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Species (common name, Latin name)

Canyon live oak, *Quercus chrysolepis*

Range

Oregon, California. Scattered populations appear in the mountains of southern Nevada, Arizona, and northwestern Chihuahua, Mexico.^{[3](#)}

Climate, elevation

In the northern portion of the range of canyon live oak, the mean temperature in summer ranges from 20° to 23° C (68° to 74° F) and in winter, from 3° to 5° C (37° to 41° F).^{[1](#)} The frost-free period varies from 160 to 230 days throughout the range.^{[2](#)} Canyon live oak grows at elevations of 1,600 to 5,000 ft in southwestern Oregon; in northern California, from 300 to 4,500 ft; and in southern California, up 9,000 ft.^{[1](#)}

Local occurrence

Canyon live oak occurs in the Interior side of the Coast Range and on the lower slopes of the Cascade Range of Southern Oregon.^{[1](#)}

Habitat preferences

Canyon live oak is often the dominant tree on steep canyon walls. In areas of moderate to high precipitation, it is found on southerly aspects, and in the drier parts of its range, on northerly aspects.^{[1](#)}

Plant strategy type/successional stage

In the northern portion of its range, canyon live oak is less tolerant of shade than its associates in the mixed evergreen forests-tanoak, giant chinkapin, and Douglas-fir-and is usually more tolerant than Pacific madrone. Canyon live oak occurs as an early successional shrub or tree on good sites but is soon outgrown by its associates and eliminated from a stand. On drier, more open sites, it persists in the climax forest as a subordinate tree and shrub.^{[4,5,6](#)} Only on very rocky, steep canyon walls does it occur as a dominant in the climax forest.^{[1](#)}

Associated species

In southern Oregon, it is a codominant species in the *Pseudotsuga menziesii*-*Quercus chrysolepis*-*Lithocarpus densiflorus*/*Quercus chrysolepis*-*Lithocarpus densiflorus* climax community type. On steep canyon slopes, it is dominant in the *Quercus chrysolepis*-*Lithocarpus densiflorus*-*Pseudotsuga menziesii*/*Rhus diversiloba*/moss community. On benches and ridgetops, canyon live oak along with tanoak occupies the lower tree canopy of the *Pseudotsuga*, -*menziesii*-*Pinus* spp./*Lithocarpus densiflorus*-*Quercus chrysolepis*-*Castanopsis chrysophylla* /*Pteridium aquilinum* community.^{[1](#)}

May be collected as

Seed^{[7](#)}

Collection restrictions or guidelines

Canyon live oak trees begin to produce flowers at the age of 15 to 20 years. It is monoecious; both male and female flowers are borne on the same tree throughout the crown. Flowering and pollination occur from May to June, usually later than associated conifers.^{[1](#)} Seeds are collected between September 1st and December 15th. Mature acorns are brown. Collect when acorn base turns brown and is easily removed from the cup.^{[7](#)}

Seed germination

Seedlings show little seedbed preference, but they do best under an overstory or on the shaded overstory fringe. The best seedbed is moist soil covered with leaf litter. Few uncovered acorns germinate. Germination is hypogeal, and a short, cold stratification pretreatment helps to break dormancy.

Seed life

Acorns are destroyed by the filbert weevil (*Curculio uniformis*) and the filbertworm (*Melissopus latiferreanus*).^{[8](#)}

Recommended seed storage conditions

Refrigerator^{[7](#)}

Propagation recommendations

Soak clean acorns overnight in fresh water. Remove any floaters. Drain and rinse in a 5% bleach solution for 1 minute. Rinse. Place acorns in a plastic freezer bag with an equal amount of dry perlite. Keep in refrigerator at 15C. Check for germination after 1 month. Remove and sow acorns with 1/4 inch or longer radicles. Check weekly until all acorns germinate.^{[7](#)}

Soil or medium requirements

1 acorn is sown sideways and pressed into media 0.5 times the diameter of seed to depth.

Containers used are 2"x10" tubes (Deepot 40) containing standard potting mix of peat moss, fir bark, perlite, and sand.^{[7](#)}

Installation form

Container (plug)^{[7](#)}

Recommended planting density

Minimum planting density per acre is 300, and the maximum planting density per acre is 800.^{[9](#)}

Care requirements after installed

Moisture use is medium.^{[9](#)}

Normal rate of growth or spread; lifespan

Growth is slow but constant, and this tree may live for 300 years.^{[1](#)}

Sources cited

^{[\[1\]](#)} http://www.na.fs.fed.us/spfo/pubs/silvics_manual/volume_2/quercus/chrysolepis.htm

^{[2](#)} Barbour, Michael G., and Jack Major, eds. 1977. Terrestrial vegetation of California. John Wiley and Sons, New York. 1002 p.

^{[3](#)} Myatt, Rodney G. 1975. Geographical and ecological variation in *Quercus chrysolepis*. Thesis (Ph.D.), University of California, Davis. 220 p.

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Data compiled by Scott Havill on 5/6/2006

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