

HOW TO KILL TREES AND STUMPS

The authors are O. A. Leonard, Botanist, Experiment Station, Davis, and W. A. Harvey, Extension Environmentalist and Weed Control Specialist, Davis.

Several methods are available for killing trees and stumps, but no one method is superior in all instances. If you plan to kill trees and stumps around the home, use extreme caution to avoid injuring nearby plants. In some tree species, root grafting (joining of the roots of adjacent trees) is quite common. When this condition occurs, be very careful in choosing the type of treatment to use.

HERBICIDES

There are several herbicides you can use to kill trees and stumps. The following are some of the most common and reliable.

Mixture

A mixture of equal parts of low volatile esters of 2,4-D and silvex (Kuron[®]) is effective against a wide variety of tree species. Common commercial formulations of these two herbicides contain 4 pounds acid equivalent per gallon. These recommendations are based on this composition. The low volatile esters are soluble in oil or are emulsifiable in water.

CAUTION: Do not spray if sensitive plants are near. Avoid spray drift to adjacent plants. High temperatures can cause the chemical to vaporize and injure nearby plants.

2,4-D Amine

The 2,4-D amine salt is water soluble and essentially nonvolatile. There are usually 4 pounds acid equivalent per gallon, but some formulations vary from this standard.

[®] Registered trade name

CAUTION: Do not use if there is a nearby tree of the same species with possible root grafting. This treatment causes damage if the two trees have formed root grafts. To avoid injuring an adjacent tree suspected of having a root graft with the tree to be treated, use the method outlined in Fumigants.

Ammate[®]

Ammate[®], also known as ammonium sulfamate, is a water soluble salt formulation.

CAUTION: Use the same precautions as for 2,4-D amine.

Fumigants

You can use several soil fumigants for killing trees and stumps, including ethylene dibromide (Bromofume[®]), D-D[®] (Vidden[®] D), Telone[®], SMDC (Vapam[®], VPM[®]), and methyl bromide. You can also use carbon bisulfide, but it is less effective.

CAUTION: Soil fumigants kill all roots within 8 to 10 inches of point of application; some kill roots as far as 3 feet from point of application. The effect of these soil fumigants is similar to pruning off the roots. Control is very poor in waterlogged soils.

TREE CONTROL

Basal Spray

Combine 1 pint of the 2,4-D and silvex mixture (mentioned in Mixture) with 3 gallons of diesel fuel. Thoroughly spray the base of the tree, or pour mixture uniformly on the bark around the

ONE-SHEET ANSWERS

FARM ADVISOR HOME ADVISOR 4-H YOUTH WORK
AGRICULTURAL EXTENSION UNIVERSITY OF CALIFORNIA

base. Apply to the point of runoff. Use 3 fluid ounces per inch of stem diameter. Use a hatchet or axe to frill or cut larger stems near the base. Apply the spray mixture liberally to the frills or cuts. Make applications in winter or early spring if possible.

Cut-Surface Treatment

Use a hatchet or axe to make cuts through the bark and well into the wood near ground level. Be sure to make the cuts continuous around the tree. Fill the cuts with undiluted 2,4-D amine. (A tree 12 inches in diameter requires about 1 fluid ounce.) Injury due to root grafts is rarely a problem. Make applications in the winter and spring for best results.

You can also use Ammate[®]. Make a series of closely spaced cups with a hatchet or axe near the base of the tree. Fill these cups with Ammate[®] crystals.

Soil Applications

Pour or inject $\frac{1}{2}$ cup of the soil fumigant into 6- to 8-inch deep holes spaced 6 inches apart around the tree. Killing is fastest during a period of active growth. If you only partly kill the tree, an additional application is necessary.

CAUTION: Do not get soil fumigants on hands or feet. If you do, wash immediately.

STUMP CONTROL

Cut-Surface Treatments

If stumps are freshly cut, cover them with a thick layer of Ammate[®] crystals, or apply undiluted amine to the tops to the point of runoff. Occasionally water the top of the stump to carry the amine down into the stump. If the stumps are not freshly cut, use the method described under "Tree Control."

Basal Spray

Use the basal spray mixture described under "Tree Control." Be sure to thoroughly cover the top, side, and basal portions of the stump. Spray any sprouts that are present around the stump.

Soil Applications

Use the treatments described under "Tree Control," and add some soil fumigant to the top of the cut stump.

WARNING ON THE USE OF CHEMICALS

All herbicides are poisonous and should always be used with care. Carefully follow the manufacturer's recommendations and suggestions given on the container label. Store all chemicals in their original, labeled containers in a locked cabinet or shed, away from food or feeds, and out of the reach of children, irresponsible persons, pets, and livestock.

Bury empty containers and properly dispose of extra spray material. Never burn empty containers.

Confine chemicals to the property being treated. Avoid drift onto neighboring properties or crops, particularly forage crops or fields containing produce ready to harvest.

NOTE: You must obtain a permit from your County Agricultural Commissioner to purchase more than 1 pint of phenoxy herbicides (2,4-D and silvex) within any 24-hour period.