K. Raspberry — McDaniel mite

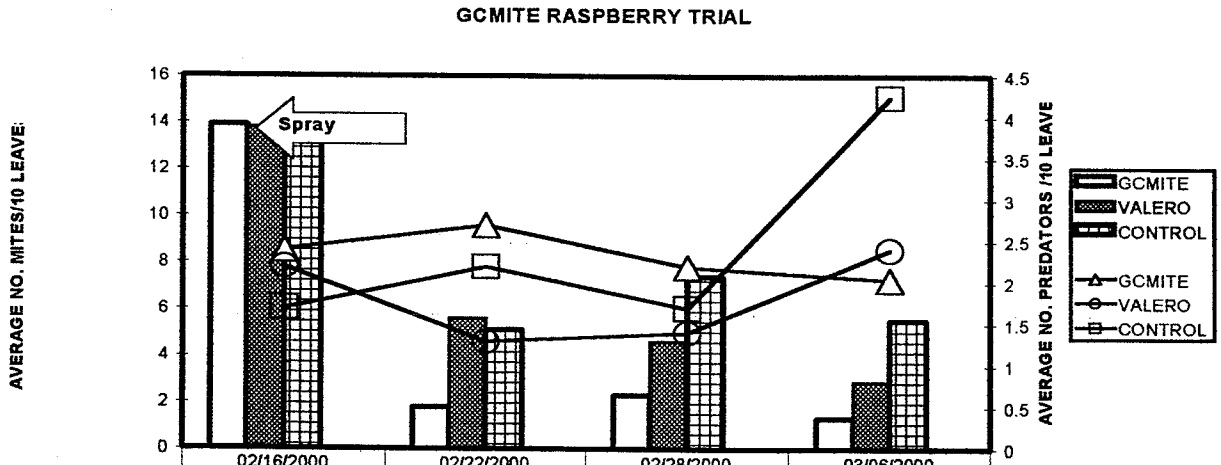
JH Biotech, Inc. Plant Protection Department

High densities of the McDaniel mite can result in browning of the entire plant and leaf drop. Mite-induced defoliation opens the plant canopy, increasing the risk of lower quality fruits and premature fruit drop. The McDaniel mite lifecycle has seven to nine generations depending on the temperature and can overwinter in protected niches, so dormant sprays are ineffective. Summer treatments are effective, but large infestations and profuse webbing make spray coverage difficult.

Control of McDaniel mite at Oxnard, California, 2000: The trial took place at Riter Brothers ranch on field grown raspberries. The grower had previously released predatory mites (*Phtoseiulus persimilis*) to suppress mite populations as part of an IPM program. Three rows of 21 plants were chosen and a pre-count using 10 leaves for the McDaniel mite and ***P. persimils*** was done. The field had not been treated with any pesticide prior to the trial. Temperatures ranged from 40°F at night to 70°F during the day and no rain occurred during the trial.

A Completely Randomized Design was employed, using three treatments and seven replications. Treatments included a control with no treatment, Valero at 1% solution per 100 gallons of water, and GC-Mite at a 2% solution per 100 gallons of water with 5% Natural Wet added to insure better coverage. Applications were made with a motor powered backpack sprayer to the point of run-off (approximately 100 gallons per acre). Applications were applied in the morning once at the beginning of the trial and counts for both pests were taken four times.

Results: After four weeks, the GC-Mite treated vines showed a statistically higher level of control the McDaniel mite populations than either the control or the Valero 1% solution. It was noticed that adequate coverage of the foliage and other infected tissues was essential for good control with GC-Mite. The GC-Mite treatment showed very little effect on the predatory mite (*Phtoseiulus persimilis*) population and also appeared to reduce incidence of Persea mite webbing . The GC-Mite treated foliage showed no observable phytotoxicity. In the Valero trial phytotoxicity was observed.



	02/16/2000	02/22/2000	02/28/2000	03/06/2000
GCMITE	13.9	1.8	2.3	1.33
VALERO	13.8	5.6	4.6	2.9
CONTROL	13.9	5.1	7.4	5.5
GCMITE	2.4	2.7	2.2	2.04
VALERO	2.2	1.3	1.4	2.4
CONTROL	1.7	2.2	1.7	4.25

Spider Mites

Predatory Mites