

# CHEMICAL WEEDING OF PINE EFFECTIVE IN CHILE NURSERY

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Chile, with her National Reforestation Plan and an ideal climate for growing trees, has invested considerable time, money, and effort in nurseries, National parks, forest products plants, and promotion in order to raise forest production to one of her major industries. A recurring problem has been a lack of consistent production and high costs in the nurseries, partially due to tremendous weed problems. In the forestry nursery of Chillan (production-24 million annually), for example, even with workers hand-weeding, weeds grow at times to two feet in height. Obviously chemical weeding was a necessity, and experimentation, begun in 1964, showed Weedazol-TL superior to other herbicides tested.

Weedazol-TL (3 amino-1, 2, 4 triazole plus ammonium thiocyanate as activator)<sup>2</sup> was found to be an effective weed control agent when used on *Pinus radiata* (Monterey pine), and indicated possibilities for *Pseudotsuga menziesii*. Weedazol-TL, as it is sold in Chile, contains 21.1 percent 3 amino-1, 2, 4 triazole, and 78.9 percent inert ingredients. Indications were that the use of Weedazol-TL in recommended dosages could be applied safely to many different pine species. We hope experimentation will decide its value and safety as a nursery herbicide.

From 1964 to the present, experiments show Weedazol-TL has consistently performed well al

<sup>1</sup> Respectively, Administrador, Vivero Forestal Chillan, Chillan, Chile, and Peace Corps Volunteer-Chile, Vivero Forestal y Dunas Llico, Llico (Curico) , Chile.

<sup>2</sup> A product of Amchem Products, Inc.

though the experimental techniques have not been of the full-controlled type in all cases.

Although Weedazol-TL is stated to be a non-selective herbicide which "extracts" a plant's chlorophyll, when used in lesser concentrations and without a spreader-sticker it does not affect *Pinus radiata*. The recommended dosage is 30 cc. of Weedazol-TL to 20 liters of water sprayed evenly over the seedbeds and lightly, so that 1 gallon of herbicide lasts for about 10 hectares (25 acres). The herbicide in all the experiments was generally applied and not directed. Note that this mixture is *without* a spreader-sticker, for safety purposes. The recommended dosage was arrived at by experimentation, beginning with 150 cc. of herbicide per 20 liters of water, down to 15 cc. per 20 liters. The weeds effectively controlled include *Echium vulgare*, *Datura stramonium*, *Polygonum persicaria*, *Convolvulus arvensis*, *Faraxacum officinale*, *Quenopodium album*, *Nasturtium*, and to some extent *Paspalum distichum*, while leaving the *Pinus radiata* untouched. It is now being used regularly in the Chillan nursery. At the end of the seed beds in the nursery where the sprayer was left dripping or spraying on the seedlings, some superficial damage was noted. However it did not kill or retard the seedlings.

Minimal experimentation on *Pseudotsuga menziesii* two weeks after germination showed recommended dosage adequately controlled the weeds without noticeably affecting the Douglas-fir. This indicates a possibly wider use for Weedazol-TL than was originally expected.

The residual effects in the sandy loam soil are

practically nil, especially at the reduced application rates,<sup>3</sup> and caused no effect on seedling growth throughout the year in nursery. The application of

<sup>3</sup> Ercegovich, C. D. 1967. Personal communication through VITA (Volunteers for International Technical Aid) , Penn. State Univ.

this herbicide should only be repeated as necessary, and never earlier than three weeks after the preceding application, for precautionary reasons.

Hopefully this information will be helpful for weed control in forest nurseries elsewhere and an impetus to further experimentation.