Horticulture 2013 Newsletter
No. 22    June 4, 2013

Video of the Week:  Mulching: Beneficial for Flower Beds

UPCOMING EVENTS

Drip Irrigation and Small Farm Equipment (Olathe, KS)
June 10, 4 pm - 7 pm
For more information or to register, contact crivard@ksu.edu

Kansas Community Garden Conference - July 8 & 9, 2013 (Manhattan, KS)
Join community gardeners from around the state at the Kansas Community Garden Conference. The two-day conference will give you an opportunity to gain skills in establishing and maintaining a community garden. Choose breakout sessions on a wide variety of gardening topics and tour area gardens. For more information, go to http://www.kansascommunitygardens.org/2013-conference.html

FLOWERS

Sidedressing Annual Flowers

Modern annual flowers have been bred to flower early and over a long period of time. They are not as easily thrown off flowering by high nitrogen levels as vegetables are. As a matter of fact, providing nitrogen through the growing season (sidedressing) can help maintain an effective flower display for warm-season flowers.

Apply a high nitrogen sidedressing four to six weeks after flowers have been set out. Additional fertilizations every four to six weeks can be helpful during a rainy summer, or if flower beds are irrigated. Common sources of nitrogen-only fertilizers include nitrate of soda, urea, and ammonium sulfate. Blood meal is an organic fertilizer that contains primarily, but not exclusively, nitrogen. Use only one of the listed fertilizers and apply at the rate given below.

Nitrate of soda (16-0-0): Apply 2/3 pound (1.5 cups) fertilizer per 100 square feet.
Blood Meal (12-1.5-.6): Apply 14 ounces (1.75 cups) fertilizer per 100 square feet.
Urea (46-0-0): Apply 4 ounces (½ cup) fertilizer per 100 square feet.
Ammonium Sulfate (21-0-0): Apply 0.5 pounds (1 cup) fertilizer per 100 square feet.

If you cannot find the above materials, you can use a lawn fertilizer that is about 30 percent nitrogen (nitrogen is the first number in the set of three) and apply it at the rate of 1/3 pound (3/4 cup) per 100 square feet. Do not use a fertilizer that contains a weed killer or weed preventer. (Ward Upham)

**FRUIT**

Be on the Lookout for Peach Leaf Curl and Plum Pocket

Peach leaf curl is a fungus disease that causes developing peach leaves to become puckered and distorted and show a reddish-green hue. A similar disease called plum pocket may develop on American and sand hill plums. Plum pocket results in formation of distorted, light green, bladder-shaped fruit. Asian and European plums are not susceptible to the local strain of plum pocket. It is too late to control these diseases with fungicides this year.

Trees that are severely infected with peach leaf curl are likely to lose many leaves. If trees are healthy, new leaves will grow. Indicators of a healthy tree are large, deep green leaves and last year's growth being at least 18 to 24 inches long. If these tree vigor indicators are not present, especially if there was only 12 inches or less of growth last year, then a fertilizer application would be helpful.

The fertilizer should be spread on the soil under the branch area. Apply 1 and 1/3 to 2 cups of a 13-13-13 fertilizer under the branch area. If a soil test indicates that only nitrogen is needed, use 1/3 to 1½ cups of nitrate of soda (16-0-0) instead of the 13-13-13. You may also substitute a high nitrogen fertilizer such as a 27-3-4, 30-5-4 or something similar for the 13-13-13, but use only half the amount used for nitrate of soda. The sooner fertilizer is applied, the more immediate benefit it will have in promoting new leaf growth. Both peach leaf curl and plum pocket can be controlled with a single fungicide application applied this fall after leaf drop or early next spring before bud swell.

Effective fungicides include Bordeaux, liquid lime sulfur and chlorothalonil (Bravo, Daconil and others). Be sure to cover the entire tree including the bark and trunk. (Ward Upham)
ORNAMENTALS

Butterflybush - A Perennial Favorite

For a long season of bloom in the summer, you can’t beat butterfly bush (*Buddleja davidii*). Not only do they bloom from June to frost, but they are also fragrant, attract butterflies, pH adaptable and urban tolerant (thrive in tough sites). Their foliage is a pretty gray/green color. Inflorescences (groups of flowers—panicles) on butterflybush vary in size from 4 to 30 inches long. Flower colors are quite varied and include many shades of purple, pink and white—you can cut them for indoor use, though they usually last only 2 days. But they are prolific in flower and you can have a steady supply for vases throughout the summer.

Butterfly bush is hardy to Zone 5 (full sun), but they generally die back to the ground in the winter in the Great Plains (no winter interest for this shrub). Even if the stems seem woody enough, you’ll want to go ahead and prune them back to the ground anyway since flowering occurs on new growth. Fortunately, new growth is very fast and they attain their maximum height quickly (up to 10 feet, but some mature at a quite compact size).

In some states, butterfly bush is considered invasive (Oregon and other states along the coasts). In England, butterfly bush can be found inhabiting every abandoned and disturbed site—even cracks in walls. Clearly, they reseed easily in certain climates, but the Great Plains is not one of them. Butterfly bush grown in our region of the U.S. are easily contained in their original planting space, unless you choose to propagate them yourself (either from seed or cuttings, which are both easily done).

Breeding butterfly bush is easy and many impressive cultivars have been named—there are over 70 listed in industry references. The new frontier in butterfly bush breeding is sterile cultivars that can be reintroduced into landscapes in states where they are considered invasive. Breeders are making great progress on this front, most recently with the introduction of ‘Asian Moon’ and ‘Blue Chip’ (Low & Behold™).

Here is a short list of cultivars that should be available locally:

**Under 5 feet tall**

‘Adokeep’ (Adonis Blue™): blue-purple, fragrant, 10 to 12-inch panicles.
‘Asian Moon’: sterile, blue-purple, fragrant, 4 to 6-inch panicles.
‘Blue Chip’ (Low & Behold™): sterile, true dwarf (18 to 24 inches tall by 36-inches wide), bluish flowers.
‘Miss Ruby’: Rose-red flowers.
‘Nanho Purple’: Magenta-purple flowers with orange eye, medium fragrance.
5 to 10 feet tall
‘Attraction’: red-purple, fragrant.
‘Black Knight’: dark purple, fragrant, 10-inch panicles.
‘Bicolor’: purple buds open lavender-purple with butterscotch-orange eyes, fragrant.
‘Honeycomb’: yellow.
‘Nanho Blue’: mauve-blue, low fragrance.
‘Pink Delight’: deep pink, low-medium fragrance.
‘Royal Red’: red, 6 to 20-inch panicles.
‘Silver Frost’: white.
‘White Profusion’: white with yellow eyes, low-medium fragrance.

I’d like to point out 3 of the above for their uniqueness. Low & Behold™ is a true dwarf—great for small gardens. ‘Bicolor’ is just gorgeous with purple-pink-orange inflorescences. Don’t think—just get this one. Lastly, a unique feature in butterfly bush is yellow flowers and the only cultivar in commerce with this trait is ‘Honeycomb.’ I suggest that you check out local botanical garden collections of butterfly bush to see which ones you like the best and think will fit into your gardening space. They won’t disappoint! (Cheryl Boyer)

Rust on Hollyhock

Watch for rust on hollyhock. This is the most common disease on hollyhock and can cause serious injury as leaves are progressively killed through the summer. Look for yellow spots on the surface of the leaves and orangish to brown pustules on the underside. Infections can also take place on stems and green flower parts.

The first line of defense is to remove all hollyhock stalks, leaves and other debris in the fall and destroy them. Remove any infected foliage you see now. Just be sure the foliage is dry so you don’t spread the disease. Continue to remove diseased leaves as soon as they show spots. Try using a fungicide such as sulfur or myclobutanil (Immunox or Immunox Plus) to protect healthy foliage. Note that sulfur may burn leaves if the air temperature is over 85 degrees within 24 hours of application. Follow label directions for timing and rate. (Ward Upham)

MISCELLANEOUS

Excessive Rain Can Cause Yellowing or Death of Plants

This year has been a year of contrasts. Compare last year’s exceptionally early spring with this year. Sweet mockorange did not come into full bloom until June 1 this year as compared to April 21 last year. We are also seeing extreme differences in rainfall. Western Kansas is still
suffering under extreme drought conditions while parts of eastern Kansas have had to deal with flooding. 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 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. (Ward Upham)

**PESTS**

**Velvet Mites**

![Image Credit: Ted C. MacRae - Senior Entomologist, Montsano Co.](image)

When dining out on Memorial Day, I passed a planter box sitting on a rock wall and noted numerous tiny red dots moving about. Having seen this many times in the past, I recognized the red dots as red velvet mites.

The word “mites” congers up “Oh no!” responses from many people. However, red velvet mites (RVMs) are beneficial. They are a type of predatory mite that both parasitize and prey upon various smaller organisms including insects, as well as other mite species which are economically deleterious to field and vegetable crops, flowers and other ornamentals, and trees and shrubs.

RVMs are found in various moist habitats including soil, litter and debris. They are aptly named for their velvety appearance due the dense covering/coat of hairs. RVMs belong to the taxonomic family Trombidiidae. In size, they are relatively large (easily seen) in comparison to the various species of spider mites (Family: Tetranychidae) which is notorious for causing damage to the above-mentioned commodities.

Unlike spider mite development which is rapid (egg to adult from 1 to 3 weeks depending on temperatures, and thus resulting in overlapping generations and rapid population buildsups), RVMs usually produce but a single generation per year. Being very sensitive to desiccation, populations are dependent on adequate “friendly” moisture availability.
There is an interesting account of a mating ritual: after a male RVM places a sperm droplet on an elevated surface (grass blade, twig), he creates a silken trail as an invitation to a female, who (if interested) will move forward and sit on the sperm. If a rival male enters the picture, he will destroy the sperm droplet and replace it with his, but using the previous male’s silken trail. Fertilized eggs are deposited in the soil. Newly-emerged “larvae” will attach to (and parasitize) an available insect/arthropod host. Eventually molting into nymphs and transitioning through various stages thereof, as well as molting into the adult stage, RVM’s become predatory in habit, feeding on insect eggs as well as other small invertebrates.

The take-home message is that, should you observe red dots scurrying about in and around your property, be assured that they are not itty-bitty nuisance mites such as clover mites, red mites, spider mites, chiggers or anything “bad.” But rather, they are red velvet mites which should be appreciated for their beneficial role. (Bob Bauernfeind)

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