

Section V.  
Soil Arthropods

CONTROL OF GARDEN CENTIPEDES, *Scutigera immaculata*,  
IN TOMATO FIELDS - 2002

C. Fouché, R. Mullen, C. Rivara, M. Leinfelder, B. Villalpando, & S. Whiteley  
University of California Cooperative Extension, 420 Wilson Way,  
Stockton, California 95205-6243

209/468-2085

[bfouche@ucdavis.edu](mailto:bfouche@ucdavis.edu), [rjmullen@ucdavis.edu](mailto:rjmullen@ucdavis.edu)

Experimental plots were established at Hal and Keith Robertson Farms, Tracy, California, in order to evaluate the effectiveness of five different materials against the garden centipede in a commercial tomato field. The plot area was selected by evidence of garden centipede damage to the growers' original transplants. The treatments were randomized based on the severity of damage in the field, and all original plants were removed. Treatments 1, 2, and 3 were dissolved in water, with 10 oz. (295.7 ml) of solution applied to the soil immediately after transplanting. The solution was applied to the base of the plant and allowed to penetrate the soil profile to a level just below the plug. Treatment 4 was applied in granular form before the transplanting, and then roto-tilled into the soil using a Sears 5-hp garden type tiller. Treatment 5 was mixed in 30 gallons of water per acre, applied in a 6-inch band over the bed and incorporated with the roto-tiller prior to placing the new transplants in the ground. All materials were applied on June 5, 2002. Tomato plants were the variety Halley 3155, spaced 15 inches apart in a 60-inch-wide bed. Plot size totaled .003 acre, one bed wide by 20 plants in row bed. The field was furrow irrigated.

Materials in Trial:

Products	Active ingredient	Timing	Formulation	G ai/100m	Lb ai/ac
1. Admire	Imidacloprid	At Transplanting	2F	0.75	0.09
2. Calypso	Thiocloprid	At Transplanting	480SC	1.04	0.12
3. V10112	Dinotefuran	At Transplanting	20SG	2.80	0.33
4. Force	Tefluthrin	At Transplanting	3G	1.29	0.08
5. AG 600 WBC	Diazinon	At Transplanting	AG600	34.40	4.00
6. Untreated		At Transplanting			

Stand counts were taken by visually rating the number of plants alive out of the total of 20 in the plot. Stand vigor was evaluated based on the growth and vigor of the plants outside of the affected area. Plots were harvested on July 19<sup>th</sup>. During the course of the trial, garden centipedes were observed feeding on the roots of the tomato plants in the untreated control.



Tomato Symphylid Trial – 2002 Tracy, CA					
Treatments and Rates g ai / 100 meters		Number of Surviving Plants (20 plant sample)*		Vigor of Plants July 7	Mean Wt gms/plant July 19
		June 7	July 7		
1. Admire 2F	0.75	10.75 ab	11 ab	2.25 c	211.95 ab
2. Calypso 480SC	1.04	18.5 b	16.5 b	2.5 bc	278.4 ab
3. V10112 20SG	2.80	12.5 ab	13.8 ab	1.8 c	155.225 a
4. Force 3G	0.08	18.5 b	15 ab	4.5 a	598.05 c
5. Diazinon AG600	34.40	17.0 ab	16.5 b	3.8 ab	368.45 b
6. Untreated Control		9.25 a	10.25 a	1.25 c	196.15 a

\*Two different people evaluated the plants mortality at different times, thus the mortality rates are based on each individual's criteria.

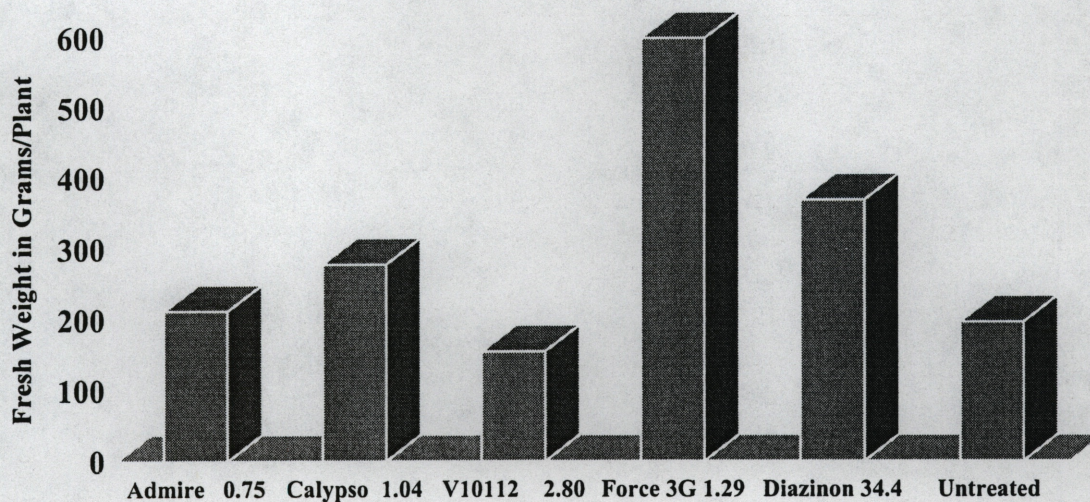
\*Means followed by the same letter in a column are not significantly different at 5% level (Fisher's LSD)

The Calypso treatment provided the best protection of transplants for the first few days but the effect did not continue as the trial progressed. Force 3G provided the best control of garden centipedes 44 days after the treatments were applied.

Future work should evaluate the rates of Force required to control damage by garden centipedes and possible combination treatments of Calypso and Force should be investigated in order to obtain the best method for early season control of damage in transplanted fields.



Tomato Symphylid Trial-Tracy, Ca 2002  
44 Days After Treatment-20 Plants/Plot  
Treatment Rates in Grams Active/100 Meters



Tomato Symphylid Trial-Tracy, Ca 2002  
Plant Vigor Rating 1=Low 5=High

