



## Extension Agronomy

# eUpdate

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*02/16/2023*

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](mailto:kgehl@ksu.edu), or Dalas Peterson, Extension Agronomy State Leader and Weed Management Specialist 785-532-0405 [dpeterso@ksu.edu](mailto:dpeterso@ksu.edu).

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<b>1. Late winter kochia control in fields going to corn or grain sorghum.....</b>	<b>3</b>
<b>2. Native grasses: Management factors during and after stand establishment.....</b>	<b>6</b>
<b>3. New sorghum growth and development poster now available .....</b>	<b>9</b>
<b>4. Kansas Ag-Climate Update for January 2023 .....</b>	<b>11</b>
<b>5. Save the date - Wheat Rx Schools scheduled for early March .....</b>	<b>12</b>
<b>6. K-State to host Whole Farm Health series beginning Feb. 23.....</b>	<b>13</b>
<b>7. Crop Talk webinar series will continue through the end of February.....</b>	<b>15</b>
<b>8. K-State Soybean School scheduled for February 22 in Salina.....</b>	<b>17</b>

## 1. Late winter kochia control in fields going to corn or grain sorghum

Last week, we shared some general information about applying pre-emergence herbicides for kochia control. This week, we are going to focus on specific recommendations for fields going to corn or grain sorghum this growing season. Next week, we'll discuss fields going to soybean, sunflower, and wheat.

### **Kochia control in fields going to corn**

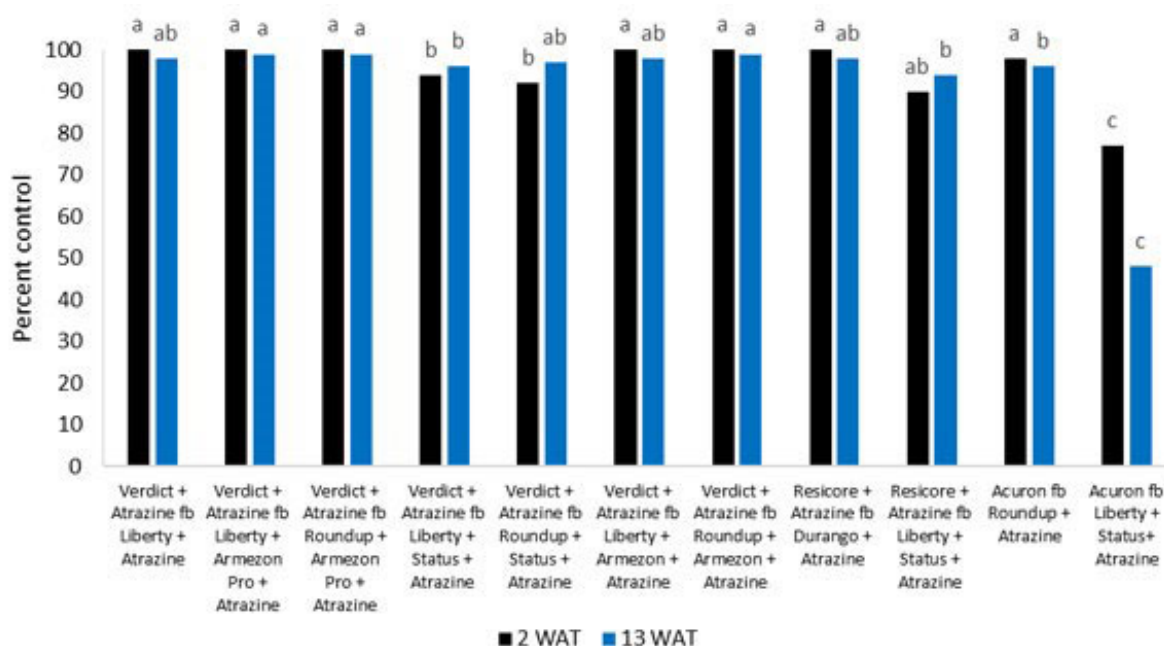
Kochia starts emerging in mid-February to early March and continue its emergence through spring into summer (Figure. 1). Any effective kochia control plan for fields going to corn should include early spring application of a burndown herbicide with an effective soil-residual herbicide for controlling early flushes. For example, an application of dicamba alone can control susceptible kochia; however, a combination of 1 to 2 pints of atrazine and 8 to 16 oz. dicamba will control existing broadleaf and grass weeds and provide extended residual activity, often into late spring. This combination will address dicamba-resistant biotypes, but other options are needed for triazine-resistant biotypes.



**Figure 1. A young kochia seedling in wheat residue. Photo by Sarah Lancaster, K-State Research and Extension.**

A study published in 2019 by weed scientists from across the Great Plains reported excellent control (99%) of glyphosate-resistant kochia can be attained in corn by Degree Xtra followed by Impact, Verdict followed by Status, or Balance Flexx followed by Laudis + atrazine. Adding atrazine to group

27 herbicides like Balance Flexx or Laudis is likely to improve control. Data from Hays, KS are shown in Figure 2. All of the treatments evaluated provided acceptable control, except for Acuron applied pre-emergence followed by Liberty + Status + Atrazine. Corn yields ranged from 88 to 111 bushels/acre with the greatest yields obtained in Verdict + atrazine pre-emergence followed by: Liberty + Atrazine, Roundup + Armezon Pro + atrazine, Liberty + Status + atrazine, or Roundup + Status + atrazine; Resicore + atrazine applied pre-emergence followed by Durango + atrazine; and Acuron applied pre-emergence followed by Roundup + atrazine. Pre-emergence programs based on Verdict plus atrazine could also be considered for fields going to grain sorghum.



**Figure 2. Kochia control in field studies conducted at Hays, KS. PRE, EPOST, and LPOST treatments were applied on April 23, June 11, and June 23, respectively. Similar letters indicate similar weed control.**

### Kochia control in fields going to sorghum

As sorghum planting in western Kansas generally resumes in mid-May, conserving soil moisture by controlling kochia and other weeds prior to sorghum planting is utmost important. Just like corn, kochia control in fields going to sorghum can be achieved with tank-mix application of dicamba (8 to 16 oz/a) with atrazine (1 to 2 pints/a) in early spring. If fields are infested with glyphosate-, triazine, and/or dicamba-resistant kochia, Sharpen (2 oz/a) or Gramoxone (2 to 4 pints/a) can also be used to control resistant kochia biotypes. An application of PRE herbicides such as DegreeXtra (64 to 96 oz/a) or Lexar (96 oz/a) at planting can help controlling kochia in sorghum for 4-5 weeks.

Reference: Sbatella et al. 2019

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## 2. Native grasses: Management factors during and after stand establishment

Overgrazing and weed control are the two most important management considerations during establishment. Grazing should be avoided during the first and possibly the second growing season depending on stand establishment. Short periods of grazing (flash grazing) for weed control early in the first growing season are encouraged to stimulate tillering in the new seedlings. For example, graze for 1 day with enough animals to harvest the weeds without damaging the grass seedlings.

Haying in the year of seeding may be beneficial if there is enough forage produced, but set the mower to at least 4-inch height to ensure the plants can readily regrow. As a general rule, hay most native species after the first week of July. This will allow time for the plants to develop tiller buds for the following year and to build reserves for early growth.



**Figure 1. Native prairie a few weeks after hay harvesting. Photo: Bruno Pedreira, K-State Research and Extension.**

### **Weed control**

Weed control helps reduce competition for moisture, nutrients, and sunlight in new seedlings. When weed control is necessary, the main methods are mowing and herbicides. Dense shade created by annual grasses is the greatest concern, the most commonly encountered are downy brome,

Japanese brome, crabgrass, and foxtail. Weed control is most beneficial during May and June with little benefit in August. Preplant or preemergence herbicides are labeled for some species and situations. Consider using an herbicide wipe-on applicator if weeds are 6 inches taller than the desirable grass or spot spray if the weeds are not spread throughout the whole field. Consult the *Chemical Weed Control for Field Crops, Pastures, Rangeland, and Noncropland* ([bookstore.ksre.ksu.edu/pubs/CHEMWEEDGUIDE.pdf](http://bookstore.ksre.ksu.edu/pubs/CHEMWEEDGUIDE.pdf)) for current herbicide recommendations for products, rates, and timing.

Mow before weedy plants produce seeds. Generally, broadleaf weeds should be mowed before they are 8 inches tall. Annual grasses should be mowed to prevent seed production. Herbicides may be used to reduce annual or perennial broadleaf weeds after the grass plants have become established. Consult the label for application restrictions and instructions.

Chemicals must be federally and state registered. They also must be applied in accordance with authorized registered uses, directions, and cautions on the label and all other federal and state policies and requirements.

### **Management after establishment**

After establishment, seeded areas should be managed to promote tillering and to keep the soil covered. A great forage stand reduces erosion and runoff, contributing to minimized soil loss, providing high forage production, and improving wildlife habitat.

New stands must be grazed following appropriate stocking rates, good grazing distribution, and proper season of use. Proper management of a seeded grass stand is a must with the investment of time, money, and labor involved in establishing it.

Haying should be done in early July to harvest the highest combination of forage accumulation and nutrient value. A minimum cutting height of 4 inches is recommended to ensure plants have adequate opportunity to regrow and build reserves for the following season.

Prescribed burning should be done in late spring, just as the seeded grasses are starting growth (less than 1½ inches). Burning at this stage stimulates tillering, removes the last year's dead forage, and increases forage quality. Prescribed burning can be done as early as one growing season after seeding.

### **Related KSRE Publications**

- Managing Kansas Grazinglands for Multiple Benefits (MF2086)
- Rangeland and Pasture Grasses of Kansas (C567)
- Prescribed Burning: Safety (L565)
- Prescribed Burns: Planning and Conducting (L664)
- Prescribed Burning as a Management Practice (L815)
- Prescribed Burning: Equipment (L876)
- Grazing Distribution (MF515)
- Stocking Rate and Grazing Management (MF1118)

This article originated from the recently released KSRE publication *Establishing Native Grasses* (MF2291) and can be viewed online at [bookstore.ksre.ksu.edu/pubs/MF2291.pdf](http://bookstore.ksre.ksu.edu/pubs/MF2291.pdf)

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### 3. New sorghum growth and development poster now available

An updated version of the poster *Sorghum Growth and Development*, has been published by K-State Research and Extension. It is available online at:

<http://www.bookstore.ksre.ksu.edu/pubs/MF3234.pdf>

The full-color poster is 20x30 inches, and describes nine stages of growth of the sorghum plant. New features for this version include key management practices associated with each growth stage, updated graphics, and the dry-down progression of the grain until physiological maturity.

Ignacio Ciampitti, Farming Systems Specialist in the Department of Agronomy, is the lead author, with assistance from Ana Carcedo, post-doctoral fellow in Dr. Ciampitti's research group. This poster is based on information from KSRE publication *How a sorghum plant develops* – S3 by Dr. Richard Vanderlip, emeritus professor.

Sponsors for this publication include K-State Research and Extension, the Kansas Grain Sorghum Commission, the Center for Sorghum Improvement, and the Sorghum Checkoff.

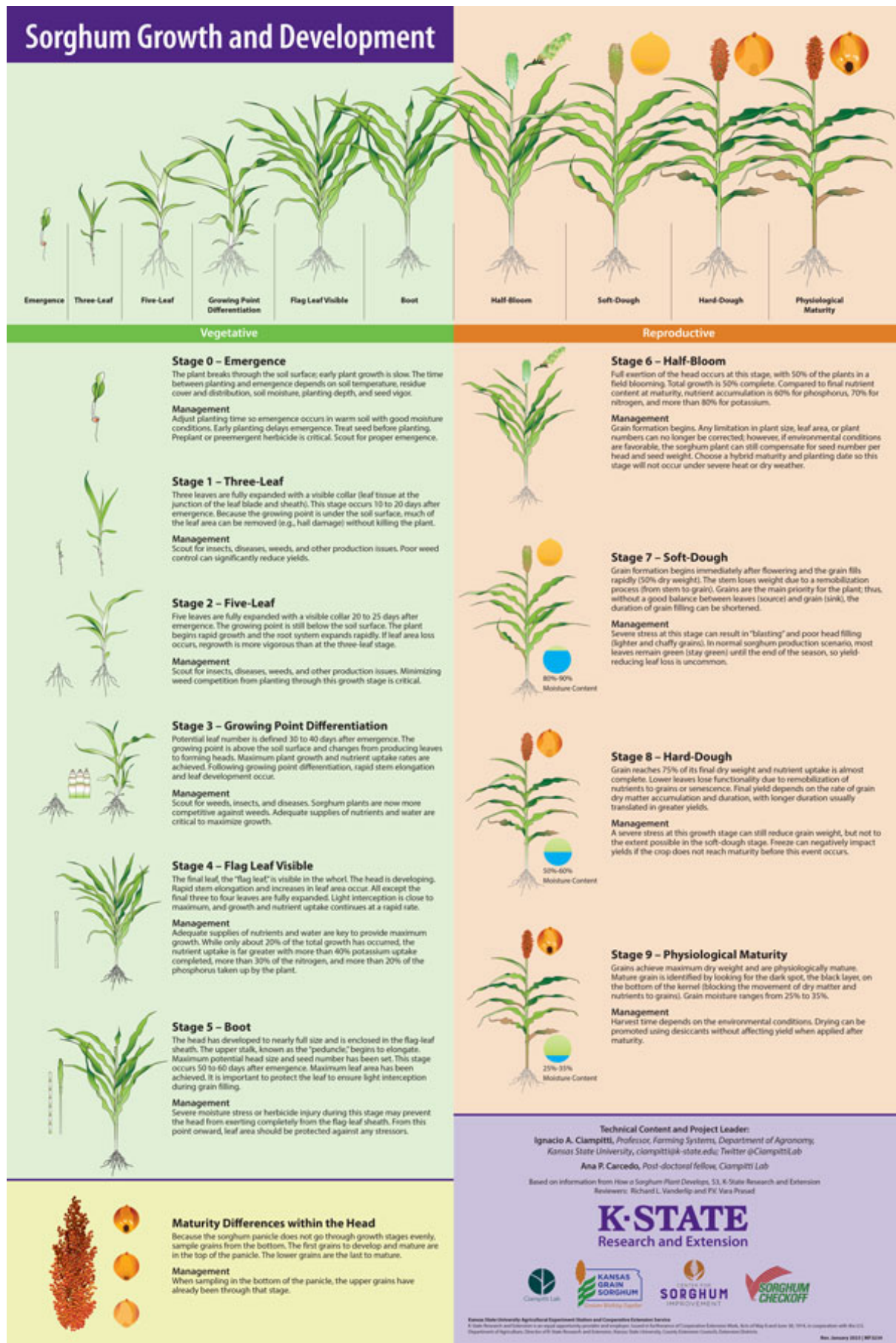
A limited number of free print versions of the poster will be available soon and can be ordered at the KSRE Bookstore at:

<https://bookstore.ksre.ksu.edu/Item.aspx?catId=281&pubId=19219>

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# Sorghum Growth and Development



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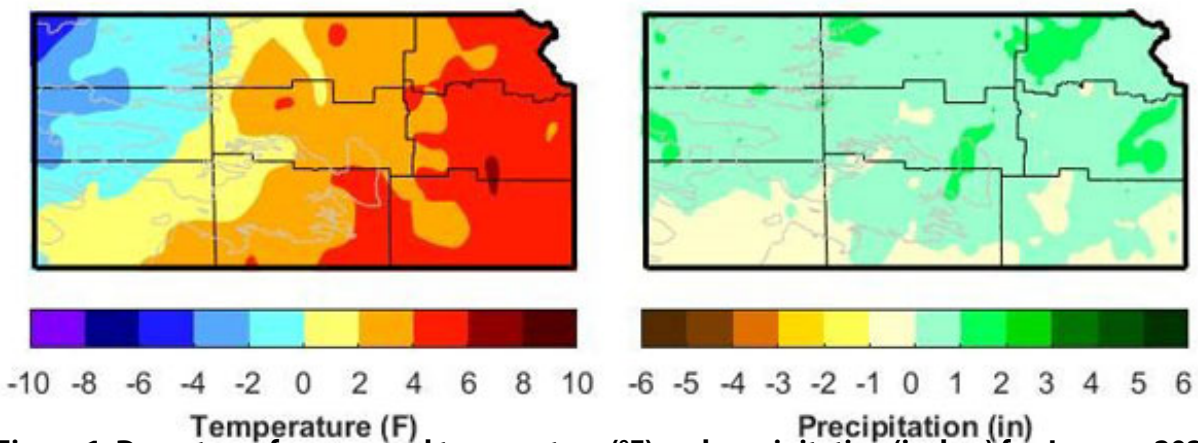
#### 4. Kansas Ag-Climate Update for January 2023

The Kansas Ag-Climate Update is a joint effort between our climate and extension specialists. Every month the update includes a brief summary of that month, agronomic impacts, relevant maps and graphs, 1-month temperature and precipitation outlooks, monthly extremes, and notable highlights.

##### **January 2023: Despite January Precipitation, Continued Exceptional Drought Conditions Remain in Kansas**

The average temperature for the month was 33.1°F, or 2.2°F above normal. This ranks as the 25<sup>th</sup> warmest January on record out of 129 years of records, dating back to 1895. Northwest and west central Kansas were below normal thanks to persistent snow cover for most of the month, while all other divisions were above normal. It was the 10<sup>th</sup> warmest January on record in southeast Kansas and ranked in the top 20 warmest in northeast, east central and south central Kansas.

Average precipitation for January was 1.06", or 0.34" above normal. This ranks as the 25<sup>th</sup> wettest on record. Southwest Kansas was the only division below normal, but only by 0.02". The three northern climate divisions all had top 15 wettest, as did west central Kansas. Snowfall at Goodland for January was 16.4", their 4<sup>th</sup> snowiest January on record out of 113 years of records.



**Figure 1. Departures from normal temperature (°F) and precipitation (inches) for January 2023.**

View the entire January 2023 Ag-Climate Update, including the accompanying maps and graphics (not shown in this eUpdate article), at <http://climate.k-state.edu/ag/updates/>

Xiaomao Lin, State Climatologist  
[xlin@ksu.edu](mailto:xlin@ksu.edu)

## 5. Save the date - Wheat Rx Schools scheduled for early March



The dates and locations have been set for two Wheat Rx Schools to be held in early March. The first event will take place on March 7 in McPherson. The second seminar is scheduled for March 8 in Russell. [Wheat Rx](#) is a partnership between Kansas Wheat Commission and K-State Research and Extension to disseminate the latest research recommendations for high-yielding and high-quality wheat to Kansas wheat farmers.

These two Wheat Rx schools will have speakers sharing the most up-to-date wheat research information on how to manage your wheat crop not only for yield but also for quality and sustainability, as well as industry partners sharing how growers can capitalize on high protein wheat. Detailed agendas for each school are being finalized and will be shared soon.

Registration for the event is \$110 for non-members of the Kansas Association of Wheat Growers. However, members (including new members) will receive one free registration. Lunch and meeting materials are included with the registration fee.

Online registration is open at <https://kswheat.com/wheat-rx-registration-page>

### 2023 Wheat Rx Schools

- March 7  
McPherson Opera House – Grand Ballroom  
216 S Main Street  
McPherson, KS 67460
- March 8  
Fossil Creek Hotel and Suites  
1430 South Fossil Street  
Russell, KS 67665

Romulo Lollato, Wheat and Forages Specialist  
[lolato@ksu.edu](mailto:lolato@ksu.edu)

## 6. K-State to host Whole Farm Health series beginning Feb. 23

K-State Research and Extension will host three upcoming workshops to address issues facing Kansas farm families. The series, Whole Farm Health: Building Resilience from the Field to the Farmer, will be held on three upcoming Thursday evenings:

- February 23 – Regenerating Soil Health One Field at a Time
- March 2 – Increasing Farm Financial Resiliency
- March 9 – Sustaining Personal Mental Health and Wellness

All three sessions will be held at the Grace Community Church in Overbrook, Kansas from 5:30 p.m. to 8:30 p.m. Admission is free and a meal will be provided.

More information and registration is available online at <https://whole-farm-health.constantcontactsites.com>.

These workshops offer an opportunity to pull together as a farm community and address strategies for building more resilient farm systems through diversified cropping systems, incorporating cover crops, and grazing, as well as simple methods to identify indicators of mental health in ourselves or our loved ones who are suffering.

In addition to K-State Research and Extension, workshop sponsors include the Kansas Farm Bureau, Kansas Soil Health Alliance, Frontier Farm Credit, Kansas Alliance for Wetlands and Streams, the U.S. Environmental Protection Agency, Douglas County Conservation District and the Kansas Watershed Restoration and Protection program.

More information is also available by contacting Kaltenecker at 785-843-7058, or [mkaltenecker@ksu.edu](mailto:mkaltenecker@ksu.edu).

# Whole Farm Health

**Building Resiliency from the Field to the Farmer Series**

**Grace Community Church Overbrook, KS**

**5:30 – 8:30 PM**

**REGISTER HERE**



**More Information**



**February 23**

**Regenerating Soil Health One Field at a Time**

**March 2**

**Increasing Farm Financial Resiliency**

**March 9**

**Sustaining Personal Mental Health and Wellness**



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## 7. Crop Talk webinar series will continue through the end of February

The popular K-State Crop Talk webinar series kicked off on February 7. This year, Crop Talk will be focused on agronomic topics for producers across the state of Kansas. Topics include spring annual forages, climate-smart agriculture, alternative weed control research, and the latest on corn tiller research. Continuing education credits have been applied for and 1 credit will be available for each session.

Each webinar will begin at 12:00 pm (CST) and last until 1:00 pm. Sessions are offered on each Tuesday in February.

Upon registration, participants will receive an email with instructions to attend via Zoom or YouTube. These webinars are open to all and there is no cost. Visit the K-State Northwest Research and Extension Center's website to register: <https://www.northwest.k-state.edu/events/crop-talk-series/index.html>.

Please contact your local KSRE extension office or the Northwest Research and Extension Center at 785-462-6281.

The remaining webinars, with dates, topics, and speakers, is detailed below.

### **February 21 – Alternative Weed Control Research from Kansas**

Sarah Lancaster, K-State Weed Science Specialist

### **February 28 – Corn Tillers: The Good, the Bad, and the Ugly**

Rachel Veenstra, K-State Crop Science Agronomist



# Crop Talk

## Webinar Series

- February 7**    **Spring Annual Forages To Fill the Gap in Cattle Feed**  
John Holman, K-State Agronomist at Garden City
- February 14**    **Climate Smart Agriculture, What's All the Buzz?**  
Peter Tomlinson, K-State Environmental Quality  
Agronomist
- February 21**    **Alternative Weed Control Research from Kansas**  
Sarah Lancaster, K-State Extension Weed Specialist
- February 28**    **Corn Tillers: The Good, the Bad, and the Ugly.**  
Rachel Veenstra, K-State Crop Science Agronomist

**Held from 12:00 – 1:00 pm CT**

**Register to attend at [www.northwest.ksu.edu/events](http://www.northwest.ksu.edu/events)**

Webinars will be broadcast via zoom and YouTube  
Links for joining will be sent after registration



Certified Crop Advisor (CCA) Credits have been applied for  
1 per session

If you have questions, please contact your local Extension agent or the K-State  
Northwest Research and Extension Center at 785-462-6281.

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## 8. K-State Soybean School scheduled for February 22 in Salina

K-State Research and Extension will be offering a one-day Soybean School on February 22 at Great Plains Manufacturing, 1525 E. North Street in Salina, KS. The school will start at 8:30 am with registration and presentations will begin at 9:00 am. The presentations will conclude at 2:30 pm with an optional tour of Great Plains Manufacturing immediately following the last presenter. A noon lunch will be provided thanks to sponsorship by the Kansas Soybean Commission.

This event will provide in-depth training targeted for soybean producers and key-stakeholders. Some topics that will be covered include crop production practices, soybean breeding update, Kansas Mesonet tools, insect and disease management, and market outlook.

There is no cost to attend this school. In addition, CCA credits have been applied for. For those interested in the Great Plains Manufacturing tour, please dress for the weather and wear closed-toed shoes.

Please register online at <https://bit.ly/soyschool>. You can also register by calling one of these contacts: Kansas Soybean at 877-577-6923; Jay Wisbey at 785-309-5850; or K-State Extension Agronomy at 785-532-0400



2023



# Kansas Soybean School

February 22, 2023  
(8:30 am - 2:30 pm, with a tour to the factory)



Central Location, Salina Great Plains Mfg. Inc.  
1525 E North Street Salina, KS.

Register at: <https://bit.ly/soyschool>



Or by calling at  
K-State Research and Extension- Central Kansas  
District, 785-309-5850  
Kansas Soybean Office – 877-577-6923

One-hour walking tour to the Great Plains factory will be available following the conclusion of the school. Please dress for the weather and wear closed-toed shoes (required). All other safety gear will be provided.



K-State Research and Extension is committed to providing equal opportunity for participation in all programs, services and activities. Program information may be available in languages other than English. Reasonable accommodations for persons with disabilities, including alternative means for communication (e.g., Braille, large print, audiotape, and American Sign Language) may be requested by contacting the event contact Jay Wisbey two weeks prior to the start of the event or February 8, 2023, at (785)309-5850 or [jwisbey@ksu.edu](mailto:jwisbey@ksu.edu). Requests received after this date will be honored when it is feasible to do so. Language access services, such as interpretation or translation of vital information will be provided free of charge to limited English-proficient individuals upon request.

Kansas State University Agricultural Experiment Station and Cooperative Extension Service.  
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