

## White Pine Blister Rust

Diagnosis of the Disease which Threatens our Pine Forests

During the last year those interested in the white pine of Canada and the United States have been greatly alarmed by the very serious outbreak of the white pine blister rust. This disease, which is due to a fungus similar to the wheat rust, has practically destroyed all the white pine and other five-leaved pines in Europe and is supposed to have been introduced into North America by the importation of infected nursery stock from Germany and Holland during the last six years.

For its full development and propagation, this fungus requires two hosts. The summer propagation takes place on the leaves of currants and gooseberries and the winter stage on the white pine. The currants and gooseberries are infected by spores produced on the white pine in the spring. The disease rapidly develops on the leaves of the currants, and, in about two weeks, the under sides of the leaves are covered with yellowish-orange pustules from which the summer spores are liberated. These spores are carried by the wind to other currant and gooseberry leaves and the repetition of this process several times during the summer results in the disease spreading rapidly over large areas. Toward autumn, slender hornlike growths in which a different kind of spore is produced appear on the under side of leaves. These spores are carried to the white pine where, upon germination, they penetrate the soft tissues at the base of the bundle of needles and develop in the inner bark of the branch. Here the fungus may grow for a year or more before showing any outward indication of its presence. Sooner or later, however, it produces a swelling in the infected parts, finally girdling the branches and causing all of the tree above the point of infection to die. Early in the spring, between the middle of April and the middle of June, small blisters appear on the swollen stems which, upon breaking, liberate the yellowish-orange spores enclosed. These infect the currants and gooseberries, but are incapable of transmitting the disease to other pines.

This habit of growth fortunately offers a means of combatting the disease through the elimination of the minor host. Although all the species of the currant family are subject to this disease, the black currant seems to be the most readily infected. The cost of destroying all plants of this family, aside from the loss to fruit-growers occasioned by this measure, would, of course, be large, but, in view of

## Care of the Wood Lot

Its Proper Handling Would Provide a Permanent Fuel Supply for the Farm

Nearly ten per cent of the standing timber in the United States is included within farmers' woodlots, according to Government reports. While the percentage in Canada has not yet been determined, it is believed that it will fall below five per cent. Census statistics show that some 14,700,000 acres, or nearly six per cent of the farm lands of eastern Canada, are occupied by woodlots. According to the Dominion Forestry Branch, the average woodlot in Canada, under proper management, is capable of producing about three-quarters of a cord per acre per year. If they were all thus managed, the annual production of hardwood would be more than 10,000,000 cords, or over 5,000,000 feet board measure—a quantity twenty times as great as the whole hardwood cut in Canada in 1913.

Unfortunately the woodlot does not, as a rule, receive the attention to which its importance entitles it. Much preventable damage is caused by the grazing of live stock and by fires, both of which not only destroy young growth but injure the larger trees, in addition



Cut No. 132

An uncared for farm woodlot rapidly deteriorating. It is much too open and therefore grassy. The trees are decaying and dying long before they reach maturity

to causing deterioration of the soil, thus seriously reducing the productive capacity of the woodlot.

According to studies made by the Dominion Forestry Branch, the typical woodlot of to-day does not contain the quality of material that it might, had it not been neglected. The careless removal of the sound and vigorous trees of the better species, and the leaving of over-mature and decaying ones as well as the inferior kinds, has resulted in its present poor composition. Inferior species are occupying space that should be growing more desirable trees. Poplar, willow, hawthorn, ironwood, hemlock and juniper have taken the place of maple, ash, hickory, elm and pine. Old trees, long over-mature, have been left standing, though their wide-spreading tops shut out the light from younger trees and prevent their proper development.

Such undesirable conditions should be changed and all future cuttings should be directed with this object in view. Unsound, crooked, broken and dead trees should be removed. They are merely acting as a breeding place for the organisms of decay which from them may be transmitted to the sound trees. All inferior species which are acting as seed trees or interfering with the growth of better species, should be cut.

It is not advisable, however, to remove such "weed trees" where they are necessary for the protection of the soil and where their removal would permit grass and brambles to establish themselves. The appearance of grass is a sign that no more cutting should be done until it has been shaded out.

the value of the white pine in Canada, every effort should be exerted to save from destruction such a valuable asset as our white pine forests.

Unfortunately, the wild currant and the wild gooseberry act as minor hosts, hence the grave danger threatening our forests far

from settled regions where the cultivated varieties perform the part of middleman.

If our white pine is to be saved, prompt and vigorous measures must be adopted by the governments and the co-operation of lumbermen, horticulturists and foresters secured to combat this blight.

## CLEAN SEED

Very few farmers put their through the fanning mill a time or two, but quite a number do once or twice. A great many do not clean their seed at all, not at all necessary to buy seed; in fact, it is more advisable for a farmer to use the seed from his own farm and properly clean the weed seeds out. New Brunswick, I was once going along the road close to where a man was sowing. I hid my hand first into a stream cloth and then into the bag of seed. When I took my hand out it was covered with weed seeds, showing that the man had not cleaned his seed at all. One of the best ways for preventing the spread of weed is to clean the seed thoroughly. F. C. Nunnick, at Seventh Annual Meeting of Commission of Conservation.

## RUSSIAN FUR PRICES

The trade at the Nizhny Novgorod, Russia, fur fair, held November last, was not as extensive as usual, owing to war conditions. The offers of fur skins were reduced as the manufacturers were unable to secure sufficient men for dressing the skins. Consequently the furs offered at fair brought high prices.

Prices for fox skins (converted into Canadian money) were as follows: silver fox, \$155.00 to \$200.00; blue fox, \$26.75 to \$29.00; cross fox, \$15.50 to \$25.75.

The low prices offered for Russian lamb last year caused skins to sell well this year, as the stocks having become exhausted, prices were much higher. About 2,500 hales were sold, ranging from \$51.50 to \$97.85 per skins.

## OUR NEED

What we chiefly need is to help the poor farmer, and the man who has the poor land, how he can treat that land to make it more productive and advance his own interests. If something could be done in the case of the poorer land, I am sure it would accomplish more good. I would like very much to see something in the line of experimental stations, applied to the poor land, to see what the result would be.—Hon. A. E. A. at Seventh Annual Meeting of Commission of Conservation.

Fire Commissioner Adams of New York city, in his annual report for 1915, says that the city continues to hold first place because of fires. Of a total of 11,000 fires in buildings, 8,960 were homes and 2,495 in other buildings. The remedy for this is of course greater care in the home.