

If you have to buy feed, buy those which are rich in fertilizing material; among the richest are bran, oil cake and cotton-seed meal.

When you begin to feed fowls for market, separate them from the ones that are intended to be kept for future service, for these should not have fattening food.

In the milking stable, stretch a wire overhead in rear of the cows; then attach a sliding hook to this to hang the lantern on. Never set it on the floor, where it is liable to be overturned, and is always a source of danger.

The Thirty-ninth Volume of the Shorthorn Herd Book of Great Britain has been published, and by the number of entries shows that the interest in Shorthorn breeding is not diminishing in the least. Besides the usual number of females, the Volume contains the pedigrees of 1475 bulls.

The Ohio Farmer reports an experiment in which wheat was fed to hogs; when fat they were sold at \$5.40. The price realized for the wheat so used was ninety-four cents per bushel. The writer goes on to say:—"Now the good price is not the only benefit to be derived from this home market for the wheat, for we shall see the effects of this feeding on the next crop of corn, and of wheat and clover following. In fact, I think it will be the 'bait' that will 'trap the nitrogen' in the next crop of clover. Feeding wheat is something that we have never been in the habit of doing, and I must confess that it seems almost a sacrifice to feed it to stock; but figures tell no lies (where they are set down right), so my conscience will allow me to abide by the above figures, and I think if the farmers will all feed more wheat, that will be one good way to dispose of the surplus and again bring wheat up to a living price."

In a recent article the Monetary Times says:—"Cattle exported from Norway to Great Britain, like those of Canada, were recently under schedule, as a precaution against the admission of disease. The Board of Agriculture becoming convinced that Norwegian cattle were free from disease, the embargo against them has been removed. There is a disposition to draw from this fact the consoling hope that Canada's turn may come next. But, meanwhile, it is desirable to make the most of the situation as it exists to-day. The necessity of slaughtering Canadian cattle on arrival may not greatly lessen the number of fat animals sent over; but it does lead to the killing of cattle which are not in a condition to bring a good price for beef. The best sent over recently have been bringing only eight shillings and sixpence per stone. The loss comes in here, and is traceable to imperfect feeding. Free corn would here tell greatly in favor of the Canadian farmer. But whether it be got or not, it is obviously good policy to send over only well-fed cattle."

The following points on feeding are condensed from the experience of the Missouri Experiment Station:—

Rule 1. Feed animals as much as they can digest without injuring their health.

Rule 2. Feed a "balanced ration," i. e., one in which the composition is in proportion to their needs.

Rule 3. Food is required to maintain animal heat; save food by providing warm but ventilated shelter for your stock.

Rule 4. Stimulate the digestive capacity of your animal by a variety of food, salt, etc.

Stock foods are composed of substances usually arranged into six groups.

1. Water. The amount varies with kind of food. It is of no economic importance.

2. Ash. This is the residue left after burning away the combustible portions. It supplies the mineral ingredients to the animal body. A portion of the ash has a manurial value.

3. Protein. This is the nitrogenous portion of the food. It is used in the animal economy to form "muscle" and all other nitrogenous portions of the body; it also aids in the formation of fat. It is the most valuable ingredient.

4. Fat. This substance produces animal heat, or is stored up in the body as fat for future use. One pound of fat will produce as much heat as two and one-half pounds of carbohydrates.

5. Carbohydrates. This group includes the starches, gums, sugars, etc. They produce fat and heat.

6. Fiber. This substance has about the same composition as the carbohydrates, but it is much less digestible; it is of but little value.

Messrs. Jas. Drummond & Sons' Ayrshires.

It is a beautiful quintette of Ayrshire cattle that furnishes the subject for our front-page illustration for this issue, and whether this herd is judged by the specimens that have carried so many winnings or from the still more practical standpoint of milk and butter production at home, they are entitled to the highest encomiums that can be lavished upon them.

In the means they have taken for infusing new blood into the herd, Messrs. James Drummond & Sons appear to have followed the example of many other eminent breeders, by purchasing cows of the greatest possible excellence, from which stock bulls may be bred for use on the herd. That this is a safe practice, the success attained by many a prominent herd bred by this system has conclusively proved.

In the prize-winning group before us, the cow Viola 3rd, in the left foreground, is entitled to premier position, and to her excellence as a breeder are largely due the other good ones which bear her company. She was bred by Mr. Charles Ray, Gar-guncock, Scotland, and was imported several years ago by Mr. Drummond. Apart from her grand show yard achievements, she has produced several celebrated winners. She is a grand type of her breed, being particularly handsome, while her capacious udder and prominent milk veins show in every point a great milk producer, yet she possesses quality in a very high degree. She was placed first in her class at the late Toronto Industrial in certainly one of the strongest rings that has appeared for many years.

The cow facing her is her daughter, Viola 5th, and is very much the same pattern as her mother. The judge placed her second in the same class. Viola 5th was sired by Promotion, a bull imported by Mr. Drummond a number of years ago, and in speaking of the excellence of this bull as a breeder we call to mind the magnificent lot of cows we were shown by Mr. Drummond several years ago, which is a sight we will not soon forget. In one of his fields, some distance from the barns, there were 28 cows with grand udders, all exceedingly smooth and handsome and wonderfully uniform. The greater part of these, we were told, were daughters of Promotion.

The bull to the far left is Victor of Park Hill 5001. He was sired by Rob Roy 3971, whose sire was Promotion and dam Viola 3rd, just mentioned while Victor of Park Hill's dam was the noted cow Victoria 2931, which has a record of over 10,000 pounds of milk in the year. Victor of Park Hill is a particularly fine specimen of a dairy bull. He has great depth of forerib, immense substance, and marked character, while the fact that he won first in the strong class of bulls at the recent Industrial Show proves that he pretty nearly filled the eye of Mr. Robert Robertson, of Howick, P. Q., who tied the ribbons on that occasion.

The two-year-old heifer standing in the centre is Lillie of Hardiston 5927, sired by Rob Roy, her dam being the imported cow Lillie of Hardiston 3623, that has been quite a prize winner in years gone by. To her was given 1st prize in the two-year-old class at the late Industrial.

The yearling heifer to the right in the background is Lillie of Parkhill, which was sired by Rob Roy, and she is from the same cow as the last mentioned, viz., Imported Lillie of Hardiston. The yearling was also first in her class. Collectively the group before us won the herd prize; to them were allotted the highest honors of the show.

Messrs. Drummond & Sons have a very large and excellent herd, and have paid the strictest attention to breeding in all its details for many years. There is nothing that shows that breeders are gifted with the knowledge of their business more than bringing out a group of cattle such as these are bred from. Properly selected individuals, when properly managed, as these evidently have been, will leave their impress upon a large breeding establishment for years. That Mr. Drummond is no novice in his profession is proved by the fact that he has been successfully exhibiting for many years. Three cows bred in this herd won the silver medals at the Provincial Show at Ottawa in 1879; at Sherbrooke in 1885, besides prizes in the classes, the prize for the herd was carried by this firm.

Again, in 1888, at the Provincial Show, Mr. Drummond was again successful in winning the bronze medal in the milking competition, while in the same year they gained the herd prize both at Montreal and at Ottawa.

In 1889 this firm won the herd prizes on four different occasions, viz., at the Toronto Industrial, Hamilton, Kingston and Ottawa Exhibitions. The herd has now been established for twenty-five years.

The Messrs. Drummond's farm is situated about four miles north of Montreal, and comprises three hundred acres of the best possible soil. The fields are fenced with neatly built stone walls, while the farming operations are carried on in the most approved style.

The New Forage Plant, *Lathyrus Sylvestris*.

Farmers are always on the alert for something new, and as the most extravagant claims have been made for this new forage plant, *Lathyrus Sylvestris*, or as it is more commonly known, the everlasting or flat pea, the results of experiments conducted at the experimental stations will remove false impressions, and give an idea of the true character of this plant.

Prof. Georgeson, of the Kansas Station, after trying in vain to grow it from imported seed, tried it for a third time last year, obtaining plants from the station in Georgia. About ten per cent. of them managed to live through the summer, but this spring he failed to find a single plant. His opinion is that if we could obtain a stand as readily as is obtained of clover or alfalfa, he says he has little doubt that it would be a useful addition to our list of forage plants, but it should be borne in mind that, like all new things, it is lauded to the skies, and impossible claims are made for it. Upon examination it will be found that these claims emanate chiefly from seedsmen who realize large profits from the sale of the seed. Circulars are issued by a seed firm in London, England, who claim to have the monopoly of the whole seed crop of Germany, and in which the seed is offered for sale at the modest price of \$2.00 per ounce, and as the seeds are about as large as a sweet pea and an ounce will seed only a few square yards, there is considerable profit in it. Prof. Georgeson says that he will try the plant again on a small scale, but from past experience he is not sanguine of great results.

At the Michigan Experiment Station it has been tested for two years, and the following are the conclusions arrived at:—

1. It germinates and reaches the surface in from 17 to 28 days.
2. It grows slowly at first after reaching the surface, and needs care to keep weeds down.
3. It makes on very poor sandy soil a top growth of 6 to 8 inches, and a root growth of 12 to 15 inches the first year.
4. It makes on sandy soil, that has been cultivated and improved, a top growth of 12 to 15 inches, and a root growth of 18 to 24 inches the first year.
5. The tops are not easily cut down by the frost. The roots go through the winter well.
6. The roots are thickly supplied with tubercles (nitrogen gatherers).
7. The one-year-old plants transplanted in the spring to sandy soil made at the rate of 10,460 pounds of green forage to the acre.
8. It does not bloom the first year. The second year the blooms and pods are few.

We may add that it is a permanent plant, increasing in growth and yield every year, and it is said will last fifty years when once established.

We have given this plant a trial during the last two years on our grounds in London, Ont. Our experience has been similar to that given above by Prof. Georgeson, but in other localities in Ontario we have seen this plant making a vigorous growth. We will continue to test it.

Institutes and Conventions.

It will soon be time for our winter dairy conventions and farmers' institute meetings. These are a great help to the observing and thinking farmer, though in some quarters any attempt to improve farm methods is still sneered at or derided, the idea being that the ordinary farmer knows more than those who try to instruct him. If any one of our readers has a neighbor who doubts the efficacy of the institutes, let him turn missionary this winter and persuade him to attend a session. If he can only be got to attend a single meeting, his interest will be aroused, and this will do somewhat towards making him a better farmer.

Our dairy conventions and farmers' institutes are doing a good work, in spite of opposition and sneers; the more they are known the better they are appreciated. At these meetings each farmer learns something from his brother farmer. People are beginning to see that life is too short to learn everything by personal experience, and that the best plan is to get all possible knowledge from others. Knowing how a thing is done is the main thing; the cheapest way of learning is the best—generally experience is dear schooling.