

Horticulture 2024 Newsletter

No. 8 February 26, 2024

1712 Claflin, 2021 Throckmorton Plant Science Center
Manhattan, KS 66506 (785) 532-6173

Video of the Week: [Easy to Grow Peas](#)

ANNOUNCEMENTS



Selecting & Planting Fruit Trees for Kansas

Wednesday, March 6th 12:00PM -1:00PM CST

Join Rebecca McMahon, K-State Research and Extension Local Food System Program Administrator, and Anthony Reardon, Johnson County Horticulture - Small Farms Extension Agent, as they discuss the best fruit tree selections for Kansas, varieties to be on the lookout for, and how to go about planting and caring for them.



Register Here!



Please register for this free Zoom Webinar at:
ksre-learn.com/KStateGardenHour



Last Call: Support Student Research

Reminder, this is the last week to participate in the survey: "The Perception and Environmental Impacts of Naturalistic and Manicured Lawns." These anonymous survey results will be used for research purposes only and will help build the knowledge base for naturalistic landscapes. The survey is easy to complete with an estimated time of 10-20 minutes and will be closed on March 4th. At the conclusion of the survey, participants will have the option to receive an incentive for the new K-State Extension publication of naturalistic landscaping scheduled for Fall 2024. Thank you for your time and we appreciate your consideration to participate!

https://kstate.qualtrics.com/jfe/form/SV_0kdIFqOKRybBiey

“A Gathering for Gardeners”

The Hutchinson Horticulture Club invites gardeners to gather for a day filled with information galore about flowers, veggies and much more. Saturday, March 9, 2024 at Our Redeemer Lutheran Church in Hutchinson.

VEGETABLES

Starting Lettuce and Peas

Lettuce and Peas require cooler weather for success. If started too late, the heat will limit the harvest. Here are some tips from the [Kansas Garden Guide](#) to get your garden growing.

Lettuce



Lettuce is susceptible to freeze damage, but is fairly cold tolerant, making it a great option for growing in a season extender such as a low tunnel or hoop house. There are many types of lettuce. Leafy varieties mature quickly and typically tolerate the heat better. Romaine has upright leaves with a strong mid-rib. Butterhead has a rounded shape and requires more time to mature. Head lettuce takes almost twice the amount of time to reach maturity compared to leafy lettuce. It is a better option for fall gardening.

Lettuce can be direct seeded or transplanted in mid-March through early April. That means, if you plan to grow transplants, now is a good time to get seeds started. Lettuce will germinate best with light and warmth. Soil that is too cold will slow germination. On the contrary, soil over 85 degrees F will prevent germination altogether. When seedlings have four to six true leaves they can be transplanted into the garden.

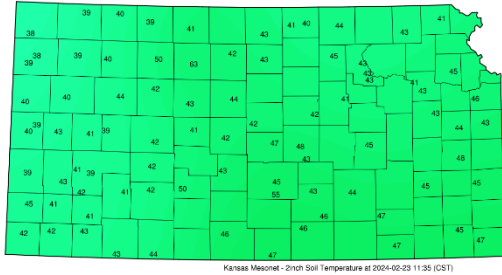


Peas

Peas can be direct seeded into the garden in early to mid-March as long as the soil is dry enough to work. If planting is delayed peas may not reach maturity before the heat arrives and stops production.

Consider early maturing varieties with resistance to powdery mildew. Some varieties have vines that will grow up to five feet tall and require trellising. Dwarf varieties do not require staking.

Soil Temperature and Veggies



Take a look at this resource: Kansas Mesonet ([Soil Temperature](#))

This map shows soil temperature at a 2-inch depth across the state of Kansas. The table below includes seven-day minimums, maximums and averages as well as corresponding temperatures at a 4-inch depth. Though this resource isn't precise to your specific location, it does give a

glimpse of what is happening nearby. Why does this matter?

Soil temperature affects germination rate. Peas can sprout in soil that is 40 degrees F. Lettuce can germinate in soil down to 35 degrees F, though it performs better at 45 degrees F. However, crops such as tomatoes, corn and other warm-season veggies need the soil to be at least 55 degrees F for success. Peppers, cucumbers and melons need even warmer soil (60 degrees F).

The Kansas Mesonet is a great resource for guidance on what's happening below the ground. You can also take your own soil temperature measurements using a soil thermometer. Measure the soil at least 2.5 inches deep, during late morning. Find the average soil temperature over five days to determine when the time is right for planting. It is still important to watch the forecast for late season frosts and freezes.

(Kansas Mesonet, 2024: Kansas Mesonet Historical Data. Accessed 23 February 2024, <http://mesonet.k-state.edu/weather/historical>)

LANDSCAPE

Weed Fabric in the Perennial Landscape



Weed fabric can block weeds from germinating and encroaching upon our plants. However, this strategy should be used only in certain circumstances.

Weed fabric is a barrier laid on the soil surface. Holes are either cut or burned through the fabric where desired plants are allowed to grow. Some gardeners lay mulch on top of the fabric to hold it in place and for aesthetics.

One problem with using weed fabric is weed seeds can establish on top if mulch is in place or if soil erodes over the fabric. Weeds can also protrude through the openings cut for plants. Perennial weeds that establish in these areas can be especially difficult to remove because of the deep root system. Hand pulling these weeds often pulls up the weed fabric as well. Attempting to remove weed fabric after it has been in place for several seasons can be damaging to the root system of plants in that area.



Weed fabric is sometimes used for row crops of annuals such as cut flowers or vegetables. However, because it's inorganic it does not break down and contribute to the health of the soil as organic mulch does. It also is likely to break loose during our Kansas wind episodes and become completely ineffective.

For perennial gardens, organic mulch such as wood chips is a much better option. When selecting an organic mulch for your landscape, choose a large, coarse material such as pine bark and apply at least three inches over the soil. Finer materials may promote weed growth so they should be avoided for mulching purposes. Some gardeners use a layer of cardboard or newspaper as an alternative to weed fabric. The nice thing about this option is it will break down into the soil over time. However, there can still be the issue of weeds developing on top of the paper layer.



Inorganic mulches such as rock can be expensive and difficult to apply. They also can radiate heat up to the plants which is not ideal, especially during summer. Rubber mulches can leach metals into the soil. For landscape purposes, inorganic mulches are not recommended.

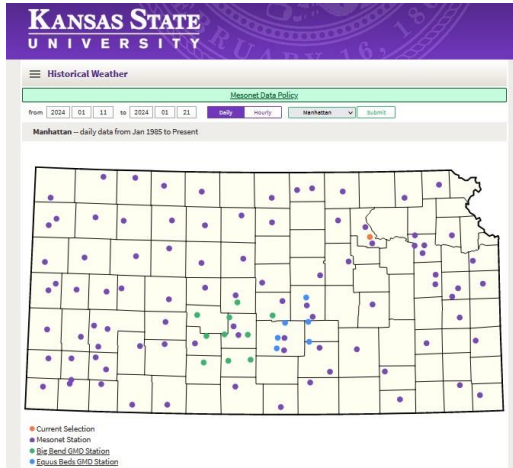
For more information about mulch options in the landscape check out our turfgrass blog post: <https://blogs.k-state.edu/turf/nonchemical-weed-control-methods-for-landscape-beds/>

TREES

Pine Problems in Kansas

It was pretty cold in mid-January 2024, so I have been grateful for any days above freezing since then. The low temps in January sent me to the K-State Mesonet (<https://mesonet.k-state.edu/weather/historical/>) to take a closer look at the weather patterns during that time period.

The Mesonet is a collection of weather stations across Kansas that can be used in a variety of ways but my favorite is to take a look BACK in TIME at the historical weather patterns. You can see here that the temperature dropped pretty low on Jan 14th (-10.5F) and Jan 15th (-10.6F) in Manhattan, KS. Brrr.



Manhattan						
2024-01-11 – 2024-01-21						
	Air Temperature		Relative Humidity	Precip	Wind Speed	
	Max °F	Min °F	Avg %	Total inches	Avg mph	Max mph
01-11	28.7	14.8	84.8	0	7.4	22.1
01-12	14.8	0	71.2	0	15.0	30.1
01-13	3.2	-8.2	60.5	0	11.8	27.8
01-14	1.4	-10.5	50.9	0	7.1	18.3
01-15	3.4	-10.6	64.6	0	6.6	22.6
01-16	11.8	-9.5	52.4	0	6.7	16.0
01-17	31.2	11.2	54.0	0.09	4.6	15.2
01-18	34.7	6.1	69.7	0	7.4	31.7
01-19	11.4	-0.8	58.6	0	8.6	32.6
01-20	10.5	-5.7	64.3	0	3.0	12.1
01-21	30.4	5.2	58.5	0	8.6	24.9
summary	16.5	-0.7	62.7	0.09	7.9	32.6

In any given year, it is not uncommon to see extreme weather patterns impact plant growth and health. Winter damage to pine trees frequently shows up on the north or northwest side of the tree, although it can hit the top of the tree as well. Winter damage can hit multiple trees or can show up on scattered trees within a planting. The outer needles tend to be scorched with the inner needle growth remaining green. The more exposed foliage is more susceptible to desiccating winter winds.



Winter damage on pine trees can be confused with some common Kansas pine diseases such as pine wilt, Diplodia pine tip blight and Dothistroma needle blight. One tip that can help to differentiate between these problems is the **TIMING** of the damage. Pine trees generally enter the winter looking good and then get hit by low temperatures and/or desiccating winds sometime between December-February. A look at the K-State Mesonet can help pinpoint the weather event that caused the damage.

Winter damage can look pretty dramatic but it is best to wait until early to mid-May to assess recovery potential. Even though the pine needles are scorched, the dormant buds frequently escape damage and push out new growth in the spring. The damaged needles eventually shed and the overall appearance of the tree will gradually improve. Another



quick way to check recovery potential is to pop off a few buds at the end of the branch and see if they are still green inside.

Winter damage can be confused with some common Kansas pine diseases. For help sorting out these problems reach out to your local county extension office. The K-State Plant Disease Diagnostic Lab can also provide assistance. <https://www.plantpath.k-state.edu/extension/plant-disease-diagnostic-lab/> (Judy O'Mara)

MISCELLANEOUS

Propagating at Home



Propagation is a term for growing new plants from parts of a parent plant. With many plants it is an easy way to increase your collection while saving costs. Not all plants can successfully be propagated using the same method.

Sexual propagation requires gathering seed from a parent plant. The resulting offspring has traits from the parent plants but is not identical.



Asexual propagation, vegetative propagation, results in clones of the parent plant. This can be done by taking cuttings of the stem, leaves or roots from the parent plant. New plants develop from those plant parts.

K-State Garden Hour has a great presentation with more details about vegetative propagation. It is linked below. Here are the basics:

- Begin by collecting cuttings, early in the morning, from a healthy parent plant.
- Store cuttings in a plastic bag to maintain moisture and humidity.
- Treat the cut end with rooting hormone.
- Insert cutting into a container with rooting substrate (rockwool cubes, jiffy plugs, potting soil.)
- Keep cuttings in a climate with high humidity. (You can cover them with a bottomless milk jug or clear plastic bag.)
- Grow in bright, indirect light, keeping the tops of the cuttings cool.



The length of time it will take for roots to develop varies based on plant species. Some will root within four weeks while others may take up to 16 weeks. Once rooting has occurred, it's time to transplant and harden plants off for their new growing conditions.

Here is the K-State Garden Hour presentation with more detail about propagation and tips for success. <https://youtu.be/mQ8dD0vo2E8>

SCHOOL GARDENS

Forcing Blooms on Woody Stems



Did you know environmental education has been shown to improve academic achievement? According to the National Environmental Education Foundation, students are more engaged and build a deeper sense of community when they are taught in an outdoor classroom. Though we have had some lovely weather recently, this time of year can bring challenges to holding class in an outdoor space. If the weather or time is limiting your ability to take the class

out, here is a way to bring the outside in.

Lilacs, crabapples, forsythia and many other shrubs and trees develop flower buds the previous growing season. Before they bloom they go through dormancy. As the weather warms up the buds leave dormancy and begin to open. Typically, we will see these plants blooming late March or early April.

By bringing cuttings of these plants indoors now through early March, you can force them into an early bloom to enjoy in the classroom. Identify branches with plenty of flower buds. Some branches may have leaf buds which are smaller and more pointed than the rounded, plump flower buds. If you're not sure what kind of buds you're observing, cut one bud open and inspect for flower parts. If the plants were pruned in the fall they are not a good option for this project because they will not flower well. On a mild day, cut branches into sections at least 12-inches long. Teach students to harvest safely and respectfully to avoid hurting anyone or damaging the plant.



Bring the branches inside and cut to the desired length. Fill a vase with water. Remove any plant material from the branch that will be under water once inserted into the vase. Keep the vase of cuttings in a warm room away from direct sun. Change the water in the vase daily to prevent bacteria from developing. When the blooms begin to open they can be kept in a cooler location to preserve the flowers as long as possible. Select a variety of spring flowering

trees/shrubs to force and students can create an attractive display. Here are some options to consider:

- Forsythia
- Pussy willow
- Witch hazel
- Crabapple
- Magnolia
- Dogwood
- Birch

- Red maple
- Lilac

The length of time it takes for blooms to open varies depending on the type of plant. Forsythia and pussy willow are two quicker options. They take about one to three weeks to force blooming.

Classroom Connections

This activity easily lends itself to a variety of standards. This is not an exhaustive list. Here are a few examples for science integration.:

- Allow students to plan and carry out the investigation determining what will happen with branches that are cut and placed in water indoors.
- Experiment with varying the conditions and observe the response of the cut stems.
- Evaluate the effects of differing levels of light/water/temperature on flower development. Students can create graphs to show how quickly different plants flower under the same growing conditions.
- Dissect the flowers, once developed, and identify the various parts.

Here are some ideas for English/Language Arts integration.:

- Research the difference between flower and leaf buds.
- Present research about why plants have flowers (elementary).
- Present research and findings on the effects of varied environments on forcing stems to flower early (high school).
- Write instructions for how to force spring-blooming trees and shrubs to flower.

GARDEN SPOTLIGHT

Nancy Calhoun: Overwintering Peppers



Nancy Calhoun is a gardener in Manhattan, Kansas. She embraces the opportunity to learn new gardening practices even after more than 40 years of growing. Nancy has a wealth of experiences with traditional crops such as tomatoes, peppers and squash but also less common crops including peanuts and cotton! With 15 acres of land, Nancy and her husband recognize their opportunity for self-sufficiency and have experimented with various enterprises including bee hives, beef, chickens, meat rabbits and even a milk cow. Nancy has a 500 square foot unheated hoop house where she gets a jumpstart on the growing season with lettuce, winter onions and radishes, though due to wind damage this structure is currently being rebuilt. Here is Nancy's story of

experimenting with overwintering pepper plants from the garden.

In 2021, Nancy discovered an article online that referenced pepper plants as perennials. The article claimed peppers can live for years under the right conditions. Knowing Kansas' winters are not considered the "right conditions" Nancy dug up three bell pepper plants from the garden. She pruned them back to the main stem and a few branches to promote dormancy and kept them in a sunny section of the attic through winter. Halfway through winter Nancy observed new leaves on the plants and eventually small peppers developed.



The next year, Nancy repeated this process. As new leaves developed she removed them in an effort to force the plants to remain dormant. The plants did not survive the winter.



In fall of 2023, Nancy made her third attempt at overwintering pepper plants. Prior to the first freeze of the season, she transplanted three plants into "good sized" containers with new potting soil. Instead of removing all the leaves this time, she trimmed the plants back focusing on reducing size. Nancy again placed the plants in the attic and cared for them as she did her other houseplants. As anticipated, the plants had some leaf drop due to the change in growing conditions, but they also established new peppers. Fast forward to February and Nancy has been growing and enjoying garden fresh bell peppers for most of the winter.

One of the great things about gardening is the opportunity for continued learning and the creative process of experimentation with new strategies. Nancy's curiosity about perennial peppers is a healthy strategy for developing new gardening techniques. Thank you for sharing your story with us, Nancy.

Are you a COMMUNITY GARDENER? We would love to write your story for an upcoming garden spotlight. Email Cynthia at cdom@ksu.edu.

QUESTION of the WEEK



*"What does a soil test tell you? Or **not** tell you?"*

Soil tests are a good starting point for managing the garden. Fertilizing without a soil test analysis requires guessing which nutrients need to be added. This is likely to result in applying too much or too little fertilizer leading to wasting time and money. Excess nutrients can negatively affect plant growth and contribute to waste runoff into our waterways.

Standard soil tests analyze for nitrogen, phosphorus, potassium and soil pH. Additional soil tests can be requested as needed. Your local extension agent can help you analyze the results of the soil test and make recommendations about a fertilizer protocol.

For the lawn and garden soil tests are recommended every three to four years.

Soil tests evaluate nutrient and pH levels as they pertain to plant growth. The presence of insects, disease and compaction are not evaluated in standard soil tests.



COMING UP NEXT WEEK...

Gardening for improved well-being includes keeping yourself and loved ones safe. In this Mental Health Monday issue, we will explore ways to garden safely for life. Plus, we'll have content for managing turfgrass, our intriguing question of the week and much more.

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<http://hnr.k-state.edu/extension/info-center/newsletters/index.html>

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