Managing insect pests

BECOMING AN EXPERT in identifying pests, determining their life cycles, and managing the insect population are valuable skills for turf managers.

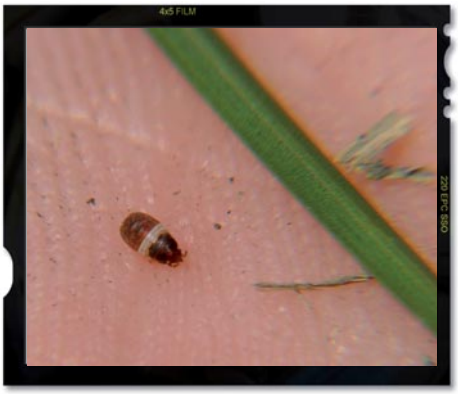
Detecting the presence of an insect is the first step in good pest control. Insect management begins once the early signs of injury or significant numbers of insects are observed. If the turf looks damaged, wilted, and water-starved, then an insect may be involved. Since some insects can only be controlled at certain times during their life cycles, it is essential to identify three key factors: type of insect; the insect's life cycle; and the level of infestation.

TOP PEST OFFENDERS

Various regions of the country experience unique pests. However, there are some fairly widespread turf pests that affect large areas of the United States. Some of the top offenders nationwide include white grub, chinch bugs and leatherjackets.

White grub. These small, plump, white larvae live below the soil and viciously chew on grass roots. Once the grass roots are destroyed, the turf will appear yellow in patches, just as if the lawn is dying out. The damage looks quite similar to symptoms of dryness, and many mistakenly assume that the turf needs only water to restore a lush, green appearance.

Other symptoms to watch for include animals such as skunks and raccoons digging up the turf and birds feeding on grubs, leaving pencil-sized holes. Often, damaged turf will roll back like a carpet. Serious damage can occur in the spring, summer and fall; and if the problem is ignored, the patches will get larger. The damaged areas will then fill in with weeds or crabgrass, so the best time to treat grubs is preventively rather than curatively.



Chinch bugs. These small insects live in and feed on grasses and can destroy turf with little warning. They live above the soil and feed on living grass plants by means of a piercing mouthpart called a stylet—sucking the juices out of the plant. The damage looks quite similar to drought symptoms and, again, many mistakenly assume that turf needs only water to restore its lush green appearance. Look out for suspicious brown patches starting to appear in the turf and, unlike fungal disease, the patches will not be symmetrical. If you determine the brown patches are due to lack of water, you can correct irrigating procedures.

Chinch bugs survive the winter and come out of hiding in the spring. Here they will mate and the females will seek a hot dry location in which to lay their eggs, which will hatch in about 3 weeks. The eggs are laid very close together so that

Mountain Pine Beetle

By Ken Kukorowski

THE MOUNTAIN PINE BEETLE (MPB) is a species of bark beetles native to western North America. The host range for MPB includes ponderosa, lodgepole, scotch and limber pine trees. Female MPB find large diameter, living trees to attack; there they produce pheromones to attract other beetles (especially males), mate, then bore into the host tree where eggs (could be as many as 75 per clutch) are deposited just under the bark.

As an adult, MPB is a small (<½ inch long) black beetle. Adults can appear as early as mid-June and continue to be present even through September, but in most locations adults emerging from lodgepole pines occur in late July and those emerging from ponderosa pines occur in mid-August.

As adults bore into the host trees, healthy trees produce pitch in the bored holes which often traps the adults and prevents successful attack. Within 2 weeks of egg deposit, the eggs hatch and the larvae tunnel through the phloem disrupting nutrient movement down the tree. With severe attacks, the larvae can cut off all nutrient and water flow movement and cause the tree to starve to death. These MPB larvae overwinter in a dormant state in the tree (under the bark) but resume feeding in the spring. They metamorphose into pupae in late spring, early summer (approx. June, depending on host attacked), then emerge as adults, to continue the next generation.

MPB is an effective vector of bluestain fungus, harbored near the mouthparts of MPB; when introduced to healthy pine trees, it blocks the trees defense response to produce pitch to entrap the boring MPB. Bluestain fungus also interferes with water and nutrient movement within the tree; further causing the tree to starve to death.

Since MPB has one generation per year, a spray of Sevin SL at a rate of 5 oz per gallon of water applied before adult emergence in June or July will provide preventative control of adult beetles before they bore into the new host.

This application should be made evenly over the entire circumference of the main trunk from the ground up until the diameter is 5 inches. One (1) gallon of finished spray will treat 50 sq. ft. of bark. ■

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