

remarked, "as with this condition the cheese cure right and cure uniformly, and with less shrinkage than when the temperature is allowed to run up." Near the factory is a fine residence, lately remodelled, for the use of the maker. About \$1,800 were thus expended three years ago. The house contains all modern conveniences. Every factory should have a good residence for the maker, as it goes a long way towards keeping a good man in the business. Innerkip, Strathallan and Bright factories all have fine residences for their makers.

Improvement in Creamery Conditions.

Editor "The Farmer's Advocate":

In reply to your request for information, re creamery instruction work in Western Ontario this season, we are pleased to state that at the creameries and farms visited a great improvement has been made.

The greatest obstacles with which we have to contend are: First, a few creameries are slow to clean up or make improvements; second, quite a number of patrons are careless and indifferent in keeping the milk and cream utensils properly washed, or in giving the cream the necessary care.

It is discouraging to the patron who always has his cream in good condition, to feel that his neighbor's cream, which sometimes has not been properly cared for, will, in the majority of cases, be emptied into the same cream vat, thus lowering the quality of the good cream.

SEPARATORS NEGLECTED AND BADLY LOCATED.

This should not be, but what is the remedy? The majority of patrons have received some instruction in the best method of caring for separators and cream, but claim they do not get any more money for the extra care. Some patrons still follow that very bad system of washing the separator only once a day, although it is used twice. They admit that their cream is not good-flavored and sours much more quickly when the separator is washed only once a day, but claim that some of their neighbors wash only once, therefore they do the same. They say they acquired this habit by neglecting to wash the separator sometimes when in a hurry.

Some patrons still keep their separators in the stables, where the smell is not very nice. The bearings and the different parts of the machine become rusty, making the life of the machine short and the flavor of the cream bad, all because it is handy to feed the skim milk to the pigs and calves, which are generally too near by. They say it makes less trouble in handling. The cream from these same patrons is generally found in the kitchen or pantry, because it is too much trouble to carry it down cellar or put the cream can in cold water. The warm cream is run into the same vessel containing the old cream, because it saves a little time and bother in washing one more cream can, into which the warm cream should have been run and cooled before being mixed with the older cream. They do not remember to stir the mixed cream in order to get it evenly mixed. We thus find cream which in hot weather is usually sour, foamy on top, lumpy and curdy in the middle, with a quantity of whey in the bottom of the can. Quite often we find this class of creamery patron the greatest "kick-ers" about their test and the price they receive for their cream. They do not wish to go to any trouble in caring for their cream so long as they can get rid of it, then expect more money than they are entitled to for the work they do.

Patrons who do not take good care of their cream do not realize the injustice they do their neighbors who do, or that their own test would have increased and a better price been paid for their butter if their cream were delivered sweet.

GOOD METHODS AND SATISFACTORY CREAM

On one route of thirty-six patrons visited in the middle of August, where cream was collected only twice per week, one half had perfectly sweet cream, the other half cream slightly sour, but of good flavor. Some kept their cream in casks, others in cans, the cans sitting in a tub or tank of cold water. The separators were nearly all in good condition, the patrons exhibiting them with pride; many had been in use eight to twelve years and looked like new, only costing a few cents for repairs during this period. A few only were guilty of washing the separators but once per day; these running a quantity of cold water through them after finishing separating, which, no doubt, is better than warm or hot water, though the separators should be washed each time after being used. If some patrons can keep their cream sweet and good flavored for three or four days, why is it that in certain districts we do not see sufficient cream sweet and clean-flavored? Of course, where poor cream is taken in at the creamery it is impossible to make nice clean flavored butter.

BAD METHODS AND POOR RETURNS FOR FAT.

At a creamery which the writer visited lately

two-thirds of the cream received was sweet and clean-flavored, gathered three times per week; the other third was slightly sour and not quite so other third was slightly sour and not quite so well cared for. All were using separators. The price paid these patrons for the month of June was twenty-three cents per pound butter-fat. The adjoining creamery collected cream the same number of times per week, but nearly all the cream received was sour and off-flavored. The patrons received nineteen cents per pound butter-fat for the same month. Who is responsible for the difference in the price of butter-fat received from these two creameries?

On one cream route recently visited we found a number of "dilution" separators, which consist of an ordinary tin can with a tap at the bottom, and a sight glass from the bottom one foot in height, to show the cream line when skim milk is taken off. Milk and water are mixed in this can, and the cream is skimmed off when risen. Most of the cream was quite sweet, but had an insipid flavor. This system is not to be commended, as it dilutes the skim milk and leaves too large a percentage of fat, but the cream was in better condition than from some of those patrons having centrifugal separators on the same route, as the milk or cream did not come in contact with anything to contaminate, and the cream was always kept cool.

DIFFERENCE IN SEPARATORS.

In keeping a record of the different patrons visited during the past five years, the writer has taken particular notice of the different separators used by the patrons. Numerous inquiries revealed the fact that different separators have considerable to do with the success and general satisfaction of the patron relative to the creamery business. The points especially noticed re separators were the condition of the cream, sweet or sour, thick or thin, loss of fat in the skim milk, ease of turning and cleaning, cost of repairs and durability. From nearly two thousand patrons visited we came to the conclusion that some three or four different makes of separators were giving general satisfaction. Occasionally a separator other than the three or four mentioned gave good satisfaction, while some makes apparently do not give good satisfaction even in the hands of good patrons under the best conditions. With a number of makes of separators they cannot skim rich cream or run through a large quantity of milk without a large loss of fat in the skim milk. We have asked numerous patrons how they like their separators, and outside of three or four makes previously alluded to the same story is told, "running rough," "hard to turn," "cannot skim a rich cream," "always something going wrong," "have to send away for repairs or send the machine itself to have it rebalanced." The machines that are inclined to vibrate and are hard to turn are never kept at their proper speed, making thin cream and losing a large amount of fat in the skimmed milk. Sometimes the patron is to blame for this, and does not give the separator proper care, but one thing is certain, that the cream-gathered creamery system has been greatly hindered by poor classes of separators. F. D.

Steel Whey Tanks.

Some steel whey tanks have been used in Eastern Ontario for ten or twelve years, with no sign of rust or corrosion, the only observable effect of use being a slight brightening or polishing on the inside. This experience seems to indicate the indefinite durability of steel tanks, which are now being recommended by the instruction staff east of Toronto, instead of any other kind of tank. Wooden tanks will sometimes leak in two or three years, and very often absorb the whey, providing a seeding-ground for yeasts and other troubles, particularly where the whey is not pasteurized. The steel tank, on a cement foundation, is a permanent improvement, and an investment which in the long run yields not only satisfaction, but profit.

East of Kingston, Ont., the bulk of the milk delivered to cheese factories is hauled by the patrons; west of Kingston, most of it is hauled by loads under contract, sometimes by the hundred, but very often by the trip. It is a noteworthy fact that, notwithstanding the opportunity for helpful contact with the patrons which the former system would seem to afford, the most satisfactory conditions obtain in the area where the milk is hauled by loads. This may be due, however, to an independent cause. East of Kingston the majority of the factories are small, and the year's earnings of the maker very meager indeed, with the result that these factories are less efficiently manned than those farther west, and the general conditions attending the cheese business are rather less satisfactory.

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GARDEN & ORCHARD.

Co-operation in the United States.

A writer in Everybody's Magazine draws attention to what has been accomplished by co-operation among producers, and urges that farmers in many lines of production should profit by the experiences quoted, and organize for mutual benefit. Many instances of growers shipping their own produce, and being cheated by dishonest commission men, are referred to. For example, a grower in Southern Texas had a car of potatoes for sale. A buyer offered him a dollar a bushel at the station, but the price was not fancy enough in the grower's estimation, so he consigned the car to a commission merchant in Cleveland, Ohio, and, after a long delay, received a check for \$2.65, the consignee explaining that the shipment had arrived in bad order, that the potatoes were decaying, and that the check enclosed represented the revenue realized from their sale, less, of course, the freight charges and his commission. The grower accepted the \$2.65, when he might as well have had \$400. In dozens of other cases growers not only lost their shipments, but were compelled to pay freight charges after the commission man had gobbled up all the proceeds.

Something had to be done. The growers got together, organized "locals" and a strong central organization, with a high-salaried manager. The same grower who had to take \$2.65 for a car of early potatoes realized through the association a net profit of \$325 an acre on common red carrots. This season, on one railway line alone 1,300 cars of garden truck and melons have been forwarded, and a substantial profit realized. Organization, asserts the writer, has protected them against their own inexperience, their ignorance of market conditions and methods, and the devices of the crooked class of commission merchants.

For years the planting of peach trees has been going on steadily in the State of Georgia, on both large and small farms, until the claim is now made that it is the greatest peach-producing State in the Union. Last year there was a total crop of 8,000 cars. Growers, acting independently, glutted the New York market. One day in July, 209 cars of peaches arrived, and the next day 100 more fruit cars came in. About 150 cars were sold for just enough to pay the freight from Georgia, and tons of peaches were dumped into the bay by order of the New York Board of Health. Speculators made money; the growers got nothing. Nearly 2,000 carloads rotted on the trees because they would not pay for the picking.

That experience gave birth to the Georgia Fruit Exchange, a strong organization, which has its own inspectors in all the principal markets—about fifty in all—as well as inspectors at icing points on railway lines. Arrangements have been made to receive daily special reports from all the principal markets, so the management may regulate the supply sent to any point, according to the demand.

The apple-growers of Washington, Oregon, Idaho and Colorado have effective co-operative associations to protect their own interests and extend their business.

In Virginia there are two counties which were largely given to the production of Irish and sweet potatoes and cabbages, but which were, on the whole, unprofitably worked, until the growers organized into an association. A uniform system of grading and packing was introduced, crops were handled and marketed collectively, with the result that those two counties are now examples of profitable agriculture.

As in Canada, so, also, on the other side of the line, the honey-producers have their associations, through which not only information is distributed, but assistance is given in the marketing of the product.

But it is in California that the most complete and powerful co-operative association is to be found. In the year 1893, many hundreds of orange and lemon orchards, on which much labor and expense had been lavished, had at last come into abundant bearing. Great jubilation was indulged in. But of the more than 4,000 carloads of fruit shipped out of the State that season, about half barely paid shipping and marketing expenses. A big convention called, resulted in the organization of The California Fruit-growers' Exchange, an association which has the trade in Western citrus fruits, from the grower to the consumer, thoroughly in hand. In each town the local association operates its packing-houses, and each member's product is credited to him, according to grade. Representatives of the association are in every market to protect its interests. An army of inspectors is stationed along every route traversed by its cars, and divert cars from overstocked markets to those in need of oranges and lemons.

The article closes with this word of advice: "Get together, and stand together."