Improving Summer Planting in the Southern Interior of B.C.
FRDA Project 3.42

Southern Interior operational forestry staff have expressed considerable interest in the influence of lifting and planting dates, and the length of seedling on-site storage time, on summer plantation success. This FRDA project, conducted by the Research Sections of the Nelson and Kamloops Forest Regions, is addressing these issues through a series of simple stock lifting date and field storage time experiments on a range of sites in the Southern Interior, with particular emphasis on high elevation ecosystems.

The objectives of this project are:

1. to determine the effects of lifting date, planting date, and field storage time on interior spruce plantation performance; and
2. to relate these to site and climate conditions.

This research will provide foresters with some indication of the best times for lifting and planting hot stock, the influence of planting site conditions on these dates, the costs of deviating from the optimum schedule, and whether or not current allowable field storage times can be extended without loss to seedling viability and performance. Such information could make planting programs more flexible and easier to administer.

To date, experiments have been established at the sites of FRDA Projects 3.2 and 3.40 in the Kamloops Forest Region, and 3.21 and 3.25 in the Nelson Forest Region, taking advantage of environmental monitoring stations already in place at these locations. In Kamloops, containerized interior spruce seedlings (2+0 PSB 313) were lifted on 6 different dates, from June 30, 1987 to September 8, 1987, at two-week intervals. A similar regime was followed two weeks later in the Nelson Region. For comparison, standard cold-stored production stock (1+0 PSB 313) was also planted on the first planting date at the Kamloops locations. Initial seedling height and diameter were measured before planting, and only seedlings meeting acceptability standards of 12 cm height and 3.2 mm root collar diameter were used. Very large seedlings were rejected to reduce variability in initial size. Daily air temperature and relative humidity, soil temperatures and 5 and 50 cm depth, soil moisture, and precipitation are being recorded at the planting sites to relate to seedling performance. A parallel set of experiments (with stock from the same seedlot) is being conducted by Dr. Denis Lavendar at the UBC nursery, to demonstrate treatment effects under favourable moisture and temperature conditions.

Seedling condition, diameter, and crown radius were measured after the first growing season, and will be remeasured after the 1988, 1989, and 1992 seasons. The condition of the terminal buds will be assessed in June 1988. Results will not be made available until after the second growing season, but a summary of the experiment will be prepared for distribution at the SISCO Winter Workshop in March 1988.

One major threat to the success of summer planting is frost. A microclimate specialist has been hired to review this problem, summarize the available information in a report, and present his findings at the SISCO workshop.

Further information on this project may also be obtained from:

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