



Turfgrass IPM Advisory

Quarterly Turfgrass Pest Update, USU Turfgrass Extension Vol. 11(1), Spring 2018

Turfgrass Integrated Pest Management

An integrative approach to the management of turfgrass insect pests, diseases and weeds is most effective. Prevention is the best strategy!

What to Watch For

As temperatures warm, residual damage from snow mold disease may become apparent. Insect pests are also increasing their activity.

Pest Alert: Armyworms

Armyworms have recently been identified in Cache, Salt Lake, and Utah Counties.

Armyworms are immature moths that feed on turfgrass leaves and stems. These caterpillars often feed and migrate in large groups, skeletonizing turfgrass leaves or chewing off young leaves just above the ground, causing widespread damage of irregular brown patches.

Armyworm Description and Life Cycle

In Utah, the most common species of armyworm damaging turfgrasses is the true armyworm, *Psuedaleia unipuncta*. The larvae of the true armyworm are yellow or grey with black stripes and sometimes the body can have a pink tint (Fig. 1). Adults are reddish-brown in color and have a wingspan of 38 mm (Fig. 2). Each wing has a distinct white dot in the center. True armyworms can have more than five generations per year, but the climate in northern Utah likely restricts this insect to two to three generations per year. Mated females can lay thousands of eggs, where sticky egg masses are laid on various parts of turfgrass blades. Eggs hatch into larvae that feed for 3 - 4 weeks until



Figure 1. True armyworm larva (Photo credit: Frank Peairs, Colorado State University, bugwood.org).

they reach about 35 mm in length. Larvae will pupate within the soil and emerge as adults in 2 - 3 weeks. The entire life cycle takes about 60 days.

Scouting and Thresholds

Scouting for the presence of armyworm larvae is recommended if you notice nocturnal moths flying over turfgrass or you suspect general thinning of

the lawn. One way to flush larvae from the thatch layer is to pour soapy water (2 tablespoons of lemon-scented liquid dishwashing detergent into 2 gallons of water) over a 1 square foot area and examine the surface over a period of 5 - 8 minutes.

The recommended treatment threshold for armyworm and cutworm larvae is 0 - 5/per square yard, with obvious damage. Healthy turfgrass can tolerate low to moderate infestations if properly irrigated and fertilized.

Control Options

In Utah, armyworms are an intermittent pest and because these caterpillars do not damage the roots or crown, turfgrasses can usually recover over time without an insecticide treatment. Chemical control should only be considered when cultural methods are not effective.

Consider using “reduced risk” insecticides such as Spinosad (Conserve®) and *Bacillus thuringiensis* var. *kurstaki* (Btk), as these products will preserve the natural enemies of armyworm in the turfgrass system.



Figure 2. True armyworm adult (Photo credit: Whitney Cranshaw, Colorado State University, bugwood.org).

Entomopathogenic nematodes, such as *Steinernema carpocapsae* (Biosafe®, Biovector®, and Exhibit®), provide an alternative to chemical control. Apply nematodes in the early morning or in the evening to avoid direct heat and sunlight. Irrigate before and after the application to encourage movement through the thatch layer. Nematodes should be applied at a rate of 25 million/per 1000 square feet of turfgrass. Several applications may be necessary for adequate control.

Guidelines for Chemical Control

- If the thatch layer exceeds 1/2", use a light aerification to enhance soil penetration.
- Apply 1/2" of water 48 hours before chemical application to bring larvae closer to the soil surface.
- Immediately apply 1/2 - 3/4" of water after application to push the chemical down to the root zone.
- Mow the lawn to about 1 1/2" to improve water penetration.
- Keep soil moist, but not overwatered, for 2 weeks after application.



Figure 3. True armyworm larva feeding on turfgrass (Photo credit: Charles T. Bryson, USDA, Agricultural Research Service, bugwood.org).

- Adapted from Utah State University's Fact Sheet, Armyworms and Cutworms in Turfgrass (ENT-107-07) by Dr. Erin Hodgson

Pest Alert: Clover Mites



Clover mites have recently been identified in Cache, Weber, Salt Lake, Utah, and Washington Counties.

During early to mid-spring, clover mites may damage turfgrass in warm, dry areas of a lawn. Feeding damage appears as small, meandering silver streaks in the leaves and leaves can be extensively injured and die (Figure 3). Areas of grass extending several feet from building foundations may be totally killed, appearing as light brown, irregular dead patches. Almost all injury occurs within 10 feet of a building, tree or some other upright surface.

Control Measures

Clover mite populations on lawns can be greatly reduced by providing some supplemental watering to areas where clover mites develop, such as the warm, dry areas at the base of sun-exposed walls and around evergreens. This can be supplemented with spot spray treatments of miticides. Presently there are no highly effective chemical controls for clover mites. However, insecticide formulations labeled for use on residential lawns that have either the active ingredient bifenthrin or lambda-cyhalothrin are labeled for clover mite control. For long-term control, rotate miticides as part of a resistance management strategy.

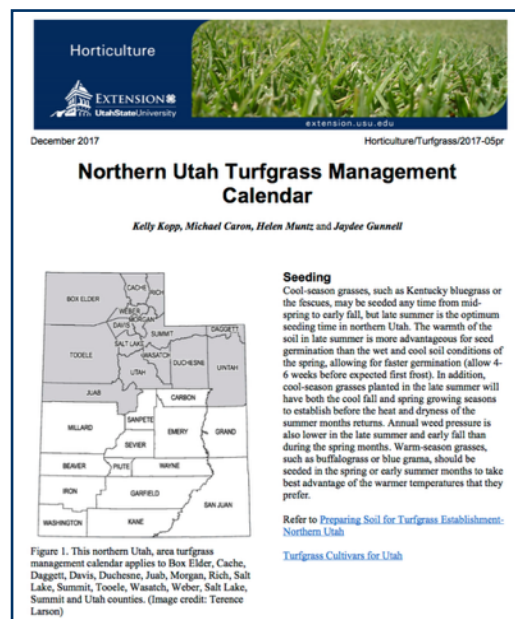
- Adapted from Colorado State University's Fact Sheet, Clover Mites and Other Mites of Turfgrass by Dr. Whitney Cranshaw

Highlight: New USU Extension Turfgrass Fact Sheets

Recently, four new USU Extension Turfgrass fact sheets addressing turfgrass management scheduling for different regions of the state were published at extension.usu.edu. These management calendars include schedules for northern Utah, southwest Utah, southeast Utah, and the St. George Area.

The fact sheets provide recommended schedules for turfgrass seeding, sodding, fertilization, irrigation, aeration, preemergent weed control, and broadleaf weed control. And both cool-season and warm-season turfgrass recommendations are provided.

Links are also provided within each fact sheet to more detailed information about each of the management practices, as well as preparing soil for turfgrass establishment and recommended turfgrass varieties for Utah.



Pink Snow Mold (*Microdochium nivale*)



Favorable conditions: cool (40-60°F) and moist conditions, neutral to alkaline soils, high N applications in the fall.

Pink snow mold (PSM) can affect all cool-season turfgrasses, but damages bentgrass and annual bluegrass most severely. Snow cover is not necessary for PSM to occur, so it may be seen in the fall, but is more prevalent in the spring. Where recurrence is severe, preventative fungicide applications may be made in the fall. Symptoms include well-defined, circular patch clusters and white-pink mycelium on infected leaf blades. Patches of dead, matted leaf blades may also be visible.

Cultural Practices

Recovery from PSM damage in the spring will be quickened by raking and/or mowing to aerate the matted turf.

Resistant Turfgrass Varieties

Perennial ryegrass: Delray; Chewings fescue: Atlanta, Ruby; Red fescue: Dawson.

*Fungicide Options**

Chlorothalonil (Daconil®), azoxystrobin (Heritage®), PCNB, or combination products (Instrata®).

Gray Snow Mold (*Typhula incarnata*)



Favorable conditions: cool (50-75°F) and moist conditions, shade, heavy thatch, high N applications in the fall.

Gray snow mold (GSM) primarily affects tall fescue, bentgrass, and annual bluegrass. Circular patches of matted gray, tan or white grass may range from a few inches to several feet in diameter. Pin head-sized black or rust-colored dots may also be seen on the grass blades near patch edges.

Cultural Practices

Avoid heavy, late season nitrogen applications. Improve air and soil drainage. Remove excess thatch and prevent soil compaction with aeration. Rake and remove tree leaves from lawn before snowfall.

Resistant Turfgrass Varieties

Kentucky bluegrass: Adelphi, Baron, Bonnieblue, Galaxie, Glade, and Monopoly. In general, the fine fescues are more resistant to GSM than Kentucky bluegrass and bentgrass.

*Fungicide Options**

Fungicides are rarely needed to control GSM. However, if the disease has occurred repeatedly in the same areas over a number of years, a fungicide may be warranted. Banner®, Bayleton®, Rubigan®, azoxystrobin (Heritage®), or PCNB.

Recommended Cultural Practices for Spring

Seeding/Over-seeding

Spring provides the opportunity to seed new turfgrass areas or to over-seed areas that may have been damaged over the winter. The cool temperatures will promote germination and growth of cool season turf species such as Kentucky bluegrass, tall and fine fescues, and perennial ryegrass. Be aware, that there will be also be annual weed pressure at this time of year and consider your weed control options. Choose pest resistant or recommended turfgrass cultivars when possible.

Fertilization

Nitrogen is of primary concern in turfgrass fertilization. In the spring, 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 winter 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 pink and gray snow mold. In a slow-release form, N fertilizer will provide a consistent source of nutrients as the growing season begins.

Aeration/Cultivation

Spring is also an ideal time to aerate your lawn if the soil is compacted or there is a significant layer of thatch beneath the grass. If the thatch underneath your lawn is more than 1/2 in. thick, consider core aeration to stimulate the natural decomposition process. Likewise, if you have a very fine-textured soil, compaction may occur, particularly in high traffic areas. Core aeration will help to

Timely USU Extension Fact Sheets

[Armyworms and Cutworms in Turfgrass](#)

- Symptoms, diagnosis and management

[Northern Utah Turfgrass Management Calendar](#)

- Recommended scheduling of turfgrass management practices

[Southeast Utah Turfgrass Management Calendar](#)

- Recommended scheduling of turfgrass management practices

[Southwest Utah Turfgrass Management Calendar](#)

- Recommended scheduling of turfgrass management practices

[St. George, Area Utah Turfgrass Management Calendar](#)

- Recommended scheduling of turfgrass management practices

[Snow Mold in Turfgrass](#)

- Symptoms, diagnosis, and management

***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 seasonally by Utah State University Extension.

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Archived advisories may be found [here](#).