

HORTICULTURAL DEPARTMENT

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Any information regarding this department answered free by the editor.

BLIGHT

This is a disease that has been exceedingly damaging to pears; in some sections of the country destroying the pear industry, and is therefore commonly called pear blight. It has certain manifestations which in the growing season causes the leaves to turn to a light brown color, and to present the appearance of being scorched by fire. For that reason it has been called fire blight. Its scientific name is bacillus amylovorus; but the word bacillus may not convey to all the idea of the class to which it belongs, for that means that it is a genus of bacteria.

Considerable controversy has waged around the question as to whether it is a bacterium or a constitutional or physiological disease. Scholars and experts have worked, experimented and discussed the question for several years, and have pronounced it a bacterial disease; that it is communicated from one tree to another by birds, bees, insects and other agencies and that wherever the ooze or exudate from the sap, containing the germ bacillus amylovorus is communicated to a healthy tree that tree will become infected.

Remedies

There seems to be no remedy except to cut it out and burn it. Many remedies have been proposed, and many have been tried, but at the present time nothing has been discovered that can be placed before the public as trustworthy, although a number of intelligent and conscientious men are experimenting with certain preparations to be injected into the sap of the tree. These preparations are supposed to become absorbed and mixed with the sap and either kill the germ or render the tree immune from the disease. We shall be exceedingly glad if these men succeed, but until their preparations are proven effective, it is unwise to trust them. The disease attacks apples, quinces, hawthorns and services as well as pears. In fact we have seen it on plums, yakamines and apricots; but this group is not sufficiently susceptible to be in any particular danger. The main difficulty is with pears and through them it is communicated to the apples, some varieties being very susceptible to its ravages. Cut it out and burn it.

Blight Resisting Varieties of Apples

Word comes to us from Rogue River, Oregon, where they have had so much trouble with blight, and "fought so good a fight," that they have discovered a method of developing "blight resistant varieties." The nurserymen of that section are convinced and are advertising and propagating varieties that they say are immune to that disease. They say that the Yellow Newtown, White Winter Carmain and Winter Banana varieties are blight resistant. They say that if we graft upon the root of one of the resistant varieties the whole tree is resistant. Further, that to graft a resistant variety onto a non-resistant variety, the graft only is resistant. Since the Yellow Newtown

is not a vigorous grower, and the Winter Banana is, or is said to be, a vigorous grower, it would seem wise in making experiments to use the latter.

BIRDS USEFUL TO FARM AND ORCHARD

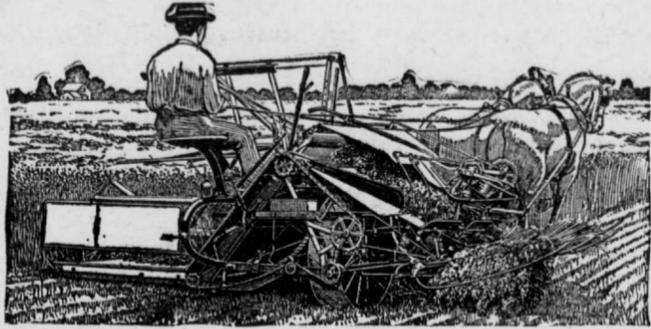
Entomologists estimate that insects yearly cause a loss of over \$700,000,000 to the agriculture of the United States. Were it not for our birds the loss would be very much greater and it is doubtful if agriculture would be possible. A knowledge of the birds that protect the crops is therefore as important as a knowledge of the pests that destroy them. Such knowledge is the more important because some birds are injurious, some are partly useful and partly injurious and others, a few, are always useful. For instance, there are insects that are parasitic and predatory, feeding upon other insects that injure the crops; but insectivorous birds, destroy the useful and harmful alike. However, the good they do by the destruction of harmful insects, is far greater than the harm they do by the destruction of useful kinds. Even the birds called noxious, possess some redeeming qualities. The crow, for instance, is mischievous in spring, pulling up the newly planted corn, and destroying the eggs of useful birds. But on the other hand it eats insects, grubs, cut-worm, meadow mice, gophers and other rodents, so that it is more useful than harmful.

Because their powers of flight enable them to gather rapidly at points where there are abnormal outbreaks of insects, birds are especially useful in protecting certain localities from scourges of grasshoppers and other pests; for an unusual number of insects in any particular locality attracts the birds and they never leave until the insects are under control.

America is greatly favored in the number and character of its birds, which not only include some of the gems of the bird world, as warblers and humming birds, but on the whole embrace but few destructive species. During the last 25 years our biological survey has examined 50,000 birds. Among their discoveries are the following:

A tree swallow's stomach was found to contain 40 entire chinch bugs, fragments of many others, besides 10 other species of insects. A bank swallow in Texas devoured 68 cotton boll weevils. Thirty-five cliff swallows had taken an average of 18 boll weevils each. The stomachs of pine siskins from Hayward, California, contained 1,900 black olive scales and 300 plant lice. A killdeer's stomach taken in November in Texas contained over 300 mosquito larvae. A flicker's stomach held 28 white grubs. A night hawk's stomach contained 34 May beetles, the adult form of white grubs. Another night hawk from New York state contained 24 clover leaf weevils and 375 ants. Still another night hawk had eaten 340 grasshoppers, 52 bugs, three beetles, two wasps and a spider. A boat-tailed

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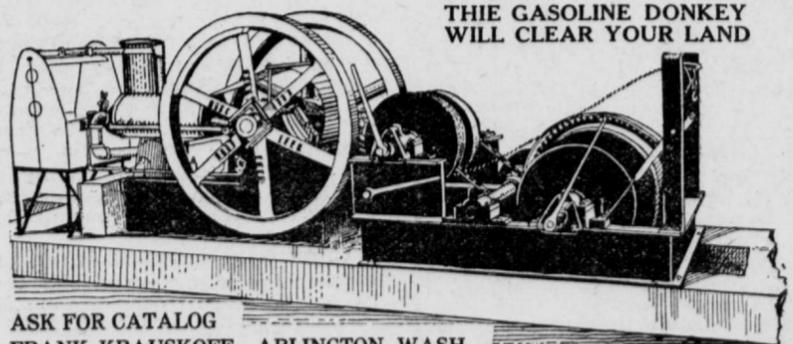
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