

Tomato Pest Survey and Control Studies in Ventura County in 1956.

These studies were made in response to complaints that pest control dust programs on tomatoes were influencing the natural pest control balance in citrus plantings.

Surveys were made periodically throughout the season on nine farms in Ventura County. The locations, treatments and pest records taken in this survey are given in the following table:

Field	Treatments ^{1/}	2. Fruitworm Damage and Russet Mites (M) ^{2/}								
		June 27	July 11 25		August 8 15 30			Sept. 12 26		Oct. 11
Tafuya	Dust 6/20+			2	.5	3	0	0	1	-
Moorpark	Check		1	1.5	3.5M-	1M	2M+	1M+	5M+	-
Tafuya	Dust 6/21		0	0	1.5	5	1	-	-	-
El Rio	Spray 6/21	0	1	1	.5	0	0	-	-	-
Buchanan	Dust 8/8		0	0	0	0	0	0	0	
Scania	Check		2	0	1.5	0	0	0M-	.5M-	0
Buchanan	Dust +						0			
L. A. Avee	Check						0	0	0	
Frederick	Dust 6/27			.5	0	0				
Owl Cafe	Check	1.5	0	1	1	1M+	0M+	0M+	0M+	
Frederick	Dust 6/30+			2						
Colonia Rd.	Check Dust Drift 6/30+	0	0	2M+	0M-		0			
Davis	Dust +						0	0		
	Spray +				0		0	0		
	Check			0	0	1	1	1	0	0
Arnold	Dust 6/20+		0	0	.5	1	0	1	0	0
	Spray 6/20+		0	0	0	2	1	2	0	0
Springville	Dust 7/27				0			0	0	
	Spray 7/27				0			0	0	
	Check			0	0	.5	.5	6M--	1	1.5

1/ All checks are 1 to 2 acres in size and treated area 30 to 50 acres. Treatments are commercial applications, the dusts being DDT-sulfur except the Davis ranch which was DDT-parathion, sprays were DDT-parathion or DDT-sulfur or toxaphene. Exact time and material used where treatment indicated by plus sign is not yet available.

2/ Per cent fruitworm determined by examining 100 to 200 fruit for each record. Tomato Russet mite (M) indicated as minus = light infestation and plus = heavy infestation.

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Riverside - Entomology

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In general, fruitworm populations were too low to show differences between dust and spray plots or between treated and untreated plots. Tomato russet mites developed in 5 out of 7 of the untreated check areas and caused moderate to heavy foliage injury in 3 of the 5 infested fields. *Drosophila* populations developed in most of these fields during early September. Further studies will be necessary before definite conclusions can be made.

Fruit Flies (*Drosophila* sp.) on Tomatoes

Studies were made on the habits and control of fruit flies on tomatoes in Ventura, Orange and Riverside counties during the fall of 1956.

Oviposition studies were made by exposing fresh tomatoes (each with three one-inch cuts in them) in various locations in a field near Riverside. Eggs laid in the cuts were counted and the fruit replaced hourly. These records indicated the maximum egg deposition occurred in the late afternoon and early evening. Similarly cut fruit placed in stacked field boxes of freshly picked fruit in Ventura County indicated that 99% of the eggs were deposited in the two lowermost layers of boxes.

Several of the tomato canneries are sponsoring grower applications of a 0.11 pyrethrins dust to boxes of fresh picked fruit in boxes stacked on trucks or in the field (particularly to boxes of fruit stacked in the field over night). The growers are using one pound of finished dust to four to six tons of tomatoes. The coverage appears to be poor and egg counts indicate the control is none too good, but the growers and canners seem to be satisfied.

Some of the canners practice good sanitation and appear to have few flies at the canning plant while others have many flies under less sanitary conditions.

Additional surveys, life history studies and insecticide treatments will be necessary before sound conclusions can be made on this problem.