RAIN, HUMIDITY CAUSING DISEASES IN LAWNs AND GardenS THIS SUMMER

Over the past several weeks, brown patch, a fungal disease of lawns, has erupted throughout Missouri due to high temperatures and lots of moisture. These conditions have been perfect for fungal growth this year which has caused numerous other diseases like brown rot in peaches, black rot in grapes, septoria leaf spot on tomatoes, cedar apple rust on apples and crabapples, fireblight on pears and apples, leaf spots on strawberries, and foliar diseases like alternaria and anthracnose in cucurbits (cucumber, pumpkins, melons). Water wilt in tomatoes and other vegetables has also been reported this season.

You may be noticing yellowing of your grass which then turns brown and spreads throughout, possibly even creating brown rings. This disease is called brown patch. It is a fungal disease of turfgrass that loves two things: heat and moisture. "I've noticed a fair amount of brown patch starting to develop over the past two weeks and with the wet weather and warm temperatures that we're seeing now, we'll see a lot more of it," said Brad Fresenburg, turf specialist for University of Missouri Extension.

As the name implies, it shows up as a patch of grass that has turned brown. It kind of tricks the homeowner into providing what it needs. "The biggest mistake often made is the homeowner will add water or fertilizer in hopes of improving those brown patches. "They're actually feeding the disease," Fresenburg said. "Brown patch, which is caused by the plant pathogenic fungus Rhizoctonia solani, is considered a summer disease because it spreads rapidly in the heat. "Dr. Lee Miller, our turfgrass pathologist, refers to the 6-8 flip-flop rule. If you're at 86 degrees or higher during the day and 68 degrees or higher at night, that combination will bring on brown patch," Fresenburg said. So before you drag out the bag of fertilizer or the garden hose, take a close look at your grass. "You will notice brown lesions on the leaf blade. It could be along the margins of the blade or in the center. It's usually a straw- or tan-colored lesion that has a dark margin," Fresenburg said. (Photo on page 3.) If you're still not sure, Fresenburg says you can take a sample to your local MU Extension office to confirm whether it's brown patch.

You need to get it identified as quickly as possible, because brown patch will continue to spread throughout the growing season unless it stops getting moisture. "Usually, it will stop if we get into drier conditions, especially if we get into drought conditions where the grass dries out and starts to go dormant," Fresenburg said. "But, we often find when it starts to dry out,
SWARMING BEES CAUSE CONCERN

There have been more calls this year about swarms of bees than in previous years. With the reduction of honeybee colonies, it is important to inform homeowners about swarms and what to do with them. Swarming is the reproduction of a honey bee colony. It is a normal and natural phenomenon and rarely poses a danger to people or animals. When honey bees have good weather and plenty of food, their populations can increase dramatically. When a colony becomes crowded inside their current home (a bee hive, hollow tree, or other cavity) they will begin to raise a new queen bee. When this new queen is almost mature, the old queen will leave the hive, followed by one half to two-thirds of the worker bees and some of the drones. This queen bee will land nearby on a tree, shrub, fence post or even a building. The worker bees cluster around the queen to protect her and keep her warm. Most of the cluster remains largely inactive, to conserve energy. However, a number of scout bees are sent out in all directions to search for another suitable home for their colony to move into. When a satisfactory site has been chosen, the entire swarm of bees will move off to their new home. Once inside, the workers begin to secrete beeswax, and build new combs for the queen to lay eggs and for the storage of honey.

Meanwhile, back in the old hive, a newly emerged queen bee will take a series of mating flights and begin to head her inherited colony. She will never leave the hive again, unless she leads a swarm to a new home. Soon after the new queen begins laying eggs, the population of bees in the original colony will begin to grow. While the sudden appearance of a large number of honey bees may appear frightening to some people, they are usually quite harmless. Because they do not have any brood or honey to protect, a new swarm is usually very gentle in temperament and rarely stings. Unless the swarm poses a threat or inconvenience to people, they can be left alone and admired from a distance. The bees will likely remain only a few days at most and suddenly fly away to establish their new home.

A swarm of bees can often be easily moved. If the queen bee can be collected, most of the other bees will follow her into a new hive. Some beekeepers will be pleased to remove a swarm of bees from your property. But the bees may be located high in a tree, on a wall or some other inaccessible place which a beekeeper cannot easily reach them. Many beekeepers are not interested in collecting swarms, however, which are often too small to produce much honey, and because collecting the bees can sometimes involve a great deal of time and labor. Additionally, swarms of bees from unknown sources can have undesirable genetic dispositions, or can carry diseases, pests and parasites that may contaminate a beekeeper's other hives.

If the cluster needs to be removed, call a beekeeper. Experienced beekeepers often remove clusters simply by brushing or shaking the bees gently into a cardboard box and carrying them away. Ideally the box should have an entrance that enables the flying bees to join the already-captured group. Place the box in the shade until nightfall then seal and remove it after dark. The beekeeper should be prepared for defensive behavior by dressing in a bee suit, but dealing with a cluster is usually quite easy. It becomes more difficult, however, when the cluster is hard to reach, such as up in a tall tree, intermeshed with the branches of a shrub, or wedged into the corner of a building.

Has something been eating the leaves of your rose bushes, but you’re not sure what it is? I have had several calls about an insect eating the leaves of rose bushes this gardening season. The culprit is the rose slug. Rose slugs are the larval stage of the insect known as the sawfly. They secrete a slimy substance over their body surface that makes them resemble small slugs. Rose sawflies are yellow-green in color and can grow to a ¾ inch maximum length. Rose slugs/sawflies feed on the leaves of rose bushes. The larvae feed on the surface of leaves of their respective host plant, removing the soft tissue leaving behind the papery, translucent surface and veins. Heavy defoliation gives plants a brown scorched appearance. In general, light to moderate infestations are cosmetic in nature and rarely harm the host plant. Heavier attacks, however, can weaken plants when leaf loss stresses them to the point of vulnerability to other insect and disease attacks.

Adult sawflies emerge in early spring and lay their eggs on the underside of host plant leaves. Larvae appear several weeks later, feed on soft leaf tissue for about a month, and then drop into the soil to pupate. European roseslug sawfly (Endelomyia aethiops) produces only one generation per year, but another related species, the bristly roseslug sawfly (Cladius difformis), can produce two to six generations per year. A third species, the curled roseslug sawfly (Allantus cinctus) generally produces two generations per year. The three species are all similar in color (light green), but are easily distinguished: bristly roseslug sawflies have bristle-like hairs covering the body, and curled roseslug sawflies curl up the body when at rest.

**Integrated Pest Management Strategies**

1. **Check plants for signs of infestation.** Early detection can often result in simple cultural control measures. Begin looking for sawfly larvae in mid-spring (rose sawflies) or early summer (pear sawflies). Inspect both upper and lower surfaces of the leaves. For light infestations, remove the infested leaves and destroy the larvae. A forceful spray of water out of a garden hose can also provide control by knocking off and killing many of the soft-bodied larvae. Be sure to aim the water at both upper and undersides of leaves. Continue checking plants throughout the growing season.

2. **Support natural enemies of sawflies by responsible pesticide usage.** Insects such as parasitic wasps, insectivorous birds, small mammals, predaceous beetles, as well as fungal and viral diseases all assist in keeping sawfly populations lower. Restraint in the use of pesticides allows beneficial species to assist your control efforts.

3. **Use an Insecticide.** Chemical controls are also available, but should only be used when necessary, not routinely as a preventive measure. Horticultural oil, insecticidal soaps, neem oil, bifenthrin, carbaryl, malathion, permethrin, cyfluthrin, imidacloprid, and acephate can all be used to control sawflies. Apply pesticides only when larvae are actually present, before infestations reach critical levels. Always be careful to read the label directions fully before applying any pesticide, and follow directions completely. Not effective: *Bacillus thuringiensis* (Bt), a commonly used biological insecticide that offers control of many caterpillars, is NOT effective against sawfly larvae.

UPCOMING EVENTS

July 7: Salt River Master Gardener Meeting, tour of Lake Country Gardens’ daylily fields meeting at the gardens at 6:00 p.m. The gardens are near Perry, Missouri at 40912 Madison Trail.

July 13-18: NEMO Fair, Kirksville, MO.

August 2015: Master Gardener training in Kirksville; Wednesday, 1-4 pm. If you are interested in MG training contact me. Registration forms are available now by calling the Adair County Extension Center or on our website at http://extension.missouri.edu/adair.

We must have 10 to have a class. There will be two hours of class time with most classes, followed by a one hour tour or lab portion of the class. Master Gardener training is also offered online each semester. If you are not able to take MG training face-to-face due to scheduling conflicts, or live in a county too far from the training site, then consider taking the online training and doing it at your own pace. The next class will be offered in September. Sign up on the state Master Gardener homepage at http://mg.missouri.edu/.

September 11-13: State Master Gardener Conference, Stoney Creek Inn, Columbia. Registration information is on the Missouri Master Gardener Association website at http://www.momga.org/. If you do not have internet access, call your county extension center for the information.

JULY GARDENING TIPS

Ornamentals
- Continue to pinch mums until mid-July. Pinching after this may delay flowering.
- Deadhead perennials (remove dead flowers) that have finished blooming.
- Prune climbing roses and rambler roses after bloom.
- Spider mites may be a problem during hot, dry weather. Leaves will become speckled above and yellowed below. Evergreen needles appear dull gray-green to yellow or brown.
- Water newly planted trees and shrubs thoroughly at least once a week.
- Fertilize trees and shrubs by July 4. Late fertilizing may cause lush growth that is more prone to winter kill.
- Black Spot may be a problem on roses. Remove and pick up infected leaves and spray fungicides as needed.
- Powdery mildew may be found on lilacs. It is rarely harmful and shrubs grown in full sun are less susceptible.
- Divide irises now.

Vegetables
- Blossom end rot of tomatoes and peppers may become a problem. Maintain soil moisture and do not let soils dry out. Place a layer of mulch 2-3 inches thick around plants.
- Keep weeding! Prevent weeds from going to seed.
- Dig potatoes when the tops die. Plant fall potatoes by July 15th.
- Harvest onion and garlic when the tops turn brown.
- Keep cucumbers well watered. Drought condition will cause bitter fruit.
- Sow seeds of carrots, beets, turnips, and winter radish for fall harvest the last week of July. Also set out broccoli, cabbage, and cauliflower transplants for the fall garden at this time.

Fruit
- Protect grapes from birds!
- Prune out old fruiting canes of raspberries after harvest is complete.
- Apply second spray to trunks of peach trees for peach borers.
- Early peach varieties ripen now.
- Blackberries will begin to ripen soon.

Turf
- Water lawn frequently enough to prevent wilting. Early morning irrigation allows turf to dry before nightfall and will reduce the chance of disease.
- Monitor lawns for newly hatched white grubs. If damage is occurring, apply appropriate controls, following product label directions.

Happy Independence Day!

-Missouri Botanical Garden-