A New Cure for Milk Fever.

M. Emile Thierry has contributed to the Journal d' Agriculture Pratique, an account of the new treatment of milk fever (parturient apoplexy), discovered and practiced with success by M. Knusel, a veterinary surgeon at Lucerne. The treatment consists of the injection of pure oxygen into the udder. M. Knusel had previously practiced the comparatively new treatment with iodide of potassium, administered sometimes through the mouth and at other times by injection into the udder; but he had found it to fail in the most serious cases, and he reckons that about forty per cent. of the cows treated with it are lost. This insufficient success led him to try the oxygen treatment, which he had applied in twenty-two cases when he wrote his memoir of the method. Some of the cows were in an extremely dangerous condition, prostrated, insensible, and with labored respiration, accelerated pulse and paralyzed tongue. Yet in thirty to sixty minutes after the injection they had so far recovered as to seek for food. Not one of them died. From six to ten litres of oxygen were injected, the gas being compressed to twenty-five atmospheres in an apparatus obtained from the firm of Hauptner, of Berlin, which contains a valve for regulating the pressure. After washing and disinfecting a teat, he introduced the teat probe, and slowly opened the tap to release the oxygen. When two quarters had been filled with the gas, an assistant compressed the two teats, and by massage the gas was distributed through all the glandular tissues. This operation having been completed, it was repeated with the other two quarters, the whole work occupying only about ten minutes. Gradually the treated cow showed signs of recovery, first raising her head, next shifting into a comfortable position, and soon getting on to her feet. In two instances a relapse occurred, through the cows having been milked too soon; but a fresh insufflation of oxygen quickly restored them. These were the only accidents in the twenty-two cases. M. Knusel believes that if his treatment be applied soon enough it will be successful in all cases. He suggests, as the explanation of the effectiveness of oxygen, that the poison formed in the udder and passed into the general circulation of the animal is produced by micro-organisms, which may be anaerobic, and therefore unable to live in the presence of oxygen.—[M., in London Live Stock Journal.

Feeding Balanced Rations.

After all that has been said about balanced rations, little weight seems to be attached to the subject by our feeders, and few of them make any specific attempt at a balance in the fodders being fed. To the ordinary feeder, the subject appears too vague and too much laden with theoretical associations to permit of practical application in cattle feeding. To him the mention of balanced rations conveys the idea of weighing feeds and of a long list of figures in the hands of a professor. This is not as we should like to see it. Among our feeders are to be found many of the most intelligent of men, and if the advantages of forming a balance in the rations could be made clear they would be willing to give it a trial.

In the first place, a ration is the combination of hay, straw, silage, grain, etc., fed an animal during the day. If the moisture or water were all evaporated from it, what would be left is called "dry matter," and this is composed of certain chemical constituents. What the feeder wants to get at is the composition and quality of foods (ration) that will feed his cows or fatten his steers to greatest profit.

Everyone recognizes the importance of having a model in mind when undertaking any constructive work. In cattle-feeding, the feeding standard or the proper balance between flesh-formers (protein) and fat and force producers (carbohydrates and fat), all of which the animal requires, in the ration is the model, and any rations having a composition similar to the standards are balanced rations. In scientific parlance, the proportion between the flesh-formers and the fat and force or heat formers is called the nutritive ratio. In some foods this ratio is wide, in others narrow. Oat straw is 1 to 33.6, and wheat straw 1 to 93, both wide; bran 1 to 3.7, and oil cake 1 to 1.7, both narrow. A ratio over 1 to 6 is said to be wide, and under 1 to 5 narrow.

Now, the feeding standards in America are not purely theoretical ones, but are the average of more than 100 different rations, which were being used throughout Canada and the States, and which were found to give the best results in milk production or cattle fattening. These feeding standards then, or these rations having a certain chemical relation between their vital constituents, are the models by which rations are balanced. It is at once seen that models secured by such practical methods should have a practical value. What is this value?

Feeding standards are not rules laid down to be followed implicitly and mechanically, but are valuable simply as guides. By making up a ration according to a standard, a man has the satisfaction of knowing that the chemical composition of his cattle food is such as has given the best results in all experiments that have been conducted to determine the comparative value of rations. And further, these satisfactory results are obtained because the cattle have been supplied with just sufficient of the several chemical constituents of the food, or, in other words, with a balanced ration. This, therefore, is the value of feeding standards, that they serve as models by which to form other rations.

Now we believe there is a practical value in feeding a balanced ration, but the problem of working out such rations with the feed stuffs on the ordinary farm is regarded as too complicated for the average feeder. Our own conviction is that skilful feeders, by the process of experience and close observation, learn to compound or let us say "balance" their rations in such a way as to get the best results, though the learning of it may be tedious. Furthermore, the feeder is governed largely by what foods he has on hand or can procure to advantage; these are nearly sure to be some combination of oats, barley, wheat and bran, with prairie hay, sheaf oats, or the cultivated grasses, but whatever is supplied, the object must be to produce milk, meat or energy. So far stall-fattening has not been practiced sufficiently in this country to warrant a deep interest being taken in this question, but with the introduction of an agricultural college, with its chemical laboratory for analyzing foods, we will be in a position to intelligently pursue a series of investigations into the comparative value of our foods, and incidentally encourage the production of more finished meat for the markets.

Farm.

Growing Clover in Manitoba.

[Read at the Tri-State Stock and Grain Growers' convention, Fargo, N. D., January 20-23, 1903.]

It is generally taken for granted that none of the varieties of clover will succeed in the Northwest. This conclusion is, no doubt, reached from the experience of a few who have only attempted to grow it after the manner usually practiced in more southern districts, viz.: with a nurse crop of grain. This plan has always failed with us here.

During the spring of 1896, ten one-half acre plots of summer-fallowed clay loam soil were sown with either wheat, oats, barley or peas, and Mammoth red clover. As soon as the grain was drilled in, ten pounds of clover seed was sown per acre, broadcast, and harrowed in. Both grain and clover germinated well, but the growth of clover during summer was slow. The rank growth of grain appeared to take all the moisture and sunlight from the weaker clover plants, and when winter set in they were quite small, with roots only about an inch or so in length, and nearly every plant was killed out during the first winter and no crop whatever of clover was gathered.

On the same date as the preceding plots were sown, and on adjoining land, five additional plots were sown to clover without a nurse crop of grain, in the following manner: Wheat stubble was plowed in spring, at once harrowed, and each plot was sown with one of the following varieties of clover—Alfalfa, Mammoth Red, Alsike, Common Red and White Dutch; all germinated well, and as soon as the weeds and volunteer grain was about a foot high, a mower was run over it, and the cuttings left on the land to act as a mulch. The clover grew rapidly, and by fall the plants had become quite large, with deep, strong roots, and every variety wintered safely.

Owing to the dry spring of 1897, the yield was not large, running from one ton of hay for the Alsike to two tons for the Alfalfa. In 1898 all the varieties were still alive, and the season being more favorable, the yield was much larger, averaging within a fraction of two tons of hay per acre, Alfalfa giving the largest yield, viz.: 2 tons 1,800 pounds per acre.

During the next year, 1899, the Alfalfa gave 1 ton 820 pounds per acre, and the Mammoth Red one and a half tons; the other varieties had become quite thin and were plowed up.

In 1900 the two remaining plots were plowed up, and a new series started, which is making good progress.

Preserving Poplar Posts.

Poplar posts last longer when peeled, and June is the best month to do this, as the bark strips off easier that month; yet the posts can be cut any time previous, and the peeling left until June. After they are peeled, build a fire outdoors and char well the portion that goes into the ground, and for safety about six inches more. It is often necessary to dip them into water immediately after being charred, to prevent the fire from weakening their strength by over-burning. Some treated in this manner and then set up as fence posts in 1884, are still doing service. Treatment of this kind will, at least, double the life of a post, and often treble it.

Study the Weeds.

In the great war against weeds, it is of the utmost importance that farmers become familiar with their distinctive peculiarities as to habits of growth and the general appearance of the plants and their seed, so that they may be able to adopt suitable measures for fighting them.

Like all other plants, weeds are classified according to their length of life, as annuals, biennials and perennials. Annuals, as their name implies, exhaust themselves in a single season. They are of two classes: winter annuals and summer annuals. The first named variety spring up in the fall and live over winter, producing seed early in the summer; while the summer annuals spring up, grow and die during the same season. Biennials, although existing two years, only produce one crop of seed. During the first year they devote their energy to the production of seed-making materials, which are stored up in a fleshy taproot. The second year, the plant develops more fully, matures seed, and dies.

Perennials, like biennials, produce neither flower nor seed the first year. Unlike biennials, however, they yield repeated crops during succeeding seasons. There are two classes of this variety of weeds. One having creeping or underground stems, by which the plant spreads, and another which has an ordinary root, but does not multiply by that means. To this class belong bulbous and taproot perennials. Although a knowledge as to whether the life-history of a weed extends over one, two or more years may be of great value when methods of eradication are being considered, yet it must be remembered that annuals, for example, differ very much in the amount of labor necessary to destroy them. Each weed should be known, and, in this country where they are alarmingly on the increase, an effort should be made to encourage public school pupils to become interested in this work.

A Gasoline Engine Tested.

To the Editor "Farmer's Advocate":

Sir,—After having had two years' experience with a gasoline engine, I feel safe in saying that it is just the thing for three or four farmers to get a small outfit, like ours, and do their threshing. As compared with steam, the engine saves two men and a team, and with a man for feeding, the engineer can look after the separator, except when setting someone would have to help.

Our engine is a 20 H.-P., Flour City Gasoline, manufactured by Kinnard & Haines Co., Minneapolis, Minn., of whom Fairchild & Co., Winnipeg, are the Manitoba agents. Our separator is a Waterloo Champion, 33x46 body, with a Jones wind stacker and high bagger. For next season we think of putting on a self-feeder. The whole outfit has given us good satisfaction; it is safe from fire, and, as is well known, the best weather for threshing is sometimes the most dangerous in this respect. We threshed when steam engine outfits had to stop for fear of fire. Then, again, when labor is so dear and hard to get, a few portable granaries can be easily filled with a high bagger, and left for the night, without any fear that the wind may get up and burn everything. The engine weighs about 7,000 pounds when the tank is filled with water, and is as easy to set as a steam engine. About twenty-five gallons of gasoline are required to run it one day of ten hours, when good steady work is being done.

A rig like what I have just described will solve the threshing problem to a certain extent, as with ordinary weather the same help that cuts and stooks the grain can thresh it. I hope the price of gasoline may not advance any more. We paid 25 cents per gallon in 1901 and 28 cents in 1902. As there are some new oil wells just opened, the Government should see that they do not get into the hands of the oil combine.

ALEX. COCHRANE.

Pembina Municipality, Man.

Gasoline Threshing Outfits.

As regards the usefulness of gasoline engines for threshing purposes, I only claim to be an onlooker, yet from even that standpoint these engines have advantages which are quite apparent, and one of the greatest of these is the lack of danger from fire. Annually the steam engine causes great loss through starting many fires, which, during windy weather, often get beyond control and consume buildings, stacks and fields of grain in stook, besides many complete threshing outfits.

I believe the gasoline engine is equal to the steam engine for threshing purposes, except, perhaps, during extremely cold weather. The gasoline requires less help, which is quite an advantage, but it also requires a man who understands its peculiar needs, and such is not always convenient to get.

J. S. ROBSON.

Manitou, Man.