



Extension Agronomy

eUpdate

02/02/2023

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, or Dalas Peterson, Extension Agronomy State Leader and Weed Management Specialist 785-532-0405 dpeterso@ksu.edu.

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1. Extension question: Can I garden on top of my septic system?

While it's still technically winter, the days are gradually getting longer and home gardeners are likely counting the days until spring. A recent question was posed to Dr. DeAnn Presley, Soil Management Extension Specialist, about gardening on top of a septic system. Since there are an increasing number of suburban homes being built in Kansas, most of which are not on municipal sewer systems, this article was written to help educate the public about residential septic systems and how to properly manage them.

How does a septic system work?

Septic systems, also referred to as onsite wastewater systems, treat and cycle wastewater back into the environment. There are many different kinds of systems, but except for lagoons, all depend on dispersing partially treated wastewater called effluent into the home's lawn through a network of pipes called the drainfield or absorption field. Soil organisms, such as bacteria and fungi, play a critical role in decomposing the chemicals, compounds, and other organisms present in the wastewater. For this process to proceed efficiently the soil profile needs to be aerobic, meaning that the soil isn't permanently saturated. That's why systems have the large footprint that they do, so that water can be spread out across the dispersal field in such a way that there is not any one spot that's overloaded with water.

Because of all this water, plants are very beneficial for removing some of this water from the lateral field through transpiration (water moves from the roots and exits through the leaves). However, the very best plants for covering a wastewater system components, such as the septic tank and the absorption field, are lawn grasses and other ornamental plants with a shallow root system. There are a few reasons for this.

1. It's best to keep the area around the septic tank free of major landscaping or objects because the tank needs to be accessible for occasional pumping.
2. Plants with large roots such as trees or shrubs might cause damage and/or plug either the septic tank or lateral lines with roots.
3. From a human health perspective, vegetable gardening isn't recommended. According to the EPA, "It is not recommended to plant trees, shrubs, or vegetable gardens on the drainfield. Tree and shrub roots can ensnarl and damage drainfield pipes. Vegetables can potentially be exposed to sewage effluent and be unsafe to consume. Native grasses and ground covers are the most appropriate planting over your drainfield."

Because there's always a risk that a septic system might be malfunctioning, it's best to avoid consuming vegetables that could have been in contact with effluent.

For more information:

<https://www.epa.gov/septic/frequent-questions-septic-systems>

<https://www.epa.gov/sites/default/files/2015-06/documents/septicmart-week-landscaping-final.pdf>

DeAnn Presley, Soil Management Specialist

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2. 2022 Kansas Performance Tests with grain sorghum hybrids report

The *2022 Kansas Performance Tests with Grain Sorghum Hybrids* report is now online. In this report, the results of the 2022 grain sorghum performance tests. There is also a summary of the 2022 grain sorghum crop, with a detailed discussion summarizing the statewide growing conditions, diseases, and insects.

Grain sorghum performance tests, conducted annually by the Kansas Agricultural Experiment Station, provide farmers, extension workers, and seed industry personnel with unbiased agronomic information on many of the grain sorghum hybrids marketed in Kansas. Because entry selection and location are voluntary, not all hybrids grown in the state are included in tests, and the same group of hybrids is not grown at all test locations.

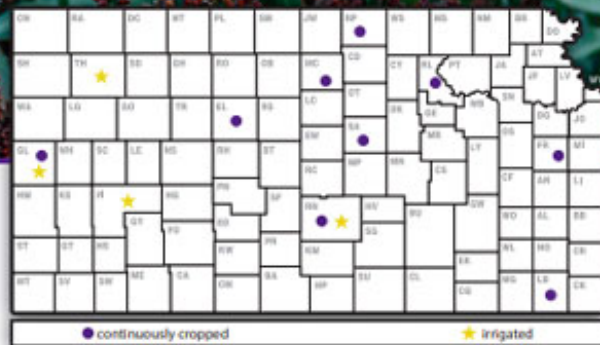
The online version of the 2022 Kansas grain sorghum performance tests report can be found at: <https://bookstore.ksre.ksu.edu/pubs/SRP1175.pdf>.

Test results also can be found at: <http://www.agronomy.k-state.edu/services/crop-performance-tests/grain-sorghum>

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2022 Kansas Performance Tests with

Grain Sorghum Hybrids



Report of Progress 1175



Kansas State University Agricultural Experiment Station and Cooperative Extension Service

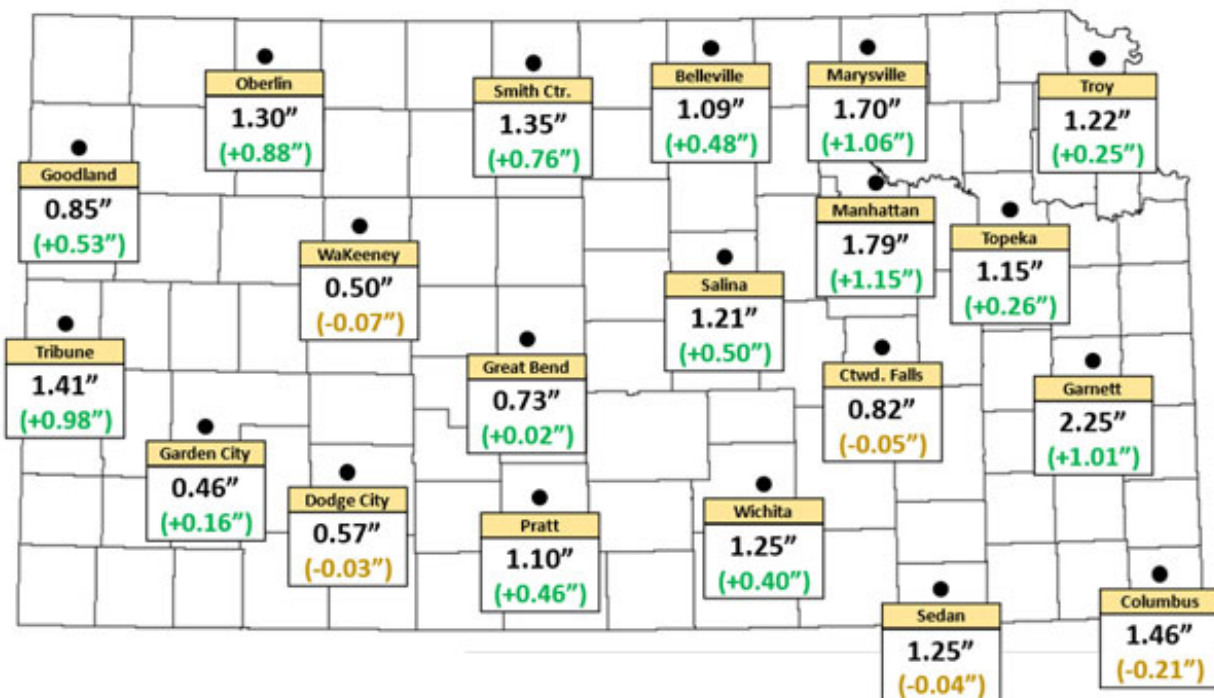
3. Kansas weather: Looking back at January and ahead to February

The first month of 2023 has drawn to a close. In this report, we take a look back at what was a warm, wet January at many locations, except for northwest Kansas where it was cold and snowy. Also, the Climate Prediction Center has released their one-month temperature and precipitation outlooks for February 2023.

Weather systems across Kansas in January

It was a mild start to the year, with a storm system more characteristic of early spring than winter affecting the state on January 2. Snow fell in the far northwest, with rain and thunderstorms in the east. A period of mild weather followed this system for most areas, but the snow that fell early in the month was slow to melt, keeping the northwest cooler than the rest of Kansas, but still above seasonal normals through mid-month.

In the second half of January, three separate storm systems affected Kansas in the span of just over a week, bringing ample precipitation to the entire state, resulting in above normal monthly totals for many areas (Figure 1). With the first event on January 17-18, snow fell in the northern part of the state, while it was a soaking rain in the east, with sleet mixed in at a few locations. The second event was mainly on the 21st, which brought snow to more areas, particularly in the northern two-thirds of Kansas. The third precipitation event was on the 24th and 25th, which fell in the form of both rain and snow, and was focused on the southeastern half of the state. Late in the month, a strong cold front swept across the state, bringing much colder air. Lows in the single digits above and below zero were common in all but southeast Kansas on the 29th and 30th, with daytime highs remaining well below freezing. This brought final average readings for the month down a couple degrees, but for most areas the monthly mean temperature was still well above normal (Figure 2).



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Figure 1. Total precipitation for January 2023 for select locations in Kansas. Values in parentheses are the departures from normal. Normals are based on the period 1991-2020.

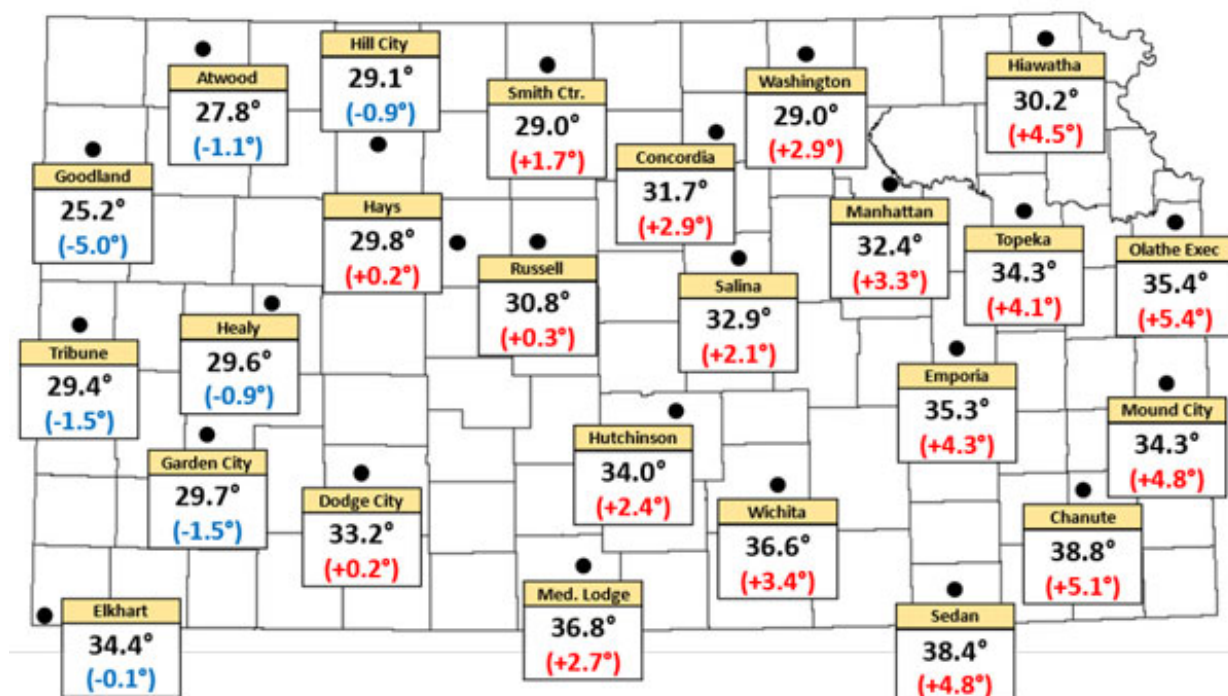


Figure 2. Average temperatures for January 2023 for select locations in Kansas. Values in parentheses are the departures from normal.

While no areas experienced their warmest, wettest or snowiest January on record, there were some places that experienced a top 10 event in each of those categories. It was the 4th warmest January on record in Emporia (35.3°F, 74 years of record keeping). Chanute (38.8°F, 130 years) had their 10th warmest January on record. Meanwhile, Goodland had a monthly average temperature of 25.2°F, 5.0°F below normal. While not top 10, this ranks as the 23rd coldest January on record, dating back to 1888. It was even colder in our northwesternmost county in Kansas. The Kansas Mesonet site in Cheyenne County had an average temperature of 23.4°F, aided in part by a low of -11° on the 30th, the coldest temperature recorded in the state for the entire month of January. Compared to the normal temperatures at nearby St. Francis, this average was 6.0° below normal. Many locations in Kansas had much higher rankings on the list of warmest Januaries through the first three weeks of the month. It was the last 10 days that brought normal temperatures down significantly.

January 2023 was the 4th wettest on record in Greensburg (2.02", 115 years of record keeping) and Tribune (1.41", 116 years). It was the 5th wettest January at both Plainville (1.51", 112 years) and McPherson (2.03", 130 years). The 1.79 inches at Manhattan's co-op site on the K-State campus tied for the 7th wettest January out of 129 years on record. Manhattan's January total was 0.01" greater than the averages for both January and February combined! Goodland's 0.85" ranked as the 10th wettest January out of 116 years. In addition, Goodland's 15.9" of snow was their 4th snowiest January in 113 years, and the snowiest January since 1988. Looking at just January 1-21, it was the 2nd warmest on record at Emporia, 3rd warmest at Chanute, 5th warmest at both Wichita and Topeka, and 9th warmest at Manhattan (Table 1). By contrast, the last 10 days of January ranked as 6th coldest on

record at Garden City and 10th coldest at Goodland.

Total snowfall values across the state is shown in Figure 3. Additionally, Tables 1 through 3 summarize the average temperatures, highest precipitation, and snowfall amounts across at various locations in Kansas.

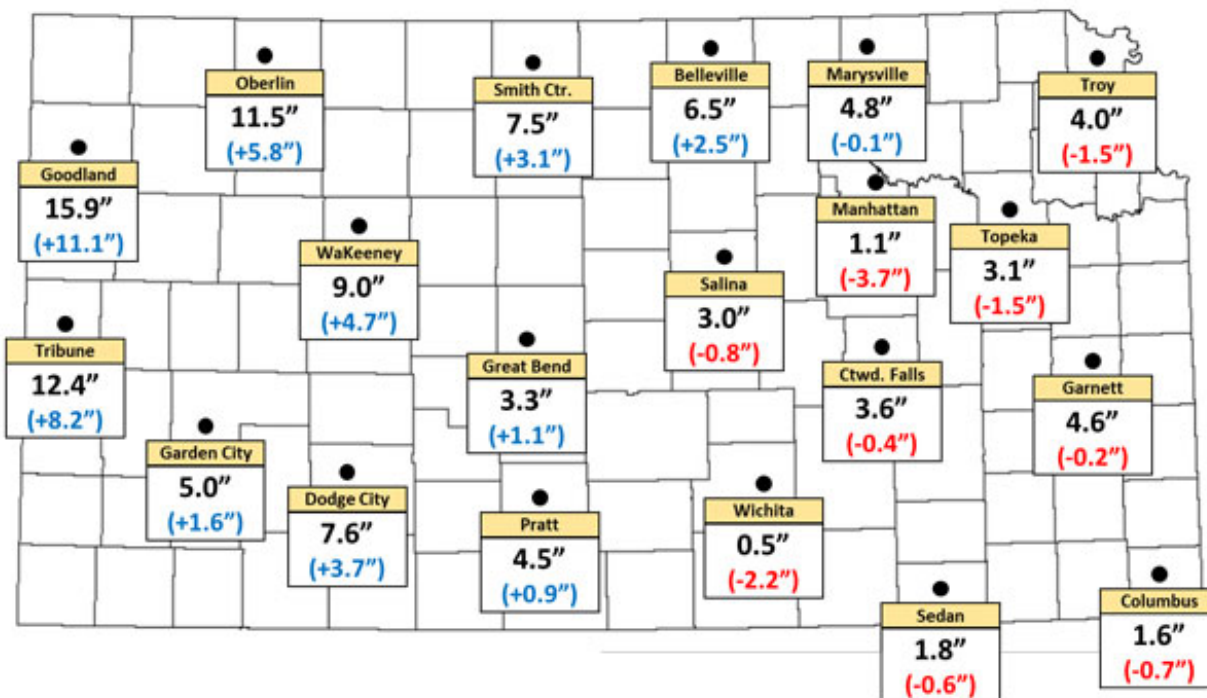


Figure 3. Total snowfall for January 2023 for select locations in Kansas. Values in parentheses are the departures from normal. Normals are based on the period 1991-2020.

Table 1. Average temperatures for select Kansas locations. Normals are based on the years 1991-2020. Red shaded cells are above normal; blue shaded cells are below normal.

Location	County	Average Temperature (Departure from Normal)		
		Jan. 1-21	Jan. 22-31	Jan. 1-31
Goodland	Sherman	29.3° (-0.7°)	16.7° (-13.4°)	25.2° (-5.0°)
Hill City	Graham	33.3° (+0.3°)	20.3° (-9.9°)	29.1° (-1.0°)
Salina	Saline	36.9° (+6.5°)	24.6° (-6.7°)	32.9° (+2.1°)
Manhattan	Riley	35.5° (+6.5°)	25.9° (-3.6°)	32.4° (+3.3°)
Topeka	Shawnee	37.5° (+7.4°)	27.5° (-3.0°)	34.3° (+4.1°)
Garden City	Finney	34.8° (+3.8°)	19.1° (-12.9°)	29.7° (-1.5°)
Dodge City	Ford	38.5° (+5.8°)	21.9° (-11.7°)	33.2° (+0.2°)
Wichita	Sedgwick	40.5° (+7.5°)	28.4° (-5.4°)	36.6° (+3.4°)
Emporia	Lyon	39.0° (+8.0°)	27.5° (-3.9°)	35.3° (+4.3°)
Chanute	Neosho	42.5° (+8.9°)	31.1° (-3.1°)	38.8° (+5.1°)

Table 2. Top 10 monthly precipitation totals for January 2023 as reported by Kansas CoCoRaHS observers.

Rank	Location	County	Precip. (inches)
1	Olathe 1.6 NNE	Johnson	3.18
2	Olathe 3.5 NW	Johnson	2.61
3	Baldwin City 0.6 W	Douglas	2.59
4	Parsons 0.8 SE	Labette	2.56
5	Williamsburg 1.5 WSW	Franklin	2.48
6	Overland Park 1.7 NE	Johnson	2.41
7	McPherson 1.1 NW	McPherson	2.41
8	Ottawa 5.6 SW	Franklin	2.40
9	Garnett 0.4 NNE	Anderson	2.35
10	Greeley 3.6 NE	Franklin	2.33

Table 3. Top 10 monthly snowfall totals as reported at Kansas observing sites.

Rank	Location	County	Snow (inches)	Network
1	Goodland WFO	Sherman	16.4"	COOP
2	Goodland Renner Field	Sherman	15.9"	WBAN
3	Goodland 0.5 ENE	Sherman	15.1"	CoCoRaHS
4	Atwood	Rawlins	14.6"	COOP
5	Goodland 16.6 NW	Sherman	14.5"	CoCoRaHS
6	Grainfield	Gove	13.8"	COOP
7	Wallace	Wallace	13.3"	COOP
8	Goodland 10.3 WNW	Sherman	13.2"	CoCoRaHS
9	Goodland 12.1 NW	Sherman	13.2"	CoCoRaHS
10	Oakley 0.3 NE	Logan	13.1"	CoCoRaHS

February weather outlook for Kansas

Will February be anything like January? The latest outlooks (Figures 4 and 5) from the Climate Prediction Center call for equal chances of below normal, above normal and near normal temperatures across the entire state. There is a slightly higher chance for above normal precipitation for southeast Kansas, while the rest of the state has an equal chance for above normal, below normal and near normal precipitation. Let's hope that the wet start to 2023 is just the beginning of a year that will be remembered for more precipitation and not less. Kansas still has a significant precipitation deficit in many areas.



Monthly Temperature Outlook



Valid: February 2023
Issued: January 31, 2023

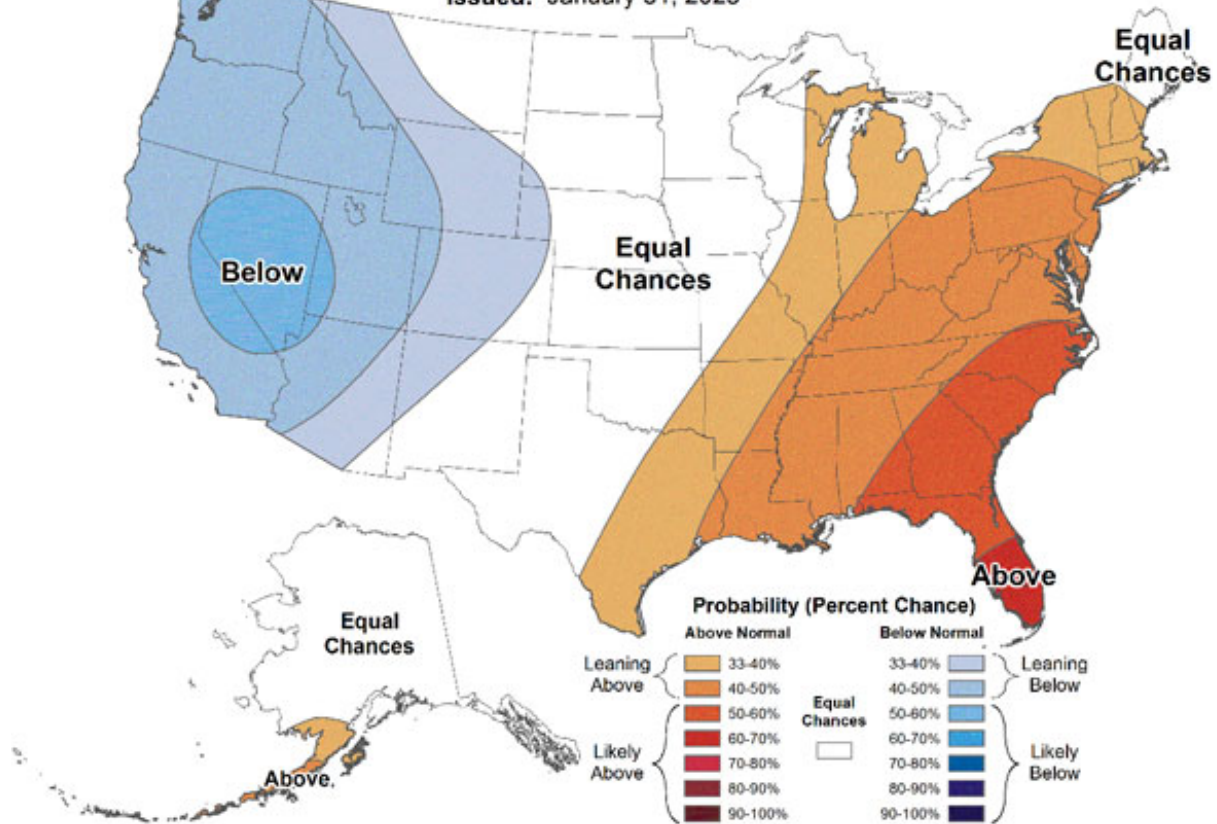


Figure 4. The Climate Prediction Center's temperature outlook for February 2023.

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Monthly Precipitation Outlook



Valid: February 2023
Issued: January 31, 2023

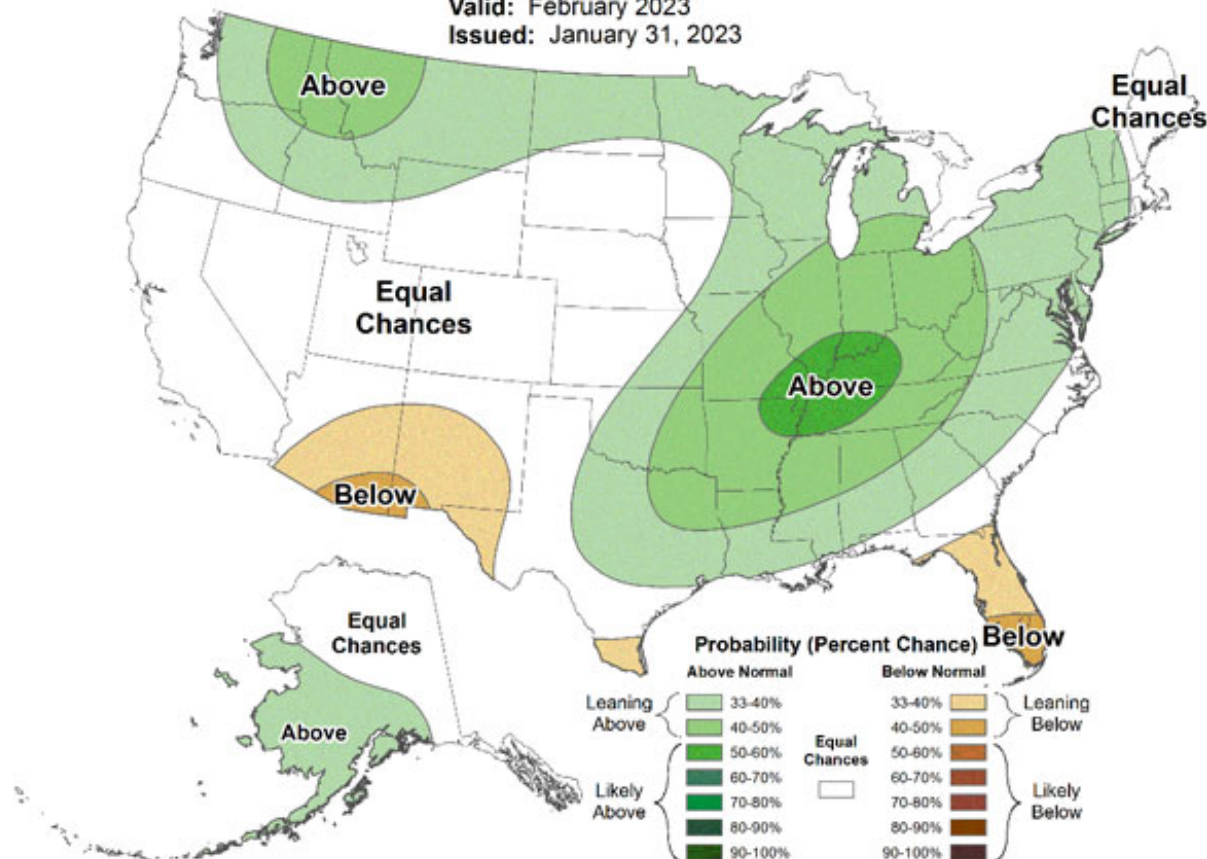


Figure 5. The Climate Prediction Center's precipitation outlook for February 2023.

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4. Don't miss the 2023 K-State Crop Talk webinar series

The popular K-State Crop Talk webinar series is back and set to kick off on February 7, 2023. This year, Crop Talk will be focused on agronomic topics for producers in north central and northwest 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, beginning with the first one on Tuesday, February 7.

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.

A complete list of webinars, with dates, topics, and speakers, is detailed below.

February 7 – Spring Annual Forages to Fill the Gap in Cattle Feed

John Holman, K-State Agronomist

February 14 - Climate Smart Agriculture, What's all the Buzz

Peter Tomlinson, K-State Environmental Quality Specialist

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

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



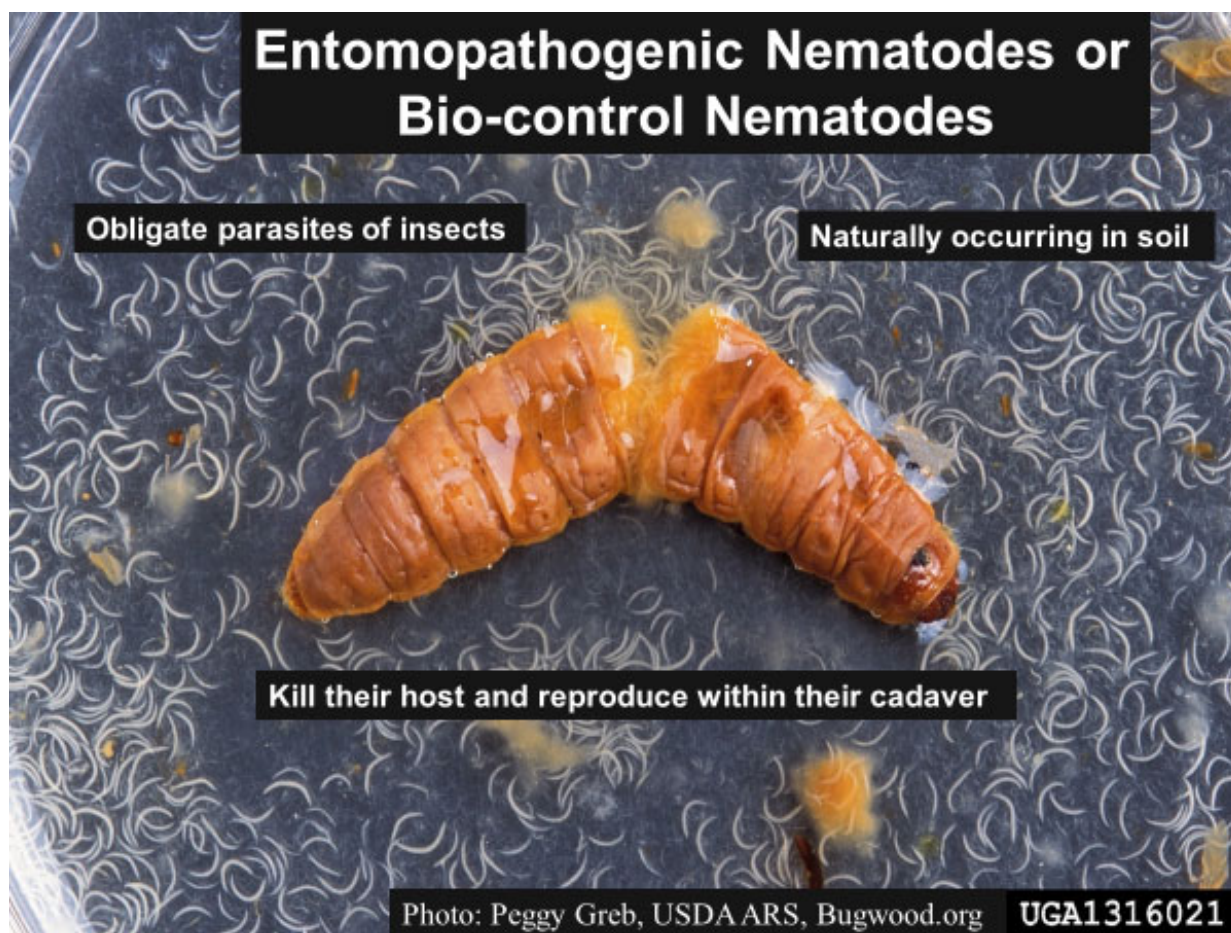
Certified Crop Advisor (CCA) Credits have been applied for
1 per session

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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5. Webinar on controlling corn rootworm with nematodes - February 22

K-State Research and Extension will host a one-hour webinar starting at 9:30 am on February 22 highlighting results from on-farm applications in western Kansas, western Nebraska, and eastern Colorado using nematodes to control corn rootworm larvae.



Retired Cornell University entomologist Elson Shields, responsible for the development of these persistent biocontrol nematode strains, will be the webinar's guest speaker. Shields and collaborators have been conducting field studies in several states to examine the nematodes' efficacy and persistence over multiple seasons. In 2022, biocontrol nematodes were applied to 4,000 acres of corn rootworm problem fields located in western Kansas, western Nebraska, and eastern Colorado.

As corn rootworm control issues continue throughout the corn-growing regions of the United States, these biocontrol nematodes are proving to be an effective way to reduce root damage. Additionally, they have the potential to slow the development of resistance in rootworm populations and prolong the efficacy of other control methods. These biocontrol nematodes are complementary to and can be used in tandem with several other rootworm control methods and can provide some root protection on their own.

Those planning to attend should preregister here https://ksu.zoom.us/meeting/register/tJctf-ivrzgrGNEd_IMXcnvyDo8L8pS--a3w to receive a link to the meeting.

For more information, contact:

Anthony Zukoff, Entomology Extension Associate
Southwest Research and Extension Center
Garden City, KS
620-275-9164
azukoff@ksu.edu

6. Registration is open for the K-State Soybean School on 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. 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.

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