

## Best Management Practices

### Mole Crickets

**Introduction:** There are three important species of mole crickets, *Scapteriscus spp.*, that are economically damaging. They are the tawny mole cricket, *S. vicinus*; southern mole cricket, *S. borelli*; and short-winged mole cricket, *S. abbreviatus*. The short-winged mole cricket is known to occur only in discrete areas of Florida, whereas tawny and southern mole crickets are found throughout the coastal southeast as well as sandy portions of golf courses in Texas.

Bahiagrass, centipedegrass and bermudagrass are the preferred host plants; however, St. Augustinegrass now sustains severe damage from the activity of tawny mole crickets. The most consistent mole cricket damage occurs in Georgia and Florida.

**Description:** The various species of mole crickets are similar in size, reaching up to 1.5 inches in length as adults. About 40 eggs are laid 3" to 12" below the soil surface, depending on soil moisture. Eggs hatch approximately 20 days later.

Tawny mole crickets are a light honey brown with a v-shaped space in the foreleg "digger claw." Their mating and egg-laying activity usually occurs slightly ahead of southern mole crickets. Southern mole crickets are a duller gray/brown color, often less robust in appearance than tawny mole crickets. There may be two pale whitish spots on each side of the prothorax and digger claws have a u-shaped space. Short-winged mole crickets are flightless, having wings only one-third the length of the abdomen. The hind legs of the short-winged mole cricket are distinctly striped, helping to differentiate it from immature stages of tawny or southern mole crickets.

**Damage:** Millions of dollars in damage result from the tunneling and feeding activity of these insects on turfgrasses. Tawny mole crickets and short-winged mole crickets are vegetarians, feeding on the underground and above ground portions of grass plants. Southern mole crickets are primarily predacious, feeding on earthworms and other insects. Their damage to turf is mostly mechanical, resulting from tunneling activity which leads to desiccation.

**Management:** Among the most difficult turf pests to control, mole crickets can tunnel downward for several feet and escape pesticide applications, especially during dry spells. Mating and dispersal flights can occur for several months, with adults flying up to 6 miles to new infestation sites. Monitoring, mapping, and timing are critical components in an effective mole cricket control program. Regular inspections can help to track the behavior, location and developmental stages of the mole crickets, as most eggs will be laid in or near the area where adult activity occurs. The optimum time period for a chemical control program is just after peak hatch, when the nymphs are small and easier to control.

## Suggested mole cricket control program:

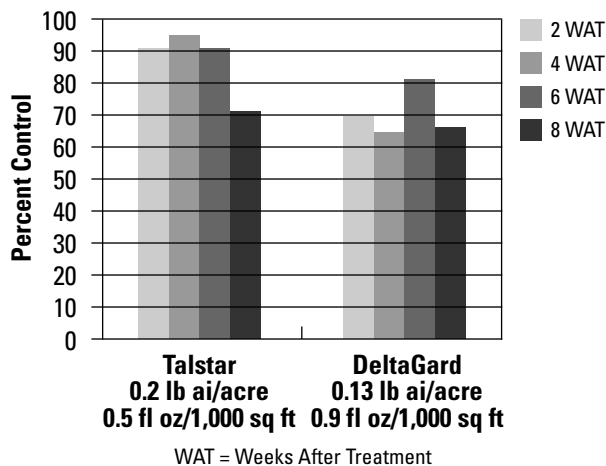
1. For overwintering nymphs and adults: Apply Talstar® GC flowable insecticide/miticide or TalstarOne™ multi-insecticide at 20 ounces per acre (0.5 oz./1,000 sq. ft.) in the spring for overwintered nymphs and adults, when dispersal flights and adult activity are evident. Continuous invasion into preferred grass areas is common at this time of year. Irrigating prior to application of Talstar® will bring the mole crickets close to the surface for maximum contact with the product. Apply as late in the day as possible, followed by up to 1/2" of water immediately after application. If the product is permitted to dry on the grass canopy, control may not be satisfactory. Baits are not usually effective at this time due to overriding mating instinct.

2. At peak egg hatch: Apply Talstar® GC granular insecticide, Talstar® EZ Golf granular insecticide, Talstar® PL granular insecticide, or Talstar® EZ granular insecticide at 100 - 200 pounds per acre (2.3 - 4.6 lb./1,000 sq. ft.). Be sure to target areas that received heavy adult activity. If soil is not moist, pre-irrigate as above. This is the optimum time to control mole crickets, as the small nymphs are very susceptible to insecticides and are close to the soil surface where Talstar® is most concentrated.

3. Talstar® GC granular insecticide and Talstar® PL granular insecticide may be slit injected by an FMC certified applicator with a minimum of 20 acres per application. The rate for slit injection is 200 lbs./acre. Application times are as follows: In Florida - *south*: March 1 - May 31; *central*: April 1 - June 15; *north*: April 15 - June 30. In Georgia, South Carolina and North Carolina: May 1 - June 30. Application must occur within four weeks of peak mole cricket egg hatch.

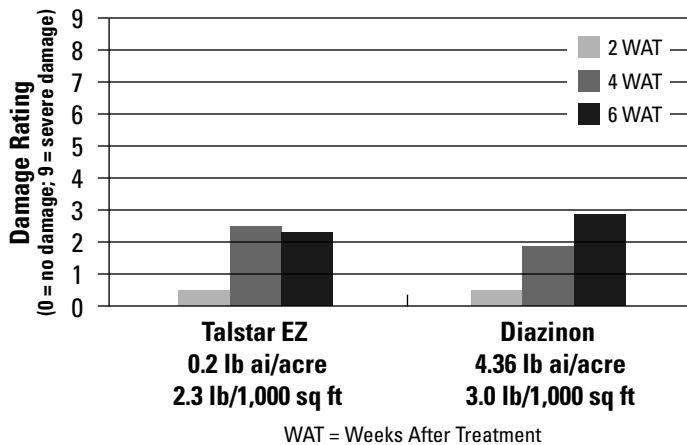
4. In late summer or early fall: Larger nymphs and adults that were not controlled earlier can be targeted. Higher rates and more frequent applications may be required. Use TalstarOne™ multi-insecticide or Talstar® GC flowable insecticide/miticide at 20 ounces per acre (0.5 oz./1,000 sq. ft.). Higher rates may be used for lawn sites; the golf course yearly maximum is 40 ounces of Talstar® GC flowable insecticide/miticide.

**TalstarOne™ Multi-insecticide  
Mole Cricket Nymph Control in FL**



Trial conducted by: Dr. Bryan Unruh, UF, Milton, FL, 1999

**Talstar® EZ Granular Insecticide  
Mole Cricket Nymph Control in NC**



Trial conducted by: Dr. Rick Brandenburg, NCSU, Raleigh, NC, 2000

## Selected References:

- Brandenburg, R.L. and M.G. Villani 1995. Handbook of Turfgrass Insect Pests. ESA, Lanham, MD.  
 Watschke, Thomas L. et al 1995. Managing Turfgrass Pests. Lewis Publishers, CRC Press, Boca Raton, FL.

**Always read and follow label directions.**

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