

**EVALUATION OF 15% GRANULAR ACEPHATE (VELOCITY®)
AS A DRY INDIVIDUAL RED IMPORTED FIRE ANT MOUND TREATMENT**

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Velocity® (Valent U.S.A. Corp.) is a 15% granular acephate formulation that is similar to Orthene® Turf, Tree and Ornamental (TT&O) Spray or Ortho® Ant-Stop™ Ant Killer Dust (75% acephate dust) in method of application and mode of activity. It is marketed as a low-dust and low-odor alternative. This trial was conducted to evaluate this new formulation compared to four other treatments including Orthene® TT&O, a granular bifenthrin product (Talstar® T&O 0.2G) and control treatments.

Materials and Methods

Test plots were established by marking all active mounds with survey flags contained within a strip 30 feet wide and indeterminate length along an abandoned runway on the Texas A&M Riverside Campus, Brazos Co., Texas. Mound activity was determined using the minimal disturbance technique. Once ten mounds were marked, flag color was changed for the next ten and so on. Flags were then placed along one edge of the strip and numbered sequentially to divide the groups of ten mounds into plots. Plot width was then measured using a measuring wheel. These widths were arrayed from lowest to highest and divided into four equal groups to represent four replications. Treatments were randomly assigned within replications. The following treatments were applied on 7 October:

<u>Name</u>	<u>Product</u>	<u>Rate</u>	<u>Application Method</u>
acephate 15%G	Velocity®	2 tsp	dry per mound
bifenthrin 0.2G.	Talstar® T&O	2 tsp	dry per mound followed with 1 gal water
acephate 75%D	Orthene® TT&O/ Ortho® Ant-Killer™ Dust	2 tsp	dry per mound
untreated control	none	--	--
water-only control	water	1 gal	drench per mound

Weather during application was partly cloudy with a temperatures ranging from approximately 80 to 90 degrees F. Soil was moderately moist. Treated mound evaluations were conducted 10, 15 and 23 October and 6 November 1996 using the minimal disturbance technique. The plots were surveyed for "satellite" mounds 9 October. Results were analyzed using PC SAS PROC Analysis of Variance (ANOVA), with means separated by Tukey's studentized range test ($P \leq 0.05$).

Results and Discussion

All treatments resulted in significant active ant mound reductions in treatment plots throughout the trial compared to both water-only and untreated control treatment plot mound number. There were no significant differences in the number of "new", satellite mounds occurring in plots between treatments. Total active mound numbers (treated mounds + "new" mounds) were significantly lower for all treatments versus controls at 7 days. At one month, all treatments were significantly different from the untreated control, but not from the water-drench control. Due to the rather small size of the treated mounds, it is not surprising that water-drenched mounds were more likely to be relocated than untreated ones.

Table 1. Number of active red imported fire ant mounds of ten per treatment plot, replicated four times, before and periodically after application of insecticide treatments applied, 7 October 1996, Brazos Co., Texas.

Treatment	Mean number of active mounds								
	----- 3 day -----			7 day	14 day	----- 1 month -----			
	count	sats	tot	count	count	count	sat	tot	
Pinpoint	0.75 b	2.25 a	3.00 b	0.25 b	0.00 b	0.25 b	3.25 a	3.50 b	
Tals T&O	0.25 b	1.25 a	1.50 b	0.25 b	0.00 b	0.00 b	4.00 a	4.00 b	
Orthene (std.)	0.25 b	1.00 a	1.25 b	0.00 b	0.50 b	0.00 b	3.00 a	3.00 b	
CK Drench	7.50 a	1.00 a	8.50 a	6.50 a	6.50 a	3.25 a	2.75 a	6.00 ab	
CK Dry	8.25 a	1.50 a	8.25 a	9.75 a	5.75 a	4.75 a	4.00 a	8.75 a	
<i>F</i>	22.58	0.57	10.47	25.84	25.84	9.09	1.55	8.63	
<i>P</i>	0.0001	0.7663	.00003	0.0001	0.0001	0.0006	0.2411	0.0007	
MSD	2.973	4.016	4.2911	2.8135	3.7826	2.3728	4.2911	3.5636	
d.f.=12									
Crit. Val.= 4.508									

* Means followed by the same letter are not significantly different ($P \leq 0.05$) using PC SAS ANOVA and Tukey's Studentized Range test for mean separation.