Tomato (*Solanum lycopersicum*) cv. 'H 8004'
Western flower thrips (*Frankliniella occidentalis*)
1720 S. Maple Ave, Fresno, CA 93702

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Evaluation of insecticide efficacy on Western Flower Thrips in processing tomato, 2010.

A field evaluation of materials for control of Western flower thrips (*Frankliniella occidentalis*) on processing tomatoes was conducted at UC West Side Research and Extension Center in 2010. The processing tomato plants, cv. H8004, were transplanted on 30 Apr. Sprinkler irrigation was used for two weeks after planting and buried drip at a depth of 10 inches was used for the remainder of the season. The experimental design was a 4 replication randomized complete block. Specific treatments appear in the table below. Materials were applied with a CO_2-pressurized backpack sprayer at 30 psi, 25 gallons per acre. All materials were applied on 15 Jul. Flower samples were collected on 19, 22, 29 Jul. Counts from 22 Jul are presented here and the other samples are currently being processed. In addition, on 21 Jul, ten 12 inch long shoots in each plot were cut, put in a 1 gallon plastic bag. Two liters of water with 0.5 ml Tween 20 was added to each bag. The shoots were removed and the water was poured into a 100 mesh sieve. Water was added and the thrips were poured out the top of the sieve into a 20 ml tube. Adult and nymph thrips numbers were recorded. Analysis of variance was performed and Student-Neuman-Keul's test was used for mean separation.

Thrips population densities were high, however significant differences in counts between the untreated control and any of the treatments were not observed in any of the evaluations with the exception of the nymph counts from the flower samples collected on the 19 Jul, which was 4 days after treatment. Based on this sample, applications of dimethoate (with or without Requiem) and Radiant had lower nymph counts than the untreated control, which is consistent with results from similar trials conducted in previous years at the West Side Research and Extension Center. However, under the conditions of this year's trial, applications of Beleaf and Surround were not different from the untreated plots, unlike trial results from previous years. It is likely that nymph counts taken 4 days after treatment are the best measure of the activity level of the applied materials. Given that thrips adults have the ability to move and rapidly repopulate an area, it is likely that a high number of adults may have moved into the treated area from the outside confounding the counts..

	21 Jul, 2010 (leaf wash, 10 shoots)		19 Jul, 2010 (flower counts, 25 flowers			22 Jul, 2010 (flower counts, 25 flowers)			
Treatment, rate/acre[z]	Adults	Nymphs	Adults	Nymphs		Adults		Nymphs	
Radiant 6.0 fl oz[y]	72.5	23.3	31.0	0.3	c[x]	25.3	b	0.8	c
Dimethoate 4EL 1.0 pt	39.0	66.0	42.0	2.5	bc	40.8	ab	1.3	bc
Requiem 2.0 qts + Dimethoate 4EL 1.0 pt	34.3	40.3	50.5	3.0	bc	29.3	ab	2.0	bc
Assail 30SG 4.0 oz	46.0	68.0	38.8	3.5	abc	38.0	ab	4.3	ab
Venom 70 4.0oz	63.5	37.8	39.8	4.0	abc	27.8	ab	6.5	a
Hero EW 11.2 fl oz	38.0	55.8	42.0	4.0	abc	45.5	a	4.8	ab
Surround 25 lbs	56.0	46.8	45.5	4.3	abc	29.0	ab	2.8	abc
Brigadier 9.85 oz	57.3	41.5	43.3	5.3	abc	30.0	ab	3.5	abc
Requiem 3.0 qts	67.8	84.0	36.5	5.5	abc	32.8	ab	4.3	ab
Beleaf 50SG 2.8 oz	62.3	25.5	50.0	6.8	abc	24.0	b	1.5	bc
HGW86 10 SE 13.5 fl oz	54.5	26.3	56.8	10.5	ab	39.0	ab	1.3	bc
Untreated control	54.0	45.8	49.3	11.3	a	33.8	ab	2.5	bc

[z] On 15 Jul, materials were applied with a CO_2-pressurized backpack sprayer at 30 psi, 25 gallons per acre. Materials applied with a surfactant, DyneAmic 0.25% v/v.

[y] There were no significant differences (P=0.05) among means within a column that are not followed by a letter

[x] Means with a column followed by the same letter are similar as determined by Student-Neuman-Keul's multiple range test P=0.05.