

Windbreaks for Farm Buildings

There should be a windbreak around the farm buildings, the feed lots, and the orchards on each farm. In addition, utilization of odd-shaped pieces of land for wood lots will provide fence posts, fuel, and other material for farm use.

The species recommended for planting vary according to the section of the State and the climatic and soil conditions. American elm, green ash, box elder, cottonwood, Russian olive, caragana, hackberry, western yellow, Scotch, and Austrian pine, and eastern red cedar are adapted to most parts of the State. Honey locust, catalpa, Russian mulberry, black walnut, western white spruce, northern white pine, and blue spruce will do well where the climatic conditions are not so severe. Jack pine is adapted to sandy soils only.

Trees must be planted in well-cultivated ground and the cultivation must be continued until the branches come together. The only exception to this rule is in the sand hills where cultivation would result in soil blowing. In sand, trees should be planted in furrows which are plowed through the grass, and no cultivation is advised after planting except in well-protected places.

FRED R. JOHNSON.

TREE Poisoning Tried for Clearing Land Is Found Effective

During the past two years the Department of Agriculture has been experimenting with the use of poisons in killing trees as an aid in clearing farm

land and in getting rid of trees that are, for any reason, objectionable. These experiments have not been completed, but they have been carried sufficiently far to demonstrate that poisons are effective in killing trees and in hastening the decay of trunks and stumps.

There are a number of poisons which may be used in varying degrees of strength. One which has given uniformly good results is composed of 1 pound of white powdered arsenic, 2 pounds of lye, and 2 gallons of water. To prepare the poison, first make a paste of the arsenic by adding a small quantity of water. Pour the lye into 1 gallon of water slowly and stir as the lye is added. The dissolving lye heats the water. While the solution is still hot, add the arsenic paste, a little at a time, and stir until all is dissolved; then add the second gallon of water. If it is desired to mark the trees which have been poisoned, add 1 pound of whiting to the solution. Care must be used not to inhale the fumes which are given off in making the solution, for they are poisonous.

Two gallons of poison will be sufficient for about 30 trees averaging 15 inches in diameter. The arsenic costs about 50 cents per pound in small lots and the lye costs about 20 cents per pound.

To apply the poison, cut a continuous ring of gashes around the tree, penetrating through the first and second barks and into the sap wood. The cuts should be made so that they will retain the liquid poison instead of permitting it to run down the outside of the trunk. Pour the poison into the cuts, using an old teakettle or coffee pot with a long spout for convenience in applying. The solution should be stirred frequently to prevent sedimentation. Three men can ring and poison about 200 trees in a day.

Experiments indicate that the best time to apply the poison is in the spring, just about the time the buds are forming. The poison seems to take effect more quickly on bright sunshiny days than on dark or rainy ones.

Effects of the Poison

The poison will generally cause the leaves of the trees to wither and fade within a couple of weeks, and from then on the process of decay goes on quite rapidly in some species of trees and more slowly in others. In the case of 208 trees of various species, poisoned in the spring, the trunks of 77 had fallen within one year. In another series of 46 trees, 27 had fallen within 15 months. It is probable that, under favorable conditions, the stumps of trees which remain two years after poisoning can be readily removed. Some of the trees which for experimental purposes were girdled but not poisoned died the fifteenth month after girdling, whereas others were still in full foliage at that time.

The formula recommended above seems to kill most species of trees except the pine, although the action is quicker with some species than



FIGURE 228.—Applying poison to a tree

with others. Of the species covered in the experimental work, the hackberry, elm, oak, ash, soft maple, willow, elder, persimmon, dogwood, hickory, and pecan seemed, after nine months, to be affected in about the order given. It is probable, however, that after a few more months all of these species will have died, for in another case where white, slippery, and red elm, sweet gum, hackberry, hickory, ash, redbud, Osage orange, and red locust had been poisoned 15 months, all were dead.

Utensils which have been used for holding the poison should be destroyed when the work is completed to prevent their use for other purposes which might be dangerous. Cattle should be kept out of the fields containing poisoned trees for a few days after poisoning, as there is a possibility of their licking the poison in the cuts on the trees. Chemical analyses of the withered leaves of poisoned trees show that there is no danger of poisoning cattle should they eat them. The wood of a poisoned tree is discolored and becomes soft and spongy, so that it is of no value as lumber.

There are a number of commercial tree poisons on the market which are used in the same manner as given above and with approximately the same results. They can be purchased ready to apply, or only require to be diluted with water before being used.

GEORGE R. BOYD.

TUBERCULOSIS of Fowls Can Be Eradicated by Using Simple Measures A survey made by the department in cooperation with the States has demonstrated that avian tuberculosis is prevalent over a much greater area than had been suspected. Because of the slow and insidious character of the disease, farmers and poultry raisers have often failed to recognize fowl tuberculosis until it was demonstrated by actual post-mortem examination. Much of this post-mortem work was done during the last year by veterinarians engaged in the work of

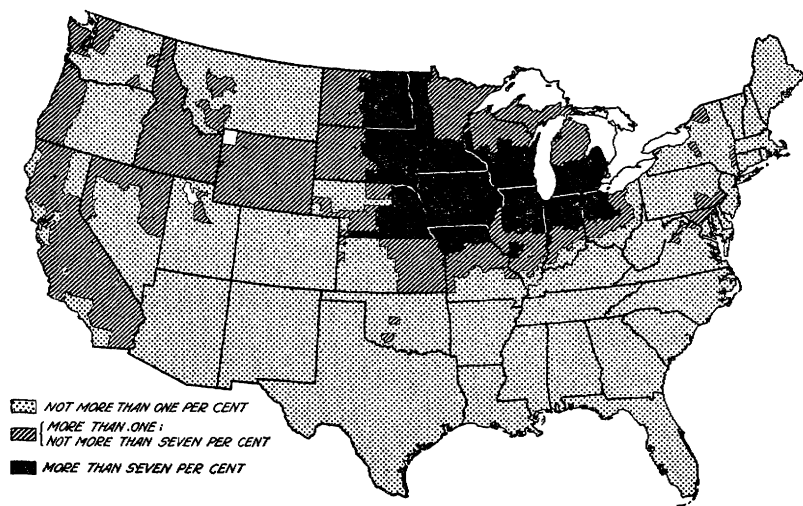


FIGURE 229.—Extent of avian tuberculosis July 1, 1928. The intensity of shading shows the relative prevalence of avian tuberculosis in various parts of the United States

eradicating tuberculosis of cattle, and in many instances the results have been astonishing.

In many counties, particularly in the North Central States, fowl tuberculosis has been found to exist to a greater or less degree in from 60 to 75 per cent of the poultry flocks. The accompanying map (fig. 229) shows the extent of the disease, the dark area showing the States in which it has been found to be most prevalent. Fowl tuberculosis affects not only poultry but swine as well. Investigations have shown hogs to be very susceptible to the disease, becoming infected by eating dead birds or by the ingestion of droppings of poultry affected with the disease. Infection from this source has been found to be quite heavy.

The loss sustained by farmers and poultry raisers on account of fowl tuberculosis mounts into many thousands of dollars annually and will continue to increase each year unless efficient means for its control and eradication are put into effect. This loss is occasioned not only