

## **CONTROL OF THE NATIVE GRAY 'FIELD' ANT, FORMICA AERATA, IN TABLE GRAPES IN KERN COUNTY, 2012**

Daniel Waldstein (BASF) and David Haviland (UC Cooperative Extension, Kern Co.)

### Summary

Native gray ants are considered disruptive to mealybugs in table grapes. Growers wanting to achieve ant control have few options because most bait products are formulated for protein-feeding ants (like fire ants) whereas ants that tend mealybugs feed primarily on sugars. The purpose of this trial was to see if we could get protein-based ant baits to be effective against a sugar-feeding ant.

### Treatments

- 1) Altrevin, 1.5 lb product/acre
- 2) Altrevin + Powdered Sugar, 1.5 lb/ac + 1.06 lb/ac
- 3) Esteem, 1.5 lb product/acre
- 4) Esteem + Powdered Sugar, 1.5 lb/ac + 1.06 lb/ac
- 5) Untreated Check

### Plots

Size- 14 rows (12 ft spacing) by 87 vines (7 ft spacing) = 2.35 acres per plot

Plots organized into a completely randomized design

Applications made using commercial bait application equipment owned by grower

### Data

At weekly intervals for approximately 9 weeks a total of 8 Tomcat Glue Boards (With Eugenol for Enhanced Stickiness) were placed on flat ground approximately 1 ft from the base of random vines in the first, second, third, and fourth quartile of each plot. Cards were left in the field for approximately 24 hours, at which time the number of ants captured were recorded. During the first half of the experiment either corn chips or powdered sugar were placed on the sticky cards as an added attractant. Beginning on 7 Aug (after a parallel study documented no effect of the corn chips or sugar on the trap) the traps were placed in the field without any bait.

### Stats

ANOVA with means separated by Fisher's Protected LSD after sqrt transformation of the data

### Results

There were no significant differences in the number of ants across treatments on any evaluation date with the exception of 24 Jul (18 DAT). Numerically, plots where Altrevin was mixed with sugar had less ants than plots where Altrevin was used alone. However, due to a lack of pre-treatment counts, and highly variability in ant populations within the field, it is impossible to tell if this difference is due to a treatment effect, or it is simply because those plots had less ants to start with. As a result, there were no data in this trial that could be used to suggest that either Altrevin or Esteem, either with or without sugar, should be used to control sugar-feeding field ants in table grapes.

Table 1. The effects of bait applications on the density of *Formica aerata* in table grape.

Treatment	Average number of ants per sticky card								
	10-Jul (4DAT)	17-Jul (11DAT)	24-Jul (18DAT)	1-Aug (26DAT)	7-Aug (32DAT)	14-Aug (39DAT)	22-Aug (47DAT)	29-Aug (54DAT)	5-Sep (61DAT)
Altrevin	8.3	8.0	12.0b	10.3	12.4	2.6	11.6	15.4	24.2
Altrevin + Sugar	5.6	3.1	3.2a	6.1	8.4	2.5	15.3	12.0	28.1
Esteem	28.5	10.6	12.7b	19.8	18.4	11.3	27.8	54.1	45.2
Esteem + Sugar	26.1	7.9	17.1b	14.5	24.8	5.7	22.0	37.0	28.7
Untreated	10.1	9.8	8.3ab	12.9	11.6	11.2	14.2	27.9	32.4
<i>F</i>	1.58	0.83	3.52	1.33	0.25	1.74	0.47	2.11	0.52
<i>P</i>	0.2542	0.5347	0.0485	0.3239	0.9012	0.2183	0.7541	0.1548	0.7253

Means in a column followed by the same letter are not significantly different ( $P > 0.05$ , Fisher's protected LSD). Data are presented as original means followed by means separation of transformed (square root ( $x + 0.5$ )) data.

Figure 1. The effects of bait applications on the density of *Formica aerata* in table grape.

