

**Sierra Cascade Intensive Forest Management Research Cooperative Proposal 08-02  
Incense Cedar Stock Type Trials**

Principal Investigator: Jason Warshawer

Title: Improving the Establishment and Growth of Incense Cedar on Dry Sites Through Stock  
Type Trials

Year Approved: 2008

**Executive Summary:**

To help address a lack of knowledge concerning growing cedar - in nurseries as well as after out-planting - as a component species in conifer plantations, a study was proposed in 2008 to determine the principal contributions of stock type to incense cedar (*Libocedrus decurrens*) and sugar pine (*Pinus lambertiana*) survival, early growth, and total above-ground biomass on dry sites in the interior Sierra Cascade region of northern California and southern Oregon under vegetation free conditions. The study will also provide information on effects of time of sowing on seedling performance. Sugar pine was dropped from the trials for the time being at the annual meeting of the Co-op in March, 2008.

Planting sites on lands managed by Co-op members Sierra Pacific Industries, Roseburg Resources and possibly Silver Butte Timber Co. were proposed for the initial installations of the study.

The study will include stock types Styro 5, 8, 10D, and 15; bare root 1-0 and 1-1; and plug-1. The styro stock types will have three periods of sowing: April, May, and June. This results in 15 treatments which

will have 4 replications at each site. Plot size is 72'x72' per replication with 60 plots per site. Planting spacing will be 8 feet x 8 feet resulting in 81 seedlings per plot. The center 25 seedlings will be measure trees with in-plot buffering of two rows of seedlings receiving the same treatment. Each site will require 7 – 8 acres for installation.

Caliper and height will be taken pre-planting and at the end of the fifth growing season. Survival will be monitored annually at the end of each growing season.

**2009:** The initial installation of the study will be on Roseburg Resources land. One thousand Stubby 4's were grown at Cal-Forest Nursery in Etna, California for the plug-1 stock type and will be transplanted in the spring of 2010 at IFA's nursery in Elkton, Oregon. Two thousand bare root seedlings were grown at the IFA nursery in Canby, Oregon for the 1-1 stock type and will be transplanted in the spring of 2010 at the IFA nursery in Elkton. The seedlings for the 1-0 stock type will be grown in Canby. Seed for the Styro 5, 8, 10D, and 15 stock types will be sown in April, May, and June

of 2010 at Cal-Forest Nursery for the 2011 spring plant.

**2010:** Because of the wet spring, some changes were made in the nurseries that were to receive seedlings for transplanting. Instead of going from Cal-Forest (Etna, CA) to IFA at Elkton, Oregon as originally planned, the Stubby 4's were sent to the IFA nursery at Canby, Oregon for transplanting. Planting date was 4/26/10. The 1-1 stock type transplants from Canby were planted in Elkton on 6/16/10. The 1-0 stock type were grown at Canby and all Styro stock types were grown at Cal-Forest as originally planned.

Plot layout was completed in November. The study site is located near Pondosa on

Roseburg Resources land in a new clearcut. The clearcut has been doubled ripped. Planting spots will be marked in early 2011 with planting to follow. Representative measurements for caliper and height for each stock type will be taken prior to outplanting.

Due to the wet spring, late planting dates, and less than ideal nursery practices, the 1-1's are poor representatives of this stock type. The 1-0's are small, averaging about 2 inches in height. Plug-1's look good. All stock will be frozen for the trial.

Hopefully more installations of this study will be initiated.