Value of Various Fodders.

The truth of this matter is that these theoretical values are all we have to guide us, and are by no means satisfactory, and never can be, although many very elaborate experiments have been made to verify them in practice. More especially is the difficulty found in feeding milking cows, when the product of milk is made the test of these supposed values; for a great deal depends upon the manner in which the fodder is prepared for the cows.

For instance, last winter I fed for two weeks to fifteen cows some excellent, clean timothy hay, bright and green, but consisting almost wholly of stalks and heads—just such hay, in fact, as would be thought the choicest kind of horse hay, and worth to sell one half more than mixed clover hay. But the product of milk fell off nearly one-half, and the butter was very inferior. I was surprised, however, to find on the last days of the two weeks that the cows were gaining rapidly in milk, and in searching for the reason found it in the fact that they were eating up their bedding as fast as it was thrown under them. The bedding was sweet marsh hay cut on a swamp, and thought to be dear at $5 a ton, the price at which I bought it. To verify this, the marsh hay was fed for a whole week, and the timothy was used no more. The milk kept gaining the whole week, and was nearly up to the former weight when the cows were fed on mixed clover, red top, and blue grass, such as is known as the best cow hay. This was fed, cut and wetted to a thin mush, with steeped malt sprouts and lin-seed meal. This mode of preparing the feed produced the most milk I could get from the cows. When the same hay was fed long and uncut, and the sprouts and meal were given separately and dry, the milk fell off again more than one third. There is much to be learned in the matter of feeding. We are as yet only on the threshold of our knowledge of the art. I am sure that the feed is better digested and more productive by mixing the fine and bulky together and adding some moisture; perhaps it is better masticated and made more digestible by the mixing.

The value of the food given to cows in a year's feeding is enormous. To use this to the best advantage is of vast importance, because it may easily be used so as to lose one forth of its possible value. Here is a great field for investigation by experiment stations, which should not be alone devoted to the growing of crops. For what is the profit if a farmer should grow great crops and lose a large portion of them in the feeding of them to his stock? I am an advocate of cutting, grinding, and mixing food. I have practiced it for twenty years, and am satisfied that in that time it has been a saving to me of one-third of the fodder and grain that have been used. Now, if this is so, it must have an important effect on the values of coarse fodders especially, of which the indigestible portions are greater than those of the finer fodders.—[Correspondent.

For want of space we have been obliged to hold over considerable correspondence until next issue.

Crevices in Forest Trees.

M. Des Cars recommends cleaning out the bleeding crevices which occur in the ash, elm, walnut, oak and other species with a sharp tool down to the bottom of the diseased part, and apply coal tar, repeating the process if necessary. Du Hamel advises the removal of the affected parts down to the live wood and covering the wound with cow manure, mixed with straw, then binding with rags fastened by osier or other ties. These crevices are usually caused first by some injury from which the sap continues to ooze until it bleeds the tree indefinitely. Insects find lodgment in these crevices, and rottenness appears and extends until the tree is destroyed unless the trouble be successfully treated.

A factory has been discovered at Milwaukee from which 12,000 lbs. of oleomargarine are sent out every day, with no mark to distinguish it from genuine butter.

Prof. Riley says that kerosene, or oil of any kind, is sure death to insects in all stages, and the only substance with which we may hope to destroy the egg. Oil will mix with milk, fresh or sour, and thus may be diluted to any desired extent.

Cause and Cure of Hard-Churning.

A complaint comes to hand of having to churn six or seven hours, though the cows get besides the best of hay, "beets, shorts and plenty of salt." The smaller *the fat globules* of which cream is composed, the more difficult they are to churn. As a rule they grow less as distance from the time of calving increases. At this time most cows have been a long time in milk, and are fed mostly on dry feed, and are often losing flesh, and perhaps pinched with the cold, all of which tend to diminish the size of the fat globules and make them hard to churn. If some oatmeal, or some food rich in fat were fed with the beets in place of shorts, it would improve the churning. All such food tends to make larger globules than shorts. But the churning could be made very much easier without change of feed, simply by setting the milk as it comes from the cows on the stove, over a kettle of boiling water till it rises to 140 or 160 degrees—till the wrinkles on it move pretty rapidly over its surface—and then setting it away in the milk-room, not so deep but that it will cool to the temperature of the room in from twelve to fifteen hours. This will not only make the churning easier, but will give the butter a higher color and flavor and more of it than if the milk had not been heated. Another reason for prolonged churning often occurs in the winter from keeping the cream too long. Where the milk and cream are kept at about 60°, the churning is best done from two to two and a half days from the time of milking, but at this time of the year it is often kept till it is a week or more old, and by this time it becomes so sour and slippery that the churn has but little effect upon it, and it must be operated the longer to make it come. If the cream is kept so cold as to stop or retard change, it must be kept a longer time, but then, unless excluded from the air, it is liable to get bitter and injure the butter. The better policy is, in the great majority of private dairies, to keep the milk and cream at a medium temperature and to churn often while the cream is fresh. It should not be later than the first approach of acidity, and just before souring, is better both for the butter and the churning,—*Prof. L. B. Arnold.*

Abortion in Cows.

I am more than ever convinced that close cellar cow-houses, crowding together, slanting floors and stanchions, are among the chief causes. I am quite satisfied that filth of all kinds is a prolific source of this intreasing drawback to the dairyman's success. I know that annoysnce from any cause, especially if prolonged, is very liable to cause abortion, Cows of a fine, delicate organism are prone to abortion, and in my experience have often aborted from causes which did not affect others of a coarser, stronger organism. Many persons throw all sorts of animal matter around the premises to which cows have unlimited access at all times. Hogs and other animals are killed, and the refuse allowed to decompose and emit foul orders, quite often to the contamination of the whole surrounding atmosphere. Dead chickens, lambs, pigs, etc., are allowed to lie on the top of the earth, which ought to be securely buried. The placenta of cows, and even the aborted fetus, are often left above ground, or merely thrown on the manure heap—possibly partially covered, to be entirely made bare by the scratching of poultry, etc.

Sympathetic abortion is quite extensive, and is the leading cause of the spreading of this dire evil among herds. I am not acquaented with any law of physiology which would warrant a belief that lack of phosphates in the system would directly be liable to cause abortion. It might cause disease, and which as an effect might culminate in abortion. Abortion, in my opinion, is not a disease, but always the effect of disease, or some exciting cause which for the time being is a disease. I cannot agree with some, that poor cows and a poorly developed fœtus are common accompaniments of abortion. My experience is exactly the opposite, not only with regard to abortion, but also as regards puerperal and milk fevers, and also all other parturient troubles. To prevent abortion, keep dogs away, also cross men and boys; keep delicate cows aloof from the common herd; on no account allow any animal to annoy or tease any of the cows; give no ice water, or frozen or foul food of any kind; keep from slippery places during the winter; feed regularly, be kind, give pure air and all the sunshine you possibly can. Above all things keep an aborting cow apart from the rest of the herd. The best use of such cows is to fatten, then they can do no harm.—*W. Horne, V. S., in Country Gentleman.*

Window Gardening.

The question is often asked: How often should I water my plants? Although a seemingly simple question, it is under all conditions a difficult one to answer, as some plants, even of the same kind, require different supplies under different conditions. Take geraniums, for instance. When growing with full vigor, with the pots well filled with roots, there is but little danger of giving too much. Every day will not be too often if the weather is clear. Take the same plant with but a small number of leaves on it, and newly shifted from fresh soil, but with few roots, and watering once a week may even be too often for it. All soft-wooded plants growing vigorously require an abundance of water; always when they are the least dry, which will be known by the surface of the soil getting white, or when, the side of the pot being tapped with the finger, a hollow sound is made. By feeling the weight of the plants, a little practice will suffice for knowing pretty nearly the condition of them, whether wet or dry.

Plants sparsely supplied with foliage and but few roots require sufficient water to keep them in a healthy condition; but care must be taken not to approach anything like a saturation of the soil. Succulent plants—such as agaves and cactuses—require but little water. When at rest, their succulent leaves serve for storing up water sufficient to keep them in a healthy condition for a long period. Deciduous plants—such as fuchsia and crape myrtle—during the time they are without leaves should not, however, be allowed to get too dry. As the stem and branches evaporate moisture, sufficient water has to be given at the roots to supply this evaporation; for, if not, the roots will eventually shrivel up and die.

The temperature of the water supplied to plants should be about the same degree as the temperature of the room in which the plants are growing; or, if a little higher, will be a benefit, rather than anything else. And when water is given, sufficient should be applied to thoroughly saturate the soil A mere dribble on the surface does more harm than good, as it draws up what moisture there may be in the soil below where it is wet. Plants should not be allowed to stand in saucers filled with water. Give sufficient water to run through the soil into the saucer. But then empty it out and do not allow the plant to remain in it. During cold weather watering is better to be done in the morning, as then all superfluous moisture gets a chance to evaporate before night.

The temperature at which plants should be bept during winter is lower than a good many would suppose. High night temperature to both greenhouse and windows is injurious, the results of which are weak and slender growths, with but few flowers being produced. A temperature of 45° during the night, with 60° to 65° during the day time is high enough for most plants. Of course there are plants that require a good deal higher temperature than this, but they are not so well suited for window culture. The main aim should be a steady temperature more than a high one. A high temperature to day and a low one to-morrow has a very injurious effect upon all kinds of plants, and should be avoided as much as possible. Pans for evaporating moisture should be kept on the stoves during severe weather when plants are growing. It not only helps to prevent gas from having an injurious effect, but modifies the temperature to a great extent. The most effective way of fertilizing plants in pots is by applying it in a liquid form. Caution is necessary, however, not to apply it too strong. Weak and often is the best method and has the most beneficial results.

The Germantown Telegraph advises that the best time for cutting grafts is not, as is generally directed, in the fall, before severe cold weather sets in, but that grafts taken in February, tied up, and buried in the ground under a shed, or in a dry place, are more apt to do well.

The "Maple Leaf Farmers' Association," of Fitzroy, is making great progress. On the 18th of January they held their annual meeting for the election of their officers; they report that the members have derived much benefit from their connection with the association.

Primulus.—The single-blooming Primulus are as valuable, but not at all comparable to the double varieties. They are as easily cultivated as the others and bloom more freely. It is love at first sight with every person who see them. If allowed they would bloom all the year round, and at this time throw up their spikes in crowds when protected.