

The Influence of Mycorrhizal Inoculation and Site Preparation on the Extended Season Planting of Jack Pine (*Pinus banksiana* Lamb.) Seedlings in Northwestern Ontario

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Since tree planting became a focus in Ontario in the 1960s it has been limited to early May through late June or early July each year. The suspension of planting efforts through July and August is considered necessary due to the drought and high temperature conditions in those months. Such conditions are not conducive to the successful establishment and growth of coniferous seedlings. Over recent years however, many advances in seedling cultural techniques have been developed which may increase the tolerance of seedlings to the stresses associated with summer planting. Among these is the use of mycorrhizal inoculation which results in a more branched root system with greater surface area. This facilitates the uptake of water and nutrients after outplanting, as well as increasing the seedlings stress resistance.

The overall objective of this project was to test the efficacy of mycorrhizal inoculation and mechanical site preparation

treatments in successfully extending the operational tree planting season for jack pine in northwestern Ontario. In order to address the overall and other, more specific objectives, a large field trial was established over the spring and summer of 2001 and 2002. Morphological and physiological monitoring took place for three field seasons (2001 through 2003) and may continue again in future years to determine longer term results.

The results of this research project could be of significance to all those involved in the science and practice of silviculture. An extended planting season would allow nurseries and forest companies greater flexibility in scheduling and create the opportunity for more intensive reforestation efforts. Silvicultural contractors, nursery owners and industry would also be able to provide longer term contracts to their seasonal workforce.