bran; but unless compelled to work no large quantity should be given until she has dried up her milk. By feeding her while the colt is with her the colt is taught to eat grain too, as he will pick a little out of his mother's dish. After weaning the mare should be stabled at night and milked night and morning. The dry feed will help very much in drying her off. The most critical period of a horse's life begins with his weaning and lasts through his first year. Up to the time of his weaning he has learned to eat a little grass, but has depended almost entirely upon his mother for support; but now all is changed. He should be allowed a good roomy box stall with yard attached, and given some fine sweet hay and a quart of crushed oats and bran night and morning. The object now is to keep him growing as fast as possible, and this he will not do unless in good health. Some succulent food, such as roots, should be given at noon to keep his bowels in good order.

During the fall milch cows will be getting some supplementary green food. As soon as the nights begin to get cool they should be stabled, and as the green food begins to run short it should be gradually replaced by dry food. If ensilage is used the change will not be very great, but full feeds should not be given at first. Steers that are to be fattened during the winter should receive special attention. If they have had good pasture during the summer they should be half fat by fall. They should then be given the run of the best grass to be had, and as cold or stormy weather approaches they should be stabled at night and given a feed of hay or grain. On many of our best farms now calves are not allowed to run out at all during their first year, and in such cases no great change from the ordinary feeding will be made; but if they have been on pasture they should be got in early. They may be allowed to run out during the day, but should be stabled at night and given some grain and what hay they will eat.

Sheep will find their own living much later in the season than any other animal, but they should not be allowed to lie out during the cold rains of fall. It will be found a good practice to house them at night. Lambs that are to be kept for breeding purposes should be separated from the ewes and given some clover hay. As they are gradually withdrawn from the pasture, roots and a little grain should be added to their ration. Breeding stock will do very well if given a little coarse fodder, such as pea straw, to pick. That and clover hay, with a few roots, will be enough for them until about a month before lambing, when they should gradually be given a little grain.

Antigonish Co., N. S. "AGRICOLA."

## FARM.

### What Farm Power Shall We Purchase?

In a country where land is expensive, farms not large, and stock-raising the principal line of agriculture, it has long since been learned that it pays to use considerable machinery in the preparation of stock food. For instance, fodder has to be cut, grain threshed and crushed, roots pulped, water pumped, and various other jobs done, such as turning the grindstone, separating milk, etc. To do these lines of work various sorts of power are in favor by different persons according to circumstances. In going among the various stockmen, as it is our privilege from time to time, we have good opportunity of seeing all the popular powers in operation, and so far as our observation directs, we are free to admit that from among the various perfected powers of the present day it would be difficult to decide which would be best to purchase for the work of food preparation, etc., on an ordinary stock farm. We believe, too, there are scores of our readers who intend to purchase some sort of power. In order to help those to decide, we herewith publish a number of letters from reliable farmers, setting forth their views regarding the actual working of various sorts of power, after considerable experience. We publish them as they have been received, and will cheerfully give place to the experience of others who will kindly endeavor to assist brother farmers in this and other matters. Time is too short and experiments are too expensive for every man to find out for himself the various advantages and disadvantages of doing a great deal that has to be done at considerable cost on every farm. We are pleased to occupy the position of collector and dispenser of practical experience, in order that all may be profited in the interchange of ideas and experiences.

### Good for Every Farm.

JOSEPH BENOIT, Essex Co., Ont.:—"I am glad to tell you that I am very satisfied with the FARMER'S ADVOCATE. Every farmer should read it."

### Gasoline Engines Best for Heavy Work.

To the Editor FARMER'S ADVOCATE:

SIR,—We have used a gasoline engine for three or four years for all kinds of work about the Experiment Station, and it has given good satisfaction. The retail price of our machine at that time, the Otto Gasoline Engine, was \$1,500, including freight. We have used this machine for threshing, grinding, ensilage cutting, and wood sawing. We have probably had an expenditure of \$20 in repairs in four years. The cost per day for gasoline is about the cost of a gallon for each horse power. If we run the feed cutter that requires three-horse power, it would require three gallons of gasoline; in running a threshing machine which would require ten-horse power, ten gallons of gasoline would be needed. Gasoline costs us from 6c. to 10c. per gallon.

For ordinary farm purposes an engine not loaded too heavily ought to last from ten to twenty years, certainly longer than a steam engine. We have had a little trouble in getting the engine started sometimes owing to difficulty with dry batteries. With a battery properly arranged there is no difficulty whatever in this respect. Manufacturers are perfecting their manner of starting the engine with an electric spark in a way that I feel sure is not at all against the engine as now built. We have had some trouble in running the engine at a low temperature. Running outdoors when the thermometer registers below 15° or 20° is not a success. We have run the engine at 30° below zero by first warming it with hot water before starting.

The gasoline engine for our use here at the University Farm is, in our estimation, far ahead of anything that we could put in its place. It is a portable engine, and can be taken to any point where we need it, in the barn or around the farm. It does not wait for the wind to blow; we do not need to have a man stand for two or three hours firing up, as it can be started in from ten to twenty minutes at any time. It is much steadier and more satisfactory than tread power, and if it were not for the high first cost of the machine it would be indispensable on any large farm. Whether a small gasoline engine would take the place of the one- to three-horse tread power is doubtful. Where the gasoline engine cannot be afforded because there is not enough work to warrant it, the windmill will, of course, find its proper place, as will also the tread power, and in some cases the sweep power. For all heavier work the gasoline engine seems destined to displace steam engines on the large farms.

W. M. HAYS, Agriculturist, University of Minnesota, St. Anthony Park, Minn.

[NOTE.—The gasoline engines manufactured in Toronto and advertised in the FARMER'S ADVOCATE are very much cheaper and more modern than the machine described by Prof. Hays. One-horse power sells for \$136; twenty-horse power for \$765, and intermediate power at a corresponding price. They can be started in a few seconds.—ED. F. A.]

### Agreeably Disappointed With Windmill.

To the Editor FARMER'S ADVOCATE:

SIR,—My experience with windmill power leads me to say that I cannot sound its praises loud enough. Two years ago I purchased an "Ideal" windmill, manufactured by Gould, Shapley & Muir Co., Brantford. It cost me \$230, but, of course, I received in addition to the windmill a Maple Leaf chopper, two pumps, a tank, a quantity of piping, etc. I believe they are now some \$20 cheaper, but since that time it has cost me nothing for repairs, nor is there any sign of wear other than that of any ordinary machinery that had run for the same length of time. We pump all the water required for house and incidental use in addition to supplying 24 head of cattle, an average of 25 pigs the year around, and horses, etc., requisite for use on a hundred and fifty acre farm, and we have never yet had the tank into which the water is forced for distribution and emergencies so low that we had to resort to any other means of watering the stock; in fact, if there is enough wind to rustle the leaves on the trees there is enough to pump with the mill.

Besides this, during the winter we cut all our straw and cornstalks, chop from 600 to 800 bushels of grain, pulp from 2,500 to 3,000 bushels of roots, saw our firewood, churn, turn the grindstone, or drive any machinery that can be driven by a revolving motion, excepting the fanning-mill, which requires a very even motion that is not given by the mill on all occasions, although on some days even this would be accomplished perfectly. All of the lighter work can be done at almost any period of the day, as far as the wind is concerned, but the chopping and cutting requires more power, yet we never cut or chop more than we require for a week at a time, and have always found power enough by taking advantage of the wind to prevent us from ever running out. I believe that from fall to spring it would be impossible to find a week in which there would not at some period be power enough to do the heaviest work, and I believe by judicious management of other work the power will be waiting for you instead of you waiting for the power. The power not always being available is, I believe, the only argument that can be used against the windmill. It may convince in theory. I find the argument without foundation, as I have previously stated, in practice.

Our windmill was guaranteed four-horse power. I believe six-horse power is nearer the capacity in a fair wind, and here I might say that the even wind is far more effective than a strong hurricane,

be it ever so evenly furious. Taking everything into consideration, I have been very agreeably disappointed with mine, and consider it of inestimable value to me, because I cut more feed, pulp more roots and chop more grain than if I had to engage other power, as I had before, and the extra value in the feed, the improved condition in the stock, the handiness and saving in work are all valuable items, yet hard to give their true worth, and must, as far as I am concerned at least, be far beyond the cost of my windmill, which I consider the cheapest, most economical, and most satisfactory power for all progressive farmers in this progressive age.

THOMAS A. ALDERSON.

Wentworth Co., Ont.

### A Fourteen-Foot Windmill Gives Entire Satisfaction.

To the Editor FARMER'S ADVOCATE:

SIR,—I here endeavor to make as accurate a statement of the power and general utility of the windmill as possible. I might first mention that our mill is a fourteen-foot wheel, manufactured by the Gould, Shapley & Muir Co., Brantford, Ont. It is erected on a sixty-foot post, which passes through the roof of the barn. This one cost me one hundred and fifty-five dollars cash in 1895. I do not know whether it can be purchased any less now or not. The power of the mill varies according to the velocity of the wind. There are very few days—I scarcely remember one—when it would not pump. On a day that there is a good, fair wind it will do as much work as four horses, and with a very strong wind it will do as much as six.

I do all my own grain crushing, straw cutting, and pumping for eighteen head of horses, forty cattle and twenty-eight sheep. I also run the grindstone, fanning-mill, and intend getting a circular saw this winter. So far it has cost us nothing for repairs and is still running as well as ever. There is no power made as convenient for the farm; no moving, no setting. Anywhere you desire, the company erect a line of shafting, and all you have to do is to put on a belt and it is ready for work. I have four different lines of shafting.

Now, the only possible disappointment is no wind. When a windy day comes it is necessary that you use it. We accordingly make it a rule to use our power on these days. In my mind there is no power machine for the farmer equal to the windmill for convenience, general usefulness and economy.

JOHN GUEST,

Middlesex Co., Ont.

"Rosenau Farm."

### A Twelve-Foot Wheel Could Do a Lot More Work.

To the Editor FARMER'S ADVOCATE:

SIR,—I have used one of the Canadian Air-motors of Toronto for two years, and I am more than pleased with it. I grind all my grain, cut all my straw and cornstalks, run a root pulper, grindstone, and circular saw with a twelve-foot wheel, and could do a lot more if I had the machinery to attach. I also pump water from a well 150 feet away and elevate it into a tank in my barn, then pipe it through my stables. It has not cost me \$2.00 for repairs in the two years; in fact, I don't see where there is any expense connected with it after the first cost, only for grinding plates; and if a person cleans the grain before grinding, a pair of plates will grind 700 or 800 bushels, and they are not very expensive when needed new.

I have a sweep horse power which I have never hitched onto since I got the wind wheel, for the wheel is so much handier. I would advise any farmer wanting a power to buy a windmill. As to the cost, it varies a good deal according to what a person gets with it, the size of wheel, etc. A twelve-foot wheel, with mast grinder, would not come very expensive, and for farm use I would recommend a mast grinder. I have never had any bad disappointments since I got my mill, as I always take advantage of the windy days and get a supply of water and chop on hand. I would calculate with an ordinary wind that I get a four-horse power, but with a good stiff breeze I have done work that I could not do with less than eight horses on a horse power. I am well satisfied with my mill and outfit.

Hoping this may benefit some farmers, I remain,

Hastings Co., Ont.

O. A. HUFFMAN.

### A Three-Horse Tread Power Fills the Bill.

To the Editor FARMER'S ADVOCATE:

SIR,—I willingly give any help to any brother farmer if I can. I tried a sweep power, but discarded it on account of thawing and freezing in winter. I discarded the use of steam power on account of having too much feed cut at one time—either feast or famine. I considered wind power, but having a heavy stock and it came a few days of calm I would be out of feed, because I have windmill for pumping and a very large tank, and sometimes I have to pump by hand. So last fall I purchased from D. Thom, of Watford, a three-horse tread power and a twelve-inch ripper, setting the ripper on second floor next to drive floor, building a cheap building 12x12 feet for the tread power. We cut feed two or three times a week of corn unhusked, with oat sheaves. Two of us did all the work, as no driver is needed, and the horses are clean and dry. I think the three horses gave nearly double power over the sweep. We also successfully filled my silo with a blower this fall by this power. I have not tried the grinder yet, but believe it will