THE FUTURE OF EASTERN WHITE PINE IN CANADA ¹

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The production of pine lumber is today only one-third of the peak production in 1909. At the time of Confederation, the best and most accessible pine timber in the St. Lawrence drainage basin had already been logged. Exploitation spread farther afield, and in 1953 only 6 per cent of the total value of Canadian lumber exports still consisted of white and red pine, most of it from stands between 100 and 250 years of age. These older stands are fast disappearing. The end is in sight. Does this mean the end of eastern white pine as an important factor in our economy?

A survey of the pine regions of Ontario and Western Quebec revealed that very few areas are reproducing to stands of white pine. The scarcity of young stands is the result of repeated fires after removal of seed sources, intense shrub competition on the better sites, and lack of attention to silvicultural methods of securing regeneration at the time of logging. White pine is a "light demander" and is therefore much more susceptible to extinction through destructive methods of exploitation than are the more tolerant spruce and balsam.

Twenty-five years ago it was considered that fire was essential for the successful regeneration of pine stands. We now know that this is not true. One fire may reduce shrub competition, provide a suitable seedbed, and result in good pine regeneration, if there are residual white pine seedtrees. Repeated fires, or clear cutting followed by fire, are likely to be disastrous, because of the destruction of young growth and seed supply.

The necessity for seedtrees was recognized in 1871, when Ontario established a thirteen-inch butt diameter limit. This policy, however, did not result in adequate white pine regeneration, and there is no known rule-of-thumb that will ensure regeneration under all conditions. On the other hand, it is true that where an adequate seed supply coincides with a suitable seedbed, regeneration usually follows.

An attempt has been made to supplement natural regeneration by planting, and between 1905 and 1953 the Division of Reforestation, Ontario Department of Lands and Forests, distributed thirty million white pine seedlings. At the present time the advisability of large-scale commercial planting of white pine is questionable because of blister rust mortality and quality-reduction caused by the white pine weevil. Pine breeding is in progress at the Southern Experiment Station at Maple, Ontario, with the aim of producing well-formed white pine that will be resistant to both weevil and blister rust, but the development of these resistant strains has not been advanced to the stage of large-scale testing under field conditions. There is also a possibility that both weevil and rust may adapt themselves rapidly to the newly developed "resistant" strains.

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The end of the older stands is in sight; natural regeneration is inadequate; the economics of planting are in question; there remain the intermediate age classes.

Many of the pole-size stands are mixed with other species and contain small white pine of undesirable quality. If a use could be found for this presently undesirable material, and if small white pine could be sold as pulpwood, there are large areas on which sawtimber production could be increased by stand improvement cuttings. Herein lies part of the answer to the immediate future of eastern white pine.

It is my opinion that, if a large future cut of white pine is to be secured, the following steps will be necessary:

1. Take action to regenerate the stands now being cut, and this will, in many cases, involve site preparation to coincide with seed production from residual trees.
2. Carry out cuttings in intermediate stands, where thinning and stand improvement work are likely to yield high returns on any investment that may be made.
3. Rehabilitate some of the old cut-over areas by removing shrubs and less desirable species, possibly with herbicides, and by preparing a seedbed and either providing seed or planting with nursery stock.
4. Accelerate planting of white pine as soon as "resistant" strains can be developed.

This briefly introduces the subject and it will be carried on from here by two men who have had a wide experience in the management of white pine. Mr. M. B. Morison, Timber Management Division, Ontario Department of Lands and Forests, will discuss the species as a provincial resource, and Mr. E. R. Caldwell, Gillies Brothers and Company, will present the industrial viewpoint.