

## Section VIII

### Mites & Sap-Sucking Insects

#### Control of Melon Aphids, *Aphis gossypii*, in Cantaloupes

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Nine treatments were replicated four times in a randomized, complete block design. Plots were 5' wide by 36' long. The test crop was cantaloupes, Goldmaster variety. The in-furrow soil treatments of Platinum and Admire were diluted in water and applied at a rate of 100 gpa. Soil treatments were applied using a B & G termite injector penetrating 6" deep and 6" to the side of each plant. The Assail, Knack and Lannate were applied using a Solo 5 hp backpack blower at 120 gallons per acre, treating the bed from two directions. Soil applications were made on July 25, 2000. Foliar applications were made on August 15, 2000. A maintenance spray of Agrimek and CS-7 was applied to control serpentine leafminers and two-spotted spider mites on August 23, 2000. Sovran was applied for control of powdery mildew late in the season.

Plots were evaluated on 8/23, 8/30, and 9/6. Twenty leaves per plot were sampled and the number of aphids present per leaf was recorded. Due to the low aphid pressure in the test plot, inoculations using leaves infested with melon aphids were made on 8/9 and 8/15. Four infested leaves were placed equally throughout each plot. Inoculations were again made after the population began to decrease in the untreated controls in September, but we were not able to establish the pest again due to the high levels of biological control in the surrounding crops.



Material	Formulation	g ai /A	Mean # Aphids/ 20 leaves 8/23	Mean # Aphids/ 20 leaves 8/30	Mean # Aphids/ 20 leaves 9/6
Platinum	2 SC	50	1.9 a	0.6 a	0.2 a
Platinum	2 SC	64	2.8 a	0.9 a	0.2 a
Platinum	2 SC	78	1.5 a	3.9 a	0.6 a
Admire	2 SC	142	1.8 a	2.9 a	0.3 a
Admire	2 SC	170	0.2 a	2.9 a	0.7 a
Assail	70 WP	22.6	0.3 a	0.4 a	0.1 a
Knack	0.86 EC	50	39.9 b	20.6 b	0.7 a
Lannate	90 SP	408	0.5 a	0.5 a	0.4 a
Untreated	-----	-----	66.8 c	67.6 c	3.5 b

Means followed by the same letter in a column were not significantly different at the 5% level (Fishers LSD).

All soil treatments provided excellent control for the five weeks following the application. The foliar treatments of Assail and Lannate provided similar control for two weeks following their application. Knack had the least effect on the rapidly increasing aphid population. The population in the test plot and the surrounding field of watermelons crashed in September due to biological control exerted by several species of hymenopterous parasites and numerous predators such as *Orius* and *Crysopa spp.*

