



## AGRICULTURE & NATURAL RESOURCES

SHAD MARSTON  
COUNTY EXTENSION AGENT  
AGRICULTURE AND NATURAL RESOURCES



As the days seem to be getting shorter, nights are cooler and fall is approaching, and our thoughts in agriculture change. One of the busiest seasons for any Ag operation occurs during the fall. Fall planting and fall harvest is upon us. Weaning spring born calves is on the mind of every cattle producer. During this season, countless hours will be spent in combines, tractors, trucks and other equipment by farmers and workers who will be transporting large equipment, grain/forages and livestock on our roads and highways. The early morning and late evening sun makes our visibility even more challenging. Let's all be safe and plan to take a little slower pace when out visiting in the rural areas.

*Shad*

### **Musk Thistle Control in the Fall**

Musk thistle (*Carduus nutans*) is one of 12 noxious weeds in Kansas, infesting over 420,000 acres. It has been reported in nearly every county in Kansas and is found primarily in pastures, rangeland, hay meadows, alfalfa, fallow, roadsides, and waste areas. Under the new Noxious Weed Law (March 2021), musk thistle is considered a Category C weed. That means it is well established within the state and has an extensive population.

Control efforts should be aimed at reducing or eliminating new populations, and established stands should be managed with any accepted control method. Accepted control methods include mechanical, chemical, and biological approaches. Mechanical control involves removing the entire plant or just the reproductive parts to prevent the plants from producing flowers/seeds. Mowing, digging, and hoeing are common mechanical methods of controlling musk thistle. Several herbicides are labeled for musk thistle control and are discussed below. Biological control requires a permit and needs to be integrated with other methods. Head and crown weevils are found in the state but cannot be transported across state lines. A flower fly (*Cheilosia corydon*) is a new candidate species for biological control of musk thistle.

Other herbicides that have proven effective include 3-5 fl oz/acre aminopyralid (Milestone) and aminopyralid + metsulfuron (Chaparral at 1.5 oz/acre). Products containing picloram and aminopyralid will not only control rosettes treated in the fall but will have enough carryover to control emerging seedlings the following spring.

If you need to treat musk thistle this fall, select the proper herbicide for the job. If possible, select a warm, sunny day to spray. Scattered rosettes can be mechanically removed by digging below the crown.

Read the whole article at:

<https://eupdate.agronomy.ksu.edu/>

Musk thistle is primarily a biennial or winter annual species. Biennials take two growing seasons to complete their life cycle. Thistles germinating in the spring will spend the entire summer as a rosette, live through the winter, and bolt the next year in May and June. Winter annual plants will germinate with moisture and warm temperatures in the fall, live through the winter, and bolt the following year.

Most people recognize musk thistle during the early summer when the plants are actively blooming (Figure 1, left photo). However, musk thistle control is easiest as a rosette (Figure 1, right photo).



**Figure 1. Musk thistle in flowering and rosette stages of growth. Photos courtesy of Walt Fick, K-State Research and Extension.**

## **Considerations for Planting Wheat into Dry Soil**

**by KSRE Wheat Specialists**

Despite some recent rainfall events, the most recent Drought Monitor shows 96% of Kansas still experiencing abnormally dry or worse conditions. Topsoil conditions are getting drier in many areas of Kansas and in McPherson County. Unfortunately, the precipitation outlook is not very favorable. Wheat producers are left with three options.



**Photo by Shad Marston Ag Agent, McPherson County**

### **Option 1: “Dust in” the wheat**

Producers can choose to “dust in” the wheat at the normal seeding depth and the recommended planting date and hope for rain. Some farmers may consider planting it shallower than normal, but this could actually increase the potential for winterkill, freeze damage, and poor crown development. Planting the wheat crop at the normal depth and hoping for rain is probably the best option where soils are very dry. The seed will remain viable in the soil until it gets enough moisture for germination.

Before planting, producers should examine the long-term forecast and estimate how long the dry conditions will persist. The current short-term precipitation outlook (6 to 10-day) is leaning significantly toward below-normal rainfall.

Precipitation amounts are predicted to remain below normal for October. Should this occur, producers should treat the fields as if they were planting later than the optimum time, as the emergence date will be delayed. Rather than cutting back on seeding rates and fertilizer to save money on a lost cause, producers should increase seeding rates, consider using a fungicide seed treatment, and use a starter phosphorus fertilizer to improve early season development. However, producers should be cautious with in-furrow nitrogen or potassium fertilizers as these are salts and can make it more difficult for the seed/seedling to absorb water needed for germination. The idea is to ensure the wheat gets off to a good start and will have enough heads to have good yield potential, assuming it will eventually rain and the crop will emerge late. Wheat that emerges in October may still hold full yield potential, but wheat that emerges in November almost always has fewer fall tillers and, therefore, can have decreased yield potential.

Probably the worst-case scenario for wheat planted into dry soils would be if a light rain occurs and the seed gets just enough moisture to germinate but not enough for the seedlings to emerge through the soil or to survive very long if dry conditions return. Once the coleoptile extends to the soil surface, the plant must have enough moisture to continue growth; otherwise, it will perish. This situation may worsen if producers plant wheat following a summer crop such as corn, soybean, or sorghum, which depleted subsoil moisture through late summer. The wheat stand can be completely lost without subsoil moisture to sustain growth. If late October brings cooler temperatures, dusting wheat in becomes a more interesting option as soil moisture from a possible rainfall event could be stretched further.

### **Option 2: Plant deeper than usual into moisture**

Planting deeper than usual can work if the variety to be planted has a long coleoptile and there is good soil moisture within reach. The advantage of this option is that the crop should come up and make a stand during the optimum time in the fall. If using a hoe drill, the ridges created could potentially keep the soil and emerging plants protected from wind erosion through the winter.

It’s possible that the wheat would get planted so deep that it would germinate but never emerge at all, especially if the coleoptile length is too short for the planting depth. Generally, it’s best to plant no deeper than 3 inches with most varieties in Kansas and the Great Plains. It is also important to remember that ridges formed by narrow press wheels can make the effective planting depth much deeper if the seed furrows fill in during a heavy rainfall event.

### **Option 3. Wait for rain before planting**

To overcome the risk of crusting or stand failure, producers may decide to wait until it has rained and soil moisture conditions are adequate before planting. Under the right conditions, this would result in good stands, assuming the producer uses a high seeding rate and a starter fertilizer, if appropriate. If it remains dry well past the optimum range of planting dates, the producer would then have the option of just keeping the wheat seed in the shed until next fall and planting spring crops next year instead.

The risk of this option is that the weather may turn rainy and stay wet later this fall, preventing the producer from planting the wheat, while those who dusted in their wheat could have a good stand. There is also the risk of leaving the soil unprotected from the wind through the winter until the spring crop is planted.

Crop insurance considerations and deadlines will play a role in these decisions. Another consideration is to delay the bulk of nitrogen application until topdress time in the spring, as wheat does not require much nitrogen in the fall. This would defer expenses until an acceptable wheat stand is assured.

### **True and fall armyworms relishing on Kansas crops**

True and fall armyworms have been a nuisance to crop production in Kansas over the past forty years. Kansas State University crop entomologist Jeff Whitworth said these pests have once again made their presence known in 2024, noting that their similar developmental schedules and rapid life cycles heighten crop damage. “Right now, both species are the same size larvae,” he said. “The eggs take approximately 3-5 days to hatch. Then the larvae will emerge and start feeding immediately for about two weeks and then pupate for 6-7 days.” “Then, they are adults and start the cycle all over again. It is about a month from egg to egg; the feeding stage and larval stages last for two weeks of this cycle.” While fall armyworms may prefer soybeans this time of year, Whitworth said they can become a concern in any kind of field still growing until they migrate south. “They feed in soybeans, wheat, sorghum, corn – any of our crops,” he said (Figure 1). “Later on, we worry about them in brome and wheat, but now it is soybeans. However, once they pupate and the adults emerge, they should fly southward for the winter. Then growers have one less pest causing problems.”



On the other hand, true armyworms may overwinter in the state. In the fall, they seek out various new plant growth to eat. “It is going to be another week or so, and then they are going to start feeding voraciously on whatever crops are available,” Whitworth said. “One of the key crops is lush, green wheat.” Another natural defense growers have against true armyworms includes cold temperatures, Whitworth said, reminding them this pest can still be active late in the year. “They will keep going through life cycles until it gets too cold – and by too cold, I mean down into the mid-20s for an hour or two at night,” he said. “But I have seen them feeding in November until a crop matures and turns brown.”

**Photo by Shad Marston Ag Agent,  
McPherson County**

To mitigate armyworm infestations, Whitworth recommends growers delay winter wheat planting as late as possible to limit the amount of vegetation available for the pest to feed on. “Plant wheat as late as agronomically possible for your area to help avoid these pests,” he said. “Armyworms go out and find just about any grass; they can feed on lawns, brome and especially that young wheat.” Before treating an armyworm infestation with a recommended insecticide, producers should double-check their treatment thresholds and scout fields to determine the size of the pest, according to Whitworth. “If they are an inch long, they are relatively mature worms, so I would not waste money or spray trying to kill them,” he said. “If they are small, a producer is probably justified treating them.” The key to a successful armyworm insecticide treatment involves mixing the chemical with sufficient water so it can get through foliage and make contact with the pest

<https://www.ksre.k-state.edu/news-and-publications/news/stories/2024/09/agriculture-entomology-true-and-fall-armyworms.html>

### **Fall brings horse bot flies Cassandra Olds – Veterinary and Medical Entomology K-State**

Photo by KSRE

Horse owners may be noticing the appearance of small yellow eggs laid on the legs of their horses. All four legs can be targeted but higher egg numbers are normally observed on the front legs. These eggs are laid by the horse bot fly, *Gasterophilus intestinalis* (DeGeer) with each female laying between 150 and 1000 eggs! Eggs are glued to the hair shaft and multiple eggs can be laid on a single hair strand. Horse bot fly eggs laid in batches attached to hair on the hind and front legs of a horse. Multiple eggs can be laid on a single hair strand. Eggs hatch within 10 days, stimulated by horse licking and increased humidity.



Larvae enter the horse mouth and imbed in the tissue where they remain for roughly 28 days. After molting, second stage larvae exit mouth tissues and are swallowed, thereby moving the stomach. The larva can remain in the stomach for 9-12 months where it molts into the third and final larval stage. After maturing the third instar detaches from the digestive tract and is passed out in the feces. The larva will burrow into the soil and pupate where it will remain for 1-2 months. As horses tend to create manure piles, the number of flies pupating in an area can become significant. Adult flies can cause significant fly worry, adverse reactions to flies can result in horses injuring themselves trying to escape from attack. Under high numbers, reduced grazing can result in weight loss.

Significant mouth irritation can occur when first instar larvae burrow into oral tissue and although horses can tolerate low levels of stomach parasitism, large numbers can cause blockages, colic and reduced nutrient uptake. Control can be achieved through a combination of sanitation, egg removal and correctly timed oral dewormer. Removing eggs immediately will significantly reduce the risk of a horse consuming larvae and initiating the infestation cycle. A simple and inexpensive (\$3-7) bot egg knife can be used to physically remove eggs from the legs. A bot fly knife can be used to remove bot fly eggs from horsehair by scraping downwards with the direction of hair growth. Deworming one month after eggs were noticed will kill any second instar larvae that may have been consumed and now reside in the stomach. A second round of dewormer can be administered 6 months after the first dose to remove any third instar larvae. Removing manure piles from the site can reduce the number of adult flies emerging.

# 4-H YOUTH DEVELOPMENT

SHYANNE JONES  
COUNTY EXTENSION AGENT  
4-H YOUTH DEVELOPMENT

October 2024

- 10/1 - Enrollment has opened! Be sure to do yours quickly so you are included in all the information for the year!
- 10/3 - 4-H Council Meeting
- 10/6-12 - National 4-H Week
- 10/15 - KYLF registration due to state – **see information below!**
- 10/27 - Save the Date (*don't get too attached*) for Officer Training
- 11/3 - Achievement Banquet, 4:30pm @ McPherson Community Building - Meal ticket information coming soon!

## Get Published

Have project news or reports of fun 4-H happenings? Please email or bring in any articles to Lauralee at [Lhelm@ksu.edu](mailto:Lhelm@ksu.edu) by October 21st to get them into the Newsletter.



**HAPPY NEW YEAR!**

## YOUTH ENTREPRENEUR SIDEWALK SALE

The Ark Antiques and Flea Market will host a Sidewalk Sale on October 12th from 11am – 1pm with a booth fee waived for those 18 and under. Those of you who sell arts and crafts, photography, etc., this is a great opportunity to get your name out!

To register: [www.thearkmcperson.com/outdoor-market](http://www.thearkmcperson.com/outdoor-market)

## GUIDE TO SURVIVING McPHERSON COUNTY 4-H!

Some helpful hints to prevent common problems we've faced this year:

[https://ksuemailprodmy.sharepoint.com/:w:/g/personal/shyannej\\_ksu\\_edu/EcJlxtlAP5ZBiHtyFOhVUVwBGselNtcSnSAc-c3m7GYu\\_A?e=SarhXR](https://ksuemailprodmy.sharepoint.com/:w:/g/personal/shyannej_ksu_edu/EcJlxtlAP5ZBiHtyFOhVUVwBGselNtcSnSAc-c3m7GYu_A?e=SarhXR)

## Kansas Youth Leadership Forum (KYLF)

**What:** Build your leadership skills and potential through workshops, consulting groups, inspirational speakers and more. In addition, the 2025 State 4-H Youth Leadership Council will be elected and up to six National 4-H Conference delegates will be selected through an interview process at KYLF.

### Objectives:

- Broaden your understanding of the meaning of leadership and the qualities of a leader.
- Practice leadership skills you can use in other situations, like your local club, school and community.
- Improve interpersonal communication skills.
- Gain confidence.

**When:** November 23-24, 2024

**Where:** Rock Springs 4-H Center

**Who:** Youth 14-18 years of age before January 1, 2025

**2024 Fees:** \$215 and additional optional \$55 for Friday overnight and breakfast.

**Registration Deadline:** Monday October 15, 2024 by 11:59 p.m.

**You must let Shyanne know of your intent to go AS SOON AS YOU REGISTER and there must be at least three registered from MP County to arrange county transportation.**



Registration/Accommodations Requests: <https://www.kansas4-h.org/events-activities/conferences-events/kansas-youth-leadership-forum/index.html>

**What:** Join us this fall in seeing just how much we can give back to our communities! The weekend after National 4-H Week, is the perfect opportunity to setup a service project. Invite your friends, clubs, adult volunteers and 4-H Alums too! Find all the information here and start planning your projects. Please register your projects and then follow up with a report so we know about all the great things that happened across the state. 48 Hours of 4-H is the perfect compliment to **#InspireKidstoDo**

**When:** October 12-13, 2024

**Who:** 4-H Members, 4-H Clubs, Friends, Adult Volunteers, Parents, 4-H Alumni, Partnerships, Community Organizations, Potential 4-H Families

#### **2024 Information :**

- **484H Introduction Sheer:** <https://www.kansas4-h.org/events-activities/conferences-events/48-hours-of-4-h/docs/484H%20INTRODUCTION%202024.pdf>
- **484H Guide:** <https://www.kansas4-h.org/events-activities/conferences-events/48-hours-of-4-h/docs/484H%20Guide%202019.pdf>

2024 Project Registration Form for reference - PDF Copy. This so is you know what questions are asked. All projects must be registered through the online link below

**Register your Project:** [https://kstate.qualtrics.com/jfe/form/SV\\_73uAolYcX7bg3X0](https://kstate.qualtrics.com/jfe/form/SV_73uAolYcX7bg3X0)

**Please register by September 20 if possible**

#### **AFTER YOUR PROJECT:**

Please do a follow-up report: [https://kstate.qualtrics.com/jfe/form/SV\\_a4BYjplvmRgAiG](https://kstate.qualtrics.com/jfe/form/SV_a4BYjplvmRgAiG)

-Tell us about the project and upload 2-5 photos. Even if you did not originally register, please report. Several projects will be recognized if follow-up reports are in by October 20, 2024.

For reference: <https://www.kansas4-h.org/events-activities/conferences-events/48-hours-of-4-h/docs/2024%20484H%20Follow%20up%20Report%20PDF.pdf>

Here is what will be asked on the follow up report and there will be space to upload 5 photos. - This is for reference only, please fill out online at link above.

- **484H Attendance Sheet:** [https://www.kansas4-h.org/events-activities/conferences-events/48-hours-of-4-h/docs/484H\\_Attendance\\_Sheet.pdf](https://www.kansas4-h.org/events-activities/conferences-events/48-hours-of-4-h/docs/484H_Attendance_Sheet.pdf)
- **484H News Release Template:** [https://www.kansas4-h.org/events-activities/conferences-events/48-hours-of-4-h/docs/484H\\_News\\_Release\\_Template.docx](https://www.kansas4-h.org/events-activities/conferences-events/48-hours-of-4-h/docs/484H_News_Release_Template.docx)

#### **Kansas Volunteer Leader Forum**

The Kansas Volunteer Leaders Forum is an opportunity for volunteers from around the state to learn together while building a network of likeminded passionate adults. Participants will have the opportunity to dive into interactive content they can use to engage their youth members, connect with state and local extension staff to learn about new and exciting 4-H happenings, and engage with the Kansas Association of 4-H Volunteers as a support system for volunteering efforts throughout the year.

**What:** The Kansas Volunteer Forum

**When:** Tentative Dates - November 23-24, 2024

**Where:** Rock Springs 4-H Center

**Who:** 4-H Volunteers and Staff

**2024 Draft Agenda:** <https://www.kansas4-h.org/events-activities/conferences-events/kansas-volunteer-leader-forum/docs/2024%20Draft%20Volunteer%20Forum%20Agenda%208%2020%2024.pdf>

**Detail Sheet:** <https://www.kansas4-h.org/events-activities/conferences-events/kansas-volunteer-leader-forum/docs/KVF%202024.pdf>

**Registration:** <https://www.kansas4-h.org/events-activities/conferences-events/kansas-volunteer-leader-forum/index.html>

**Registration Deadline: Monday, October 15, 2024**

#### 2024 Fees:

\$150 KVF Adult Registration Regular

\$125 KVF Adult Registration for Life Members

\$95 KVF Friday Night and Saturday Breakfast

\$21 for KYLF T-Shirt

**K-State Research and Extension is committed to providing equal opportunity for participation in all programs, services and activities. Accommodations for persons with disabilities may be requested here, four weeks prior to the start of the event (October 25, 2024). Requests received after this date will be honored when it is feasible to do so.**



# Family & Community Wellness

CHUCK LAUGHLIN  
COUNTY EXTENSION AGENT  
FAMILY & COMMUNITY WELLNESS

## McPherson County Calendar – Online

The McPherson County Calendar is here for public events, seminars, business sponsored events, meetings covered under the Kansas Open Meeting Act, etc. throughout the county.

**There is not a functionality to add personal events (i.e. specific business internal meetings, garage sales, sale of personal items, etc.).**

Calendar events will be added on a batch process so they will not show up immediately.

To ensure the accuracy of information for your event, calendar items must be entered through the link and will not be taken via phone or email.

<http://tinyurl.com/MCAddEvent>



View the list of events at <https://www.mcpherson.k-state.edu/>

## Preserving Wild Game

by Karen Blakeslee

Hunting season has begun! Wild game provides wholesome, nourishing food, but food safety is key for preserving the meat.

To retain the quality of the meat, it is important to handle and preserve the meat safely and efficiently. The most popular methods to preserve the meat are freezing, dehydrating, or canning.

Pressure canning is the only method to can meat. Be sure your canner is in good working order and remember to adjust the processing pressure for your altitude of residence.

Dehydrating meat into jerky makes a quick snack that is easy to store and is portable. The ideal dehydrating temperature is 140°F. But the meat must be heated, either before or after dehydrating, to 160°F.

Learn more at

<https://www.ksre.k-state.edu/foodsafety/topics/animal.html#game>

## Teach & Taste – October

**TEACH & TASTE**  
Gingerbread Pancakes  
October 9, 2024  
6:30 PM  
McPherson County Extension Office  
600 W. Woodside  
McPherson, KS

**Brain Bites**  
One of the earliest English recipes for gingerbread, written down in the fifteenth century, didn't actually contain any ginger! Instead, crumbles were mixed with baked honey and formed into a stiff paste with saffron and poppy. The gingerbread was then shaped into a square, spread with cinnamon and decorated with box leaves secured with cloves.

Spices were an expensive rarity and the use of excessive saffron in gingerbread was a way of demonstrating wealth to guests.

**CLASSES ARE FREE**

K-STATE  
Kansas State University Agricultural Experiment Station and Cooperative Extension Service - K-State Research and Extension is an equal opportunity provider and employer.



Christmas in July? *That's old news.*

Christmas in October? **Now, that is innovative!**

Join us October 9th to learn a healthy **AND** tasty breakfast staple that you can feed your family over the holiday months!

Register at:

[https://kstate.qualtrics.com/jfe/form/SV\\_6JbFzkgE7jhFZdA](https://kstate.qualtrics.com/jfe/form/SV_6JbFzkgE7jhFZdA)

**After the Hunt: Preserving Venison**

Cool the dressed carcass to 35 to 40°F as soon as possible

2-3 days  
Age the carcass at 40°F or less to reduce game taste and tenderize the meat

Freeze meat for 3 months or less for best quality

A pressure canner must be used to safely can venison

For more information:  
<http://nchfp.uga.edu/tips/fall/venison.html> K-STATE  
Research and Extension

## Global Handwashing Day

Global Handwashing Day is October 15, 2024. Why is this important? Handwashing with soap and water is one of the simplest, most effective ways to stop the spread of germs and stay healthy. Keeping hands clean can help prevent diarrheal illnesses and respiratory infections, such as the common cold or flu.

In five easy steps, you can help prevent the spread of germs and disease.

- Wet your hands and apply soap.
- Lather your hands, including the backs of your hands, between your fingers and under your nails.
- Scrub your hands at least 20 seconds.
- Rinse your hands with clean, running water.
- Dry your hands with a clean towel or air dry.

**The McPherson County Extension Office offers a Handwashing Class that is available for all ages. Contact the office if you would like to offer this to your group or organization.**



A portrait of Christy Davis, State Director of USDA Rural Development, smiling and wearing glasses and a dark jacket. The background of the entire graphic is purple with faint icons of a laptop, a smartphone, and a hand holding a pen.

# First FRIDAY e-CALL

## How can USDA Help Your Community?

Christy Davis, State Director,  
USDA Rural Development

**Join Us October 4, 2024**  
**9:30-10:30 am CT**

**Register Today**  
<https://ksre-learn.com/ecall>

**K-STATE**  
Research and Extension

## Scammers, it often seems, never rest. by Elizabeth Kiss

Whether it be by phone, email or suspicious website, consumers face an onslaught of characters aiming to cash in on an easy buck, or even steal an identity.

But Kansas State University family finance specialist Elizabeth Kiss says knowing the tangles that scammers often use will help consumers stay safe.



“The Federal Trade Commission has a lot of great information for consumers about fraud and they highlight signs for things that might be a scam,” Kiss said.

### **Some of the common signs consumers should look for include:**

#### ***The scammer pretends to be from an organization you might know.***

Some examples include the Social Security Administration, the IRS or Medicare. Or, Kiss notes, the caller may represent themselves as being from a utility company or charity. “They have used technology to change their phone numbers,” Kiss said, “so it looks like what you’re seeing (on your phone).”

#### ***The scammer indicates there is a problem that needs your attention.***

You might be told that you owe money or someone in your family had an emergency and need your assistance immediately. On a computer, you may get an urgent message about a virus infecting your files. Another form of scam indicates that you’ve won a prize and you must act immediately to claim it.

#### ***The scammer pressures you to act immediately.***

Scammers don’t want you to have time to think; they want to get your attention now. There is an urgency to the claims the person is making, whether it’s by phone or computer.

#### ***The scammer indicates you owe money, and says there is only one way to pay.***

You may be aware that you owe money and so the claim seems legitimate. But the caller indicates you must pay right away and that there is only one way to pay – such as crypto currency or wiring money to a company or with a specified app. Recent scams tried to lure consumers into paying with gift cards.

Kiss urges consumers to resist making decisions quickly. Investigate claims being made against you – whether it is by phone, email or other computer application.

“You can avoid a scam by not even opening yourself up to those potential communication channels,” Kiss said. “For example, you can block your number, or filter unwanted text messages. Don’t give your personal or financial information in response to a request that you didn’t expect.”

If you’re on the phone, “hang up and check out their story.”

If you’re on email, “there’s no hurry, right? Check out the story online and verify if this is legitimate or not.”

“I think we have to watch our footprint across the web, too,” Kiss said. “And we can protect our personal information by protecting our devices, which includes updating software regularly so that it has new patches and security protection.”



### **Food Safety: Vacuum package foods for long term storage** **by Karen Blakeslee**

There are many benefits to vacuum-packaged foods, but Kansas State University food scientist Karen Blakeslee said knowing food safety concerns is necessary for food establishments.

“Removing oxygen (from packaging) can reduce growth of some spoilage microorganisms, reduce rancidity and color changes, and extend the shelf life of cold-stored foods,” Blakeslee said.

Vacuum packaging also produces an anaerobic environment when air is removed from the package, similar to canning.

“This can allow *Clostridium botulinum* to form spores that can develop a deadly toxin if proper storage conditions are not met,” Blakeslee said.

Food establishments must use at least two barriers to ensure the safety of reduced oxygen products, Blakeslee added. These barriers include:

- Refrigeration below 41F.
- pH at or below 4.6.
- Water activity (a measure of available water in a food product) at or below 0.91.
- Presence of high levels of competing microorganisms, such as raw meat or poultry.
- Freezing.
- Inspected, properly cured meat or poultry products.



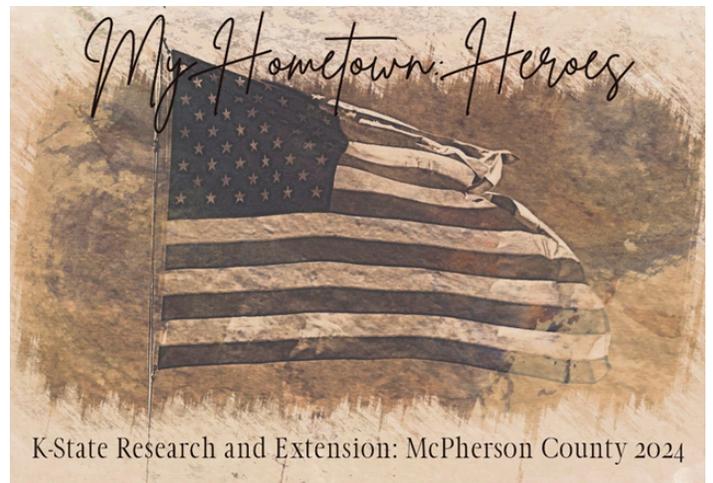
In addition to the barriers listed, food establishments must ensure their employees are properly trained on the packaging procedures.

Common foods to vacuum package are meat, poultry and seafood. Other foods could be fresh vegetables or fruit. Vacuum packaging is popular in food establishments because it helps save space in a freezer.

“Handling the food safely is important to prevent cross-contamination. Always wash your hands and use clean equipment,” Blakeslee said.

**2024 Calendars are available at the McPherson County Extension Office. Come by and pick up your copy while supplies last.**

**The 2025 Calendar is in process. You can start entering your 2025 events using the online calendar link anytime.**



To schedule time with Chuck follow the link below or scan the QR code.

<https://calendly.com/claughlin-ksu/meeting-with-chuck>

### County Connection E-News

To register to receive updates on upcoming events, calendar updates, webinars, senior and military discounts available, county resource phone numbers, as well as tips and tricks to make life easier.

County Connection Sign-Up



<http://eepurl.com/iicSFn>



K-State Research & Extension  
McPherson County  
600 W. Woodside  
McPherson, KS 67460

## RETURN SERVICE REQUESTED

## AGENT CONTACT INFORMATION

Shad Marston  
County Extension Agent  
Agriculture & Natural Resources  
[smarston@ksu.edu](mailto:smarston@ksu.edu)  
Radio Every Monday:  
7:40 AM-96.7 KMPK  
8:40 AM-98.9 KMCP  
Ad Astra Radio Station

Shyanne Jones  
County Extension Agent  
4-H Youth Development  
[shyannejj@ksu.edu](mailto:shyannejj@ksu.edu)

Chuck Laughlin  
County Extension Agent  
Family & Community Wellness  
[claughlin@ksu.edu](mailto:claughlin@ksu.edu)