

FILE NOTE

Subject: Abies grandis nursery research report
Date: 30 November 2023
Author: Vaughan Kearns
File No.: ITP-FN005

INTRODUCTION AND STATUS

Abies grandis (Grand fir) is a true fir from the West Coast of North and Central America. It is a commonly used timber species in the areas where it grows. It is sold into the local markets alongside Hemlock and a range of other firs, simply as Fir.

This species has similar wood properties to Radiata pine but because it is a distinctly different species, it is not susceptible to the same pathogens. It is not used widely in New Zealand due to establishment issues. Unlike Radiata pine and Cypress, it is slow to get going from seed.

This project has focused on several different methods to enhance the propagation and bring down the cost of seedlings, closer to that of producing Radiata plants.

Methods used were to separate known provenances (trees from different areas of America in separate climatic zones) from each other.

The seeds from these provenances were weighed to establish an equal amount of seed going into the nursery trials which have been receiving different treatments.

What we now know is that some provenances have higher fertility than others. So, this is where we will focus our future seed collection work.

We also now know that different provenances respond differently to light levels after germination. Some require more shade than others to demonstrate their initial vigour when first emerging. Some require full sun. Other parts of the trial are involved in the response to different levels or types of mycorrhizae in the soil medium. The measurement of this work falls outside the scope (and timeframe) of this report.

Other notable successes have been in the avoidance of central bud dormancy. This annoying trait for growers is when the main growing tip goes into dormancy during a cold snap of weather. This appears to equate to a survival mechanism that is required in its natural range, where they could be buried under snow for months at a time.

New Zealand growing conditions are unlikely to offer these setbacks, so a variety of methods are being trialled to avoid this. The key now is to produce the most cost effective one.

FILE NOTE



Abies seedlings in trays

FILE NOTE



Seedlings with low germination

FILE NOTE



Healthy seedlings potted out