Issue 1053

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eUpdate

05/15/2025

These e-Updates are a regular weekly item from K-State Extension Agronomy and Kathy Gehl, Agronomy eUpdate Editor. All of the Research and Extension faculty in Agronomy will be involved as sources from time to time. If you have any questions or suggestions for topics you'd like to have us address in this weekly update, contact Kathy Gehl, 785-532-3354 kgehl@ksu.edu, or Dalas Peterson, Extension Agronomy State Leader and Weed Management Specialist 785-532-0405 dpeterso@ksu.edu.

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1. Preemergence herbicide options for grain sorghum

Postemergence herbicide options are limited for grain sorghum. In this context, managing tough weeds for Kansas grain sorghum growers requires a strong residual herbicide program upfront, applied either before or at planting (preemergence). A strong residual program has several benefits, like reducing the selection pressure associated with overreliance on the already limited postemergence herbicide options, reducing later flushes of weeds with extended emergence windows like Palmer amaranth, and allowing the emergence and growth of a competitive grain sorghum crop for an early canopy formation. Once a dense grain sorghum canopy has formed, emergence of most weeds will typically be reduced because of temperature, light quality and quantity changes in the zone of seed germination.

It is important to keep in mind that the efficacy of residual herbicides is affected by several factors like environmental conditions (precipitation timing and amount after application, temperature), herbicide properties (water solubility), soil properties (pH, organic matter, texture), and the abundance and species composition of the soil seedbank. In general, effective early-season weed control can be achieved when the residual herbicides applied are appropriate for the soil and weed population, and an activating rainfall occurs within the first few days after application. In contrast, reduced weed control commonly occurs with dry weather conditions due to the lack of water for the herbicide to be dissolved in the soil solution for weed uptake.

Residual herbicide options for grain sorghum

Seven active ingredients can be used for preemergence weed control in grain sorghum in Kansas:

- atrazine (Aatrex, others)
- *S*-metolachlor (Dual Magnum, others) or metolachlor (Parallel, others)
- acetochlor (Harness, others)
- dimethenamid (Outlook)
- mesotrione (Callisto),
- saflufenacil (Sharpen)
- imazamox (Imiflex, if an igrowth grain sorghum hybrid is planted)

Atrazine has some activity on some grasses (foxtails) but is considered a broadleaf herbicide and will control susceptible populations of kochia, pigweeds, morningglories, mustards, and ragweeds. However, the two major constraints with atrazine are the large number of atrazine-resistant weed populations and the potential reduction in residual control length (enhanced atrazine degradation) associated with repeated application of the herbicide to the same field.

Group 15 herbicides such as **acetochlor, metolachlor/**S**-metolachor and dimethenamid** control most annual grasses, and certain small-seeded broadleaf weeds. When selecting metolachlor/*S*-metolachlor products, it is important to note that products that contain *S*-metolachlor have a greater concentration of the active form of the herbicide, so they will have lower use rates and are more effective than products that contain metolachlor. Treating grain sorghum seeds with Concep III safener protects the crop from group 15 herbicide injury by increasing how fast these herbicides are broken down in the crop.

Mesotrione (Group 27) controls broadleaf weeds (Palmer amaranth, cocklebur, velvetleaf, common lambsquarters, giant ragweed) and some grass weeds.

Saflufenacil provides control of many broadleaf weeds (common lambsquarters, marestail, mustards, nightshade, Palmer amaranth, redroot pigweed, wild sunflower, and velvetleaf).

Imiflex (imazamox is) is labeled only for use in igrowth® (imazamox-tolerant) sorghum. Imazamox provides broad-spectrum control of broadleaf and grass weeds, including redroot pigweed, common cocklebur, common lambsquarters, mustards, nightshade, sunflower, velvetleaf, foxtails, and fall panicum. Imazamox can control Palmer amaranth quite well, provided the population is not resistant to imazamox.

Herbicide combinations are essential to improve control

Weed control is improved with the use of residual herbicides from multiple effective sites-of-action (SOA) groups. The benefits of using two or more active ingredients include: expanded spectrum of weed control, slowing the selection of herbicide-resistant weeds, and a greater likelihood of successful weed control when weather conditions are not favorable. With the variable and extreme weather conditions in dryland production systems of western Kansas, preemergence herbicide combinations are crucial for early-season control of the toughest weeds like Palmer amaranth, which has an extended emergence window and a widespread occurrence of herbicide resistance.

Some examples of premix products that can be applied in grain sorghum are listed below.

- Group 15 and 5 premixes (*S*-metolachlor and atrazine) are available (Bicep II Magnum, Bicep Lite II Magnum, others) with different concentrations of each active ingredient, allowing growers to choose depending on whether they want to use more atrazine or more *S* -metolachlor. Group 15 and 5 premixes of acetochlor and atrazine, available with the same concentrations of both active ingredients (Degree Xtra, FulTime NXT), can also be used.

- A premix of Group 14 and 15 (Sharpen + Outlook: Verdict), as well as premixes of Group 15 and 27 (S-metolachlor and mesotrione) (Zemax, Coyote, Calibra), allow farmers to use residual herbicides that do not contain atrazine. These alternative options can be particularly helpful for fields where atrazine-resistant weed populations are present or where a reduced length of residual control was documented due to repeated use of atrazine.

- Three-way premix options (atrazine + *S*-metolachlor + mesotrione) commonly used as residual herbicide programs in grain sorghum include Lumax EZ and Lexar EZ. These products differ in the concentrations of the three active ingredients. One advantage of a mix of atrazine and mesotrione is the reported improved activity for weed control. Previous research reported an improved control of atrazine-resistant and HPPD-resistant Palmer amaranth populations when these two herbicides were mixed for application.

Our research at the Agricultural Research Center in Hays (ARCH) in 2024 showed that atrazine alone provided the least control of Palmer amaranth compared to FulTime NXT, Calibra, Atrazine + Calibra, Verdict + Outlook, or Dual II Magnum + Callisto . Also, Palmer amaranth control with herbicide programs with two SOAs (Outlook + Aatrex 4L and Parallel + Aatrex 4L) was lower (88%) relative to other pre-emergence herbicide treatments that included three SOAs (98 to 100%) (Figure 1).

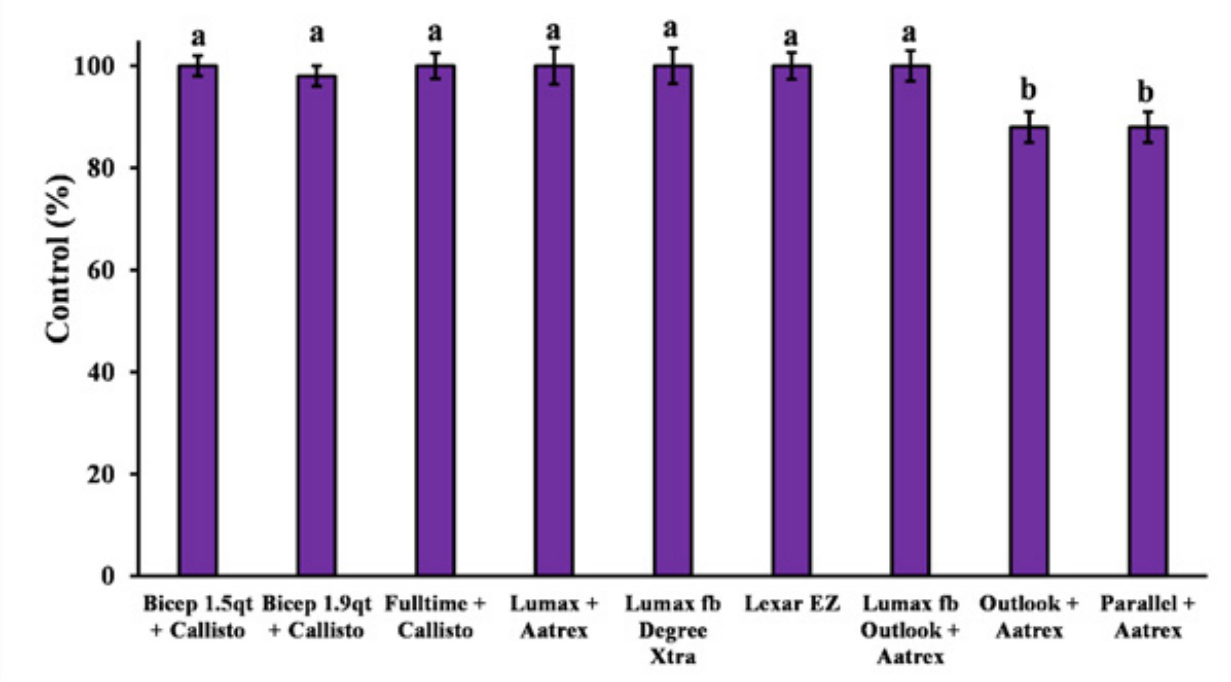

Figure 1: Palmer amaranth control, 43 days after preemergence herbicide treatment (applied the day of planting) in 2024 at the ARCH. The abbreviation fb **means "**followed by**". Degree Xtra and Outlook + Aatrex were applied 21 days after the preemergence application of Lumax EZ. Graph by Jeremie Kouame, K-State Research and Extension.**

The use of trade names is for clarity to readers and does not imply endorsement of a particular product, nor does exclusion imply non-approval. Always consult the herbicide label for the most current use requirements and follow all label instructions before use.

For more detailed information, see the online version of the 2025 Chemical Weed Control for Field Crops, Pastures, and Noncropland Guide or check with your local K-State Research and Extension office for a paper copy.

Jeremie Kouame, Weed Scientist – Agricultural Research Center, Hays
jkouame@ksu.edu

Patrick Geier, Weed Scientist – Southwest Research & Extension Center, Garden City
pgeier@ksu.edu

Sarah Lancaster, Extension Weed Management Specialist, Manhattan
slancaster@ksu.edu

2. Seeing wheat streak mosaic virus in your field? K-State Plant Diagnostic Lab provides testing

Over the last several weeks, symptoms of wheat streak mosaic virus have been showing up in wheat fields across Kansas (Figure 1). This disease complex can be caused by several viruses, including *wheat streak mosaic virus*, *Triticum mosaic virus*, and *wheat mosaic virus* (high plains). It can be important to distinguish wheat streak complex from other wheat diseases. The K-State Plant Disease Diagnostic Laboratory offers wheat virus testing.

Kansas State University Department of Agronomy
2004 Throckmorton Plant Sciences Center | Manhattan, KS 66506
www.agronomy.ksu.edu | www.facebook.com/KState.Agron | www.twitter.com/KStateAgron

Figure 1. Field view of a field turning yellow from wheat streak mosaic complex (top) and various symptoms of wheat streak mosaic complex (bottom two photos). Symptoms may vary based on the time of infection and the variety. Photos by Kelsey Andersen Onofre, K-State Research and Extension.

As a reminder, the K-State Plant Disease Diagnostic Lab provides timely diagnostics of plant pathogenic fungi, bacteria, viruses, and fungal-like organisms. Our mission is to provide this service to K-State Research and Extension personnel, consultants, commercial producers, landscape companies, and homeowners both within and outside of Kansas. After diagnosis, we will provide research-based resources and connect you with one of our experts to answer any questions.

Fee adjustments for 2025

Below is a table that lists the fees for various services offered by the K-State plant disease diagnostic lab. The wheat virus screen (ELISA) includes testing for 6 common wheat viruses (including those that result in wheat streak mosaic complex). If samples are submitted for virus testing through a county extension office, the fee is $55.00. If they are submitted externally (not through KSRE), the fee is $75.00.

Table 1. K-State Plant Disease Diagnostic Lab Services and Fees.

Diagnostic Service	Internal Charges (KSRE)	External Charges (non-extension)
Digital Diagnosis	$0	$0
Routine Diagnosis (per sample)	$12	$15
There is no routine diagnosis charge when running the specialized tests listed below.		
Fescue Endophyte	$30	$40
Nematode – Soybean Cyst Nematode	$30	$40
Nematode – Pine Wilt	$30	$40
ELISA (wheat virus screen-6 pathogens)	$55	$75
Molecular (first/single pathogen)	$55	$75
Molecular (each additional pathogen)	$20	$30

The 6 wheat viruses that we screen for are Wheat Streak Mosaic Virus (WSMV), Triticum mosaic Virus (TriMV), High Plains Wheat Mosaic Virus (HPWMoV), Wheat Spindle Streak Mosaic Virus (WSSMV), Soil-borne Wheat Mosaic Virus (SBWMV), and Barley Yellow Dwarf Virus- PAV (BYDV-PAV).

Sample Submission – **High-quality samples lead to high-quality diagnoses**

- Collect and ship samples on or before Wednesday to avoid weekend storage.
    - Collect healthy **and** symptomatic plants (labeled).
    - Collect the entire plant.
        - Dig up the plant to keep the root system intact.
        - Bag roots separately to avoid soil contact with leaves.
        - Place bagged roots and above-ground materials in a larger plastic bag.
        - Label and use plastic bags instead of paper; do NOT add water. This maintains sample integrity.
- Once collected:
    - Fill out the submission form with as much information as possible. Include variety/hybrid info (especially for wheat). Attach it to the outside of the sample bag.
    - Ship plants ASAP overnight via UPS or FedEx when possible. USPS can take up to 14 days.
- Send plant sample photos to clinic@ksu.edu with the tracking number or date shipped.
    - 3 useful types of images (see Figure 2 for an example of a good versus bad sample submission)
        - Symptom/problem up close and in focus
        - Entire plant from ground level to the top of the plant
        - Site – capture the pattern in the field, transition areas, terraces, etc.

Figure 2. The photo on the left is an example of a good sample submission. The picture on the right is a poor sample submission.

If you have any questions, comments, or concerns, please contact us via clinic@ksu.edu or 785-532-6716. You can also visit the lab website at: https://www.plantpath.k-state.edu/extension/plant-disease-diagnostic-lab/

Chandler Day, Associate Diagnostician
chandlerday@ksu.edu

Kelsey Andersen Onofre, Extension Wheat Pathologist
andersenk@ksu.edu

3. Thrips and other early-season insect management considerations in cotton

Kansas cotton growers escape most damaging insects found deeper in the Cotton Belt. However, as cotton acres continue to rise in the state, producers and consultants must be aware of insect pests with the potential to cause significant yield loss in this crop. Today, thrips are one of the most consistent insect pests faced by Kansas cotton growers. This pest is of concern from late May until approximately the end of June, with most thrips problems in Kansas cotton related to thrips migrating from wheat as it matures in the spring. If this occurs as cotton plants emerge, seedlings can be stunted, and terminal buds or even entire plants may be killed. Thrips cause the most damage to cotton seedlings when dry conditions delay growth. When infestations occur, leaves may turn brown on the edges, develop a silvery color, or become distorted and curl upward (Figure 1). Light thrips infestations tend to delay plant growth and retard maturity. However, heavy infestations can kill terminal buds and cause abnormal branching patterns or even entire plants.

Figure 1. Cotton leaves damaged by thrips feeding. Photos courtesy of J.P. Michaud, K-State Research and Extension.

Scouting for thrips

Scouting for thrips can be difficult, but it is essential to detect significant populations before economic damage occurs. Thrips are tiny (less than 2 millimeters long), barely visible, splinter-like insects that vary in color from yellow to brown to gray (Figure 2). They have rasping-sucking mouthparts, and adults have two pairs of narrow wings fringed with long hairs. Start looking for thrips as soon as plants emerge, especially in the newest growth. In the field, shake cotton plants over a piece of white paper. If you see small, slender objects crawling, these are usually thrips. Be careful to differentiate these tiny insects from soil particles. Look for early signs of damage. Thrips feeding in the terminal tissue makes new leaves appear distorted and curled. Under windy conditions, collect plants from the field and place them in plastic bags. Once out of the wind, examine plant terminals and the undersides of the first two leaves for the presence of thrips. Populations of more than one thrips per true leaf up to the six-leaf stage may justify treatment, depending on growing conditions. Control is rarely necessary later in the season.

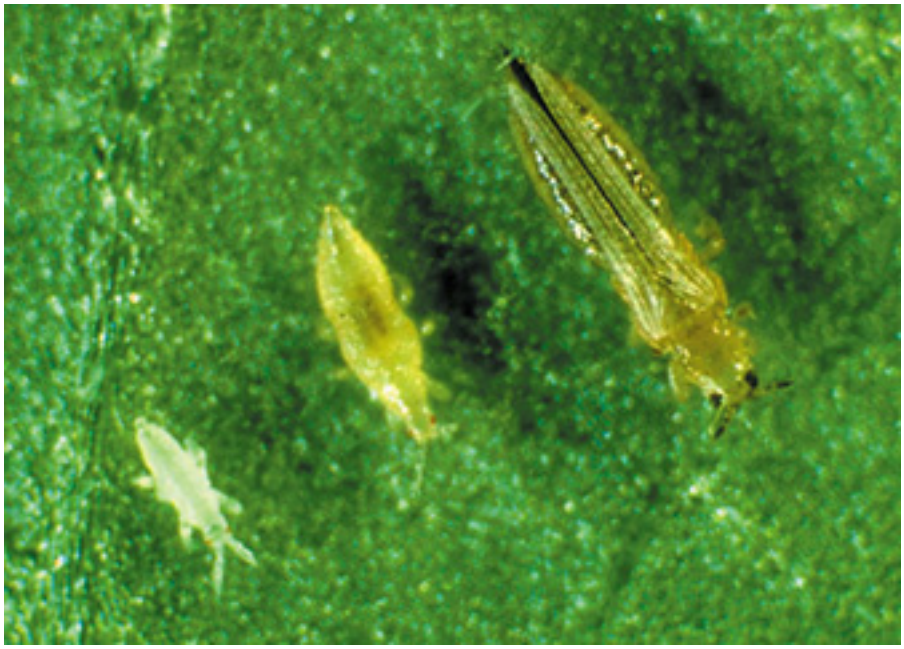

Figure 2. Nymphal and adult thrips. Photo courtesy of J.P. Michaud, K-State Research and Extension.

Control options for thrips

Seed treatments to prevent thrips damage have been shown to provide good economic returns in cotton. If cotton is treated with a systemic insecticide at planting, it should be scouted for thrips two weeks after plants emerge. If live, immature thrips are found, it means that thrips are laying eggs in the field and the residual properties of the seed treatment have elapsed. A follow-up foliar application may be necessary. Alternatives include applications of acephate and phorate at-planting, or foliar treatments of dimethoate at a low rate from 0.12 to 0.25 lb. a.i./acre or acephate at 0.18 lb. a.i./acre. Chemical efficacy varies depending on the species of thrips being treated. Some populations express resistance to some materials. Try a different insecticide if one product is not working. A complete list of insecticides labeled for controlling thrips can be found at https://bookstore.ksre.ksu.edu/item/MF2674. Always check insecticide labels carefully before applying a product to ensure safe and legal use.

Thrips damage - not to be confused with sandblasting

One type of damage that may be confused with thrips damage to young cotton is sandblasting (Figure 3). High winds typical of our region can be very abrasive to cotton stems and leaves. Depending on the severity of the wind and how much particulate it may be carrying, damage from sandblasting can cause minor leaf abrasion (taking on a silvery appearance) or complete seedling death due to desiccation of the plant (dried up, brown plants). Stems can also be damaged, splitting, cracking, and discoloring (Figure 3).

Figure 3. Sandblasting damage to seedling cotton. Photos courtesy of Mississippi State University.

Other early-season insect pest considerations

Cotton fleahoppers and lygus bugs should be monitored from the six-leaf stage until square production stops. Feeding damage from cotton fleahoppers and lygus bugs is very similar, and both cause squares to drop. During the first three weeks of squaring, the economic threshold is 25 to 40 fleahoppers per 100 terminals with 10 to 15% blasted squares. With a sweep net, the threshold ranges between 4 and 6 fleahoppers per 25 sweeps. Treatment for lygus bugs may be needed with 1 to 2 lygus bugs per 25 sweeps. Alfalfa can be a significant reservoir for lygus bugs.

For more information on insect pest management in cotton, see the 2025 Cotton Insect Pest Management bulletin available from the KSRE Bookstore:
https://bookstore.ksre.ksu.edu/item/MF2674

The use of trade names is for clarity to readers and does not imply endorsement of a particular product, nor does exclusion imply non-approval. Always consult the insecticide label for the most current use requirements.

Logan Simon, Southwest Area Agronomist – Garden City
lsimon@ksu.edu

Anthony Zukoff, Extension Entomologist – Garden City
azukoff@ksu.edu

4. Unmanned aerial vehicle pesticide applications - What you need to know

There is a good deal of interest in using unmanned aerial vehicles (UAVs) or unmanned aircraft systems (UAS) or drones for the application of pesticides. In this context, a drone is a small, remotely controlled fixed-wing or rotary-wing aircraft. A drone application might be appealing to individuals wanting to spray where it is not practical or desirable to use a traditional spray, or perhaps, for spot spraying, as discussed in a recent eUpdate article. However, applications are limited by the size of the payload the unmanned aircraft system is able to carry, and compliance and logistics for such applications can be challenging. Downdraft can affect the deposition of the product and cause off-target movement or volatilization. If you are an applicator who is considering using a drone for applications, here is some basic information regarding licenses that you need to know before you apply any pesticides. You should comply with Federal Aviation Administration (FAA) regulations, Kansas Department of Agriculture (KDA) requirements, and pesticide label directions to operate a drone for pesticide spraying.

Federal Aviation Administration (FAA) Regulations

All drone-based chemical applications must adhere to FAA regulations, most of which are described in the Code of Federal Regulations (CFR) under 14 CFR Part 137, which governs the use of aircraft – including drones – to apply agricultural chemicals. In order to obtain a Part 137 UAS certification, an individual should apply for the necessary exemptions, submit necessary documentation, including drone registration information and the pilot's agricultural aircraft operator certificate. Drone registration costs $5 and is valid for three years. In addition, a drone operator must have a Remote Pilot Certification, which requires passing an exam and paying a fee. The certification must be renewed every 24 months by training and testing, which is available online at no cost. The testing and training include information about regulations, airspace, weather, and night operations.

Kansas Department of Agriculture (KDA) Requirements

State-level regulations require that proof of drone registration with the FAA be submitted to the Kansas Department of Agriculture (KDA), evidence of certification, such as a Remote Pilot Certificate, and additional information, including the drone's make, model, and serial number. Moreover, the operator must be certified as a commercial pesticide applicator in the appropriate category, such as Agricultural Pest Control, through KDA. This certification ensures that the operator is knowledgeable about safe pesticide application practices. The applicator needs to provide the Kansas Department of Agriculture with the make, model, serial number (if applicable), and any other requested information related to the drone and submit a completed and signed application to apply pesticide products. If a drone-based pesticide spray is operated as a business, a Pesticide Business License from KDA is required. This license verifies that the business complies with state regulations regarding pesticide application. Moreover, such a business should complete an application to receive approval before completing such pesticide applications. More information about KDA policies and different applications can be found on the KDA website: https://www.agriculture.ks.gov/divisions-programs/pesticide-and-fertilizer/unmanned-aircraft-systems

Allowed Application Categories

Commercial pesticide applications via drones or unmanned aircraft systems are only permitted in the following categories and subcategories:

- **Category 1**: Agricultural Pest Control
    - 1A: Agricultural Plant Pest Control
    - 1B: Agricultural Animal Pest Control
    - 1C: Wildlife Damage Control
    - 1D: Stump Treatment
- **Category 2**: Forest Pest Control
- **Category 3**: Ornamental and Turf Pest Control
    - 3A: Ornamental Pest Control
    - 3B: Turf Pest Control
- **Category 5**: Aquatic Pest Control
- **Category 6**: Right-of-Way Pest Control.
- **Category 7**: Industrial, Institutional, Structural, and Health-related Pest Control
    - 7C: Industrial Pest Control
    - 7D: Health-Related Pest Control
- **Category 10:** Demonstration and Research

The individual who is operating the drone during the pesticide application must be a certified applicator in the category that applies to the application. The business needs to comply with all existing requirements for obtaining a pesticide business license.

Pesticide Label Requirements

Finally, commercial pesticide applications via drone or unmanned aircraft systems need to comply with the label requirements of each pesticide product being applied. **Remember, the label is the law!** Unfortunately, there is little clear guidance on pesticide labels that pertains specifically to drone applications. One thing to note is that if the label prohibits aerial application, then the product cannot be applied by a drone. If an aerial application is permitted, the application rate and other parameters need to be in compliance with the label. Also, some manufacturers and users are adopting commercial nozzles meant for self-propelled sprayers, which can be a concern for product deposition and coverage. It is the applicator's responsibility to avoid off-target movement and be aware of their surroundings.

Frannie Miller, Pesticide Safety and IPM Coordinator
fmiller@ksu.edu

Sarah Lancaster, Extension Weed Science Specialist
slancaster@ksu.edu

Deepak Joshi, Precision Ag Specialist
drjoshi@ksu.edu

Jeremie Kouame, Weed Scientist – Hays
jkouame@ksu.edu

5. Old World bluestem vs. broomsedge: Identification and management

Old World Bluestem (OWB) is a name collectively used to refer to Caucasian bluestem [*Bothriochloa bladhii* (Retz.) S.T. Blake] and various cultivars of yellow bluestem [*Bothriochloa ischaemum* (L.) Keng] including Turkestan bluestem and King Ranch bluestem. These plants are aggressive and prolific seed producers. They are adapted to high calcareous and high pH soils, and do well on any well-drained soil.

Today, OWBs can be seen along roadsides and are increasing in our native grasslands. The invasive nature and lower palatability of OWBs allow them to increase once established. Left uncontrolled, OWBs have the potential to dominate our grasslands. These species were introduced into the U.S. for conservation purposes and as a forage crop for haying and grazing. In recent years, OWBs have been used commonly in the southern Great Plains (Oklahoma and Texas) in grassland plantings and on Conservation Reserve Program (CRP) acres, but are not recommended for use in Kansas.

Seedings of Old World Bluestems in Kansas probably started during the 1930s and continued to some extent into the 1960s. Although a number of species are called bluestems, OWBs are not closely related to the native grasses, little bluestem and big bluestem.

Figure 1. Caucasian bluestem (left) and Yellow bluestem (right) inflorescence. Images by Mike Haddock, KSwildflower.org

Broomsedge bluestem (*Andropogon virginicus*, also referred to as broomsage, broomsedge, and yellow bluestem) is a native, warm-season, perennial bunchgrass that grows up to 4 feet tall. The stem bases are flat and may or may not have hair. The orange-brown or straw-colored foliage helps distinguish broomsedge. The seed heads are partially enclosed by large, inflated sheaths.

Broomsedge grows well in old fields that are eroded and low in fertility. It is seldom eaten by livestock. The grass starts growth when temperatures remain consistently over 60°F, produces many seeds carried by the wind, and is a poor competitor. This plant is not well grazed due to poor forage quality and low palatability. Despite being a poor competitor, it can be a dominant species when the perfect conditions arise: greater grazing pressure, low pH (<5.5), low phosphorus, and eroded soils.

Figure 2. Broomsedge bluestem (left) and Old World bluestem (right) inflorescence. Images by Mike Haddock, KSwildflower.org.

Table 1. Comparison of Old World bluestems, broomsedge bluestem, and little bluestem.

	Old World Bluestems			
	Yellow bluestem	**Caucasian bluestem**	**Brooomsedge bluestem**	**Little bluestem**
Scientific name	*Bothriochloa ischaemum*	*Bothriochloa bladhii*	*Andropogon virginicus*	*Schizachyrium scoparium*
Origin	Southern Asia	Southern Asia, Africa, Australia	Native	Native
Life cycle	Warm-season perennial	Warm-season perennial	Warm-season perennial	Warm-season perennial
Height	1.5 to 3 feet	1 to 3 feet	Up to 4 feet	Up to 5 feet
Stem	Flattened near base, grooved on	Flattened near base, grooved on one side,	Flattened near base, branched near top,	Flattened near base, many branches

	one side	nodes purple-tinged	filled with white pith	
Leaf sheath	Usually hairless	Usually hairless	Overlapping, margins may have hairs	Open, usually hairless
Leaf shape	Folded, up to 9 inches long, up to 1/5 inch wide	Folded, up to 15 inches long, up to ¼ inch wide	Folded, 6 to 16 inches, up to 1/3 inch wide	Folded, up to 12 inches long, up to ¼ inch wide
Leaf color	Yellow-green	Yellow-green	green	gray-green/blue-green
Leaf hairs	Sparse hairs at base	Sparse hairs at base	Coarse hairs at base	Long hairs near base
Ligule	Membrane fringed with hairs	Membrane fringed with hairs	Membrane fringed with hairs, up to 1/32 inch	Membrane fringed with hairs, up to 1/10 inch
Inflorescence	1 to 3 inches long, 2 to 8 branches similar in length and originating near stem, yellow, hairy	2.5 to 6 inches long, 4 to 12 branches shorter near the top, reddish-purple, hairy	¾ to 1.5 inches long, 2 to 4 branches enclosed in spathe (leaf-like structures), feathery hairs, evenly distributed along stem	1 to 3 inches long, and the end of each branch, not enclosed, feathery hairs
Rhizomes	Short and scaly	Short and scaly	Short, smooth	Few, short, scaly
Fall color	Yellow/tan	Yellow/tan	Orange/copper	Red/maroon

Management options

Due to their perennial nature, multiple years of management will likely be needed to manage either OWB or broomsedge bluestem. Additionally, neither plant often gets grazed due to limited palatability and nutritional values compared to other native bluestems. Either species can get out of hand quickly as they can take over when the preferred forages receive greater use and are less able to compete.

Old World Bluestems

Both glyphosate and imazapyr (Arsenal, others) can reduce OWB. Current recommendations include mowing or burning followed by a broadcast application of glyphosate (3 lb ae/A) or imazapyr (0.5 lb ae/A). Ideally, herbicides will be applied before an infestation is widespread, which would allow spot treatment with a 2.5% (5 pints/25 gal) glyphosate solution or 1% (2 pts/25 gal) imazapyr. Also, growing season prescribed burns (late July and August) with abundant fuel and slow-moving fires have been able to significantly reduce OWB in native stands.

Re-establishing desirable vegetation may be a challenge with either glyphosate or imazapyr. Native vegetation, especially many native tallgrasses, seems to be more tolerant of imazapyr, which may allow for the survival of many desirable plants if treating invading OWB stands.

Broomsedge

Since this plant thrives on low pH and low fertility soils, soil testing is the first step in managing a broomsedge-infested field. Improved soil pH and fertility, especially phosphorus levels, will shift the competitive edge toward the desirable forages. This is not an instant fix and when budgets are limited, the priority should be adjusting pH with lime.

If broomsedge is shading desirable species lower in the canopy, mowing may be necessary to bring in more light. However, neither mowing nor prescribed burning will reduce broomsedge populations. The application of glyphosate during active growth, either as a spot spray or rope wick, can be an effective herbicide option.

Controlling broomsedge in native range sites is more difficult than in cool-season forages. Fire and grazing management are used to reduce or slow the spread in range sites. Native grasses do not respond efficiently to fertilizer like the introduced grasses. Therefore, the use of an intensive early stocking program to graze broomsedge, followed by resting the stand through the remainder of summer, is beneficial. Rest allows our desirable native grasses an opportunity to restore lost energy and produce a healthier, more competitive stand. Native hay meadows should only be baled once per year to increase competition with broomsedge.

For more information on identifying bluestem species in Kansas, see Rangeland and Pasture Grasses of Kansas, K-State publication C567.

For more information on controlling perennial grasses, see 2025 Chemical Weed Control for Field Crops, Pastures, Rangeland, and Noncropland, K-State publication SRP-1190.

The use of trade names is for clarity to readers and does not imply endorsement of a particular product, nor does exclusion imply non-approval. Always consult the herbicide label for the most current use requirements.

Sarah Lancaster, Extension Weed Management Specialist
slancaster@ksu.edu

Keith Harmoney, Range Scientist - Hays
kharmone@ksu.edu

Tina Sullivan, Northeast Area Agronomist
tsullivan@ksu.edu

6. 2025 Kansas Wheat Plot Tours - Updated schedule

The Department of Agronomy and K-State Research and Extension will host several winter wheat variety plot tours in different regions of the state starting May 13, 2025. Please make plans to attend a plot tour near you to see and learn about the newest available and upcoming wheat varieties, their agronomics, and their disease reactions. Below is a preliminary list of plot tour dates, times, and locations with directions. This list will be continuously added to and updated in the coming weeks.

May 15 – Thursday

Time	County	Location	Agent	Directions
6:00 PM	Pawnee		Kyle Grant	US 156 Junction, Go 2 miles south, then 2 miles back west and ½ south. Legal SW Quarter 7-22-18 in Pheasant Ridge in Pawnee County

May 16 – Friday

Time	County	Location	Agent	Directions
9:00 AM	McPherson	Marquette	Shad Marston	PATRICK PLOT - Marquette. Marquette Rd & Highway 4
11:30 AM	McPherson	Moundridge	Shad Marston	A free lunch sponsored by MKC will be held at MKC Learning Center, 221 W Hirschler Str., Moundridge. GALLE PLOT - The plot tour will start at 1 PM in Moundridge. 1/8 West of 23rd Avenue on Cheyenne Road
1:00 PM	McPherson	Inman	Shad Marston	SCHROEDER PLOT - Inman. Between 4th & 5th Avenue on Cheyenne Road

May 19 – Monday

Time	County	Location	Agent	Directions
9:00 AM	Reno	Buhler	Patrick Bergkamp	1 mile north of Buhler
4:00 PM	Finney	Garden City	Logan Simon	Southwest research and extension center spring field day
6:00 PM	Sumner	Belle Plaine	Randy Hein	Belle Plaine- 2 miles East of Belle Plaine, South on Rock Rd 3 miles to E 60th, 1 mile East, NE corner

May 20 – Tuesday

Time	County	Location	Agent	Directions
8:00 AM	Sedgwick	Andale	Jeff Seiler	1/2 mile south of intersection 247th St W

				& 21st St N
8:00 AM	Parsons	Parsons	Gretchen Sassenrath	Southeast research and extension center
10:45 AM	Sedgwick	Haysville	Jeff Seiler	1901 E 95th St S, Haysville, KS 67060 (John C. Pair Center)
6:00 PM	Sumner	Caldwell	Randy Hein	Caldwell- Barry Bones Patton Research Farm, Hwy 81 & Sumner RD east of Caldwell, ¾ south, plots on east side north of lane

May 21 – Wednesday

Time	County	Location	Agent	Directions
7:30 AM	Dickinson	Abilene	Rickey Roberts	at the farm of Kevin Harris, S. of Abilene, just west of Hwy 15
8:30 AM	Barton	Hoisington	Stacy Campbell	North of Hoisington on HWY 281. Turn West on NW 190 Rd. (Galatia/Susank blacktop). Go 1 mile, turn south onto NW 50th Ave, go 1/8 mile on the West side. Cooperator/farmer Tim Maier.
11:30 AM	Ellsworth	Lorraine	Craig Dinkel	Lorraine Plot is located on Avenue W. From the black top 10th road, go 2.5 miles west.
6:00 PM	Russell	Russell	Craig Dinkel	Russell plot is located at the FFA field at North Copeland Street & East State Street.

May 22 – Thursday

Time	County	Location	Agent	Directions
10:30 AM	Smith		Sandra Wick	Turn south off of Highway 36 at Athol, Kansas. Go through town a couple of blocks, then turn west at Trinity Ag. Then south on the first road for about ¼ mile, the plot is on the west side.
1:30 PM	Jewell		Sandra Wick	Turn south off Highway 36 on 30th Road and go 3 miles. The plot is on the west side.
4:30 PM	Mitchell		Sandra Wick	South of Beloit on Hwy.14 to blacktop Hunter Road (X Road), then 4 miles west to 220 Road, then 1 mile south to Y Road, then east about ½ mile, on the south side.
6:30 PM	Sumner	Conway Springs	Randy Hein	Conway Springs- 922 W 140th Ave north of Conway Springs, 1 mile east on 140th, south on Springdale 0.01 mile, east side of road

May 23 – Friday

Time	County	Location	Agent	Directions
8:00 AM	Ottawa	Minneapolis	Jay Wisbey	1.5 miles west of K-106 Highway on Justice Road
11:00 AM	Saline	Solomon	Jay Wisbey	From Old 40 Highway West of Solomon. Go South on N Gypsum Valley Road 2.5 Miles and then West ½ mile on E Stimmel Road
5:00 PM	Edwards	Kinsley	Baley Doggett	Head West out of Kinsley on 1st Street (or L Road) ½ mile, the plot is on the North side of the blacktop—meal to follow tour.

May 28 – Wednesday

Time	County	Location	Agent	Directions
7:30 AM	Phillips	Phillipsburg	Cody Miller	Phillipsburg tour starts with Breakfast at 7:30 at the Fair building north of town. 8:30 move to the plot located ¾ miles south of Phillipsburg on Highway 183 (East Side of the Highway).
1:00 PM	Rooks	Plainville	Cody Miller	Rooks County plot starting at 1:00, location 5 miles East of Plainville on HWY K-18, turn south on 23 Road, ¼ mile south.
6:00 PM	Ellis	Hays	Stacy Campbell	From the Agricultural Research Center in Hays, south of town, go south on 240th Avenue, turn west on Bison Road, and keep driving until the road turns south. Field is about 1000 ft south, on the east side of the road.

May 29 – Thursday

Time	County	Location	Agent	Directions
9:30 AM	Rush	LaCrosse	Lacey Noterman	The plot is located 11 miles straight west of Casey's in LaCrosse on Hwy 4, turning into Avenue L. 1 Mile south on County Road 140, turn west on Avenue M for 1 and ½ miles. The plot is located on the South side.

2:00 PM	Ness	Ness City	Lacey Noterman	The plot is located at 17282 T Road. From Ness City, go north on Highway 283 for 4 miles and then turn east on road 170 for 1 mile, and then turn North on road 170 for 1 mile, and then turn North on Road T. The Plot is located north of Nichephor Farmhouse, approximately ½ mile.
5:00 PM	Washington	Palmer	Luke Byers	2 mi. East of Hwy 15 in Palmer
6:00 PM	Lane	Dighton	Lacey Noterman	The plot is located 7 miles west of Dighton to Eagle Road, 2 miles south to west Road 130, then 200 yards west toward Ehmke's farmstead, east of the scale.

Plots tours scheduled after May 29 are being finalized, and details will be updated soon. Stay tuned to the eUpdate for any changes to this schedule.

Romulo Lollato, Wheat and Forages Specialist
lollato@ksu.edu