

The Dairy.

The Best Depth of Milk for Cream.

Experiments made to ascertain the best depth for setting milk for cream, gave the following results: A lactometer of the usual width, 10½ inches high, gave 12 degrees of cream. A glass vessel 2½ inches wide with 3½ inches depth of milk gave 3½ degrees of cream. Another vessel of glass with 2 inches depth of milk, and 10½ inches wide, yielded not quite 2 degrees of cream. The milk was not a mixture, but all from the same cow, and stood 36 hours. This would warrant the opinion that cream is not cast up in greater quantity when not placed in very shallow vessels. The cream was carefully taken off the two latter vessels, and the skimmed milk put into a lactometer; that from the widest vessel gave two degrees of cream, and that from the second in width, about half a degree. A thermometer, placed near the vessels, ranged from a little above 47° to nearly 50° the whole time.

A Handy Cream-Gauge.

Mr. Douglas, of Vermont, suggests a plan for testing the quantity of cream to a given quantity of milk, which is at once simple and convenient. He takes one of the common pails or cans used in the deep setting or pool system, and has the tinman cut out a slot, inserting in its place a strip of glass. These pails or cans, it is, perhaps, needless to say, are twenty inches deep by eight inches in diameter. A strip of glass six or eight inches long, and two or three inches wide, will be sufficient. If grooves are made in the tin, and the glass inserted with white lead or some other cement, so as to be water-tight—leaving no places for the milk to accumulate, and so that it may be readily cleaned—the vessel is now ready for marking. The graduation should be marked on the tin, alongside of the strip of glass, so as to show the percentage of cream for a given quantity of milk. The milk being placed in the can up to a given mark, is then set aside in the pool, for the cream to rise. When all the cream is up that will rise, the division between it and the milk can be seen through the glass, and of course the percentage will be easily read off from the graduation marks on the tin along the side of the glass.

Salt for Dairy Cows.

Probably there are few things among the many unsettled problems of agricultural science, upon which so much diversity of opinion exists, as upon the subject of salting cattle. Long-continued experiments on the effects of feeding salt, the right quantity, the time and the manner to give it, are urgently needed. We look to our Ontario School of Agriculture, to establish something definite on this point when the institution is fairly under way. Meanwhile, we must be contented with the individual experience of farmers, on this as on other points. A correspondent of the *Western Rural*, who has been a dairyman from his youth up, furnishes his quota of information. Will some of our Canadian farmers supplement it? He wintered twenty cows one season without salt for about four months. They did well as to flesh, but a majority of the calves dropped that spring never got a full breath of air into their lungs, having an enlargement or swelling around the glottis, that prevented breathing. This experiment satisfied him that it was best to feed salt. It was the universal practice, continues the correspondent, when I was a boy, to salt cattle, occasionally dropping in handfuls about the field, letting each animal do the best she could toward getting her share. Observation led to a change in practice, and the other extreme followed. A tub or kettle was placed in the field or yard, and salt kept therein, the cattle having free access thereto, and this plan is still advocated and practised to a large extent. My experience and observations have convinced me that this is not the most profitable way. I have known cows, under the management of the most careful, to be entirely dried in their milk and sick for days by getting too much salt, probably by drinking brine from the salt tub. There are usually some cows in every dairy that will eat more than is good for their health, and these are kept continually under the influence of a cathartic which is destructive to the greatest flow of milk.

I took to measuring each cow her mess of salt, feeding in the barn. Some would eat it as greedily as meal and not be satisfied; others would lick a little and want no more, but the amount of milk sent to the factory the next day would be below the average. The second and third days would be above the average. This unsteadiness in the yield led me to try the plan which I have adopted and

now advocate; that of feeding in small quantities and often. I feed every third day, not more than a table-spoonful each, always in the barn, that each may have her share, and it never lessens the next flow of milk, but increases it, and satisfies the appetite also.

It is a little more labor to feed in this way than to put a half bushel in the tub every few days, but when the neighbors who meet you at the factory each morning begin to inquire, "How much behind am I to-day?" it shows that close attention to details will tell.

More about Cheese-Making on a Small Scale.

In last month's issue the *CANADA FARMER* gave directions for the making of cheese on a small scale. The subjoined, from the *Massachusetts Ploughman*, will supplement it excellently, being more in detail on several points upon which we touched but lightly:

It is important that rennet enough should be prepared at once for the whole season, in order to secure as great a uniformity in strength as possible. The object should be to produce a prompt, complete, and firm or compact coagulation of all the cheesy matter. To obtain a good quality of rennet that will effect this, the animal should be in perfect health, and the stomach should be emptied of its contents, salted and dried without any scraping or rinsing, and kept in a dry place for one year, when it is fit for use, but if it is allowed to accumulate dampness, it will lose its strength. In Cheshire, so celebrated for its superior cheese, the contents of the stomach are frequently salted by themselves, and after being a short time exposed to the air, are fit for use; while the well-known and highly esteemed Limburg cheese is mostly made with rennet prepared as in Ayrshire, the curd being left in the stomach, and both dried together. The general opinion is that rennet, as usually prepared, is not fit to use till nearly a year old.

Perhaps the plan of making a liquid rennet from new and fresh stomachs, and keeping it in bottles corked tight till wanted for use, would tend still further to secure this end.

The use of annatto to color the cheese artificially is somewhat common in this country, though probably not so much so as in many other countries. Annatto, or annotto, is made from the red pulp of the seeds of an evergreen tree of the same name, found in the West Indies and in Brazil, by bruising and obtaining a precipitate. A variety is made in Cayenne, which comes into the market in cakes of two or three pounds. It is bright yellow, rather soft to the touch, but of considerable solidity. The quantity used is rarely more than an ounce to one hundred pounds, and the effect is simply to give the high coloring so common to the Gloucester and Cheshire cheeses, and to many made in this country. This artificial coloring is continued from an idle prejudice, somewhat troublesome to the dairyman, expensive to the consumer, and adding nothing to the taste or flavor of the article. The annatto itself is so universally and so largely adulterated, often by poisonous substances, such as lead and mercury, that the practice of using it by the cheese maker, and of requiring the high coloring by the consumer, might well be discontinued. The common mode of application is to dissolve it in hot milk and add at the time of putting in the rennet. It may be put upon the outside in the manner of paint.

The cheese tub should be so graduated that it may be correctly known what quantity of milk is used. This is requisite, in order that the proper proportions, both of coloring matter and rennet, may be used. The temperature should be ascertained by the thermometer. Experience proves that when the dairy has been at seventy degrees, the best temperature at which to run the milk will be eighty-four degrees, but, as the temperature of the dairy at different times of the year will be found to vary above or below seventy degrees, the temperature of the milk must be proportionally regulated by the simple addition of cold water, to lower it; but to increase the temperature, heat the milk in the usual manner, although it is absolutely necessary to avoid heating it beyond one hundred and twenty degrees.

After having brought the milk to the required temperature, and added the coloring, for every quarter hundred-weight of cheese mix one point of new sour whey with the requisite proportion of rennet; and, having arrived at the formation of a good curd, which will be the inevitable result of a strict adherence to the foregoing rules, let it be carefully cut up with three-bladed knives, as fine as possible; then dip off half the whey, and heat a portion of it to the temperature of ninety-five degrees, and return it to the whey and curds, then, after stirring it for five minutes, allow the curd to sink, and as quickly as possible dip off the whey. Having done this, press the curd by placing on it a board weighted with from three to five fifty-pound weights, which will gradually and effectually press the remainder of the whey out.

TO CURE SELF MILKERS.—A correspondent of the *Indiana Farmer* relates the cure of a self-milker by smearing the teat with a compound composed of grafting wax (softened by the addition of a little lard) and cayenne pepper. The teats, of course, have to be cleaned before milking, but in a couple of weeks he found the habit so effectually broken as to render further applications unnecessary.

Profits from Dairying.

For the benefit of farmers in neighborhoods where it is proposed to establish cheese factories for next season, it may be well to give some general statements as to what may be expected. Annual receipts of from \$50 to \$100 per cow are reported, and truthfully, by some dairymen, but such returns as this are not to be expected by farmers generally, especially at the first. The following is probably a fair average, for average cows, on common or poor grass, and with only ordinary care during winter. The cheese factory should be kept in operation at least six months, say from May 1, to Oct. 31,—or say 180 days. During this time the cow should give 3,000 pounds of milk, making 300 pounds of cheese. For this milk the farmer will receive from \$27 to \$30. During three months more the cow will give say 1,000 pounds of milk—making from thirty to thirty-five pounds of butter—worth from \$6 to \$10.

Much better than this is done by many; but the receipts of many fall considerably below these figures.—*Western Farmer*.

THE MANUFACTURE of butter and cheese in 1840 was represented by 202,410,440 pounds, in 1870 by 677,018,095 pounds.

A CORRESPONDENT of the *Country Gentleman* states that thirty cows yielded 94,525 quarts of milk in a year—3,150 quarts per cow—60 quarts per week for each cow—or 8.57 quarts per day. The greatest monthly yield was in May—9,946 quarts from the thirty.

TO AVOID GREASY BUTTER.—L. B. Arnold says:—"Churn with pressure instead of friction.—The dash churn brings butter by pressure, and makes better butter than most other kinds of churns for that reason. Butter should also be worked by pressure instead of friction. The ladle or worker should not be drawn across the butter, but pressed down upon it."

AVERAGE FEED OF COWS.—At a meeting of milk producers in Massachusetts some time since, a Mr. Wetherell stated that cows upon an average need forty-five pounds of hay per day or its equivalent whilst giving milk. That large cows produce more milk for the amount of feed given than small ones. That scrub cows will give annually 1,400 quarts of milk, whilst the Holstein and some other breeds will produce 4,000. All cows should be kept clean, as well as their surroundings. In producing winter milk, cows without grain will do nothing.

COAL OIL LAMPS INJURIOUS TO MILK.—One of our dairymen, whose butter has a high reputation in this market, informs us there had lately been some complaint about it, the cause of which he for a time was unable to discover, but finally traced it to the fumes of a coal oil lamp used in lighting the milk room. It shows (if such a word is proper), the extreme sensitiveness of milk to the least impurity in the atmosphere, and its rapid power of absorption. The difficulty was entirely removed by putting in a tin ventilating tube, leading from the top of the chimney to the outside of the roof. The butter was not afterward complained of.—*Practical Farmer*.

WHITE SPECKS IN BUTTER.—L. B. Arnold says that white specks occur from several causes. The first cause he notes is the result of coagulation of the milk remaining in the cream by a minute germ. Any cause that ripens milk rapidly will produce the germ. When the germ grows, a little white speck is formed. Then a little gas is generated and the process continues throughout the mass. If the milk is feverish, this process is apt to proceed rapidly, and the specks will gather on the top. Other specks come from dried cream. Other are produced by the action of light. He had tried two years of the same milk, and had one sleeky and the other not. One pan stood in the light, and this developed the speck. The other stood in the shade, and had no specks. Scalding (heating to 130 degrees, he defined to be "scalding") the milk will kill the germs and consequently prevent flecks. A milk room should be just light enough so that one can read a newspaper, after being in the room ten or fifteen minutes.

EFFECT OF OIL-MEAL UPON BUTTER.—To a correspondent who enquired if linseed meal fed to cows will have any effect on the butter, the *Live Stock Journal* replies that it will, but the effect will be beneficial, generally, when fed in winter. The flavor of all butter is derived from the food. When the cow has a variety of grasses, such as white and red clover, and the sweet-scented varieties of old pastures, the butter has, when well made, a fine aromatic flavor. If you feed upon one kind of hay in winter, your butter will not have so fine a flavor as when fed upon a greater variety. Add oil-meal, and the flavor will be improved; add to these carrots and corn-meal, and a still finer flavor will result. There is nothing about oil-meal to injure the keeping qualities of butter; unless fed in too large quantity, when it would affect the health of the cow, being too laxative to be used as a principal food. Not more than 2 to 4 pounds should be fed to a cow per day, and that is better given with coarse fodder. Oil-meal, given in small quantity, say one quart per day, will have an excellent effect upon the health of the cow, quality and quantity of butter.