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HINTS FOR BEGINNERS IN DAIRYING.

F. A. LEIGHTON.

The first and most essential requirement is to teach the patrons how to take care of the milk. Everything about the dairy that the milk comes in contact with should be of tin. The milk should be thoroughly cooled and aerated immediately after it is drawn from the cow to prevent souring. In winter it should be kept in a cool room. In summer it should be set in cold water until the collector calls for it. The delivery cans should be washed out with warm water in which some sal soda has been dissolved, then scalded and rinsed in cold water, and placed out of doors to air. The milk should not be allowed to stand in these cans as it will sour more rapidly than in the common setting cans, but should be poured in just before sending to the creamery. The collector should live at the farther end of the route and start early enough to deliver the milk to the creamery by 9 o'clock. The milk should not be allowed to freeze in winter, as it imparts a bitter taste to the butter, nor warm up in the summer above 75 degrees. Every collector should be provided with blankets to protect the milk in winter. By wetting the blankets in cold water in the summer and spreading over the cans they will keep the milk cool while on the road. The butter maker should examine every can separately to ascertain the condition of the milk before allowing it to be emptied into the weigh can, and if any defective milk is found it should be returned to the patron. One can of poor milk will injure a whole vat of good milk. In winter the milk should be partly warmed up in the receiving vat, and finished in the heating vat, as it will be easier to control the temperature that way. The milk should be at a temperature of 80 degrees never above when ready for separating. Regulate the cream outlet on the separator to take out nothing but the cream; for the thicker the cream the better the butter and less loss of butter fat in the butter milk. The skim milk should be tested
every day to ascertain if the separators are doing good work; if they are not, decrease the feed and increase the speed until there is a perfect separation. The cream should be immediately cooled after separating. In winter the cooling can be done in the tempering vat, but in the summer it can be cooled to better advantage by using a cream cooler. In winter, if the milk is separated every day, the cream should be allowed to stand forty-eight hours at a temperature of 60 degrees, but if separated every other day it can be ripened in twenty-four hours, if one gallon of butter milk to one hundred gallons of cream is used as a starter.

While the cream is in the vat it should be stirred as often as possible; it cannot be stirred too much. When cream is ripened enough it has a granular appearance and a slight acidity to the taste. The temperature for churning should be 56 degrees in summer and 60 in winter—not above that, as the lower the temperature the less loss of butter-fat in the butter milk. Fill the churn half full; add coloring enough to give the butter a natural June color. The churn should run about 45 revolutions per minute. Stop the churn two or three times at first and open the vent to allow the gas to escape.

It should take 35 or 40 minutes to complete a churning. The operator should be able to tell by the sound when the butter is beginning to gather; but should take the cover off to be sure it is churned all right, when the granules are about the size of red clover seeds; draw off the butter milk and run in a few pails of water by taking a hose and forcing a stream of water all through the butter. Draw this water off and run in as much more as would equal the volume of cream churned. Place the cover on and revolve the churn with the engine 15 or 20 times. Draw the water off and let it drain thoroughly. Too much care and attention cannot be given this part of the work, as this is where we produce the grain. And if the grain is spoiled the flavor is injured also.

Take out the butter with the ladle and put it in tubs, and set it on scales and weigh correctly. Put about 130 pounds on a five-foot worker, no more. If the table is overloaded the butter cannot be handled with as good results. The table should make six revolutions per minute. Start the
worker and turn the butter a few times working out all the water that is possible then the butter will retain most of the salt that is added. There should be one ounce of salt for every pound of butter. Work the butter until the salt is thoroughly mixed, but not enough to spoil the grain. Every butter maker should have a tryer and test the butter the next day to determine whether it is worked too much or not enough. If worked too much it has a salvy appearance, and if not enough it will be found streaked and mottled. Prepare the tubs for the butter by soaking them 12 hours before they are needed. Rub some salt on the inside of the tub. Place the butter in the tubs in small pieces and pack down firm and solid around the edges to exclude the air; and a tub should be stripped once in a while to examine how the work is being done. Take a notched straight edge and smooth the top of the butter one-eighth of an inch below the top edge of the tub. Place a cloth on smoothly and tuck down around the edges of the tub. Make a paste out of salt and water about the consistency of cream and fill the space on top of the butter.

Nail on the cover solidly using tinned steel tacks and four tins to each tub. Place the brand lengthways of the grain on the cover. Mark the net weight plainly on the side of the package and the butter is ready for shipment.

To wash out a churn first rinse with cold water to get all the particles of butter out. Then put in a few pails of hot water, place the cover on, leaving the vent open, and revolve a couple of minutes. Draw the water off, then take a steam hose and with a light pressure steam the churn through the butter milk outlet for about five minutes, then rinse with cold water and there will be no trouble in keeping it sweet and clean.

Plenty of sal-soda should be used in the water that the utensils and floors are washed with, then they should be scalded and rinsed with cold water. The floors should be scrubbed at least once a week with a strong solution of concentrated lye and hot water. All of the gates and faucets on milk vats should be steamed out every day, for there is more butter damaged by their not being properly washed than by any other one thing about the creamery.