

Dairy.**Suggestions Upon Haying.**

BY PROF. L. E. ARNOLD.

The time for securing the winter food for the dairy is at hand, and some thoughts in regard to it may be appropriate. Very much of the success of the future operations of the dairy will depend upon how that food is gathered. The first consideration is the condition of the food when cut. It should be neither too ripe nor too green. It requires judgment and skill and experience to determine the best time for cutting. So far as the quality of the hay is concerned, there is no danger of cutting too early. There is no better winter food for cows, whether in milk or not, than dried grass. The proper time for cutting hinges on the amount of growth and the changes which occur in the later stages. The more grass is matured the slower and more imperfect is its digestion. The greener it is, the more readily and completely it digests and the more drying it takes to cure it, which is a matter to be taken into consideration. But it does not pay to wait too long for the grass to ripen, so that it will cure quickly. When it gets so ripe as to dry easily it is always losing in value, though it may not be losing anything in weight. Hay makers are very apt to couple the idea of the greatest value with the greatest weight. This is a great mistake. When the time of greatest weight arrives the time of greatest value is past, and the crop is depreciating. The stems of the grass become hard and stiff with woody fibre, which is indigestible, and mineral matter is absorbed, which, though it adds to the weight, adds nothing to value, as it is of no use to the animals which consume the hay containing it. Experience and science concur in placing the greatest available nourishment at the time when the crop, whether clover or timothy or other long-leaved grasses, is in the middle stage of blossoming. As no one who has a large dairy to feed can cut all his hay at just the right moment, even if he always knew just when that moment occurred, it is best to begin soon enough to be half done when the best time for cutting arrives. It is better to be a little early rather than a little late.

The manner of curing is also important, as well as the time of cutting. Much of the good quality of the hay may be lost or saved by a little skill or thoughtfulness, or the want of them, while the mown grass is curing. Hay may be dried too much as well as not enough. It may be dried too fast as well as too slow; and serious losses may occur by exposing needlessly to dew and rain. The old adage, "Make hay while the sun shines," has led many a farmer astray in the management of his haying. It has led him to infer that the sooner he dries his hay the better, and that sunshine is the best means for doing it. But such an inference is not true, however convenient sunshine may be as a ready means of drying. When grass is cut in the best stage for making hay it contains a considerable amount of volatile oils which are essential to the value of the hay. It is upon these that the delicious aroma of new made hay depends. Their value consists in making the hay palatable to stock, and they furnish the most active and ready supporters of animal heat, and by acting as a gentle stimulant to the action of the stomach they aid materially in the digestion of whatever food they may be mingled with. When they are wanting in food it becomes insipid and difficult of digestion, if not loathsome.

The higher the heat to which these flavoring oils are exposed, the more volatile they become and the more they escape. Hay subjected to hot sunshine while drying—especially after the main part of the

water is out—loses its aroma very rapidly, as any one may know by smelling the strong odor given off while half-cured hay is drying under the rays of a hot sun. All the agreeable odor which thus flies away goes to depreciate the merits of the hay. To be best, hay should cure slowly and at as low a temperature as possible. It is much better cured in the shade than in the sunshine. This, however desirable, may not always be possible. It is sometimes necessary to hurry the curing at the expense of quality. But ordinarily hay can generally have most of its drying done without injury from the sun. By stirring well with the tedder the first part of the drying may be done by the sun without material injury. After that it may be raked and put into piles of a size to make 50 to 100 pounds of cured hay, according to the degree of dampness and the condition of the weather. Standing in this shape half-dried hay will soon cure without appreciable loss of its essential oils, with an occasional turning over of the bunches, or if the weather is catching, spreading for a short time and then re-bunching again. In the curing of hay it should always be a leading policy to have the moisture absorbed away by the atmosphere as much as possible, instead of being driven off by the direct heat of the sun.

Milk and Milking.

It is a common practice to give the animal a feed before beginning to milk, so as to make the cow quiet and contented. But is this a good plan? Should not this important and delicate operation, over which the cow has so much control, receive the undivided attention of the animal as well as of the milker? We think it should, and that feeding at this time is bad practice. It is a matter of habit, anyhow, and the cow may as well be taught to attend solely to the milking as to eat. Of course she must be quiet and contented; but this should result from general treatment, and not from a coaxing feed.

Here is a bag full of milk which we propose to draw. The cow is healthy; the milk must be a perfectly natural product, and we must keep it so. Partly right—but not so fast! Is it certain that the milk is all right now? By no means, for the milk may be affected while still in the udder. If the food has been bad the milk has suffered in quality; if the cow has had impure water to drink it has beyond doubt directly injured the milk; if she has suffered from thirst the milk will be less in quantity and in fats; if she has breathed foul air, whether in stable, yard, or pasture, it has affected the milk, perhaps made it unfit for use. Do not forget this: carrion in the pasture, offensive fish manure in an adjacent field, or any sickening odor, even if from a distance, may have a very injurious effect. So may emanations from a manure cellar, without the proper precautions of tight floors and ventilation. Pure air is as necessary to the making of good milk as pure water and pure food. If there has been insufficient shade in the pasture, and the animal has suffered from extreme heat, the milk will show it in a direct loss of the fat and sugar elements and an increase in undesirable albuminoids. It will be very poor milk. The same result follows worrying by a dog, fast driving from pasture, or any fright or harsh treatment. A rough, noisy cow-boy, or a worthless cur, may directly diminish the butter yield from one-third to one-half, by injury to the milk yet within the cow, and the milker may hardly notice it.—*Land and Home.*

Do not allow your milk pans to be used for all sorts of household uses. You cannot make sweet, fine butter if the milk is put into rusty old tins.

AVERAGE BUTTER PRODUCE.—Despite the very high butter produce of some cows reported from time to time, the average butter produce of the United States is much below what might be expected. Prof. Alwood, in referring to the exaggerations abroad in reference to the production of butter in the country, says in a communication to the Country Gentleman: "The average of Orange Co., N. Y., is only 186 pounds per cow! For the whole country, deplorable as the fact is, the average butter product cannot be over 125 pounds a year from each cow, and is more likely to be as low as 120 pounds. Seven millions of cows would then produce 840,000,000 pounds of butter annually." Does not Canada, as well as the States, need more careful selection of dairy stock?

Poultry.**Packing Eggs to Preserve for Winter.**

For this purpose there have been recommended several methods. We have had eggs well preserved for months by packing in salt. A box was put in a cool place in the cellar; a stone jar would answer as well. A layer of salt was put in the box, then a layer of eggs with the large ends downwards, the eggs not touching one another; then another layer of salt, and then eggs, and so on till the box was filled, the last layer being salt. Cover the box and let it stand undisturbed till needed for use. We have used eggs packed in this way for six or nine months, perfectly good for the table. The salt used must be perfectly dry; if at all damp it would penetrate the shell.

Another method of preserving eggs is the covering them in a jar filled with lime-water recently prepared, and keeping in a cool dry place. The lime-water is prepared from quicklime by putting it in a quantity of water greater than would cover the eggs. The lime-water thus prepared is allowed to stand several hours, and is then poured off for use. The alkali held in solution in the liquid closes the pores of the shell and prevents any fermentation of the eggs. This is said to be the most certain and lasting method for the preservation of eggs.

The French Method.—Dissolve four ounces of beeswax in eight ounces of warm olive oil. With this anoint the egg around with the finger. The oil will be absorbed by the shell, and the pores filled up by the wax. It is said that the eggs will by this method be as good in two years as if fresh laid. Eggs are sometimes anointed with butter or oil for the same purpose. This serves to close the pores.

Baked Bones and Oyster Shells.

We give to our readers an article, from the American Poultry Yard, that is in accordance with our own experience and recommend them to read it carefully:—

"I suppose I did my duty by my hens when I burnt bones to ivory whiteness, ground them to the consistency of flour, and fed them occasionally, with the idea that I was giving them egg-shells in a very available form. But I did not consider that the gelatine, the fat, the ammonia, and other constituents of the bones which were discharged by the internal heat (leaving only a little pure lime) were really the richest possible food for the hens, and the greatest egg producing diet that could be furnished them. My new tenant only bakes them, more or less brown, in an old tin plate on the top grate of the stove oven. This is not a very pleasant process; for, like all scorched portions of the animal frame, they give a pungent, half-suffocating smell, which tempts you to "clar de kitchen" till the fresh air from doors and windows has sent the objectionable odors into outer space. But you soon become reconciled to this invasion of ill scents when the fiery combs, the ceaseless cackle, the evident high health of your fowls, and the daily filled egg basket show you what they have accomplished.

"No other food, not any amount of food, if this is left out, will give you such returns; and this baked bone, pounded with a hammer on a rock in your poultry-pens and fed with ordinary feed, will give results that ought to satisfy the most craving disposition. The hens cluster around that primitive bone-mill, gulping down the rich morsels with evident delight; and since everything necessary for the production of eggs is thus fully furnished, there is no undue strain on the vital forces, no weakening of the system, but a daily attention to business to the complete satisfaction of the fowls and their owners.

"You can hardly give too much burned bones to your hens to provide the necessary amount of lime for the egg shells, and the next best thing for that purpose is oyster shells, which can be obtained by the barrel (and generally without any cost except taking away) at hotels or restaurants in your nearest city. My new tenant goes eighteen miles for them, and considers them cheap enough at that. The hens eat them when pounded in fragments as eagerly as they pick up the shelled corn, and they finish the needed material for the egg shell more completely than anything else.