

K-STATE

Research and Extension

Butler County

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Address:

Kansas State Research and Extension
Butler County
206 N Griffith St., Ste A
El Dorado, KS 67042

Phone Number:

316-321-9660

Email:

callae@ksu.edu

Office Hours:

Monday- Thursday
7:30 am- 5:00 PM

Friday
7:30 am- 11:30 am



The Grapevine

End of the Season

The warm-season vegetable garden has officially come to an end with the first frost of the year in El Dorado last week. If it felt like the growing season was longer than usual, you would be correct. This year, our first frost was about ten days later than average. With many of our vegetables finally killed off, it's time to completely clean off the garden (except any cool-season fall vegetables that might still be growing).

As we clean the garden for the year, be sure to remove any weeds with seed heads and any plants that experienced disease issues during this growing season. While I usually recommend composting most garden materials, our compost piles won't be hot enough to kill the weed seeds or disease spores that would be overwintering in the compost pile, so it's best to discard those items instead.

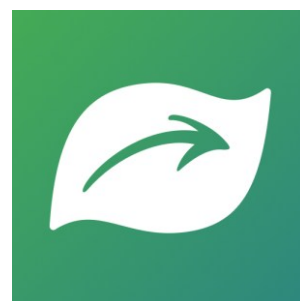
As we put the mower and tools away for the year, be sure to set yourself up for success for the next growing season. Garden tools, such as shovels, hoes, and rakes, often have wooden handles that can deteriorate over time due to exposure to sunlight, moisture, and other elements. Take some time this winter to inspect the handles for splinters and smooth out rough areas. Then, apply a protective coating (such as linseed oil, wood preservative, or polyurethane) to the handle to keep it protected. Don't forget about the metal part of the tool; make sure it's clean of dirt and debris, and apply a light amount of oil to prevent rust. For lawn mowers, it's essential to service them before storing them for the year. Be sure to drain the gasoline from gas-powered engines or use a gasoline stabilizer to prevent the gas from becoming thick and gummy. Check your spark plug or replace it so you are ready to mow in the spring. If you have a riding lawn mower or one with a battery, remove the battery and clean the terminals to prevent corrosion.

How Accurate are Plant ID Apps?



Plant Identification apps have become increasingly popular among both new and experienced gardeners. We are driven by the need to identify a new cool plant that we see in the woods or in a landscape. The apps seem very simple; you take a picture of the plant in question, and the app or the internet identifies it for you. I often hear from people about new and different identification apps that they use. This week's topic was inspired by the plant propagation Master Gardener training class, where a trainee used an app to identify one of the plants that we were using for class. The app had told him that the plant in question was a type of lily grass when it was actually a spider plant. Granted, the app was for outdoor plants, but that led to the question of how accurate those plant ID apps and even the photo searches provided by Google and Apple are. Fortunately, Michigan State University has conducted some notable research on the overall accuracy of several apps currently available on the market.

Since 2018, weed scientist Erin Hill, Ph.D., at Michigan State University, has been researching several of the different apps that have been on the market. Every year, she researched six different apps, with the most accurate ones continuing on to be tested the following year. In the fall of 2021, Hill significantly expanded her review by involving 16 teams of students learning plant identification skills in her weed science labs at Michigan State. Participants were asked to photograph 10 plants growing in the university's Beal Botanical Garden, including a broadleaf ornamental, both flowering and vegetative broadleaf weeds and grasses, a seedling of a winter annual weed species, and other common agricultural and turf weeds of their choosing. In 2023, all the apps tested utilized photo recognition software and geolocation information to identify plants. Most are free or have a free version. For 2023, students were required to photograph plants from a variety of categories: flowering broadleaf ornamental species, flowering and vegetative broadleaf weeds, flowering and vegetative grass (or grass-like) weeds, an Amaranth or grass seedling, and a winter annual seedling. We also added one deciduous and one evergreen tree or shrub species to the list in 2023, in response to requests for that type of information. The last plant was their choice, but it was recommended that they use common agricultural and turf weeds from the garden's collection.



The top-performing app in the 2023 evaluation outlined above was PictureThis, with 73% of the suggested identifications being correct. If the partial ratings (16%) are added to the correct ratings, we see that the app was helpful 89% of the time, averaged across all plant categories. Following this lead were PlantStory (48% accuracy) and PlantNet (40% accuracy). If you include the partially correct answers, these apps were helpful 65% and 67% of the time, respectively. The remaining three apps achieved accuracy rates between 31% and 38%, in the following order: PlantIn, Google Lens, and iNaturalist. The addition of the partial ratings increased the correct and helpful identifications combined to 47-53%. PictureThis has been the reigning champion of this test for six consecutive years. Overall, the apps were the most accurate with deciduous shrubs, while they were least accurate with weed and grass seedlings.

Plant identification apps are a valuable tool for beginners to identify plants in their landscape. Just a reminder that the identification is only as accurate as the photos that you take. I always recommend using the app as a starting place, but then research the plant to verify if that is, in fact, what it is. Many times, the apps can help you narrow down the plant to the correct genus, and you can then identify the plant from there. Please remember that you can always send photos or bring samples of the plant to the extension office, and we will be happy to help you identify it. For more information on this research, check out [Michigan State University's website](#).

Question of the Week: Preventing Winter Damage

As we enjoy the fall days, it's also a time to complete tasks that will protect our trees and shrubs from environmental and animal damage this winter. As the phrase goes, "An ounce of prevention is worth a pound of cure," which holds true for winter damage to plants, whether caused by the weather or a furry creature.

One of the most common issues I get calls about is frost cracks on trees. Maple trees are the most likely culprits; however, frost cracks can occur on ash, apple, crabapple, sycamore, or any thin-barked tree. Frost cracks typically appear in late spring or early fall, often on the southwest side of the tree. During the day, the sun warms the bark and underlying wood, causing the sap to flow and the tissue to expand. Then, at night, the temperature drops suddenly. The outer bark cools faster than the inner tissue and tries to contract. This difference in contraction damages the bark, which separates from the inner wood. This damage can be visible immediately or might not appear for several years when the dead bark peels back in that area. Once the damage is done, the tree will have to heal itself over the years, if it heals at all. There are several ways to prevent frost cracks. First, avoid fertilizing or pruning trees late in the growing season to prevent them from entering an active growth stage. In the fall, wrap the trunk with tree wrap to help prevent damage. If you end up with frost cracks on trees, provide a clean wound area to speed up healing. If the crack is clean with neat edges and no loose, hanging bark, leave the tree alone. However, if there is a ragged tear, trim off the ragged bark or remove the hanging pieces and allow it to heal on its own. Do not use wound treatment on the bark.



As our perennials and other plants go dormant in the fall, it's time to start mulching sensitive plants to prevent the crowns from freezing or the freeze/thaw cycle from heaving the plant out of the ground. As the leaves fall from the trees, they make an excellent mulch in flower beds around perennials and shrubs. I would also wait to cut perennials back for the winter, unless you had disease issues this year, till temperatures warm up in the spring. This residue will help trap leaves around the crowns of the plants, and that debris is also where beneficial insects can overwinter. Just a reminder that you can leave some leaves on your lawn through the winter. However, if they start to accumulate in one location, try to spread them out to prevent damage to the grass in that area.

Desiccating winter winds can also cause injury. During the winter, evergreen foliage still loses water. On windy days, the rate of water loss is high, and if the ground is frozen or dry, then the roots may not be able to keep up with the demand. Low temperatures also play a role. The result is scorched needles or leaves. The damage tends to be greatest on the outer foliage, which is most exposed to the elements. One way to help prevent the damage is to water the plants during dry, warm periods of the winter. You can also wrap very susceptible plants with burlap to prevent the wind from causing as much damage to the plants. Most of the time, plants recover, but an ounce of prevention is better than having to find a cure late.



Video of the Week- Shrubs that Thrive in Kansas

Picking the right plant for the right place is crucial to have plants that will last in our challenging Kansas climate. Learn the best shrub varieties suited for the state's unique climate challenges, including heat and drought tolerance, as our speaker highlights some great shrubs to incorporate into your landscape. Watch the video on the [Kansas Garden Hour website](#).

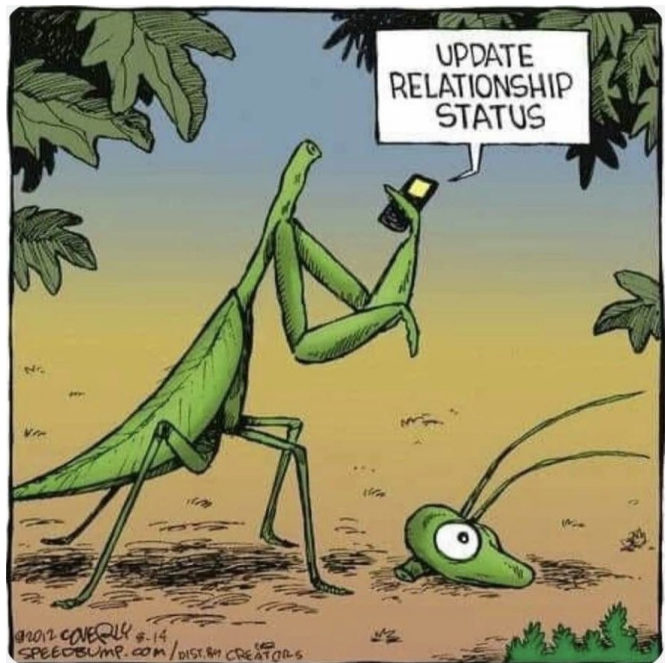
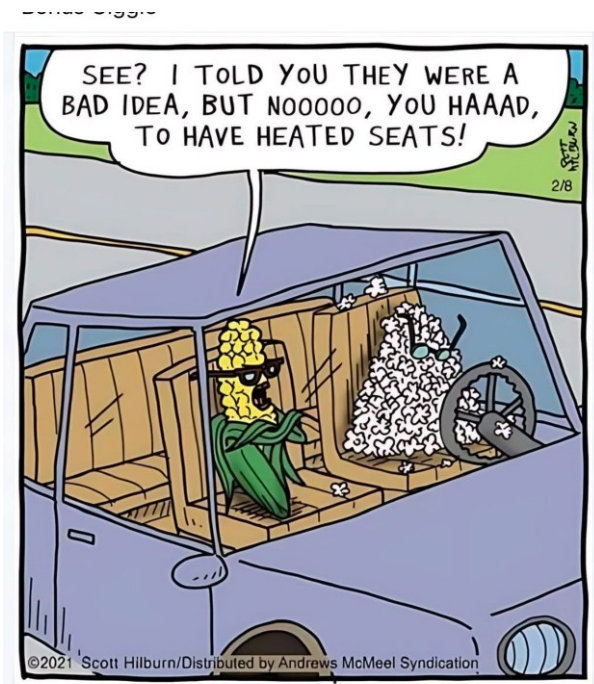
Weed of the Week- Poison Ivy



Poison Ivy does not pose a threat in our gardens to out-competing the perennials or vegetables; rather, it is mainly an issue because of the reactions it causes. Poison Ivy has three leaflets that can be toothed or lobed and can often be found as a vine growing up trees or as a groundcover if it cannot grow upwards. In the fall, poison ivy turns a bright red, presenting a beautiful and colorful display. This native vine is often confused with Virginia Creeper, a vine and ground cover characterized by leaflets arranged in groups of five.

The issue with poison ivy is the presence of resinous compounds called urushiol in all parts of the plant. The unfortunate part is that you do not have to touch poison ivy to react; the compound can get on tools, clothes, pets, or even in the air if the plant is brushed, and you can have a reaction from it. Even the dead parts of the plant contain the chemical, which can become airborne if burned.

To control poison ivy, first dress the part. Cover as much skin as possible with long sleeves, long pants, closed-toed shoes, and gloves. Small plants can be pulled carefully, but herbicides with triclopyr or glyphosphate can be applied when the plant is actively growing for control. You will likely need to submit multiple applications to achieve complete control over the process. If you believe you have come into contact with the plant, change your clothes and wash immediately. Rubbing Alcohol can help remove the oils and prevent the rash from spreading.



Upcoming Events

November 5th- Climate Resilient Gardens

December 3rd- Gifts for Gardeners

Upcoming Events:

November 12th at 12:15 pm- Houseplant Basics at the Andover Library

November 12th at 6 pm- Houseplants Basics and Beyond at Bradford Memorial Library

November 17th at 12:15 pm- Companion Planting of Vegetables

November 19th at 5:30 pm- Houseplants Basics and Beyond at Benton Community Building

November Garden Calendar

Vegetables and Fruits

- Sort apples in storage and remove spoiled fruit
- Clean and remove fallen fruit from around trees to reduce insects and disease for next year
- Protect trunks of fruit trees from damage with tree wraps
- Take a soil test and make needed adjustments in the fall
- Till garden soil and add organic matter

Flowers

- Clean the rose bed to reduce disease next season.
- Cut back tall rose canes to 24 inches to prevent winter breakage
- Remove frost-killed annuals
- Till the annual flower beds and add organic matter to improve the soil
- Continue planting spring-flowering bulbs
- Depending on your gardening style, leave or cut back perennial stalks to 4 to 6 inches
- Apply a winter mulch to perennials and roses after several hard freezes

Lawns

- Rake fallen leaves from the lawn to prevent winter suffocation
- Fertilize cool-season lawns with a quick-release high-nitrogen fertilizer to promote root development and early spring green-up
- If needed, water the turf so it starts winter with ample moisture
- Control dandelions, henbit, and chickweed before spring green-up
- Continue to mow into the fall at 2 to 3 inches

Trees and Shrubs

- Water newly planted trees and shrubs
- Plant new trees and shrubs
- Rake leaves and place them in the compost pile
- Check mulch layers and replenish
- Prune dead or hazardous limbs
- Wait to prune spring-flowering trees and shrubs until after bloom

Miscellaneous

- Clean and oil garden tools, sprayers, and other equipment to store for winter
- Drain garden hoses and sprinklers, then store them indoors for increased life
- If fuel is to remain in power equipment, add fuel stabilizer; otherwise, drain gas
- Protect ornamental and fruit trees and young plants from rabbit damage by wrapping or enclosing them in wire screen
- Start a compost pile with fall leaves
- Turn compost pile to hasten breakdown
- Start planning for 2026



LUNCH & LEARN

Bring your lunch and join Horticulture Agent, Calla Edwards, over the lunch hour during our monthly Lunch & Learn Program. This will be held over the lunch hour and will cover a variety of horticulture topics.

November 12th
12:15-12:45 p.m.

Andover Public Library
1511 E Central Ave
Andover, KS

November Topic:
Houseplants-Basics and Beyond

Over 66% of U.S. households have at least one houseplant, but often the terms used to describe their care can be confusing. Decode common houseplant terms related to light, water, and other plant needs. Learn about some unique houseplants and the best practices to keep them thriving.

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November 17th
12:15-12:45 p.m.

Lori's EMPORIUM!
1604 Custer Lane
Augusta, KS

November Topic:
Companion Planting

Many gardeners have heard that marigolds repel pests in vegetable gardens, or that beans dislike fennel. These sentiments are often attributed to a practice called "companion planting." But does companion planting really work? Join horticulture agent Calla Edwards for a discussion on the research behind companion planting as we dispel common myths and talk about what benefits companion planting can offer your garden.

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