

## Section VIII.

### Mites and Sap-Sucking Pests

#### EVALUATION FOR THE CONTROL OF TWOSPOTTED SPIDER MITES IN VEGETABLE AND SPECIALTY CROPS USING SURROGATE LEAFLET TISSUES UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION

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This trial was established at Caffese Farms, Farmington California in order to evaluate the effects of several new miticides on twospotted spider mites. Due to a lack of interest and funding for evaluation of miticides in vegetable and specialty crops, we are using the leaves of *Juglans regia* to evaluate mite control with foliar applications of new IPM compatible miticides. Plots were established using individual plants and RCB design was set up with four replications. Hot spots were identified, flagged and a 10 leaflet sample was utilized from these areas in order to minimize damage to the plants from mites overwhelming the whole plant. Treatments were applied with a Solo backpack sprayer at 100 gallons/acre spray volume on July 14<sup>th</sup>.

The Hexacide plots received a second application at 2% V/V on Jul 30<sup>th</sup> because the 1% rate was only somewhat effective in reducing mite numbers. The Activol plots were oversprayed with Proud on Aug 6<sup>th</sup> in an attempt to control the high population levels and squeeze a little more information out of the plot before the population crashed due to the influx of high numbers of beneficial insects and predatory mites. All leaflets were taken to the lab and either brushed as a group on a sticky glass plate and examined under a dissecting microscope, or individual leaves were examined under a lighted magnifier when population levels were less than 25 per leaf.



### Mean Number of Twospotted Mites per Leaflet from 10 Leaflets, Farmington, CA 2003

Treatments lb product/ac	Jul 22	Jul 29	Aug 5	Aug 12
Zeal .09	1.1a	0.9a	1.5a	0.7a
Zeal .125	0.68a	0.7a	1.4a	1.9a
Mesa 1.25	2.0a	1.4a	3.2a	8.2a
Mesa 1.50	1.0a	2.3a	7.6a	9.8a
Onager 1.0	1.7a	0.5a	1.0a	3.2a
Onager 1.25	1.3a	0.5a	0.8a	2.1a
Acramite .75	1.0a	0.8a	0.3a	7.4a
Acramite 1.0	2.8a	0.2a	0.9a	6.3a
Envirdor 1.125	2.6a	3.2a	0.7a	7.5a
Envirdor 1.250	2.7a	0.5a	0.9a	1.4a
Hexacide 8.3 + 16.6	8.9a	50.5a	46.3b	130.3c
Activol 8.3,Proud 16.6	60.7b	134.3b	162.1d	54.5b
Untreated Control	56.5b	134.7b	126.6c	116.9c

Means within columns followed by the same letter are not significantly different (DMRT P =0.10)

All materials with the exception of the Hexacide and the Activol provided excellent control of twospotted spider mites for the duration of the trial. The control from Hexacide was better than the untreated control until the final sample date. The Activol provided control similar to the untreated plot and was abandoned as a miticide during the course of the trial. The Proud was able to reduce the very high numbers of mites in that plot to a much lower level and should be evaluated in future trials for its ability to control mite populations when the application can be made at lower levels of mites.