TURFGRASS

Grub Control in Lawns

If you plan on using a grub preventative on your lawn, the first half of July is a good target date for most products. Preventatives are normally used on areas that have had a history of grub problems.

Traditional grub insecticides such as Dylox or carbaryl (Sevin) are normally applied in late July after grubs are present or as a rescue treatment once damage is seen. Products that contain Merit (imidacloprid) are considered grub preventers. Actually, these products do not prevent grubs, but rather kill grubs when they are quite small, and long before they cause damage. Merit is safer to use around pets and humans than traditional grub killers. Merit can be found in Bayer's Season-Long Grub Control, Bonide Grub Beater, Gordon's Grub No-More and Hi-Yield Grub Free Zone.

Another grub preventative with the trade name GrubEx contains chlorantraniliprole. Though this product is very effective, it is less water soluble than imidacloprid. It should be applied earlier, preferably April or May, but applications through June should still be effective. Remember, all grub products should be watered in soon after application. (Ward Upham)

Little Barley in Lawns

Many people mistake little barley (Hordeum pusillum) for a little foxtail because the foxtail and little barley seedheads are similar. However, little barley is a winter annual that comes up in late September - October and spends the winter as a small plant. It thrives in the cooler spring temperatures, forms seed heads and dies out usually by July. Foxtail, on the other hand, is a summer annual that does well in hot weather. Also, foxtail will not produce seedheads until mid- to late-summer.

So, why are we talking about little barley now? Because now is NOT the time to control it unless it is in an area where a non-selective herbicide that kills everything such as glyphosate (Roundup) can be used. The best control for little barley in turf is a thick lawn that is mowed high.
enough that sunlight does not hit the soil. Little barley seed will not germinate in such conditions.

Overseeding in early September can thicken up a tall fescue lawn and prevent a little barley infestation. However, if you do not plan to overseed even though the lawn is a bit thin, preemergence herbicides can be used to provide at least partial control of this weed. The only preemergence herbicide that I know is labeled specifically for little barley is Surflan. It is also sold under the name of Weed Impede by Monterey Lawn and Garden.

Surflan can only be used on warm-season grasses (bermudagrass, buffalograss, zoysiagrass) and tall fescue grown in warm-season areas such as Kansas. However, Dimension (dithiopyr), is labeled for barley (Herodium spp.) which would include little barley and therefore can be used to keep this weed under control. Because little barley is a winter annual, apply the preemergence herbicide about mid-September and water in to activate. If overseeding, do not apply any preemergence herbicide as it will interfere with the germination of tall fescue. (Ward Upham)

VEGETABLES

Planting Winter Squash and Pumpkins

This time of the growing season is a good time to plant pumpkins and winter squash so they don’t try to mature fruit during the heat of summer but rather in early October. Fruit that matures during hot weather may shrivel and lose quality.

These plants take up a lot of room so place a seed or two ever 2 feet apart in the row with about 8 to 10 feet between rows. Seeds should be planted 3/4 to 1 inch deep. Keep watered until the plants emerge which usually takes about a week. Gradually back off watering as the plants become established. Winter squash and pumpkins love the heat and so should do well this year. (Ward Upham)

Physiological Leaf Curl in Tomatoes

Every year we have calls from gardeners who have tomato plants with leaves that curl up. When tomato plants grow vigorously in mild, spring weather the top growth often exceeds the root development. When the first few days of warm, dry summer weather hit, the plant ‘realizes’ that it has a problem and needs to increase its root development. The plant tries to reduce its leaf area by rolling leaves. The leaves curl along the length of the leaf (leaflet) in an upward fashion. It is often accompanied by a thickening of the leaf giving it a leathery texture. Interestingly, leaf roll is worse on some varieties than others.

Though rolling usually occurs during the spring to summer shift period, it may also occur after a heavy cultivating or hoeing, a hard rain, or any sudden change in weather. This leaf roll is a
temporary condition that goes away after a week or so when the plant has a chance to acclimate, recover from injury, or the soil has a chance to dry out. (Ward Upham)

FRUIT

Borer Control in Peaches

The first defense against borers is to maintain healthy, vigorous growth on peach trees. Do a good job of pruning, keep trees watered as needed, and control peach leaf curl (see http://hnr.k-state.edu/extension/info-center/common-pest-problems/common-pest-problem-new/Peach%20Leaf%20Curl%20and%20Plum%20Pocket.pdf). Young trees are more likely to be attacked than older ones if the older trees are healthy.

Pesticide applications can be made to provide a protective layer that will kill newly emerged larvae as they try to bore into the tree. Therefore, these applications must be applied before the larvae hatch. These applications are most critical with young trees up to 5 years old. Spray should be heavy enough to run down the trunk and into the soil at the base of the tree. Pesticides labelled for peach tree borer include permethrin (Hi-Yield Lawn, Garden Pet and Livestock Insect Control; Eight Vegetable, Fruit & Flower Concentrate) and carbaryl (Sevin). Apply two applications at 3 week intervals starting in early July. (Ward Upham)

PESTS

Hornworms on Tomatoes

Hornworms are the largest larval insect commonly seen in the garden. Though usually seen on tomato, they can also attack eggplant, pepper, and potato.

The larval stage of this insect is a 3 ½- to 4-inch long pale green caterpillar with five pair of prolegs and a horn on the last segment. The two most common hornworms are the tobacco hornworm (seven diagonal white stripes and, most commonly, a red horn) and the tomato hornworm (v-shaped markings with a horn that is often blue or black).

The adult of the tobacco hornworm is the Carolina sphinx moth. The five-spotted hawk moth is the adult of the tomato hornworm. Both moths are stout-bodied, grayish-colored insects with a wing spread of 4 to 5 inches. The larva is the damaging stage and feeds on the leaves and stems of the tomato plant, leaving behind dark green or black droppings.

Though initially quite small with a body about the same size as its horn, these insects pass through four or five larval stages to reach full size in about a month. The coloration of this larva causes it to blend in with its surroundings and is often difficult to see despite its large size. It
eventually will burrow into the soil to pupate. There are two generations a year.

This insect is parasitized by a number of insects. One of the most common is a small braconid wasp. Larvae that hatch from wasp eggs laid on the hornworm feed on the inside of the hornworm until the wasp is ready to pupate. The cocoons appear as white projections protruding from the hornworm's body. If such projections are seen, leave the infected hornworms in the garden. The wasps will kill the hornworms when they emerge from the cocoons and will seek out other hornworms to parasitize.

Handpicking is an effective control in small gardens. Though large, these larvae are surprisingly difficult to see. Missing foliage is often the first clue that you have an interloper. Bt (Dipel, Thuricide), spinosad (Conserve; Colorado Potato Beetle Beater Conc; Captain Jack's Dead Bug Brew, Monterey Garden Insect Spray), cyfluthrin (Bayer Vegetable & Garden Insect Spray) and other insecticides may also be used to control hornworms. (Ward Upham)

Squash Bugs

Squash bugs are the grey, shield-shaped bugs that feed on squash and pumpkin plants. If you have had problems with these insects in the past, you know that they are almost impossible to control when mature. This is because the squash bugs have a hard body that an insecticide has difficulty penetrating. Thus, spraying when the insects are small is important. We are now seeing the nymphs of the first generation. These nymphs will eventually become adults, which will lay eggs that will become the second generation. The second generation is often huge and devastating. Therefore, it is important to control as many squash bugs now as possible.

Because squash bugs feed by sucking juice from the plant, only insecticides that directly contact the insect will work. General use insecticides such as permethrin (Bug-B-Gon Multi-Purpose Garden Dust; Green Thumb Multipurpose Garden and Pet Dust; Bug-No-More Yard and Garden Insect Spray; Eight Vegetable, Fruit and Flower Concentrate; Garden, Pet and Livestock Insect Control; Lawn & Garden Insect Killer), malathion, and methoxychlor provide control if a direct application is made to young, soft-bodied squash bugs. This means that you MUST spray or dust the underside of the leaves because this is where the insects live. (Ward Upham)

MISCELLANEOUS

Slime Molds

Slime molds are primitive organisms that are common on turf and mulch and sometimes on tree trunks. Slime molds are not fungi and are no longer classified as such. They belong to the Kingdom Protista rather than Kingdom Fungi. On turf, you might often see large numbers of small gray, white or purple fruiting structures, called sporangia on leaf blades during cool and humid weather throughout spring.
summer, and fall. Affected areas are often several inches to 1 foot in diameter. During wet weather, the fruiting structures may appear slimy. As the structures dry out in hot weather, they become ash gray and break up easily when touched.

Homeowners often are concerned that this is a disease organism that will kill the grass, but slime mold feeds on bacteria, other fungi, and dead organic matter. It simply uses the turf as a structure on which to grow. However, slime mold can damage turf by completely covering leaf blades and interfering with photosynthesis. Chemical control of slime molds is not necessary. Use a broom or a heavy spray of water to dislodge the mold.

Slime molds on mulch often attract attention because of their bright colors and disgusting appearance. Common names are often quite descriptive. For example, the "dog vomit" slime mold is a bright, whitish color that resembles its namesake. It eventually turns brown and then into a hard, white mass. There is also the "scrambled egg" slime mold, "the yellow blob" slime mold and the "regurgitated cat breakfast" slime mold. Slime molds do not hurt anything, but most people do not find them attractive and want to get rid of them. Simply use a shovel to discard the offensive organism and then stir up the mulch for aeration.

Occasionally, slime mold will grow on tree trunks and we have seen several instances of that this year. This will not hurt the tree at all and is best ignored until it fades away. (Ward Upham)

What Makes Soil, Soil?

We all know soil is the foundation for plant growth, but what makes soil, soil? The Soil Science Society of America and the book "Building Soils for Better Crops" state that soil is made up of four things, mineral particles, water, air, and organic matter, and has three major characteristics, soil texture, structure, and color. These components and characteristics of soil are important for soil health, and with healthy soil comes happy, healthy plants. The Soil Science Society of America describes soil texture as any combination of sand, silt, and clay particles, while soil structure is the arrangement of those particles. Soil structure can also contain organic matter and together soil's texture and structure become soil behavior. Understanding soil behavior helps improve water movement into the ground and belowground as well as soil aeration and root development. The next several articles will go into more depth about the soil components and characteristics and will provide tips for improving and maintaining soil quality. For more information about what makes soil, soil follow this link, [https://bit.ly/2JDov1r](https://bit.ly/2JDov1r), to The Soil Science Society of America website and watch this quick video, [https://bit.ly/2HKMYQL](https://bit.ly/2HKMYQL), provided by the USDA NCRS. (Chandler Day)

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