



These Siberian elms, author Zukel says, were pruned to the same size in April. Trees on the right were sprayed to drip point with MH. This photograph, taken in August, shows degree of growth inhibition.

## Slowing Tree and Shrub Growth With Retardant MH-30T

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SIX YEARS ago utility companies spent 125 million dollars a year hand pruning tree growth under transmission lines. The rise in labor costs and addition of new customers has rapidly increased these costs. Pooling resources through the Edison Institute, utility companies have been supporting research since 1958 to reduce hand pruning costs.

A similar hand pruning problem of trees and shrubs exists for cities, parks, and homeowners. No cost estimate is available in this area but the expenditure is considered excessive by cost-conscious maintenance men.

Chemical plant growth inhibition started with Naugatuck's discovery of maleic hydrazide in 1947. To date there have been over a thousand research reports published on various uses of maleic hydrazide (or MH). These include many references to tree and shrub inhibition.

For example, vegetative growth inhibition of peach, cherry, and apple trees was reported

from Pennsylvania in 1951 and Michigan found that red maple, American and Chinese elm, and weeping willow were inhibited by MH spraying.

The experiments on shrubs include treatment of a 100-foot pyracantha each year for 13 years. Pruning labor has been markedly reduced and the shrub showed no adverse effect from the treatment.

Our research group started a demonstration program using maleic hydrazide on shade trees under power lines and in city streets in the western states in 1963. This work was done in cooperation with cities and utility companies, such as Pacific Gas and Electric Company in San Francisco, the largest in the West, neighboring Oregon, and Washington.

Some 2000 trees were treated in 1963. These included sycamore, willow, alder, poplar, oak, eucalyptus, mulberry, black walnut, maple, sweet gum, elm, and tamarack.

The first year of commercial

use, 1964, was the result of response from the 1963 experiments. This year the demonstrations were extended throughout the United States.

### Results

The one application per season to either trees or shrubs controls growth for that season. The inhibiting properties of MH-30T gradually wear off and regrowth occurs.

### Methods of Application

The formulation of MH, MH-30T, is diluted 1-1/3 gallons in 100 gallons of water and sprayed to the drip point. The tree is first trimmed to the proper shape and treatment is made when regrowth is out for two to four weeks. The MH is absorbed through the green leaves, then moves to the new growth areas to inhibit further growth.

Best results are obtained when vigorous new growth is sprayed. In spring, treat trees after the leaves have expanded and new growth has started. In areas where new growth follows summer trimming, the spray is applied when the new growth is two to four inches long.

For tree top control under utility lines MH-30T is applied at least halfway down the tree. This procedure prevents development of shoots from the interior of the tree. The same principle holds if side or bottom control is desired. Half the distance within the tree should be sprayed on the side where inhibition is desired.

### Inhibition of Shrubs and Ivy

The plants should first be pruned back into the desired shape. After regrowth of 2 to 4 inches has taken place, spray to the drip point with 1-1/3 gallons of MH-30T in 100 gallons of water.

MH-30T can also be used in spring as soon as new leaves have expanded to inhibit further growth.

The following shrubs can be treated: privet, pyracantha, Myrtus, Xylosoma, Viburnum, Eugenia, Pittosporum, Cissus, Hahns ivy, Algerian ivy, honeysuckle, forsythia and icicle plant.