

Doxem® Plus Fire Ant Bait

Active Ingredients:

- | | |
|----------------|--------|
| ○ Indoxacarb | 0.045% |
| ○ Novaluron | 0.01% |
| ○ Pyriproxyfen | 0.01% |

DATA

Who did the research?

RJM Contracting, Raymond Meyers

Target Pests the research was done on

- *Solenopsis invicta* (red imported fire ant)

Purpose of the test

- To determine the effect of Doxem Fire Ant Bait on red imported fire ant workers and queens

Details on how the test was done

- Colony fragments of one queen, approximately 250 worker ants, and approximately 1 mL brood were added to arenas containing harborage, food, water, and test bait (non-control).
- There were 10 replicates per treatment.
- Mortality was observed for two-day intervals up to 14 days.

Experimental Set Up

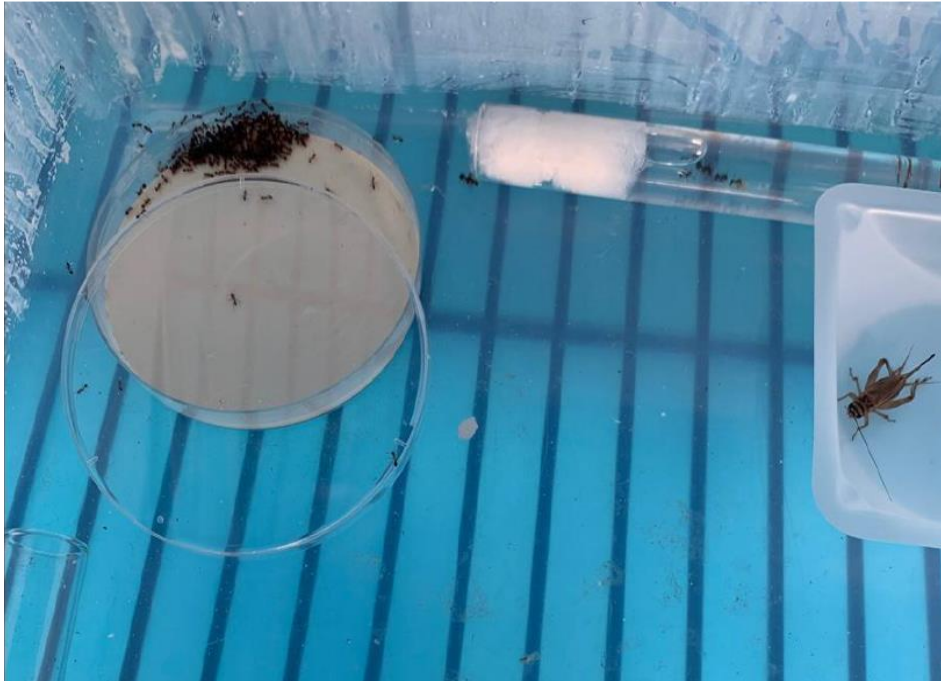
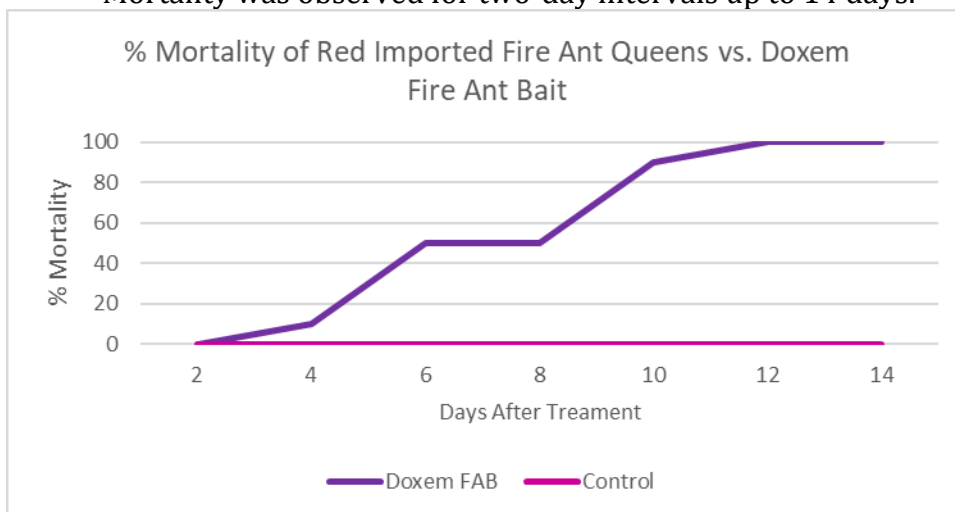


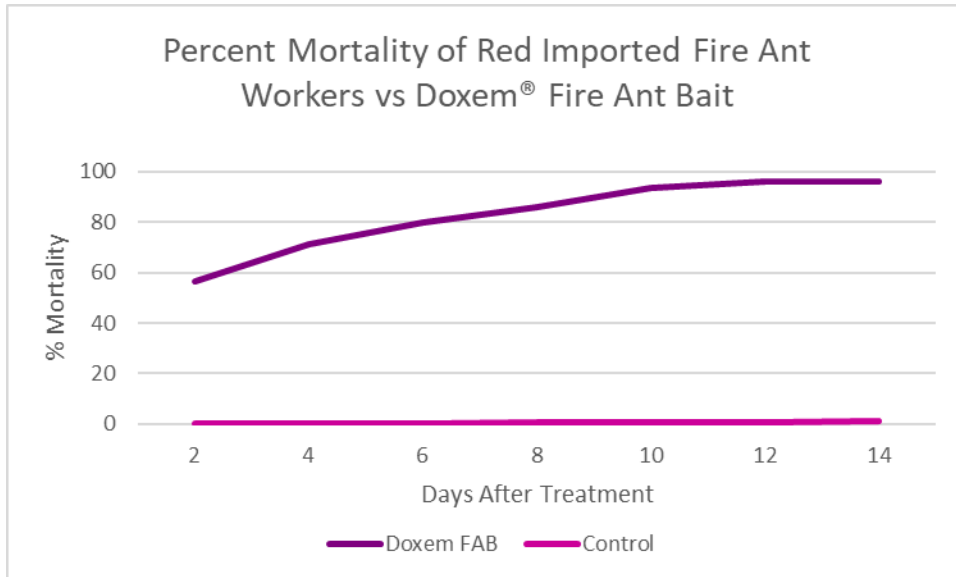
Figure 1. Experimental set up with bait not pictured. The cricket is the alternate food source.

Results

- Colony fragments of one queen, approximately 250 worker ants, and approximately 1 mL brood were added to arenas containing harborage, food, water, and test bait (non-control).
- There were 10 replicates per treatment.
- Mortality was observed for two-day intervals up to 14 days.



Graph 1. Graphical representation of the mortality over time of Red Imported Fire Ant Queens exposed to Doxem® Fire Ant Bait compared to a control treatment.



Graph 2. Graphical representation of the mortality over time of Red Imported Fire Ant workers (*Solenopsis Invicta*) exposed to Doxem® Fire Ant Bait compared to a control treatment.

Summary

Doxem Fire Ant Bait provided excellent control of red imported fire ant workers and queens. All of the test queens and greater than 95% of fire ant workers were dead 12 days after treatment. Doxem Fire Ant Bait began controlling fire ant workers within two days after exposure to the bait, with 60% of fire ant workers already dead by day two.

Who did the research?

Texas A&M University, Dr. Ed Vargo & Dr. Janis Reed

Target Pests the research was done on

- Red Imported Fire Ants (*Solenopsis invicta*)

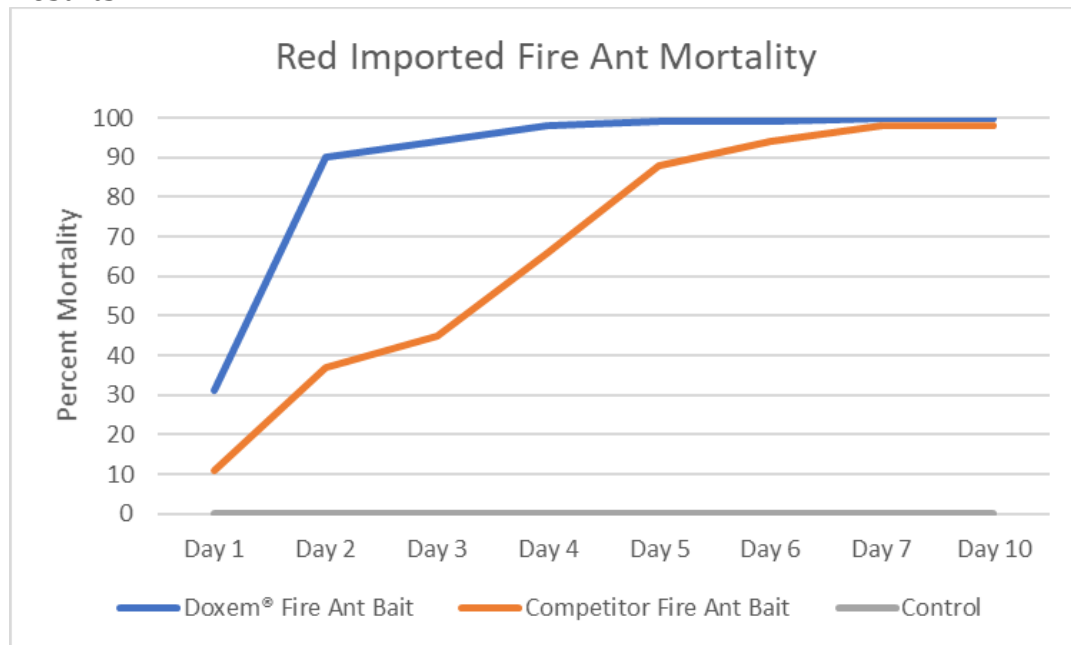
Purpose of the test

- To test Doxem Fire Ant Bait vs. Leading Competitor Fire Ant Bait

Details on how the test was done

- This was a choice test. Insects were placed into arenas and provided food and water.
- The ant baits inside of the arenas were contained in weigh boats then placed into the arenas.
- There were five replicates (arenas) per treatment with 300 fire ant workers per replicate.
- Mortality was observed for 10 days post treatment.

Results



Graph 1. Percent mortality of Red Imported Fire Ants over 10 days after exposure to Doxem Fire Ant Bait and leading competitor’s Fire Ant Bait.

Summary

Both baits killed 100% of fire ants by day 7. However, Doxem® Fire Ant Bait was much more fast acting and reached 90% mortality by day two compared to day 5 with competitor's bait.

DATA

Who did the research?

RJM Contracting, Raymond Meyers

Target Pests the research was done on

- Red Imported Fire Ants (*Solenopsis invicta*)

Purpose of the test

- To test the efficacy of Doxem Fire Ant Bait as an individual mound treatment or as a broadcast application.

Details on how the test was done

- This was a field test with two different field sites located in central Florida (Bob White and Lafayette Landing).
- Mound applications
 - Each replication (plot) had 10 fire ant mounds at the start of the study.
 - Each mound was treated with 0.5 oz of bait.
 - Mounds were assessed on days 1, 3, 7, 15, 30, 45, 60, 75, and 90.
- Broadcast applications
 - Each replication (plot) had 10 fire ant mounds at the start of the study.
 - Each plot was treated with 0.5 oz of bait per 1,000 ft².
 - Post treatment assessments of active mounds and counts of ants on hot dog food lures in each plot were made on days 1, 3, 7, 14, 21, 30, 45, 60, 75, and 90

Experimental Set Up



Figure 1. Treated mound with flag. Dead ants can be seen on the top of the mound.



Figure 2. Cooperator applying bait at a field site.



Figure 3. Map of all plots of treatments that were conducted at the Bob White field site.



Lafayette Landing Plot Locations

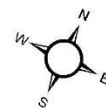
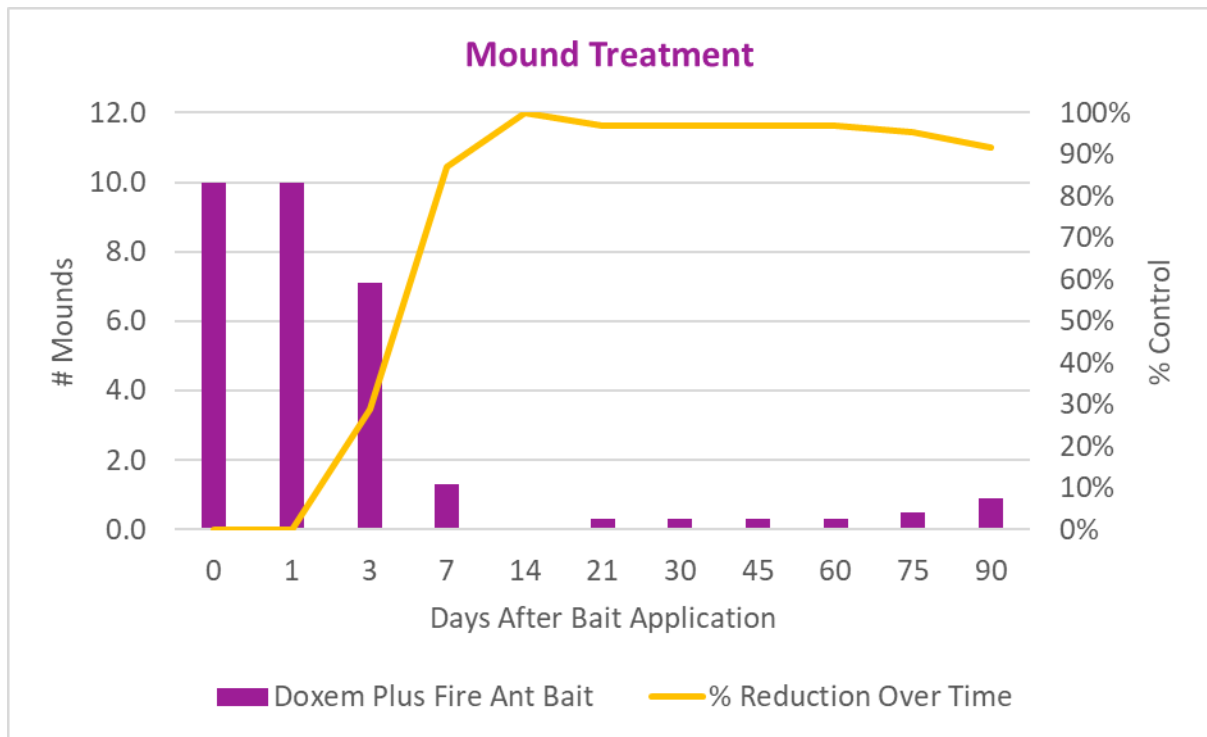
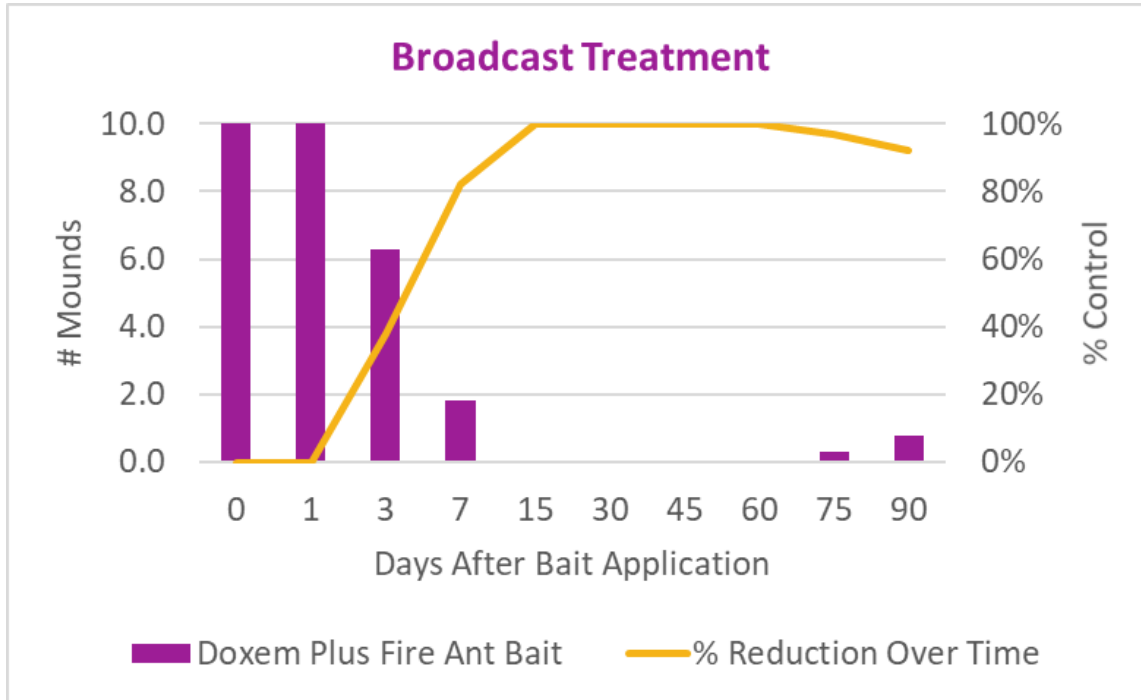


Figure 3. Map of all plots of treatments that were conducted at the Lafayette Landing field site.

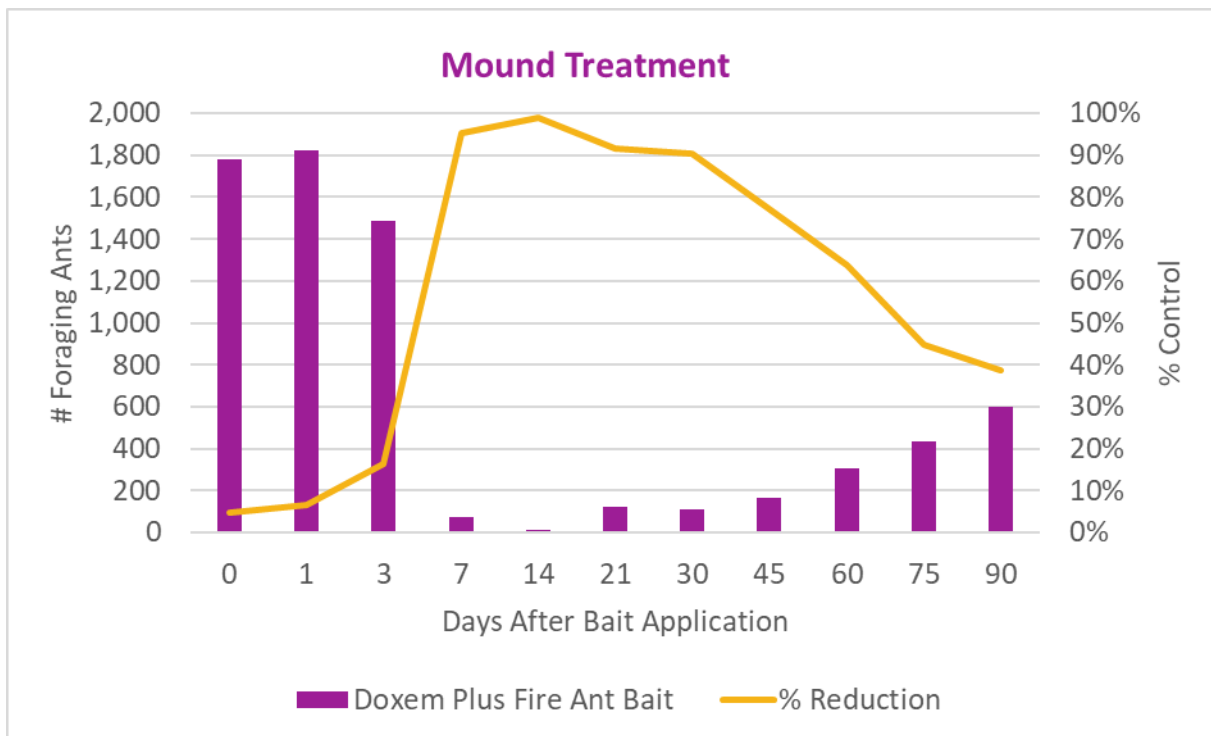
Results



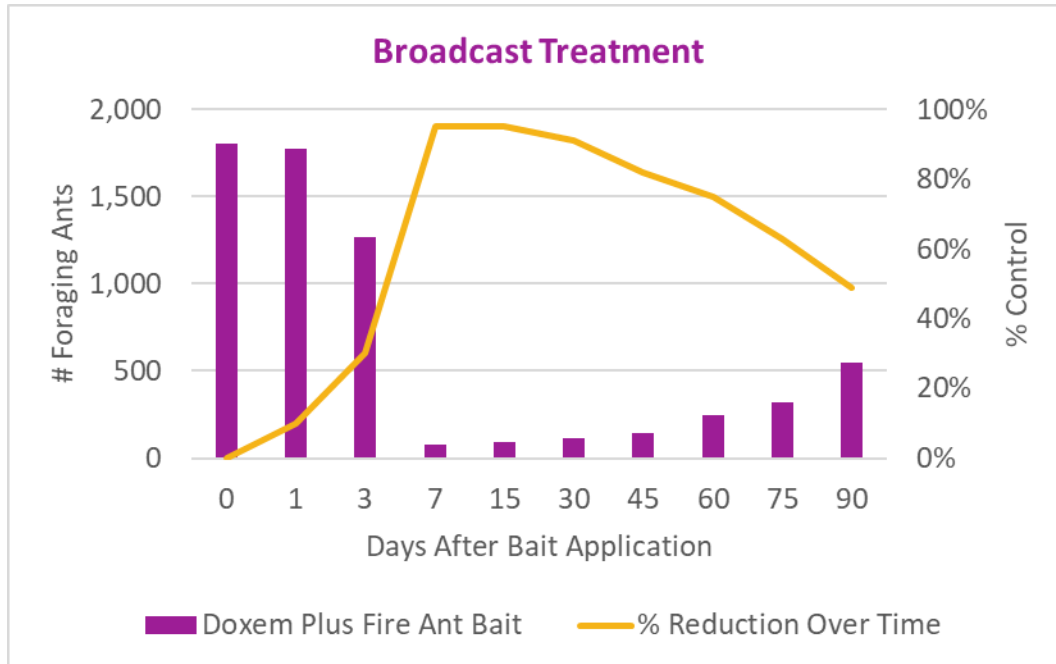
Graph 1. Percent reduction in the number of active mounds and total active mound reduction after direct mound applications of Doxem Plus Fire Ant Bait over 90 days post treatment.



Graph 2. Percent reduction in the number of active mounds and total active mound reduction after broadcast applications of Doxem Fire Ant Bait over 90 days post treatment.



Graph 3. Percent reduction in the number of foraging fire ants on hot dog lures placed in treated plots after mound applications of Doxem Fire Ant Bait over 90 days post treatment.



Graph 4. Percent reduction in the number of foraging fire ants on hot dog lures placed in treated plots after broadcast applications of Doxem Fire Ant Bait over 90 days post treatment.

Summary

Doxem Fire Ant Bait is extremely effective at controlling red imported fire ants in field conditions. Within 14 days after mound applications of the bait, there were no longer any active fire ant mounds. Additionally, the bait started to work following mound treatments within three days, resulting in almost 50% reduction in activity and hitting 88% reduction in activity by day seven. Doxem Fire Ant bait continued to control fire ants after mound applications for 90 days post treatment. Fifteen days after broadcast applications of the bait completely controlled all active mounds with no fire ant activity observed at day 15 in any mounds. Foraging ants were significantly impacted after broadcast applications of bait, with a 90% reduction in foragers counted from days seven to 30.