



# Turfgrass IPM Advisory

Quarterly Turfgrass Pest Update, USU Turfgrass Extension

Vol. 10(2), Summer 2017

## Turfgrass Management

Summer weather has presented turfgrass management challenges in the form of increased temperatures and decreased soil moisture.

### What to Watch For

The necrotic ring spot/summer patch complex is active at this time of year, as are chinch bugs, sod webworm and billbug. Other abiotic concerns may include the effects of dog urine and dry spots due to irrigation maintenance and distribution uniformity issues.

## Focus On: “Dog Patch”

Animal urine can make it difficult for anyone to maintain a uniformly green and healthy lawn. Deer, fox and geese urine can discolor turf, but for homeowners the problem is usually caused by pet dogs. Patches of dark green and/or brown turf may appear wherever “Fido” is relieving himself. The exact mechanism of the injury to the grass is not completely understood, however, it is widely believed that the highly concentrated salts in dog urine dehydrate the turf.



Figure 1. Dog urine damage to turf. Image courtesy of Dr. Paul Johnson, Utah State University.

### Symptoms of Damage

Dog urine can damage any turfgrass species in any climate though damage is most severe where soil moisture is low and the turf is dry. For cool-season grass species such as Kentucky bluegrass, perennial ryegrasses and the tall and fine fescues, the damage may be exacerbated when conditions are particularly hot and dry.

The initial symptoms of urine damage include a gray-green, wilted appearance which rapidly turns straw brown. This central brown area may be 3-6 inches in diameter and be surrounded by a dark green ring (Figures 1 and 2). These patches may persist for several weeks depending on the ability of the surrounding turf to fill in and recover. The green areas will be most noticeable in under-fertilized turf because of the nitrogen contained in the urine.

## “Dog Patch” (cont’d)

Some common turfgrass diseases may be confused with urine damage because they affect the turf during the summer months and may have similar patterns of damage. Both necrotic ring spot and summer patch may be confused with urine damage.

### Dog Behavior Considerations

Female dogs tend to create more urine damage than males due to differences in voiding behavior. While female dogs typically squat when they urinate, male dogs tend to lift their legs. However, young dogs of both sexes may squat to urinate creating similar damage patterns. In addition, female dogs are not as concerned with marking territory as male dogs and tend to release all of the urine in one concentrated location.

Pet owners often speculate about the constituents of female dog urine and its ability to damage turf. Some suggest that the urine’s pH or hormone content is a factor. However, neither of these has been proven to contribute to turf damage and it’s more likely that the voiding behavior of female dogs is most important.

### Minimizing the Damage

The only way to guarantee that dog urine won’t damage turf is to prevent the pet from urinating on the lawn. For most homeowners, this is not a practical option, so consider these practices:

- Train the dog to use one designated, low-visibility area.

- Water the areas of the lawn where the dog has voided.
- Walk your pet in a neighborhood common area or dog park or other, less important turf area.
- Maintain a healthy, vigorous turf that can easily recover from damage.



Figure 2. Symptoms of dog urine damage in turf. Image courtesy of Glenn Hardebeck, Purdue University.

### Other Products

Some commercially available products claim that they can repel dogs from urinating in specific locations, however, these products have not been proven to be effective. Dietary supplements may also be suggested. Some of these products claim to be able to manipulate the nitrogen content in dogs’ urine. Most, however, simply cause the dog to drink more water, diluting the urine’s nitrogen content. An added, and potentially negative, side-effect is that the dog will need to urinate more often, increasing the potential for accidents. The use of some of these products is potentially dangerous and the use of such products should be discussed thoroughly with your veterinarian before giving them to your pet.

-Adapted from Purdue University and University of Illinois Extension



Chinch bug damage to turf. Image courtesy of Katie Wagner, Utah State University.

## Chinch Bugs (*Blissus* spp.)

Typical chinch bug damage is comprised of patchy dieback that forms larger patches and, in severe cases, complete lawn loss. Chinch bugs kill turf through mechanical damage to grass stems and by injecting saliva during feeding (piercing and sucking), which inhibits the transport of water within the plant. Feeding damage can often mimic drought stress and is often worse on plants that are already affected by drought.

The black and white chinch bug adults are very tiny, about 1/6 of an inch, and are not readily seen without close inspection. The nymphs are very small and bright orange with a pale strip across their backs. As they increase in size, wing pads develop and the orange coloration begins to disappear. By the time nymphs reach their final developmental stage, they are mostly the same black color as the adults.

Chinch bugs can be monitored by visually inspecting grass blades at the soil level and looking for all life stages. Because they are so small, a hand lens or magnifying glass may be needed to see them. On hot days, adult chinch bugs are often seen scurrying across concrete or brick surfaces or foundations. A monitoring trap can be made from a 6-inch diameter coffee can or similar object with both ends removed to create a metal cylinder. Push the can into the soil approximately 2 to 3 inches, enclosing the turf. Fill the can about 3/4 full of water. Poke or stir the turf and thatch that is under water. Keep a constant depth of water in the can for about 10 minutes by pouring in extra water to replace the lost/leaching water. Count the number of chinch bugs that float to the surface. Treatment threshold is about 20-25 bugs per square foot, or about 4-5 per can. If numbers are below this threshold, regular irrigation and fertilization can mitigate chinch bug damage.

In Utah, chinch bugs seldom need insecticidal treatment unless the population has exceeded threshold levels and damage is evident. Effective insecticides include bifenthrin and other pyrethroids. Preventive management practices include proper irrigation, regular fertilization, reducing thatch via power raking and core aeration, avoiding the use of broad-spectrum insecticides that can reduce beneficial insects, and over-seeding or replanting a lawn using endophyte-enhanced grass seed (see Spring 2012 Turfgrass IPM Advisory) . If you suspect chinch bug, collect samples for identification. They could easily be confused with look-alike insects that are beneficial, including the big-eyed bug and minute pirate bug.

-Ryan Davis, USU Arthropod Diagnostician



### Sod Webworm (*multiple species*)

*Life Cycle: two generations per year for the most part, though one to four are possible depending on species.*

*Though activity has lessened somewhat, sod webworm (SW) has been identified in several counties this summer including Iron, Salt Lake, Summit, Utah and Weber Counties. Damage is inflicted by the larvae of the moths which feed on turfgrass blades. General thinning may be followed by brown patches in the area. Heavy infestations can kill grass, with peak damage occurring in summer and early fall.*

#### *Cultural Practices*

*Overly irrigating and/or fertilizing will predispose the grass to insect outbreaks.*

#### *Resistant Turfgrass Varieties*

*Endophyte enhanced perennial ryegrasses and fescues show some, not immunity, to SW.*

#### *Insecticidal Products\**

*Spinosad (Conserve), Bacillus thuringiensis (Bt, Deliver), Steinernema carpocapsae (Biosafe, Biovector, Exhibit), azadirachtin (Ornazin).*



### Billbug (*Sphenophorus spp.*)

*Life Cycle: one generation per year for the most part, overwintering in the adult stage.*

*Billbug (BB) has been identified in Utah and Uintah Counties this summer. Billbug damage is inflicted by the larvae of the bugs which feed on turfgrass stems, crowns and roots. Initial damage resembles drought stress and may include small brown patches. Blades of grass infested with BB can easily be pulled away from the crown.*

#### *Cultural Practices*

*Properly irrigating and fertilizing turfgrass will help the grass to resist and recover from BB damage. Overly irrigating and/or fertilizing will predispose the grass to insect outbreaks.*

#### *Resistant Turfgrass Varieties*

*Endophyte-enhanced perennial ryegrasses and fescues show some resistance to BB.*

#### *Insecticidal Products\**

*Imidacloprid (Merit®), Steinernema carpocapsae (Biosafe®, Biovector®, Exhibit®), Beauveria bassiana (Naturalis®).*

# Recommended Cultural Practices for Summer

## Seeding/Over-seeding

Declining summer temperatures provide the opportunity to seed new turfgrass areas or to over-seed areas that may have been damaged over the summer. The cooler temperatures will promote germination and growth of cool season turf species such as Kentucky bluegrass, tall and fine fescues, and perennial ryegrass. An additional advantage to over-seeding at this time of year is reduced annual weed pressure. Choose pest resistant or recommended turfgrass cultivars when possible.

## Fertilization

Nitrogen is of primary concern in turfgrass fertilization. In the late summer, apply 1 pound of slow-release nitrogen (N) fertilizer per one thousand square feet of lawn area. This will help the grass to recover from summer damage and any stress that may have occurred. It will also be especially helpful for areas that have suffered damage due to diseases such as summer patch or necrotic ring spot. In a slow-release form, N fertilizer will provide a consistent source of nutrients as the turf begins actively growing again.

## Irrigation Maintenance

Consider performing some routine irrigation system maintenance. Over the course of the growing season, sprinkler heads may have become tilted, sunken or clogged. Do a short test run through each zone on your system and locate those heads that could use some adjustment. Also consider performing a [distribution uniformity test](#) to help refine your irrigation schedule.

## Relevant USU Extension Fact Sheets

### Turfgrass Management

Basic Management

Cultivars for Utah

Fertilization

### Insect Pests

Chinch Bugs

Billbugs

Sod Webworm

### Irrigation

Irrigation System  
Maintenance

Sprinkler Performance  
Testing

**\*Precautionary Statement:** All pesticides have benefits and risks, however, following the label instructions will minimize the risk and maximize the benefit. Pay attention to the directions for use and follow precautionary statements. Pesticide labels are considered legal documents containing instructions and limitations. Inconsistent use of the product or disregarding the label is a violation of both federal and state laws. The pesticide applicator is legally responsible for proper use.

Turfgrass IPM Advisory  
is published quarterly by Utah State University Extension.

Editor: Kelly Kopp, [kelly.kopp@usu.edu](mailto:kelly.kopp@usu.edu)  
Click [here](#) for archived advisories.

Utah State University is an affirmative action/equal opportunity institution.