

## THE DAIRY.

## THE FAMILY COW IN MIDSUMMER.

On farms where the dairy is an important part of the husbandry, provision is made by sowing soiling crops, to supplement the diminished pasturage in midsummer. Those who keep only the "family cow," or at most two or three cows, find the flow of milk to decrease, and often without any green crop provided for keeping it up. The territory of those who keep but a single cow, is often restricted to a small pasture and a vegetable garden. The garden should be made to supplement the pasture, and this may be done to some extent by securing for the cow much from the garden that usually goes to waste. Every one who has a garden, tries to have an abundance of green peas. After the vines have yielded their last profitable picking, instead of allowing them to remain upon the ground until that is wanted for another crop, feed the vines to the cows while they are still green and succulent. So with sweet corn. When the last ear is plucked from a stalk or a hill, do not wait until the whole patch or row can be cleared, but pull up the stalks that have been deprived of ears, a few at a time, and feed them while in their best condition. The outer leaves of early cabbages, and the leaves of beets, carrots, and turnips, carefully saved, will make an important item in the succulent food for the cow. If there is a space in the garden, from which an early crop has been removed, and it is not needed for a late garden crop, it should be growing something for the cow. Sweet-corn may be sown thickly in rows for "fodder-corn," and afford welcome feed. It is well to have an abundance of cabbage plants of a large late variety, and set them out wherever there is room, and far beyond the needs of the family. An occasional cabbage next winter will be a treat to the cow. Experiments made a dozen years ago with some twenty varieties of the Southern Cow Pea showed incidentally, that even, at the North, if they did not ripen their seeds, they would give an enormous weight of herbage upon a small area. This pea is highly valued for animals at the South, both fresh and as hay, and seems to be worth trying in northern localities, as a soiling plant. Where there is room, even a few square yards, it may be well to sow either Hungarian grass, or one of the plants called Millet, for late summer feed for the cow. If the soil is rich, an abundant crop may be cut. Besides summer feed in the garden, if there is room there or elsewhere, it is well to think of Jerusalem Artichokes as a winter treat. It is late now for a large crop, but with the tops, which are highly relished, the tubers, being crisp, succulent and highly nutritious, will be most acceptable as an addition to dry fodder. When one once fairly undertakes to produce the greatest possible amount of cow food from a small area of land, he will be surprised at the results that he obtains, especially those seen in the pail.—*American Agriculturist for July.*

## MILK TESTERS.

The instruments used for testing milk are the thermometer, the cream gauge, the lactometer, lactoscope, the pioscope, and the lacto-butrometer. The value of milk testers has, however, according to the *Farmers' Gazette* (Dublin), been but little appreciated by British dairy farmers in the past.

"In all those countries with which British dairy farmers have to compete the farmer would be laughed at," adds the *Gazette*, "who would attempt the making of either cheese or butter without testing apparatus. A dairymaid would be sur-

prised if you proposed to make butter or cheese without a thermometer, and even a complete set of testing apparatus, to enable her to go to work scientifically and successfully." It is therefore satisfactory to note "that dairy farmers and town dairymen in England are becoming alive to their position in competition with the continent of Europe, the United States of America, and our colonies."

The proportion of cream in any sample of milk can be determined by the cream gauge, which is simply a glass tube, about five inches long, graduated from zero downward. The milk to be examined is poured into this tube up to zero, and allowed to stand about twelve hours, at the end of which time the cream will have raised to the top, and its percentage may be read off. This instrument, although very useful to those who sell cream, is not reliable in detecting the adulteration of milk.

The lactometer, or hydrometer for milk, indicates the specific gravity of milk; that is, the relative difference in weight between milk and water. The specific gravity of water is 1,000, and that of milk may be taken to average about 1,030.

The specific gravity of milk varies, however, not merely with the amount of water it contains, but with the amount of butter fat in its composition, and for this reason the lactometer, used alone is of little or no practical value. As cream is lighter than milk, and of nearly the same specific gravity as water, it follows that when milk is very rich, or contains a large proportion of butter fat, its specific gravity is less than the ordinary standard; and, if tested by the lactometer alone, might give the idea that it had been watered. A cream gauge should therefore always be used in connection with the lactometer, in order to test the amount of cream or butter fat in milk.

The best instrument for testing the value of milk hitherto invented is the so-called lactoscope. This shows, with considerable accuracy, the percentage of fat; and fat, being the most valuable constituent of milk, forms a safe gauge as to the purity and value of the milk.

The action of this instrument depends upon the fact that the opacity of milk is chiefly caused by the globules of cream. So that when water is added to milk until we can see through a certain proportion of it, we are able to do so because we separate the cream globules to that extent that light can pass through between them with a certain degree of clearness. Then, if we measure the amount of water added, we have quite an accurate gauge for comparing different samples of milk.

CLOVER hay is much better for milch cows than timothy. It produces a larger quantity of milk, and also a better quality. All butter makers know how yellow the butter is that is made from the milk of cows fed on clover hay.

It will pay to give the milch cows a pailful of water at noon, in which a quart of bran has been stirred. When cows are fed on hay they have a stronger desire for water than if fed on other kinds of food. See that they have access to it at all times. A lack of water will soon tell on the milk.

The difference of opinion among farmers as to the value of pumpkins for cows depends largely on the manner of feeding. Those who make the feeding of pumpkins a success are careful to remove the seeds. These are strongly diuretic, and with some cows operate so strongly in stimulating the kidneys that the secretion of milk is actually lessened by their use. There are, however, some cows that can eat pumpkin, seeds and all, with benefit; but it is generally safer to remove the seeds before feeding.

The disposition of milkers has much to do with the disposition of cows. In fact, the milker must study the dispositions of the different cows under his care, and learn to accommodate himself to their peculiarities. We have never known a cow to condescend to take off her bonnet and make a bow to any irate, high-tempered milker. If they incline to do anything it is to lay him on the cool, soft ground, and then smash through the yard fence in such a way as to leave three or four panels prostrate.—*American Dairymen*

THE advantage of having a breed of cows that are useful for milk and butter as well as beef is very great. Its equivalent in dollars and cents is shown by a Western stockman, who figures up in this way: Interest on value of cow at 7 per cent., \$10.50; wear of cow at 10 per cent., \$15; feeding cow for the season, \$27.30; share cost of bull, \$1; interest on three-acres of land at 6 per cent., \$7.20; total, \$60, which is the value of the calf when dropped. Where, then, is the profit if a calf is fed for two years at a cost of \$80 and is sold as a steer, weighing 1,800 pounds, at 7 cents a pound on foot? Here seems to be a loss of \$14 at least, not counting the expense of attendance. But if the cow made 300 pounds of butter, or 600 pounds of cheese, in the year, besides rearing the calf, there would be \$75 to go to her credit, which would leave the account showing \$61 profit. A cow that is only good for rearing a calf, it is very clear, cannot be worth any more than \$75, and yet some such cows have been sold for thousands.—*N. Y. Times.*

A HEIFER well broken to the halter, and gentle, is worth ten dollars more.

THREE Hereford cows were recently sold in England (for America) for \$3,410, the largest price ever paid, it is said, for three Hereford females.

THE annual loss to the State of New York alone in the dairy interests, from the open sale of substitutes for butter, oleomargarine, etc., is \$5,000,000.

THERE are 156 varieties of cheese, some from skimmed milk, some from whole milk, some with a little cream added to the milk, and others made of all cream.

A FARMER who bought a cow which neither he nor his men could milk, found that he could make her profitable to suckle calves, which were very high-priced that season. Her own calf sold for \$15. Then another was left for her to rear and brought \$12. During the season the farmer sold \$65 worth of calves, reared on this kicking cow, fed her a few dollars worth of meal and turned her off for beef the following winter. This plan is well adapted for a large dairy where a number of cows calve in succession.

AN experienced daryman states as his opinion that sweet cream makes a butter that must be eaten fresh; The butter has a very delicate flavour, but not the rich, nutty flavour of that made from well-ripened and sour cream. Milk should be skimmed while it is sweet. All the cream will rise before the milk sours, if it is properly cared for. The cream is then kept in a stone jar in a cool place for three days, and stirred once a day, when the fresh cream is added. During this time it sours and ripens, and will yield the best quality of butter, and may be churned in less time than sweet cream. Sixty degrees is the best temperature in which to keep the cream.—*Exchange.*