

US EPA ARCHIVE DOCUMENT

1. CHEMICAL: Multiple chemicals - fenvalerate, permethrin, buthremmin, NRDC 149, methomyl
2. FORMULATION: See table.
3. CITATION: Waddill, V.H. 1978. Contact toxicity of four synthetic pyrethroids and methomyl to some adult insect parasites. Florida Entomologist 61(1):27-30. FICHE/MASTER ID 05009995
4. REVIEWER: Allen W. Vaughan  
Entomologist  
EEB/HED
5. DATE REVIEWED: <sup>May 4</sup> ~~April 30~~, 1981
6. TEST TYPE: Toxicity to insect parasites
  - a. Test species: Parasitic wasps: (Hymenoptera - families Eulophidae, Braconidae, Encyrtidae, Scelionidae - 5 species total)
7. REPORTED RESULTS:

Methomyl was highly toxic to all species at the maximum rate tested (maximum recommended rate for use on tomatoes). Fenvalerate was generally the least toxic to the parasites. For numerical data, see table.
8. REVIEWER'S CONCLUSIONS:

Study is scientifically sound, shows methomyl to be highly toxic to 5 species of parasitic wasps

See methomyl file for  
complete DER

TABLE 1. MORTALITY OF ADULT PARASITES EXPOSED TO INSECTICIDE RESIDUES FOR 5 DAYS.

Insecticide	Maximum dose**	Mean % corrected mortality*					
		<i>Fulgoroidea</i>		<i>Pentatomidae</i>		<i>Empoasca</i>	
		Apanteles sp.	Diglyphus intermedius	Opius brunneipus	Copidosoma truncatellum	Telenomus remus	
Fenvalerate 2.4 EC	90.7	3a	7a	7a	85a	92b	
Permethrin 3.2 EC	90.7	100c	40b	43b	100b	90b	
Buthrenin 2EC	90.7	37ab	73c	0a	100b	38a	
NRDC 149 2EC	45.4	57b	20ab	3a	100b	100b	
Methomy 1.8L	406.2	73bc	100d	83c	100b	100b	
	1/2 Maximum dose						
Fenvalerate 2.4 EC	45.4	0a	0a	7a	42n.a.	29ab	
Permethrin 3.2 EC	45.4	17ab	0a	13a	85	55bc	
Buthrenin 2EC	45.4	20b	10a	10a	88	7a	
NRDC 149 2EC	22.7	10ab	13a	7a	100	15a	
Methomy 1.8L	204.1	7ab	100b	63b	100	100c	

\* Means within a column not followed by a common letter are significantly different ( $P \leq 0.05$ ) by Duncan's multiple range test.  
 \*\*Maximum recommended field dose for use on tomatoes (grams AI/0.405 hectare in 378.5 l water)  
 + Mortality after 2 days exposure.

Kilograms / hectare x 0.8922 = lbs / Acre  
 90.7 g ai / 0.4 hectare  $\approx$  0.2 kg / 1.0 hectare  
 0.09 kg / 0.4 hectare  $\approx$  0.17 lbs ai / Acre