

his own creamery he is limited to the manufacture of butter to meet the requirements of one or possibly two market standards. As long as he remains content with his present knowledge and environment, well and good, but if he looks forward with the ambition to buy butter some day, either on his own account or for somebody else, the best thing he can do is to get a position with some reliable wholesale produce firm at an important distributing center, and the chances are that within a year he will acknowledge that he has learned more about judging butter than he ever knew before, and that he will probably be able to discriminate between the special requirements of special markets, as well as to distinguish just how far his own personal taste should or should not enter into his judgment.

Oxford Co., Ont. H. WESTON PARRY.

Problems of the Dairy.

By Laura Rose.

CHURNING.

In the last article we spoke at length of the churning temperature of cream, so now we will deal with the churning proper.

I prefer a barrel churn, with no dashers or workers in the inside, and I like a large churn. If the churn has been standing in a very cold place, bring it in and let it warm.

When ready to begin churning, strain in some hot water to scald the churn. After taking the water out, by pouring it from the top of the churn, which removes any floating dust, and is quicker than allowing the water to run through the plug hole, strain in some cold water to rinse the churn. When cream is put into a hot churn, one can never tell how many degrees it is going to raise the temperature of the cream.

When you have brought the cream to the desired temperature, strain it through a fine wire sieve or perforated tin dipper. It is nice to know just what has gone into the churn. We want to keep out any hard, clotted cream or curdy matter.

A little butter coloring does no harm, and improves the looks of the butter. If the quantity of cream is small, more accurate results may be had by allowing so many drops—from two to four—per pound of butter. Always err on the pale side.

When churning, I like, at first, the churn to revolve just as fast as will allow the cream to drop. When the cream thickens, lessen the speed until it breaks, when the speed may be increased. If the butter is gathering fast, keep up the speed; if slowly, churn slowly.

Churning should cease when the particles of butter have reached the size of wheat grains. If the churning is completed, no butter should come out with the first-drawn buttermilk. This is easily noticed if the buttermilk is allowed to run through a wire sieve. To better float the butter, and cause a cleaner separation of it from the buttermilk, I add two or three quarts of water a little below churning temperature, just shortly before the buttermilk is drawn off.

To wash the butter, strain into the churn as much or more water as you had cream. In winter it is necessary to take the temperature of the water. I usually have it from four to six degrees colder than the cream. This depends on the firmness of the butter and the heat of the room where the butter is to be worked. Revolve the churn rapidly and draw off the water. One washing is sufficient, unless the butter is very soft or has a bad flavor; in such cases, a second washing will help it.

The salting may be done in the churn or on the worker. The amount of salt depends on the market or the consumer's taste. Three-quarters of an ounce on the worker, and one ounce per pound in the churn, meets the usual demand. I prefer salting in the churn. It insures a more even distribution of the salt, with less working. Have the butter spread over the bottom of the churn. Estimate the amount, and weigh the salt. Sift part of it over the butter, then tilt the churn to fold over the butter, sift on more salt, tilt the churn the opposite way, and sift on the remainder of the salt. Revolve the churn slowly till the butter masses together into one or more lumps. If the butter can remain in the churn in this condition for an hour or two, so much the better; if not, take it out on the worker and give it one good working, using pressure only. Avoid a sliding motion; it makes the butter greasy and salvy. If salting on the worker is practiced, the butter is removed from the churn in granular form, weighed, put on the lever butter worker, and the required amount of salt sifted over. Do not start to work without covering over the salt. Give sufficient working to remove excessive moisture and to evenly distribute the salt. Better a little too much than not enough working.

The most popular form to market butter is in the one-pound brick-shape mould. The butter print should be so adjusted that the print weighs a scant 16½ ounces when wrapped in the wet

sheet of parchment paper. The little extra weight allows for evaporation.

Wetting the paper makes it possible to get it more neatly on the butter, and the paper will not stick to the butter. Nothing but the best quality of parchment paper should be used, and it is worth while having the name of the farm or the maker printed on it. In this way a reputation for the butter is established.

Some Surprising Dairy Figures.

Wisconsin, in 1906, produced 125,000,000 lbs. of butter, having a value of \$35,000,000, while its cheese returns for the same year added \$17,000,000 to the account. The dairy products of the State exceed by \$3,000,000 the total income from wheat, oats, barley, flax and potatoes. The creamery butter alone in the State of Iowa had last year a valuation of \$28,000,000, while that of the crops above named totalled \$55,000,000. Minnesota has increased the annual value of the output of her dairy products from \$6,000,000, in 1890, to \$41,000,000 at the present time. Professor Hecker, of the Minnesota Station, estimates that he is able to get product worth \$2.24 out of every dollar's worth of fodder fed to the College herd. Every herd will not do so well, which is clear proof that there are many cows that are nothing more than female kine.

GARDEN & ORCHARD.

Orchard Practices in Norfolk.

A brief talk with members of the Norfolk Fruit-growers' Association is all that is needed to convince anyone that co-operation as known in the district surrounding Simcoe has been a benefit to the individual members, and to the whole community. Orchards that a few years ago were "eyesores" and annual burdens to the owners, now are proclaimed the most valuable asset of extensive operations in mixed farming. The change has been brought about by education through the association formed but three years ago, and the businesslike disposal of the product of orchards belonging to members by a shrewd and competent manager.

Chief among the enthusiastic promoters of the Norfolk Association is J. J. Gilbertson. It was not because of lack of effort on his part that organization was not effected prior to 1906. He, along with a few others, made an attempt to form an association in 1905. Meetings were held, and experts discussed the various phases of co-operation. Papers were prepared for organization, but the enthusiasm in some quarters seemed to wane, and the fact that a competent manager was not in sight resulted in disaster. Farmers interested did not stick together, and the boon was delayed.

"I have belonged to the Norfolk Fruit-growers' Association since it was formed three years ago," said Mr. Gilbertson to a "Farmer's Advocate" representative recently. "I had been in the apple business, and certain experiences had a strong tendency to make me anxious for the formation of an association. About seven years ago I had a magnificent crop of apples. I made a satisfactory sale at high prices—but this bargain was satisfactory only on paper. The buyer never came to pack until November 7th. The apples had been lying on the ground for some

time, and were fast deteriorating. The purchaser was to take everything, but at every turn I was a loser, and \$300 would not cover my losses that season in having to dispose of my apples in this way. I was taught to seek out a plan whereby growers could handle their own fruit and make maximum profits.

PRUNING AND SPRAYING.

"I took an active part in the organization here, and have been learning every season since. A few years ago our pruners started at the inside or center of the tree and worked out. It was soon found that this was a mistake. Now we start outside and work in. We used to trim off the fruit spurs, leaving them only at the point of a branch. Now fruit spurs are left all the way down to the trunk, and the fruit is distributed. This gives a greatly-increased yield and a balanced tree. Sometimes it is found necessary to prop up the limbs.

"In the past it was not the custom to spray orchard trees. Now I spray thoroughly three times, and I am certain that it pays. In this regard there is a difficulty in the fact that new members sometimes neither grasp the idea of spraying nor comprehend the value of absolute thoroughness. In spraying after the blossoms begin to fall particular care is demanded. New pests and more of the old ones commonly put in appearance if precautions are not taken. Last season the Tussock moth was bad. Spraying must be done when required, no matter what other work may be urgent. A strict watch must be kept to see when the trees are ready, and then weather conditions have to be taken advantage of. Our standard spraying mixture contains 60 or 70 lbs. of lime to 100 gallons of water. This excess of lime is desirable. With the 4-4-40 mixture there is not enough lime. It is difficult to distinguish sprayed from unsprayed trees.

CULTIVATION AND FERTILIZING.

"I practice clean cultivation in the orchard. Cover crop is sown in late summer. For the past two seasons buckwheat and rye mixture has been put in about the middle of July. The former comes up quickly and keeps ahead of the weeds, while the rye comes on later and remains after the buckwheat dies.

"For two years in succession I have used fertilizer, in the form of barnyard manure. I am able to get it in town at 50 cents a load. I reckon the total cost, including expense of hauling it home, at \$1.00 a load. I consider it would be wise to pay as high as \$1.00 a load in town for manure in preference to using artificial preparations. I haul one ton or sometimes one and a half tons at a load. My farm is only three miles from town, but I think it would pay to haul manure at least six miles.

LABOR QUESTION NO HANDICAP.

"Little or no trouble has been experienced securing help when it is needed. In fact, few extra hands are required except for picking, and at that season work in other lines usually is not urgent. Pruning can be done in March or early April, before regular farm work commences. An orchard can take much or little labor, depending on the thoroughness of the operations. I realize more money from apples than from any other product on the farm. On my 160-acre farm, twelve acres are in apples, the balance being devoted to mixed farming. Milk cows are kept and grain grown



Picking and Packing Apples in Norfolk County.

Hand thinning in early summer in the orchard of J. J. Gilbertson resulted in only 73 barrels of seconds out of a pack of 880 barrels. Uniform size and freedom from blemish made grading easy on a padded grading-table.