

the period. of 6 weeks. At the end of the growing season the plots had only a few scattered clumps of crabgrass and vetch and some miscellaneous weeds. There was no appreciable difference in the plot with the recommended treatment of one-pound per one-hundred square feet and that with one-half this amount. At the end of 1950 the plots could still be readily picked out on the ground while the adjacent beds had a well-established mat of weeds and. grass\*

Cost of this method of weed control should compare favorably with that of applying mineral spirits\* The latter, under ParFons conditions, has proved only partially successful\* The initial investment in gas-proof covers would be high if plastic-coated fabric were used but, properly cared for, they would last for a long time\* One type of material was quoted at \$0.15 per square foot\* Asphalted paper would be cheaper but has a relatively short life\*

While the gas temporarily halts growth of all sorts in the soil, it is felt that bacteriological balances will be readily re-established from the adjacent seedbed paths\* Given funds with which to operate, it should be a relatively simple matter to devise a machine, mounted on a tractor, which would open trenches in the paths, reel out the cover, and bind and seal the edges.

CONTROL OF WEEDS WITH DOWFUME MC-2 IN WOODY STOCK PRODUCTION  
AT THE ALBUQUERQUE SCS NURSERY

G. C. Niner

Horticulturist, Soil Conservation Service, Albuquerque, New Mexico

For a number of years we have used 2,4-D as an indirect control of weeds in the area under sprinkling system where most of our woody stock is grown. This indirect control has been done by spraying fallowed areas, borders, surrounding waste areas, and grass-sodded areas in the soil-improvement stage of rotation. Sometimes very local applications of 2,4-D have been made in nursery plantings on individual plants of bindweed\* We have had good results in the eradication of bindweed and in the control of horse-nettle. The latter species seems to be very difficult to eradicate, though we probably have not expended as much energy on this species as on bindweed, Fair control of nutgrass with 2,4-D has been obtained where applied on borders, under sprinkling lines, and other areas where a high density of this weed occurred.

Diesel oil and kerosene have been tried as a spray in the control of weeds on borders and. under sprinkling lines and were found fairly effective,

particularly on nutgrass, but too expensive to be recommended as weedicides in standard practice.

The only use made of chemicals for control of weeds directly in nursery beds has been the experimental use during the summer of 1950 of Dowfume MC-2 as a fumigant prior to planting. This chemical was tried on one broadleaf species and two conifers. For the conifer trial, one hundred linear feet of a four foot bed was treated at the rate of three pounds of Dowfume MC-2 per hundred square feet of bed space. Three days after fumigation or on June 23, 1950, fifty feet of bed space was planted to Pinus ponderosa and fifty feet to Thuja orientalis. The seed was drilled in rows four inches apart. After emergence of the conifers and during the rest of the summer there were absolutely no weeds and no loss of seedlings from damping off. Untreated sections of the same bed at both ends of the treated space had an abundance of weeds, particularly our troublesome annual Eragrostis. Damping off was severe in the untreated part of the P. ponderosa planting and a slight amount occurred in the untreated Thuja. At the end of the season seedlings of both species in the treated portion of the bed showed superiority over those in the untreated ends, particularly in density of stand but to some extent in growth of plants. Furthermore, no weeding was necessary whereas the untreated areas had to be hand weeded two or three times.

About a week later 300 feet of bed space was fumigated at the rate of one pound per 100 square feet and planted to Norus alba (Russian mulberry). This treatment practically eliminated weeding in this bed until late fall when it was necessary to go over the planting by hand to eradicate some late germinators principally of the biennial species. In contrast an adjacent untreated bed had to be weeded by hand shortly after emergence of the Morus.

It will probably be a future practice at this nursery to fumigate prior to planting late-spring and summer sown conifer beds with Dowfume MC-2 at the heavier dosage, not only for the purpose of eliminating weed competition but also for the control of damping off. In reference to broadleaves it should be highly worthwhile to fumigate with the lighter dosage the beds intended for those species which ordinarily suffer from weed competition or are difficult and costly to hand weed.

By using one pound. of Dowfume MC-2 per 100 square feet we figure we were able to reduce our weeding cost by 50 percent.