Pottawatomie County

K-STATE RESEARCH AND EXTENSION NEWS

Agriculture and Natural Resources

pottawatomie.k-state.edu

July 2020

Pottawatomie County Extension Office

K-State Research & Extension

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K-STATE Research and Extension

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Extension Services

An important goal of K-State Research and Extension – Pottawatomie County is to reach new clientele. We know that if we can get you to use our services once, you are likely to do so again. But even some of our most regular participants may not know all the services we offer. I will focus on agriculture/horticulture services we provide, but list some other program services, too.

My name is Shannon Blocker and I am your County Extension Agent, Agriculture and Natural Resources. I have been serving you in Pottawatomie County for 3 years, but have been an Extension Agent for 18 years. I have a bachelor's degree in agricultural education and a master's degree in agronomy—soil fertility from Kansas State University.

Services we provide include insect, plant or weed, and plant disease identification. I utilize our local resources including my past experience and books for identification, but when I am stumped, I can ask a specialist for help by sending pictures. If a physical sample must be sent to the lab, a minimum fee of $10 or the cost of any diagnostic tests will be collected.

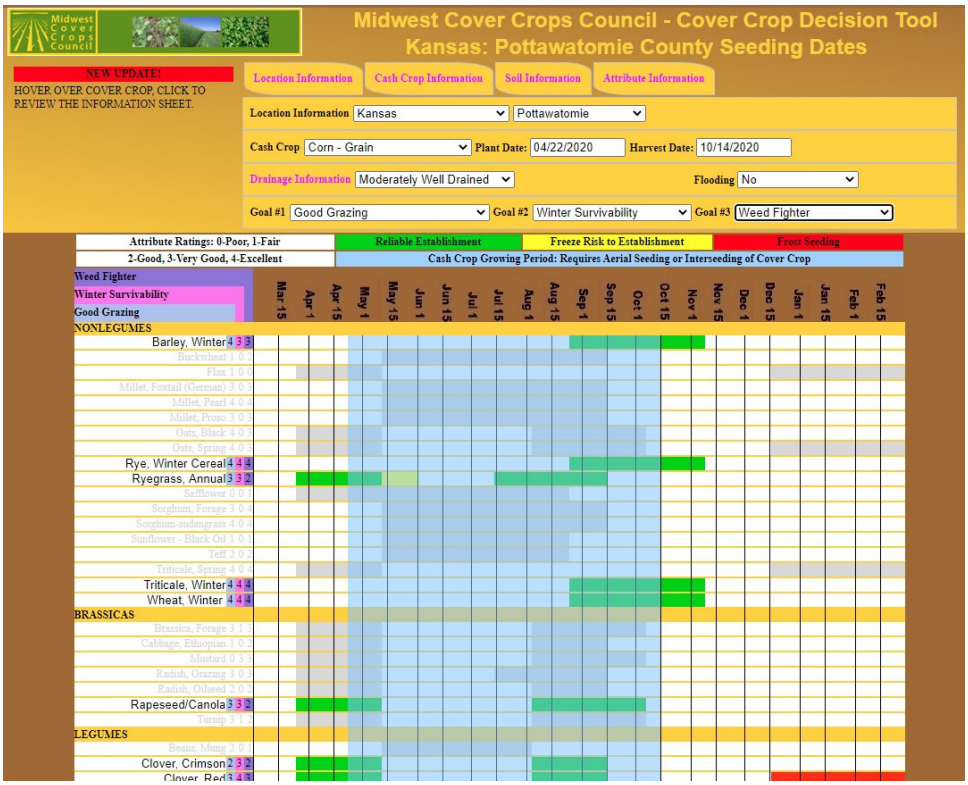
We also have a soil testing laboratory where fertility and pH evaluations are made. Test results are accompanied by fertilizer recommendations that consider plant growth requirements, cost, and the environment. Although soil testing cannot explain every problem related to soil, it can diagnose or rule out fertility related issues for a minimal charge. A basic soil test with pH, phosphorus and potassium currently costs $7.00 per sample. For those willing to participate in a grant program, up to 10 agriculture and 2 lawn and garden tests can be run on Pottawatomie County property annually at no cost to the individual. Additional tests and related costs are available upon request.

We are happy to loan sampling tools and provide lab submission forms for manure nutrient, forage quality, and grain quality analysis. We have water safety and quality test kits in our office available for consumers to pick up, sample and ship themselves. Seed germination and purity samples are sent to an industry laboratory. Our office proctors the initial test for a Kansas private pesticide applicator license.

Additional services we offer include radon test kits, pressure canner gauge testing and SHICK counseling (Medicare prescription drug coverage). We manage the county 4-H Youth Development program and it's volunteers. We hope you will take advantage of our services and research-based information.

Cover Crop Decision Tool

Incorporating cover crops in your operation can help you meet your conservation and management goals, but your species and mix choices can seem overwhelming. The Midwest Cover Crops Council has an online tool that can assist in narrowing down options that are suited to Pottawatomie County, Kansas, your cash crop, drainage, flooding, and up to three goals. Goals include such options as good grazing, weed fighter, soil builder, nitrogen source, winter survivability, and others. Cover crops are ranked on a four-point scale as to their effectiveness in meeting your selected goal(s). Check it out at the following link: http://mccc.msu.edu/covercroptool/covercroptool.php



Rangeland Brush and Weed Management

Now can be a great time to evaluate your pastures and rangeland for brush and weed concerns. The noxious weed, sericea lespedeza, is actively growing and susceptible to chemical control. Each leaf consists of three leaflets and they have a little needle point at the end of each leaflet. Feel free to bring a sample to the Extension Office or the Noxious Weed Department if you are unsure. Cost-share on herbicides to control sericea lespedeza and other noxious weeds can be obtained when herbicides are purchased from the Pottawatomie County Noxious Weed Department at 405 E. Campbell St, Westmoreland.

Many brush species can be effectively sprayed now, too. A mixture of active ingredients triclopyr, 2,4-D and picloram (restricted use) is a great foliar application mix for all common brush species. The following linked document on our Pottawatomie County Extension website is very handy because it gives both broadcast and spot treatment recommendations for major rangeland brush and weed species. https://www.pottawatomie.k-state.edu/docs/Weed-Brush-Control.pdf.

USDA's Coronavirus Food Assistance Program

The Coronavirus Food Assistance Program, or CFAP, provides vital financial assistance to producers of agricultural commodities who have suffered a five-percent-or-greater price decline or who had losses due to market supply chain disruptions due to COVID-19 and face additional significant market costs. Eligible commodities include: non-specialty crops, livestock, dairy, wool and specialty crops. More information can be found online at https://www.farmers.gov/cfap.

The Farm Service Agency is accepting applications for CFAP from agricultural producers from May 26 to August 28, 2020. Offices are open by phone appointment only, but FSA will be working with producers by phone and using email and online tools to process applications. The Westmoreland FSA Office phone number is (785) 457-3661, extension 2.

Pottawatomie County Farm and Ranch Tour

Before the pandemic, I was working toward organizing a Pottawatomie County Farm and Ranch Tour. The idea came out of a program development committee meeting with local residents. Many Pottawatomie County citizens do not live on a farm or ranch, but want to learn and know more about where their food comes from. The plan was to identify farms and ranches that would be willing to open their operation to the public on a particular Saturday in the fall. Citizens would buy a ticket/map and would travel to the available farms and ranches of their choosing throughout the day. Farms and ranches would be encouraged to market their products to attendees in exchange for their willingness to teach others about their operation. Ideally, we would have a good mix of small to large operations and to cover the wide range of production agriculture and horticulture business types.

This year, however, has not turned out to be the year to encourage mass gatherings and travel to various locations throughout the area. Therefore, I have tentatively selected September 25, 2021, for our first Pottawatomie County Farm and Ranch Tour. I hope you will mark your calendar! I am sharing this information now for two reasons. First, I would love to have a wide variety of farms and ranches reach out to me and volunteer to teach those likely unfamiliar with agriculture about their operations. Second, I would like to make some short videos of local farms and ranches this July-mid September to create a virtual farm and ranch tour this fall. Please contact me at sblocker@ksu.edu or (785) 457-3319 with any questions and/or tentative willingness to participate.

Non-Confined Beef Cattle Feeding Sites

Non-confined (NC) feeding sites are used by beef cattle producers to reduce stress on cattle and allow utilization of grass, crop residue, or cover crops. The number of cattle at a feeding site is based on the carrying capacity of the pasture or planted crop.

When planning a NC feeding site, producers should consider design requirements, runoff control, pasture management, feed bunk type and placement, supplemental feed, and water source. A factsheet on NC feeding sites can be found here: https://www.kcare.k-state.edu/NC%20feeding%20PUB.pdf.

Our local K-State Research and Extension Watershed Specialist, Will Boyer, and/or Shannon Blocker, Pottawatomie County Agriculture Extension Agent, are available to meet with producers on-site to advise on creating non-confined (or confined) beef cattle feeding sites. Contact the Pottawatomie County Extension Office if interested.

Post-Emerge Soybean Dicamba Considerations

It is that time of year again for post-emergent applications of Engenia, Fexapan, and Xtendimax on dicamba-resistant soybeans. In light of the recent court ruling, it is vital that application restrictions are followed closely to prevent non-target dicamba injury to conventional, Enlist, and Liberty Link soybeans. A brief overview of the application restrictions is provided below.

Application date (whichever comes first):

- July 31, 2020 **OR…**
- 45 days after planting **OR…**
- R1 growth stage

Application hours: Between 1 hour after sunrise and 2 hours before sunset

Application hours: Between 1 hour after sunrise and 2 hours before sunset

Wind Speed: Between 3 mph and 10 mph

Do not apply in a temperature inversion. Check mesonet.k-state.edu/agriculture/inversion/ for conditions around the state.

Do not apply if sensitive crops or a residential area is downwind

Buffer:

- 110 ft down-wind buffer is always required
- 57 ft buffer on all sides of the field if in county where listed endangered species are present

Recordkeeping:

- Must be created within 72 hours of application
- Must include both the planting date and the buffer distance calculation

Exposure of non-dicamba-resistant soybeans to even very low rates of dicamba can cause injury that includes leaf cupping, brittle leaves, stunting, pod curling, and plants becoming a darker shade of green. Leaf cupping and crinkling 2 weeks after soybean exposure to 1/100th of a field-use rate of dicamba at V3 growth stage.

Photo by Tyler Meyeres, K-State Research and Extension.

Growth stage is a critical factor for severity of potential injury

Research conducted at Kansas State University and funded by the Kansas Soybean Commission has shown that the amount of soybean injury caused by off-target movement of dicamba depends on crop growth stage. Non-dicamba resistant soybeans develop fewer injury symptoms when exposed to dicamba during the early growth stages, like the third trifoliate (V3), than during flowering (R1/R2) and beginning pod (R3). However, observing injury in non-dicamba-resistant soybeans does not mean there will be yield reductions. Yield reductions in our research did not correspond to visual injury. Generally, soybeans exposed to dicamba early in the season will recover by the end of the growing season. However, soybeans exposed later in the season will most likely have injury that will persist to the end of the growing and translate into some degree of yield loss. Exposure during V3 resulted in 6% or less yield loss, while exposure to 1/100th of a field-use rate during flowering resulted in 25% yield loss, and multiple exposures caused up to 50% yield loss.

It is critical that applicators follow application guidelines to not only protect producers of non-dicamba tolerant soybeans but also to help preserve dicamba-resistant technology.

By: Tyler Meyeres, Weed Science Graduate Assistant; and Sarah Lancaster, Weed Science Extension Specialist

Kansas Corn Yield Contest

Kansas Corn, in conjunction with K-State Research and Extension, will conduct a 2020 Kansas Corn Yield Contest. All Kansas corn producers are eligible to enter the free contest, but they must be active members of the Kansas Corn Growers Association.

The contest is a fun way for producers to showcase their high yielding and high quality corn with other growers in the state, and provide motivation to producers to increase yields. The contest also serves as a vehicle to improve farming operations and increase awareness of best management practices (BMPs) to improve and sustain corn yields.

KANSAS CORN Yield Contest

Registration must be completed online by August 31, 2020. Harvest entry forms must be received online by December 1, 2020. Entries submitted to the National Corn Yield Contest qualify to enter the state contest, but entries must be made to both contests.

I am willing to serve as one of your submitted supervisors. I enjoy the opportunity to get in the field during harvest, and with your permission, I will measure with both our measuring wheel and UAS (drone). Please contact me at sblocker@ksu.edu with an estimate of when you will harvest.

For complete contest rules, forms, and to register, visit https://kscorn.com/yield-2/

Blue-green Algae

With the recent change to hot and drier weather conditions, local residents should be aware of the risks associated with blue-green algae. Blue-green algae include several different species of photosynthetic cyanobacteria that live in water. Cyanobacteria are bacteria capable of photosynthesis. These cyanobacteria can produce toxins that can sicken or kill humans, pets and livestock.

Occasionally, blue-green algae rapidly reproduce and form blooms, or large colonies, that are visible as a scum on the water's surface. They also may change the water color of a pond. Such blooms of toxic cyanobacteria are often referred to as harmful algal blooms, or HABs. These are typically most severe in stagnant areas, such as coves or inlets, where wind disturbance of the water surface is minimal and water temperatures are higher. Floating algal scums may accumulate at the downwind shores of lakes and ponds. Sometime, but not always, a

"John Deere" green color will adhere to a stick or container when stuck in the surface scum.

The Kansas Department of Health and Environment maintains public lake advisories for harmful algae blooms. The current list can be found at this website:https://www.kdheks.gov/algae-illness/

Most toxins that are produced during harmful algal blooms are stored within the cyanobacteria until they die. As the cyanobacteria decompose, they release stored toxins into the water. Toxins are not evenly dispersed in a pond and can vary dramatically, even at nearby locations in the same pond. Therefore, if measurable toxin levels are found, it is prudent to suspect the entire pond is toxic, and the pond should not be used for livestock or human drinking water. Cyanobacterial toxins also may irritate skin, eyes, and the respiratory system, so wading or touching the water should be avoided. Some toxin types may cause the meat of fish to be poisonous. Fish caught from these ponds should not be eaten.

Water samples can be submitted to K-State Veterinary Diagnostic Lab for blue-green algae testing. Directions for collecting and submitting a sample can be found in the following linked publication: https://bookstore.ksre.ksu.edu/pubs/MF3065.pdf. Also, feel free to contact the Pottawatomie County Extension Office for more information.

Soil Testing

New soil testing videos covering how to take and submit a sample and how to understand your report were made recently and are available on our website at https://www.pottawatomie.k-state.edu/ under "Crops and Livestock" or "Lawn and Garden."

Plant Tissue Analysis

Our K-State Soil Testing Laboratory does plant tissue analysis, too. The tests they do can be grouped into two categories: feed/forage quality and safety and diagnostic fertility.

For livestock producers concerned about plant nitrate toxicity or just crude protein, the soil testing lab can be a nearby and cost-efficient way to get results. When additional information such as prussic acid, phosphorus, calcium, and net energy values are requested, a commercial lab should be used.

Diagnostic fertility tests are especially helpful because they measure plant nutrients taken up by the growing crop. Nutrient deficiencies can be diagnosed comparing "good" and "bad" areas or evaluated as compared to sufficiency book values. Diagnostic fertility testing is often the best approach for micronutrient concerns. Plant nutrients that can be tested include N, P, K, S, Zn, Cu, Mn, Ca, and Mg.

Potassium deficiency symptom on soybeans

Bagworms

The past 3-4 years have been heavy years for bagworms in Kansas. Many of you may have believed that bagworms are only an issue for Eastern redcedar. Although they are the major pest of our native cedar trees, bagworms also impact other trees and shrubs.

Young bagworms normally hatch in May in Kansas and initially are about 1/25 of an inch long. The young larvae begin to spin silken bags around themselves which they carry as they feed. Larvae usually feed on the original plant or those nearby but very young larvae may be transported to other hosts via a long silken thread that can be carried by the wind. As the larvae grow, leaf fragments are added to the bag providing a natural camouflage. The visual appearance of the bag varies depending on the type of foliage attached to the bag.

Often the bags are not noticed until the larvae are nearing maturation and the bags approach 1 to 2 inches in length. Mature bags hang off the tree or shrub like Christmas ornaments. Bagworms reach maturity in August. The now mature larvae attach their bags to branches or other objects and change into adults. The adult male is a small, gray, clear-winged moth that resembles a wasp.

The female is wingless and legless and never leaves the bag. Males emerge in September and mate with the female through the bag entrance. The female then produces her eggs and dies. Eggs overwinter inside the bag and the cycle repeats the following year.

Recommendations: Small infestations can be picked off by hand once the larvae are large enough to see easily. However, any insecticide spray will be more effective if used on young larvae that are actively feeding. In Kansas, start looking for the new hatch about the middle of May. Wait several weeks after seeing the first larvae emerge to allow those still in the bag to make their appearance. This normally means spraying during the latter half of June in Kansas. Early to mid-July is not too late this year!


Small bagworms hanging from a long silken thread on a maple tree 6/30/2020.

Insecticides commonly used for controlling bagworms include spinosad (Conserve; Natural Guard Spinosad; Captain Jack's Dead Bug Brew, Monterey Garden Insect Spray), acephate (Acephate, Orthene, Bonide Systemic Insect Control), cyfluthrin (Tempo, BioAdvanced Vegetable & Garden Insect Spray) and permethrin (Eight Vegetable, Fruit & Flower Concentrate; Lawn, Garden, Pet, & Livestock Insect Spray). Also, products containing Bacillus thuringiensis are effective when used against bagworm larvae while they are still small. Products containing Bacillus thuringiensis and spinosad are organic controls. THOROUGH SPRAY COVERAGE TO FOLIAGE IS ESSENTIAL FOR CONTROLLING BAGWORMS! Controls applied in August are often a waste of time and expense because the larvae are large, tough and may have stopped feeding.

Fall Gardening

Probably the last thing most gardeners are thinking of now is planting vegetables. However, fall gardens will often produce higher quality, tastier cool-season crops as the vegetables mature during cooler, less stressful temperatures. Plant slightly deeper than you would in the spring so the seed stays cooler and the soil around the seed stays moist longer. Plant more thickly and thin later. The plants may need to be protected from rabbits through the use of fencing.

Fall Gardening Calendar:

Mid-July: Plant potatoes if you can find or have saved back seed potatoes. Do not use freshly dug potatoes as they have a built-in dormancy that will prevent growth.

Cabbage, broccoli, and cauliflower can be started from seed at this time. Choose a protected place where the soil can be kept moist and rabbits will not bother them. You will transplant them in mid-August.

Late July: Seed beets, carrots and beans.

Late July to Early August: Seed spinach and long-season maturing lettuce. Leaf lettuce will be seeded later.

Second Week of August: Transplant cabbage, broccoli and cauliflower to their final location.

Mid to Late August: Seed radishes and leaf lettuce.

No need to fertilize before planting. Sidedress two weeks after transplanting or four weeks after sowing seed by applying 2 tablespoons of a 16-0-0 or 1 tablespoon of a 27-3-3, 30-3-4 fertilizer, or something similar per plant. You may also use a liquid fertilizer such as Schultz, Peters, Miracle-Gro or Rapid Gro according to label directions. It would be a good idea to wash off the leaves with clean water to prevent burn from the fertilizer.

Watering must occur more frequently because seed should not be allowed to dry out. Overhead watering often causes soil to crust, making it more difficult for young, tender plants to emerge. Prevent this by applying a light sprinkling of peat moss, vermiculite or compost directly over the row after seeding. Even better, use a soaker hose or drip irrigation right next to the row to allow water to slowly seep into the ground.

Tomato Leaf-Spot Diseases

Two common leaf-spot diseases will likely appear on tomato plants soon if they haven't already. Septoria leaf spot and early blight are both characterized by brown spots on the leaves.

Septoria leaf spot usually appears earlier in the season than early blight and produces small dark spots. Spots made by early blight are much larger and often have a distorted "target" pattern of concentric circles. Heavily infected leaves eventually turn yellow and drop. Older leaves are more susceptible than younger ones, so these diseases

often start at the bottom of the plant and work up. Mulching, caging, or staking keeps plants off the ground, making them less vulnerable. Better air circulation allows foliage to dry quicker.

Mulching also helps prevent water from splashing and carrying disease spores to the plant. In situations where these diseases have been a problem in the past, rotation is a good strategy. Actually, rotation is a good idea even if you have not had problems in the past. If you have room, rotate the location of the tomatoes each year to an area that has not had tomatoes or related crops (peppers, potatoes, eggplant) for several years.

If rotation is not feasible, fungicides are often helpful. Be sure to cover both upper and lower leaf surfaces, and reapply fungicide if rainfall removes it. Plants usually become susceptible when the tomato fruit is about the size of a walnut. Chlorothalonil (active ingredient) is a good choice for fruiting plants because it has a 0-day waiting period, meaning that fruit can be harvested once the spray is dry.

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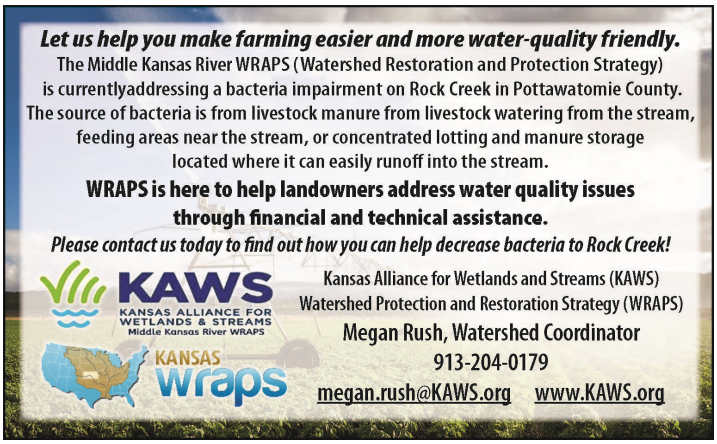
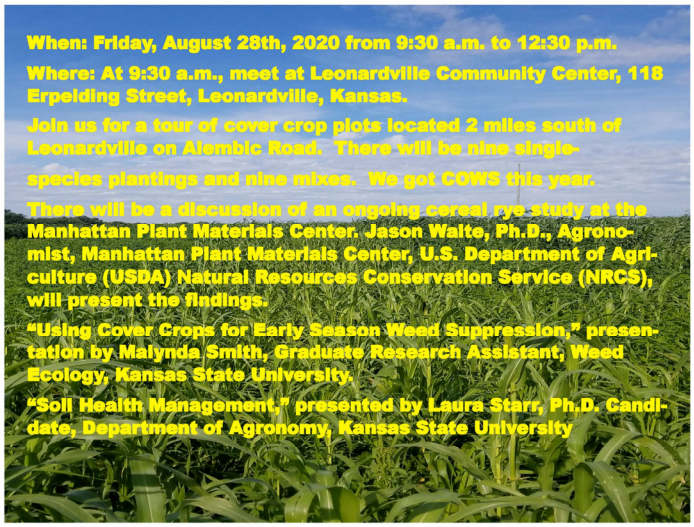


Riley County Soil Health Workshop
Cover Crops, come see what we planted.



Coffee, water and fresh coffee cake. Lunch after the tour from the Clay Center Locker at the Leondardville Community Center.

To reserve your space, please contact the Riley County Conservation District at 785-537-8764 or Aubrey.Evans@ks.nacdnet.net by August 21, 2020

Riley County Conservation District

Upcoming Events

K-State Garden Hour
Via Zoom

Wednesday, July 15th
Hydrangeas for the Garden
Dennis Patton

Wednesday, July 22nd
Pesticide Label Safety
Lynn Loughary

Wednesday, July 29th
How to Choose Potting Media for Gardening Success
Dr. Cheryl Boyer

https://hnr.k-state.edu/extension/info-center/k-state-garden-hour-webinar-series/k_state_garden_hour.html