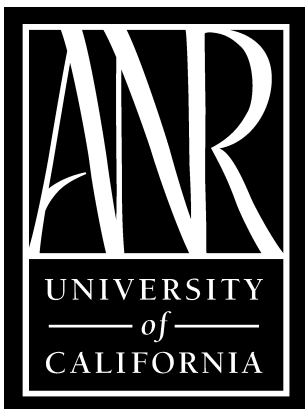


***INSECT CONTROL
2009***

SAN JOAQUIN COUNTY



**Cooperative Extension University of California
2101 East Earhart Avenue—Stockton—California—95206**

2009 FIELD CORN

RESEARCH PROGRESS REPORT

Mick Canevari, Farm Advisor

San Joaquin County

ACKNOWLEDGEMENTS

The 2009 field corn research program for San Joaquin County was conducted for spider mite control in field corn. The cooperation and management assistance of Bob Cecchini (Brentwood, CA) is greatly appreciated. Many thanks are extended to them for their assistance, interest and patience.

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Caution

This report is a summary of a field corn spider mite trial conducted in San Joaquin County. **It should not in any way be interpreted as a recommendation of the University of California but rather a guide as to the progress in finding solutions to problems.**

Insecticide trade names are used in this report, as well as the less familiar common names to familiarize the reader with the various products tested. No endorsement of products mentioned or criticism of similar products is intended.

Insecticide rates in this report are always expressed as **active ingredient (a.i.) of material per treated acre.**

Trade Name	Common Name	Company
Acramite	Bifenazate	Chemtura
Comite	Propargite	Chemtura
Oberon	Spiromesifen	Bayer CropScience
Onager	Hexythiazox	Gowan
GWN-9815	Experimental	Gowan
Zeal	Etoxazole	Valent U.S.A

2009 Field Corn Insect Control Trial Results

One insect control trial was established in San Joaquin County. The trial was established to evaluate the effectiveness of candidate insecticides for controlling spider mites in field corn. Complete trial descriptions and ratings for the trial follows.

Field Corn Spider Mite Trial. Mick Canevari, Randall Wittie, Don Colbert, Scott Whiteley

OBJECTIVES: Evaluate new insecticides for spider mite control and crop tolerance in field corn.

METHODS AND MATERIALS: Acaricides were applied to a high population of the two-spotted spider mite, *Tetranychus urticae*, on July 2, 2009 in field corn near Discovery Bay, Contra Costa County. (Table 1) Plots were 5 ft x 25 ft arranged in a randomized complete block design with 4 replicates. Treatments were applied with a CO₂ backpack sprayer operating at 40 psi delivering 30 gpa water using cone and flat fan nozzles. A single flat fan nozzle 8002VS over the row and 2 drop nozzles with TXVS4 cone nozzles on each side of the corn. The field corn was 3-4 ft. ht. Spider mite motile and egg counts were taken at 7, 14, 21 and 35 days after treatment (DAT) by selecting 10 leaves from the lower area of the corn stalks and progressing to higher leaves in later evaluations. Leaves were brought back to lab and then mite motile and egg counts were made directly from the leaves with the aid of a microscope. Data recorded as mite motile or eggs/leaf.

Table1. Treatment List

Treatment	Formulation	Rate Lb Ai/A	Rate Fl Oz/A
1.Acramite	4 SC	0.5	16
2.Acramite	4 SC	0.75	24
3.Acramite+ No Foam A	4 SC 100 %	0.5	0.25% V/V 16
4.Acramite+ No Foam A	4 SC 100 %	0.75	0.25% V/V 24
5.Acramite+ Roundup	4 SC 3 AS	0.75 0.75	24 32
6.Comite+ No Foam A	6.55 EC 100 %	2.5	0.25% V/V 48
7.Oberon+ No Foam A	2 EC 100 %	0.2	0.25% V/V 12
8.Onager+ No Foam A	1 EC 100 %	0.08	0.25% V/V 10
9.Onager+ No Foam A	1 EC 100 %	0.1	0.25% V/V 14
10.Onager+ No Foam A	1 EC 100 %	0.12	0.25% V/V 16
11.GWN9815+ No Foam A	31% SC 100 %	0.1	0.25% V/V 5.3
12.Zeal + No Foam A	72 % 100 %	0.07	0.25% V/V 1.5
13.Zeal + No Foam A	72 % 100 %	0.09	0.25% V/V 2.0
14.Zeal + No Foam A	72 % 100 %	0.1	0.25% V/V 2.4
15.Zeal + No Foam A	72 % 100%	0.13	0.25% V/V 3.0
16.Untreated Check			

RESULTS AND DISCUSSIONS:

The mite population began high averaging 20 per leaf but never developed to higher numbers. The population began to decline at the 14 day evaluation for no obvious reason. There were a few thrips but not enough to be a factor in keeping the mite population from increasing.

Summary of Performance

ACRAMITE: Acramite at 16 and 24 fl oz/A with and with-out No Foam A @ 0.25% V/V gave 80-100% control of the 2-spot spider mite for 21 days after the application. The 28 day count was not taken as the field was being irrigated and the plots were too wet to walk in to take the leaf samples. At 35 days after treatment, Acramite + round-up at 24 + 32 fl oz/A gave 90% control. Acramite alone gave 65-75% control at 35 days after treatment while Acramite + No Foam A gave no control at 35 days.

COMITE: Control at 7 and 14 days after treatment was very good (100 and 98%). But control went down to 63% and less than 10% at the 21 and 35 day counts respectively.

OBERON: Gave 90-100% control for 21 days after treatment but gave no control at 35 days after treatment.

ONAGER: Excellent control for 21 days after treatment. Fair control at 35 days after treatment (71-78%).

GWN-9815: Gave 80-95% control for 21 days. Control at 35 days was 75%.

ZEAL: Rates of 1.5 – 3.0 fl oz/A gave 80-100% control for 21 days after treatment. Control at 35 days was variable.

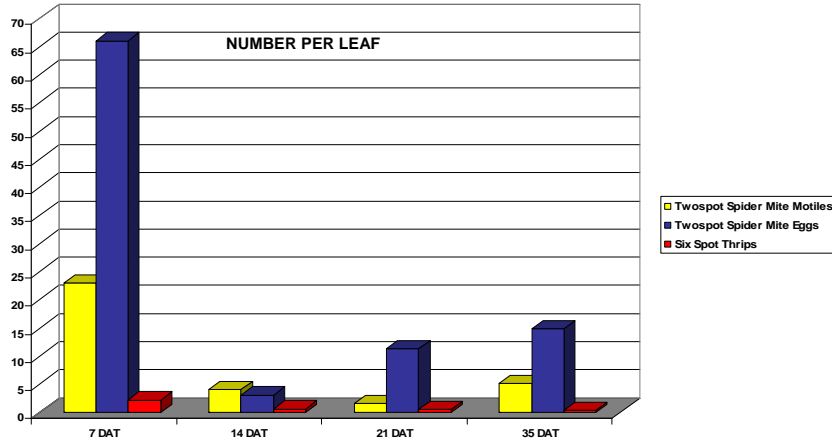
Table 2. Spider mite control in field corn.

Treatment	FIOz/A	Spider Mite per Leaf								Average ¹	
		-----Days After Treatment-----									
		7	%C ²	14	%C	21	%C	35	%C	Mites/Leaf	%C
1.Acramite	16.0	0.1a	99	0.2b	95	0c	100	1.2c	76	0.4	93
2.Acramite	24.0	1.3a	94	0.0b	100	0.1bc	94	1.7bc	67	0.8	89
3.Acramite No Foam A	16.0	1.2a	95	0.0b	100	0.0c	100	5.0bc	2	1.6	74
4.Acramite No Foam A	24.0	4.4a	81	0.0b	100	0.0c	100	13.1a	0	4.4	70
5.Acramite + Round-up	24.0 + 32.0	2.1a	91	0.0b	100	0.0c	100	0.4c	92	0.6	96
6.Comite No Foam A	48.0	0.1a	99	0.1b	98	0.6b	63	4.7bc	8	1.4	67
7.Oberon No Foam A	12.0	0.5a	98	0.3b	93	0.1bc	84	7.7ab	0	2.2	69
8.Onager No Foam A	10.0	1.2a	95	0.3b	93	0.3bc	81	1.4bc	73	0.8	86
9.Onager No Foam A	14.0	3.1a	87	0.4b	90	0.1bc	94	1.3c	75	1.2	87
10.Onager No Foam A	16.0	4.7a	80	0.5b	88	0.1bc	94	1.1c	78	1.6	85
11.GWN- 9815 No Foam A	5.3	3.5a	85	0.2b	95	0.1bc	94	1.3c	75	1.3	87
12.Zeal No Foam A	1.5	0.7a	97	0.8b	80	0.2bc	88	0.8c	84	0.6	87
13.Zeal No Foam A	2.0	0.6a	97	0.1b	98	0.1bc	94	3.2bc	37	1.0	82
14.Zeal No Foam A	2.4	3.1a	87	0.1b	98	0.2bc	88	0.3c	94	0.9	92
15.Zeal No Foam A	3.0	1.2a	95	0.2b	95	0.2bc	88	3.8bc	25	1.4	76
16.Untreated Check		23.4a		4.1a		1.6a		5.1bc		8.6	
LSD (P=.05)		15.97		1.34		0.53		6.38			
Standard Deviation		9.56		0.80		0.32		3.83			
CV		298.91		175.07		140.54		117.48			

¹ Average = Average of the 4 evaluations.

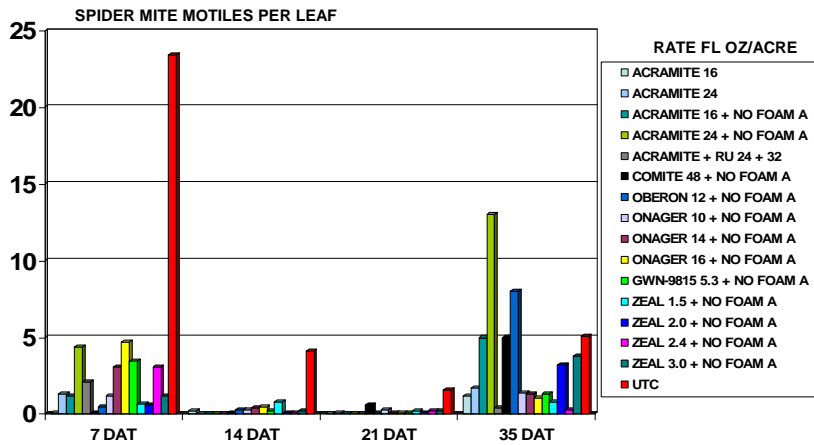
² % C = % Control

FIELD CORN SPIDER MITE TRIAL 2009



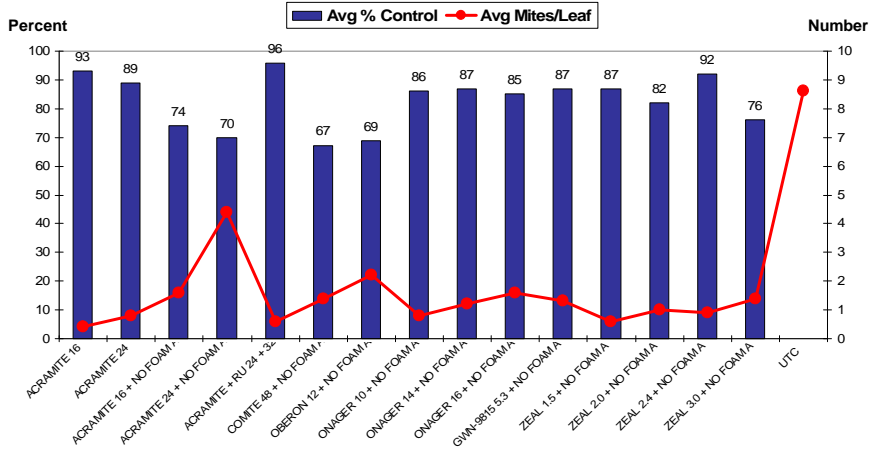
Mite population trend in untreated check for the 35 day period of the trial.

FIELD CORN SPIDER MITE TRIAL 2009



APPLICATION: 7/2/09, 30 GPA, NO FOAM A @ 0.25% V/V

FIELD CORN SPIDER MITE TRIAL 2009



APPLICATION: 7/2/09, 30 GPA, NO FOAM A @ 0.25% V/V

This is a work in progress only. The chemicals and uses contained in this publication are experimental data and should not be considered as recommendations for use.

Until the products and their uses given in this report appear on a registered pesticide label or other legal, supplementary direction for use, it is illegal to use the chemicals as described.

WARNING ON THE USE OF CHEMICALS

Pesticides are poisonous. Always read and carefully follow all precautions and safety recommendations given on the container label. Store all chemicals in their original labeled containers in a locked cabinet or shed, away from food or feeds, and out of the reach of children, unauthorized persons, pets and livestock.

Recommendations are based on the best information currently available, and treatments based on them should not leave exceeding the tolerance established for any particular chemical. Confine chemicals to the area being treated. **THE GROWER IS LEGALLY RESPONSIBLE** for residues on his crops as well as for problems caused by drift from his property to other properties or crops.

Consult your County Agricultural Commissioner for correct methods of disposing of leftover spray material and empty containers. Never burn pesticide containers.

PHYTOTOXICITY

Certain chemicals may cause plant injury if used at the wrong stage of plant development or when temperatures are too high or when overcast conditions occur. Injury may also result from excessive amounts or the wrong formulation or mixing incompatible materials. Inert ingredients such as wetters, spreaders, emulsifiers, diluents, and solvents, can cause plant injury. Since formulations are often changed by manufacturers, it is possible that plant injury may occur, even though no injury was noted in previous seasons.

No endorsement of named products is intended, nor is criticism implied of similar products which are not mentioned.

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