D's Notes
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What is growing in my lawn?

Many parts of Kansas have received enough moisture this spring and early summer to cause mushroom growth in home lawns and gardens. Kansas State University horticulture expert Matt McKernan said most are relatively harmless to surrounding plant life.

"Some of these mushrooms are associated with arc-like or circular patterns in turfgrass called fairy rings. The ring pattern is caused by the outward growth of fungal mycelium," McKernan said. "The mycelium forms a dense, mat-like structure in the soil that decomposes organic matter."

McKernan said this decomposition releases nitrate into the soil, which in turn stimulates the growth of the grass at the outer portion of the ring. This results in a dark green appearance of the grass at the margin of the ring.

With fairy ring, there are varying types that each have different impact on the lawn. In some cases, a thick fungal mat formed by the fungus interferes with water infiltration. The fungus also may release certain byproducts that are toxic to the turf. This can lead to dieback of the turf close to the ring.

"Unfortunately, in some instances the thick fungal mat formed by the fungus interferes with water infiltration. The fungus also may release certain byproducts that are toxic to the turf," McKernan said. "This may lead to dieback of the turf close to the ring."

McKernan said fairy rings are difficult to control.

"You can sometimes eliminate the ring by digging to a depth of 6-12 inches and 12 inches wide on both sides of the ring, refilling the hole with non-infested soil," McKernan said.

Symptoms may be masked by fertilizing the rest of the lawn so that it is as dark green as the ring. This often is not a good idea because it tends to promote other turf problems. Commercial lawncare businesses may use certain fungicides to control fairy rings, but these products are not available to homeowners. Visit our *Fairy Ring publication* for more information about Fairy Rings and the associated fungicides: https://bookstore.ksre.ksu.edu/pubs/fairy-rings-in-turfgrass_EP155.pdf

"Most mushrooms in lawns, however, are not associated with fairy rings. These may be mycorrhizal (symbiotic association with tree roots) or saprophytic (living on dead organic matter such as wood or other material) in the soil," McKernan said.

These mushrooms often appear randomly in the lawn and landscape, with no discernable pattern. McKernan recommended not killing these mushrooms because they can be beneficial, providing important environmental services such as decomposition of dead plant materials.

"A fungicide spray to the mushroom itself does little good. Remember the mushroom is simply the fruiting structure of the organism," he said. "Most of the fungus is below ground and inaccessible to the chemical. The above-ground mushroom only produces and spreads fungal spores."

If mushrooms are a nuisance, McKernan encourages picking them and disposing of them as soon as they appear. If there are too many for that to be practical, mow them off. Either option prevents children or pets from accidentally consuming unknown mushrooms.

McKernan warns that some of the mushrooms in the lawn are poisonous. Never eat mushrooms unless you are sure of their identity.

"Mushrooms tend to go away as soil dries. Patience may be the best control," he said.

VIDEO OF THE WEEK:

While bagworm caterpillars are getting larger and causing more plant damage, there's still time to take action to control bagworms this summer. Controlling bagworms when they are small is key to successful bagworm management, but other things can help increase your success. This *week's video covers controlling bagworms*, and the management strategies you can use to protect your plants from damage this summer: https://kansashealthyyards.org/all-videos/video/bagworms-controlling

GARDEN CALENDAR:

- Fertilize renovated strawberry beds and water regularly to promote new growth.
- Preventatively treat the trunks of young peach trees (5 years old or less) for peach tree borers.
- Mulch flower gardens for the summer to conserve moisture, control weeds and cool the soil.
- Water plants as needed.
- Spot treat for broadleaf weeds.
- Check lawn mower engine oil and add or change according to owners' manual.
- Check for spider mite damage on various shrubs, especially burning bush, roses, euonymus, arborvitae, and spruce.

Harvesting Potatoes:

As we flip the calendar over to July, most Irish potato crops begin to mature and are ready to be harvested. To determine if potatoes are ready to be harvested, look for vines to become approximately half dead. Potatoes can be harvested any time they are of sufficient size to be eaten, however as vines reach a half dead state, potato tuber development ends and the maximum yield is likely reached. Do not wait long after vines are completely dead, as this can result in potato injury & resprouting. Similarly, potatoes dug before plants begin to die back will have to be handled much more carefully to prevent sloughing of tender skins.

For most of Kansas, potatoes that are planted in mid-March should be ready to harvest in early to late July, depending on the planting date, the earliness of the variety, and growing conditions. In far northwestern Kansas, potatoes may be harvested as late as August.

To harvest potatoes, begin by removing excess vines, and carefully dig the tubers using a spade or fork. Digging will be easiest when the soil is dry to slightly moist. When digging, start out, away from the row – at least 8 to 12 inches from the plant. Potatoes often extend beyond the leaf canopy of the plant. Loosen the soil on multiple sides before lifting to reduce the chances of stabbing tubers. Lift gently and sift through it by hand. Knock off large chunks of dirt and debris, but do not begin cleaning potatoes too completely.

Next, allow potatoes to cure to prolong their storage lifespan. Place potatoes in a warm, shaded, airy location to dry for at least 3-7 days before storing. This will help to toughen the skin and prevent sunburning. During this time, protect potatoes from heat, direct sun, and wind, as these conditions may cause sunscald and skin discoloration. Potatoes

should never be exposed to direct sunlight for more than 15 minutes in order to prevent greening. For best storage quality avoid digging potatoes during days with excessive heat in July or August.

Once curing is completed, select the best potatoes for storage, and use defective or injured potatoes for cooking right away. Optimum storage conditions are about 35°F to 40°F with moderate humidity, such as an unheated cellar or basement. Store potatoes in darkness to keep tuber surfaces from turning green. Potatoes should stay firm for 6-8 months without developing sprouts if stored below 40°F. Check tubers periodically, and do not allow potatoes to freeze.

Note that when stored in temperatures below 40°F, the starches inside the potato may be converted into sugars, giving the potatoes a peculiar, sweet taste. If this flavor is undesirable, this process can be reversed by moving the potatoes to room temperature (approximately 70°F) for one week before use.

Visit our *Irish Potatoes publication* for more information about growing, harvesting, and storing potatoes: https://bookstore.ksre.ksu.edu/download/irish-potatoes_MF488

Powdery Mildew Affecting Landscape Plants:

Recently warm, humid weather conditions have been favorable for a fungal disease called powdery mildew. Powdery mildew is a fungus that can infect a wide variety of plants. The fungus develops as a white, powdery substance on the upper leaf surface of plants. Weather conditions with high relative humidity (especially at night) and temperatures around 70-80°F favor disease development.

Powdery mildew is commonly found on many types of landscape plants, most frequently during the spring and late summer months. Strong winds and storms carry powdery mildew spores (conidia) long distances and introduce inoculum to new plants. Symptoms appear as a white to grey dusty growth on the upper surface of plant leaves, resembling talcum-powder-like growth. Infections begin as spots or patches on the upper leaf surface and can eventually cover the entire leaf surface. In some cases, powdery mildew first develops on the lower leaves of the plant (where airflow is limited) and moves upward through the canopy. In severe cases, powdery mildew can also affect the undersides of the leaf, young stems, buds, flowers, and young fruit. Severe infections may also distort leaves and cause defoliation.

Powdery mildew is most commonly found on lilac, peony, grape, roses, turfgrass, cucurbit vegetables (such as cucumber, squash, watermelon, and pumpkin), apple, crabapple, oak, ash, euonymus, phlox, zinnia, and bee balm in Kansas.

While a wide range of perennials, shrubs, and trees may be affected by powdery mildew, there are many different, but related, species of fungi that cause infections. Each infection is generally limited to only similar hosts in the same genus. This means powdery mildew on one host will only affect hosts in that genus. For example, powdery mildew fungi on oak trees will only affect other oaks and the powdery mildew found on grapes will only affect grapes.

The powdery mildew fungus damages plants by absorbing nutrients from the leaf and reducing the plant's carbohydrates. The fungal colonies may also be unsightly. Despite this, powdery mildews rarely cause significant damage to most plants in Kansas, especially trees and shrubs.

Current weather patterns with high humidity will continue to favor powdery mildew development. To limit powdery mildew in the landscape, select varieties with disease resistance whenever possible. Increase spacing between plants and prune to increase airflow through the canopy, limiting favorable conditions for powdery mildew development. Avoid late-summer applications of nitrogen fertilizers to limit the production of succulent growth, which is more susceptible to infection.

When powdery mildew symptoms begin to appear on leaves, hand pick and remove infected leaves. Many diseases can be reduced by limiting the initial spread. As with all diseases, good sanitation practices at the end of the growing season are also recommended. Doing so will help eliminate infected plant material from the garden, however, it may not significantly prevent future infections of powdery mildew. In most stages of powdery mildew development, the disease requires living plant material to survive and will likely be reintroduced in future years by windblown spores.

Chemical controls are not recommended in most instances of powdery mildew, except in some fruit and vegetable production situations. Fungicides are only effective if applied before infection occurs. Any chemical control must be applied preventatively and will not have curative effects in most cases. Fungicides must be applied at 7 to 14-day intervals to provide continuous protection throughout the growing season.

Dutch Elm Disease Resistant American Elms:

American Elms have long been a beloved shade tree across Kansas, and most of the United States. Their graceful vase-shaped canopy, rapid growth, and ability to provide abundant shade made them a highly desirable and abundantly planted species. In addition, their adaptability to a wide range of soils and conditions made them a favorite tree for streets, parks, and home landscapes.

Unfortunately, Dutch Elm Disease entered the United States sometime in the 1920's, and since that time the fungus has devastated American Elm trees across the United States. In Kansas, Dutch Elm Disease was first reported in 1957 and since then, has eliminated most of the majestic American Elms in the state and continues to kill additional trees each year.

Although Dutch Elm Disease has caused American Elms to lose popularity, not all is lost. Since the discovery of Dutch Elm Disease, research has helped to identify cultivars of American Elm and Elm hybrids that are resistant to the disease.

In 2007, the John C. Pair Horticultural Center near Wichita established research as part of a National Elm Trial, testing 18 cultivars for Dutch Elm Disease resistance. All 18 of these cultivars are Dutch Elm Disease resistant, with four cultivars being true American Elms. ‘Valley Forge’, ‘Princeton’, ‘New Harmony’ and ‘Lewis and Clark’ (Prairie Expedition) are all four true American Elm cultivars, and have all shown excellent tolerance to Dutch Elm Disease.

In addition to testing the 18 cultivars for Dutch Elm Disease resistance, the research also looked to evaluate the performance of each of these new Elm varieties in Kansas. The top seven overall performers included: ‘Emer II’ (Allee), ‘Morton’ (Accolade), ‘Morton Red Tip’ (Danada Charm), ‘New Harmony’, ‘New Horizon’, ‘Princeton’.

For photos and more information from our National Elm Trial at the John C. Pair Horticultural Center, visit: https://www.sedgwick.k-state.edu/gardening-lawn-care/trees-shrubs-flowers/Kansas%20Elm%20Trial%20Jan%2024%202016.pdf. *Matthew McKernan,*

Consumer Horticulture Extension Associate, Frannie Miller, Pesticide Safety and Integrated Pest Management (IPM) Program Coordinator

Protecting your home from wasps

A common problem many homeowners encounter is wasps taking up residence outside their homes. Kansas State University entomologist Raymond Cloyd says, however, not all wasps are harmful.

"Wasps are beneficial insects and they are part of the ecosystem," Cloyd said. "They are predators of many caterpillar pests and are docile overall. The females will usually only sting if disturbed or provoked."

Mud daubers and paper wasps are commonly seen around homes and will generally not attack people. Yellow jackets, however, will actually attack people, Cloyd said.

Despite the beneficial role of wasps, many people may want to remove wasp nests to avoid the possibility of getting stung when outdoors. When considering removing wasp nests, Cloyd advises determining whether the nest is new or mature.

"If the home has a history of wasps building nests, such as in late spring or early summer, physically remove the nest when you see the nest being initially built," Cloyd said.

New nests can be removed with minimal risk of being stung because there are usually fewer wasps present inside the new nest. Wasps generally do not rebuild nests in the same location, so physically removing the nest will avoid having to deal with nests in the future.

Spraying nests with an insecticide should be done at night when the wasps are inside the nest, Cloyd said.

If the nest is large, mature, and has been around for some time, Cloyd recommends contacting a pest management professional.

"To avoid getting stung, contact a pest management professional," he said.

Cloyd said that it is important to correctly identify the wasp that is creating the nest.

Soil Sense: Potting materials make a difference when growing plants in containers

Not all soil-less potting materials are created equal. Just ask your potted plants. Or, better, ask Cheryl Boyer.

"There are a lot of (potting mixes) that you can use to grow plants in," said Boyer, a nursery crop production and marketing expert with K-State Extension. "It actually matters how big the particle sizes are, and what they are composed of."

For bigger containers, she says, gardeners should choose potting mixes with bigger pieces, "because they'll break down over time."

"But for a smaller container, you want potting mixes with smaller pieces that also include components that have a good water-holding capacity so that when it gets hot and dry, there are resources in the container for the plants to survive."

The ingredients in potting mixes also make a difference. Boyer said gardeners should be like any good consumer: Read the label before purchasing a particular mix.

"The ingredients in potting media will influence how your plants perform in containers," she said. "For example, probably the worst thing you could put in a container is field soil, and there are quite a few products that are just bagged field soil. There's just not enough air space in field soil, and it will tighten up like concrete and make it so plants can't explore and get the nutrients they need."

What to look for? Boyer suggests:

- Spaghnum peat moss, a Canadian-mined product that comes in various species, sizes and coarseness.
- Pine bark. For Kansas-grown plants, pick a product that is low in acidity, or pH. “If you put low pH items in the potting media, our water – which might be high in pH or be considered alkaline – will begin to balance that out and provide a neutral environment for plants.”

“Pine bark and peat moss are going to be your major components, and maybe some sand (for weight),” she said.

Minor components in bagged potting soil include perlite and vermiculite, which Boyer says are “inorganic materials that are included for airspace or particle size.”

“Vermiculite is often used in plant propagation where you need a lightweight media that the roots can grow easily into, and then you shift it into a larger container that has more structure to it,” she said. “Perlite is those little, white expanded volcanic materials; a lot of people think that’s fertilizer, but it’s not fertilizer at all. It is really just for air space.”

Research indicates that wood bark and wood-based substrates can be a viable substitute for perlite, according to Boyer. “There are a lot of common materials that continue to be used and we are innovating these products to make them available for consumers to use for growing plants.”

She adds: “There are a lot of things that you might see in potting media. Many of them will promote that they’re organic, but most of these products are organic by nature – they just may not have gone through the organic certification process. But it’s hard to go wrong with a lot of the potting media that we have, and they come in different sizes of bags and price ranges.”

Boyer said gardeners should also look for mixes with a “starter charge,” which means that fertilizer was added before the product was bagged.

“If it’s going to go in a container for your annual plants, it’s really nice to have some fertilizer already mixed in so that plants have something to eat as soon as you get them in the container,” she said.