

IMPROVING SEEDLING QUALITY IN THE INLAND NORTHWEST

A McIntire-Stennis supported project



University of Idaho
College of Natural Resources

Across the Inland Northwest, the number of acres planted with tree seedlings has steadily increased over the last 20 years. These reforestation efforts rely on nurseries to produce seedlings, however, the quality of seedlings can vary depending on the nursery growing regime and handling procedures.

To help improve the quality of seedlings, the Center for Forest Nursery and Seedling Research led by Dr. Andrew Nelson is developing and refining rapid and reliable seedling quality tests that incorporate physiology measurements. One such approach focuses on root growth potential (RGP), the ability of seedlings to produce new roots under optimal environmental conditions, as a technique that can be incorporated into operational reforestation programs.

Researchers have been examining RGP in relation to photosynthesis and moisture stress in several important commercial seedlings, including Douglas-fir and western larch. These studies have found that seedlings with greater photosynthesis during testing produced more roots and eventually developed into larger seedlings once planted. Efforts are underway to explore how these experimental results translate to survivability of seedlings in the field.



About McIntire-Stennis

The McIntire-Stennis program, a unique federal-state partnership, cultivates and delivers forestry and natural resource innovations for a better future. By advancing research and education that increases the understanding of emerging challenges and fosters the development of relevant solutions, the McIntire-Stennis program has ensured healthy resilient forests and communities and an exceptional natural resources workforce since 1962.



COLLABORATION

This research is a collaborative effort of faculty from the University of Idaho, College of Natural Resources, and several forest products companies.



Over 1,000

stakeholders across the region are served by the Pitkin Forest Nursery

IMPACT

Forest managers need a rapid, repeatable and reliable method for assessing seedling quality from nurseries.



> 140 million

seedlings have been planted in Idaho over the past 10 years



Over \$2 billion

of total sales of lumber and pulp and paper produced in Idaho in 2018



Increasing survival

of seedlings planted in the field will help decrease costs associated with reforestation efforts