

Section VIII.

Mites and Sap-sucking Insects

EVALUATION OF FOLIAR APPLIED INSECTICIDES FOR CONTROL OF MELON APHIDS, *Aphis gossypii* in Vegetable Spaghetti Squash

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Experimental plots were established at Two Bees Ag Research and Consulting Farms in Escalon California. The purpose of the research was to evaluate the effectiveness of eight different materials for control of the melon aphids in direct seeded squash fields. The treatments were applied with a Solo 5 hp backpack mist blower from both sides of the bed. A volume of 107 gallons/ acre was used. Two applications were made, one on July 8th and the second on July 27th.

Materials in Trial

Products	Formulation	Prod/Acre
Untreated Control		
Provado	1.6 F	3.75 oz. Prod.
Actara	25 WG	0.25 Lb Prod.
Warrior	1 CS	3.76 oz. Prod.
Knack	.86 EC	8.5 oz. Prod.
Assail	70 WP	0.92 oz. Prod.
Hexacide	5%	1.5 qt/Acre
Proud	5.6 EC	1.5% oil Prod.
Fulfill	50 WG	2.70 oz. Prod

Aphid evaluations were made by selecting 10 leaves per plot from the center of the squash plant and counting aphids while observing through a 4-power head-mounted magnifier. When numbers of aphids were above 300, groups of 25 were estimated and totaled for the counts. When numbers of aphids were above 1000, groups of 100 were estimated and totaled for the counts. Very little biological control from either predators or parasites was observed in this trial. At the end of the trial some pressure from mites and powdery mildew was observed. Fruit was removed from the plants at frequent intervals in order to keep the growth vegetative and lush.

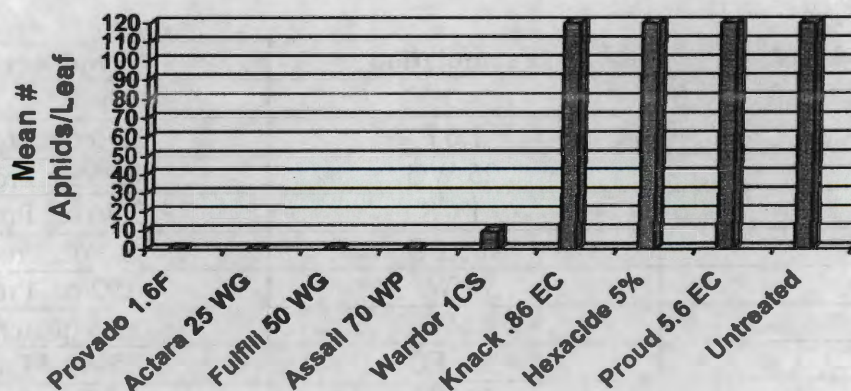
Control of Melon Aphid, *Aphis gossypii* in Vegetable Spaghetti Squash – 2004

Products	Prod/Acre	13 Jul # Aphids/leaf	20 Jul # Aphids/leaf	03 Aug # Aphids/leaf
Untreated Control		0.7 ab	3.3 ab	153.9 bc
Provado 1.6 F	3.75 oz. Prod.	0.1 a	1.2 a	0.2 a
Actara 25 WG	0.25 Lb Prod.	0.0 a	0.4 a	0.0 a
Warrior 1 CS	3.76 oz. Prod.	0.0 a	0.3 a	9.2 a
Knack .86 EC	8.5 oz. Prod.	2.4 ab	8.7 b	168.6 bc
Assail 70 WP	0.92 oz. Prod.	0.0 a	0.2 a	0.1 a
Hexacide 5%	1.5 QTS/Acre	0.8 ab	8.0 b	143.6 b
Proud 5.6 EC	1.5% oil Prod.	3.6 b	1.6 a	179.7 c
Fulfill 50 WG	2.70 oz. Prod	0.1 a	0.6 a	0.2 a

Means in a column followed by the same letter are not significantly different at the 5% Level.

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Zucchini Squash - Escalon, CA, August 3, 2004



Provado, Actara, Warrior, Assail and Fulfill provided excellent control of aphids for the duration of the trial. Proud provided control following the first application but levels of control weakened by August 3rd. Knack and Hexacide were not able to reduce populations below the levels exhibited in the untreated controls. Previous work has shown better performance from Knack and Hexicide so we are assuming that the lack of beneficial arthropods was deleterious to these treatments.