Horticulture 2013 Newsletter
No. 27  July 9, 2013

Video of the Week:  Onions: Harvesting & Storing

UPCOMING EVENTS

Nurseryworks - July 17 & 18
Manhattan, KS
http://nurseryworks.weebly.com/

Bedding Plant Field Day - July 23
Olathe, KS

Turf & Ornamentals Field Day - August 1
John C. Pair Horticulture Research Center, Haysville, KS
http://store.kansasturfgrassfoundation.org/

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 bermudagrass 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. Glyphosate is a nonselective 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. More than one year later, we saw no regrowth. Glyphosate works best if bermuda is growing well. The better the bermudagrass 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 bermudagrass. Use glyphosate (2% solution). Wait two more weeks and reseed. It may also be helpful to scalp (mow as low as possible and remove clippings) the lawn two weeks after the first application so that dead grass does not prevent the glyphosate from reaching the recovering bermuda. (Ward Upham)

**VEGETABLES**

**Harvesting Potatoes**

![Potatoes](image1)

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 because 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. (Ward Upham)

**Pulling Onions**

![Onions](image2)

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. 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. (Ward Upham)
Tomatoes and Stinkbugs

I have seen more stinkbugs on my green tomatoes this year than I ever remember in the past. Stinkbugs are the shield-shaped insects that emit a foul odor when disturbed. This insect injures the tomato by using its mouthparts to probe through the skin of the fruit. Look for tomatoes with golden-yellow, pink or white spots on the fruit as the fruit ripens. 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. (Ward Upham)

Blossom-end Rot

Though we normally see this condition on tomatoes as evidenced by a sunken, brown, leathery patch on the bottom of the fruit, thus far this year we are seeing it on summer squash. 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. This is not necessarily the case, especially in Kansas. Most Kansas soils have sufficient levels of calcium. So what causes blossom-end rot? Actually, there are a number of possible causes. Let's look at some of them.

- This year, inconsistent amounts of water may be a factor for our squash. This can be due to watering practices or may be due to heavy rains followed by dry periods. Try to keep soil moist but not waterlogged. Mulching can help by moderating moisture levels over time.

- Vegetable tops will sometimes outgrow the root system during cooler spring weather. This is especially true of tomatoes. As long as it is cool, the root system can keep up. When it turns hot and dry, the plant has a problem, and water—with the calcium it carries — goes to the leaves and the fruit is bypassed. 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 deeply can encourage blossom-end rot. Mulching helps because it keeps the soil surface cooler and therefore a better environment for root growth.

There are some years you do everything right and the condition still shows up due to 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.

Soils with adequate calcium will not benefit from adding additional calcium. If your soil is deficient in this nutrient, add 1 pound gypsum per 100 square feet. Gypsum is calcium sulfate and will not affect pH. Though calcium raises pH, sulfate lowers it and the two cancel each other out. Even if not needed, gypsum will not hurt anything.

We have also found that spraying plants with calcium doesn't work. The fruit's waxy surface doesn't allow absorption of the material and calcium does not move from the leaves to the fruit. (Ward Upham)

**FRUIT**

**When to Pick Blackberries**

The exact time to harvest blackberries varies by cultivar, with thorny blackberries normally ripening earlier than thornless types. But there are some general guidelines to keep in mind when harvesting blackberries. Do not pick blackberries too early or berry size and flavor will be sacrificed. Two major characteristics determining maturity for harvest are fruit color and ease of separation. Blackberries usually develop a dull, black color with plump, juicy fruitlets as they ripen. The berries soften and produce the characteristic flavor. Full color often develops before the berries separate easily. Pick the berries by gently lifting the berry with the thumb and fingers. The receptacle, or center part of the fruit, remains in the fruit when blackberries are harvested, unlike raspberries, which leave the receptacle on the bush. Take care not to crush the berries or expose them to the hot sun. When possible, avoid picking berries when they are wet. They'll probably need picking every second or third day. Cool the berries immediately after harvest to extend shelf life. Keep them refrigerated under high relative humidity and use within three to five days. (Ward Upham)
PESTS

Get Ready To Deal With The Twospotted Spider Mite

The warm weather that we are encountering throughout Kansas and will experience later on means it is time to be on the look-out for damage caused by the twospotted spider mite, *Tetranychus urticae*. Twospotted spider mite is considered a warm-weather mite because, in general, populations are mainly active from late spring through early fall. Summer temperatures allow twospotted spider mites to reproduce rapidly, so they tend to overwhelm natural enemy populations, which are able to regulate them under “moderate” temperatures. This article will primarily cover the management strategies that homeowners and professionals may implement in order to alleviate or avoid problems with twospotted spider mite.

Twospotted spider mite management involves maintaining plant health, implementing sanitation practices, and/or using pest control materials with miticidal activity (miticides). First, it is important to avoid exposing plants to any type of “stress” by maintaining proper watering, fertility, and mulching as this may reduce any potential problems with twospotted spider mite populations. For example, inadequate moisture or overfertilizing plants, particularly with nitrogen-based fertilizers, may enhance development and reproduction of twospotted spider mites. It is recommended to monitor for twospotted spider mite populations regularly by knocking the spider mites off plant parts such as branches or twigs onto a white sheet of paper. This makes it easier to observe spider mites. Plant-feeding spider mites typically leave a green streak when crushed whereas predatory mites leave a red streak. A very effective and quick method of dealing with twospotted spider mite populations is applying a forceful water spray throughout the plant canopy at least twice per week during the season. This will dislodge eggs and the motile life stages (larvae, nymphs, and adults). It is essential to direct forceful water sprays at the leaf undersides where the twospotted spider mite life stages are located. The removal of plant debris and weeds eliminates overwintering sites. In addition, many broadleaf and grassy weeds are hosts for twospotted spider mites.

There are a number of pest control materials with miticidal activity available to professionals for regulation of twospotted spider mite populations outdoors including abamectin (Avid), acequinocyl (Shuttle), bifenazate (Floramite), etoxazole (TetraSan), hexythiazox (Hexygon), potassium salts of fatty acids (M-Pede), and petroleum or neem-based oils (horticultural or summer oil). Homeowners do not have many options in regards to miticides. The only “true miticide” still available is hexakis or fenbutatin-oxide; however, this compound cannot be purchased by itself because it is usually formulated with acephate (Orthene). Be sure to read the label and make applications before twospotted spider mite populations are extensive and causing
aesthetic damage. In addition, when using pest control materials it is imperative to rotate compounds with different modes of action in order to avoid twospotted spider mite populations from developing resistance. Furthermore, if possible, try to target “hot spots” or localized infestations of twospotted spider mites, which will also reduce the potential for the development of resistance. Twospotted spider mites reproduce by a combination of sexual and asexual means resulting in offspring that develop from both fertilized and unfertilized eggs. Therefore, within a twospotted spider mite population, males only have one copy of a resistant gene (R), whereas females have two copies (RR). This indicates that females are more tolerant to miticide applications or may develop resistance more rapidly than males. Be sure to thoroughly cover all plant parts with spray applications; especially when using pest control materials with contact activity. Some products such as Avid and TetraSan have translaminar activity, which means that the material penetrates into leaf tissues and forms a reservoir of active ingredient within the leaf. This provides residual activity even after spray residues have dried. Mites that feed on leaves will ingest a lethal concentration of the active ingredient and be killed.

It is important to note that many pest control materials used to suppress other insect pests encountered on horticultural plants may be harmful to the natural enemies of twospotted spider mite, which could lead to an inadvertent increase in twospotted spider mite populations or secondary pest outbreaks. (RC)

**Japanese Beetles Now in Manhattan**

James Roush, one of our Extension Master Gardeners, has found 8 Japanese beetles and counting in the Manhattan area including the University Gardens rose area. Japanese beetles have been in the Kansas City area for years and have also been found in Topeka, Wichita and other parts of eastern Kansas. They have been moving steadily westward and have finally reached Manhattan.

Japanese beetles feed on over 300 species of plants including rose, birch, linden, crabapple, grape, Virginia creeper, and buckeye. Adults are approximately 7/16-inch long and metallic green with coppery wing covers. They sport a series of white dots made up of tufts of hair that project from under the edges of the wing covers on the back half of the insect. This characteristic is used to distinguish Japanese beetles from other similar beetles. Japanese beetles feed on leaves, flowers and wounded or mushy fruit.

Adults often feed on the green material on the upper surface of the leaf leaving a lacelike or “cellophane” appearance. Most feeding activity occurs over a 4 to 6 week period though individual beetles usually live about 30 to 45 days.

Japanese beetles tend to be gregarious and feed in groups, starting at the top of a plant and working down. Warm, sunny weather is preferred with beetles favoring plants in full sun. When disturbed, adults fold their legs and drop from foliage.
Adult beetles can be killed by shaking the beetles from the plant into a jar or bucket containing soapy water. This is best done in the morning when the insects are sluggish.

Numerous insecticides can be used including pyrethroid products such as cyfluthrin (Tempo, Bayer Multi-Inset Killer), bifenthrin (Hi-Yield Bug Blaster II, Bug-B-Gon Max Lawn and Garden Insect Killer), and lambda-cyhalothrin (Bonide Beetle Killer, Spectracide Bug Stop Indoor + Outdoor Insect Killer, Spectracide Triazicide, Bonide Caterpillar Killer). Carbaryl (Sevin) can also be used. The pyrethroid products normally give 2 to 3 weeks protection with carbaryl not lasting as long; usually 1 to 2 weeks. All of the above insecticides are detrimental to natural controls such a parasitoids and predators or other pests including the two-spotted spider mite.

Neem products (Natural Guard Neem-Py, Fertilome Triple Action Plus) and Pyola (pyrethrins in canola oil) will provide deterrence for 3 to 4 days. Japanese beetle traps tend to attract more beetles than they kill and often do more harm than good and therefore are not recommended. (Ward Upham)

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