

D's Notes
05/09/22

REMINDERS

- Tomatoes can be transplanted when the soil temperature is 55 degrees. Wait to transplant peppers and seed cucumbers and melons until the soil temperature is at least 60 degrees. Maybe wait a bit longer for sweet potatoes as we have plenty of time and want to make sure the soil is warm enough. See <http://mesonet.k-state.edu/agriculture/soiltemp/> for current soil temps. Use 7 day average.
- Wait until about mid-June to plant winter squash and pumpkins so they mature in cooler fall weather.
- Transplant annual flowers when soil temperature reaches 65 degrees.

Protecting New Vegetable Transplants from the Wind

New transplants, even those hardened off in a cold frame, may need protection from strong winds when set out. Wooden shingles placed to block the wind used to be recommended but are now difficult to find. Try a plastic milk jug or a 2-liter soda bottle with both the bottom and top cut off. Push the jug or bottle into the soil far enough so it won't blow away. In windy conditions, it may need to be stabilized with a wooden dowel or metal rod. (Ward Upham)

Straw Bale Gardening

There has been growing interest in straw bale gardening. What better place to try this than in Kansas where straw is so abundant. First, some pointers.

- These are the "small" straw bales that are about 2 feet high and 3 feet long.
- Place the bale on edge so the twine doesn't rot.
- Bales can be placed anywhere including concrete or asphalt. Just make sure there is plenty of sun and watering is convenient

Bale Conditioning

- Water the bales and keep them wet for 3 days. The bale will start to heat up as it breaks down.
- On days 4, 5 and 6, sprinkle fertilizer on the top of each bale with 1 cup of ammonium sulfate (21-0-0) or ½ cup of urea (46-0-0). Water the fertilizer in. This speeds the decomposition process.
- On days 7, 8 and 9, continue to sprinkle fertilizer on each bale but cut the amount in half.
- Stop fertilizing on day 10 but keep the bale moist.
- Check for heat on the top of each bale for each day after day 10. When the temperature drops to below 100, the bale can be planted.

Planting

- Pocket Method: Make a hole for each plant several inches deep and fill with growing medium.
- Flat Bed Method: Cover the top of the bale with 3 to 4 inches of growing medium.

- The growing medium can be well-aged manure, compost or potting soil.

Number of Plants per Bale

- Cantaloupe: 2
- Cucumber: 3-4
- Peppers: 3-5
- Squash (winter) 2
- Squash (summer) 2-3
- Tomatoes 2-3

Watering

Watering will be the most challenging aspect of management. The straw will dry quickly. A drip irrigation system on a timer can work well but may take some time to set up. Gardeners may also use soda bottles or milk jugs to water by poking drip holes in the lid, filling with water and then turning upside down next to the target plant.

This information was taken from an excellent publication from Washington State University that includes much more detail as well as images. (Ward Upham)

Storm Damage and the Garden

We are entering storm season and various areas of the state will likely have high winds, excessive rainfall and hail. This column deals with what can be done to help our gardens recover.

Heavy rain: The force of rainfall pounding on the soil can result in a thick crust that prevents seed emergence and partially blocks oxygen from reaching roots. A light scraping after the soil surface has dried is all that is needed to correct these problems. Be careful of deep tilling as it may damage young, tender roots.

Standing water: Standing water cuts off oxygen to the roots, which can result in plant damage if it doesn't drain quickly enough. Most plants can withstand 24 hours of standing water without harm. Hot, sunny weather can make a bad situation worse by the water becoming hot enough to "cook" the plants. There isn't much that can be done about this unless a channel can be cut to allow the water to drain.

Hail damage: Plants should recover quickly as long as the leaves only were damaged by the hail as leaves regenerate quickly. The situation becomes much more serious if the stems and fruit were damaged. The plant can recover from a few bruises but if it looks like the plants were mowed down by a weed whip, replanting is in order.

Leaning plants: Either wind or water can cause plants to lean. They should start to straighten after a few days. Don't try to bend them back as they often break easily. (Ward Upham)

Cucumber Beetles and Bacterial Wilt

If you had cucumbers or muskmelons that suddenly turned brown and died last year, you may have had a disease known as bacterial wilt. The cucumber beetle carries this disease. Once a plant is infected, there is no cure, so prevention is the key. Because cucumber beetles overwinter as adults, early control measures are essential.

There are two types of cucumber beetles: striped and spotted. The striped cucumber beetle is the most common but both can carry this disease. The 1/4-inch-long beetles are conspicuously colored: black head and antennae, straw-yellow thorax, and yellowish wing covers with three distinct parallel and longitudinal black stripes. Young plants can be protected with row covers, cones, or other types of mechanical barriers. Edges must be sealed to ensure that the beetles do not find a place to enter.

Plants will eventually outgrow these barriers, or they will need to be removed to allow insect pollination of the flowers. Apply insecticides before beetles are noticed in the planting. Continue to spray weekly throughout the season.

Homeowners can use permethrin (Bonide Eight Vegetable, Fruit & Flower Concentrate and Hi Yield Garden and Farm Insect Control). Once plants have started flowering, spray in the evening after bees have returned to the hive and the flowers are closed. (Ward Upham)

Eastern Tent Caterpillar

Eastern tent caterpillar, *Malacosoma americanum*, larvae (caterpillars) are emerging (eclosing) from eggs and feeding on the leaves of trees and shrubs. After emerging from the eggs, the caterpillars create a white, silken nest in the branch crotches of trees and shrubs including: birch, crabapple, hawthorn, mountain ash, poplar, willow, and flowering cherry, peach, and plum. The silken nest protects caterpillars from cold temperatures and natural predators.

Eastern tent caterpillars are black with a white stripe that extends the length of the body. In addition, there are blue markings on both sides of the body. Eastern tent caterpillar has five larval instars (stages between each molt). Eastern tent caterpillar is one of our earliest caterpillar defoliators, feeding on newly emerged leaves, which can reduce the ability of trees and shrubs to produce food by means of photosynthesis. Although feeding damage caused by Eastern tent caterpillar may not directly kill a tree or shrub, any decrease in photosynthesis can predispose plants to secondary pests such as wood-boring insects. Leaf quality can influence tree and shrub susceptibility. For example, black cherry, *Prunus serotina*, trees growing in the shade are fed upon less by Eastern tent caterpillars than those growing in full sun due to a lower leaf nutritional quality.

The young or early instar (first through third) caterpillars are active during the day and reside in the silken nest at night. Caterpillars emerge from the silken nest during the day and feed on plant leaves. Caterpillars remain inside the silken nest on over-cast or cloudy days. The final instar (fifth) caterpillar feeds only at night. The extent of feeding by caterpillars depends on temperature with caterpillars feeding for longer durations when exposed to warmer temperatures than when exposed to cooler temperatures. Eastern tent caterpillar overwinters as an egg mass attached to branches or small twigs. There is one generation per year in Kansas.

The management of Eastern tent caterpillar involves removing the silken nest by hand or using a rake. In addition, a high pressure water spray will destroy the silken nest. Consequently, any young exposed caterpillars are susceptible to predation by birds.

However, the older caterpillars are fed upon less because they have hairs on their bodies that deters birds from feeding on them.

Spray applications of insecticides containing the bacterium, *Bacillus thuringiensis* subsp. *kurstaki*, or spinosad, as the active ingredient can be used to kill young caterpillars. These insecticides are stomach poisons so the caterpillars must ingest the material to be negatively affected. When caterpillars are older and approximately 2 inches (5 cm) long then pyrethroid-based insecticides, such as those containing the active ingredients, bifenthrin, cyfluthrin, lambda-cyhalothrin, or permethrin, should be applied. It is important to apply insecticides when caterpillars are active during the day, which will increase exposure to the insecticide spray residues. However, pyrethroid-based insecticides are harmful to pollinators (e.g. honey bees) and beneficial insects. Therefore, do not apply pyrethroid-based insecticides when pollinators are active. For more information on managing Eastern tent caterpillar populations contact your county or state extension specialist. (Raymond Cloyd) Note: For additional images, see the Entomology Newsletter at <https://entomology.k-state.edu/doc/extension-newsletters/2022/KSInsectNewsletter%203.pdf>

Ants and Peonies

This time of year we often receive questions about ants crawling on peony buds. The ants are feeding on an exudate from the bud; they do not feed on the flowers themselves. The exudates is high in sugar and therefore a good energy source for the ants. The ants also seem to help protect the buds from other insects that would like to feed on the buds. This is a symbiotic relationship one in which a relationship between two organisms works to the benefit of both. The ant gains a high value food source, and the peony receives flower-bud protection. So if you see ants on your peonies, leave them be. They are not harming the peonies. (Ward Upham)

Ladybird Beetles

Both the adults and the larvae of the ladybird beetle are beneficial and do not feed on plants but rather on other insects including aphids, mealybugs, whiteflies, scale insects and the eggs of various other insects. So if you see these insects, do not spray.

A common larval form looks like a very small alligator-shaped insect. Larvae are covered with spines, about 3/8-inch long, and black with orange markings. (Ward Upham)

Useful Resource: K-State Extension Wildlife Management Web Site

Most people enjoy the wide variety of wildlife found in Kansas until that wildlife becomes a nuisance or damages property. K-State has a web site on wildlife management that is helpful. Species covered include everything from bats to woodrats. Each species page also incorporates quick links for more in-depth information. One of our most common pest species, moles, includes videos on tracking an active tunnel and setting a mole trap.

This site is an excellent resource for the various options of dealing with our interactions with wildlife in a safe and effective manner. (Ward Upham)