

## Top-Working Unprofitable Fruit Trees

**T**OP-WORKING orchard trees is the grafting over of old trees or of worthless varieties after they are established in the orchard. It is an important operation in the secondary care of fruit orchards and may be practised on trees of all ages, provided they are strong and healthy.

Varieties that have been planted and found not suited to local and climatic conditions or to the demands of the market may be worked over with some variety of desired merit. Top-working may be useful also for grafting varieties into the tops of self-sterile trees to ensure cross pollination. It may be employed to reform the tops of trees that have been found not true to name. It is the best means for saving time in testing new varieties by top-working them into bearing trees. It is a means of overcoming weak, straggling, and other bad habits in certain varieties. It is also an important factor in reducing the danger of sun-scald by grafting a susceptible sort on a variety that has proved more resistant to the disease. It may be used in some cases to modify insect injuries.

Top-working may, therefore, be used by the fruit grower with advantage in many ways. Chief among the many and the one of most importance in most orchards is the changing of poor varieties for ones of value.

In the case of the peach, top-working is best done by bud-grafting. Budding is a part of the general process of grafting, but differs from grafting proper in that the scion used consists of a single bud instead of a twig comprising one or more buds. The bud may be successfully set in old wood, but to secure more certain results it is necessary to bud on wood of one season's growth. To get this new wood, the main branches should be cut back when the tree is dormant to within one and a half feet of the trunk. The following season a new growth will spring from the stubs, and this may be utilized for the desired purpose. If the growth has been superfluous, only a portion of the new shoots need be budded. It is advisable, however, to bud more than eventually will be required, so as to ensure a sufficient number of perfect unions. All unions in excess of the desired number which is usually four or five, may be removed when growth starts the following spring.

Apple trees are usually top-worked by means of the cleft graft. As a rule, it is better to top-work each year only a portion of the top of old trees so as not to be too severe. Cut the branches of an inch or an inch and a half in diameter off squarely, making a clean cut with no ragged edges.

Split these in the centre and insert the scions, usually two, one on either side, so that the cambium or green layer just beneath the bark comes in contact with the cambium of the stock. Coat the wounds with grafting wax or wax bandages so as to exclude the air and the spores of disease and to allow of rapid healing. Cleft grafting is not difficult in the hands of a person of ordinary care and intelligence.

### Fighting Plum Curculio

Among the insects which attack the plum orchard the curculio is the most destructive. Many methods of combatting this insect have been tried, but few of them can be claimed to be effective.

Regarding successful treatment, Mr. F. G. Stewart, of Homer, wrote THE HORTICULTURIST as follows: "Last season I used altogether arsenate of lead for plums, and I do not find more than two plums cut by the curculio on a tree. It is more expensive than Paris green. The latter costs about four cents a barrel, while it takes three pounds of the lead at 17 cts. a pound, or 51 cts. worth for a barrel. But what would that matter on 50 trees, when it saves the crop so well. Three baskets of good plums will more than pay the difference. Another point in favor of the lead arsenate is that it does not wash off as readily as does Paris green."

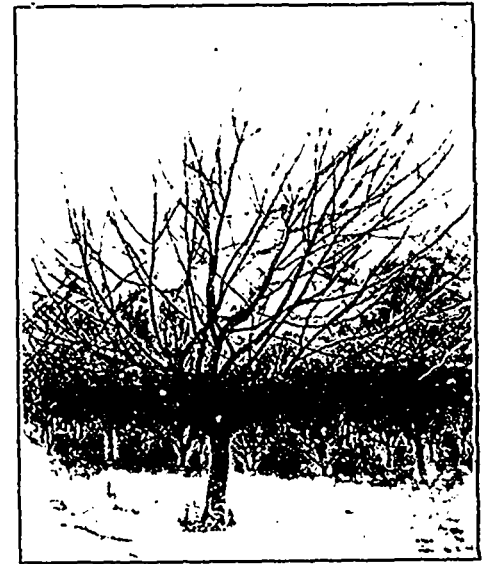
### The Gravenstein

Ralph S. Eaton, Kentville, Nova Scotia

A better apple might have been made than the Gravenstein, but few Nova Scotians will admit that a better one exists, either as a dessert apple or for cooking. Like much highly bred stock, however, the tree and fruit has some weak or tender points. The tree has been more susceptible to so-called "collar rot" than any other variety, and some growers are hesitating to include it in their new plantings. The fruit is susceptible also to black spot, and, as it is a large and early maturing variety, its rapid expansion of pulp and skin causes cracks where the roots of the spot have their hold.

Previous to five years ago, the Gravenstein brought more money to Nova Scotia growers than any other variety. Since then the Baldwin and perhaps Ribston have led. But it is too fine an apple to give up growing, and there is hardly sufficient reason for doing so. The "collar rot" was due probably to some special climatic conditions of the winter of 1900, which may not recur for many years. There is ample proof that with thorough spraying the fruit can be grown beautifully clean. The tree re-

quires very little pruning and is a beautiful, symmetrical grower. Though the first home of the Gravenstein was in



Typical Gravenstein Tree, Pruned

Germany, Nova Scotians feel that they can surpass the German product.

### An Effective Windbreak

This windbreak is on the farm of Mr. T. A. Scott, of Meyersburg, Ont., who writes to THE CANADIAN HORTICULTURIST as follows: "It has paid its cost over and over again and I would not be without it. It saves 25 to 50 per cent. of my apples each year. It is about 25 feet distant from the nearest row of trees, so it does not shade them. In most orchards the air circulates too freely, more especially in a winter like 1904, when many farmers lost a great number of both young and full grown trees by frost. Mine came through safe with the exception of one or two at the end of



A Shelter Belt of Spruce Trees

the break. I would not think of planting an orchard without a break on the west and north side, if not already protected by a hill, and if I had an orchard already grown I would lose no time in planting a break. Spruce makes the best.