Issue 944

K-STATE Research and Extension

Extension Agronomy

eUpdate

02/23/2023

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. Cover crop termination considerations

Now is the time to begin considering how to terminate winter cover crops in preparation for summer crops. Given the drought status for many parts of Kansas, some producers might not have a lot of cover crop biomass. However, keep an eye on it once temperatures start to rise this spring. Some cover crop species, such as oilseed radish or fall-planted oats, are likely to be killed by freezing over the winter. But, many cover crops will need to be terminated by mechanical or chemical methods in the spring. Once the cover crop has been planted, there are two factors you can control in cover crop termination: method and timing, and choices related to these factors interact. It's also important to remember that NRCS guidelines for termination timing have implications for program compliance (Figure 1).

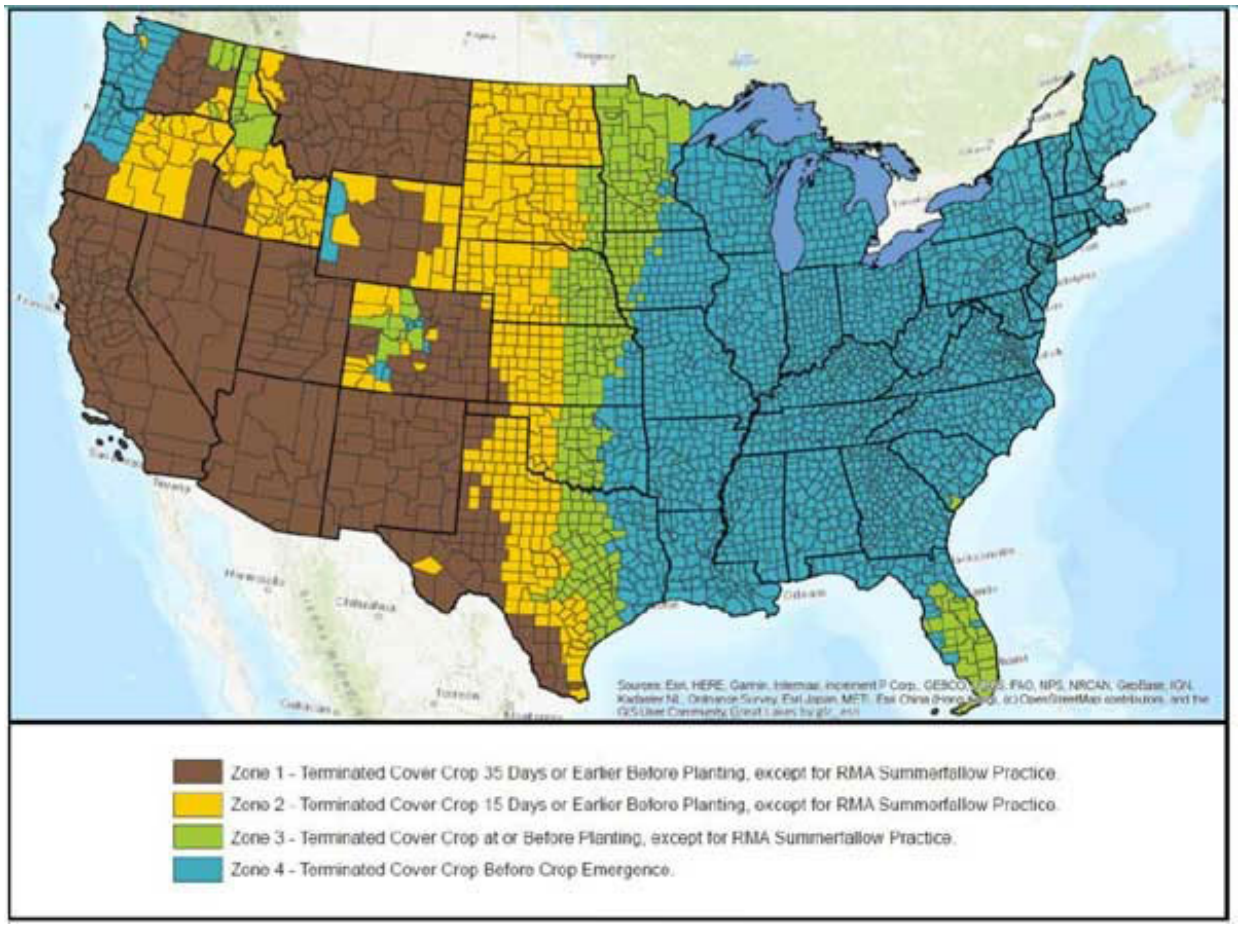

Figure 1. USDA's map depicting termination timing guidelines.

Mechanical cover crop termination methods, such as rolling or roller-crimping (Figure 2), tillage, and mowing have the potential advantage of reducing selection pressure on herbicide-resistant weeds by deferring herbicide use to in-crop applications. Termination with a roller or roller-crimper may be more effective for monoculture plantings of a winter cereal grain, such a cereal rye or triticale. Cover

crop growth stage is a key factor in achieving a successful kill. For example, cereal rye and other winter cereal grains are most consistently killed when a roller-crimper is used at milk or dough stage, while legumes are best controlled at full bloom. Tillage is also a mechanical termination option in some cropping systems. Some species, especially clovers, may not be effectively killed by tillage. Multiple tillage passes may be required, which may cancel out soil health and conservation benefits of the practice. Mowing as a termination method is best suited to smaller acreages.

Figure 2. Roller crimper being used to terminate a sorghum-sudan grass summer cover crop. Photo by Peter Tomlinson, K-State Research and Extension.

Herbicides are an effective cover crop termination method that can be used in a variety of cropping systems. Selection of the most effective herbicide varies with cover crop species and growth stage. In general, more mature cover crops are more difficult to control with herbicides, especially once plants have begun reproductive development. Selective herbicides, such as SelectMax (clethodim) for grasses or 2,4-D for broadleaves can be used to control single-species plantings, but mixing Group 1 herbicides like clethodim with Group 4 herbicides like 2,4-D will likely reduce grass control. Non-selective herbicides such as glyphosate, glufosinate, or paraquat are recommended for control of mixed-species plantings. Combinations of glyphosate and 2,4-D can increase kill of broadleaf crops. Even though glyphosate is the most effective herbicide for control of most cover crop plantings, price and availability concerns for in 2023 may make alternative herbicides more appealing to some growers. Several herbicide options and their effectiveness are listed in Table 1.

Residual herbicides such as Fierce (pyroxasulfone + flumioxazin), Authority Maxx (sulfentrazone + chlorimuron), or Prefix (fomesafen + S-metolachlor) can also be included in cover crop termination sprays. A recent research project conducted in Kansas and other soybean-producing states found that including Fierce in the spray mixture at the time of cereal rye termination can increase pigweed control (Figure 1). Also in this study, greater weed suppression was observed when cereal rye was terminated at the time of planting rather than two weeks ahead of planting. However, producers considering delaying termination should also consider if the additional weed control outweighs the soil profile used by the cover crop and the potential yield penalty to the cash crop.

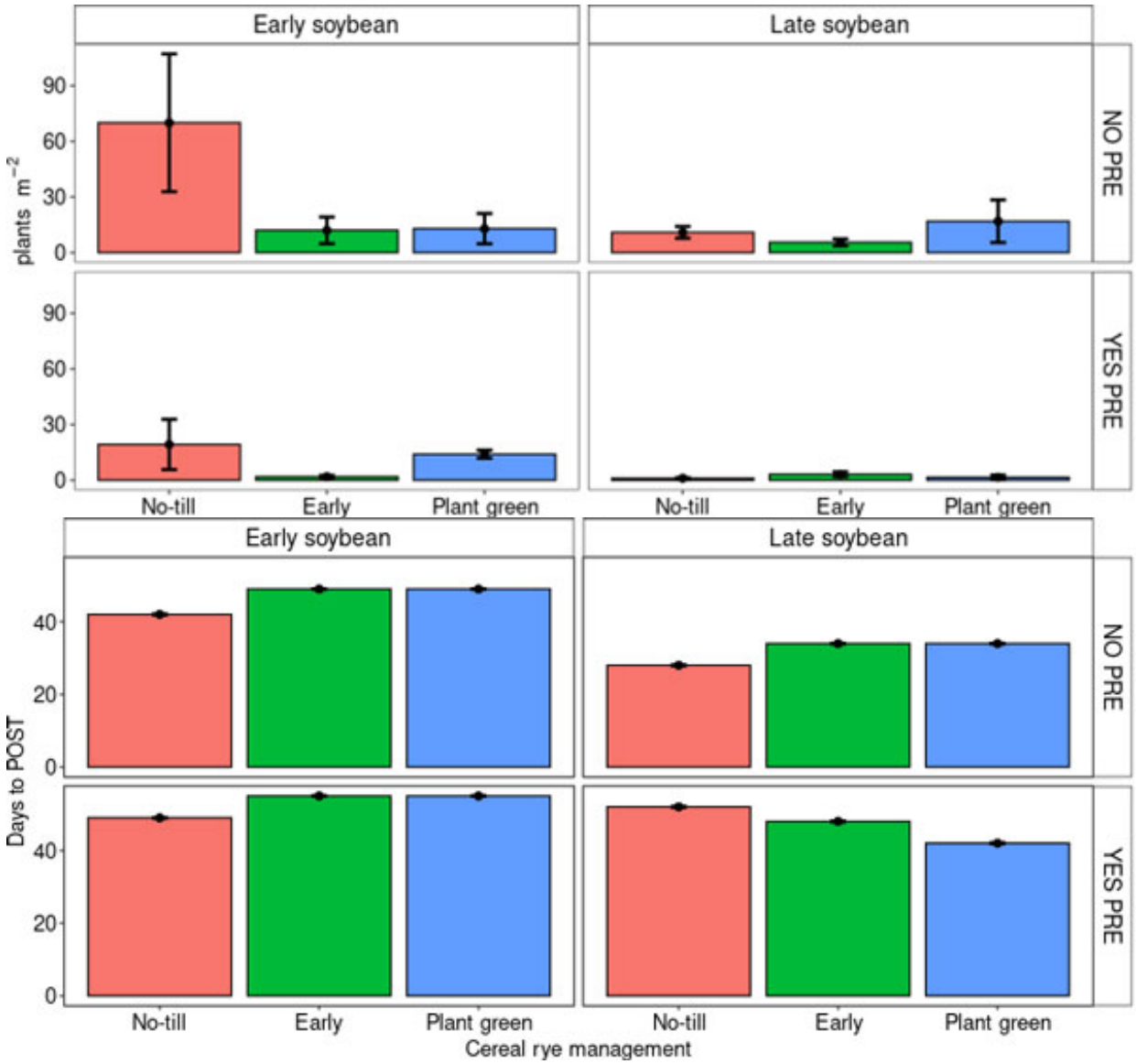

Figure 1. Influence of Fierce (YES PRE or NO PRE) on Palmer amaranth density (top) and growth rate as measured by days to POST emergence application (bottom) when soybeans were planted at two dates (Early or Late) with three cereal rye cover crop management strategies (No-till = no cover, Early = terminated two weeks before planting, Plant green = terminated at planting). Study was conducted in Rossville, KS. Funding was provided by United Soybean Board. Graphs by K-State Research and Extension.

If you choose to include an herbicide with residual activity, it is especially important to consider the potential for injury or rotation restrictions to the crop that will be planted afterward (Table 1).

Additional resources for cover crop termination can be found at https://iwilltakeaction.com/news/cover-crop-fact-sheet-series.

Table 1. Herbicide considerations for chemical cover crop termination.

Herbicide[1]	Termination effectiveness[2]		Potential rotation restriction[3]
	Cereal rye	Austrian winter pea	
Roundup PowerMax (glyphosate)	G/E	F/G	none
SelectMax (clethodim)	G/E	N	corn
Roundup + atrazine	G	G/E	soybean
Roundup + Clarity (dicamba)	G/E	G/E	soybean
Roundup + Canopy (chlorimuron + metribuzin)	F/G	G/E	corn
Roundup + Sharpen (saflufenacil)	G/E	G	soybean
Roundup + SelectMax (clethodim)	G/E	G	corn
Roundup + 2,4-D	G/E	G/E	corn, soybean
Gramoxone SL (paraquat)	F/P	F/G	none
Gramoxone + atrazine	F	E	soybean
Gramoxone + metribuzin	F	P	corn
Gramoxone + 2,4-D	F/G	E	corn, soybean
Gramoxone + dicamba	G	E	soybean
Gramoxone + metribuzin+2,4-D	G/E	E	corn, soybean
Gramoxone + metribuzin + 2,4-D + Classic (chlorimuron)	G/E	E	corn, soybean

[1]Use of trade names does not indicate an endorsement of any product.
[2]E=excellent, G=good, F=fair, P=poor, N=none; Cover crop growth stage and environmental conditions will influence effectiveness. Herbicide labels supersede this information.
[3]Rotation restrictions are influenced by application rate and herbicide resistance in crop. Herbicide labels supersede this information.

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.

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2. Is spring wheat a viable option for northwest and north-central Kansas?

Spring wheat is a cool-season grain crop that in adapted areas of production (typically the Northern Great Plains) usually produces a higher protein and higher quality grain for milling and baking purposes. Spring wheat can be produced in northwest Kansas and adjoining areas. We know that yields will be lower than summer fallow winter wheat or stubble-back (continuous) winter wheat, but may be comparable to winter wheat late planted into row-crop stalks. Grain quality will be an important component of marketability. The long-term ability to produce quality spring wheat in northwest Kansas, and its economic viability, has yet to be demonstrated but we continue to see producers in northwest and north-central Kansas giving it a try.

Management factors

Traditionally, spring wheat has not been a recommended crop in northwest Kansas. However, if spring wheat is planted, the K-State recommendation is to plant from February 25 through March 15. Particular emphasis should be given to the ending date as it relates to minimizing heat stress, which will be the yield limiting factor in most years. In research plots at Colby, dormant seeded spring wheat in December has shown to be viable in stand establishment. Seeding rates higher than those typically used in winter wheat will be necessary due to the reduced window for initiating productive tillers. In addition, heat stress will be exceptionally detrimental to tillers of spring wheat as compared to winter wheat, making the density of main stems even more important to achieving yield potential.

The northwest extension agronomy program at K-State has conducted several site -years of seeding rate trials in spring wheat. Responses have generally been flat (Figure 1), this is not entirely surprising at the low yield levels experienced. Based on this limited data and experience, we would recommend 1.3 to 1.8 million seeds per acre to be an appropriate range. We are continuing to conduct seeding rate trials at locations in Kansas and are collaborating with scientist at the University of Nebraska in identifying appropriate spring wheat seeding rates for the central Great Plains region. With respect to nitrogen management, growers should consult the recommendations offered by North Dakota State University in the publication SF712, "Fertilizing Hard Red Spring Wheat and Durum". Spring wheat will reach physiological maturity and be harvested slightly later than winter wheat in our region.

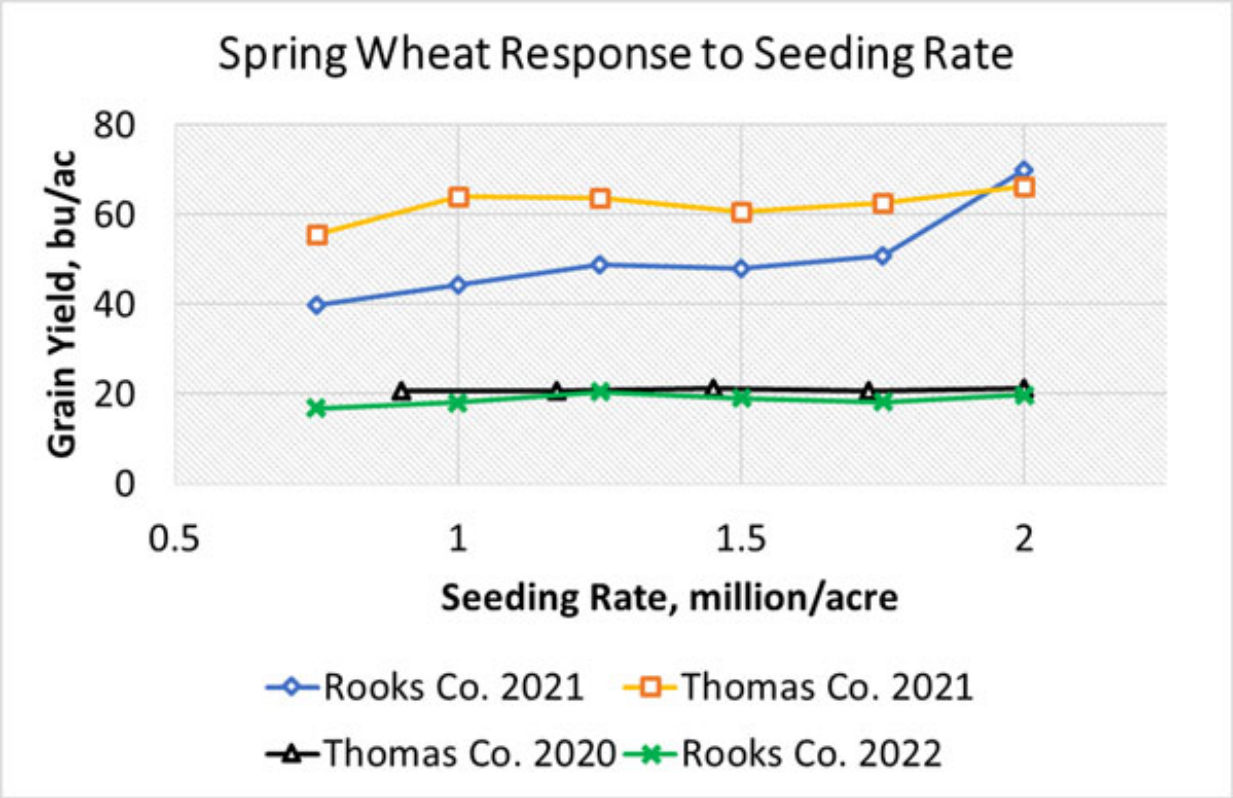

Figure 1. Spring wheat yield response to different seeding rates for locations in northwest Kansas. Graph by Lucas Haag, K-State Research and Extension.

Experimental data on yield of spring wheat

Spring wheat has been evaluated at several points in time in northwest Kansas. From a historical context, during a 35-year study at Colby (1915-1950), spring wheat grown on fallow averaged slightly less than ½ of winter wheat grown (also on fallow). Additional research in the 1970's demonstrated a similar relationship. More modern research was conducted in 2001 through 2005 in which spring wheat averaged 49% of winter wheat (Table 1).

Table 1. Summary of grain yields for spring wheat vs. winter wheat from 2001-2005 at Colby, KS.

Colby Kanas Spring Wheat and Winter Wheat, 2001-2005

Year	Winter Wheat Mean of Top LSD Group	Spring Wheat Mean
	-- Grain Yield, bu ac^{-1} --	
2001	82.1	46.0
2002	43.2	12.1
2003	78.7	42.4
2004	60.1	30.3
2005	78.2	37.5
Average	68.5	33.7

R. Aiken, 2008. unpublished data.

In response to producers' questions regarding spring wheat, spring wheat variety trials were conducted in northwest KS beginning in 2019. Table 2 shows individual year and across-years means for spring wheats evaluated at Colby, Kansas. There is a distinct difference in yields between the two years. The first year of the trial was seeded into chem-fallow ground while the second year of the trial was seeded into fresh corn stalks harvested the prior fall. While adequate stands were attained in both years, the cooler temperatures during grain fill and increased soil moisture due to the previous fallow period resulted in greater yield potentials in 2019.

Table 2. Across-years yield performance for spring wheats evaluated at Colby, Kansas, 2019-2022.

K-State Dryland Spring Wheat Variety Trial Summary, 2019-2022

Variety	Thomas Dryland 2019	Thomas Dryland 2020	Thomas Dryland 2021	Rooks Dryland 2021	Rooks Dryland 2022	2-Site-Year Average	3-Site-Year Average	4-Site-Year Average	5-Site-Year Average
	Grain Yield, bu ac^{-1}								
LCS Cannon	**55.9**	**23.6**	**53.8**	**50.7**	21.0	.	.	.	46.0
WB9590	47.4	**24.3**	**54.9**	**44.8**	20.0	.	.	.	42.9
LCS Trigger	46.0	21.0	**52.4**	**52.0**	13.6	.	.	.	42.9
WB9719	41.7	**21.7**	**54.0**	**41.0**	14.5	.	.	.	39.6
LCS Rebel	42.4	20.6	**49.4**	**40.6**		.	.	38.3	.
WB9606	.	**22.9**	**49.6**	**48.2**	11.1	.	.	32.9	.
WB9707	.	.	**49.4**	**42.2**		45.8	.	.	.
ND VitPro	.	.	47.0	**38.0**	14.5	.	33.2	.	.
ND Prohberg	.	.	42.6	36.0	14.0	.	30.9	.	.
WB9479	46.1	**21.6**	.	.		33.9	.	.	.
WB7202CLP	44.6	**22.5**	.	.	**24.3**	.	30.5	.	.
MS Chevelle	43.1	**23.5**	.	.		33.3	.	.	.
MS Barracuda	43.8	**22.6**	.	.		33.2	.	.	.
SY Valda	43.1	18.8	.	.		31.0	.	.	.
MS Camaro	40.1	**21.2**	.	.		30.6	.	.	.
SY Rustler	41.3	19.0	.	.		30.2	.	.	.
AP Murdock	.	.	44.5	.		.	.	.	.
AP509-2	.	.	46.4	.		.	.	.	.
MS Ranchero	.	.	.	.		.	.	.	.
MS Stingray	37.7	.	.	.		.	.	.	.
SY Ingmar	.	**22.4**	.	.		.	.	.	.
WB7328	38.0	.	.	.		.	.	.	.
WB7589	47.7	.	.	.		.	.	.	.
WB7696	.	**21.9**	.	.		.	.	.	.
WB9668	36.7	.	.	.		.	.	.	.
LCS Hammer AX					15.2	.	.		.
LCS Heron					12.6	.	.		.
LCS Dual					11.1	.	.		.
LCS Buster					6.7	.	.		.
Site Average	43.5	21.8	49.5	43.7	14.9				
P>F	<0.0001	0.0404	0.0013	0.0016	<0.0001				
LSD (0.05)	3.7	3.2	5.8	7.6	2.9				

Yields in bold represent the top statistical group
2019 was seeded into chem-fallow
2020 was seeded into corn stalks harvested the prior fall
2021 was seeded into corn stalks harvested the prior fall at both locations
2022 Spring wheat trial at Colby was abondoned due to drought

Data would show a significant reduction in yield potential for spring wheat relative to winter wheat when both are grown on fallow. Yields are likely to be more similar when grown immediately following a row crop. It is important to note however, yield is not the lone determining factor for the viability of the practice. Differences in cost structure and revenue could very well make spring wheat an economically feasible fallow alternative, provided that quality grain can be raised and marketed at a premium to winter wheat.

Marketing

Producers should be aware that hard red and hard white spring wheats are different market classes than hard red or hard white winter wheats. While small quantities are likely being blended off without notice, any concentration greater than 2% would be considered a mixing of classes that could result in the rejection of shipments. A local delivery point has received spring wheat northwest Kansas for the past several years. Additionally, a producer may have success using on-farm storage to allow proper segregation, time to perform necessary testing of grain quality, and then direct marketing to a mill.

Take home message

Spring wheat can be produced in this region. Producers should have marketing plans in place prior to production and manage the crop to ensure quality. Yields will likely be less relative to winter wheat due to heat stress during grain fill. However, there are still many unknowns regarding the production of spring wheat and its long-term viability in northwest Kansas and adjacent areas.

Spring wheat variety performance test results are available to download on the Northwest Area Agronomy website: www.northwest.ksu.edu/agronomy

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3. Kansas fire season is here

The start of 2023 has been quiet wildfire-wise across Kansas. Much of central and eastern Kansas received above-normal moisture in January (https://bit.ly/3l7QjTx), helping keep fires at bay despite much above-normal temperatures.. As we approach the core part of Kansas fire season, March and April, this trend may not remain the same.

Background conditions conducive for large fires in Flint Hills

While last year only had slightly above normal large fire activity, overall fires through the year were substantially increased due to drought. Most remained small and were handled locally with no issues. Our concern is the potential for large wildfires that are extremely impactful and disruptive. One reason Kansas had numerous smaller fires was because of persistent availability to burn. Many portions of western Kansas never "greened up" or observed active spring/summer grass growth due to dry conditions. These areas saw continuous fire activity in 2022. However, they also have less grass/fuel to burn this year and, under critical fire weather conditions, can be controlled more easily (Figure 1). Further east into the Flint Hills, precipitation during the peak grass growing months of April to June was above normal by several inches. Therefore, fuel loading in this region is at or above normal and the concern is higher for aggressive fire behavior under even moderated conditions. We saw this in the fall with multiple large wildfires occurring in the Marion and Butler County region.

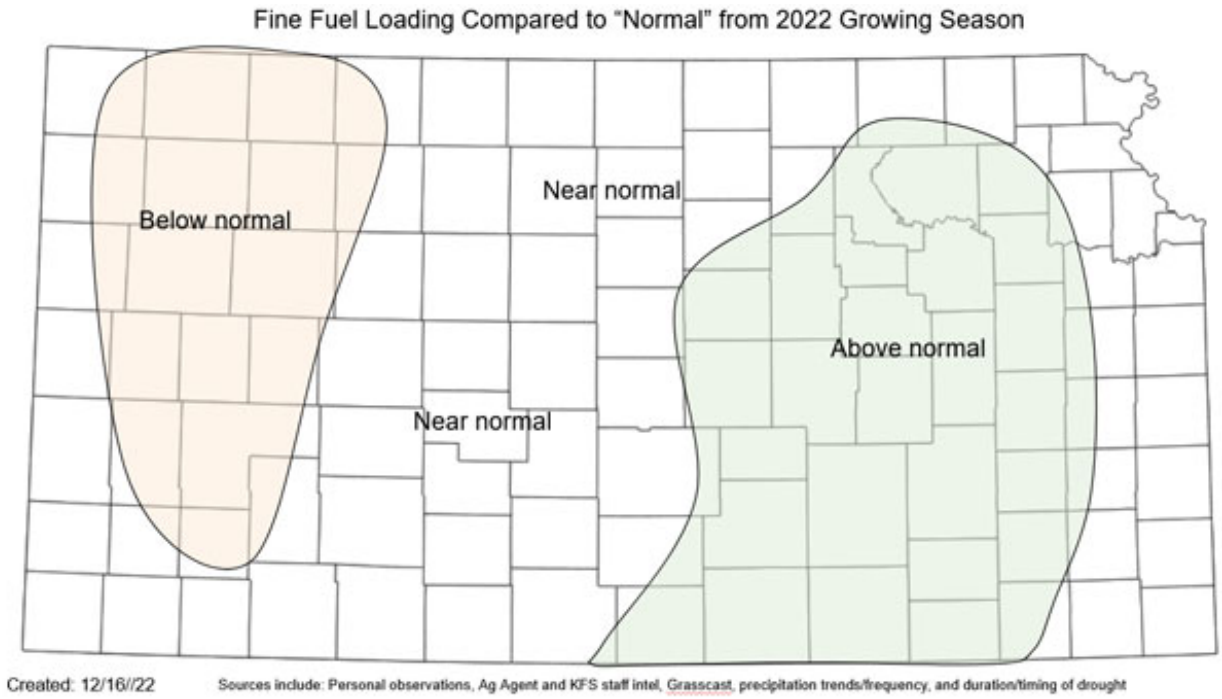

Figure 1. Areas of estimated above/below/at normal grass (or fuel) loading. Above normal areas observed increased moisture during the growing season and have potentially more potential for increased fire behavior and large fire potential. The opposite is expected in the below normal area. Estimates from numerous sources were also considered. Source: Kansas Forest Service.

Weather patterns play a role

Contrary to popular belief, large wildfires in Kansas are usually independent of long term drought conditions. Short term weather drives fire potential in the state and determines availability of grass to burn. This makes predicting a fire season challenging because one or two conducive days can skew an entire season. We see similar challenges to seasonal tornado predictions in Kansas.

There are several weather events that are responsible for the biggest wildfires in Kansas history. The most dangerous is what meteorologists call a "mid-latitude cyclone", a low pressure system that typically forms east of the Rocky Mountains and moves eastward across the Plains. These dynamic systems typically feature strong winds and drastic air masses separated by fronts as they spin counter clockwise around the center. Systems of this nature provide significant challenges with shifting winds that make firefighting dangerous and fire spread nearly impossible to suppress.

Mid-latitude cyclones are also often responsible for severe weather and even blizzards - all dependent on your location to the center of the low. The area between the dryline and cold front are most conducive for wildfires. Historical fires such as Four Corners, Starbuck, and Anderson Creek all developed in the shaded orange area of a low pressure system (Figure 2).

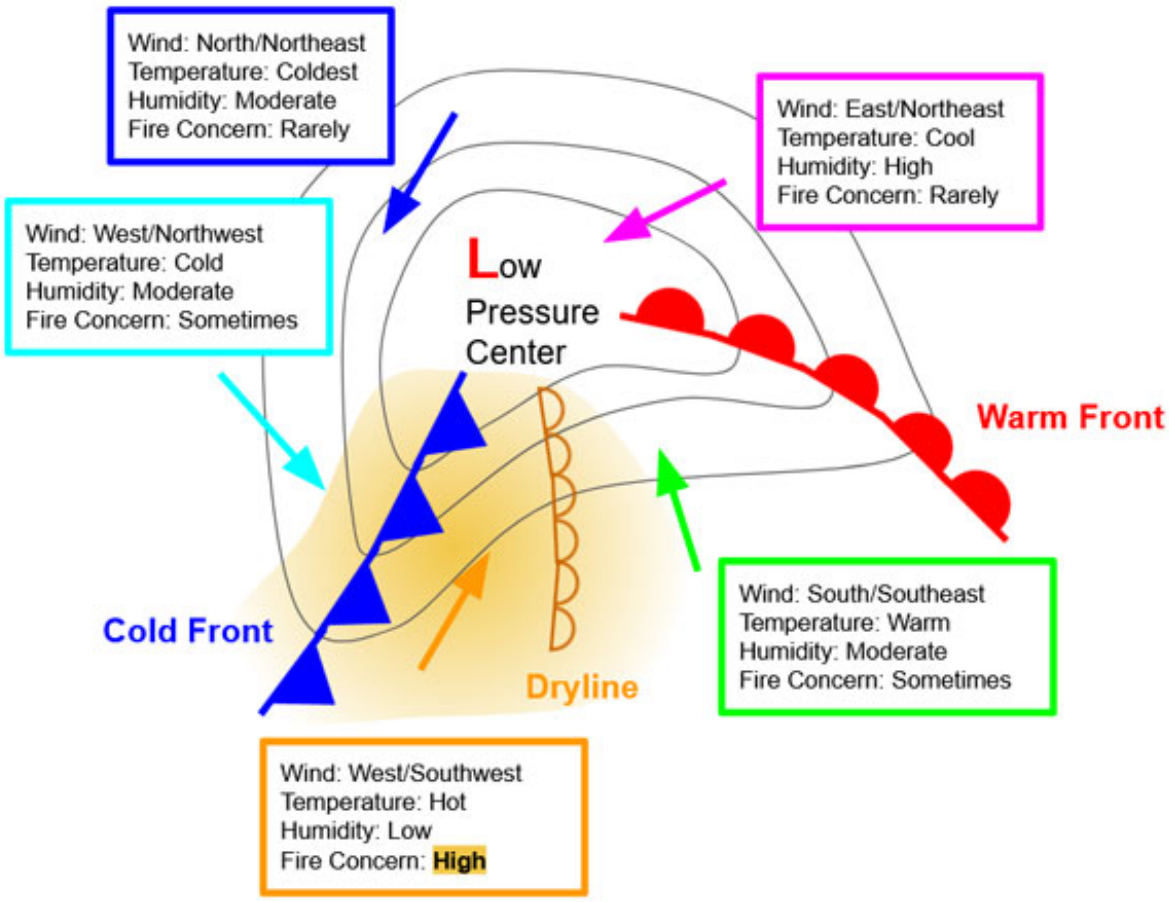

Figure 2. Diagram depicting a surface low pressure system responsible for the most active weather on the Plains. Significant wildfires may develop south of the center of the low

pressure between the dryline and the cold front.

Strong low pressure systems are usually well forecasted at most one to two weeks in advance. Beyond that, we must look at whether upcoming patterns are favorable for such systems. La Niña remains the main contributor in the extended forecast despite showing signs of weakening. It is important to note that despite persistent La Niña the last three winters, the outcomes of each spring have been very different. January 2023 was a great example with an active "atmospheric river" event providing significant moisture to the southwest, Rockies, and central Plains. This pattern persisted for several weeks and provided very different conditions than a typical La Niña. Results of this anomalous pattern will likely drive future local influences, potentially dominating the overarching oceanic oscillations.

Looking to the future

Thus far in February, overall temperatures have continued the theme of above normal for a majority of the state. While there is a brief period of cooler-than-normal temperatures expected to start March, the Climate Prediction Center (CPC) is calling for equal chances of at/below/above normal temperatures for Kansas for the month. Additionally, the CPC calls for a similar scenario for precipitation and carries these equal chances through the three-month spring period of March - April - May.

Currently, an active pattern is set to continue with one to two storm systems a week favored across the central US. This will be enhanced somewhat by the still persistent impacts of La Niña and amplified by the results of the recent pattern. Therefore, it appears likely that those that have received moisture will likely continue to see precipitation. This doesn't favor the central/western portion of the state that will remain mostly dry, even though this area recently received some snow.

As spring progresses, we can expect storm systems to bring wilder weather and stronger winds. Typically, weakening La Niña's can result in even more active spring weather. This has been found to both increase hail and tornado occurrences in the eastern part of the state. These low pressures, as mentioned earlier, also favor an increase in fire weather conditions west of the storms, potentially in central and west Kansas. These regions are likely to observe an increase in fire activity as a result. Some of the drier conditions exist in the western Flint Hills where there is increased fuel loading. Potential in this area is highest for large fires this spring before green up. Large wildfires could still occur further west, however, weather conditions would have to be rather extreme and/or a fire would have to start in a location with locally higher fuel load for large fire potential.

Shrinking the 2023 wildfire potential window

The conclusion of fire season is typically considered if/when grasses green up across the state. This varies by year and is mostly dependent on soil moisture and temperatures. Thus far in 2023, green up nationally is moving northward at record pace and arriving up to a month early (Figure 3). With the current projection of temperatures, it is expected to continue. However, once it reaches the current drought center point in Kansas (Figure 4) and its respective dry soil profiles, green up should slow.

Elsewhere, especially in the eastern part of the state, moisture surpluses will likely bring a quick green up and end to wildfire season. Fires will still be possible; however, for a limited period of time.

Additional challenges such as mud will complicate fire suppression. Early green up could also increase potential for late frost/freezes which may damage grasses and make them able to burn later in spring.

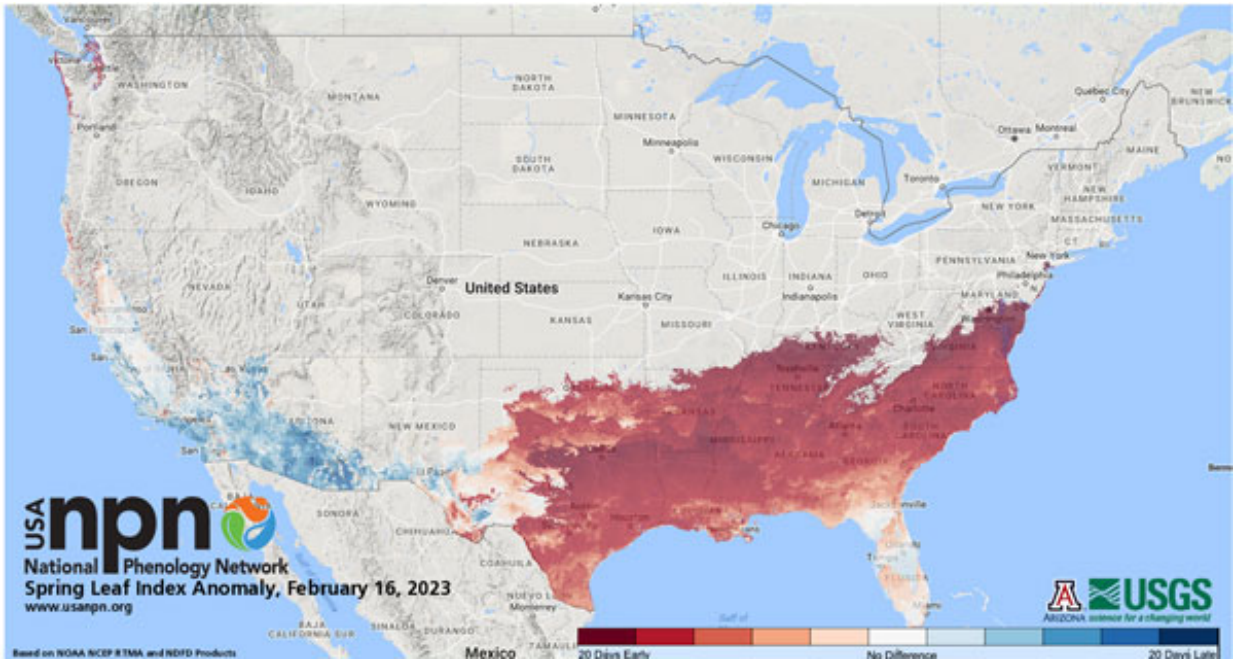

Figure 3. National Phenology Network Spring Leaf Index Anomaly as of February 16, 2023. Red areas represent where green up is occurring up to a month early.

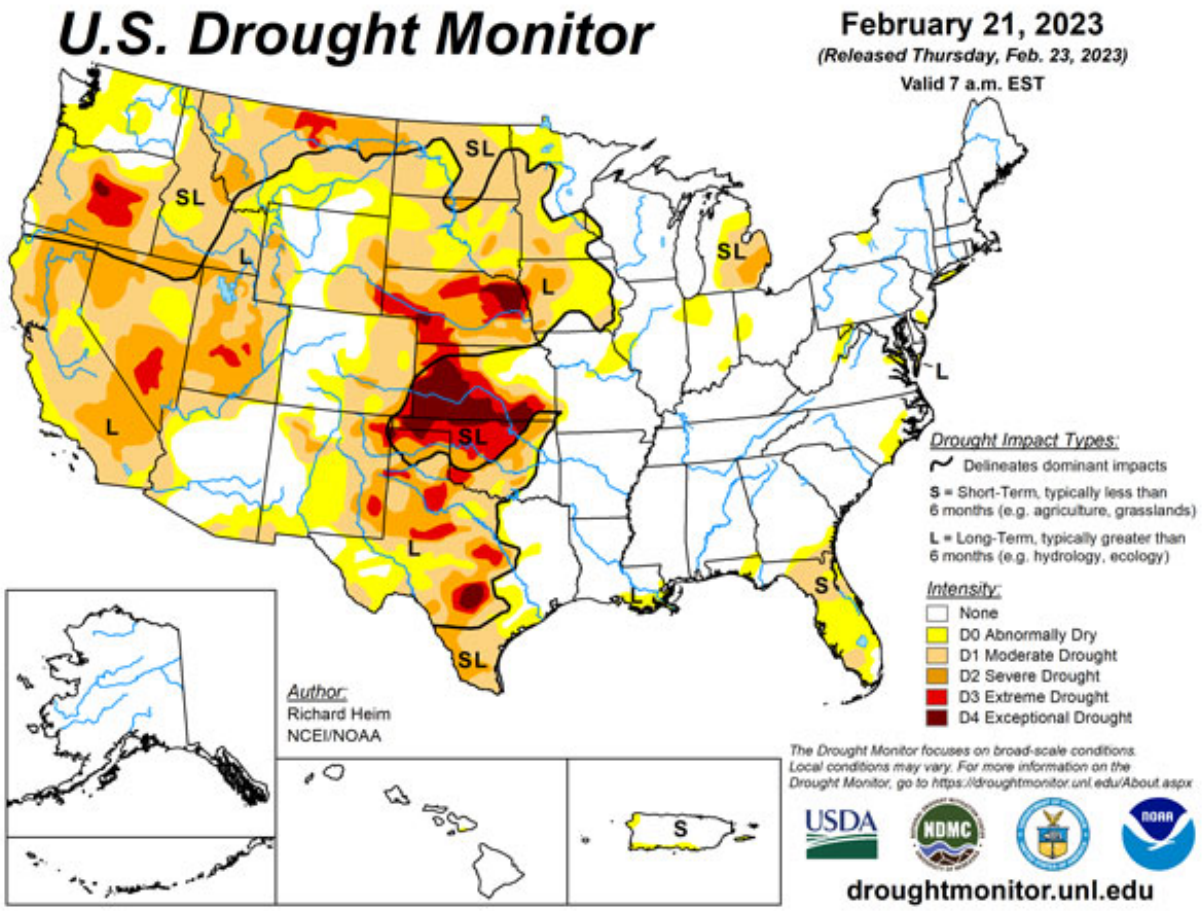

Figure 4. United States Drought Monitor as off February 21, 2023. Kansas is the center of the worst drought conditions in the country currently.

Preparing for wildfires

Most fires in Kansas are caused by human activity. Debris burning, escaped prescribed burn, welding or cutting in dry grass, dragging chains, and defective equipment are examples of human-induced fires. Be especially cautious on any dry, breezy day – which is pretty common during spring in Kansas before green up.

Take steps to prepare your property to survive a fire. Clearing brush from the house, keeping gutters cleaned out, having non-combustible siding and roofing material, and more. In a major wildfire, the fire department will simply not have enough resources to protect every home or property, so those that can survive on their own have the best chance. For more information, please refer to KSRE publication MF2241 *Protecting your home from wildfire* at https://bookstore.ksre.ksu.edu/pubs/MF2241.pdf

More information on how to have a successful and safe prescribed burn will be available in an upcoming eUpdate.

The bottom line

Conditions into spring will become increasingly conducive for wildfires in the western Flint Hills and central/western Kansas. Overall, fire season is expected to be at/near average for the March through April timeframe. Wildfires are a real risk for Kansas even with recent moisture. People should have a plan and take proper precautions to avoid fire starts and limit fire spread.

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4. Kansas training information for dicamba in 2023

This article provides answers to frequently asked questions associated with dicamba trainings in Kansas for 2023.

Do all dicamba product labels require the additional training?

You are required to have additional label-required dicamba training when applying the restricted use dicamba products: Engenia, XtendiMax or Tavium with Vaporgrip.

Where can I get the training for 2023?

BASF: (webinars, online training and face to face) engeniaherbicide.com/training.html

Bayer/Monsanto: (online training and face-to-face)
https://www.roundupreadyxtend.com/stewardship/Pages/default.aspx

Syngenta: https://www.syngenta-us.com/herbicides/tavium-application-stewardship

Do I need to attend training if I already did in 2021 or 2022?

The labels of these products state that prior to applying this product in the 2023 growing season, all applicators must complete dicamba or auxin-specific training on an annual basis, so even if you attended in 2021 or 2022 you will need to attend a training in 2023 prior to applying these products.

Do I need to be certified to use these products?

The new labels state that these formulations are for retail sale to and use only by certified applicators. In the state of Kansas, this means that everyone purchasing and using these products has to either obtain a private applicator license (application to agricultural lands owned or operated by individual) or a commercial applicator license (applicators applying to other people's land for compensation). If you have been applying under someone else's license in the past you will need to get your own license if you are applying these products.

My employees and I both hold private applicators licenses. They will be doing all my spraying. I

am taking the dicamba training, but do they also have to take the dicamba training?

Yes, anyone who applies one the RUP dicamba products must complete an approved dicamba training and hold either a private or commercial applicator license.

Do other states accept Kansas's state-approved RUP dicamba training?

Oklahoma does not accept online or live webinar dicamba training provided by BASF. Colorado, Missouri and Nebraska will accept training offered by Bayer, BASF and Syngenta.

This information is made available by the K-State Pesticide Safety and IPM Program. Contact your local Extension Office if you need additional information.

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5. Crop insurance research survey available for corn producers

Row crop farmers with at least 100 acres of corn in 2021 or 2022 are needed to take a research survey on crop insurance. The survey covers some basic questions about their operation and hypothetical crop insurance decisions. Completing the survey only takes about 30 minutes and does not ask invasive questions. Producers will receive an Amazon gift card of at least $50 and as much as $99 (average of $71).

The purpose of the survey is to better understand farmers' crop insurance preferences and support efforts to improve crop insurance. The survey is a collaboration between researchers at Kansas State University, Iowa State University, University of Illinois, and Michigan State University.

To complete the survey, please visit the link below or scan the QR code:

https://www.card.iastate.edu/survey/CropInsuranceSurvey/

Please contact Dr. Jennifer Ifft, jifft@ksu.edu, if you have any questions.

6. 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

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7. One session left for the Crop Talk webinar series

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 last Crop Talk webinar will be:

February 28 – **Corn Tillers: The Good, the Bad, and the Ugly**
Rachel Veenstra, K-State Crop Science Agronomist