

# Cool-season insect plan

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**T**he key to successful management of turf insects is understanding their habits and life cycles. This determines when a particular management strategy is most appropriate. Each insect species has stages that are most vulnerable to control. That's when your control efforts have the greatest chance of success. In addition, each insect species has particular habits that have some bearing on insecticide decisions, such as soil dwelling or thatch dwelling, which must be considered.

## Get 'em where they live

Most turf insects are active only in certain parts of the turfgrass community. Some insects occur in particular areas, preferring certain soil types or certain turf species.

## I.D. them first, then kill them

Each white grub species has a slightly different life cycle and behaves differently in the soil. Thus, it's important to determine which species is present before attempting to control the grub problem. The same goes for any insect species.

## Beware night munchers

When insecticides are used to control cutworms or webworms, the applications

should be made as late in the day as possible so the material is still "fresh" when the caterpillars emerge to feed in the evening.

## The time is right

The success of an insecticide treatment depends on the timing of application. Consider these rules of thumb:

- ▶ most insect eggs and pupae are not susceptible to insecticides, and
- ▶ the smallest (youngest) immature stages usually are most vulnerable to insecticides.

A turf manager needs to determine when the pests will be in the egg or pupa stage, and avoid the temptation to treat at that time. **LM**

## Insect pests of cool-season turfgrass

### WHITE GRUBS

Feed on roots of turfgrass. Early symptoms—turf resembles drought stress. Heavily damaged turf can be rolled back like a carpet because there are no roots remaining.

**Cultural control:** Provide adequate moisture to root zone. Avoid mowing too low. Minimize other agronomic stresses.

**Chemical strategies:** Use products which can penetrate thatch reasonably well. If treating when grubs are just emerging (often mid July to mid August), use a slower-acting but longer-lasting material. If spot treating after damage becomes evident, use a fast-acting material. Water in any application with at least 0.25 inch water as soon after application as possible to improve contact with grubs.

### CHINCH BUGS

Suck plant juices from stems. Usually most severe or noticeable in sandy soils or sunny areas, especially in areas with thick thatch. Usually most active in summer months.

**Cultural control:** Reduce thatch. Avoid drought stress. Use endophytic cultivars of ryegrasses or fescues.

**Chemical strategies:** Many turf insecticides are labeled and effective. Consider using products that will remain in the thatch (e.g., Dursban). Apply in late spring or early summer if sampling indicates an infestation. Summer applications can also be very effective if necessary. Water in lightly, just enough to move the insecticide off the blades.

### BILLBUGS

Perhaps the most misdiagnosed turf insect problem in the Northeast. Young larvae burrow inside plant stems, older larvae are very difficult to time, and once larvae are well established, the population is difficult to control. Timing of application is critical, and there are several billbug species that may be involved in any given location. Check with local extension specialists or private consultants for your area. Water in lightly, just enough to move the insecticides off the blades.

### WEBWORMS, CUTWORMS

Caterpillars hide in thatch during the day and feed at night on tender tissue. Caterpillars sometimes emerge from burrow holes, nibble off a few blades and pull them back into the burrow to ingest during the day. May thin or kill patches of grass. Several species of both webworms and cutworms, each with different life cycles, often more than one generation per year.

**Cultural control:** Reduce thatch, avoid drought stress, use endophytic cultivars of ryegrasses and fescues.

**Chemical strategies:** Many turf insecticides are labeled and effective. Consider using materials which remain in the thatch or are relatively immobile like some of the new pyrethroids. Treat two or three weeks after peak moth flights. Treat as late in the day as possible. Water in lightly and avoid mowing for a day or two after application if possible.

# Management outline for warm-season insect pests

*If we provide conditions that they like, insects will always take advantage.*

By RICK BRANDENBURG, Ph.D.  
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Insects are opportunistic creatures with an amazing ability to take advantage of what we set in front of them. Provide them with an adequate source of food in an appropriate environment and they will find it.

Here are some of the common insect pests of warm-season turf:

## CUTWORMS, ARMYWORMS

**Hosts:** all warm-season grasses  
**Field Diagnosis:** Clip turf off at soil level. Severe infestations may leave large bare areas where turf has been consumed.

### Control Practices:

- ▶ use "soap flush" to detect
- ▶ treat late in day
- ▶ do not mow and remove clippings for 1-3 days
- ▶ may be present from early spring to late fall

## FIRE ANTS

**Hosts:** all warm-season grasses  
**Field Diagnosis:** Ants create unsightly mounds which may also damage mowing equip-

ment. Painful stings of concern in high traffic areas.

### Control Practices:

- ▶ best controlled in spring and fall when workers are actively foraging for food.
- ▶ mound treatments generally most effective, but are labor-intensive
- ▶ controls must be continued once program is started (fire ants will return at higher levels if treatments are stopped)
- ▶ do not disturb mounds during treatment
- ▶ use baits prior to contact insecticides to allow workers to return baits to mound

## MOLE CRICKETS

**Hosts:** prefers bahiagrass and close-cut bermudagrass

**Field Diagnosis:** Extensive tunneling is unsightly. Root feeding causes dieback, thin spots.

### Control Practices:

- ▶ use "soap flush" to detect
- ▶ treat in June/July as soon as egg hatch
- ▶ follow-up treatments usually necessary
- ▶ look for adult activity in March/April to define areas of high risk for egg hatch

## GROUND PEARLS

**Hosts:** most commonly attacks bermudagrass and centipede-grass

**Field Diagnosis:** Yellowing and then complete dieback of turf with no new regrowth the following season

### Control Practices:

- ▶ no known effective control

measure

- ▶ practice good turf management to increase turf tolerance
- ▶ irrigate during dry weather

## SOUTHERN CHINCH BUGS

**Hosts:** all warm-season grasses, prefers St. Augustinegrass

**Field Diagnosis:** Feeding results in turf becoming yellow and eventually turning reddish-brown.

### Control Practices:

- ▶ avoid over-fertilizing
- ▶ manage thatch
- ▶ irrigate during dry spells
- ▶ apply pesticides with plenty of water
- ▶ multiple treatments often necessary

## TWOLINED SPITTLEBUGS

**Hosts:** all warm-season grasses

**Field Diagnosis:** Results in yellowing of infested turf and severe infestation have noticeable unsightly "spittle masses."

### Control Practices:

- ▶ control adults on ornamentals like hollies
- ▶ treat on cloudy days when possible, since spittlebugs are higher up on turf
- ▶ begin monitoring in early summer

## WHITE GRUBS

**Hosts:** all warm-season grasses

**Field Diagnosis:** Grubs feed on roots and cause drought stress and turf dieback. Grubs may attract moles and skunks which like to eat them.

### Control Practices:

- ▶ attracted to low-cut, highly-

maintained turf

- ▶ dig squares of sod 4-6" deep in late August to detect small grubs
- ▶ treatments most effective in late August/early September
- ▶ avoid ornamentals attractive to adult stages of Japanese beetles or green June beetles

## BERMUDAGRASS MITES

**Hosts:** only bermudagrass

**Field Diagnosis:** Initial yellowing of leaf tips, followed by shortening of internodes causing a tufted growth. May die under severe infestations.

### Control Practices:

- ▶ irrigate during dry spells
- ▶ proper fertilization helps turf outgrow damage
- ▶ Resistant cultivars Floratex, Midiron and Tifdwarf
- ▶ multiple treatments often necessary

## BEEES/WASPS

**Hosts:** all turf types

**Field Diagnosis:** Holes, mounds, tunneling in turf area. Insects flying over turf area.

### Control Practices:

- ▶ maintain a healthy, lush stand of turf. Most bees and wasps that live in the soil prefer a thin stand of turf
- ▶ mulch areas under shrubs, trees, etc. and keep mulch fresh to discourage nesting. **LM**