



# Horticulture Newsletter

**July 7, 2026**

**KANSAS STATE  
UNIVERSITY**

Horticulture and  
Natural Resources

## Video of the Week:



Drip irrigation is one of the most efficient ways to water the garden. Drip irrigation systems can be designed economically, using either low pressure or high pressure style systems. [This week's video covers how to save water using drip irrigation systems in the garden](https://youtu.be/jVRRm3PxDag?si=6xHlbu2xKGoZdh85) and discusses the differences between the two styles of drip irrigation. Learn which style of drip may work best for your garden, as you discover how to both design and install a drip irrigation system:

<https://youtu.be/jVRRm3PxDag?si=6xHlbu2xKGoZdh85>

## Announcements:

### **John C. Pair Horticulture Research Center Field Day & Open House Events:**

Discover the plants that thrive in Kansas at upcoming events at the John C. Pair Horticultural Research Center in Haysville, just south of Wichita. In a little over a month, you will have two opportunities to experience firsthand the innovative research happening at the Pair Center. From trees and shrubs to turfgrass, fruits, vegetables, and industrial hemp, learn how researchers are evaluating and developing top-performing plants to help Kansas gardeners, landscapers, growers, and communities succeed.

A few of the highlights include:

- No Irrigation Turfgrass Trials
- New Annual Flower Variety Testing
- Water-Wise Landscape Design Research
- Mulch-Driven Soil Improvements
- Recommended Trees For Kansas

### **John C. Pair Horticultural Center Public Open House**

**Saturday, Aug. 8, 2026  
7:00 am - 1:00 pm**

At The John C. Pair Horticultural Center  
1901 E. 95th St. South, Haysville, KS

- FREE ADMISSION
- OPEN TO THE PUBLIC
- COME & GO EVENT
- FAMILY ACTIVITIES
- INTERACTIVE BOOTHS

#### **Explore 55 Years Of Plant Research Featuring Tours Of:**

- Annual Flower Trials
- Best Trees of Kansas
- No Irrigation Turfgrass
- Industrial Hemp
- Water-Wise Landscapes
- Sunflower Varieties
- Sweet Potatoes
- Turfgrass Varieties



For 55 years the John C. Pair Horticultural Research Center has been testing a wide range of plants, so don't miss your opportunity to take a tour this fall:

There are two unique ways to participate:

- **Horticulture Industry Field Day:** Join us **Thursday, August 6, 2026** for a commercial horticulture industry field day. This event is designed for employees from all segments of the turf & ornamentals industry. Participants will attend research presentations, commercial exhibits, and tours. Pre-registration is required. Cost is \$35.00 per ticket and includes a boxed lunch. Learn more at: <https://www.kansasturfgrassfoundation.com/annual-ktf-field-day.html>



**K-STATE**  
Research and Extension

**KANSAS TURF & ORNAMENTALS**

**FIELD DAY**

**KTFF**  
KANSAS TURFGRASS FOUNDATION

**TOUR HIGHLIGHTS**

**THURSDAY, AUGUST 6, 2026**

**JOHN C. PAIR HORTICULTURE RESEARCH AND EXTENSION CENTER**  
1901 E. 95<sup>TH</sup> ST. S - HAYSVILLE, KS

**REGISTER NOW** <https://2026turfday.eventbrite.com>

**Pesticide recertification credit hours for Commercial applicators**  
1 hr in 3A, 1 hr in 3B  
.25 GCSAA education points  
ISA: 1 hour CA, TC, UF  
0.5 hr BCMA Mgmt, BMA Practice

- ✓ NTEP Tall Fescue and Bermudagrass Trials - *Dr. A.J. Lindsey*
- ✓ Disease Management in Turf and Ornamentals - *Judy O'Mara*
- ✓ Turfgrass Cultivation Tips - *Dr. Ross Braun*
- ✓ Summertime Turf Weed Control Tips - *Dr. Aaron Patton*
- ✓ Annual Flower Trials, Mulch, and Water-Wise Landscapes - *Matthew McKernan, Brenna Johnson, Alex Stanton, Dr. Cheryl Boyer*
- ✓ Insect Management in Turf and Ornamentals - *Dr. Raymond Cloyd*
- ✓ Ornamental Tree Evaluations - *Dr. Jason Griffin*
- ✓ Managing Small Vertebrate Pests - *Dr. Drew Ricketts*

Box lunches will be available to take as you leave after the tour.

- **Public Open House:** Join us **Saturday, August 8, 2026** for a public open house. This is a free, come and go event for the whole family. Experience an up-close look at current research, take a tram ride tour around the station, and participate in interactive booths. There will be activities for all ages of the community. Learn more at: <https://www.sedgwick.k-state.edu/news/newsreleases/2026/Pair-Center-Public-Open-House-26.html>

## Garden Calendar:

- Control weed growth in the garden to preserve available water and nutrients.
- Spray sweet corn to control corn earworms as silks emerge.
- Complete the final pinching of chrysanthemum tips for bushier plants.
- Lightly fertilize annuals to promote growth.
- Take a soil test to prepare for fall renovations of cool season lawns.
- Increase the mowing height of Tall Fescue and Kentucky Bluegrass to around 3 to 4 inches tall to increase the lawn's drought tolerance.
- Water newly planted shrubs and young trees (planted within the last three to five years) during dry weather.
- Monitor plants for bagworms, especially evergreen trees & shrubs.
- Take photos of the gardens to capture their summer beauty.

## Vegetables:

### **Harvesting And Storing Onions:**

Last week we learned that most Irish potato crops begin to mature and are ready to be harvested in early to late July. The same is true for most onion crops in Kansas as well. Onions grow rapidly during cool conditions in early spring, and finish with bulb development with the onset of summer heat.

Onion bulbs will have grown as large as they will grow when the tops of the plant (leaves) become weak and fall over and their necks begin to shrivel. When one half or more of the tops of the onion crop have fallen over, onions are ready to be harvested.

At this point, any remaining leaves can be crushed or bent over, but the leaves should remain attached to the plant during harvest. Pull or carefully dig the bulbs using a spade or fork. Knock off large chunks of dirt and debris, but do not begin cleaning onions completely.



Next, allow the onions to cure for at least 2-4 weeks to prolong their storage shelf life. Place onions in a warm, shaded, airy location to allow the tops and necks to dry completely. The onions can be hung in bunches by their tops, hung in mesh bags, or spread out in shallow boxes for drying. Additionally, an electric fan can be used to speed the drying process. Dry onions thoroughly so that no “juiciness” remains in the neck of the onion before storing.



After the onion tops and necks are thoroughly dry, prepare the bulbs for storage. Trim the tops of the onion down to  $\frac{1}{2}$  to 1 inch above the bulb. Similarly, neatly trim the roots to  $\frac{1}{8}$  to  $\frac{1}{4}$  inch below the bulb. Wipe off any excess soil from the outside of the bulb, but do not peel off the papery outside layers of the bulb. Keep some of the dry, papery sheath on the outside of the bulb to prolong storage life, even if it contains some dirt.

Store onions in a cool, dry location, with temperatures between 32°F to 40°F for the longest shelf life. Ensure the storage area has low humidity to prevent sprouting, ventilate as necessary. Store onions in an open mesh bag, never in an airtight plastic bag. Most strongly flavored onions can be stored for 3 to 4 months, however, mild-flavored onions are best used within a couple of months of harvest.

[Visit our Onions publication](https://bookstore.ksre.ksu.edu/download/onions_MF761) for more information on growing and harvesting onions in Kansas:  
[https://bookstore.ksre.ksu.edu/download/onions\\_MF761](https://bookstore.ksre.ksu.edu/download/onions_MF761)

## **Hornworms on Tomatoes:**

Hornworms are one of the largest caterpillar insects commonly seen in the garden. Although there are 125 species of hornworms in North America, two are most common in the Kansas garden – the tobacco hornworm and the tomato hornworm. Most commonly found on tomatoes, they also attack eggplant, pepper, and potato.



The larval stage of the hornworm is a 3½ to 4 inch long pale green caterpillar with five pairs of prolegs and a horn on the last segment. The two most common hornworms are the tobacco hornworm (seven diagonal white stripes and, most commonly, a red horn) and the tomato hornworm (with eight light colored, V-shaped markings with a horn that is often blue or black).

The adult of the tobacco hornworm is the Carolina sphinx moth. The five-spotted hawk moth is the adult of the tomato hornworm. Both moths are stout-bodied, grayish-colored insects with a wingspan of 4 to 5 inches. These moths are also commonly referred to as hummingbird moths, for their ability to hover and probe flowers for nectar.

The larva (caterpillar) is the damaging stage of the lifecycle. It feeds on the leaves, stems, and sometimes fruit of the tomato plant, leaving behind dark green or black droppings. Although initially quite small when it emerges from the egg (a body about the same size as its mature horn), the caterpillars pass through four or five larval stages to reach full size, feeding for 30-50 days. Once feeding is completed, the hornworm will eventually burrow into the soil to pupate. There are two generations per year.

The coloration of this larva causes it to blend in well with its surroundings, often making the caterpillar very difficult to see despite its large size. Plants with missing leaves and the dark green or black pellets of frass may be the first indication of the presence of a hornworm. As hornworms mature, tomato plants may be stripped of leaves, seemingly overnight, as caterpillars move from feeding site to feeding site.



This insect is parasitized by a number of insects. One of the most common is a small braconid wasp. Larva that hatch from wasp eggs laid on the hornworm feed on the inside of the hornworm until the wasp is ready to pupate. The cocoons appear as white projections protruding from the hornworm's body. If such projections are seen, leave the infected hornworms in the garden. The wasps will kill the hornworms when they emerge from the cocoons and will seek out other hornworms to parasitize.

Handpicking is one of the most effective control strategies for hornworms in small gardens. Since hornworm populations are sporadic, chemical insecticides are rarely needed. If insecticides are warranted, products that contain the active ingredient *Bacillus thuringiensis* (Bt) or spinosad will be effective.

[Visit our Tomato and Tobacco Hornworms publication](#) for more information about this insect and its lifecycle:

[https://bookstore.ksre.ksu.edu/pubs/tomato-and-tobacco-hornworms-home-and-horticultural-pests\\_MF3075.pdf](https://bookstore.ksre.ksu.edu/pubs/tomato-and-tobacco-hornworms-home-and-horticultural-pests_MF3075.pdf)



## Fruit:

### **Support Fruit Tree Limbs If Needed:**

As fruit develops on tree limbs, it increases in both size and weight. In years with good growth or abundant fruit yields, excess weight may be substantial and cause limbs to break if they are not given extra support. Strong winds, storms, and heavy rainfall commonly increase this risk. There are several ways to support excess crop weight in fruit trees.

The first, and simplest option is with traditional lumber. A one inch thick board that is four inches wide can be used to prop up limbs of large fruit trees. Cut a "V" on the top edge of the board on which the limb will rest so that it does not slip off. Two boards that overlap may be used to provide additional stability. Using two boards also allows the amount they overlap to be adjusted, changing the total length of the board. Two to three screws can be used to hold the two boards together. Long limbs that are heavily loaded with fruit may need a board propping up the limb in the center and another to support the outer part of the limb.



A plastic belt-like material that is about two inches wide may also be used. This can be tied to a heavily loaded limb, then to a large diameter limb above for support. Where a large limb is used for support, it is good to have it supporting limbs on opposite sides so the weight is balanced.

Another solution is to wrap a tape or belt material around the tree in a spiral to prevent limbs from bending until they break. Heavy twine may be used, but it should be removed when the fruit is harvested or soon after so it does not cut into the bark on the limb.

Check fruit trees regularly. During the last month before harvest, check maturing fruit trees twice per week for additional limbs that need support. Regularly tending to the heavily loaded tree limbs will reduce the number of broken limbs and help protect fruiting wood for next year's harvest.

With any style of fruit tree support, take special care to reduce friction and rubbing between the support and tree branches. This is critical in minimizing bark damage and protecting the overall health of the tree.

Long term, create and implement a pruning plan that develops strong scaffold branches able to support fruit. While now is not a good time for heavy tree pruning, next year, plan to prune back long, weak branches to help prevent this problem. Visit our two K-State fruit tree pruning publications for additional guidance and recommendations related to fruit tree pruning for a strong tree structure:

- [Pruning Apple and Pear Trees: https://bookstore.ksre.ksu.edu/pubs/pruning-apple-and-pear-trees\\_MF3450.pdf](https://bookstore.ksre.ksu.edu/pubs/pruning-apple-and-pear-trees_MF3450.pdf)
- [Pruning Peaches, Plums, Cherries and Other Stone Fruits: https://bookstore.ksre.ksu.edu/download/pruning-peaches-plums-cherries-and-other-stone-fruits\\_MF3451](https://bookstore.ksre.ksu.edu/download/pruning-peaches-plums-cherries-and-other-stone-fruits_MF3451)

## Flowers:

### **Checkerspot Butterfly Caterpillars Are Active On Purple Coneflowers:**



During the summer months, Kansas gardeners occasionally notice purple coneflowers with chewed or partially defoliated leaves. While the first response may be to control the insects responsible for this damage, it would be wise to pause and reassess the situation before taking action.

Purple coneflowers serve as an important larval host plant for caterpillars in the brushfooted butterfly family (Nymphalidae), particularly the checkerspot butterfly. Checkerspot butterfly caterpillars can often be found feeding on coneflowers mid-summer as the caterpillars develop before they transform into adult butterflies. There are normally 2-3 generations per year.

Checkerspot butterfly caterpillars are dark in color (brownish-black), with a distinctive yellow stripe running along each side of the body. The caterpillars are covered with several rows of tufts of black spines/hairs. Often after hatching, the young caterpillars are found feeding together in large numbers. As larvae grow and consume their initial food source, the caterpillars become more dispersed. Caterpillars will reach up to 1.5 inches in length before pupating in a chrysalis. When the adult butterfly emerges from its chrysalis, it is a small, orange, black, and white butterfly, with a wingspan usually less than 1.25 inches across.

Checkerspot butterfly caterpillars feed on plants in the sunflower family, most often on purple coneflower (*Echinacea*) and black eyed susan (*Rudbeckia*). Caterpillar feeding can be dramatic because groups of larvae may consume large amounts of foliage in a short period of time. Damage usually begins by skeletonizing leaves (eating out the green leaf tissue), progressing into small holes in the leaf and eventually consuming the entire leaf.



While leaf damage may be concerning, gardeners should remember that the feeding activity is part of the butterfly's life cycle. It is best to leave the caterpillars alone and tolerate damage in order to allow for butterfly development and to be able to enjoy pollinators in the garden. Caterpillars will feed for approximately two weeks, at which point plants will begin to recover.

If damage to a specific plant or area of the garden cannot be tolerated, consider moving caterpillars from impacted coneflower plants to other coneflower plants in the back portion of the property or garden where feeding damage is more tolerable.

## Turf:

### **Give Warm Season Lawns A Boost With Mid-Summer Fertilization:**

Summer is when warm season turfgrasses in Kansas do most of their growing, making it the ideal time to fertilize and core aerate. Unlike tall fescue and other cool-season grasses, warm-season lawns such as bermudagrass, zoysiagrass, and buffalograss respond best to fertilizer when temperatures are consistently warm and the turf is actively growing. While many warm season lawns may have already had an early summer fertilization in May or June, July is still an ideal time to provide one more boost of growth for the summer.

Fertilizer recommendations vary by grass species, and the desired level of lawn maintenance. For most Kansas soils, Nitrogen is the nutrient that has the greatest effect on lawn color, density, and growth. Most summer applied fertilizers will be high in nitrogen, and low in phosphorous and potassium, unless the results of a soil test direct otherwise.



Bermudagrass has the highest nitrogen requirement of the warm season lawns in Kansas. Bermuda typically benefits from two to four fertilizer applications during the growing season. Apply 1 pound of actual nitrogen per 1,000 square feet every four to eight weeks from May through early August.

Zoysiagrass requires less fertilizer than bermudagrass – no more than 1.5 to 2 pounds of actual nitrogen per 1,000 square feet per growing season. Fertilize zoysia with two to three nitrogen applications spaced four to eight weeks apart from late May to the end of July. Apply between 0.5 to 1 pound of nitrogen per 1,000 square feet per fertilization, depending on the total number of applications per year. Avoid over fertilizing zoysiagrass, which can contribute to excess thatch development.

Buffalograss is the lowest maintenance of the common warm-season grasses grown in Kansas. It can survive without supplemental nitrogen, but one application of 1 pound of nitrogen per 1,000 square feet can further boost lawn growth. Usually this is applied between mid-May and early June, but could be applied now if not already completed this growing season.

Warm-season grasses generally require less fertilizer and irrigation than cool-season lawns in Kansas. Keep in mind the more fertilizer applied to the lawn, the more watering and mowing that will also be required. Each homeowner will need to determine a satisfactory balance between these three cultural practices.

For all warm season lawns, it is important to complete all fertilizer applications before August 15<sup>th</sup>. Fertilizing after this date increases the likelihood of winter injury on warm season lawns, and may delay the turfgrass's natural dormancy before winter. By following these recommended application rates and timings, homeowners can maintain a healthy, attractive lawn while avoiding unnecessary inputs and excess growth.

Visit our [Fertilizing Kansas Lawns publication](https://bookstore.ksre.ksu.edu/pubs/fertilizing-kansas-lawns_MF2324.pdf) for more information on making midsummer fertilizer applications: [https://bookstore.ksre.ksu.edu/pubs/fertilizing-kansas-lawns\\_MF2324.pdf](https://bookstore.ksre.ksu.edu/pubs/fertilizing-kansas-lawns_MF2324.pdf)

## Miscellaneous:

### **Controlling Field Bindweed In The Lawn & Garden:**

Field bindweed is a deep-rooted, perennial weed that rapidly spreads and is difficult to control. It is estimated that nearly 2 million acres across Kansas are infested with bindweed, making it damaging to many crop yields. With as commonly as bindweed occurs in the home and agricultural landscapes, field bindweed has been designated by law as a noxious weed in Kansas.

Field bindweed is a vining perennial, growing between 4 to 80 inches long (most commonly 1-4 feet long). These vines can grow along the ground, climb up and twist around other plants, and quickly form a tangled mat of growth. Leaves can vary in shape, but are generally simple, alternate, up to 2 inches long, and arrowhead shaped. Bindweed produces white, pink, or white with pink, funnel-shaped flowers, generally from June through August. Flowers are approximately 1 inch across and are born singly in the axils of leaves. Flowers are followed by seed production that matures from August through October in Kansas. Seeds can remain viable for up to 50 years in the soil, waiting for optimal growth conditions.

Field bindweed reproduces and spreads by both seeds and rootstocks. Underground, bindweed roots are extensive, extending to a depth of 20-30 feet deep. As a result, field bindweed is not effectively controlled by hand pulling unless the infestation is small.

Deep, repeated cultivation has been shown to reduce field bindweed infestations. However, once cultivated, any piece of a root that was broken during cultivation may establish a new plant in about three weeks' time. Tilling may also bring up dormant weed seeds to the soil surface where they can germinate. As a result, repeated cultivation may be necessary every two to three weeks during the growing season to deplete the root system and provide control.

Planting cover crops can also help suppress bindweed growth by adding competition. Mulching flowerbeds and gardens will also help to suppress bindweed growth. Neither option will completely stop bindweed growth.



Because field bindweed is notoriously hard to control, herbicide applications are often required. Very rarely will even a single herbicide application completely eliminate bindweed infestations, so plan for repeat applications. The active ingredient/chemical used in each area will vary by location. Commonly used herbicides used against field bindweed include active ingredients such as:

**In Vegetable Gardens, Flowerbeds, & Landscape Beds:** Use a product with the active ingredient glyphosate between desirable plants. Glyphosate is sold under a wide variety of names. It is important to note that glyphosate is a non-selective herbicide, meaning that it will kill whatever plant it is applied to, but is inactivated when it contacts the soil. Although it is non-selective,



glyphosate can be used in a way that selectively applies it to bindweed plants and keeps it off of other desirable plants. Do not allow the glyphosate to be applied to the green leaves and stems of desirable plants. Cardboard boxes or snow shovels can be used during application to shield desirable plants from drift or overspray. Foam applicators or brushes could also be used to selectively apply glyphosate to the bindweed leaves, while protecting nearby plants.

**In The Lawn:** Glyphosate could also be used, but selective herbicides are available for use in turfgrass. The best chemicals for selective bindweed control are products that include the active ingredient combination of 2,4D+Dicamba+MCPP. Products that contain only 2,4D; Triclopyr; or Quinclorac will also work to suppress field bindweed. Note that lawns treated with these products should not use grass clippings in compost or as mulch. These products should also not be applied over exposed roots of trees and ornamentals, in flowerbeds, or beneath the canopy of trees and shrubs.

**When using herbicides to treat field bindweed, here are a few additional tips to improve success:**

1. Water bindweed plants thoroughly 2-3 days before making an herbicide application. This will help the plants be well hydrated, and more likely to absorb any herbicide applied.
2. Herbicide applications will often be most effective in the late fall, prior to a killing freeze. At this time of year bindweed is moving carbohydrates deep into its root system, which can assist the movement of herbicide into the root system. Herbicide treatments can be made earlier in the year, but do not skip the late summer to fall applications. Glyphosate is most effective when applied to bindweed that is at or beyond full bloom.
3. After 2-3 weeks following the initial application, repeat the process by reapplying an herbicide to any bindweed that returns. This step may need to be repeated multiple times until the bindweed is eradicated.
4. Be sure to read and follow all label directions and precautions.



However you choose to tackle bindweed control, the important technique is to try to stay ahead of bindweed's spread. The more it becomes established the harder it will be to control.

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