

## Horticulture 2008 Newsletter No. 27 July 9, 2008

### UPCOMING EVENTS



The K-State Research and Extension Horticulture Center Field Day will take place from 8 a.m. to 3 p.m. Saturday July 26 at 35230 West 135th in Olathe, KS

For more information, see [Field Day](#)

### TURFGRASS

#### Bermudagrass Control

Bermudagrass can make a nice lawn if you don't mind its invasiveness and short growing season. But many people dislike both these characteristics. Warm-season grasses such as Bermudagrass, zoysiagrass and buffalograss green up later than cool-season grasses such as tall fescue and Kentucky bluegrass. They also go dormant earlier in the fall, which can make a lawn unattractive. Bermuda that invades a cool-season lawn will be brown during much of the spring and fall while the rest of the lawn is green. And it is much more drought and heat resistant than cool-season grasses, so it will take over a cool-season lawn during the summer months if it is in full sun. So how do you control Bermuda that has invaded a cool-season lawn? Research conducted in 1996 showed that glyphosate (Round-up, Kleen-up, Killzall, Kleeraway) is the best herbicide for the job. Note that glyphosate is a non-selective herbicide and will kill everything— including tall fescue or Kentucky bluegrass. You will need to reseed treated areas.



In our study, we applied a 2% solution of glyphosate on July 15 and again on August 15 on a Bermudagrass plot that was more than 15 years old. Over one year later, we saw no regrowth. Glyphosate works best if the Bermuda is growing well. The better the Bermuda is growing, the more chemical is taken up and pushed into the roots. Water and fertilize if needed to get it going. Spray about the middle of this month (or when the Bermuda is growing well) and again about a month later if there is any green left in the Bermuda. Use glyphosate (2% solution). Wait two more weeks and reseed. (WU)

## VEGETABLES

### Pulling Onions



Onions are ready to harvest when about half the plants have tops that have fallen over. This is a sign that the onions are mature and need to be pulled out of the ground as bulbs may sunburn without the foliage to protect them. The secret to onions keeping well is to allow the tops to dry completely before storage. Move onions to a shaded, well-ventilated area after harvest. After tops are completely dry, store in a cool, dry location. Large-necked onions take more time to dry than small-necked onions such as Bermuda

types. Avoid storage in plastic bags because the lack of air circulation will shorten storage life. Use an open, mesh bag instead. (WU)

### Harvesting Potatoes



Potatoes are ready to harvest when the vines are about half dead. Potatoes dug too early have tender skins and are easily bruised. Delaying digging will allow the soil to heat since it is no longer shaded by foliage. High soil temperatures can lead to sprouting potatoes. Allow potatoes to "set" by keeping them in a shady, dry location for a day or so. Move them to a cool, moist environment such as a cellar or cool basement for longer storage. (WU)

### Blossom-end Rot on Tomato

If you have tomatoes with a sunken, brown leathery patch on the bottom of the fruit, you probably have blossom-end rot. Though most common on tomatoes, blossom-end rot can also affect squash, peppers and watermelons. Not a disease, this condition is caused by a lack of calcium in the developing fruit. It is often assumed that this means there is a corresponding lack of calcium in the soil. Such is not necessarily the case, especially in



Kansas. Most Kansas soils are derived from limestone, which is partially made up of calcium. So what causes blossom-end rot? Actually, there are a number of possible causes, especially on tomatoes. Let's look at some of them.

- Tomato tops often outgrow the root system during cooler spring weather. As long as it is cool, the root system can keep up. When it turns hot and dry, the plant has a problem. Water, with the calcium it carries, goes to the leaves and bypasses the fruit. The plant responds with new root growth, and the condition corrects itself after a couple of weeks.

- Heavy fertilization, especially with ammonium forms of nitrogen, can encourage this condition. Heavy fertilization encourages more top than root growth and the ammonium form of nitrogen competes with calcium for uptake.

- Anything that disturbs roots, such as hoeing too deep, can encourage blossom-end rot. Mulching helps because it keeps the soil surface cooler and provides a better environment for root growth.

- Inconsistent watering can be a factor. Try to keep the soil moist but not waterlogged. Mulching can also help by moderating moisture levels over time.

So what can you do? Do a good job of watering, mulch, avoid damaging roots and watch fertilization. But some years you do everything right and the condition still shows up because of the weather. In such cases, remember that blossom-end rot is a temporary condition, and plants should come out of it in a couple of weeks. You may want to pick off affected fruit to encourage new fruit formation.

On soils with adequate calcium adding additional amounts of this nutrient (such as with gypsum) will not help. We have also found that spraying the plants with calcium doesn't work either. The fruit won't absorb it because the waxy surface doesn't allow absorption of the material. If you are unsure whether your soil contains adequate calcium, adding gypsum will not harm anything.  
(WU)

## Tomatoes and Stinkbugs



Look for tomatoes with golden-yellow, pink or white spots on the fruit. This type of damage is often caused by stinkbugs, the shield-shaped insects that emit a foul odor when disturbed. The stinkbug injures the fruit by using its mouthparts to probe. Color development is affected where probing occurs, which results in the off color, cloudy spots. Heavy feeding causes spots to spread, so tomatoes may develop a golden color. If you look closely, you can see the pinprick-sized puncture wounds in the middle of the spots. Hard,

whitish, callous tissue develops beneath the skin at the area of wounding. By the time you notice the spots, stinkbugs are often gone, so control is impossible. Affected tomatoes are safe to eat.  
(WU)

## ORNAMENTALS

### Repairing Storm Damaged Trees

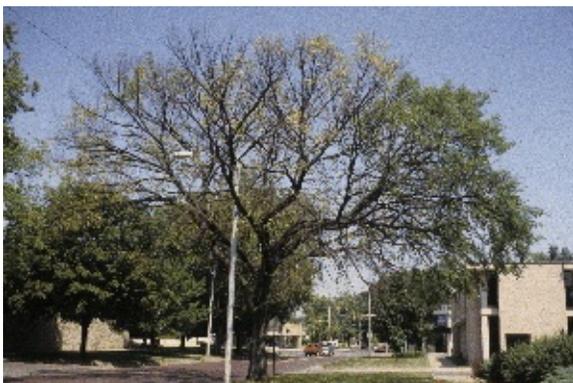


This year has certainly brought more than its share of tree-damaging storms to Kansas. First, the winter ice storms broke and bent many limbs and whole trees. More recently, tornados and severe thunderstorms have wreaked havoc on landscapes in many areas. A frequently asked question is, “Will a bent over or leaning tree straighten out on its own?” The answer is no, not really. A tree that is bent over slightly will appear to straighten up with time, as more growth occurs on the more upright branches, but the lean of the trunk will remain. Many smaller trees (especially river birch) should be pulled back upright and staked for a year or two, or they will be permanently leaning, and more prone to future storm damage.

There have also been several reports of medium-sized conifers like spruce and pine being blown completely over in high winds, with roots exposed out of the ground. This happened to a row of Scotch pines on the K-State campus, due to the June tornado. Oftentimes these trees can be saved if they are pulled upright and staked, loose soil settled back around the roots, and additional mulch and water applied to get them through the hot summer months. They should be pulled upright within a few days of being blown over.

For larger trees storms can lead to limb and trunk damage, and a tree leaning dangerously. Working around storm-damaged trees can be hazardous, both due to power lines and the tension of the tree branches themselves. If you are not familiar with this kind of work, it is best to contact a certified arborist to perform the cleanup. Usually tree cleanup is not an emergency. You would be better off waiting for a local, skilled, reputable tree service to perform your work in a month, than you would be hiring an unknown, uninsured and unlicensed person who offers to do this work immediately after the storm. (CJB)

### Dutch Elm Disease (DED)



People often assume that all American elms have been killed by Dutch elm disease. Fortunately, this is not the case. Though many have survived, the number diminishes each year, with some years being more severe than others. We are seeing numerous examples of Dutch elm disease on American elms this year. Though American elms are the species often associated with this disease, red and some hybrid elms are also susceptible. Siberian elm (sometimes referred to as Chinese elm) and the true Chinese elm (lacebark elm) are

considered resistant but not immune to the disease.

Early diagnosis can help save recently infected trees. Look for branches with leaves that have wilted and suddenly turned yellow to brown. Remove a portion of the branch and peel back an area of the bark. If you notice brown streaking in the sapwood, you may have Dutch elm disease. Healthy bark is more cream-colored and the streaking is absent. Suspect wood should be submitted to the diagnostic lab and control measures started immediately.

Dutch elm disease can often be controlled through the use of systemic fungicide injections, judicious pruning of affected trees and removal of nearby diseased elms. However, trees infected through root grafts with nearby infected elms or those in which the disease has reached the main stem cannot be saved. Therefore, preventative measures have a better chance of success and are preferred. Fungicides labeled for Dutch elm disease include Arbotect and Alamo. The Arbotect fungicide is preferred because it is the most persistent with a three-year interval between injections. A trained arborist should administer injections. These treatments are quite expensive. Check with your local certified arborist for current prices. (WU)

### **Leaf Scorch on Trees and Shrubs**



Leaf scorch is starting to show up on trees and shrubs around the state. This is not a disease but rather a physiological problem associated with damaged roots, storm damage, limited soil area, or hot, dry winds. Moisture is lost so quickly from the leaves that roots can't absorb and transfer water quickly enough to replace what is lost. Though scorch is usually associated with droughty periods, it can appear even when the soil is moist.

Scorched leaves turn brown or, in some cases, turn black from the edges and between the major veins. If severe, the leaf may drop. Leaves may be affected over the entire tree or may be affected only on one side. White pines are also prone to this condition due to the delicacy of the needles.

Though scorch can be due solely to the weather, the condition of the roots of plants can make them much more susceptible to this condition. Shallow soils such as those over hardpan or rock lead to a limited root system that may not be able to absorb all the water needed. Trees may be more sensitive to scorch this year because of the heavy rains many areas received this spring. Though soils were recharged, in many cases so much rain was received that oxygen was driven from the soil resulting in root damage. That root damage is now making it more difficult for trees to provide all the water needed for the leaves. Also, root damage due to disease, insects, poor drainage or construction can cause poor water uptake.

To help alleviate damage due to dry soils or limited root systems, water once per week if there is no rainfall. Mulching small trees or shrubs will help conserve moisture. (WU)

## Cedar Apple Rusts



There are three kinds of “cedar apple rust” in Kansas, caused by three closely related fungi. The fungi have long names, and if you are feeling brave you can try to pronounce them:

*Gymnosporangium juniperi-virginianae* = cedar apple rust

*Gymnosporangium globosum* = hawthorn rust

*Gymnosporangium clavipes* = quince rust

These pathogens have slightly different life cycles and cause slightly different symptoms, but they all infect junipers (cedars) during part of their life cycle and apple, crabapple, hawthorne, and quince (rosaceae family) for the other part. Right now we are seeing infections in the rosaceous hosts.

Both cedar apple rust and hawthorn rust cause orange leaf spots. Quince rust causes swellings in hawthorn branches as well as tube-like growths on hawthorn fruit. If you touch them, powdery orange spores will come out. For those of you familiar with the different spore stages of rusts you’ll be interested to know that those are the aeciospores, and they will infect the junipers again to continue the life cycle.

We have fact sheets about the rusts here:

<http://www.oznet.ksu.edu/path-ext/factSheets/Apple/Cedar%20Apple%20Rust.asp>

(MK)

## Ash Rust



Another disease that is apparent right now is ash rust, caused by *Puccinia sparganioides*. The ash rust fungus causes orange leaf spots similar to the ones shown in the first photo. In addition, the fungus can cause swelling and distortion in the leaf stems and veins as shown in the second photo. It usually is not a serious disease in Kansas. Like the cedar-apple rusts, this fungus also requires an alternate host to complete its lifecycle. Alternate hosts are cordgrass (*Spartina* spp.) and saltgrass (*Distichlis* spp.). Spores are produced by the grass host during the fall and remain on the grass during the winter. Infection of ash takes place the following spring during warm, wet weather. Since cordgrass often grows in wet areas or ditches, ash trees in the vicinity may show more severe rust. No control is needed on established trees. (MK)

## PESTS

### Bagworms: What to Use?



Bagworm caterpillars are out-and-about and this is the time to consider applying an insecticide (or pest control material). Remember, bagworm caterpillars are likely still “ballooning” so it will require more than one application to manage bagworm populations from now until mid to late July. Since bagworm caterpillars are “small” they are more susceptible to the microbial insecticide, *Bacillus thuringiensis* spp. *kurstaki* or Btk (Dipel, Thuricide, and Javelin). This is a soil-borne bacterium that must be consumed by the caterpillar in order to be effective. Bagworm

caterpillars stop feeding within 24 to 48 hours, and die in approximately 3 days. Another insecticide that may be used is spinosad (Conserve). This microbial insecticide is derived from an organism called *Saccharopolyspora spinosa* that is very effective against bagworm caterpillars. It is primarily a stomach poison with contact activity. Spinosad will also kill the later instars that are not affected by Btk.

Remember, the neonicotinoid-based insecticides such as imidacloprid (Merit), thiamethoxam (Meridian), and dinotefuran (Safari) are not effective against bagworm caterpillars. In fact, most of the neonicotinoid-based insecticides have minimal if any activity on caterpillars of any sort although some activity has been observed with clothianidin (Arena or Aflot). The pyrethroid-based insecticides such as bifenthrin and lambda-cyhalothrin will also provide control of bagworm caterpillars; however, this group of insecticides is very harmful to natural enemies including parasitoids and predators that may attack or prey upon bagworm caterpillars. (RC)

### Golden Tortoise Beetle



Now is the time of year to look for a very picturesque insect known as the golden tortoise beetle (*Charidotella bicolor*), which is oval in shape, and bright, metallic gold in color. They may be mistaken for ladybird beetle adults. The beetle feeds primarily on ornamental sweet potato vines and plants in the morning glory family (Convolvulaceae). The beetle creates round, irregular-shaped holes in leaves that resemble slug or snail damage; however, the beetles are usually not present. Larvae are flattened and spiny, and may be

yellow to red-brown in color. They feed on the underside of leaves, and carry their cast skins and feces on their back. There is usually one generation per year. Control is typically not required since ornamental sweet potato vine produces such an abundance of leaves that damage is generally not noticeable. (RC)

## Spittlebugs on Eastern Redbud



The two-lined spittlebug derives its name from the white, frothy" spittle" the nymphs produce. Adults are large, black leafhoppers about 1/3-inch long with two red stripes that go crosswise across the back. The eyes and abdomen are bright red. Though the nymphs resemble the adults, they are smaller and wingless. Color varies from yellow to white to orange but the eyes are always red.

Spittlebug nymphs suck plant juices like aphids, but they remove so much water and carbohydrates that excess fluid is produced. They cover themselves with this fluid and then produce the spittle by bubbling air from the tip of the abdomen into the liquid. The spittle mass helps protect the nymphs from drying and predators.

Spittlebugs normally do not achieve high enough populations to cause damage. If they do, forcefully hosing the plants several times should achieve the level of control needed. Photo courtesy of Kansas Department of Agriculture. (WU)

### Contributors:

Ward Upham, Extension Associate; Charlie Barden, Extension Forester, Megan Kennelly, Plant Pathologist; Ray Cloyd, Extension Entomologist

---

To view Upcoming Events: <http://tinyurl.com/fswqe>

[Horticulture 2008 E-mail Subscription](#)

For questions or further information contact: [Hort WebMeister](#).

Brand names appearing in this publication are for product identification purposes only. No endorsement is intended, nor is criticism implied of similar products not mentioned.

*“Knowledge for Life”*

Kansas State University Agricultural Experiment Station and Cooperative Extension Service