

Bioassay Evaluations For Toxicity To The Multicolored Asian Lady Beetle, A New Nuisance Pest, 2001

R. N. Williams, D. S. Fickle & J. Kovach
Department of Entomology
Ohio Agricultural Research & Development Center
The Ohio State University
Wooster, OH 44691

Multicolored Asian lady beetle: *Harmonia axyridis* (Pallas)

The effects of 6 pesticides on the adult multicolored Asian lady beetle were assessed by contact with treated filter paper in laboratory bioassays. Treatment rates were based on the recommended label rates for controlling structural pests. A total of 7 treatments with 5 replicates per treatment were included in the study. Each replicate consisted of a glass petri dish (100 X 15 mm) containing a 90 mm disc of qualitative filter paper. Stock solutions of each treatment were made by adding the calculated amount of product to 100 ml of water. Solutions were mixed and 1 ml of the stock solution was placed on the filter paper within each of the petri dishes. Water alone was added to the control replicates. After the water evaporated and the filter paper was dry, 5 adult beetles were exposed to the treated filter paper for 1 hr then removed and held in clean petri dishes for 24 h. After 24 h the number of dead or moribund beetles was recorded. Readings were also taken at 48 h and 72 h post exposure to determine whether the beetles were able to recover from exposure to the pesticides. The ambient laboratory temperature where trials were conducted was approximately 22° C.

This study was initiated due to the growing number of complaints received regarding the invasion of homes and businesses in the fall by massive numbers of the multicolored Asian lady beetle. Results indicated that all of the insecticides tested were effective in controlling the adult lady beetle even when label rates were reduced by 50 %. The pyrethroid Danitol is not labeled for use as a structural pesticide but was included as a known standard. A few beetles did recover from their exposure to Danitol after 48 and 72 h (Table 1).

Table 1. Results of Bioassay Evaluations for Toxicity to the Multicolored Asian Lady Beetle

Treatment/ Formulation	Rate ml/gal	No. dead or moribund beetles/replicate		
		24 h	48 h	72 h
Demand 9.7% CS	23.66 ml/gal	5.00 a	5.00 a	5.00 a
Demand 9.7% CS	11.83 ml/gal	5.00 a	5.00 a	5.00 a
Talstar 7.9%	5.75 ml/gal	5.00 a	5.00 a	5.00 a
Talstar 7.9%	2.87 ml/gal	5.00 a	5.00 a	5.00 a

Tempo 11.8% SC	16.00 ml/gal	5.00 a	5.00 a	5.00 a
Tempo 11.8% SC	8.00 ml/gal	5.00 a	5.00 a	5.00 a
Suspend 4.75% SC	44.36 ml/gal	5.00 a	5.00 a	5.00 a
Suspend 4.75% SC	22.17 ml/gal	5.00 a	5.00 a	5.00 a
Demon 25.3% EC	29.57 ml/gal	5.00 a	5.00 a	5.00 a
Demon 25.3% EC	14.79 ml/gal	5.00 a	5.00 a	5.00 a
Danitol 2.4 EC	1.51 ml/gal	5.00 a	4.60 a	4.40 b
Untreated control	-	0.00 b	0.00 b	0.00 c

Means within the same column followed by the same letter are not significantly different as determined by LSD test (P=0.05).