

Table 1. Pesticides used in bioassays: Common and trade names, usage, chemical company producing it, concentration, and lowest recommended field rate.

Pesticide common name and use ¹	Pesticide trade name	Chemical company	Active ingredient	Lowest recommended ² field rate (* in a.i.)
avermectin/1,2	Agri-Mek 0.15 EC	Merck, Rahway, NJ	1.9%	0.156 ml/l ³ * 2.96 µl/l
azadirachtin/1	Align	Thermo Trilogy Co., Columbia, MD	3.0%	0.344 ml/l ⁴ * 10.3 µl/l
azadirachtin/1	Neemix	Thermo Trilogy Co.	0.25%	1.5 ml/l ⁴ 3.75 µl/l
copper hydroxide/3	Kocide 101	Griffin Co., Valdosta, GA	77.0%	0.9 g/l ⁵ * 693 mg/l
diflubenzuron/1	Micromite-25W	Uniroyal Chemical, Middlebury, CT	25.0%	0.313 ml/l ³ * 78.3 µl/l
ethion/1,2	Ethion 4 M	FMC Co., Philadelphia, PA	46.5%	3 ml/l ⁴ * 1.4 ml/l
fenoxycarb/1	Eclipse	Ciba-Geigy Co., Greensboro, NC	25.0%	0.188 ml/l ³ * 47.0 µl/l
hydrolyzed fish emulsion/4	Zapata HFE	Zapata Protein Inc., Manderville, LA	10% (fish oil)	1% ⁶ * 0.1%
imidacloprid/1	Admire 2 F	Bayer Co., Kansas City, MO	21.4%	0.1 ml/gal of soil ⁷ * 21.4 µl/gal
imidacloprid/1	Provado 1.6 F	Bayer Co.	17.4%	0.273 ml/l ⁸ * 47.5 µl/l
neem oil/ 1,2,3	Neemgard	Thermo Trilogy Co.	90.0%	1.5 ml/l ⁹ * 1.35 ml/l
petroleum oil/ 1,2,3	Diamond R 435 soluble oil	Diamond R Fertilizer, Ft. Pierce, FL	99.0%	1.5% ³ * 1.49%

1 Pesticide use: 1 = insecticide, 2 = acaricide, 3 = fungicide, 4 = foliar fertilizer

2 Lowest recommended field rate obtained from:

3 Peña and Bullock, in Knapp et al. (1995)

4 Knapp (1996)

5 Kocide 101 label

6 Bullock, in Knapp et al. (1995)

7 Zapata Protein Inc. brochure, and Bourgeois and Constantin (1995)

8 John Bell (Bayer representative), pers. comm.

9 Jim Walker (former Grace representative), pers. comm.

10 Stansly and Fulcher, in Knapp et al. (1995)

Table 2. Percentage adult survival of the citrus leafminer and *A. citricola* exposed to pesticide residues in a clip-cage bioassay.

Pesticide	1/20X ¹	1/10X	1/4X	1/2X	1X	2X
	Abbott's corrected adult survival (%) and 95% confidence intervals ²					
avermectin						
CLM			90.1 (13.6)	66.8 (21.9)	55.2 (19.7)	25.7 (10.9)
<i>A. citricola</i>			61.3 (22.3)	52.6 (17.3)	25.2 (12.6)	17.4 (10.2)
azadirachtin: Align						
CLM			97.2 (5.9)	94.8 (7.6)	97.4 (5.0)	85.5 (13.9)
<i>A. citricola</i>			93.5 (9.3)	95.0 (10.2)	89.8 (11.5)	97.5 (6.8)
azadirachtin: Neemix						
CLM			99.0 (7.8)	98.1 (8.8)	100.0 (5.8)	99.9 (6.2)
<i>A. citricola</i>			100.0 (8.0)	94.5 (16.8)	90.3 (16.7)	92.2 (13.6)
copper hydroxide						
CLM			91.4 (11.2)	93.3 (4.6)	91.9 (7.3)	93.1 (5.0)
<i>A. citricola</i>			92.9 (9.4)	83.5 (11.9)	39.2 (13.5)	12.4 (8.2)
diflubenzuron						
CLM			100.0 (4.2)	98.8 (4.9)	96.0 (5.1)	93.3 (7.3)
<i>A. citricola</i>			94.9 (6.6)	85.7 (9.5)	80.8 (14.9)	92.0 (10.5)
ethion						
CLM	90.0 (10.0)	74.9 (14.8)	67.2 (22.5)	68.6 (20.7)	64.1 (18.4)	26.2 (15.6)
<i>A. citricola</i>	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
fenoxycarb						
CLM			96.1 (5.3)	100.0 (3.4)	99.3 (3.2)	100.0 (2.9)
<i>A. citricola</i>			85.5 (6.9)	86.3 (18.0)	87.0 (15.0)	89.6 (11.8)
fish oil: HFE						
CLM			98.4 (6.1)	96.4 (7.2)	84.3 (12.8)	72.2 (18.6)
<i>A. citricola</i>			66.2 (19.7)	47.7 (22.9)	23.8 (16.9)	2.1 (4.1)
imidacloprid: Provado						
CLM			100.0 (5.1)	92.7 (7.0)	82.8 (9.6)	79.4 (13.2)
<i>A. citricola</i>			0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
imidacloprid: Admire						
CLM				100.0 (3.3)	100.0 (3.3)	
<i>A. citricola</i>				95.8 (10.1)	96.6 (8.2)	
neem oil						
CLM			98.0 (5.1)	96.0 (7.2)	91.8 (10.4)	88.7 (8.2)
<i>A. citricola</i>			81.6 (18.6)	74.4 (16.2)	58.6 (20.8)	19.4 (23.5)
petroleum oil: fresh residue						
CLM		79.4 (14.1)	75.5 (13.8)	48.7 (19.0)	27.2 (12.7)	21.7 (10.4)
<i>A. citricola</i>		81.9 (24.5)	53.0 (20.6)	43.3 (23.6)	9.5 (8.9)	21.8 (15.0)
petroleum oil: residual effect						
CLM: fresh (1h)					34.7 (14.5)	
after 24 h					90.4 (10.3)	
after 48 h					90.2 (12.8)	
<i>A. citricola</i> : fresh (1h)					29.6 (21.9)	
after 24 h					86.8 (18.8)	
after 48 h					63.3 (16.2)	

1. 'X' = the lowest recommended field rate referred in Table 1

2. Confidence intervals calculated as in Rosenheim and Hoy (1998)

Seven replications of ≈ 13 *A. citricola* or ≈ 16 citrus leafminer adults were used in all bioassays, except in the petroleum oil residual effect bioassay, with 8 to 12 replications. Experimental conditions: 24 h light, 25°C, and $\geq 80\%$ R.H.

Table 3. Results from 1-sp and 2-spp cylinder bioassays that compare the effect of pesticides on immature stages of the citrus leafminer and its parasitoid, *A. citricola*. For 1-sp cylinder bioassay: mean citrus leafminer pupae per tree, and mean citrus leafminer larvae dead per tree. For 2-spp cylinder bioassay: mean citrus leafminer or *A. citricola* pupal chambers per tree, mean citrus leafminer larvae dead per tree, mean pupal chambers parasitized with *A. citricola* per tree, and percentage of parasitism. Value in parenthesis is the standard error (S.E.).

Pesticide applied after CLM or <i>A. citricola</i> infestation	Control Mean (S.E.)	Control + oil ¹	0.01X ²	0.025X	0.05X	0.1X	0.25X
avermectin (no oil)							
<i>1-sp cylinder</i>							
CLM pupae ³	8.9 (1.4)		5.5 (1.4)	1.9 (0.6)	0.2 (0.2)	0.0 (0.0)	0.0 (0.0)
Larvae dead ⁴	0.3 (0.1)		4.8 (1.2)	9.0 (1.4)	6.7 (2.1)	9.9 (3.7)	4.9 (1.1)
<i>2-spp cylinder</i>							
Pupal chambers ⁵	8.6 (2.2)		8.8 (2.3)	2.3 (0.8)	0.4 (0.2)	0.0 (0.0)	0.0 (0.0)
Pupal chambers parasitized ⁶	5.5 (1.1)		3.6 (2.0)	2.3 (0.8)	0.3 (0.2)	0.0 (0.0)	0.0 (0.0)
Larvae dead ⁴	1.0 (0.4)		6.3 (1.3)	6.4 (1.0)	7.8 (1.5)	4.3 (0.9)	7.2 (2.0)
Percentage of parasitism ⁷	63.5 %		40.6 %	100 %	60.0 %	0.0 %	0.0 %
avermectin + oil							
<i>1-sp cylinder</i>							
CLM pupae	12.8 (2.4)	4.0 (1.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Larvae dead	0.8 (0.5)	2.2 (0.8)	8.6 (3.8)	10.3 (3.4)	6.2 (2.4)	7.5 (2.3)	8.7 (2.7)
<i>2-spp cylinder</i>							
Pupal chambers	9.5 (1.8)	13.3 (4.6)	0.2 (0.1)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Pupal chambers parasitized	5.9 (1.5)	11.1 (3.6)	0.1 (0.1)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Larvae dead	3.7 (0.4)	8.0 (3.9)	15.7(2.8)	10.0 (1.3)	17.3 (5.9)	16.4 (5.3)	13.9 (5.7)
Percentage of parasitism	62.4 %	83.1 %	39.9 %	0.0 %	0.0 %	0.0 %	0.0 %
Pesticide applied after CLM or <i>A. citricola</i> infestation	Control Mean (S.E.)	Control + oil	0.1X	0.25X	0.5X	1X	2X
azadirachtin (Align) + oil							
<i>1-sp cylinder</i>							
CLM pupae	17.8 (3.6)	15.0 (4.3)		1.2 (1.0)	0.1 (0.1)	0.0 (0.0)	0.0 (0.0)
Larvae dead	1.8 (0.9)	0.5 (0.2)		11.8 (3.5)	25.3 (9.9)	12.7(5.6)	9.8 (4.6)
<i>2-spp cylinder</i>							
Pupal chambers	8.9 (2.8)	8.5 (3.7)		1.8 (1.4)	0.9 (0.5)	0.3 (0.2)	0.2 (0.2)
Pupal chambers parasitized	7.5 (2.4)	7.2 (3.4)		1.7 (1.4)	0.8 (0.5)	0.3 (0.2)	0.2 (0.2)
Larvae dead	2.7 (0.7)	5.0 (2.8)		6.4 (2.0)	10.9 (1.7)	12.9 (3.2)	13.4 (6.1)
Percentage of parasitism	83.9 %	84.3 %		95.3 %	90.0 %	100 %	100 %

Table 3. (continued)

Pesticide applied after CLM or <i>A. citricola</i> infestation	Control Mean (S.E.)	Control + oil	0.1X	0.25X	0.5X	1X	2X
azadirachtin (Neemix) + oil							
<i>1-sp cylinder</i>							
CLM pupae	14.7 (2.7)	11.5 (1.3)		4.4 (1.5)	1.5 (1.1)	0.4 (0.3)	0.3 (0.3)
Larvae dead	1.0 (0.3)	1.9 (0.6)		10.1 (0.8)	8.8 (1.2)	12.5 (3.8)	15.4 (2.1)
<i>2-spp cylinder</i>							
Pupal chambers	10.0 (2.2)	5.1 (2.1)		1.8 (0.2)	3.6 (2.2)	2.2 (0.8)	0.9 (0.4)
Pupal chambers parasitized	8.6 (1.4)	4.3 (1.4)		1.6 (0.3)	3.2 (2.1)	2.3 (0.8)	0.8 (0.4)
Larvae dead	5.7 (1.4)	7.0 (1.9)		8.9 (0.6)	9.4 (1.6)	12.6 (2.7)	11.6 (3.8)
Percentage of parasitism	86.8 %	83.7 %		86.4 %	87.4 %	100 %	88.6 %
diflubenzuron (no oil)							
<i>1-sp cylinder</i>							
CLM pupae	27.9 (5.2)			13.3 (1.5)	13.5 (2.3)	17.6 (4.6)	8.9 (2.6)
Larvae dead	1.5 (0.4)			1.2 (0.1)	2.8 (0.8)	6.5 (0.8)	5.5 (0.7)
<i>2-spp cylinder</i>							
Pupal chambers	7.3 (2.3)			6.0 (2.3)	4.1 (1.5)	7.8 (1.9)	7.1 (2.8)
Pupal chambers parasitized	7.2 (2.2)			5.9 (2.3)	4.1 (1.5)	6.2 (1.8)	6.3 (2.3)
Larvae dead	3.8 (1.7)			2.7 (0.8)	3.9 (1.4)	4.9 (1.7)	6.7 (2.1)
Percentage of parasitism	97.7 %			98.8 %	100 %	78.7 %	89.4 %
diflubenzuron + oil							
<i>1-sp cylinder</i>							
CLM pupae	19.3 (7.0)	18.8 (2.8)		7.0 (2.7)	4.0 (1.4)	2.3 (1.1)	3.5 (2.0)
Larvae dead	1.3 (0.9)	1.4 (0.6)		15.1 (4.7)	15.2 (5.1)	14.8 (5.9)	17.8 (7.7)
<i>2-spp cylinder</i>							
Pupal chambers	12.7 (4.4)	11.8 (3.6)		4.6 (2.4)	3.9 (1.8)	2.0 (0.7)	3.5 (2.0)
Pupal chambers parasitized	10.1 (3.0)	10.3 (3.3)		3.8 (1.7)	3.4 (1.5)	1.7 (0.6)	2.6 (1.3)
Larvae dead	2.7 (0.7)	2.8 (0.9)		7.5 (2.4)	9.4 (0.7)	10.1 (2.9)	14.9 (3.0)
Percentage of parasitism	79.9 %	86.6 %		81.8 %	87.2 %	86.3 %	72.9 %
fenoxy carb (no oil)							
<i>1-sp cylinder</i>							
CLM pupae	14.4 (0.7)			4.0 (1.4)	5.3 (1.8)	3.2 (1.3)	3.3 (1.4)
Larvae dead	1.0 (0.4)			7.6 (0.9)	7.1 (0.2)	6.0 (1.7)	8.6 (2.5)
<i>2-spp cylinder</i>							
Pupal chambers	14.8 (1.9)			2.3 (0.8)	3.5 (1.8)	2.3 (2.2)	2.1 (1.3)
Pupal chambers parasitized	7.7 (1.9)			0.7 (0.6)	0.5 (0.3)	0.3 (0.3)	1.7 (1.2)
Larvae dead	5.6 (2.5)			8.0 (2.8)	10.4 (1.7)	8.8 (3.3)	8.7 (4.3)
Percentage of parasitism	52.2 %			29.6 %	14.3 %	13.9 %	80.0 %

Table 3. (continued)

Pesticide applied after CLM or <i>A. citricola</i> infestation	Control Mean (S.E.)	Control + oil	0.1X	0.25X	0.5X	1X	2X
fenoxycarb + oil							
<i>1-sp cylinder</i>							
CLM pupae	13.9 (3.0)	15.5 (3.3)		4.4 (1.2)	2.7 (1.0)	3.8 (1.2)	2.5 (1.2)
Larvae dead	2.3 (1.5)	0.9 (0.5)		8.2 (2.1)	7.0 (1.7)	9.2 (4.6)	9.6 (3.0)
<i>2-spp cylinder</i>							
Pupal chambers	6.9 (1.9)	6.8 (4.1)		1.1 (0.9)	2.5 (0.6)	4.3 (1.2)	0.6 (0.1)
Pupal chambers parasitized	6.7 (1.9)	3.8 (2.2)		0.6 (0.6)	1.1 (0.5)	1.8 (0.8)	0.5 (0.1)
Larvae dead	1.8 (0.4)	2.7 (1.4)		6.3 (2.3)	11.3 (3.7)	9.7 (2.5)	8.2 (2.1)
Percentage of parasitism	97.5 %	55.6 %		53.8 %	43.0 %	41.2 %	85.6 %
fish oil (HFE)							
<i>1-sp cylinder</i>							
CLM pupae	11.7 (1.9)			7.8 (1.1)	10.5 (2.2)	13.8 (3.6)	9.6 (2.8)
Larvae dead	1.4 (0.3)			0.5 (0.2)	0.9 (0.5)	0.8 (0.4)	1.4 (0.9)
<i>2-spp cylinder</i>							
Pupal chambers	11.9 (2.8)			7.9 (1.1)	9.0 (3.1)	9.5 (0.9)	4.8 (1.3)
Pupal chambers parasitized	10.2 (2.0)			5.2 (1.7)	8.1 (2.5)	7.1 (1.5)	4.6 (1.4)
Larvae dead	2.6 (0.8)			1.9 (0.6)	3.6 (1.7)	4.2 (0.9)	4.0 (1.9)
Percentage of parasitism	85.4 %			65.6 %	89.9 %	74.4 %	95.7 %
imidacloprid (Admire)							
<i>1-sp cylinder</i>							
CLM pupae	12.5 (2.2)			4.7 (2.7)	1.8 (1.2)	0.3 (0.3)	0.2 (0.2)
Larvae dead	1.7 (1.0)			6.2 (2.0)	4.4 (1.3)	0.9 (0.7)	1.5 (1.2)
<i>2-spp cylinder</i>							
Pupal chambers	13.2 (4.5)			2.7 (1.1)	2.1 (1.0)	0.5 (0.3)	0.0 (0.0)
Pupal chamb. parasitized	10.9 (3.0)			1.5 (0.9)	0.9 (0.7)	0.0 (0.0)	0.0 (0.0)
Larvae dead	0.8 (0.2)			2.3 (0.9)	1.4 (0.8)	1.0 (0.6)	0.2 (0.1)
Percentage of parasitism	83.0 %			56.1 %	44.4 %	0.0 %	0.0 %
neem oil							
<i>1-sp cylinder</i>							
CLM pupae	8.6 (1.4)			21.7 (8.3)	13.1 (2.6)	8.7 (1.9)	10.2 (4.8)
Larvae dead	2.1 (2.0)			1.5 (1.0)	2.8 (1.1)	4.1 (2.6)	2.7 (1.2)
<i>2-spp cylinder</i>							
Pupal chambers	7.8 (2.4)			8.1 (2.4)	7.9 (2.5)	10.7 (1.6)	7.3 (2.6)
Pupal chambers parasitized	5.3 (1.4)			6.8 (2.0)	4.1 (1.9)	8.4 (2.5)	4.6 (1.8)
Larvae dead	2.9 (0.8)			2.3 (0.9)	2.5 (0.9)	4.0 (0.9)	2.8 (0.5)
Percentage of parasitism	67.8 %			83.4 %	51.4 %	78.5 %	63.2 %

Table 3. (continued)

Pesticide applied after CLM or <i>A. citricola</i> infestation	Control Mean (S.E.)	Control + oil	0.1X	0.25X	0.5X	1X	2X
petroleum oil							
<i>1-sp cylinder</i>							
CLM pupae	13.8 (2.5)			12.1 (5.2)	9.4 (3.8)	5.9 (2.1)	1.9 (0.8)
Larvae dead	0.9 (0.2)			1.8 (0.7)	1.8 (1.0)	4.1 (1.1)	5.1 (3.7)
<i>2-spp cylinder</i>							
Pupal chambers	23.0 (5.3)			16.2 (4.5)	7.5 (2.6)	3.0 (0.8)	0.9 (0.5)
Pupal chambers parasitized	13.4 (2.8)			8.1 (2.7)	5.6 (1.9)	1.9 (0.8)	0.8 (0.4)
Larvae dead	5.1 (1.0)			5.1 (1.0)	8.5 (2.8)	7.5 (2.3)	9.6 (2.7)
Percentage of parasitism	58.1 %			50.2 %	75.3 %	62.2 %	85.7 %
Pesticides sprayed before ⁸ CLM or <i>A. citricola</i> infestation	Control Mean (S.E.)		0.1X	0.25X	0.5X	1X	2X
azadirachtin (Align) (no oil)							
<i>1-sp cylinder</i>							
CLM pupae	15.0 (1.2)			8.0 (3.7)	9.2 (3.2)	5.9 (2.3)	8.1 (2.2)
Larvae dead	0.4 (0.2)			1.0 (0.6)	0.5 (0.2)	1.9 (1.1)	9.2 (2.9)
<i>2-spp cylinder</i>							
Pupal chambers	10.0 (3.6)			6.1 (2.3)	3.8 (2.2)	0.7 (0.6)	0.3 (0.3)
Pupal chambers parasitized	7.4 (1.7)			4.6 (1.6)	1.6 (0.9)	0.1 (0.1)	0.3 (0.3)
Larvae dead	2.0 (1.0)			10.5 (5.4)	6.8 (4.2)	4.1 (0.6)	7.8 (2.9)
Percentage of parasitism	73.7 %			75.3 %	41.1 %	11.2 %	100 %
petroleum oil							
<i>1-sp cylinder</i>							
CLM pupae	12.9 (3.7)		7.3 (2.8)	2.5 (2.3)	3.7 (3.6)	0.4 (0.4)	0.4 (0.4)
Larvae dead	0.5 (0.3)		1.5 (1.2)	0.04 (0.04)	0.1 (0.1)	0.0 (0.0)	0.0 (0.0)
<i>2-spp cylinder</i>							
Pupal chambers	21.0 (8.2)		6.5 (1.9)	2.5 (1.3)	5.6 (2.7)	3.0 (1.1)	1.0 (0.4)
Pupal chambers parasitized	16.5 (8.0)		0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Larvae dead	0.1 (0.1)		0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.1 (0.1)
Percentage of parasitism	78.5 %		0.0 %	0.0 %	0.0 %	0.0 %	0.0 %

1. Deionized water + 0.4% oil
2. X = lowest recommended field rate of each pesticide as indicated in Table 1
3. Mean citrus leafminer pupae per tree
4. Mean citrus leafminer larvae dead per tree
5. Mean citrus leafminer or *A. citricola* pupal chambers per tree
6. Mean pupal chambers parasitized with *A. citricola* per tree
7. Percentage of parasitism = mean pupal chambers parasitized with *A. citricola* per tree/mean citrus leafminer or *A. citricola* pupal chambers per tree
8. Trees sprayed with pesticides one hour before releasing adults of the citrus leafminer (1-sp cylinder) or *A. citricola* (2-spp cylinder) for oviposition

Table 4. Pesticides ranked for selectivity and IPM compatibility, based on the Selectivity Index and the CLM Efficacy Index, respectively. Indices were calculated from results of clip-cage and cylinder bioassays at the lowest recommended field rate (except for avermectin, where 0.25-X was considered).

Pesticide	Selectivity Index for <i>A. citricola</i> Selectivity Ranking ¹		CLM Efficacy Index	IPM Compatibility Index ²	
azadirachtin (Neemix) + oil	1.5	Selective	0.5	2.0	Compatible
diflubenzuron (Micromite) + oil	1.4	Selective	0.9	2.3	Compatible
fenoxycarb (Eclipse) + oil	1.5	Selective	1.0	2.5	Compatible
oil at 24 h	1.4	Selective	1.0	2.4	Compatible
oil at 48 h	1.3	Selective	1.0	2.3	Compatible
oil (FC 435-66) fresh residues	0.8	Moderately selective	1.3	2.1	Compatible
azadirachtin (Align) + oil	1.2	Selective	0.0	1.2	Semi-compatible
neem oil (Neemgard)	1.8	Selective	0.0	1.8	Semi-compatible
imidacloprid (Admire)	1.0	Selective	0.4	1.4	Semi-compatible
fish oil (Zapata HFE)	1.4	Selective	0.1	1.5	Compatible as foliar fertilizer
copper hydroxide (Kocide 101)	0.7 only from clip- cage	At least moderately selective	-	-	At least Semi- compatible
avermectin (Agri-Mek) + oil	0.8	Moderately selective	0.1	0.9	Incompatible
imidacloprid (Provado)	0.0 only from clip- cage	Non-selective	-	-	Incompatible
ethion (Ethion)	0.0 only from clip- cage	Non-selective	-	-	Incompatible

1. Non-selective: 0-0.4; Moderately selective: 0.5-0.9; Selective: ≥ 1.0

2. Incompatible: 0-0.9; Semi-compatible: 1.0-1.9; Compatible: ≥ 2.0

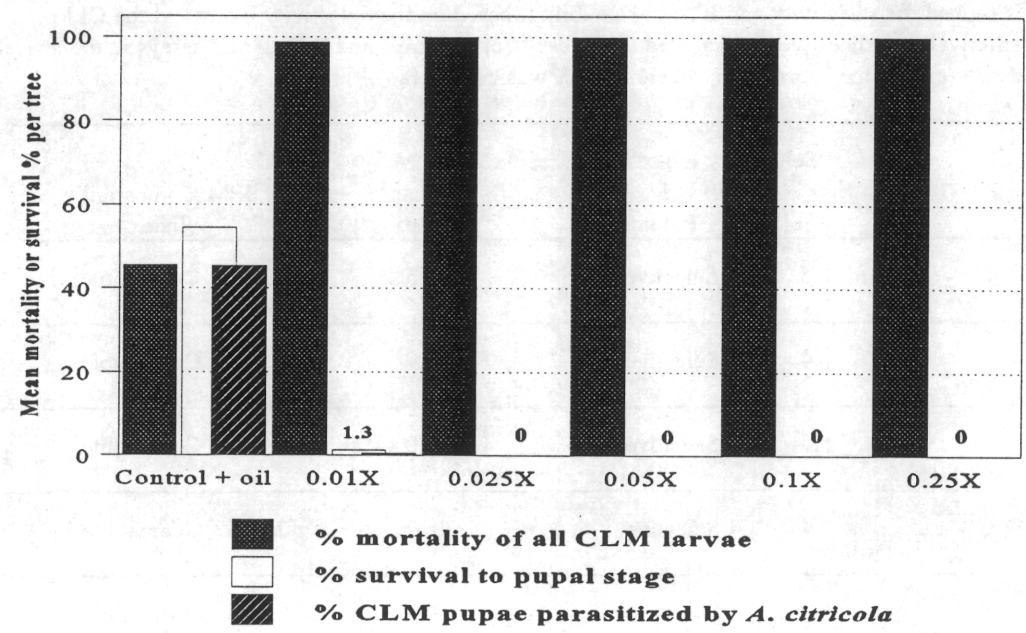


Figure 1. Avermectin (Agri-Mek) + oil results in the 2-spp cylinder bioassay. No CLM or *A. citricola* pupae survival at 0.025-X, the lowest recommended field rate, or higher.

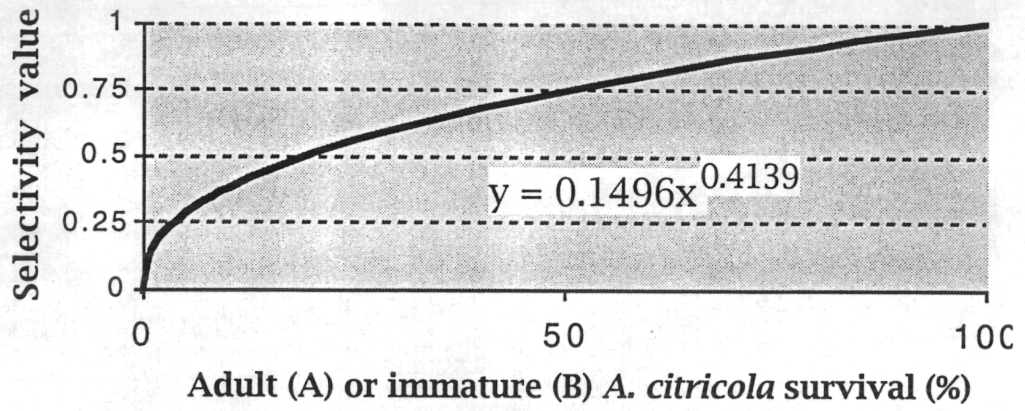


Figure 2. Selectivity Index (SI) transformation curve. **A** = Corrected % of *A. citricola* adult survival obtained from a clip-cage bioassay at 1X rate, **B** = Mean % of CLM pupae parasitized per tree at 1X in a 2-spp cylinder bioassay. $SI = A + B$.

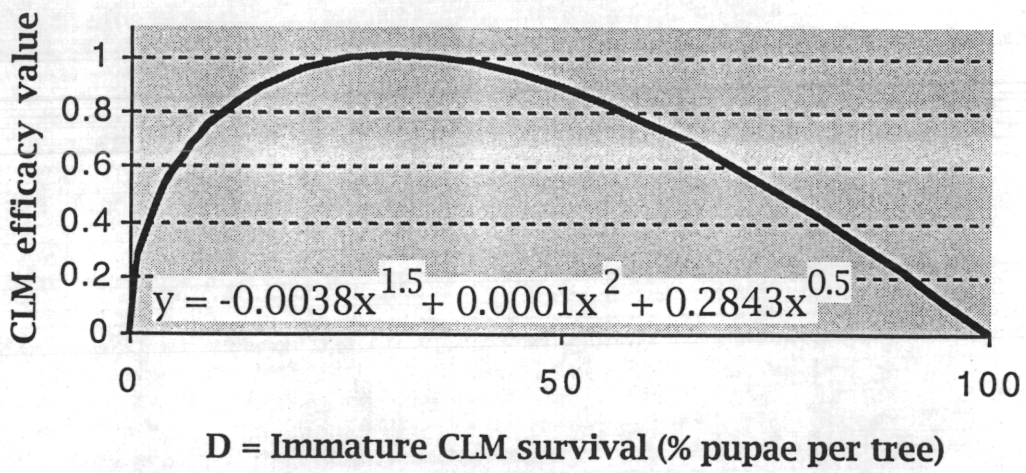
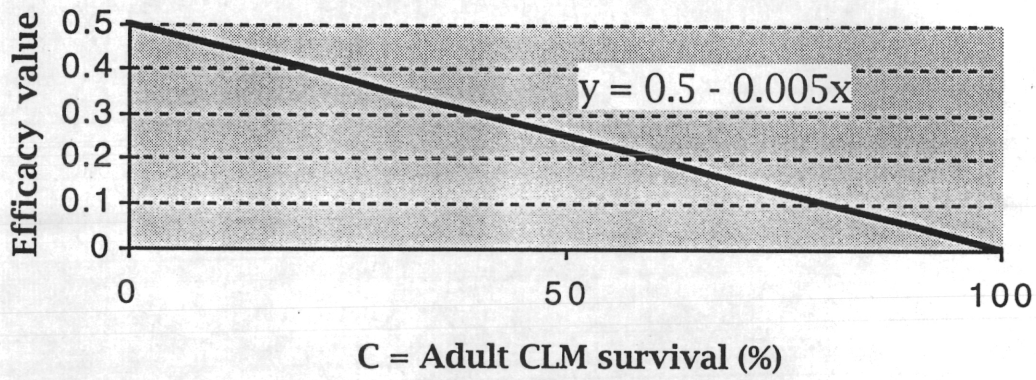


Figure 3. CLM Efficacy Index (CEI) transformation curve. **C** = Corrected % of CLM adult survival from a clip-cage bioassay at 1X rate. **D** = Mean % of CLM pupae per tree from a 1-sp cylinder bioassay at 1X. $CEI = C + D$.