

Biological Control

Impact of Several Neonicotinoid Insecticides on the Pear Psylla Predator *Deraeocoris brevis* in the Laboratory

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Abstract: Acute topical toxicity of neonicotinoid insecticides on the predacious mirid, *Deraeocoris brevis*, was studied in the laboratory. *D. brevis* adults, second instar nymphs as well as eggs were treated in a Potter spray tower at the full and at the 10% field rate. The untreated check was sprayed with distilled water. In tests with adults and nymphs, mortality was assessed 24, 48, 96 h after treatment. At the full field rate, all insecticides caused high adult and nymph mortality with acetamiprid being less toxic than the other neonicotinoid insecticides. Even the 10% field rate caused considerable mortality with acetamiprid and thiacloprid being less toxic to nymphs and adults than imidacloprid and thiamethoxam. In egg tests, egg mortality and nymph mortality after egg hatch were assessed. Acetamiprid interfered less with egg hatch and subsequent nymph survival than the other neonicotinoids. Results suggest that neonicotinoid insecticides are disruptive and that *D. brevis* would not be able to survive treatments at full field rate.