Red Imported Fire Ant (*Solenopsis invicta*) Management in Citrus Groves

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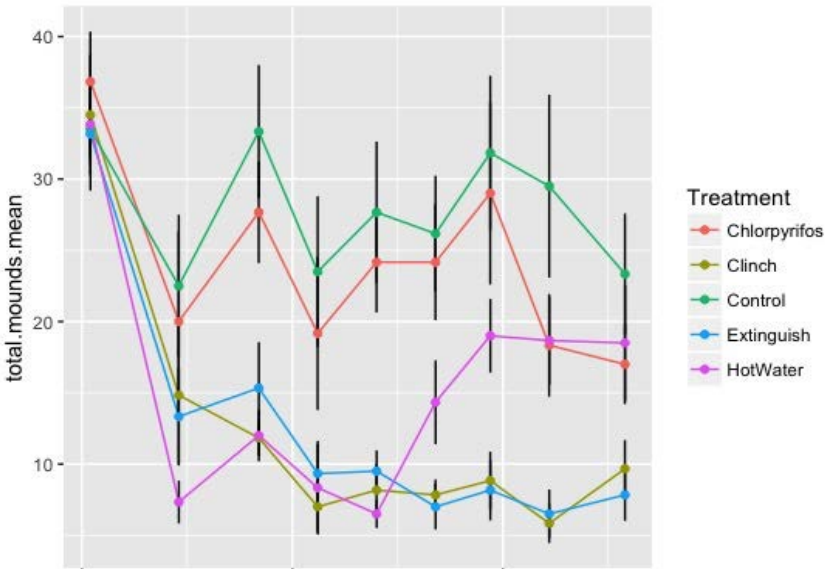

Invasive fire ants, *Solenopsis invicta*, are common in Florida citrus groves and may hinder control of a variety of citrus pests including hibiscus mealybug. To control fire ant populations, four experimental treatments are being tested and compared to an untreated control: 1) a ground application rotating chlorpyrifos and bifenthrin, 2) Clinch® ant bait (Abamectin), 3) Extinguish ant bait (S-methoprene), and 4) spot-treating ant colonies with boiling water. Fire ant abundance is assessed by counting the number of surviving colonies, and by determining presence/absence of foragers with cookie baits. Natural enemy abundance in orange trees is assessed by dissecting mealybug clusters for predators and parasitoids. Preliminary data shows that both insecticidal baits and hot water treatments significantly reduces fire ant colony abundance, while the ground applications have no effect on colony abundance. However, the number of fire ant colonies has increased over time in plots treated with hot water, while plots treated with insecticidal baits consistently have lower numbers of fire ant colonies. Numerous natural enemies, including predatory fly larvae, mealybug destroyers, and parasitoids were found in mealybug clusters. However, predator abundance in mealybug clusters so far is unaffected by treatment. From our results to date, insecticidal ant baits appear to provide consistent control of fire ants when applied at regular three-month intervals.

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