

could plow five. Along in June and July there come wet days when the teams could do nothing else. He sends a man with a mowing machine into the orchard and another with a scythe to trim around the trees. This fits into a system of farm management that will appeal to many."

#### THE OTHER SIDE

The other side of the question is given in the Geneva bulletin. The Hitchings method is simplicity itself. The land remains in sod indefinitely, the grass is cut for a mulch once or twice a season, and is left on the ground. Three plats were included: A lies on the floor of a valley and is comparatively level, B lies on the lower part of a rolling hill; C is higher up on the hillside.

In each plat half the land is in tillage and half in sod. All appear to be well supplied with phosphorus, potash and

nitrogen; B and C receive the hillside seepage. All parts were given the same treatment except for tillage. All the factors favor the sod mulch method. The tilled plats were plowed early in the spring and cultivated from seven to eleven times, a cover crop, usually clover, following. In the sod plats was a mixture of orchard grass and blue grass.

Mishaps and slow maturity prevented crop yields in plat A. The sod trees yielded a little less than four bushels a tree and the tillage bore a little more than three. The difference in favor of the former was due to a greater number of apples and not to increased size.

The cultivated trees in the valley did better comparatively because there was more moisture on the hillside. The tilled trees always had darker foliage although the amount of growth was about the same. The cost for the tilled plats was

\$16.28 an acre and for the sod plats seventy-two cents an acre.

In conclusion while tillage is the best method of caring for the great majority of orchards, yet there are peculiar conditions under which the Hitchings' method may be used advantageously:

First—On steep hillsides, where the land washes badly.

Second—On land covered with rocks, trees may stand best in sod.

Third—the Hitchings' method is suitable only for soils of sufficient depth; on shallow soils it will usually prove a failure.

Fourth—Soil must be retentive of moisture. Tillage is to be preferred for land that suffers from drought.

Fifth—Since the cost of caring for a mulch orchard is less, a greater acreage may be handled at the same cost and the net returns be as large as in a smaller tilled orchard.

## Fire Blight and How to Fight It\*

Prof. W. H. Brittain, Provincial Entomologist, Nova Scotia

**F**IRE blight is a disease that is of bacterial origin. In this respect it is comparable to diseases which affect men and animals, such as cholera, blood poisoning, tuberculosis etc., and it may become epidemic in character. The organism which causes this disease (*Bacillus amylovorus*) is extremely minute, measuring only one twenty-five thousandth of an inch long, and one-forty-five thousandth of an inch wide. When carried to the blossoms this germ is capable of multiplying rapidly in the nectar of the flower and from thence spreading downward and destroying the spur. When twigs or shoots are pierced by insects bearing infected material the organism grows and multiplies, feeding upon and destroying the tissues of the inner bark and cambium. It does not, however, winter over in the infested shoots, but in so-called "holdover" cankers upon the limbs or trunk.

#### SYMPTOMS.

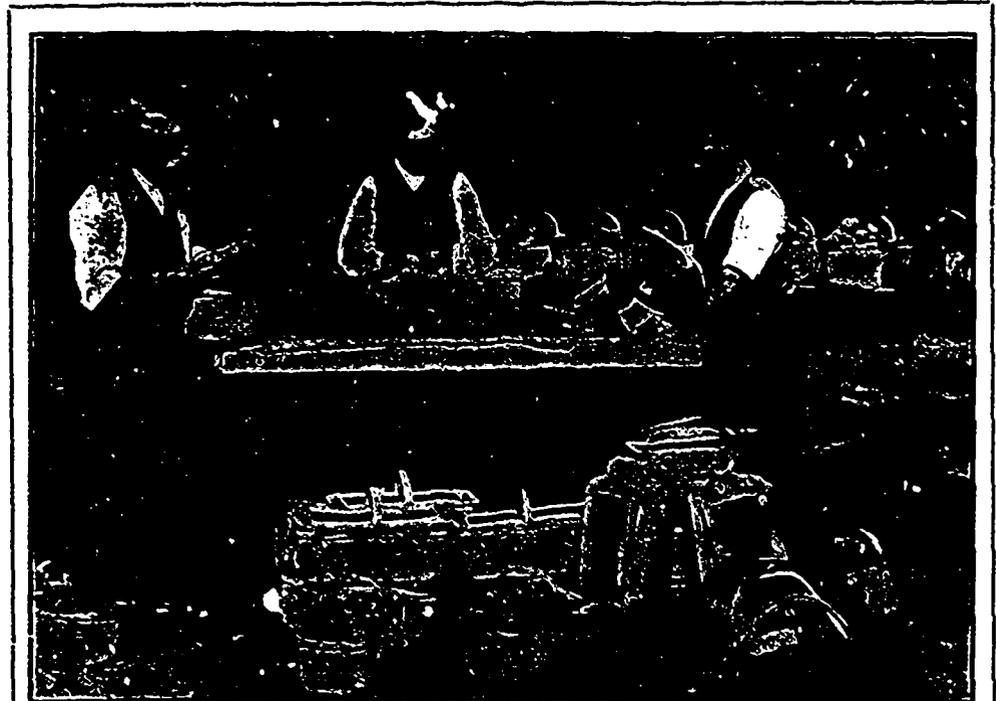
The disease first appears as a blight of the blossoms. Shortly after blossoming time affected blossoms instead of developing into fruit will be seen to wilt. Gradually the leaves surrounding the fruit cluster also begin to show signs of disease, becoming brown and dead, until the whole fruit spur looks brown and scorched. A careful examination of diseased spurs may now show small heads of whitish or yellowish liquid oozing through the bark. This liquid gradually hardens in the air and becomes dark red or brown in color. Microscopic examin-

ation of this exudate reveals the fact that it is literally swarming with the germs of the blight. This form of the disease in blossoms and fruit spurs is known as "blossom blight."

Shortly after this form is noticed the disease will begin to appear in the new twigs of the current season's growth. Tips of affected shoots will turn brown,

the bark will take on a moist, water-soaked appearance, and the leaves will become withered and brown. Where the disease is active, drops of the gummy exudate will be seen oozing from the bark. This form of the disease is known as "twig blight."

In some cases the disease will not stop here but will spread down affected shoots



Marketing the Peach Crop. Orchard of D. F. Hamlink, Huron County, Ont.

Mr. Hamlink seems to have proved that peaches can be grown successfully in his section of Huron county. He has twenty-five acres of peaches two and three years old, as well as five acres of trees that have been bearing for the last eight or ten years. The trees are doing well. Mr. Hamlink has not lost over half a dozen trees by being winter killed. On his three year old trees he will have about twenty per cent of a crop this year.

\*Extract from an address delivered at the recent annual meeting of the United Fruit Companies of Nova Scotia.