The Dairy.

Cream Gathering.

BY L. B. ARNOLD.

The practice of gathering cream instead of milk has become quite common in some sections of the Western States, and has been the subject of considerable discussion, just as all innovations upon old customs usually have been. The system has its points of excellence and its defects. It has special advantages in a sparsely settled country, because it allows of a much wider range of transportation than milk. When carried in the vessel in common use, milk cannot be carred far, nor much agitated, without becoming affected to the injury of the butter made from it. If long exposed to the temperature of summer air, it sours and the separation of its cream becomes impossible. If it becomes far advanced toward souring, but is not actually acid, it will be liable to become so before all of the cream can be separated, and loss will ensue. Then, again, if much agitated on the way, it will become churned to such an extent as to injure the butter by giving it a greasy texture, if it does not actually produce butter in the carrying can. Further, cream rises best and most perfectly while the milk is fresh and new. To take the benefit of this peculiarity it is necessary to get the milk to the creamery without much delay. This necessitates short routes and carrying twice a day. Cream, on the other hand, when once separated, can be carried long distances with comparative safety. If it sours it will not be spoiled for butter-making. Souring is thought to be an advantage by some. The writer does not share in this opinion, but many people hold it tenaciously. Neither will it be spoiled if it becomes partially churned on the way. But premature churning is easily avoided in the case of cream, by having the carrying cans small at the top and then filled exactly full. In this way churning while on the road can be effectually prevented, even on very long journeys.

The cost of drawing cream is but one-tenth that of drawing milk, for, in the first place, only one-fifth of the milk is taken as cream, and then it is moved but once a day instead of twice, besides a great decrease in travel and investment in teams. Taking the average routes, it costs one and one-fourth cents a pound on butter for drawing the milk. For drawing cream over the same route, it would cost one and one-fourth mill. But in drawing cream so much longer routes are taken than for milk, that two mills to the pound of butter will come nearer to the average cost.

About the quality of butter produced there is a difference of opinion. Some hold that it is equally good in both cases. Others, that butter from gathered cream is not as good as from cream raised at the factory. No one claims that the former is any better. Mr. Simpson, a dealer in Boston, who runs a dozen or more creameries in Iowa, finds the butter made from gathered cream not so good as that made from gathered milk. There are some reasons for anticipating that it would not be quite so good. Cream can be raised on the farm just as well as at a creamery, and just as good butter can be, and is, made at farms as at creameries, but in practice such is not the rule. Farms lack refrigeration, and it is difficult to procure it without considerable cost. Creameries can supply it cheaply. As cream is estimated by the inch, the milk must be set deep to get depth enough to the cream to estimate it with approximate accuracy. When milk is set deep it needs to be cooled or it will sour too soon for the cream to rise well, and it will get off flavor and effect the butter. This is one source of inferiority in butter from gathered cream. The practice of covering the milk cans air-tight while the cream is rising is another source. When fresh milk is left to itself at ordinary temperatures, the changes which are all the time going on within it cause the development of a peculiar odor whose formation varies with the temperature—the higher the temperature, within certain limits, the faster it forms, and the lower the temperature the slower it forms till it ceases entirely. If the milk is uncovered, the odor escapes as fast as it is formed, and does no harm and is not noticed. But if the milk is closely covered, it accumulates in and above the milk, but mostly in the cream, and hence finds its way into the butter to modify flavor, and texture, and keeping, unfavorably. If milk as soon set, could be quickly cooled so low as to greatly check the formation of odor, there would be but little objection to close covering. But, unfortunately, few farms afford facilities for such refrigeration, and hence the tendency from close covering is generally to depress quality. If, on the other hand, it is left open, there is a constant liability from its being exposed in so many places, to infection from bad air from without, and to injury from thunder storms from which it is free when covered air-tight.

The great point in gathering cream only lies in saving the transportation of milk and leaving the skim-milk in the hands of the producer. It cannot be successfully urged as a means for improving butter equal to that afforded by creameries. That the system of gathering cream is highly advantageous where milk producers are too widely separated to allow of gathering the milk, is beyond question. But where milk can be collected, it is a question to be balanced in the minds of all concerned, whether a reduction in quality is, or is not, more than equalled by the reduction in cost.

Dr. Voelcker on Butter.

In his talks at the Royal Show Yard, Derby, England, Dr. Voelcker, the very eminent authority, said that England ought to be more nearly self-supporting in the matter of butter, and might be, if her dairymen would learn how to make the choice butter now brought from Holstein, Denmark and America. Some of his points for good butter making are added: "My belief is that the first quality of butter is produced from pasture which contains a great variety of herbs, some of which might even be ranked as weeds. The question is: Can ordinary pasture produce first quality butter? and to that question I answer, 'Decidedly, if you take proper precautions to prevent the cream turning sour before it is churned.' This sourness, let me repeat, is the great hindrance in making high class butter. Many persons deem this a small matter, and unconsciously allow the cream to get somewhat sour before making butter; but if you desire to produce good, sweet, keeping butter, you must churn cream as sweet as possible. As to the question of shallow or deep pans for 'setting' for cream, I am an advocate for the use of deep ones. After being filled with milk, these pans should be placed in a vessel containing water—ordinary pump water answers well—for twelve hours; or, if the milk is extra warm a little ice may be used, and this would result in a large proportion of cream rising. In order to prevent rancidity it is very important that the cream should be made to prevent the caseine from turning. Although my profession is that of a chemist, I would impress upon you that the less chemicals you use, or the less you attempt to meddle with chemical agencies in the separation of butter from cream, the better will be the result. It is a purely mechanical process. If you pour off the buttermilk as soon as the butter comes, you will have butter much more free from the cheesy or curdy envelope which originally encased it in the creamy globule. And you will never make first-rate butter unless you preserve a regular temperature in churning. The temperature should never rise above 60°; it should be rather below than otherwise."

Dairy Farms—Their Fertility.

We trust no one will think we are opposed to science in agriculture. The fact is, we have taken our stand on the platform that science applied to agriculture is calculated to do as much good as when applied to any human affairs. Still, it is apparent that very much that goes by the name of scientific agriculture is little more than nonsense when tested by every-day experience.

We have now before us a learned treatise on the injurious effects of dairy farming; and the conclusion is reached that wherever much attention is given to milk and cheese production the land must inevitably deteriorate. In a milk dairy we are told that two-thirds of all the cow consumes is carried away from the land, never more to be returned thereto. What a fearful waste of mineral matter! And then we have a long sermon on the nature of casein and the other articles of its composition that has been carried away.

But what are the facts? There are no farms so rich, no soils so fertile, as those known as making up the milk dairies about large cities. There is no better way to bring up a poor farm than to establish a milk dairy on it. No matter how poor it may be at the start, it gets better every year; and if one has a farm to sell or to rent, to be able to say it is a milk dairy is one of the best advertisements. What then is the inference? No doubt, our friends are right when they say that selling milk carries away much mineral matter from the soil. But it is not true that the land becomes poorer for it. We fancy the soil is richer in mineral constituents than it gets credit for, or else that there is quite enough for all purposes returned to the soil in the regular manures of the barnyard which in good milk dairies always abound, and in consequence of which the farm-ground of a milk-dairy has so many fertilizing advantages.

How to Keep Butter.

In the report of the Vermont Dairymen's Association Mr. X. A. Willard stated that he knew from actual experience that good butter put up after the following directions will keep in sound condition one year:—Use for a package a tub somewhat tapering, with heavy staves and heads provided at both ends, so as to make a package that will not leak. In packing the tub is turned on the small end, and a sack of cotton cloth is made to fit the tub, and into this the butter is packed until it reaches to within an inch of the groove for holding the upper head. A cloth is next laid upon the top of the butter and the edges of the sack brought over this and neatly pressed down; then the head is put in its place and the hoops driven home. The package is now turned upon the large end and the sack of butter drops down, leaving a space on the sides and top. Strong brine is then poured through a hole in the small end until it will float the butter. The hole is tightly corked, and the butter is pretty effectually excluded from the air. Where only a small quantity of butter is to be preserved, L. B. Arnold advises packing it in self-sealing fruit jars. By this plan a little brine is put into the jar, which is then packed not quite full of granulated butter. Some bleached muslin is laid over the butter, then the little space above filled with salt, and finally enough strong brine, made from butter salt, poured in to fill the can. Mr. Willard advises when packing roll butter in jars that the brine be made strong enough to bear an egg. To three gallons of this brine he suggests adding a quarter of a pound of white sugar and one tablespoonful of salt-petre. Boil the brine, and when it is cool strain carefully. Make the butter into rolls and wrap each roll separately in white muslin cloth. Pack the jar full, weight the butter down and submerge in brine.

In Thuringia and Saxony cheese is made from potatoes. The potatoes, after being boiled, are reduced to a pulp. To five pounds of this pulp are added one pound of sour milk and the necessary amount of salt. The whole is kneaded together and the mixture covered up and allowed to lie three or four days, according to the season. At the end of this time it is kneaded anew, and the cheeses are placed in little baskets, where the superfluous moisture escapes. They are then allowed to dry in the shade, and placed in layers in large vessels, where they must remain for fifteen days.

The state inspector of milk of New Jersey, one day, caused 8,000 quarts of adulterated milk to be emptied into the dock at Jersey City, and six milkmen were fined $50 each for owning it.