



White pine three years old, and one year old. The one year seedling is a very delicate structure. The larger specimen is a transplant, and shows a well developed root system.

as white pine depends on various factors. It is first necessary to have the parent tree to produce seed. The soil must be in such a condition that the seed may germinate and establish itself.

The life history of white pine is full of dangers and is interesting to follow. The seed in the cone has ripened and is ready to fall to the ground in early September. During late summer the squirrel carries off many cones and is very fond of the seed. He is one of the first enemies to appear. When the seed falls the birds find a large number. Upon reaching the ground the mice get a share and consider pine seed a dainty morsel. By the following

spring a very small percentage of the seeds gets in close enough contact with the soil to germinate. The pure seedling is a very delicate plant the first summer and has many enemies. The birds are always liable to eat the tender, primary leaves and thus kill the plant. In exposed places the sun and wind frequently kill the young plant at this stage. Probably one of the greatest enemies is a "damping-off" fungus, which kills many at this age. Then some, after having fought out an existence to the end of the first summer, are so suppressed by weeds that they succumb. While frequently trees in the open produce from seventy-five thousand to one hundred thousand seeds, a very small percentage develops into trees.

The distance to which seed may be carried from the mother-tree is very limited, so that to obtain a stand of white pine in a given area there should be plenty of seed trees.

In the older parts of Ontario, where non-agricultural land has been totally cleared there is nothing to be done but to re-plant. In the northern part of the province there are many areas that have no seed trees left so that artificial means will be necessary in order to obtain another growth of pine. Until the danger of fire is removed it probably would not be wise to plant in these northern districts.

In older Ontario there is considerable waste land which it does not pay to cultivate. Steep hillsides, which cannot be cultivated, or if cultivated would probably wash down badly, should be planted. Frequently there is a gravelly ridge or rocky field on the farm which lies waste and does not even afford pasturage. Also there are light sandy soils that have got beyond the possibility of producing annual crops. In some districts these sandy spots are shifted by the wind and are injuring adjoining farm land. Such areas could be planted to advantage and in a few years would be a valuable asset to the farm.

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