

The Ants

Excerpts from Destructive Turf Insects

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More than 600 species of ants occur in North America, some of which inhabit home lawns, golf courses and other turf areas. Generally, ants are beneficial insects, feeding on pest insect eggs, and other insects and whatever they can find.

Though various ant species occur in turf from time to time, two have caused most of the problems - fire ants and the "turfgrass ant." The red imported fire ant was introduced from South America in 1930 and now infests most of the southern states from Oklahoma to North Carolina. In addition to its mound building habits, this ant's stinging and biting behavior against anything that disturbs their mounds is a serious problem. Venom injected from sting causes painful lesions that are slow to heal and may cause allergic reactions.

The turfgrass ant, *Lasius neoniger*, probably occurs over most of the United States. Though beneficial because it feeds on insect eggs and small larvae, this ant is also known for building mounds on golf course tees, greens and fairways which damage turf and mowing equipment.

Other nuisance ants include the leafcutter, harvester and Allegheny mound ants. The leafcutter ant is most common in Texas and Louisiana where it can make large mounds near trees. It often clears trails through turf in order to carry back pieces of tree leaves. Harvester ants are also associated with the arid southwest and the foraging ants also have the habit of clearing trails through turf. The Allegheny mound ants are most common in the northeastern states and they can build large mounds in turf, usually near wood lots. These mounds serve as solar collectors to heat ant larvae and pupae, thereby increasing their developmental rate.

Turfgrass Ant

This species is known as a pest on golf courses from Quebec to Florida, Idaho to Colorado and probably most of the United States. While generally considered a nuisance scavenger, this small brown ant builds 3- to 5-inch diameter mounds of fine sand and soil on tees, greens, fairways and other aesthetically sensitive areas. Frequent mowing flattens the mounds causing the turf to die in small circles. Mounds also dull the blades of mowing equipment. The ant itself does not damage the turf and it is not known as a pest of home lawns.

Life Cycle and Habits. Each colony has multiple subdivisions and many entrances but only one queen which lays eggs that for most of the year produce infertile female work-

ers. In the summer, the queen lays eggs that produce winged males, and others that develop into winged, reproductive females or queens.

In late August, large numbers of the winged forms emerge (swarm) from the colony in a mating flight. After mating, the males die but the females chew off their wings, dig into the soil and develop new nests in golf course fairways or other open grass areas. The first eggs laid by the new queen develop into small workers that collect food for the queen who lays more eggs that develop into normal workers.

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The ants feed on dead insects, insect eggs, earthworms and any other acceptable food. The food is regurgitated and fed to the queen, young workers and larvae. These ants also collect certain species of aphids, carry them underground and place them on turf roots. The aphids are carefully tended and produce a sweet fluid called honeydew that the ants use as food.

The ants move deeper into the soil in late fall and resume surface activity in early spring (late April). Burrows may extend three feet or more into the soil.

Control. As of the writing of this book, a consistent preventive program for control of this ant had not been developed. Our research has shown that treatments of chlorpyrifos (alone or as a bait formulation) or one of the pyrethroids, such as bifenthrin or deltamethrin, applied as soon as activity begins (late April to early May) suppresses mound construction for 90 days or more. Application of imidacloprid, fipronil, or thiamethoxam with a rapid acting insecticide at first ant activity has suppressed early mound construction and subsequent activity for more than 120 days. Spring application of bifenthrin or imidacloprid suppressed ant mounding 50 to 60% the following spring compared to untreated areas.