

Horticulture 2020 Newsletter

No. 29 July 21, 2020

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Video of the Week: [Dividing Iris](#)

Reminders

- Deadhead annual flowers that need it.
- Spray sweet corn for corn earworm if silks haven't turned brown yet.
- Take soil test if establishing or overseeding a lawn this fall.

TREES

What is Wrong with My Trees?



We have received a large number of contacts recently about trees that are not doing well. In some cases, trees are thin with few leaves, or certain branches die, or the tree was slow to leaf out or entire trees die suddenly. Though there can be a multitude of reasons for trees not to do well, the most common this year is environmental stress.

Stress is cumulative. In other words, trees and shrubs can be affected by stresses that happened up to several years in the past. Recent stresses in Kansas include winter damage this last fall as well as the extremely dry winter of 2017-2018. Let's take these individually.

The extremely dry winter of 2017-2018 damaged many root systems due to a lack of water. This damaged root system may have been further weakened due to too much rain the following spring. Roots need oxygen as much as they need water. Though the roots were able to keep up with moisture demands during the cooler spring weather of 2018, they may not have been able to keep up when the weather turned hot and dry. Some of these trees and shrubs suddenly collapsed and died or sloughed off branches during the summer of 2018. Others appeared to weather this damage well but likely were weakened due to this stress.

So what about the plants that survived but were weakened? Plants under stress often react by setting an abnormal number of fruit buds. This helps insure the survival of the species even if the parent plant dies. So lots of fruit buds were set during 2018. Those buds matured into flower and then fruit (seeds) during 2019. Think back to last year. I have never seen certain plants bloom as well as they did last year. Maturing this much fruit takes a great deal of energy. I think this resulted in such low energy levels in the fall that the plants just didn't have enough energy to make it through the winter or may have delayed leaf out or didn't bloom this year (think lilacs). Areas with too much rain last summer had that additional stress added to the mix. Roots need oxygen as well as water and too much rain can damage root systems.

Now there is one more stress we need to discuss. Kansas experienced a sharp drop in temperature

during October of last year. Temperatures in some areas of northwest Kansas were near 80 on October 4 and dropped to near 20 the following Friday morning (October 6). Unfortunately, trees were not hardened off before this happened. In other words, they were not ready for these cold temperatures. Though western Kansas had the most severe drop in temperature, it appears other areas in Kansas were affected as well.

The sharp drop in temperature may damage at least a portion of the phloem and the cambium. Remember the phloem carries food made in the leaves to all parts of the plants including the roots. The cambium produces new phloem. If the phloem and cambium are killed, the cambium cannot produce new, living phloem, and, therefore, the roots don't receive the food needed to survive as food produced in the leaves cannot be transported to the roots. The roots eventually starve and the plant dies suddenly.

Trees so affected will not die immediately. First of all, a healthy root system has stored energy reserves that it can use to keep the tree alive. When those reserves are depleted, the entire tree or a portion of the tree will die very quickly. Usually this occurs during the summer following the year the damage occurred. That is what we are seeing now.

So, is there anything we can do now to help the trees? Those that collapsed are done for. Others that were slow to leaf out or are thin should be given the care needed to prevent further stress. Primarily, that means to water the tree as needed. Keep the soil moist but not waterlogged (Ward Upham)

VEGETABLES

Tomatoes Slow to Ripen?



Hot weather we have had recently not only interferes with flower pollination (see accompanying article) but also can affect how quickly fruit matures. The best temperature for tomato growth and fruit development is 85 to 90F. When temperatures exceed 100 degrees, the plant goes into survival mode and concentrates on moving water. Fruit development slows to a crawl. When temperatures moderate, even to the low to mid 90s, the fruit will ripen more quickly.

Tomato color can also be affected by heat. When temperatures rise above 95 degrees F, red pigments don't form properly though the orange and yellow pigments do. This results in orange fruit. This doesn't affect the edibility of the tomato, but often gardeners want that deep red color back.

So, can we do anything to help our tomatoes ripen and have good color during extreme heat? Sure, there is. We can pick tomatoes in the "breaker" stage. Breaker stage tomatoes are those that have started to turn color. At this point, the tomato has cut itself off from the vine and nothing will be gained by keeping it on the plant. If tomatoes are picked at this stage and brought into an air-conditioned house, they will ripen more quickly and develop a good, red color. A temperature of 75 to 85 degrees F will work well. (Ward Upham)

Heat Stops Tomatoes from Setting Fruit



Temperatures that remain above 75 degrees F at night and day temperatures above 95 degrees F with dry, hot winds will cause poor fruit set on tomatoes though cherry tomatoes seem to be more heat tolerant than slicers. High temperatures interfere with pollen viability and/or cause excessive style growth leading to a lack of pollination. Tomatoes that have already formed are not affected.

It usually takes about 3 weeks for tomato flowers to develop into fruit about the size of golf balls. Growth then becomes more rapid with the mature size being reached in an additional three to six weeks. A few more days are then needed to change color.

Though there are "heat-set" slicing tomatoes such as Florida 91, Sun Leaper and Sun Master that will set fruit at higher temperatures, that difference is normally only 2 to 3 degrees. Cooler temperatures will allow flowers to resume fruit set. (Ward Upham)

FRUIT

When to Harvest Grapes



It takes more than color to determine when to harvest grapes. Grapes often are fully colored before they are fully ripe. Look for a whitish coating on the fruit and look for the seeds to change from green to brown. The final test is to taste the berries for sweetness. Grapes don't continue to ripen once they are removed from the vine so be sure the quality is there before harvesting.

Once harvested, grapes can be stored for up to eight weeks if kept at 32 degrees with 85 percent relative humidity. Other attractive options are available as well including making juice, jellies, jams and wine. (Ward Upham)

PESTS

Pine Needle Scale Control Window Approaching



Pine needle scale is an armored scale that is found across the United States but especially in the eastern half of the country. Pine needle scale appears as conspicuous white specks on the needles. Scales feed by sucking sap from needles causing them to yellow and eventually brown. Heavy infestations can kill twigs, branches and even entire trees.

Though both female and males are white, the female is larger (1/8-inch long) and wider at one end with the narrow end sporting a yellow or orange cap. Males are 1/32-inch long and narrow. Crawlers are bright red to purple to brown.

Pine needle scale overwinters as eggs underneath female covers. Each female produces about 100

eggs. There are two generations per year in Kansas with crawlers appearing in May to early June and again in mid- to late-July. So now is the time to start looking for the second-generation crawlers. Use a hand lens to look for the crawlers. Crawlers may be easier to see by wrapping a group of needles with one of the following:

- double sticky tape
- white tape smeared with petroleum jelly
- colored electrical tape smeared with petroleum jelly.

Choose a color that allows the crawlers to show up. Spray when the crawlers start showing up on the tape.

Effective insecticides include but are not limited to acephate (Acephate, Orthene), cyfluthrin (Tempo, BioAdvanced Vegetable & Garden Insect Spray), and permethrin (38 Plus Turf, Termite & Ornamental Insect Spray; Eight Vegetable, Fruit & Flower Concentrate or Garden and Farm Insect Spray). Remember, insecticides must be applied to crawlers soon after they emerge. Once the scale has settled down and formed its waxy cover, insecticides are ineffective. (Ward Upham)

Euonymus Scale



Now is the time year when euonymus scale, *Unaspis euonymi*, is noticeable on evergreen euonymus, *Euonymus japonica*, and Japanese pachysandra, *Pachysandra terminalis*, plants in landscapes.

Euonymus scale overwinters as a mated female on plant stems. Eggs develop and mature underneath the scale, and then nymphs (crawlers) hatch from eggs over a two to three-week period. The nymphs migrate along the stem and start feeding near the base of host plants.

Nymphs can also infest adjacent plants by being blown

around on air currents, which results in infestations not being detected until populations are extensive and damage is noticeable. Leaves eventually become spotted yellow or white. Plants located near structures such as foundations, walls or in parking areas are more susceptible to euonymus scale than plants growing in open areas that receive sunlight and are exposed to air movement.

Extensive infestations of euonymus scale can ruin the aesthetic appearance of plants, causing complete defoliation or even plant death. Females are dark brown, flattened, and resemble an oyster shell. Males, however, are elongated, ridged, and white. Males tend to be located on leaves along leaf veins whereas females reside on the stems. There can be up to three generations per year in Kansas.

Cultural practices such as pruning out heavily infested branches, without ruining the aesthetic quality of the plant are effective in quickly reducing euonymus scale populations, especially this time of year. Be sure to discard all pruned branches away from the area.

Insecticide applications should have been applied in May through early-June (now is really too late!) when the nymphs are most active, which will help alleviate problems with euonymus scale later in the season. Insecticide active ingredients recommended for suppression of euonymus scale populations, primarily targeting the nymphs, include acephate; pyrethroid-based insecticides such as bifenthrin, cyfluthrin, permethrin, and lambda-cyhalothrin; potassium salts of fatty acids; and petroleum, mineral, or neem-based (clarified hydrophobic extract of neem oil)

horticultural oils. Always check plants regularly for the presence of nymphs, which will help time insecticide applications.

Three to four applications performed at seven to 10-day intervals may be required; however, this depends on the level of the infestation. Euonymus scale is a hard or armored scale, so, in most cases, soil or drench applications of systemic insecticides such as imidacloprid are not effective in suppressing euonymus scale populations. However, the systemic insecticide dinotefuran, due to its high-water solubility (39,000 ppm), may provide suppression of euonymus scale populations when applied as a drench to the soil.

Euonymus scale is susceptible to many different natural enemies (e.g. parasitoids and predators), including: braconid and ichneumonid wasps, ladybird beetles, green lacewings, and minute pirate bugs. However, natural enemies may fail to provide enough regulation to substantially impact extensive populations of euonymus scale. Furthermore, insecticides such as acephate; and many of the pyrethroid-based insecticides, including bifenthrin, cyfluthrin, permethrin, and lambda-cyhalothrin are very harmful to most natural enemies, so applications of these materials may disrupt any natural regulation or suppression.

For more information on how to manage euonymus scale and other scale insect pests refer to the following extension publication:

Scale Insect Pests (MF3457 July 2019)

<https://www.bookstore.ksre.ksu.edu/pubs/MF3457.pdf>

(Raymond Cloyd)

MISCELLANEOUS

Dividing Iris



Bearded irises are well adapted to Kansas and multiply quickly. After several years, the centers of the clumps tend to lose vigor, and flowering occurs toward the outside. Dividing iris every three to five years will help rejuvenate the planting and increase flowering.

Iris may be divided from late July through August, but late July through early August is ideal.

Because iris clumps are fairly shallow, it is easy to dig up the entire clump. The root system of the plant consists of thick rhizomes and smaller feeder roots. Use a sharp knife to cut the rhizomes apart so each division consists of a fan of leaves and a section of rhizome. The best divisions are made from a double fan that consists of two small rhizomes attached to a larger one, which forms a Y-shaped division. Each of these small rhizomes has a fan of leaves. The rhizomes that do not split produce single fans. The double fans are preferred because they produce more flowers the first year after planting. Single fans take a year to build up strength.

Rhizomes that show signs of damage due to iris borers or soft rot may be discarded, but you may want to physically remove borers from rhizomes and replant if the damage is not severe. It is possible to treat mild cases of soft rot by scraping out the affected tissue, allowing it to dry in the sun and dipping it in a 10 percent solution of household bleach. Make the bleach solution by

mixing one-part bleach with nine parts water. Rinse the treated rhizomes with water and allow them to dry before replanting.

Cut the leaves back by two-thirds before replanting. Prepare the soil by removing weeds and fertilizing. Fertilize according to soil test recommendations or by applying a complete fertilizer, such as a 10-10-10, at the rate of 1 pound per 100 square feet. Mix the fertilizer into the soil to a depth of 6 inches. Be wary of using a complete fertilizer in areas that have been fertilized heavily in the past. A growing number of soil tests show high levels of phosphorus. In such cases, use a fertilizer that has a much higher first number (nitrogen) than second (phosphorus). (Ward Upham)

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