



ACTIVITY OF A METHOPRENE, CYCLOPROPANE MITICIDE, AND RESMETHRIN FORMULATION AGAINST PESTS OF ORNAMENTALS¹—(Note): Increasing use of ornamental plants in interior landscapes necessitates effective, low mammalian toxicity pesticides. Few chemicals are currently registered for indoor plantings, thus making the maintenance of pests below injurious levels difficult. Recently, chemicals of low mammalian toxicity, namely insect growth regulators and cyclopropane miticides, have shown promise against homopteran and tetranychid pests of ornamentals (R. A. Hamlen. 1975. J. Econ. Ent. 68:223-6, and 1977. Fla. Ent. 60:66). These studies are on a water-base, sprayable formulation² of 0.1% AI methoprene, 0.075% AI cycloprate (hexadecyl cyclopropanecarboxylate), and 0.05% AI resmethrin, hereafter referred to as MCR.

One or 2 MCR sprays, 14 days apart, were applied to run off to 5 replicated blocks of *Phenacoccus solani* Ferris infested *Gynura sarmentosa* DC., *Myzus persicae* Sulzer infested *Alphelandra squarrosa* Nees, and *Tetranychus urticae* Koch infested *Chamaedorea elegans* Mart. with an initial low density of 7.3 mites/leaf and *Dracaena sanderiana* Sander with a higher density of 41.5 mites/leaf. Posttreatment population counts were subjected to analysis of variance. Various plants received 2 MCR sprays at a 7-day interval for phytotoxicity evaluation.

Sprays of MCR resulted in a 98% reduction of populations of *P. solani* at the end of the test, 28 days from the 1st spray. Previous bioassays have shown methoprene to inhibit reproduction of *P. solani* (R. A. Hamlen. 1977. J. Econ. Ent. 70:211-4). Populations of *M. persicae* were not held below injurious levels as significant posttreatment reductions were followed by rapid population increases. Sprays of MCR resulted in an 81-93% decline in low and high densities, respectively, of *T. urticae*. Egg populations decreased significantly, and mite migration and plant injury were prevented.

Sprays of MCR were nonphytotoxic to *Asparagus sprengeri* Regel, *C. elegans*, *Codiaeum variegatum* Blume 'Aucubaefolium', *Crassula argentea* Thunb., *Dieffenbachia picta* Schott 'Perfection', *Dizygotheca elegantissima* Vig. & Guill., *Dracaena marginata* Lam., *Ficus benjamina* L., *Hedera helix* L., *Hoya carnosa* R. Br. 'Rubra', *Peperomia obtusifolia* A. Dietr. 'Variegata', or *Epipremnum aureum* (Linden & Andre) Bunt but injured *A. squarrosa*, *Brassaia actinophylla* Endl. and *Nephrolepis exaltata* (L.) Schott 'Fluffy Ruffles'. Based on efficacy and lack of significant phytotoxicity, multiple MCR sprays appear to hold promise for suppression of *P. solani* and *T. urticae* on interior, ornamental plantings.—R. A. Hamlen. Univ. of Fla., Agr. Res. Center, Apopka, Fla. 32703.

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²Developed by Zoecon Corporation, Palo Alto, CA. Mention of a proprietary product does not constitute endorsement by the University of Florida.