

DEERBRUSH

(*Ceanothus integerrimus*)



Drawing from: California Range Brushlands and Browse Plants by Arthur W. Sampson and Beryl S. Jespersen. Calif. Agric. Expt. Sta. — Ext. Ser. Manual 33.

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The genus *Ceanothus* contains about 60 species of evergreen and deciduous shrubs and small trees belonging to the family Rhamnaceae. Most members of the genus are native to the Pacific Coast of North America. Some members of the genus are attractive ornamentals. Deerbrush, while not normally used for this purpose, is an attractive shrub.

Deerbrush or sweet birch (*C. integerrimus*) is distributed in the coastal mountains from southern California to Oregon, and in the Sierra Nevada from southern California northward through Oregon to the east side of the Cascades in Washington. It also occurs in Baja California, Arizona, and New Mexico. Other species of *Ceanothus* occur at greater and lower elevations than deerbrush; in fact, some members of the genus can be found in all of the forests, chaparral, and non-desert shrublands of the Pacific Coast.

Deerbrush is a loosely branched deciduous shrub, 3 to 12 feet tall, with green or yellowish, often somewhat drooping, branches. Leaves are alternate, mainly elliptical, 1 to 3 inches long and $\frac{3}{8}$ to $1\frac{1}{2}$ inches wide, usually 3-veined from the base and light green. The flower clusters are mainly compound, $2\frac{1}{2}$ to 6 inches long, with peduncles of about the same length. The flowers are white to deep blue, or sometimes pink, and are quite showy. The fruit is globose to triangular, about $\frac{1}{4}$ inch wide, and contains 3 legume-like seeds.

The ecological development of this plant is favored by fire. Germination of the seed requires heat; this causes the hilum tissues to split, allowing water to enter the seed. Old mature forests may be devoid of deerbrush; however, when such forest lands are burned (usually following logging) deerbrush may develop abundantly. In such instances it appears as though the seed may have remained dormant for as many as 100 years prior to the burn. In addition to promoting seed germination, fire, if not too intense, will not kill deerbrush completely; stem and basal sprouts will form. At the same time, non-sprouting forms of shrubs and trees will be killed; thus deerbrush is ecologically favored.

Although both sprouts and seedlings are relished as browse by deer and livestock, deerbrush does use soil moisture and thus can greatly reduce the survival of planted conifers; further, deerbrush reduces the growth-rate of the young conifers which do survive. An important objection to having dense stands of deerbrush in forests is that they greatly increase the difficulty of controlling fire and damage done to trees when it occurs. Many of these reasons also apply to other species of *Ceanothus* and other brushy plants occurring under similar situations. Problems listed are far more critical in the Mediterranean-like climate, the summers of which are essentially rain-free, of the Pacific Coast than in other parts of the U. S.

Esters of 2,4-D and 2,4,5-T can be used to kill the seedlings or sprouts of deerbrush. Best control is achieved by spraying early in the summer, following a fire of the previous year. Seedlings of other woody plants are also controlled in this manner. In addition, the sprouts of other woody species (including mountain misery, *Chamaebatia foliolosa*, which, although less widespread, is even more adverse than deerbrush to conifer seedling survival) are best controlled by following this approach. Pine seedlings should be planted during the following winter or spring. By so doing, brush competition will be minimized, while at the same time grass, which can be lethal or extremely harmful to young conifers, will not have had sufficient time to invade the areas.

When pine or other conifer seedlings develop abundantly along with deerbrush, spraying should be delayed until late August or early September during the second growing season following the fire. Delay in spraying until after the pines have stopped growing minimizes spray damage to the conifers. 2,4,5-T should be used because it appears to be more selective than is 2,4-D under the conditions described. Pines can also be sprayed well in advance of commencement of growth in the spring as another means of minimizing injury.

By following a proper series of spray applications, one can develop good pine or other types of coniferous forests, and such forests can be less fire-susceptible than were the original forests.