Plant Data Sheet

Species
Port Orford cedar, Chamaecyparis lawsoniana (A. Murr.) Parl.

Range
Very limited, covering about 220 miles from north to south. In greatest abundance within 40 miles of the Pacific Ocean in southwestern Oregon and northwestern California, with patchy distribution farther inland. Found in Siskiyou and Klamath National Forests.

Climate, elevation
Warm, dry summers and cool wet winters. Most stands occur where there is at least 59 inches of annual precipitation near the coast, or where there is at least 49 inches of annual precipitation inland. Elevation from sea level to 5100 feet.

Local occurrence (where, how common)
California and Oregon or cultivated elsewhere. (a prized landscape tree) Common as codominant in mixed-evergreen/mixed-pine forests, in pure stands, or as scattered trees within its range. Susceptible to a fatal root rot caused by 2 Phytophthera fungi. A large percentage of trees have been lost, and old growth forests are being depleted rapidly.

Habitat preferences
Mostly limited to sites with abundant soil moisture or atmospheric moisture. Grows in many vegetation zones, elevations, and soil types. Although within each forest, it is primarily restricted to moist locations such as drainages, or some type of concavity that receives constant seepage of water. Mostly absent from ridges for this reason.

Plant strategy type/successional stage (stress-tolerator, competitor, weedy/colonizer, seral, late successional)
Both early seral invader and long-lived shade tolerant climax species. Reproduces itself in stands by abundant seed. Seedlings become established after disturbances such as clearcutting or fire, but also become established within mature forests.

Associated species
Sitka spruce, white fir, red fir, western hemlock, coast redwood, Douglas-fir, grand fir, lodgepole pine, sugar pine, western white pine, incense cedar

May be collected as: (seed, layered, divisions, etc.)
Stem cuttings, seed.

Collection restrictions or guidelines
Should not be planted outside of its natural range where it is more susceptible to disease or freezing.

Seed: Collect directly from small cones on trees. (Better germination than when seeds are collected from seed traps.) Seed fully developed by September or October. Best germination is from seeds collected during the peak of seed fall.

Cuttings: Take from tips of major branches from the lower crown of young trees, from December to February.

Seed germination (needs dormancy breaking?)
Cold stratification required. In nature, seeds germinate the next spring after falling.

Seed life (can be stored, short shelf-life, long shelf-life)
About 7 years, at which viability has already begun to decline.

Recommended seed storage conditions
In sealed containers with temperatures below freezing and less than 10% moisture content.

Propagation recommendations (plant seeds, vegetative parts, cuttings, etc.)
Seed, cuttings, container, bare root.

Seed: Can sow directly or grow into container stock or bare root. Seedlings from direct sown seed have grown best either when litter is removed and soil spaded, or soil is left completely undisturbed. However, removing litter on its own, or pre-burning both reduce seedling survival.

Cuttings: Root relatively easily if proper methods followed. Auxin treatments may help rooting.

Soil or medium requirements (inoculum necessary?)
Grows on many different soil types (PH 4.1-7.5), but limited to mesic conditions. No salinity tolerance.

Installation form (form, potential for successful outcomes, cost)
Seeds probably lowest cost and pretty successful. Plants grown from seed probably second choice.

Recommended planting density
300-700 per acre. (USDA) 20 to 26 feet apart to avoid spread of fungus by root contact in case one tree gets disease (Uchytil).

Care requirements after installed (water weekly, water once etc.)
Seeds may germinate in dense, young stands, but extreme shading can cause total mortality. Deer exclosures may be necessary.

Best to plant on sites where topography prevents flow of runoff water, and where human activities low so that fatal Phytophthera doesn't reach trees.

Normal rate of growth or spread; lifespan
Long-lived. Can live more than 600 years. Sources vary on growth rate. Uchytil says that seedlings grow quickly, but more slow-growing than other trees after that. USDA says growth rate rapid. Burns says early growth relatively slow.

Seems that overall, plant can reproduce itself well by seed, but not vegetatively. Trees begin to produce seed at 5-9 years of age and produce every year, although heavy seed crops are produced every 4 to 5 years. Germination of seeds can be low.

Sources cited

Burns, R. and B. Honkala. 1990. Silvics of North America. Vol. 1, Conifers. Agricultural Handbook 654. USDA Forest Service, Washington D.C. 675p.

Uchytil, Ronald J. 1990. Chamaecyparis lawsoniana. In: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (2003, June). Fire Effects Information System,[Online]. Available:http://www.fs.fed.us/database/feis/ [User, June 3,2003].

USDA, NRCS. 2002. The PLANTS Database, Version 3.5 (http://plants.usda.gov). National Plant Data Center, Baton Rouge, LA 70874-4490 USA.

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