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Methods of Killing Undesirable Trees in the Farm Woodlands

By

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The familiar "notch method" with the use of ammonium sulphamate (Ammate) crystals as used extensively for the removal of undesirable hardwoods in the pine stands of the south and as recommended by the DuPont Company has not been successful for general use in native Ohio timber stands. Many so-called resistant species are not killed, but have continued to grow many years after such treatment. These species include hard maple, beech, soft maple (large trees),hickories, and certain native species of oak.

Thus for general farm use, where "Ammate" is to be used, the complete "frill" (by downward strokes of an ax around the base of the tree) should always be used whether crystals or an Ammate solution is to be applied.

In all experimental work at the Ohio Agricultural Experiment Station where a complete frill was made, the trees were deadened, although the more resistant species named above were frequently killed more slowly. All were eventually killed, however. It is important in all cases that the frill come in contact with the cambium layer of resistant trees, although this is sometimes difficult where ingrown bark, holes or hollows appear on the stump.

Effective "frill" treatments have been made using "Ammate" solution at the rate of three pounds per gallon of water, 2,4,5-T (4 pounds acid equivalent of the low volatile esters) at the rate of one to fifty parts kerosene or fuel oil, and "Brush-killers" (2 pounds acid equivalent of 2,4-D and 2 pounds acid equivalent 2,4,5-T) mixed one to 20 parts fuel oil or kerosene. In general the solutions containing 2,4,5-T were much faster in obtaining a complete kill, but were also slightly more expensive.

Solutions may be applied with a soft metal tube of small diameter attached to the head of a common garden sprayer, which is controlled by the hand valve of sprayer. The small, soft metal outlet may be bent to the desired form for easy application in the "frill". Where the number of trees to be poisoned is relatively small a glass jug fitted with a rubber stopper and a flexible plastic tube may be used.

Ammate at the rate of 4 pounds per gallon, or 2,4,5-T formulates as outlined for frill application are very successful when applied to a "slip-bark" girdle during the spring by means of an ordinary paint brush.

Formulates containing 2,4,5-T may also be used diluted with oil or kerosene (water is not recommended for basal bark sprays) for basal sprays on young thin-barked trees or brush. The same mixtures as are used in the frills are recommended for use as basal sprays. Such basal bark sprays are not generally recommended due to the high cost when used on larger trees of the heavy-barked species, which must be sprayed to the point of run-off entirely around the base of the tree. Such

species as the elms, cherry, ironwood, and dogwood are readily killed by this method. Most all small woody brush can be killed by either a dormant basal spray when diluted with kerosene or fuel oil, or with water-born foliage sprays of these formulates. Use the same proportions as outlined above for dormant basal sprays, and 2,4,5-T formulates of standard strength (4 pounds to the gallon acid equivalent) mixed one to ninety; or Brush-killer (2 pounds acid equivalent each of 2,4,5-T and 2,4-D) mixed one to fifty with water for foliage sprays. Ammate at the rate of three pounds to a gallon of water can also be used successfully as a foliage spray.

Solutions as outlined above for dormant basal sprays may also be applied with a paint brush when heavily painted around the base of most small poles or saplings.

Most all small woody brush can be killed by either foliage or dormant basal sprays as outlined above. This includes poison ivy, wild grape-vines, cleaning brushy fence rows, removing undesirable brush from pasture fields, right-of-ways, etc.

In all tree and brush poisoning operations, a second or "mop-up" operation should be planned the following year, though it may not be necessary for some species.

Certain arsenic compounds are still among the best tree and shrub poisons known, but should be used only under careful supervision where a loosening of the bark is also desired as well as killing of the trees. Sodium arsenite is used extensively for the production of peeled pulpwood on the stump before cutting. It is applied during the "bark-slip" period of the spring with the object of harvesting the chemically peeled pulpwood the following year. These arsenic compounds are not recommended for general improvement work in the farm woodlands due to their extremely poisonous nature to both man and animals; thus should be used only with great caution.

On the other hand, Ammate and the herbicides containing 2,4,5-T are non-poisonous to man or animals, although the latter will render grasses or water unpalatable to livestock for a short period if drift is excessive. All annual plants including farm crops are very sensitive to drift from 2,4,5-T formulates; thus caution should be used especially when applying foliage sprays. Ammate is extremely corrosive to metals. Thus sprayers or other metal equipment should be thoroughly cleaned and coated with a light oil following use. Spray equipment should never be used in the lawn or garden following use with the above chemical herbicides.