

the work. It is possible to churn over 700 pounds of butter at once. When the butter is gathered, the buttermilk is drawn off and pumped to an elevated tank, then the butter is washed to remove all milk. Usually two washings are given. The rate of salting depends on the market, but the amount of salt used does not necessarily determine the amount retained in the butter as it is dependent upon the thoroughness of draining the butter before salting, the fineness of butter granules and the amount of butter. The butter-maker soon finds out the method of working and salting the butter that gives best results, and a uniform product is turned out from day to day. About three-quarters of an ounce of salt is used to every gallon of cream. Care is always taken to have the salt evenly distributed through the butter. A power butter worker is used in these large churns to assist in expelling moisture and to aid in evenly incorporating the salt. Just when the point is reached when the butter has been worked sufficiently is not readily determined by the appearance at time of working, but if, after allowing it to stand for four or five hours, there is an appearance of white streaks or mottles, it is an indication that the butter has been insufficiently worked. The operator soon becomes expert at regulating the amount of salt and working necessary to suit his customers. The butter is removed from the churn and placed on a table where one man puts it up in one-pound prints. In this creamery a woman is employed for wrapping the butter. By doing the work practically every day, a person soon becomes expert at it and it does not take long to print and wrap six or seven hundred pounds. The butter wrapper is stamped with the words "Locust Hill Creamery," also with a registered number. Butter is packed in flat boxes that hold sixty pounds. The butter is kept in a cold storage building in connection with the creamery until it is shipped. A team and wagon is used to haul the butter to a commission house in Toronto. The demand for butter manufactured in this creamery exceeds the supply. Last year about 180,000 pounds of butter were made but the capacity of the creamery is such that much more butter might be manufactured could a greater supply of cream be secured. Three men are required to do the work. Receiving and weighing the cream, pasteurizing and ripening it, churning and printing, are by no means the extent of the work in a creamery. The engine must be looked after, the floors and numerous small utensils as pails, dippers, etc., must be kept clean as well as the vats and churn. While a good deal of the heavy work is done by machinery, there is plenty of detail work that requires careful attention. The making of good butter is an art and the butter-maker must know every phase of the business in order to turn out a high-class product. A little carelessness in looking after the cream, or in salting and working, may result in serious loss.

#### Testing and Paving for Cream.

Testing is done only once a month. A sample is taken, from each can of cream delivered, and kept in a preservative until time of testing. When the composite sample is kept in a tightly-stopped bottle to prevent evaporation very satisfactory tests are obtained. For testing, the composite sample is measured out with a pipette into the graduated cream bottle used in the Babcock tester. A large turbine tester is used in order to accomplish the work of testing as quickly as possible. The cream varies from as low as twenty to as high as forty per cent. butter fat, although cream testing from thirty to thirty-five per cent. is preferred by the butter-maker. It is also to the dairymen's advantage to sell a fairly high-testing cream, as they have more skim-milk for feeding and less weight to draw or ship.

The patrons are paid by cheque and to each cheque is attached a stub on which the weight of cream delivered is marked, together with the test, number of pounds of butter-fat, and the price. This stub is retained by the patron when the cheque is presented for payment.

Every creamery has a large supply of buttermilk to market. If located in the city a good deal of this may be retailed, but in the country the supply is usually auctioned off to one of the farmers who draws it away every day. Some creamerymen have a piggery in connection with their plant, and by raising and feeding hogs derive considerable revenue. Reesor Bros. sell the buttermilk to a stockman in the neighborhood at so much per hundred-weight.

While the main process of manufacture is similar in all creameries, the detail methods vary somewhat. Some buttermakers test the cream every two weeks and others test every can and inform the patrons as to the weight and percentage butter-fat. While this may be a better plan than testing only once a month, it is doubtful if it is any more accurate. In the majority of creameries the sample is weighed instead of measured for testing.

Instead of printing the butter, many creameries pack it in boxes as some markets prefer to buy the butter in solids and cut it in pound prints as desired. All buttermakers must regulate the amount of salt and butter coloring, also the method of putting up the butter to meet market requirements. Quality and appearance count for a good deal.

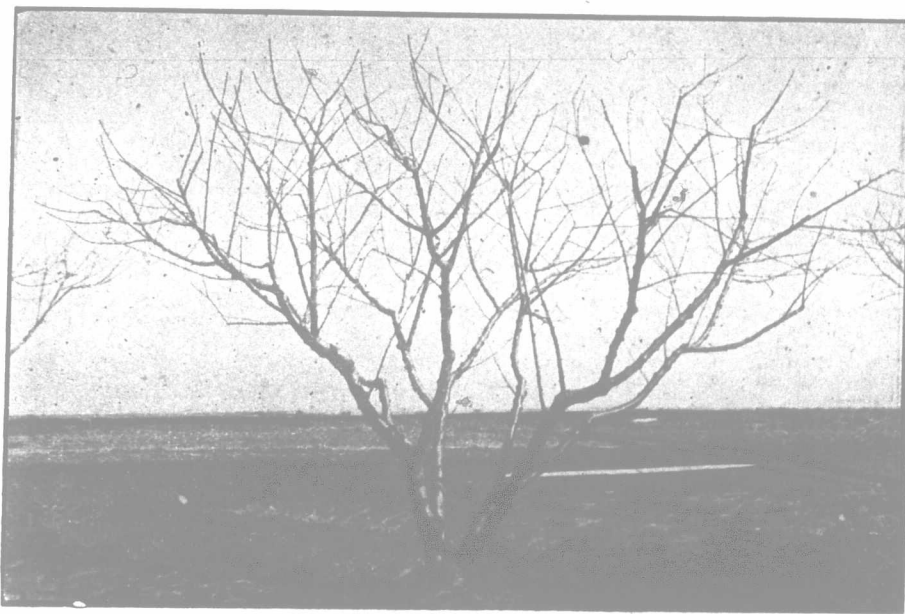
Correct weights and careful testing by the butter-maker, in order to win and retain the confidence of the patrons is essential in order for a creamery to build up a large business. The patrons also have a duty to perform in order that the manufacturers may turn out a product of first-class quality. The nature of the finished article is largely dependent on the raw material used. Every patron owes it to himself and to the dairy industry to care for his cream so that it will be

of first grade. Instead of having legislation to force grading of dairy products, in order that they will compare favorably when in competition with the dairy output of other countries, every dairyman should aim at selling materials of a quality that will stand the most severe test. Creamerymen are not alone to blame if Canadian butter is not equal in quality to that of other countries. It requires good cream to make good butter. Dairymen, creamerymen and dealers must not shirk their individual responsibility. With a supply of good cream, properly manufactured in the creameries and the product carefully handled by the dealers, it is possible to have and keep Canadian butter in first place in the world's butter markets.

## HORTICULTURE.

### Peach Pruning Hints for the Amateur.

Amateur peach growers must often wonder at the mutilated appearance of a mature peach tree after an experienced hand has pruned it. In many cases it appears to be all trunk and branches, with only a few twigs left which were ostensibly missed or overlooked by the pruner. Others do not prune quite so severely as this, but the general practice is to keep the centre thinned out and the top more or less headed back. A peculiarity of the peach suggests and warrants this treatment. The fruit of a peach tree is usually borne on wood only one year old; that is, the crop of 1916 will be produced on twigs and shoots that grew in 1915. Any wood in the tree which does not produce fruit this year, except that which grows in 1916, can never be expected to bear. Therefore, from the viewpoint of fruit alone it matters little how much of the old wood is taken out, provided enough of the new wood remains. The top must be kept balanced, and for cultural purposes fairly low, and after these requirements have been observed it does not matter how much old wood is removed. The shoots in the centre of the top will eventually die and drop out, so they may as well be removed first as last. In the accompanying illustration, secured through the courtesy of the Ontario Horticultural Experiment Station, may be seen a tree which, by one class of growers, is considered correctly pruned. However, this tree has been treated more leniently than many one will see when driving through the Niagara District. It will be observed that the centre is quite open. The top is headed back, but there is sufficient of last year's growth left on the branches to bear all the fruit the



A Well-pruned Peach Tree.

tree should carry. The heading-in of the tree will encourage the growth of new wood, which should bring forth fruit the following season. Some growers prefer to leave the top shoots of the tree untouched. In such a case the tree gradually becomes high, and so much new wood is not forthcoming each year.

If pruning is left fairly late in the season one can often thin the fruit while pruning. The buds are borne singly, in pairs, and in threes. When in pairs, one is usually a fruit bud and the other a leaf bud, the former being larger and plumper than the latter. When in threes, the two outside buds are usually fruit buds, while the centre and smallest one is a leaf bud. By cutting back some of the previous season's growth and leaving only a certain number of buds, fruit can be thinned. The one point, however, that should always be borne in mind is that the crop appears on the growth made during the previous season. With this in mind any pruner can shape the tree to his own satisfaction, and strive to develop a tree that will conform to his own ideals.

### Railway Tariffs Affecting Fruit Growers.

In a recent interview, Geo. E. McIntosh, Transportation Agent for the Ontario Fruit Growers' Association, mentioned some important changes in tariff rates that will concern fruit growers during the coming shipping season. One change of importance is that no refrigerator car will be supplied for a shipment

of less than 10,000 pounds, at the ordinary rate, but when it is desirable to use a car for mixed lots aggregating less than 10,000 pounds, the shortage in weight will be distributed pro rata over the various shippers using the car. This ruling of the Canadian Freight Association became effective on April 1.

Shipments of fruit and vegetables in the same car will be permitted to points in Ontario, Quebec, and the Maritime Provinces. Mixed carloads of fruit and vegetables in lots of less than 10,000 pounds will go as first class. Mixed carloads of 10,000 pounds and over are rated as second class, and carloads of 20,000 pounds and over as fourth class. Formerly there has been a separate rate for fruit and vegetables in mixed lots, but this year shippers will be permitted to combine these small orders with considerable saving.

The railways propose raising the initial charge for icing cars from \$2.50 to \$3 per net ton. This is an advance of 50 cents over the present rate. Furthermore, it is proposed to make a charge for hauling the ice, based on the distance the car travels, ranging from \$2 per ton for 350 miles and less to \$10.90 per car for 1,351 to 1,450 miles. When ice is supplied by shipper at point of origin and car is billed "not to be re-iced in transit" it is proposed to charge for hauling the ice as follows:

To points in Ontario, (west of Fort William) and Manitoba, to and including Winnipeg...	\$10.90
To points west of Winnipeg, in the Province of Manitoba.....	12.40
To points in the Province of Saskatchewan.....	14.60
To points in the Province of Alberta.....	19.10
To points in the Province of British Columbia.....	\$19.10 and 22.10

If the railway supplies the ice at point of origin the charge will be \$3 per net ton in addition to the above.

This change in tariff is not known, at time of writing, to be final. This matter was to have been discussed before the Board of Railway Commissioners at Ottawa on April 18.

### Trees Girdled by Mice in Forest District.

A serious loss has resulted in the Forest district on account of the injury wrought by mice and rabbits on young trees. In not a few orchards along the Lake Shore, and inland as well, a very appreciable percentage of the trees have been girdled by mice. Rabbits, too, were active in the young orchards during the winter, and considerable damage can be charged to these furry animals. Two meetings were called in the district by the

Lambton County Branch of the Ontario Department of Agriculture, on April 4. A. G. Harris, from the Horticultural Experiment Station, at Vineland, was in attendance and gave a practical demonstration of bridge-grafting. By this operation the barks above and below the girdle are connected with a scion. The ragged edges and dried bark should be pared away, and after the fresh bark is lifted from the wood, freshly-cut scions can be inserted. The end of this bridge, or scion, must be whittled down so the inner bark of the tree, and the inner bark of the scion can connect and establish the circulation which has been impaired by the girdle. If the scion is longer than the space to be bridged it will hold

itself in place. Several scions, depending on the size of the trunk, must be inserted in each tree. The exposed wood and injured parts should be covered with grafting wax or white lead and oil, to prevent the wood from drying out. Mr. Harris, however, did not recommend bridge-grafting as a commercial proposition. It was possible, he said, to preserve "pet" trees in this way, but he did not consider it feasible to make extensive use of the practice.

Growers were lax last winter in applying preventive measures to forestall injury from mice. Several winters have passed without any serious loss, and the importance of fortifying against such damage has been minimized. The first three months of 1916 were peculiar. January was exceedingly open, but February and March closed in with continued cold and a steady covering of snow. This prolonged the season and made the supply of food short for ground vermin. The result was injury to the trees. We have good reason to believe that the condition was quite general, as similar injury resulted in Middlesex County and elsewhere.

The orchardists in the Forest district have apparently not yet adopted the best cultural methods, taking everything into consideration. A cover-crop to check the growth of the trees and hold the snow fosters mice. When no cover-crop is used, the wood growth is often excessive and winter injury to the tender branches and twigs is liable to occur. What is to be done?

Several trees were this year girdled in the orchard