

# No Need For Weeds In Cymbidiums

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Cymbidiums are terrestrial orchids grown in pots, boxes, or beds under glass. Oxalis, chickweed, annual bluegrass, and other weeds are very difficult to control. Osmunda fibre and other media can be treated with methyl bromide or chloropicrin (Jester and Davidson 1952) to kill weed seeds but reinfestation is a real problem because the Oxalis seeds are forcefully shot into the air and other weed seeds are blown in. Use of steam is not practical because it causes earlier breakdown of the media. What is needed is an herbicide with residual action.

Karmex W (3-(p chloro phenyl)-1, 1 dimethyl urea 80%) was reported by Akamine and Nakasane in 1954 as being very effective for weed control on several orchid genera at 5 mg per 5 inch pot (3.5 lbs./acre). Karmex DW (3-(3, 4-dichloro phenyl)-1, 1 dimethyl urea 80%) a similar but less soluble material has worked very well as a herbicide on gladiolus (Bing 1957). Terrachlor (pentachloronitrobenzene) used as a soil drench for stem rot control has been reported by some growers to control weeds, especially Oxalis. The object of this investigation was to find if Terrachlor or Karmex DW would make a suitable herbicide of Cymbidiums.

## Procedure and Results

Treatments with Karmex DW were started in 1955. They were applied at rates of 1, 2, 3, and 4 pounds of 80% Karmex per acre on potted Cymbidiums. Half of the pots were treated on the soil making special effort to avoid spraying the foliage. The other half were treated with thorough spraying of the foliage. Weed control was fairly good at the 4 pound rate and foliage applications were harmless to the plants.

In 1956, the treatment rates were 20, 10, 5, 2.5, 1.25 pounds per acre. These treatments were repeated on the same pots in 1957. There were no adverse effects on the growth or flowering of the plants at the highest rates of application. Weed control was very good at rates of 5 pounds and higher. Weed control at 2.5 pounds was fairly good but at 1.25 was not usually satisfactory. Figure 1 shows spotted Cymbidiums after three years treatment. Terrachlor was applied as a soil drench at 1, 2, and 4 pounds per 100 gallons per 400 square feet on well established pots of Cymbidiums in February 1956. These treatments were not effective and the experimental use of Terrachlor for this purpose did not measure up to Karmex DW.

In the season 1957-1958, trials on Cymbidiums in ground beds in a commercial range gave results similar to the pot tests in the greenhouse of the research laboratory: Terrachlor was ineffective while Karmex DW at 2.5 pounds per acre gave fairly good results. Weed control from 5 and 10 pounds per acre was about the same and

only a little superior to the 2.5 rate. There was no crop injury.



Figure 1: (left) Treated with Karmex DW at the rate of 2.5 pounds per acre; (middle) Karmex DW at the rate of 1.25 pounds per acre; (right) No treatment.

## Summary

Karmex DW at 2.5 to 5 pounds per acre gives good safe weed control on Cymbidium orchids. The control at 5 pounds per acre is better but the grower may want to try out the lower rate and repeat it after 3 months. At the 5 pound rate a repeat application may be necessary in 8-12 months. A rate of 2.5 pounds per acre is equivalent to 2½ tablespoons per gallon or more of water per 100 square feet of bench space or enough for 2800 five inch pots or 1400 seven inch pots. Use enough water to give adequate coverage of the Karmex DW. The material is not soluble and is only in suspension so needs constant agitation. Treatment of all non crop areas under benches, between beds, etc. is also essential for good weed control. This will cut down on the distribution of Oxalis seed especially. For this purpose use Karmex DW at a rate of 10 pounds per acre or 10 tablespoons per gallon per 400 square feet.

## References

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