Warm-season insects: Predicting the crime

New insect problems will challenge us to be detectives to prevent injury and costly remedial control

By RICK L. BRANDENBURG, Ph.D.

Many landscape managers would love to see a system to predict the timing and abundance of pests.

To some degree we can do this. For example, by monitoring the temperature, we can predict with reasonable accuracy when Japanese beetles will emerge in the summer. But the greatest challenge is to predict those pests that occur sporadically — the ones we don't expect each year. They catch us by surprise and cause significant damage before we can react.

Predicting criminal activity

The appearance of sporadic pests is usually related to the weather, but they may still be hard to predict. The last three winters in the Southeast have been quite mild, but this doesn't mean that any specific insects will be more abundant this summer.

The fall armyworm caused severe damage to turf in the Southeast in 1998. Most years its damage is spotty, but in 1998, populations as high as 100 armyworms per square yard were recorded. Infestations like this caused severe damage. Sod farms, in particular, suffered, as did many home lawns, golf courses and athletic fields. The questions is, how did the population get so high and why was it so difficult to get rid of them?

Gang related?

These are difficult questions to answer. Fall armyworms overwinter only in Florida and the Gulf Coast. Did the mild winter allow them to overwinter a little farther north and give them a "jump start" as they began their spring migration? It's possible, but there were probably other factors, including the right weather conditions as the moths laid their eggs.

Severe pest outbreaks usually require a combination of factors, which is why we don't see them happen too often for any one pest. And, although we had a serious outbreak last year, this season could be significantly different. That's why we must depend on surveys and close monitoring as the season progresses because our predictive ability is insufficient. However, we can learn from last year's problems.

If you detect turfgrass insects early enough you can control them before damage occurs.

Many areas frequently suffer from one kind of caterpillar or "worm" problem or another. While they are easy to control if found while still small, the infestations usually surprise us. The first sign of a problem is either brown turf and bare patches or the presence of birds in the turf, feeding on the worms. Keep good records of where you find worms — it can be a time saver.

The secret informer

To detect turfgrass caterpillars, use a soapy water flush (two tablespoons of liq-

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A soapy water flush brings these fall armyworms to the soil surface.

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uid dishwashing detergent mixed in two gallons of water in a sprinkling can), poured over a square yard. Watch for the next five minutes as sod webworms, cutworms and armyworms crawl to the surface and wriggle around. Even the most cautious caterpillars can't stand soapy water and will come out of hiding. Once you detect a problem, act rapidly if the population of worms is high enough to cause turf damage. Irrigate first, then treat late in the day since they feed at night. Don't irrigate for at least 24 hours and don't mow for a day or two after treating.

It's hard to be ready for all the potential problems that may come our way in 1999. White grub problems in 1998 were normal in many locations, but weather extremes made good control difficult. While we have good pesticides to use, we can only expect so much of these products; weather extremes have their own effects. **LM**

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HOW TO DETECT WARM-SEASON INSECT PESTS

Early pest detection is critical to effective management. Watch for signs of insect presence or use the appropriate scouting tools.

CUTWORMS, ARMYWORMS

Hosts all warm-season grasses
Damage Symptoms turf clipped off at soil level; severe infestations may leave large bare areas where turf has been consumed
Scouting Method use "soap flush" to detect
Control Practices

- treat late in day
- do not mow or remove clippings for 1-3 days
- may be present from early spring to late fall

FIRE ANTS

Hosts all warm-season grasses
Damage Symptoms ants create unsightly mounds which may also damage mowing equipment; painful stings a 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 prefer bahiagrass and close-cut turf
Damage Symptoms extensive tunneling is unsightly; root feeding causes dieback, thin spots
Scouting Method use "soap flush" to detect
Control Practices

- treat in June/July as soon as eggs 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 attack bermudagrass and centipedegrass
Damage Symptoms yellowing and then complete dieback of turf with no new regrowth the following season
Scouting Method dig 2 to 4 inches deep in soil; sift and look for "pearls"
Control Practices

- no known effective control measures
- practice good turf management to increase turf tolerance
- irrigate during dry weather

SOUTHERN CHINCH BUGS

Hosts all warm-season grasses, prefer St. Augustinegrass
Damage Symptoms feeding results in turf becoming yellow and eventually turning reddish-brown
Scouting Method pull back leaf sheath, look for nymphs; use a large cylinder (e.g. coffee can with both ends cut out), press into soil, fill with water and watch for floating chinch bugs
Control Practices

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

TWOLINED SPITTLEBUGS

Hosts all warm-season grasses
Damage Symptoms results in yellowing of infested turf and severe infestation; have noticeable unsightly "spittle masses"
Scouting Methods look for spittle masses near base of plant; will be higher on plant on cloudy days; count number of nymphs in 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
Damage Symptoms grubs feed on roots and cause drought stress and turf dieback; may attract moles or skunks which damage turf searching for grubs
Scouting Method dig squares of sod 4-6 inches deep in late August to detect small grubs; grubs will be closer to the surface following rainfall or irrigation
Control Practices

- attracted to low-cut, highly maintained turf
- 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
Damage Symptoms initial yellowing of leaf tips, followed by shortening of internodes, causing a tufted growth; may die under severe infestations
Scouting Methods use a hand lens to look for small worm-like mites on grass and under leaf sheath, blades, etc.
Control Practices

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

BEES & WASPS

Hosts all turf types
Damage Symptoms 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 and trees, and keep mulch fresh to discourage nesting □