

INSECT REFERENCE

Fire ants, *Solenopsis invicta*

DESCRIPTION OF INSECT

All stages live in underground colony, only adult workers are seen on the surface.

Immature stage:

Egg, larval and pupal stages are white and only occur in underground nest.

Mature stage:

Adult workers are typical ants with a reddish brown color and a darker abdomen (third and last segment of body). Worker size varies considerably and not a good character for identification.

Male and female reproductives are winged, but fly at night, and are not generally seen. Mating flights can occur at almost any time, but most often in spring or fall. Winged adults may be attracted to lights during mating flights.

Workers most frequently seen feeding on insects, sweet or oily substances

Damaging stage(s):

Mound building can be considered as damage in some situations. The main concern is the toxic sting delivered by adult workers.

Predictive models (degree day, plant phenology, threat temperatures, other)

Fire ants can be active year round where climate is warm or moderate. Cooler temperatures in northern part of range limit activity in winter. Mounds are generally present throughout the year.

Surface activity occurs when soil surface temperatures are between 65 and 95°F. Activity is greatest May-September. Activity can occur both day and night, but is generally observed from dusk through the early morning hours during the hottest portion of the summer.

Bait treatments must be applied when workers are actively foraging. Prebaiting is the best method to determine when the ants are foraging.

Life cycle:

Mated queen continuously lays eggs. Queens can live up to 5 years.

Larval and pupal stages are cared for by sterile female worker ants.

Egg stage to adult worker takes approximately one month.

Fire ants only live in colonies, not as single ants.

Conducive environmental conditions:

warm rainy periods precede spring and fall mating flights and colony establishment

Geographic distribution:

native to limited portions of South America, invasive across the southern US

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DAMAGE CAUSED:

Mound building can be considered as damage in some situations, especially where appearance or playing surface is of critical importance. The main concern is the sting delivered by adult workers.

Symptoms of damage:

Mounds are generally the only indicator of infestation.

Timing of damage:

Mounds are present year round when not disturbed. The main period of mound building occurs during moist warm weather in early summer and again in fall. Mound building in summer is often hindered by dry weather; however, the underground portion of the colony remains viable.

Insects that look similar; Pests that cause similar damage:

Many species of ants look similar to the naked eye. Worker size can vary tremendously and is not a good diagnostic character. However, fire ants are one of the few ants that build soil mounds without ant apparent entry holes. The mounds are the best way to determine if fire ants are present.

MONITORING TECHNIQUES:

No specialized monitoring techniques are necessary. Mapping of the infestation based on the presence of mounds may be appropriate to determine where treatments are required at larger sites. Surface activity can be determined by prebaiting with greasy foods such as French fries or pieces of hot dog prior to the application of insecticidal baits for control.

THRESHOLDS:

There are no hard and fast thresholds for this pest. Fire ants should be controlled in areas where there is a high probability of contact with humans, or in areas where mounds are aesthetically unacceptable.

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MANAGEMENT STRATEGIES:

Mapping of mounds is highly recommended to facilitate scouting and determine where insecticide treatments are required. Always consult the most recent version of all product labels before use. Follow resistance management guidelines by rotating products as outlined in IPM Template Reference “Insecticide Resistance Management Groups.”

Red Imported Fire Ant management strategies				
TYPE	TIMING/ THRESHOLD	PRACTICE		COMMENTS
Cultural	N/A	Check deliveries of soil, sod and nursery plants to avoid new ant introductions at the site		
Biological	N/A	Currently, applications of biological agents are limited to state and federal agencies.		
Chemical*	Baits are the safest and most cost effective form of control. Apply baits when workers are actively foraging for food.	Active Ingredient (Product)	Label signal word	<ul style="list-style-type: none"> • Apply baits to dry soil and avoid rainfall and irrigation for 24-48 hours after application • Some baits take several weeks to reach maximum effectiveness. See label for specific time required.
		Abamectin (Affirm)	Caution	
		Hydramethylnon (Amdro)	Caution	
		Indoxacarb (Advion)	Caution	
		Methoprene (Extinguish)	Caution	
		Methoprene+ Hydramethylnon (ExtinguishPlus)	Caution	
		Priproproxifen (Distance)	Caution	
		Spinosad (Payback)	Caution	
	Mound drench is the fastest method to control colonies where immediate action must be taken.	Bifenthrin (Talstar)	Caution	<ul style="list-style-type: none"> • Apply adequate volume of liquid formulations as drench, or apply granules over mound and water in with a sufficient amount of water to ensure deep penetration
		Chlorpyrifos (Dursban)	Danger (WP), Caution (Liquid)	
		Cyfluthrin (Tempo)	Caution	
		Deltamethrin (Deltagard)	Caution	
	Contact insecticides can be broadcast as sprays or granules	Acephate (Orthene)	Caution	<ul style="list-style-type: none"> • Conserve native ants by avoiding wide area broadcast applications • Can be used as a surface dust treatment over top of mound where allowed by label
		Bifenthrin (Talstar)	Caution	
		Deltamethrin (Deltagard)	Caution	
		Fipronil (TopChoice)	Caution	

*chemical products shown in green type are considered reduced risk by the U.S. Environmental Protection Agency