

Landscape Maintenance Practices Influence Fire Ant Establishment

Background

The Red Imported Fire Ant (RIFA), *Solenopsis invicta* Buren, was introduced into United States near Mobil, AL in the 1920s from Brazil, South America, and now infests ca. 270 million acres (109 million ha) across the Southern United States from Florida/North Carolina to California, Puerto Rico. It is established in several South American countries, Australia, New Zealand and China. Costs for controlling this pest in five large metropolitan areas in Texas in 1998 were ca. \$581 million. It was estimated that RIFA cost each homeowner \$151 per year and that expenditures in the five major metropolitan areas in the state was >\$526 million for households.

Although Fire Ants are a major agricultural pest, they are also one of our most economically important pests in urban landscapes. Fire Ants cause extensive mounding and tunneling damage and disrupt many recreational activities with their aggressive stinging. An estimated \$47 million in medical problems in the five largest cities in Texas is caused by the repeated stinging when the ants attack anything or anyone near the colony when disturbed.

For these reasons, control measures are often necessary in urban landscapes around residential and commercial buildings, in parks and on and around other recreational and sports turf facilities.

Effective, safe and environmentally sound management strategies must be developed and deployed for the Red Imported Fire Ant which is a serious pest in all aspects of the urban landscape.

Objectives

To evaluate the impact of landscape management practices (irrigation, mowing, fertilization, mulching) and the influence of the grass cultivars and species on the nesting behavior and biology of imported fire ants in the urban landscapes.

Within a turf planting, the imported fire ant shows a preference for the taller height-of-cut and for the dryer soil and turf areas (black dots show the location of each fire ant colony).

Benefits

- The ideal set of turf and landscape management practices can be identified to make the landscape less suitable for Red Imported Fire Ants to colonize. This will require the identification of the right combination of irrigation frequency, fertility and mowing height-of-cut and frequency, to maintain a Fire Ant antagonistic environment.
- Many cultivars of landscape plants and turfgrasses can be identified that are repellent to Fire Ant foraging and mound building.
- A landscape that is antagonistic to Fire Ants will have far fewer mounds and therefore require far less chemical controls to manage the infestations.

Researcher

James Reinert, Ph.D.
Professor of Entomology