

Seed Use Efficiency Meeting

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Coastal Seed Orchard Production

The expert staff at the coastal seed orchard production facilities deliver orchard seed of high genetic quality and good viability. Production reflects breeding programs status and delivers to meet most coastal needs. Long-term plan implementation will address current shortfalls. Costs of orchard seed are significantly greater than those of wild seed collections because of crop management inputs and cost-averaging that includes good and poor crops.

Orchard sites are selected for spring drought and low background pollen levels. Grafting selected parents, planting the orchard, and tending the trees to cone-bearing size requires irrigation, fertilization, and pest and competition control. Cone crops are induced by water stress, girdling, pruning, and hormone treatments. Seed set is improved with supplemental mass pollination. Timely cone harvest and curing, followed by seed extraction and seed lot registration results in seed for regeneration programs.

To meet the Chief Foresters Standards for Seed Use, effective population size and weighted average genetic worth of the parents contributing to the lot are calculated. Male contribution estimates employ pollen season data, and female contribution calculations use harvest measures.

Pesticides, including hormones, are infrequently labelled for use in conifer seed orchards. Pest control and induction options are therefore limited. Drainage is a challenge at some orchard sites, affecting orchard tree survival.

Advanced generation orchard seed is listed surplus in SPAR for low elevation western redcedar, low elevation Douglas-fir, low and high elevation western hemlock, and blister-rust tolerant western white pine. High elevation Douglas-fir and weevil-resistant Sitka spruce will come on stream as orchard production increases. US orchards supply seed for low elevation Douglas-fir needs.

Can high-value seed in short supply at present deliver more seedlings? Can client cost be unaffected, but the nursery price increase and the seed price decrease with the provision of less seed for seedling orders? High-value seed with high germination rates provides opportunity for negotiations among nursery service providers and clients.