

Control of Spider Mite in Field Corn
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OBJECTIVES: Determine the efficacy of various acaricides to control two-spot spider mite field corn.

METHODS AND MATERIALS: Experimental insecticides were applied to an increasing population of the two-spotted spider mite, *Tetranychus urticae*, on June 30, 2011 in field corn near Stockton, San Joaquin County. (Table 1) Plots were 5 ft x 30 ft arranged in a randomized complete block design with 4 replicates. Treatments were applied with a CO₂ backpack sprayer operating at 34 psi delivering 32 gpa water using cone and flat fan nozzles. A single flat fan nozzle 8002VS over the row and 2 drop nozzles with TXVS6 cone nozzles on each side of the corn. The field corn was 2-3 feet tall. Spider mite motile and egg counts were taken at 7, 13, 21 and 27 days after treatment (DAT) by selecting 10 leaves from the lower area of the corn stalks and bringing them back to the lab and then mite motile and egg counts were made directly from the leaves with the aid of a microscope. Data recorded as mites or eggs/leaf.

Table1. Treatment List

Treatment	Formulation	Rate Lb Ai/A	Rate Prod/A
1.Untreated Check			
2. Zeal + ³ Activator 90	72% WG 100%	0.045	1.0 oz 0.25%V/V
3.Zeal + Activator 90	72% WG 100 %	0.0675	1.5 oz 0.25%V/V
4.Zeal + Activator 90	72% WG 100%	0.09	2.0 oz 0.25%V/V
5.Onager + Activator 90	1 EC 100%	0.188	24 fl oz 0.25%V/V
6.Oberon + Activator 90	2 SC 100 %	0.133	8.5 fl oz 0.25%V/V
7.Acramite + Activator 90	4 SC 100 %	0.75	24 fl oz 0.25%V/V

RESULTS AND DISCUSSIONS:

The application was made to an increasing population of spider mites in field corn. The mite population in the check plots increased from 6 mites/leaf 7 days after application (DAA) to 42 mites /leaf at 27 DAA. Mite egg counts increased as well in relation to the increase in motiles/leaf.

ZEAL: Zeal provided excellent control of spider mites for the 27 day duration of the trial at two of the three test rates. The 0.09 lb rate gave the best residual control followed by the 0.0675. The 0.045 lb rate was beginning to break at the 21 DAT evaluations. No foliar injury noted with the Zeal treatments. (Table 2)

ONAGER: Provided excellent control for 27 days. Control was comparable to the 0.0675 lb ai rate of Zeal. (Table 2)

OBERON: Provided excellent control for 21 DAA which was comparable to the Zeal rates but control broke between 21 and 27 days resulting in increased mite activity. (Table 2)

ACRAMITE: Good control for 7 days (93%) but residual control was poor up to the 27 days (< 40%). (Table 2)

Table 2. Spider mite control in field corn.

Spider Mite Per Leaf & percent control									
<-----Days After Treatment----->									
Treatment	Product/A	7	%C ²	13	%C	21	%C	27	%C
1. Untreated Check		5.6 a		11.9 a		37.9 a		41.8 a	
2. Zeal Activator 90	1.0 oz 0.25%V/V	1.1 a	80	0.5 a	96	4.9 bc	87	7.3 b	83
3. Zeal Activator 90	1.5 oz 0.25%V/V	0.1 a	98	0.2 a	98	1.2 c	97	3.5 b	92
4. Zeal Activator 90	2.0 oz 0.12%V/V	0.1 a	98	0.3 a	97	1.0 c	97	2.5 b	94
5. Onager + Activator 90	24.0 fl oz 1.0%V/V	0.2 a	96	0.4 a	97	1.6 c	96	3.8 b	91
6. Oberon Activator 90	8.5 fl oz 0.25%V/V	0.9 a	84	1.5 a	87	3.5 bc	90	11.2 b	73
7. Acramite Activator 90	24 fl oz 0.25%V/V	0.2 a	96	3.5 a	71	13.7 b	64	26.0 ab	38
LSD (P=.10)		3.53		10.55		11.79		23.78	
Standard Deviation		2.88		8.6		9.62		19.39	
CV		249.13		332.22		105.71		141.29	

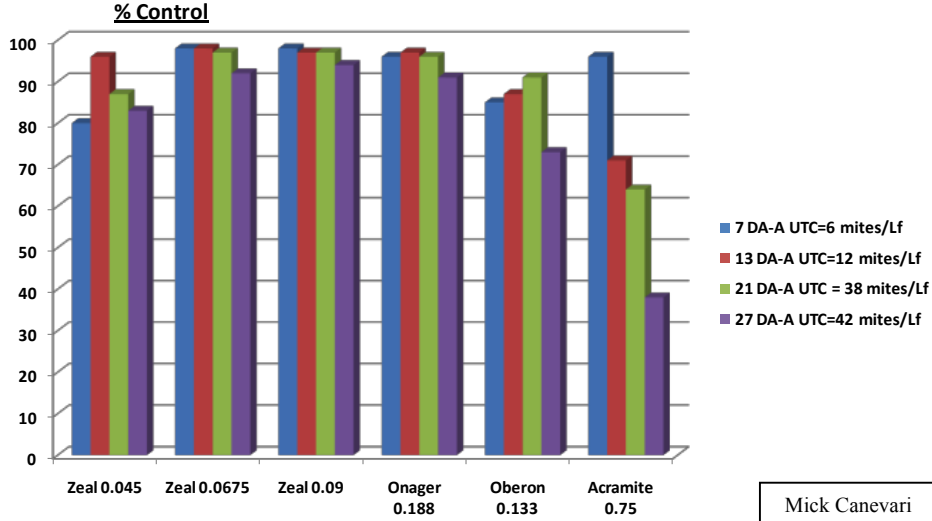
¹ Average = Average of the 3 evaluations.

² % C = % Control

³NIS = Activator 90



Field Corn Spider Mite Trial 2011

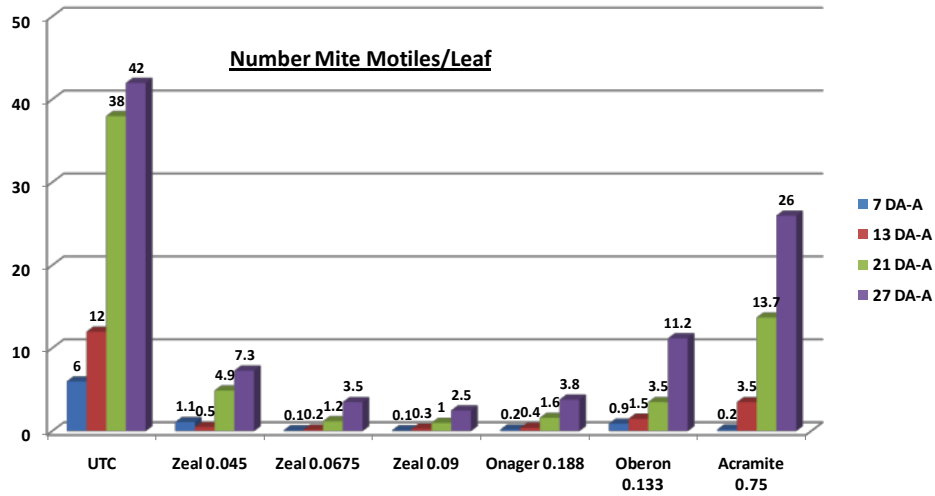


Application: 6-30-11; Rates: lb ai/A; Activator 90 @ 0.25% V/V added to all treatments.

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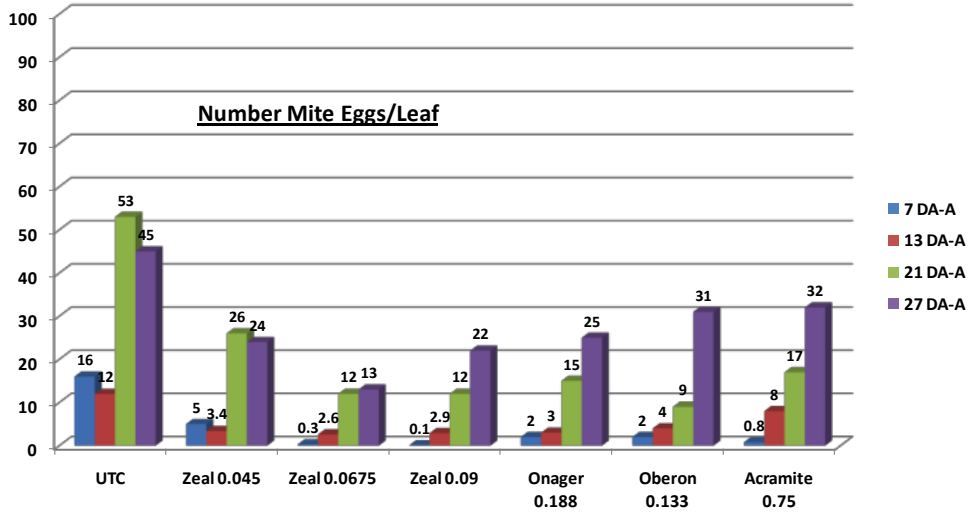
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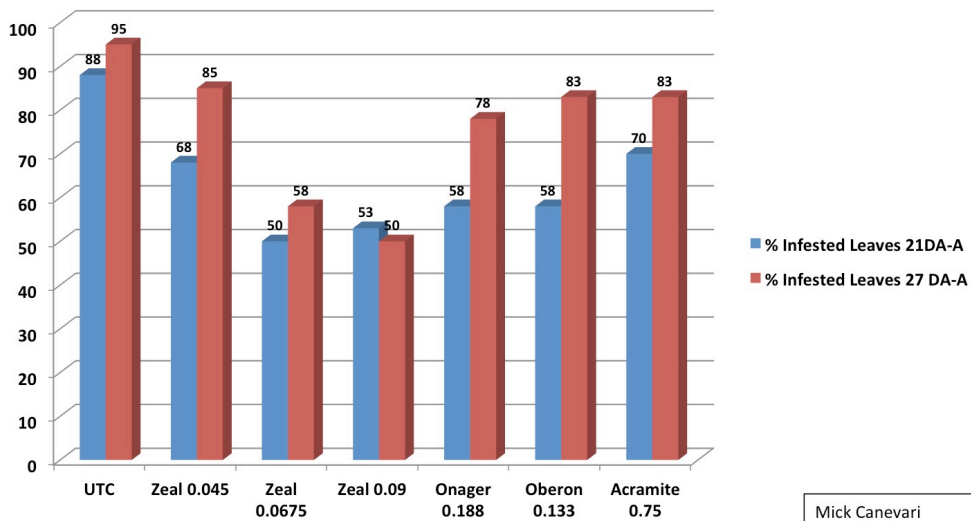
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