Video of the Week:  Tips on Harvesting Pears

UPCOMING EVENTS

The Commercial Vegetable Research Field Day - August 27 (K-State Olathe Research & Extension Cntr.)

Bring your walking shoes for this event as we will take a comprehensive tour of all our specialty crop research. Projects include tomato grafting, organic sweet potato, high tunnels, postharvest quality, variety trials, cover cropping techniques, and the effects of light on high tunnel crops. Stay for a cookout in the shade hosted by the staff and students. For more information, go to: https://www.eventbrite.com/e/k-state-commercial-vegetable-research-field-day-tickets-47718707940?aff=efb venttix

TURFGRASS

Give Cool-Season Grasses a Boost

September is almost here and that means it is prime time to fertilize your tall fescue or Kentucky bluegrass lawns. If you could only fertilize your cool-season grasses once per year, this would be the best time to do it.

These grasses are entering their fall growth cycle as days shorten and temperatures moderate (especially at night). Cool-season grasses naturally thicken up in the fall by tillering (forming new shoots at the base of existing plants) and, for bluegrass, spreading by underground stems called rhizomes. Consequently, September is the most important time to fertilize these grasses.

Apply 1 to 1.5 pounds of actual nitrogen per 1,000 square feet. The settings recommended on lawn fertilizer bags usually result in about 1 pound of nitrogen per 1,000 square feet. We recommend a quick-release source of nitrogen at this time. Most fertilizers sold in garden centers and department stores contain either quick-release nitrogen or a mixture of quick- and slow-release. Usually only lawn fertilizers recommended for summer use contain slow-release nitrogen. Any of the others should be quick-release.
The second most important fertilization of cool-season grasses also occurs during the fall. A November fertilizer application will help the grass green up earlier next spring and provide the nutrients needed until summer. It also should be quick-release applied at the rate of 1-pound actual nitrogen per 1,000 square feet. (Ward Upham)

FLOWERS

Dividing Daylilies

Daylilies need to be divided every three to four years to maintain vigor. Though they may be divided in early spring before growth starts, it is more common to divide them at this time of year. Many gardeners cut back the tops to about half their original height to make plants easier to handle.

Daylilies have a very tough root system that can make them difficult to divide while in place. Dividing in place is practical if it hasn’t been long since the last division. In such cases, a spading fork can be used to peel fans from the existing clump. If the plants have been in place longer and are well grown together, it is more practical to divide them after the entire clump has been dug.

Use a spade to lift the entire clump out of the ground. Although it is possible to cut the clump apart with a sharp spade, you’ll save more roots by using two spading forks back-to-back to divide the clump into sections. Each section should be about the size of a head of cauliflower. An easier method involves using a stream of water from a garden hose to wash the soil from the clump, and then rolling the clump back and forth until the individual divisions separate.

Space divisions 24 to 30 inches apart, and set each at its original depth. The number of flowers will be reduced the first year after division but will return to normal until the plants need to be divided again. (Ward Upham)

ORNAMENTALS

Are Crabapples Safe to Eat?

Crabapples are safe to consume as long as you don’t eat too many of them. Actually, the only difference between crabapples and apples is the size of the fruit. By definition, crabapples have fruit that are 2 inches or less in diameter, and apples are more than 2 inches in diameter. By this definition, most of the apples grown from seed will be crabapples. The fruiting apples are grafted.

So, did people ever plant crabapples from seed? Of course they did. Just think of Johnny Appleseed. But those apples were normally used for jelly, applesauce, and cider and not for fresh eating.
There is one other caveat with using crabapples from a tree in the landscape. Make sure the tree hasn't been sprayed as an ornamental with a pesticide that isn't labeled for fruit tree apples. If it has, then the fruit should not be used. (Ward Upham)

Correcting Iron Chlorosis in Trees

Iron chlorosis is a common problem in Kansas because of the high pH in some soils. Though these soils normally contain adequate amounts of iron, the high pH ties up iron so that it is unavailable to plants.

Classic symptoms of iron chlorosis are yellow leaves with a network of dark green veins. In severe cases the entire leaf turns yellow and the edges of the leaf scorch and turn brown. Plants may eventually die.

One of the best methods of avoiding iron chlorosis is by planting tolerant trees. Trees that are susceptible to iron chlorosis include pin oak, sweetgum, and dawn redwood. Moderately tolerant trees are ash, cottonwood, linden, elm, hawthorn, most oaks and ginkgo. Even closely related trees can differ markedly in their resistance. For example, pin oak is notorious for sensitivity to iron chlorosis while most other oaks are moderately tolerant. Also, red, silver and Amur maples are susceptible, but Norway maples are much less so. Several methods are used to correct iron chlorosis in trees. Not all methods work in all situations. The following are the most common.

Soil treatment: The idea is to acidify a small quantity of soil so the tree can absorb the iron it needs from these areas. This will only work on non calcareous soils.

If the tree has not been planted yet, have a soil test done. Add the recommended amount of sulfur (if any) and work into the soil before planting.

For existing trees, a mixture of equal parts of iron sulfate and elemental sulfur are mixed together, and the mixture is placed in holes made under the dripline of the tree. Holes should be 1 to 2 inches in diameter and 12 to 18 inches deep. Space them 18 to 24 inches apart. Each hole should be filled with the iron sulfate elemental sulfur mixture to within 4 inches of the soil surface. This method is labor intensive and results can vary.

Iron chelates: Iron chelates can also be used as a soil treatment. The only chelate that is effective above a soil pH of 7.2 is Iron EDDHA. It can be found in the products Sequestar 6% Iron Chelate WDG, Sequestrene 138 and Millers FerriPlus.

Use these products in the spring before growth starts. Dry chelate can be sprinkled on the soil and watered in or dissolved in water and applied as a drench under the dripline of the tree. Normally, soil applied chelates last only one year.

Trunk injection or implantation: In this method, holes are drilled in the lower trunk and ferric ammonium citrate (iron citrate) is introduced through the holes. Successful applications often last several years. The preferred time of application is during the spring just after the leaves have
fully expanded. Use a brad point drill bit to minimize tree wounding. Research has shown the uptake is enhanced if the holes are drilled in the root flares near the soil surface. (Ward Upham)

**Iron Chlorosis and Calcareous Soils**

Iron chlorosis due to high pH soils is a significant problem in Kansas. Though Kansas soils normally contain adequate amounts of iron, a high pH makes that iron unavailable to the plant. Iron plays a major role in the production of chlorophyll. Thus, a lack of iron reduces the amount of chlorophyll and results in yellowing of leaves. Iron chlorosis weakens, and in severe cases, may kill a susceptible plant.

A popular recommendation for high pH soils is adding sulfur to lower pH. This works well for many soils, but not those that are calcareous. Calcareous soils are those that contain actual particles of calcium carbonate (limestone). Calcareous soils can be difficult to practically impossible to acidify because the sulfur must neutralize all the free limestone before the pH is affected long term. In many cases you would need well over a pound of sulfur per square foot just to neutralize the free lime. To tell if your soil is calcareous, add a drop of vinegar to dry soil. If you see or hear it fizz, then you have a calcareous soil and changing the pH over the long-term will be practically impossible.

So, what do you do? That depends on the situation. With vegetable gardens and annual flowerbeds, work products into the soil during the time of year when there are no plants present. Oregon State University suggests mixing 5 pounds of sulfur per 100 square feet into the soil before planting. The idea is to form little pockets of acidity that result in enough iron availability for the plants during the year of application. Note that this must be done each year. Another possibility is to use iron chelates. Iron chelates hold the iron in such a way that the plant can get to it. However, not all iron chelates will work in high pH soils. For soils with a pH over 7.2, use a chelate that contains FeEDDHA (Ethylene diamine-N,N bis(2hydroxyphenylacetic acid)). This can be found in the products Sequestar 6% Iron Chelate WDG, Sequestrene 138 and Millers FerriPlus. Chelates can either be mixed into the soil at planting or sprayed on the foliage early in the season. Reapply as needed. (Ward Upham)

**FRUIT**

**New Fruit Pest Control Publications**

We have three new fruit pest control publications available. They are:

- **Spray Schedules for Growing Apples**: MF 3429
- **Spray Schedules for Growing Stone Fruit**: MF 3430
- **Fruit Pesticides, Active Ingredients, and Labeled Fruits**: MF3431

The two spray schedules are designed to give good, but not perfect results. Seeking perfect results would require a more intensive and expensive spray.
schedule. Photos of growth stages are included to help properly time sprays. Also included are images of common problems.

The third publication, MF 3431, is intended to be used in conjunction with the other two publications. It provides trade names for the products mentioned in the other two pubs as well as days to harvest, maximum applications per year and the days to harvest. It was kept separate as it will require updating more frequently than the two spray schedule publications. (Ward Upham)

**MISCELLANEOUS**

**What is Nutrient Cycling?**

Did you know that the largest amount of carbon on land is found in soil organic matter, not plants? "Building Better Soils for Better Crops" states that all the carbon in animals, plants, and atmosphere combined does not equate to the amount of carbon found in soils. Nutrient cycling is the movement and conversion of organic and inorganic nutrients. Atmospheric carbon (carbon dioxide), animal, and plant residues contribute to the carbon cycle by providing a source of carbon as well as a channel for the carbon to cycle through. For example, plants use carbon dioxide in photosynthesis and when the plant dies or drops dead leaves these leaves become a source of carbon in the soil. The carbon in the soil decomposes in the organic matter and then releases small amounts of carbon back into the atmosphere, thus moving carbon around creating a cycle. Nitrogen cycling is a bit more complicated but can be thought of in a similar manner. 78% of Earth's atmosphere is made up of nitrogen, but this form of nitrogen is not available to plants. Free-living bacteria in the soil convert nitrogen gas into forms of nitrogen that can be used by plants. Some plants such as legumes can fix nitrogen as well, turning it into a form that can be used by plants. Most plants do not fix nitrogen, but they can provide some nitrogen back to the cycle as they break down as crop residues. Volatilization and denitrification release nitrogen back into the atmosphere, thus completing the nitrogen cycle. Understanding the nitrogen cycle is extremely important because often there is not enough in the soil and it is important to know what is happening to the nitrogen in your soils. To learn more information about the carbon and nitrogen cycles follow this link, [https://bit.ly/2BdqN7Z](https://bit.ly/2BdqN7Z), to the "Building Better Soils for Better Crops" chapter called "Organic Matter and Natural Cycles". (Chandler Day)

**Contributors:** Chandler Day, Graduate Student, Plant Pathology, Ward Upham, Extension Associate

Division of Horticulture
1712 Claflin, 2021 Throckmorton
Manhattan, KS 66506
(785) 532-6173

For questions or further information, contact: wupham@ksu.edu OR cdipman@ksu.edu

This newsletter is also available on the World Wide Web at:
The web version includes color images that illustrate subjects discussed. To subscribe to this newsletter electronically, send an e-mail message to cdipman@ksu.edu or wupham@ksu.edu listing your e-mail address in the message.

Brand names appearing in this newsletter are for product identification purposes only. No endorsement is intended, nor is criticism implied of similar products not mentioned. K-State Research and Extension is committed to making its services, activities and programs accessible to all participants. If you have special requirements due to a physical, vision or hearing disability, or a dietary restriction please contact Extension Horticulture at (785) 532-6173.

Kansas State University Agricultural Experiment Station and Cooperative Extension Service K-State Research and Extension is an equal opportunity employer. Issued in furtherance of Cooperative Extension Work, Acts of May 8 and June 30, 1914, as amended. Kansas State University, County Extension Councils, and United States Department of Agriculture Cooperating. John Floros, Dean.