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SPECIAL  
COLLECTION

There are many places where it is desirable to eliminate woody plants, such as brambles, hardwood sprouts, poison ivy, and honeysuckle. Herbicides may be applied as foliage sprays, or during the dormant period. Some plants are harder to kill than others; and, in many cases, more than one spray will be necessary to completely eradicate a particular species. Other hard to kill species, or those which may send up sprouts from the roots, may require a third treatment.

Unless labor is quite cheap, spraying with chemicals for woody plant control is more effective and less expensive than grubbing by hand.

To make suggestions in a leaflet which would fit all situations would indeed be a difficult task, particularly if all angles of cost and plant species were taken into consideration. Only a few suggestions are given that should be helpful.

2,4-D is effective against some species, such as honeysuckle, willows, etc. 2,4,5-T is particularly effective against brambles, poison ivy, and large woody plants or trees. These may be applied to the foliage, or to the basal bark area, during the dormant season. It is odd, but some plants that are easily killed by one chemical as foliage sprays may be resistant to a dormant application and vice versa. Inasmuch as this is true and since most brushy areas consist of mixed stands which contain some species that are susceptible to both chemicals, a mixture is being recommended for general use. It is preferable to purchase a mixture containing 4 pound acid equivalent.

Most of these chemicals are esters and give off vapors harmful to very susceptible plants, such as tomatoes, vine crops, grapes, beans, and many other plants. An effort should be made to buy the low volatile ester forms and less difficulty will be experienced from damage to susceptible crops. Be sure to read the label to determine what is being bought and how to use it. The propylene glycol butyl ether esters and the butoxy ethanol esters are considered to be low volatile. Other low volatile and amine formulations are being used experimentally and show promise.

Ammonium sulfamate (ammate) is less selective than the above growth regulator types of herbicides but is satisfactory in most cases for mixed species of brush.

#### FOLIAGE SPRAYS

2,4-D - 2,4,5-T Mixtures (preferably 50-50 with 4 pounds of the acid equivalent per gallon) may be used at the rate of 2 to 3 pounds of the acid equivalent per 100 gallons of water. Approximately 100 gallons should be applied per acre with sufficient pressure to penetrate and wet all the foliage in the area being sprayed. A fog or mist spray should not be used. A fine spray is likely to drift considerable distance and cause injury where it is not wanted. A repeat application should be made the second year. Sometimes a spot spraying will suffice the second year. If any hard to kill species remain, a basal bark or frill application can be made where needed.

Do not be too anxious for results. Give the spray time to act. Some plants show injury much sooner than others.

Ammonium sulfamate (ammate). This material is not as selective as the above chemicals. It will kill grass as well as brush. It is very good to use where

poison ivy is a problem and where there may be danger of vapors from brush killers injuring susceptible plants. The spray should not be permitted to drift for it will kill most plants that it hits. The dosage recommended is 3/4 to 1 pound per gallon water. The addition of a sticker is desirable to afford proper coverage. Enough spray should be used to thoroughly wet the foliage.

#### DORMANT SPRAYS

By increasing the concentration of the 2,4-D - 2,4,5-T mixture, or using 2,4,5-T alone, and applying the sprays in diesel oil or fuel oil as a carrier, control can be obtained during the dormant period when applied to the basal portion of the trees or plants. The treatment is, however, expensive but may be used in situations where foliage sprays cannot be applied for one reason or another. On most species, 2,4,5-T is more effective than 2,4-D for basal applications, and 2,4,5-T, or a combination of 2,4-D - 2,4,5-T in fuel oil, is recommended. It is suggested that 2,4,5-T (4 pounds acid equivalent per gallon) be used at 8 to 16 pounds of the acid equivalent per 100 gallons of oil. For small quantities, using a material having 4 pounds acid equivalent per gallon, one pint to 3 gallons of oil is the minimum concentration that has given uniformly good results. If a 50-50 mixture of 2,4-D - 2,4,5-T is used the quantity should be doubled.

Applications are usually made with a knapsack sprayer, and the spray applied any time during the dormant period to the entire circumference of the stems or trunk for 12 to 15 inches above the ground. Exposed roots should be thoroughly wet and the entire trunk wet with the spray. Smooth barked trees do not require much material but rough barked trees require a considerable quantity to wet them to the point of run off. Low gallonage nozzles will aid in extending this expensive spray over a larger area.

Actually, this treatment can be made at any time of the year with good results.

#### STUMP TREATMENTS

The solutions suggested for dormant application can be applied to stumps at any time of the year with good success. Applications of 2,4,5-T have been more effective than 2,4-D. Thorough coverage to the ground line of the sides of the stumps and exposed roots is essential. Applications may be made with a knapsack sprayer.

#### FRILLING

Frilling is accomplished by downward blows of the axe extending around the trunk and cutting into the wood but not removing the wood. This method is useful for thick barked trees. Frills should overlap around the tree, since very little horizontal movement of the chemical takes place.

Good results have been reported using 8 pounds of the 2,4,5-T acid equivalent in 100 gallons of water applied to the frilled area.

Ammonium sulfamate (ammate) may be used as dry crystals in frills, or by using 4 pounds of the chemical per gallon of water and pouring this solution into the frills. For more detailed information on using ammonium sulfamate (ammate) to kill hardwoods, see Circular No. 500, Agricultural Extension Service, V. P. I.

#### NOTE

So far as is known to date, none of the chemicals suggested for use here is toxic to farm animals at the concentrations recommended for use in the field.

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