Time to Fertilize Warm-Season Grasses

June is the time to fertilize warm-season lawn grasses such as bermudagrass, buffalograss, and zoysia grass. These species all thrive in warmer summer weather, so this is the time they respond best to fertilization. The most important nutrient is nitrogen (N), and these three species need it in varying amounts.

Bermudagrass requires the most nitrogen. High-quality bermuda stands need about 4 lbs. N per 1,000 sq. ft. during the season (low maintenance areas can get by on 2 lbs.). Apply this as four spaced applications (i.e., about 4 weeks apart) of 1 lb. N per 1,000 sq. ft. starting in early May. We are already too late for the May application, but the June application is just around the corner. The nitrogen can come from either a quick- or slow-release source. Plan to make your last application no later than August 15. This helps ensure the bermuda is not over-stimulated and therefore susceptible to winterkill as winter approaches.

Zoysia grass grows more slowly than bermudagrass and is also prone to get thatchy. Consequently, it does not need as much nitrogen. In fact, too much is worse than too little. One and one-half to 2 pounds N per 1,000 sq. ft. during the season is sufficient. Split the total in two and make one application in early June and another around mid-July. Slow-release N is preferable but quick-release is acceptable.

Buffalograss requires the least nitrogen of all lawn species commonly grown in Kansas. It will survive and persist with no supplemental nitrogen, but giving it 1 lb. N per 1,000 sq. ft. will improve color and density. This application should be made in early June. For a little darker color, fertilize it as described for zoysia grass in the previous paragraph, but do not apply more than a total of 2 lb. N per 1,000 sq. ft. in one season. Buffalograss tends to get weedy when given too much nitrogen. As with zoysia, slow-release N is preferable, but fast-release is also OK.

As for all turfgrasses, phosphorus and potassium are best applied according to soil test results.
because many soils already have adequate amounts of these nutrients for turfgrass growth. If you need to apply phosphorus or potassium, it is best to core aerate beforehand to insure the nutrients reach the roots. (WU)

**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 thrives in the cooler spring temperatures but dies out in the summer. 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.

At this point there is no control for little barley other than a glyphosate product such as Roundup. However, Roundup will kill whatever it hits and cannot be used in a lawn situation. The only preemergence herbicide that I know is labeled for lawn situations is Surflan. Monterey Lawn and Garden also sell it under the name of Weed Impede. Surflan can only be used on warm-season grasses (bermudagrass, buffalograss, zoysiagrass) and tall fescue grown in warm-season areas. Because little barley is a winter annual, apply the preemergence herbicide in September. (WU)

**VEGETABLES**

**Sidedressing Vegetables**

Recent heavy rains in many areas of Kansas may have leached preplant fertilizers below the root zone of many of our vegetables. Additional nitrogen will be needed so rapidly growing plants are not slowed down. If plants are pale and growth is less than expected, a sidedressing of fertilizer may be in order. Use a fertilizer composed primarily of nitrogen such as nitrate of soda (16-0-0). This fertilizer may be applied at the rate of 2 pounds (equals 2 pints) per 100 feet of row. High nitrogen lawn fertilizers such as a 27-3-3, 30-3-4, 29-5-4 or something similar are also good choices, but the rate should be 1 pound (1 pint) per 100 feet of row. Do not use lawn fertilizers that contain weed killers or weed preventers. A sheet giving specific information on sidedressing can be found at http://www.hfrr.ksu.edu/DesktopModules/ViewDocument.aspx?DocumentID=1991 (WU)
Mulching Tomatoes

Soils are warm enough now that tomatoes can benefit from mulching. Tomatoes prefer even levels of soil moisture, and mulches provide such by preventing excessive evaporation. Other benefits include weed suppression, moderating soil temperatures and preventing the formation of a hard crust on the soil. Crusted soils restrict air movement into and out of the soil and slow the water infiltration rate.

Hay and straw mulches are popular for tomatoes but may contain weed or volunteer grain seeds. Grass clippings can also be used but should be applied as a relatively thin layer - only 2 to 3 inches thick. Clippings should also be dry as wet clippings can mold and become so hard that water can’t pass through. Also, do not use clippings from lawns that have been treated with a weed killer until some time has passed. If only homeowner type weed killer has been applied, clippings from the fourth mowing after treatment may be used. If the lawn is commercially sprayed and a product containing quinclorac has been applied, the clippings should not be used as mulch. (WU)

ORNAMENTALS

Anthracnose on Sycamore

We are starting to see anthracnose on sycamore leaves. Other types of trees that can be affected by anthracnose include maple, ash, birch, elm, walnut, and oak. Sycamore is known to be prone to this disease and often shows symptoms with the greatest severity.

Anthracnose is a fungal disease that is favored by cool, wet weather. Young leaves may wither and turn black. Older leaves may form brown areas that follow the major veins of the leaves. In some cases, the petiole (leaf stem) is infected, which causes leaf drop. The leaf may look perfectly fine, so look for browned areas on the petiole.

In severe cases, the tree drops heavily infected leaves and may be completely defoliated. Normally, trees will leaf out again in a few weeks. Defoliation this early in the year does not affect overall tree health. Trees have plenty of time to produce new leaves and make the energy reserves needed to survive the winter.

Because anthracnose seldom causes significant damage to Kansas' trees even when they are completely defoliated, chemical controls are unnecessary. Also, fungicides do not cure infected
leaves, and spraying after seeing symptoms is a waste of time and money. Therefore, applying fungicides now is not recommended. (WU)

PESTS

Chow Time Tobacco Budworms

For 16 years, geraniums have been planted next to the walkway to our front door. During that time, I have frequently received reports of worms attacking geraniums. My turn came last year. Strange as this may seem, I was delighted with the appearance of my own tobacco budworms.

Because of last year’s experience, I will be prepared for their arrival. Tobacco budworms are an insect species that does not overwinter in Kansas. Moths move into Kansas from their native ranges in warmer southern habitats. Using a pheromone trap, I should be able to tell if and when they arrive. I will then select groups of plants for treatment while leaving others untreated. I hope this limited exercise will determine the usefulness of pheromone trapping as a tool for the timely application of an insecticide to protect geraniums from tobacco budworm. Stay tuned. (BB)

Oak Tatters

Oak tatters is a condition in which leaves are malformed with portions of the leaf missing in the areas between veins. In some cases, only the tissues around the major veins remain. Leaves look lacy or tattered. Trees viewed from a distance often look pale and thin.

The condition is now suspected to be the result of herbicide damage to the new growth as leaves are unfurling in the spring. Severely affected leaves will drop and be replaced with a new flush. Though this leaf replacement takes energy from the tree, healthy oaks should be able to recover. But new leaves may be smaller and lighter than normal. If possible, avoid other stresses to the tree by watering during dry weather and controlling insect pests. (WU) (Photo courtesy of Joseph O’Brien USD Forest Service Bugwood.org)
Sowbugs and Pillbugs

Sowbugs and pillbugs are not insects. They are classified as isopods or crustaceans, closely related to crayfish and crabs, and are distributed worldwide. The most common sowbug and pillbug species are Porcellio laevis and Armadillium vulgare. In Europe, sowbugs and pillbugs are commonly called woodlice. Both are oblong, oval or convex in shape, segmented, and flattened underneath the body. They are black, gray, or brown, and approximately 19 mm (3/4 inches) long when full-grown. The broad head contains a pair of eyes, two pairs of antennae, and chewing mouthparts. They also have seven pairs of legs. Sowbugs have two small, tail-like appendages (uropods) located at the end of the body; pillbugs do not have appendages. Sowbugs and pillbugs are distinctly segmented with seven hardened individual overlapping plates. Pillbugs can roll-up into a ball when disturbed (thus the common name ‘roly-poly’) whereas sowbugs cannot.

Sowbugs and pillbugs have a particular biology in which eggs and young remain inside females for several months inside a pouch-like marsupium. This provides protection from predators and prevents desiccation (drying-up). Females may produce two or more broods during the year with between 20 and 28 young per brood. Both sowbugs and pillbugs primarily feed on decaying organic matter and fungi because they possess weak chewing mouthparts; but they may occasionally feed on the stem and/or roots of young seedlings, and will feed on young, tender vegetation or fruit. They can cause damage to beans, lettuce, and other vegetable crops.

Sowbugs and pillbugs are nocturnal (night-time) feeders that hide during the day under rocks, plant debris, boards lying on the ground, and in mulch. But they may be observed during the day after rains or when conditions are overcast. They may also burrow several inches into soil. Both sowbugs and pillbugs require constant moisture for survival because they cannot control or regulate water loss from their bodies as they lack a waterproof exoskeleton. Adults may live up to 2 years or more. Sowbugs and pillbugs may occasionally enter homes, primarily damp areas such as basements and around houseplants. They may enter greenhouses during the winter due to suitable environmental conditions (e.g., temperature and moisture).

Management
The primary means of dealing with sowbugs and pillbugs is by habitat manipulation. For example, raking mulch and leaf debris will expose sowbugs and pillbugs to natural enemies and pest control materials. Applications of pest control materials are generally not required indoors because sowbugs and pillbugs will quickly dry-out and die after entering homes. Commercially available products for homeowners labeled for control or suppression of sowbug/pillbug populations (primarily outdoors) may contain the following active ingredients; beta-cyfluthrin, lambda-cyhalothrin, permethrin, and gamma-cyhalothrin. Another product commercially available contains a combination of materials including 2-phenethyl propionate, sodium lauryl sulfate, eugenol, thyme oil, and sesame oil. Most of these active ingredients will only kill sowbugs and/or pillbugs on contact so repeat applications may be required. (RC)
MISCELLANEOUS

Excessive Rain Can Cause Yellowing of Plants

In Kansas we often see chlorosis (yellowing) of plant leaves due to high pH soils making iron unavailable. But there can be other causes that result in similar symptoms. For example, we have received so much rain in certain parts of the state recently that plants are unable to take up the nutrients needed to maintain a good green color. Fortunately, chlorosis due to wet soils will correct itself when soils dry. Plants should regain their color when more normal weather returns.

Flooding Damage

Waterlogged soils push out oxygen that roots need to survive. Every living cell in a plant must have oxygen or it dies. Some plants have mechanisms to provide oxygen to the roots even under saturated conditions, but most vegetables and flowers do not. The longer these plants are subjected to saturated soils, the more likely damage will occur. Usually, as long as water drains within 24 hours, the impact on plant health is minimal. However, shallow, stagnant water under hot, sunny conditions can literally cook plants, reducing survival time to as little as a few hours.

Vegetables: Is it safe to eat produce from a garden that has been flooded? Standing water should not cause a safety problem as long as the aboveground portions of the plant remain healthy. Do not use produce from plants that have yellowed. Also, using produce flooded with water contaminated with sewage (lagoon) or animal manure also can be dangerous. The safest approach is to discard garden crops that have been in contact with such water. Certainly, leafy vegetables should always be discarded. However, you can eat tomatoes, peppers, eggplants, sweet corn, squash, cucumbers, and similar vegetables that develop after the waters have subsided as long as the fruit is not cracked or soft. Always wash vegetables thoroughly before eating.

Lawns: Under the cool conditions of early spring, turfgrasses often can survive several days of flooding. However, during hot, sunny conditions with shallow, stagnant water, lawns may be damaged quickly, sometimes in a few hours. This situation often occurs when shallow depressions in a lawn allow water to pool. Note such areas and fill in with additional soil once the waters have subsided.

Trees: Trees differ markedly in their ability to withstand flooding. Some trees have mechanisms in place to provide oxygen to the roots of plants with water-saturated soils, and others do not. However, most trees will maintain health if floodwaters recede in 7 days or less. It also helps if water is flowing rather than stagnant because flowing water contains more oxygen. If the roots of sensitive trees are flooded for long periods of time, damage will occur including leaf drop, iron chlorosis, leaf curl, branch dieback and, in some cases, tree death. Another danger of flooding is the deposition of sediment. An additional layer of silt 3 inches or more can also restrict oxygen to the roots. If possible, remove deep layers of sediment as soon as conditions permit. This is
especially important for small or recently transplanted trees.

Try to avoid additional stress to the trees this growing season. Ironically, one of the most important practices is to water trees if the weather turns dry. Flooding damages roots, making the root system less efficient in making use of available soil water. Timely watering is vital to a tree’s recovery. Also diligently remove dead or dying branches that may serve as an entry point for disease organisms or insect pests. The following information on tree survival came from the U.S. Forest Service.

Flood-tolerant trees can survive one growing season under flooded conditions: Red maple, silver maple, pecan, hackberry, persimmon, white ash, green ash, sweetgum, sycamore, eastern cottonwood, pin oak and baldcypress.

Trees moderately tolerant of flooding can survive 30 consecutive days under flooded conditions: River birch, downy hawthorn, honeylocust, swamp white oak, southern red oak, bur oak, willow oak and American elm.

Trees sensitive to flooding are unable to survive more than a few days of flooding during the growing season: Redbud, flowering dogwood, black walnut, red mulberry, most pines, white oak, blackjack oak, red oak and black oak.

Soils often become compacted and crusted after a heavy rainfall. This also can restrict oxygen to the roots. Lightly scraping the soil to break this crust will help maintain a healthy root system and, therefore, a healthy plant. Be careful not to cultivate too deeply as shallow roots may be damaged. If you think the excessively wet weather will continue, bedding up the rows before planting even just a couple of inches, will improve drainage and allow for better aeration. (WU)

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