

Evaluation of watered in aspartame as a mound treatment for red imported fire ant management

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Many homeowners turn to home remedies for management of red imported fire ants, *Solenopsis invicta* Buren, because they consider the treatments as “safe.” While using these products can provide homeowners with peace of mind, many of them do not have scientific data showing that they provide some level of control. The artificial sweetener, aspartame has been reported as an effective home remedy for fire ants on many gardening websites, such as http://www.dirtdoctor.com/view_question.php?id=123. Some sites claim that the aspartame should be sprinkled on the fire ant mound to provide control while others say that the aspartame should be watered into the mound. Brown (2007) showed that aspartame sprinkled on red imported fire ant mounds does not provide control when compared to a commercial product. This trial was established to determine if aspartame watered into the fire ant mound is a feasible control for red imported fire ants.

Materials and Methods

The trial was established on April 11, 2008 (9:30 p.m. – 1:30 p.m.) at the Williamson County Extension Office (3151 Inner Loop Georgetown, TX 78626). Fifteen plots containing 5 red imported fire ant mounds with the same width but varying in length were established. Treatments were assigned randomly within each replicate.

Treatments:

1. Untreated control (check) – no treatment
2. Ortho® Orthene® Fire Ant Killer (standard Orthene® treatment) - 50% acephate; 1 tablespoon sprinkled over each mound
3. Equal (aspartame) - 1 tablespoon sprinkled over each mound then watered in with 1 gallon of water

Prior to treatment, each mound marked with field paint was examined for ant activity using the minimal disturbance method whereby a mound is considered to contain an active colony if a dozen or more worker ants emerge en masse following mild disturbance. This assessment method was also used to evaluate plots at 3, 7, 14, and 28 days post treatment.

Results and Discussion

At 3, 7, 14 and 28 days after the mounds were treated, the acephate (Ortho® Orthene®) plots had significantly lower fire ant activity than either the control or the aspartame (Equal®) treated plots (Table 1). The aspartame (Equal®) treated plots showed no significant difference from the untreated control plots during the trial.

At 28 days, the trial was concluded and mounds that could be located within the plots were counted. County maintenance had dug up a strip through some of the plots to install a pipeline. Mound numbers in all plots were not significantly different (Table 2).

This trial did not document any effect from treating fire ant mounds with 1 tablespoon aspartame (Equal®) and watering it in with 1 gallon of water compared to the untreated control plots.

Table 1. Mean number of active marked imported fire ant mounds that was initiated on April 11, 2008, Williamson County, TX.

Treatment	Mean no. Active Ant Mounds/5*			
	3 days	7 days	14 days	28 days
Untreated Control	4.60a	4.80a	3.80a	4.00a
Acephate (Ortho® Orthene®)	0.80b	1.20b	0.40b	1.20b
Aspartame (Equal®)	4.00a	4.20a	4.00a	4.00a

*Means followed by the same letter within the same column were not significantly different using Analysis of Variance (ANOVA) and means separated using Duncan's Multiple Range test at $p \leq 0.05$ (SPSS, Windows 14.0).

Table 2. Mean number of imported fire ant mounds per average (mean) treatment plot area, treated on April 11, 2008, Williamson County, TX.

Treatment	Mean no. Active ant mounds/plot*
	30 days
Untreated Control	4.80a
Acephate (Ortho® Orthene®)	4.20a
Aspartame (Equal®)	3.80a

*Means followed by the same letter within the same column were not significantly different using Analysis of Variance (ANOVA) and means separated using Duncan's Multiple Range test at $p \leq 0.05$ (SPSS, Windows 14.0).

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Literature Cited

Brown, Wizzie. 2007. Evaluation of Aspartame as a Mound Treatment for Red Imported Fire Ant Management. Integrated Pest Management Urban IPM Program Handbook 2007. Texas AgriLife Extension Service, College Station, TX 65-67.
<http://fireant.tamu.edu>