

FORT ORD: Use of 2,4-D and 2,4,5-T Mixture

Chemical Brush Control for Fire Hazard Reduction and Natural Landscape Improvement Around the Rural Home

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Photos:

Processes in the control of brush (mainly poison oak) as seen in a coast live oak woodland at Fort Ord. To left, heavy understory of brush typical of the area before control was initiated.

Right photo shows appearance one year after control was started; note the abundance of dead stems. Photo below shows appearance several years after control was initiated; the dead stems have disappeared and have been replaced by grass. The area had not been grazed.

Many chemicals are available for brush control to reduce fire hazards around rural homes. These chemicals can also be used to reduce competition to desirable native trees and shrubs for landscaping. Livestock offer the preferred method of reducing the amount of dry grass and re-growth of brush seedlings. However, this article also discusses chemicals that can be used for this purpose.

Brush near the rural home is a fire hazard in California. However, many of the native shrubs may become attractive ornamentals when competition from other shrubs is eliminated. Their natural adaptation to the site is also an important consideration in landscaping. Scattered shrubs do not present the same fire hazard that exists with dense stands of brush.

Shrubs may be either thinned out or eliminated from woodland areas with chemicals. Poison oak, frequently found beneath live oak trees, should be removed. In some cases it is also desirable to reduce the number of trees to allow those remaining to become larger and more attractive. The chemical pruning of low-hanging branches on live oak trees also helps to control fire since these branches carry fire to the rest of the tree. Normal removal of dry plant residues from beneath the trees also increases the fire protection.

Reducing the quantity of dry grass helps to control the spread of fire. One satisfactory method for dry grass reduction is to use horses or other livestock to graze off the grass. For landscaping purposes, bushes that are least attractive to livestock can be selected. These include: manzanitas, madrone, sugar bush, laurel sumac, buckeye, redbud, and some of the Ceanothus. However, many other shrubs are also satisfactory if the stocking rate is not too heavy and after the bushes

have become fairly large. Year-around use of stock is the easiest method of maintaining these areas (with light use in winter months). The livestock will help control brush seedlings and brush regrowth, thereby reducing the amount of spraying necessary.

When stocking is undesirable or impossible, the quantity of grass on the ground should be reduced chemically. Most native shrubs and trees (in unirrigated areas) appear to tolerate low dosages of the soil sterilant, simazine. An application of simazine in the winter beneath the shrubs and trees would protect them against fire (4 pounds per acre is suggested). Some types of brush seedlings are not killed by this treatment, however, and some spraying with 2,4-D and 2,4,5-T (brush killer) will also be necessary. If the treated areas are not mechanically disturbed, and seeds brought near the surface where they can germinate, chemical treatments will be more effective.

Herbicides

The low volatile esters of 2,4-D and 2,4,5-T are commonly prepared as mixtures called brush killers. Similar mixtures of the oil-soluble amines are now available. Since the amine mixtures are essentially non-volatile, they would be safer to use when sensitive plants are close at hand. The esters, like these oil-soluble amines, are soluble in oil and emulsifiable in water. The number of pounds of actual chemical per gallon of material varies, but the esters usually contain 4 pounds of actual 2,4-D and 2,4,5-T in each gallon. Water-soluble amines of 2,4-D normally come in preparations containing 4 pounds of actual 2,4-D in each gallon.

Ammate (ammonium sulfamate) is a water-soluble inorganic salt.

Amitrole (amino triazole) is a water-soluble chemical that is commonly used for controlling poison oak.

Several soil fumigants that can be used for controlling woody plants include ethylene dibromide, DD, Telone and SMD (Vapam or VPM).

Fenuron can be obtained in 25 per cent pellets for application to the soil.

Foliar sprays

Woody plants may be sprayed during the growing season after some leaves have become fully enlarged on all of the bushes.

Spraying may be continued as long as plants are growing. When growth stops due to the exhaustion of soil moisture in the root zone, woody plants are less sensitive to sprays. Sprays should cover the entire plant, including the lower leaves and the stems. Some woody plants require as many as 3 annual applications to completely kill them.

If a fire has occurred, conditions are excellent for initiating a spray program because: (1) the sprays can be kept close to the ground, which reduces the danger of drift onto sensitive plants;

(2) less foliage present means less spray is required to treat a bush or a given area; and (3) the fire-damaged plants are more susceptible to 2,4-D, 2,4,5-T and amitrole.

The plants may be sprayed with brush killer (2,4-D plus 2,4,5-T) or Ammate. Brush killer is used at the rate of one-half pound of actual chemical to 12.5 gallons of water. Ammate is generally used at the rate of 9 pounds of chemical to 12 gallons of water, with one-half ounce of sticker-spreader added.

Amitrole is especially valuable for killing poison oak and sometimes blackberries. It is more selective than either brush killer or Ammate. Use one-half pound of actual amitrole (1 pound of commercial 50 per cent) to 10 gallons of water and add one-half ounce of sticker-spreader. A greater concentration increases the effectiveness but decreases selectivity.

The back-pack mist blower is useful for applying sprays where drift problems are not important and for treating larger areas, especially where sensitive crops are relatively far away.

Brush killer is mixed with diesel fuel and sprayed or poured all around the first foot of the stems, using about 3 fluid ounces for each inch of stem diameter. Stems larger than 2 inches in diameter should be chopped through the bark near the base to facilitate penetration. Although the esters are superior to the oil-soluble amines, the latter should be used when fumes from esters might damage other plants. Applications in the winter or spring give best results.

[There is more to this article]