Kentucky Field Crops News

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Martin-Gatton College of Agriculture, Food and Environment | Grain and Forage Center of Excellence

UK Wheat Science Group
UK Corn & Soybean Science Group

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Fourth Straight Fall, Same Story: Drought Conditions Return to Kentucky

Matthew Dixon, UK Senior Meteorologist

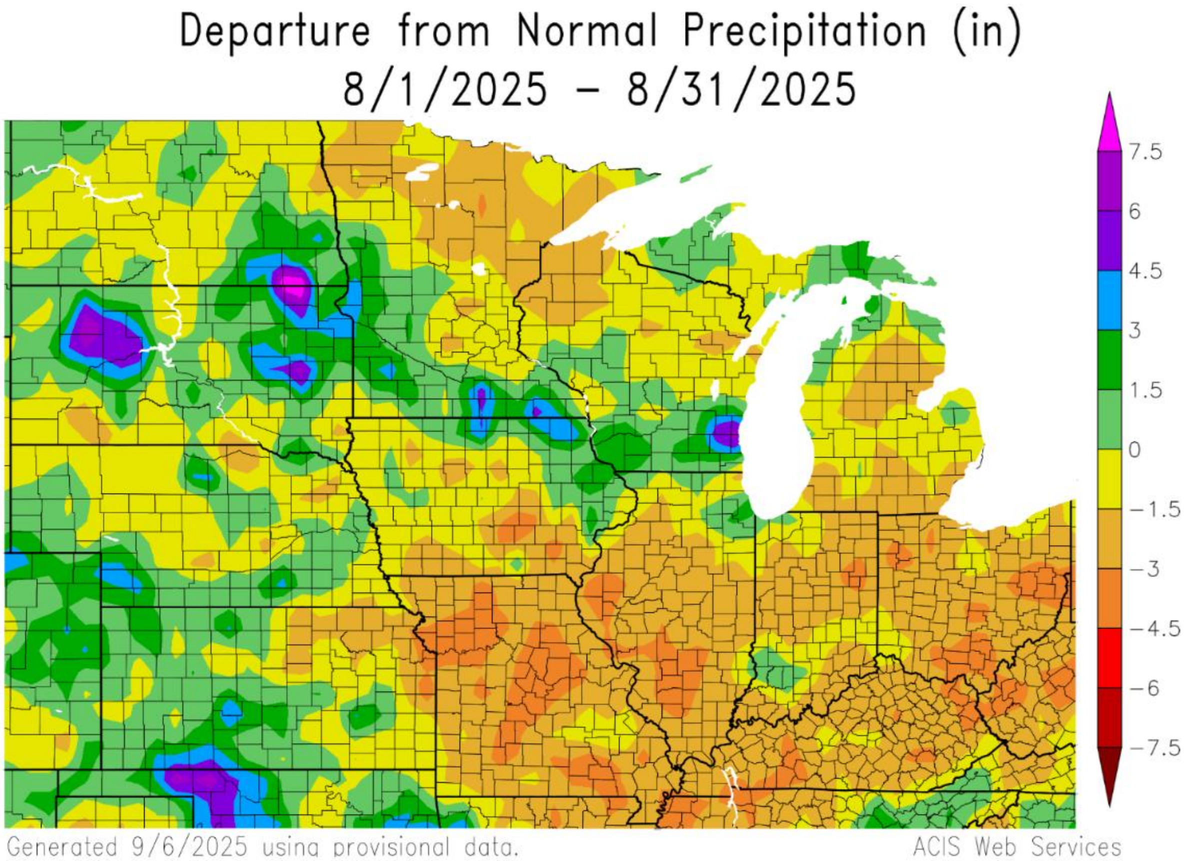


Figure 1 - August Departure-from-normal Precipitation, courtesy of the High Plains Regional Climate Center, URL: https://hprcc.unl.edu/maps.php?map=ACISClimateMaps

The official data for August 2025 has been released (Figure 2), and as expected, it was the driest August ever recorded in Kentucky. The state averaged just 1.29 inches of rainfall—about 2.5 inches below normal. This marks a dramatic reversal from the first half of the year; through July, it had been our third-wettest January-to-July period on record. Across the state, many locations recorded less than a quarter inch of rainfall. Notably, the Breckinridge County Mesonet station didn't observe a single drop. It wasn't just us, either. Looking at precipitation departures from normal, most of the eastern Corn Belt turned dry, also (Figure 1). Every neighboring state saw a top-10 driest August on record—including Ohio, which, like Kentucky, recorded its driest August ever.

Record Driest	Bottom ⅒	Bottom ⅓	Normal	Top ⅓	Top ⅒	Record Wettest

Period	Value	1901-2000 Mean	Anomaly	Rank (1895-2025)	Driest/Wettest Since	Record
August 2025 **1-Month**	1.29in (32.77mm)	3.73in (94.74mm)	-2.44in	1st Driest	Driest to Date	2025
				131st Wettest	Wettest since: 2024	1926
Jul–Aug 2025 **2-Month**	5.94in (150.88mm)	8.08in (205.23mm)	-2.14in	12th Driest	Driest since: 2002	1930
				120th Wettest	Wettest since: 2024	2016
Jun–Aug 2025 **3-Month**	11.8in (299.72mm)	12.32in (312.93mm)	-0.52in	59th Driest	Driest since: 2024	1930
				73rd Wettest	Wettest since: 2023	1928

Figure 2 - August Precipitation Rankings, courtesy of the National Centers for Environmental Information, URL: https://www.ncei.noaa.gov/access/monitoring/climate-at-a-glance/statewide/rankings/33/pcp/202508

Now that we've flipped the calendar to September, some cold fronts have brought some much-needed rain to parts of the Commonwealth—but it hasn't been widespread. Most of the Purchase and Pennyrile regions have missed out. One example: the Fulton County Mesonet station in Hickman has yet to record anything this month (as of September 11th). It only picked up 0.24 inches in August and just 0.62 inches total since the last significant rainfall back on July 15th. Another case is the Webster County Mesonet station, which has now gone 53 straight days (as of September 11th) without recording more than a tenth of an inch. All told, several stations in that part of the state are running 4 to 6 inches below normal over the past 60 days—really taking a toll on soil moisture (Figure 3).

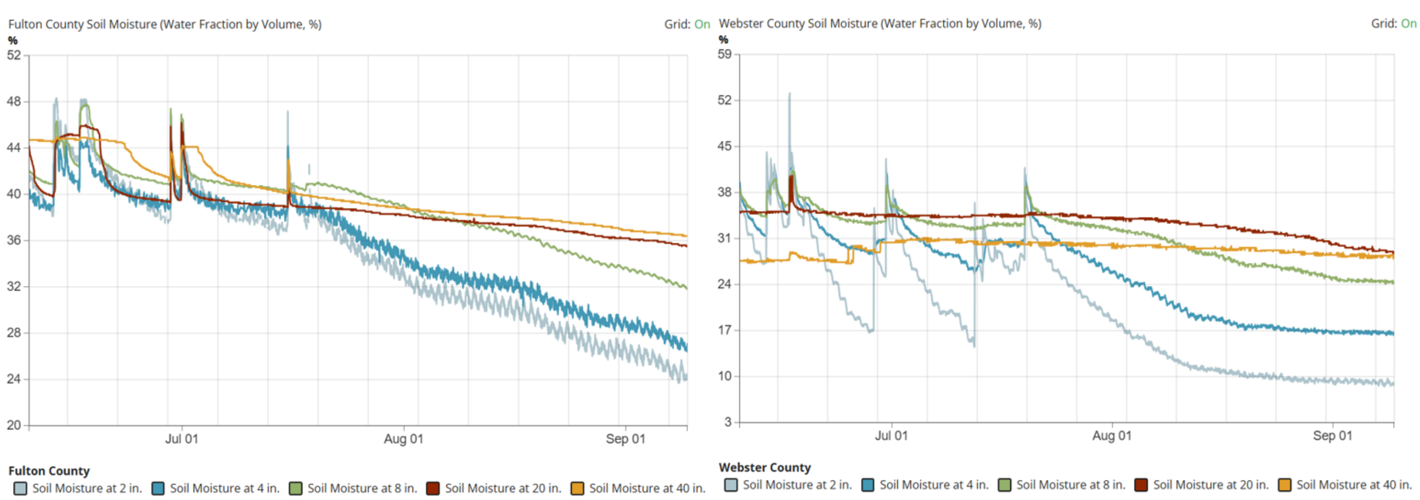
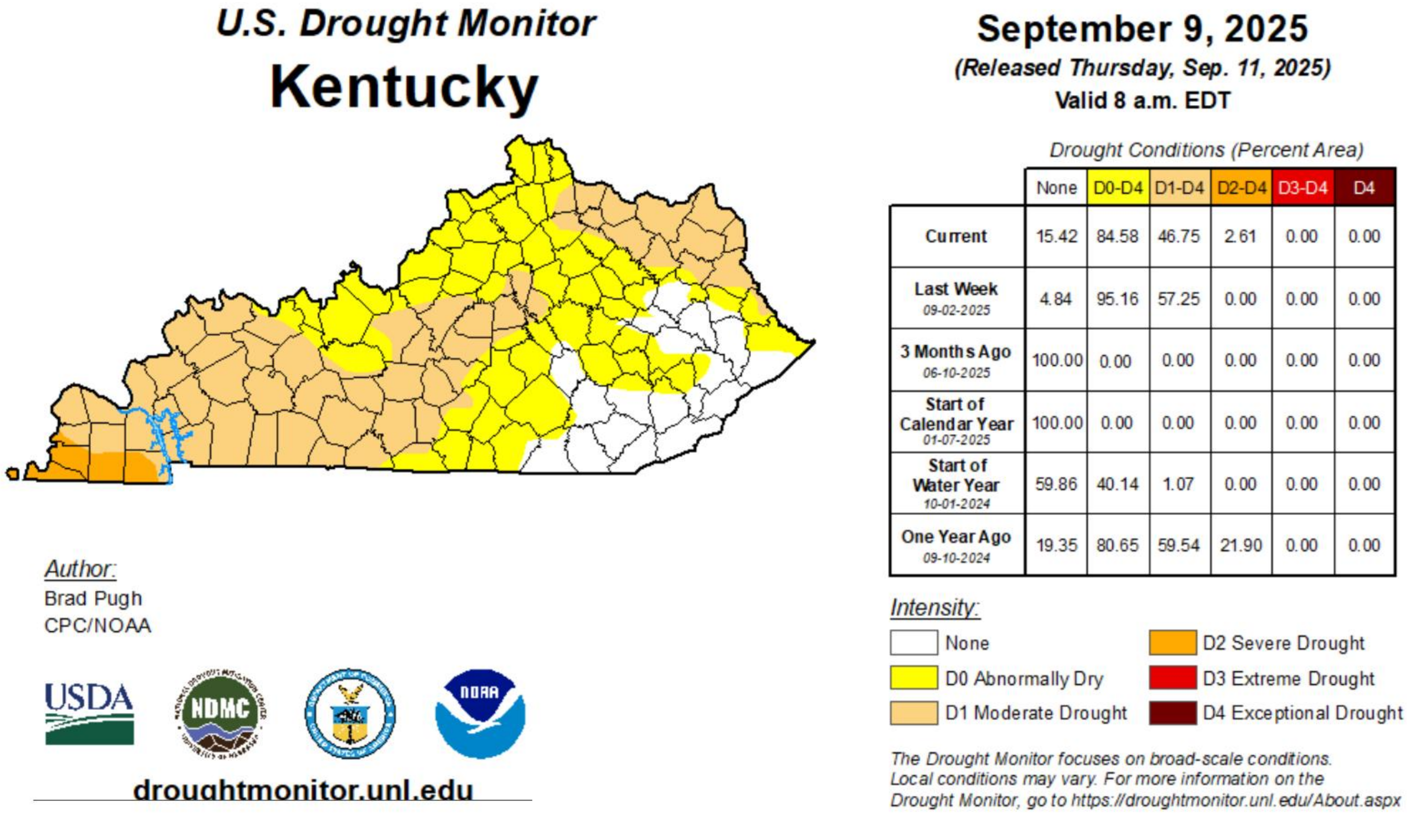


Figure 3 - Fulton and Webster County Soil Moisture Profiles, courtesy of the Kentucky Mesonet, URL: https://www.kymesonet.org/soil.html

The combination of agricultural and hydrological impacts has led to obvious drought expansion across Kentucky. As of the latest U.S. Drought Monitor update, released on September 11th (Figure 4), about 47% of the state is now classified in drought. Compared to last week, drought conditions have expanded across the entirety of Western KY. The Southern Purchase was even upgraded to a D2 Severe Drought. Meanwhile, significant rainfall led to improvements across Southeastern Kentucky.



	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	15.42	84.58	46.75	2.61	0.00	0.00
Last Week 09-02-2025	4.84	95.16	57.25	0.00	0.00	0.00
3 Months Ago 06-10-2025	100.00	0.00	0.00	0.00	0.00	0.00
Start of Calendar Year 01-07-2025	100.00	0.00	0.00	0.00	0.00	0.00
Start of Water Year 10-01-2024	59.86	40.14	1.07	0.00	0.00	0.00
One Year Ago 09-10-2024	19.35	80.65	59.54	21.90	0.00	0.00

Figure 4 - Kentucky Drought Conditions, courtesy of the U.S. Drought Monitor,
URL: https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?KY

This map is redrawn each week with input from the Kentucky State Drought Committee. If you get a chance, consider submitting your own drought observations through the National Drought Mitigation Center's Observer Reports platform—or just shoot me an email at **matt.dixon@uky.edu**. Local perspectives go a long way in helping the State Drought Committee get a clearer picture of what's happening at the local level. Maps and data are great, but real-world observations help fill in the gaps.

Unfortunately, the forecast points to worsening conditions. We've been lucky to enjoy a stretch of below-normal temperatures recently, but that relief has come to an end. Summer-like heat has returned this week, with highs climbing back into the 90s across Western Kentucky. And the dry pattern? It's sticking around. Rain chances over the next 7 days (September 11–17) are nonexistent.

And it doesn't stop there. Both the 6–10 day and 8–14 day forecasts are leaning toward below-normal precipitation for drought-stricken areas, and even the Week 3–4 outlook is trending drier (maps below). That's a bit concerning, especially since this is climatologically Kentucky's driest time of year.

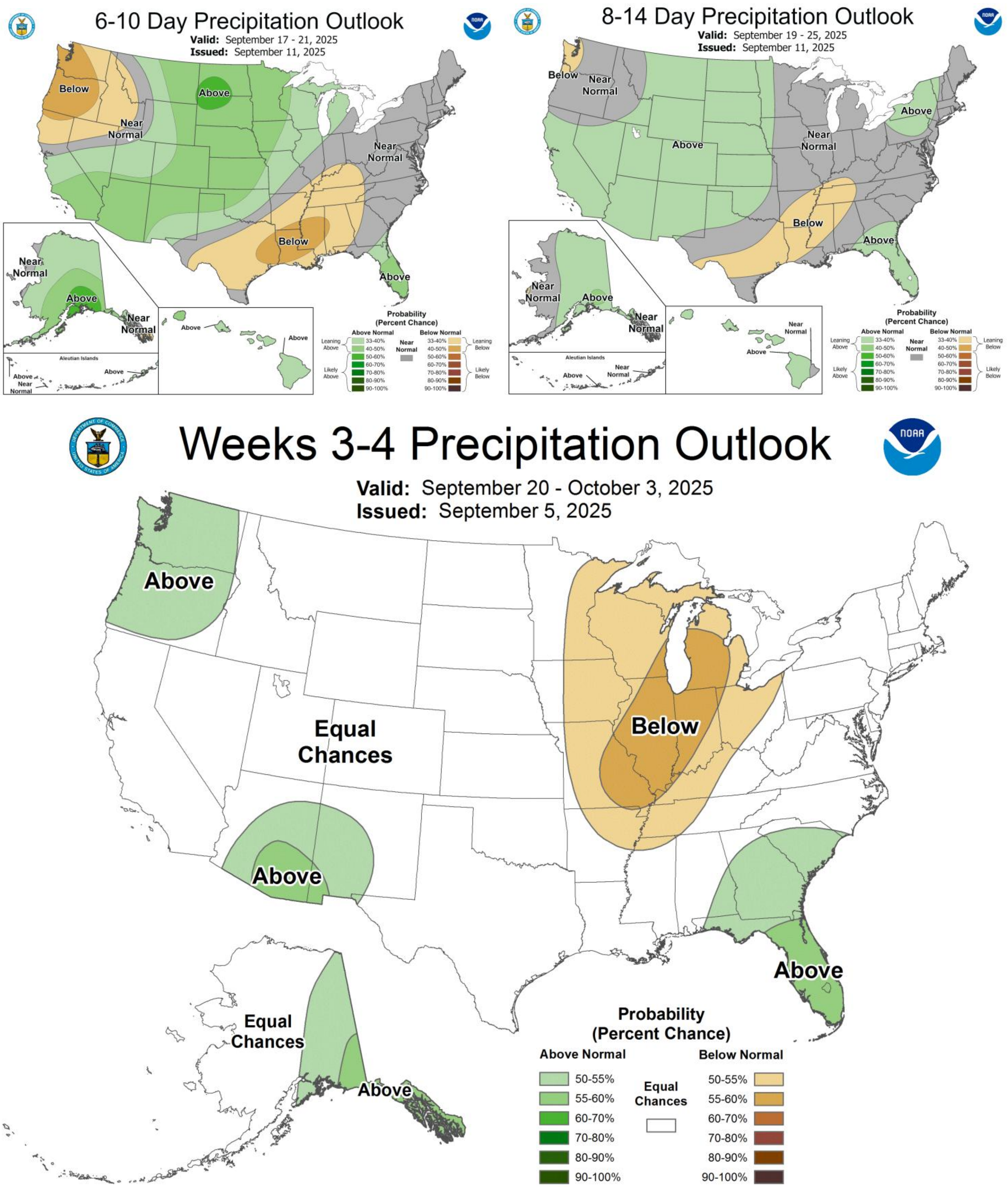


Figure 5 - Long Term Precipitation Outlooks, courtesy of the Climate Prediction Center, URL: https://www.cpc.ncep.noaa.gov/products/forecasts/

With hot, dry weather expected to persist and humidity remaining low, agricultural impacts are likely to escalate quickly. On top of that, hydrological concerns are also emerging. For the fourth straight year, low river levels could become a concern heading into harvest season. According to flow data from the U.S. Army Corps of Engineers, roughly 50% of the flow into the Lower Mississippi River comes from the Ohio River (Figure 6). Unfortunately, as mentioned earlier, much of the region has seen well-below-normal rainfall over the past month (Figure 7).

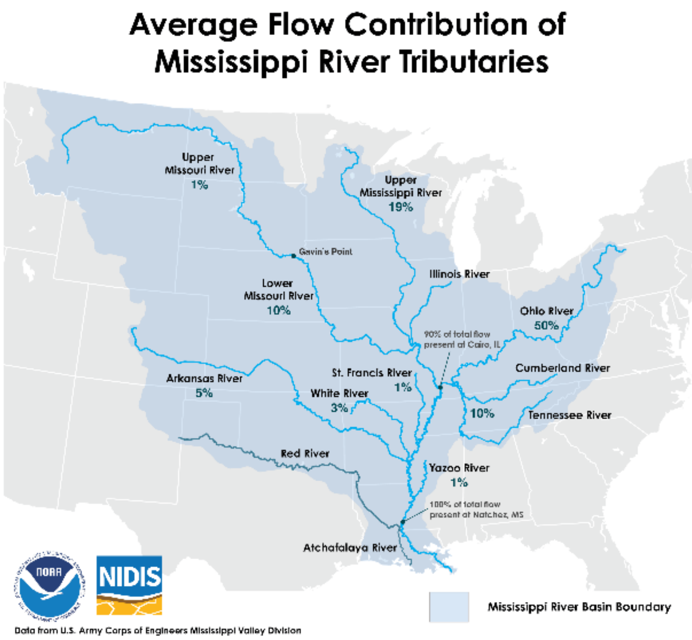


Figure 6 - Mississippi River Flow Contribution Diagram, courtesy of the National Integrated Drought Information System, URL: https://www.drought.gov/documents/mississippi-river-flow-contribution-diagram

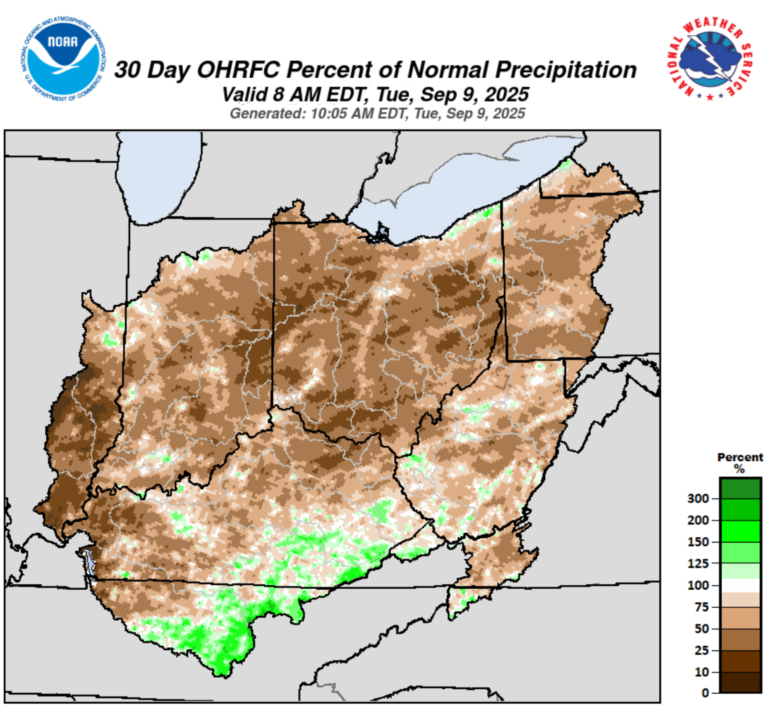


Figure 7 - 30-Day Percent of Normal Precipitation, courtesy of the NWS Ohio River Forecast Center, URL: https://www.weather.gov/ohrfc/floodbriefing

Cairo, Illinois is the last gauge on the Ohio River before it feeds into the Mississippi. Current forecasts have the river at Cairo dropping to the low water threshold of 10.3 feet around mid-September. For perspective, during the past three fall droughts, the gauge bottomed out at 4.83 feet in 2022, 4.54 feet in 2023, and 6.43 feet in 2024. So, while we're still in decent shape compared to recent years, the current forecast for the Ohio River Valley suggests we'll need to keep a close eye on how things progress—especially with potential impacts on navigation and, ultimately, our bottom dollar.

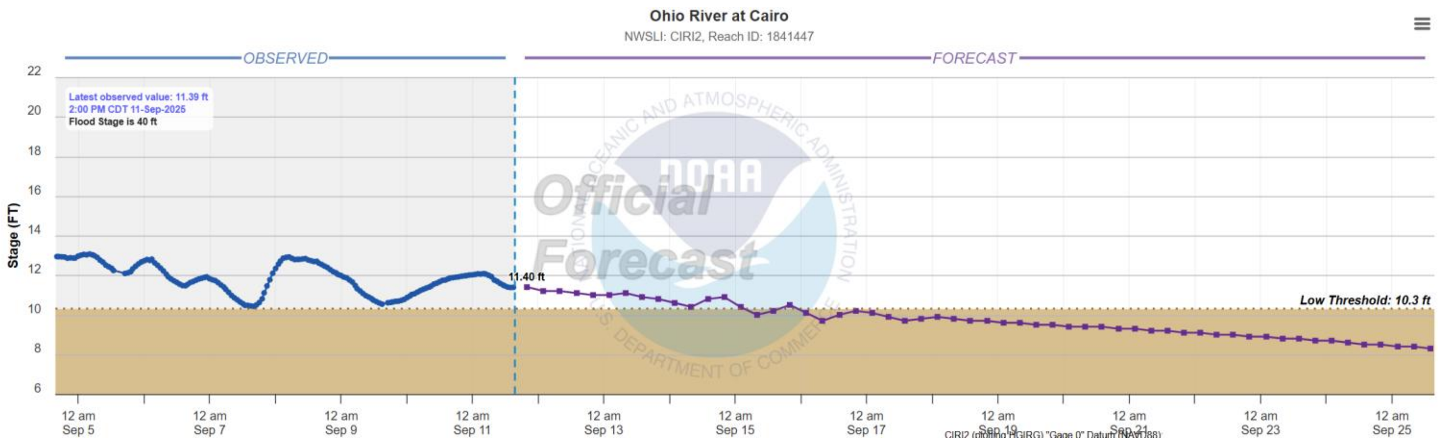


Figure 2 - Ohio River at Cairo Observation and Forecast, courtesy of the National Water Prediction Center, URL: https://water.noaa.gov/

At the end of the day—as much as I hate to say it—conditions are likely to get worse before they get better. Rapid drought intensification is likely on the horizon, which means we need to stay alert as harvest season ramps up. While harvest should progress quickly, the risk of fire will increase with the continued dry and warm weather. Many of you are already aware, but just as a reminder, here are some helpful fire prevention and safety tips from Iowa State University to help protect your equipment, fields, and crew during harvest.

Citation: Dixon, M., 2025. Fourth Straight Fall, Same Story: Drought Conditions Return to Kentucky. Kentucky Field Crops News, Vol 1, Issue 9. University of Kentucky, September 12, 2025.

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A Wet Spring and Dry Summer Make for Wild Yield Swings

Dr. Chad Lee, UK Grain Crops Specialist

Most of the regions in Kentucky growing corn and soybeans received between 40 to 51 inches of rain by the first week of July. Most of those same regions have received very little or scattered rains since. The timing of when corn and soybeans were planted and when they are scheduled to mature will make for some wild yield swings in 2025.

Corn

Corn planted on time in the western regions of Kentucky is being harvested now. Reports are coming in of excellent to phenomenal yields in some of those fields. Corn in those fields had plenty of water in the soil to complete seed fill. The dry weather during the latter phases of seed fill helped keep diseases away and allowed for rapid drydown after that corn reached blacklayer. The combination of favorable moisture for seed fill and dry weather during kernel drydown often favors better grain quality.

Corn planted a few weeks or a month later has had a more difficult challenge. Most of that corn made it through pollination with little issues. But, the dry weather through seed set and seed fill reduced kernel number and is likely reducing kernel weight. Kernel drydown after blacklayer should be rapid, but yields are likely to be below five-year averages. Normally, we might expect these conditions to lower test weights. But, for some fields the dry weather was so long that test weight may be just fine even if yields are off target.

Corn planted into wet conditions that resulted in sidewall compaction or subsurface compaction have run out of water prematurely and yields will be lower. Yields will be much lower in some of those fields.

On a very general observation, corn west of Leitchfield and south of Horse Cave that was planted on time and into good conditions should have good to excellent yields. Corn from about Leitchfield eastward was planted later due to heavy rains and experienced more severe drought conditions during seed fill. Yields are likely to be less overall in these areas. However, there are pockets in this region where corn yields will be excellent.

Soybeans

This year, full season soybeans are likely to fair much better than double-crop soybeans...unless those double-crop soybeans get some timely, frequent gentle rains the next two weeks. In the Bluegrass Region, I have watched a soybean field on an eroded slope go backwards for the last three weeks until 80% of the plants passed the wilting point in the field. This is the extreme case and is repeated in small areas of fields around the state.

Soybeans have a better chance to escape short periods of stress because they have multiple locations on a plant to develop flowers, pods and seeds. In September, there are very little opportunities for soybeans to add more pods to plants … unless we have an unusually warm September, timely rainfalls and a late frost.

For many full season soybean fields, I am expecting to see decent seed numbers but smaller seed sizes. For double-crop fields, I am expecting to see lower seed number and lower seed size, resulting in lower yields.

This dry weather will identify all the thin soils in a field. Those soybeans will shut down faster than soybeans in the better areas. Aerial photos of fields taken as the soybeans in the thin soils mature faster could be compared with soils maps and previous yield maps to help confirm precision management strategies.

Timing is Critical

Once again, this year reminds all of us how important timing of rainfall is. Even though our annual rainfall totals will be above normal, many of the corn and soybean fields had less than average rainfall totals when water was needed the most. That timing will be the biggest difference between a crop success and a crop disappointment this year.

Thank you to Clint Hardy, Katie Hughes, Nick Roy, Vicki Shadrick, and Tom Miller, County Agriculture and Natural Resources Extension Agents, for their comments and observations.

Citation: Lee, C., 2025. A Wet Spring and Dry Summer Make for Wild Yield Swings. Kentucky Field Crops News, Vol 1, Issue 9. University of Kentucky, September 12, 2025.

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Italian Ryegrass Control Starts in the Fall

Dr. Travis Legleiter, UK Extension Weeds Specialist

Italian ryegrass continues to be the most problematic weed in Kentucky wheat and no-till corn acres. Control of this problematic weed starts in the fall when the majority of our populations begin to emerge. In our no-till corn acres, we have traditionally relied on spring burndown applications for control of winter annuals, including ryegrass. While this strategy is highly effective against most winter annual weed species, Italian ryegrass is now challenging this strategy as spring burndown failures increase on an annual basis. The use of a fall burndown and/or residual can be a step in the right direction for a complete management program for this problematic weed.

In our wheat acres, the adoption of pyroxasulfone based products such as Anthem Flex, Fierce EZ, and Zidua has shown great promise for controlling fall emerging ryegrass populations. While this strategy has been successful, there are concerns that we are pushing ryegrass populations towards spring emerging cohorts. Thus, we need to begin monitoring emergence of ryegrass populations in our wheat fields and implement programs that can capture control of this problematic weed at its peak emergence pattern.

The following data has been collected over the past year to help determine the best recommendations for controlling ryegrass starting in the fall for both wheat and no-till corn acres. My recommendations for ryegrass control using this data and your knowledge of ryegrass emergence in your fields are at the end of this article.

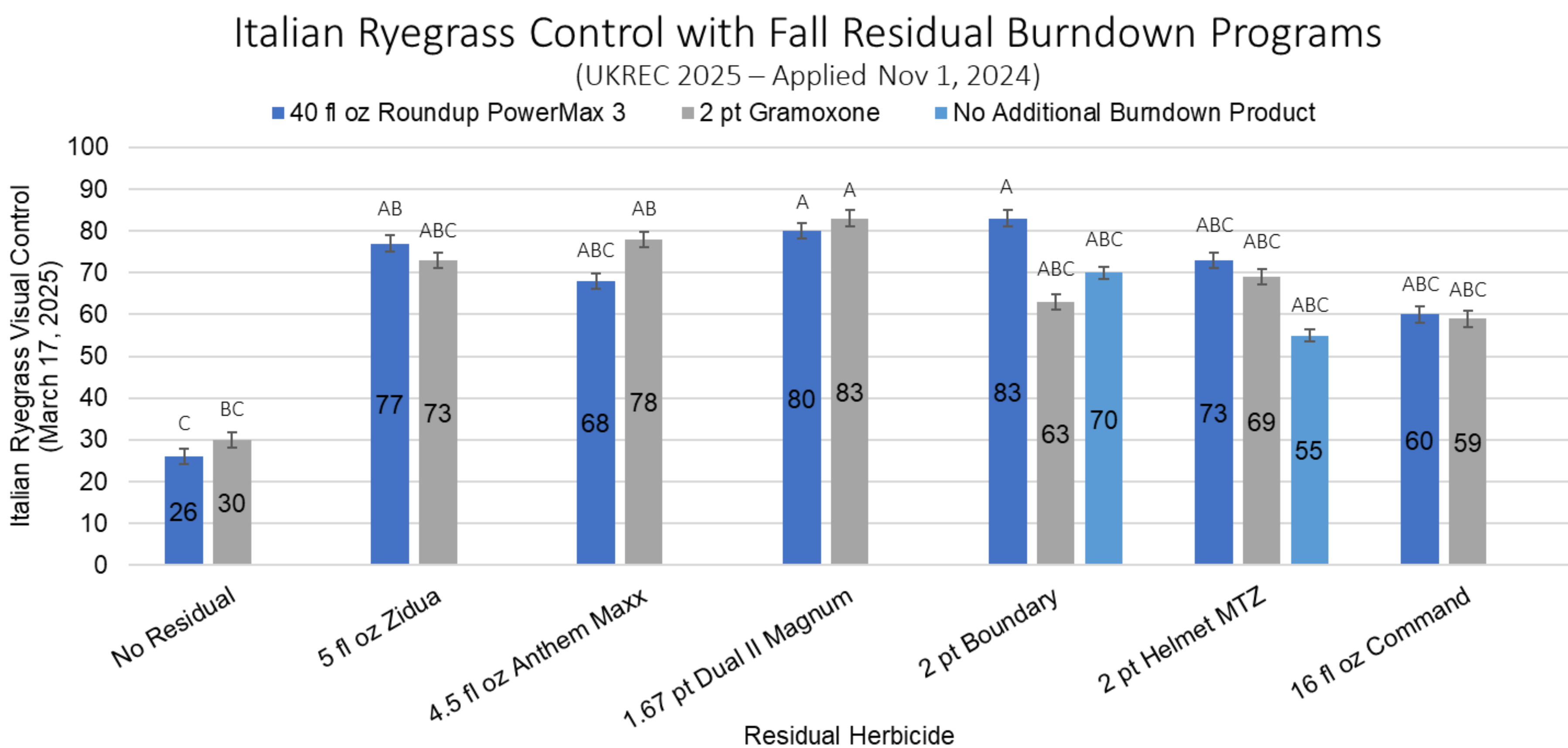
Table 1. Visual ryegrass control in a Simpson County wheat field on June 10, 2025, following residual application timings of Anthem Flex and Fierce EZ. Population represents a mixture of a fall and spring emerging ryegrass population with a tolerance to spring applications of Axial Bold. Spring applications of Axial Bold resulted in no change in ryegrass control in this trial (data not shown).

Herbicide	Rate	% Visual Ryegrass Control June 10, 2025[a]
Anthem Flex – 10/18/24	3.5 fl oz/A	87 A
Anthem Flex - 10/18/24 *fb* **Anthem Flex – 2/25/25**	3 fl oz/A *fb* 1.5 fl oz/A	93 A
Anthem Flex – 10/18/24 *fb* **Anthem Flex +** **75DF Metribuzin– 2/25/25**	3 fl oz/A *fb* 1.5 fl oz/A + 2 oz/A	92 A
Fierce EZ – 10-1-24	6 fl oz/A	72 AB
Fierce EZ – 10-1-24 *fb* **Fierce EZ – 12-17-24**	3 fl oz/A *fb* 3 fl oz/A	48 BC
Fierce EZ – 10-1-24 *fb* **Fierce EZ +** **75 DF metribuzin – 12-17-24**	3 fl oz/A *fb* 3 fl oz/A + 2 oz/A	33 C
Fierce EZ – 10-1-24 *fb* **Fierce EZ +** **75 DF metribuzin – 12-17-24**	4.5 fl oz/A *fb* 1.5fl oz/A + 2 oz/A	53 BC

[a] Means followed by the same letter are NOT statistically different. Tukey HSD $\alpha = 0.05$

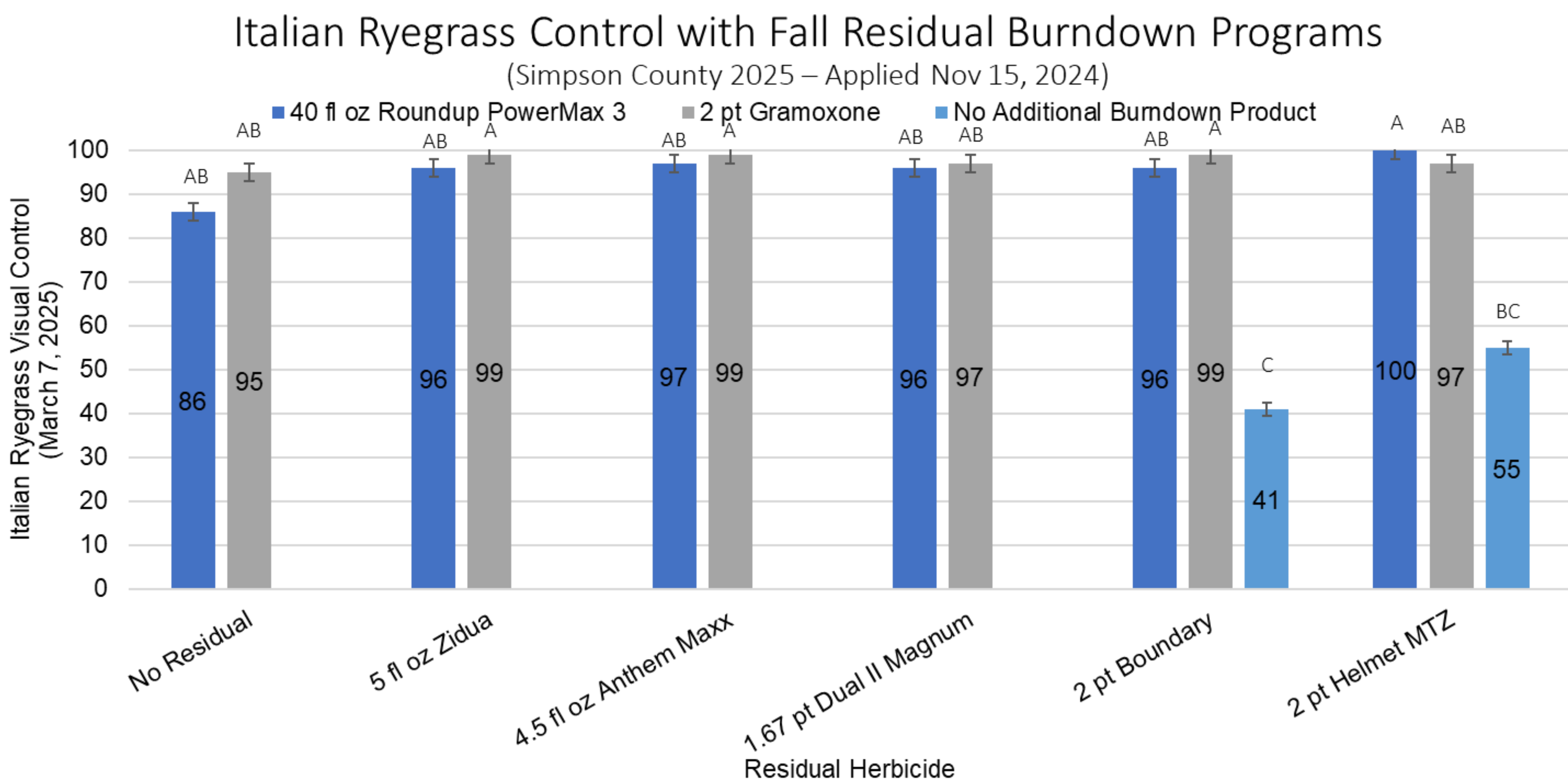
- Applications of Anthem Flex resulted in 87 to 93% control of Italian ryegrass regardless of timing of application. Both the "Pre only" and "Split" applications of Anthem Flex resulted in acceptable control at the end of the growing season.
- Applications of Fierce EZ resulted in 33 to 72% control of Italian ryegrass at the end of the growing season.
- ONLY the 6 fl oz of Fierce EZ applied 14 Days PrePlant was comparable in control to the Anthem Flex treatments.
- All split applications of Fierce EZ resulted in less than acceptable control of Italian ryegrass, regardless of the split ratio and/or the inclusion of metribuzin.

Figure 1. Italian ryegrass control in the spring following a fall residual herbicide application on a no-till field at the UKREC. This population represents a primarily spring emerging population.



- Applications containing residual herbicide resulted in 55 to 83% control of Italian ryegrass.
- Treatments containing only glyphosate or paraquat applied in the fall resulted in 26 to 30 percent control of Italian ryegrass.
- The use of Command represents an option for field going to no-till soybean and alternative residual herbicide site of action for controlling Italian ryegrass.

Figure 2. Italian ryegrass control in the spring following fall herbicide applications on a no-till corn field in Simpson County. This population represents a primarily fall emerging population.



- All treatments containing glyphosate or Gramoxone (paraquat) resulted in 86 percent or greater control in the spring. These results are in contrast to the UKREC treatment, due to the difference in Italian ryegrass emergence at the two sites.

- The inclusion of a residual herbicide did not increase control of ryegrass in the spring, likely due to the majority of ryegrass emerging prior to the application on November 15, 2024.

Recommendation for The Fall of 2025

These are my recommendations for those farmers dealing with Italian ryegrass based off our research results

Recommendations for Italian ryegrass Control in Wheat

- Knowledge of the emergence patterns of ryegrass in your wheat field can be extremely beneficial in choosing an effective program for control Italian ryegrass.
- Fields with primarily Fall emerging populations of Italian ryegrass should be managed with either Anthem Flex applied PRE or Fierce EZ applied 14 Days Preplant. It should be expected that some escapes will occur and an application of a Axial Bold can still be beneficial on populations still susceptible to this postemergence herbicide.
- Fields with a mixture of a fall and spring emerging population should be managed with a split application of Anthem Flex. The inclusion of metribuzin with the postemergence application of Anthem Flex can increase control of any ryegrass escaping the initial residual application. Again a late spring application of Axial Bold is still beneficial on populations that are still susceptible.
- It is NOT recommended to split application of Fierce EZ.

IMPORTANT REMINDER ABOUT DRY SOIL CONDITIONS and RESIDUAL HERBICIDES

- Regardless of whether you choose to use Anthem Flex, Zidua, or Fierce EZ; these residual herbicides must receive an activating rainfall shortly after application to successfully suppress ryegrass emergence.
- The application of any of the three residual products to a dry soil seed bed followed by a heavy rainfall event can result in significant crop injury.
- Soil moisture conditions and rainfall forecast should be monitored closely when planning the timing of wheat planting and applications of residual herbicides for Italian ryegrass control.

Recommendations for Italian Ryegrass Control in No-till Corn

- Farmers dealing with a primarily early fall emerging population of Italian ryegrass can benefit from a simple fall burndown application of either glyphosate or paraquat (Gramoxone).
- The use of residual herbicides in the fall is the most beneficial for those farmers dealing with an Italian ryegrass population that has a mixed emergence pattern of both fall and spring emergence.
- Farmers dealing with a highly suspected or confirmed glyphosate resistant Italian ryegrass population should apply a fall application of a tank mixture of paraquat (Gramoxone) plus either Boundary or Helmet MTZ. We know that paraquat and metribuzin have synergistic activity on Italian ryegrass thus the use of a residual premix with metribuzin will be beneficial.
- Regardless of fall applications, plan to follow up with a spring burndown application of either glyphosate or paraquat to control any escapes or spring emerging plants.

Recommendations for Italian Ryegrass Control in No-till Soybean

- On acres rotating to full season soybean it is recommended to use Command as the fall residual herbicide. Command represents an alternative herbicide site of action for control of Italian ryegrass and breaks the heavy reliance on group 15 herbicides for ryegrass control on wheat and corn acres.

Citation: Legleiter, T., 2025. Italian Ryegrass Control Starts in the Fall. Kentucky Field Crops News, Vol 1, Issue 9. University of Kentucky, September 12, 2025.

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Stink Bug Appearance Delayed in 2025 Western Kentucky Soybeans

Dr. Felipe C. Batista, UK Entomology Postdoctoral Scholar
Dr. Raul T. Villanueva, UK Extension Entomologist

Current Status

We have observed significant numbers of stink bugs over the past few days in some soybean fields in western Kentucky. Their arrival appears later than in previous years, likely due to the rainy spring delaying planting this season. In the 2024 season, green stink bug (GSB) (*Chinavia hilaris*) and Brown marmorated stink bug (BMSB) (*Halyomorpha halys*) were the most abundant species found in soybeans in western Kentucky. In 2025, GSB remains the most common, while the BMSB has -so far- been observed in very low numbers compared to GSB.

Although pressure has developed later this year compared to previous seasons, stink bugs are now present at levels that may require management in some areas. We have recorded average numbers ranging from 0.3 up to 4.3 stink bugs per 10 sweeps in fields sampled before R6. This means that we are finding some full-season fields where treatment thresholds are reached, and the expectation is that pressure will increase in double-crop soybeans as the season progresses.

Stink Bugs Description and Management

Stink bugs can be recognized by their **distinctive shield-shaped body**. Two of the most common species most frequently encountered in Kentucky soybeans are **GSB**, BMSB and a species complex on brown stink bugs, including the **brown stink bug** (*Euschistus servus*) (Figure 1).

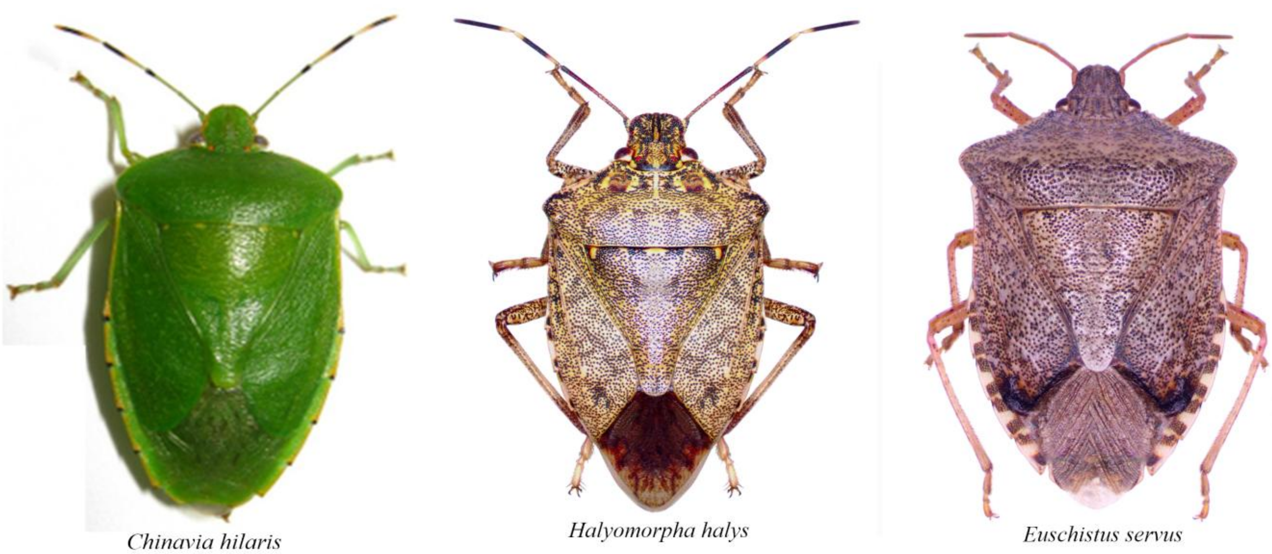

Figure 1. The three most common stink bug species found in soybeans in Kentucky. Green stink bug (*C. hilaris*), brown marmorated stink bug (*H. halys*) and brown stink bug (*E. servus)* (Photos: A. Falcon-Brindis)

Green stink bug *adults* are uniformly light green, 0.55–0.75 inches long. Early instar nymphs are black with orange markings and distinct white spots on the abdomen, becoming green with black/orange patterning in later instars. **Brown marmorated stink bug** *adults* are around 0.5–0.7 inches long. Both adults and nymphs are marbled brown with whitish bands on antennae, legs and abdomen edges. **The brown stink bug** *E. servus* **adults are** about 0.4–0.6 inches long brownish, with darker antenna and rounded shoulders. Nymphs are pale and oval to shield shaped as they develop.

Economic thresholds are typically reached at an average around **2-4 stink bugs per 10 sweeps** (nymphs + adults) between the R3 and R6 stages. If populations exceed these thresholds, insecticide applications may be required. Contact the local Extension agent for guidance on insecticide selection and application timing.

Take-home message

Many full-season soybean fields are already at advanced growth stages, and in those cases an insecticide application may not be economically justified. However, there are still many fields before the R6 stage that need attention, especially double-crop soybean fields and all these stink bug species feed on soybean pods reducing bean quality and reducing bean quality and **increasing the risk of** disease transmission. Because full-season soybeans are planted earlier, they often serve as a source of pests and diseases that later move into double-crop fields, which develop later and remain vulnerable for a longer period. We encourage soybean growers to reinforce or initiate consistent stink bug monitoring efforts, as regular scouting is key to early detection and effective control.

Reference

Falcon-Brindis, A. and Villanueva, R.T., 2024. Checklist and key to species of stink bugs (Hemiptera, Heteroptera, Pentatomidae) of Kentucky, United States of America. ZooKeys, 1213, p.75.

Citation: Batista, F., Villanueva, R., 2025. Stink Bug Appearance Delayed in 2025 Western Kentucky Soybeans. Kentucky Field Crops News, Vol 1, Issue 9. University of Kentucky, September 12, 2025.

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Avoiding Lodged Corn

Dr. Kiersten Wise, UK Extension Plant Pathologist

Corn harvest is well underway in western Kentucky, but as the rest of the state begins to harvest, farmers need to be aware of potential lodging issues. Pockets of fields scouted across the state show pre-harvest lodging and/or stalk strength tests have indicated a high potential for lodging to occur (Figure 1). It is important to identify fields that may have stalk rot issues or lodging potential to ensure timely harvest and minimize the impact of downed corn.

Figure 1. Lodged corn (Figure courtesy Kiersten Wise)

While stalk rot diseases can cause lodging, abiotic factors such as drought and heat stress, nutrient deficiencies, and other stresses experienced in 2025 have greatly contributed to this year's lodging issues. Drought stress can cause the plant to divert carbohydrates from the lower stalk tissue up to the corn ear to finish grain fill, which in turn weakens the stalk. Secondary organisms can colonize weakened stalks giving the appearance of a disease problem even when abiotic factors are the primary cause of the weakened stalks.

Determine if lodging is a concern by scouting fields prior to harvest. Drought-prone areas of fields or fields that experienced drought and heat stress will often exhibit lodging earlier than areas with heavier soils that hold moisture. Within these areas and across a field, consider using a lodging severity test, such as the push test, to measure the degree of lodging concern. To conduct the push test, use your arm to push the corn stalk 30-degrees from vertical at face level, using moderate pressure. If the stalk does not return to upright after the push, it is considered lodged and has failed the push test. If 10 out of 100 stalks tested in a field fail the push test (10%), consider prioritizing the field for harvest to prevent lodging and yield loss. Late-season storms or high winds can exacerbate lodging issues in fields with weak stalks, and timely harvest can prevent additional damage from occurring.

Stalk rots and lodging can be preventatively managed by planting hybrids resistant to stalk and foliar diseases, using crop rotation, ensuring adequate soil fertility, minimizing in-season stresses, and harvesting corn as soon as it is feasible.

Citation: Wise, K., 2025. Avoiding Lodged Corn. Kentucky Field Crops News, Vol 1, Issue 9. University of Kentucky, September 12, 2025.

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Thinking of Planting Canola? Here's What You Need to Know

Dr. Mohammad Shamim, UK Extension Associate Grain Crops

As farmers are signing contracts to grow Canola in Kentucky, there are some general observations from previous research and from current farms on what appears to result in the best odds for successful Canola yields.

Planting date

To avoid problems such as fall bolting or insufficient vegetative growth, the ideal planting window for western Kentucky is September 15 to September 25. Planting during this period provides a balance between adequate growth and minimizing the risk of premature stem development before winter.

For successful overwintering, canola requires a minimum of 8 weeks of growth between planting and the first frost. This allows the plants to develop a strong root system and adequate leaf area before entering dormancy.

Seedbed Preparation

Canola performs best in medium-textured, well-drained soils with a pH between 6.0 and 7.0. Successful germination and establishment depend heavily on a properly prepared seedbed, ideally one that is free of large clods and excessive crop residue. Fields with heavy residue or large clods can lead to poor seed-to-soil contact, irregular seed depth, and the development of "necks" in seedlings, all of which hinder germination. In Western Kentucky, most growers use tillage to prepare their seedbeds before planting canola. In most cases, a single shallow tillage pass, sufficient to break up crop residues (especially corn), incorporate pre-plant fertilizer, and apply residual herbicides, is adequate for preparing the field.

Some farmers have been successful by burning off corn residue and not tilling. They have achieved excellent germination, ideal stand counts, and successful crop establishment. If you choose to burn crop residues as part of seedbed preparation, exercise caution, as fire-related damages are typically not covered by insurance and may pose serious liability risks. If canola follows corn, but tillage and/or burning the crop residue is not an option, using aggressive row cleaners could provide residue-free environment for canola to establish successful stand.

Moisture is essential for germination, but the timing of rainfall after planting is especially important. If heavy rain is expected shortly after seeding, it may be wise to delay planting. Excessive rainfall can lead to soil crusting or burying the seed too deeply. Rainfall can cause seeds to be pushed deeper into the soil, and when seed depth exceeds one inch, the risk of poor or failed germination increases significantly and warrants a total replant or replanted patchiness. A well-prepared seedbed that absorbs rain evenly can reduce this risk, forming a firm, moist surface that promotes rapid emergence.

Seeding rate

As a rule of thumb, aim for 4–7 plants per foot of row in 15-inch row spacing, or 3–4 plants per foot in 7.5-inch row spacing. Canola hybrids vary in seed size, typically ranging from 60,000 to 90,000 seeds per pound.

Assuming an average seed size of 80,000 seeds per pound, a seeding rate of 3.2 pounds per acre is required to meet the target plant population. In Western Kentucky, farmers have used rates ranging from 2.9 to 3.5 lb/ac, resulting in pre-winter stand counts between 120,000 and 174,000 plants per acre.

The lowest stand count and highest seeding rate were observed in a no-till field in Henderson, where poor establishment was attributed to residual herbicide washout, competition from volunteer soybean, and the possible effects of Hurricane Hélène.

In general, whether using a wheat drill or a modified soybean planter with a 90-cell plate, setting the seeding rate at 3.2 lb/ac is a reliable standard for achieving a competitive stand. If the seedbed is well-prepared and severe post-planting rainfall is not expected, the rate can be safely reduced to 2.9 lb/ac without sacrificing stand quality. Literatures suggest that a harvest population of 4-12 plants per square foot is optimum for good growth and that significant yield differences do not occur if the harvest population does not drop below one per square foot (never recommended though).

Figure 1. Canola stand count at a field in Mayfield, Kentucky. A minimum of 4 plants per foot of row is generally required for an adequate stand. Counting plants over a larger area provides a more accurate estimate of overall stand density. In this field, the average was 5 plants per foot of row, corresponding to approximately 139,000 to 150,000 plants per acre, as measured using the black measuring stick shown in the right-hand image.

Seeding Depth and row spacing

The optimal seeding depth for most conditions is around 0.75 inches (3/4 inch), which provides a good balance between moisture access and rapid emergence. Planting deeper than 1 inch can delay emergence and could result in uneven stands.

In dry soils, it may be necessary to increase seeding depth slightly, up to 1 inch, to ensure adequate moisture contact. However, planting deeper than 1 inch is generally not recommended, as canola's small seeds lack the energy reserves needed to emerge from greater depths.

Under favorable conditions, such as a firm, moist seedbed, canola can be planted as shallow as 0.5 inches (1/2 inch). Seed placement is vulnerable to post-planting rainfall, as raindrops and surface water can push them deeper into the soil, increasing the risk of poor emergence.

Achieving consistent seeding depth requires optimal down pressure and controlling planting speed. A planting speed of no more than 5.5 miles per hour is recommended to maintain uniform depth and minimize seed bounce. In Kentucky, growers typically seed canola at depths ranging from 0.5 to 1.25 inches, with the deepest placements (1.25 inches) observed in no-till systems, where uneven soil often necessitates slightly deeper seeding.

Canola can be planted in a wide range of row spacings, from 7.5 inches to 30 inches. Similar to soybean, canola has some ability to compensate for missing plants by branching out and filling gaps left by failed neighbors. However, excessive plant loss or overly wide row spacing can lead to reduced canopy closure and increased weed pressure, especially during early growth stages.

Row spacings of 7.5 inches and 15 inches have consistently resulted in good stand establishment and rapid ground cover in spring, helping to suppress weeds and conserve soil moisture. In a side-by-side comparison in Ballard County, Collin Coooper tested the effect of autonomous planter and row spacing on canola yield. Canola planted in 30-inch rows failed to adequately cover the soil surface during the flower stage, making it a less favorable option for crop establishment and overall productivity. In his field, a 30-inch row plot (0.90 acres) produced an average of 50bushels per acre. In comparison, a 15-inch row plot (0.82 acres) produced 62- bu/ac and a 10-inch row plot (0.85 acres) produced 61 bu/ac. These results indicate that 15-inch row spacing was best for canola production in this Kentucky trial.

Winter survival

A meta-analysis of meteorological variables influencing winter canola survival classified Kentucky as part of a region with medium to high survival potential (Secchi et al., 2021). As illustrated in Figure 3, winters in Western Kentucky are generally not severe enough to cause significant winterkill, especially when moderately winter-hardy hybrids are used.

With the release of semi-tolerant hybrids, winter survival in Kentucky now depends more on management practices than on extreme weather conditions. Canola should reach rosette stage (at least 6 true leaves and 8-10" inches tall) before the onset of winter frost. Planting too early or too late, or misapplication of nitrogen (N) fertilizer, can result in excessive or insufficient fall growth. Both excessive and insufficient growth will increase vulnerability to frost damage. To minimize winterkill risk, it is essential to adhere to optimal planting windows and base N fertilizer applications on soil test recommendations. Strategic nutrient management and proper timing will help ensure plants enter winter in the ideal growth stage for survival.

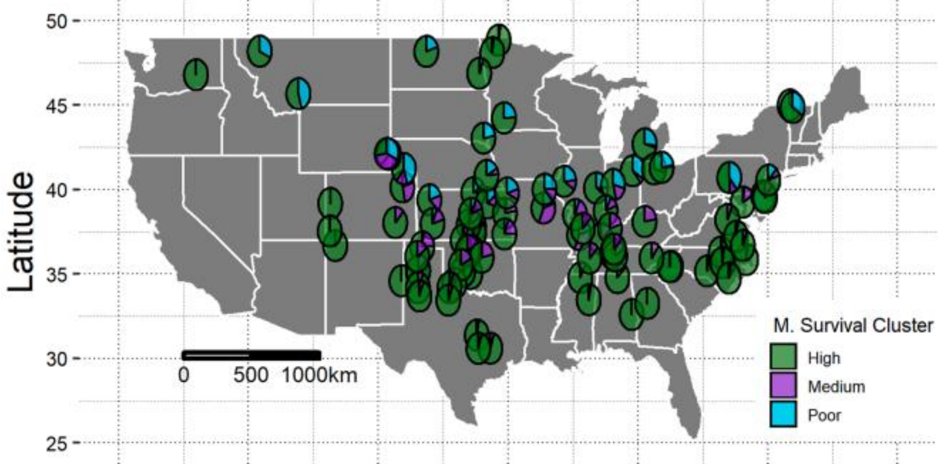

Figure 2. Winter survival of canola based on historical weather analysis(Secchi et al., 2021).

Weed Management

Seedbed preparation is also a critical window for effective weed management, particularly through the application of residual herbicides such as Trifluralin or Command. These products have demonstrated consistent effectiveness in controlling henbit and other broadleaf weeds during the critical early growth stages of canola. At times, timely post-emergent weed control is essential as well. Studies have shown that canola emergence to 4 leaf stage is the critical window for weed control and often results in the best ROI.

If canola follows soybean rotation, controlling volunteer soybean is just as important as managing other early-season weeds. Observations in Henderson, Kentucky, have shown that warmer-than-average temperatures in November can extend the growth period of volunteer soybean, making it a strong competitor with young canola plants and significantly reducing stand quality. Soybeans will die after a hard freeze, but their competition before that can case reduced Canola stands.

Figure 3. Comparison of winter canola establishment under different seedbed preparations and herbicide programs. Left: No-till canola field in Henderson, KY, where Command herbicide was applied but subsequently washed away by rainfall. The middle row shows missing stand due to competition from volunteer soybean. Right: Tilled canola field in Mayfield, Graves County, treated with Trifluralin, resulting in better weed control and more uniform crop establishment.

Table 1: List of canola herbicide tolerant systems.

HT System	Active(s)	Product*	Group	Application Rate	Crop Stage	Water Volume	Max Passes/ Year
Roundup Ready®	Glyphosate	VP480	9	2 apps. up to 0.5 REL/ac** each or a single app. Ip to 0.75 REL/ac	Cotyledon to 6-leaf	5-10 US gal/ac	2
LibertyLink®	Glufosinate	Interline®	10	1st app: 1.62L/ac; 2nd app: 1.37L/ac; do not exceed 2.97L/ac per season	Cotyledon to early bolting	10 US gal/ac	2
Clearfield®	Imazamox/ Imazapyr	Ares™ SN***	2	244ml/ac	2- to 7-leaf	5-10 US gal/ac	1
Optimum® GLY[t]	Glyphosate	VP480	9	2 apps. up to 1.0 REL/ac each Single app. up to 2.0 REL/ac.	Cotyledon to first flower Cotyledon to 6-leaf	5-10 US gal/ac	2 1

Sourced from: https://www.pioneer.com/us/agronomy/weed-control-canola.html

Fertility management

Finally, nitrogen (N) management is key to achieving balanced growth. Canola is a nitrogen intensive crop and N management is a key factor to consider for successful production. In AGR-1, N recommendations include no more than 30 lb N/acre in the fall and up to 120 lb N/acre in February and March for canola following corn, soybeans, small grains or fallow land.

Early planted canola requires only a small portion of its total N in the fall since it has sufficient time for growth before winter. Applying excessive N in the fall can lead to excessive vegetative growth, reducing winter survivability. On the other hand, later-planted canola should receive a higher fall N application, up to 40% (45 lb N/acre) of the total N requirement, to promote rapid growth and ensure plants reach the rosette stage before winter dormancy.

Diammonium phosphate sources, such as DAP (18-46-0), commonly sold in Kentucky) and MAP (11-52-0, sold in Kentucky to a lesser extent), provide N without causing damage to small seeds and seedlings. N supplied through MAP and DAP should be considered a part of the total N rate. It is worth mentioning that growers have used up to 46 lb N/acre for canola following corn with negligible effect on canola winter survival.

If manure or chicken litter or other manure source is being applied, get a nutrient analysis of the manure before application. Account for that nitrogen when considering N applications to Canola.

Resources:

Secchi, M. A., Bastos, L. M., Stamm, M. J., Wright, Y., Foster, C., Messina, C. D., & Ciampitti, I. A. (2021). Winter survival response of canola to meteorological variables and adaptative areas for current canola germplasm in the United States. *Agricultural and Forest Meteorology*, *297*. https://doi.org/10.1016/j.agrformet.2020.108267

Citation: Shamim M.J., 2025. Thinking of Planting Canola? Here's What You Need to Know. Kentucky Field Crops News, Vol 1, Issue 9. University of Kentucky, September 12, 2025.

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Soil Fertility for Fall Planted Winter Grains and Cover Crops: 2025's Special Considerations

Dr. John Grove, UK Soils Research/Extension
Dr. Edwin Ritchey, UK Extension Soil Specialist

At present, what many parts of Kentucky need most is moisture. Some drills are able to place seed appropriately under these dry conditions, but some will not provide a consistent planting depth. Inconsistent seed depth can lead to uneven seed germination and seedling growth as dry weather continues. Lack of moisture can delay fall planting dates and delayed planting can reduce fall plant growth. This situation can change the need for fall nutrition, causing a challenging decision environment.

The fall season is an important fertility management period for fall planted grains (wheat, barley, canola, rye, oats, triticale). Good nutrition pays benefits, getting these crops off to a vigorous start that also promotes winter hardiness. That said, fertilizer costs, especially phosphate costs, are generally high and grain prices, except for canola, are generally low. This further impacts fall fertilization decisions.

Much of our fertilizer is imported, especially potash. Fertilizer price volatility and material availability dynamics might depend on tariffs. We need to be aware of these outside forces as we make fall nutrition management plans. Talk to your fertilizer retailer(s) to understand where the nutrient materials you're buying come from and stay up to date on fertilizer price dynamics. Staying aware can help keep soil fertility input costs lower and reduce the likelihood of economic loss to added fertilizers.

We usually tell producers to start with a soil test. Soil test information gives more certainty/power when decision-making gets tricky. If you already have soil tests that are 'relevant' for your fields that are to be planted this fall, then you're good. That said, an additional complication to this fall's nutrient plan, due to an extended planting season and the late summer drought, is the likely variation, field to field, in grain yield and resulting nutrient removal in the corn or full season soybean crop preceding this fall planted grain crop. This variability might increase your uncertainty as you interpret an existing (soil samples taken as much as 2 years earlier) soil test report. These reports assume yields consistent with above average management and good growing conditions. Not all Kentucky summer grain fields got those 'good growing conditions' this year.

But if you need to take samples this fall, then first be aware that taking samples to the proper depth in dry, hard soil is more difficult but remains very important. Accurate recommendations will not be possible if your sampling depth is shallow. The sample timing, relative to the first fall rains, is important, too. It is best if rainfall is sufficient (2 to 4 inches) to dilute and distribute residual fertilizer salts deeper in the root zone.

We always stress the importance of soil pH management, especially because pH plays a significant role in the plant availability of soil nutrients like phosphorus (P) and zinc (Zn). But depending on the soil test lab used, residual salts can cause lower soil water pH values and the resulting soil test report then has a higher than needed lime rate recommendation. The UK soil test laboratory determines pH and buffer pH differently, by 'swamping' residual salts in the sample. This results in an accurate determination of the soil lime requirement. Early fall rains also leach potassium (K) out of harvested crop residues into the soil, then measured as soil test K (STK). Without these rains, all labs will report abnormally low STK values, resulting in overly high potash rate recommendations.

Fall nitrogen (N) for the fall seeded grains should only provide enough N to give good ground cover for winter survival, good rooting (esp. canola) and to stimulate tillering (wheat, barley, rye, oats, triticale) without excessive fall growth that can encourage spring freeze damage. Planting after tobacco, soybean, or well-fertilized corn will usually have enough carryover N for fall growth. This year, residual N following corn will largely depend on how corn N fertilization was timed. The earlier the bulk of corn fertilizer N was applied, the more substantial and likely was rainfall driven N loss – and fall carryover N levels will probably be low in these fields. The full amount should not exceed 30 lb N/A (canola) or 40 lb N/A (wheat, barley, rye, oats, triticale) for fields with insufficient residual N. The total amount of fall N should include the N found in phosphate products like diammonium phosphate (DAP, 18-46-0) and monoammonium phosphate (MAP, 11-52-0). If the field does not need any fall N but does need P, consider using triple super phosphate (TSP, 0-46-0). Fall-applied N will be of little benefit to late planted crops – where little fall growth is expected. No fall-applied N is recommended for cover crops unless these are planted early and will be grazed or cut for hay/haylage.

Phosphate (P_2O_5) and potash (K_2O) rate recommendations are found here in Table 1, taken from Tables 16, 20 and 24 of AGR-1. The K_2O rate recommendations are for soybean, assuming that soybean will follow the fall planted grain crop. Fall P and K applications are important to crop vigor, early growth and winter hardiness, especially when soil test P (STP) and STK are very low, low, to mid-medium. Above mid-medium (STP > 45; STK > 245), recommended P_2O_5 and K_2O fertilization rates are largely 'maintenance', intended to maintain soil P and K availability. Economically profitable responses to fertilizer P and K addition are not likely.

Table 1. Phosphate (P_2O_5) and potash (K_2O) fertilizer rate recommendations for fall seeded grains, followed by double crop soybean, according to soil test phosphorus (STP) and STK.

	Winter Cereals		Winter Canola			Double Crop Soybean	
Soil Test Category	STP Value lb/acre	P_2O_5 Rate lb/acre	STP Value lb/acre	P_2O_5 Rate lb/acre	Soil Test Category	STK Value lb/acre	K_2O Rate lb/acre
High	≥ 60	0	≥ 60	0	High	≥ 300	0
Medium	45 - 60	40	48 - 60	30	Medium	191 - 300	60
	41 - 44	50	45 - 47	40		173 - 190	70
	38 - 40	60	41 - 44	50		155 - 172	80
	34 - 39	70	38 - 40	60	Low	136 – 154	90
	31 - 33	80	34 - 39	70		118 - 135	100
			31 - 33	80		100 - 117	110
Low	24 - 30	90	24 - 30	90	Very Low	82 - 99	120
	17 – 23	100	17 – 23	100		64 - 81	130
	10 - 16	110	10 - 16	110		46 - 63	140
Very Low	< 10	120	< 10	120		< 46	150

And while most P and K fertilizers for fall planted grain crops are applied in the fall, growers might consider delaying some or all maintenance P and K fertilization until late winter/early spring, at the time of the first N application. Fertilizer economics may be more favorable.

Sulfur (S) deficiency symptoms in wheat have become more common. We observed a very large (and very unexpected) wheat yield response to S here at the UKREC this year. The S need of the other fall planted grains is unknown but is presumed similar to wheat. Canola has a reputation for greater S need relative to the other fall planted grains. Observed S deficiencies have typically been found on more coarse-textured (coarse silty) soils that are also low in organic matter. Eroded areas are often the first parts of a field to show these deficiencies. Sulfur deficiencies are now more likely due to a reduced atmospheric deposition of S, fewer S impurities in other fertilizers and greater S removal with higher yields. At present, the need for S addition to wheat is best determined by a combination of plant tissue analysis of the previous crop and soil testing. If the previous crop's tissue S concentration is deficient/marginal, then the next wheat crop is more likely to experience S deficiency. Though organic S and adsorbed sulfate-S are the most important soil S sources, fall seeded grains, as winter annuals, depend more heavily on sulfate-S. Mineralization of organic S is lower and slower during the fall-winter-spring growth period. Recent research sponsored by the Kentucky Small Grain Growers Association shows that Mehlich III extractable S can help indicate the probability of wheat S deficiency. When topsoil test S exceeded 20 lb S/acre, the probability of a positive wheat yield response to S addition was essentially nil. When soil test S values indicate an S addition is needed, 10 to 20 lb S/acre will meet crop needs. For wheat and other fall planted cereals, ammonium thiosulfate (ATS, 12-0-0-26S) is commonly used because it is soluble in UAN solutions. Other sulfate-S sources include ammonium sulfate (AMS,21-0-0-24S), potassium sulfate (SOP, 0-0-50-17S), potassium magnesium sulfate (K-Mag, sul-po-mag, 0-0-21-22S) and calcium sulfate (gypsum, 14 to 19% S). Elemental S materials are not recommended for deficiency correction (might be more useful in a maintenance/insurance role) because biological conversion of elemental S to sulfate-S is required and is then dependent on the size of the elemental S fertilizer particle (smaller is better/faster), soil conditions (temperature, moisture) and time.

Boron (B) deficiency can also occur in Kentucky wheat fields. Again, the B needs of the other fall planted grains is unknown at present. In field research sponsored by the Kentucky Small Grain Growers Association, we found that soil testing for B can help producers decide when to apply B. The UK soil test lab offers hot water extraction, and we determined that soil test B levels lower than 0.8 lb B/acre indicate a need for B addition. Mehlich III extraction was also evaluated and was not as useful an indicator. When a need for B fertilization is indicated, the recommended rate is 1 lb B/acre. Uniform application of a granular material at such a low rate, even as part of fertilizer blend, can be difficult. There are B sources (e.g. disodium octaborate tetrahydrate, Solubor) that are soluble in both water and UAN solutions. Others are co-granulated/co-prilled with a dry fertilizer material (e.g. muriate of potash plus sodium and calcium borates/Aspire 0.5% B). Over application of B can result in B toxicity, so B soil testing should be done regularly to prevent this problem from occurring.

Cover crops include a large number of plant species, including cereals, legumes and non-legume broadleaves. In Kentucky, winter wheat and rye are more commonly planted as cover crops. Fall N, P and K fertilization is not usual for cover crops – scavenging of residual soil nutrients is one of the main benefits of cover cropping. Fall nutrition, especially N addition, can enhance cover crop growth, and might be valuable when the cover crop is to be grazed/hayed/ensiled. But if the cover crop is not going to be utilized, then the grower needs to understand consequences to greater cover crop growth. Will termination management be negatively affected? Will recovery of residual nutrients be enhanced or suppressed? Again, soil testing can guide the decision. Note that with soil test S values under 20 lb S/A, cover crop growth can immobilize soil sulfate-S and create an S nutrition problem for the next cash crop.

Fall has been considered an important opportunity for soil fertility management, and that remains true. Fall seeded crops benefit from good nutrition, but fertilizer economics are not entirely straightforward at present. Soil testing and being prepared for seasonal weather and pricing changes are important to a strong fall fertility program for these crops.

Citation: Grove, J., Ritchey, E., 2025. Soil Fertility for Fall Planted Winter Grains and Cover Crops: 2025's Special Considerations. Kentucky Field Crops News, Vol 1, Issue 9. University of Kentucky, September 12, 2025.

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The Seed – An Essential Component of Yield Production

Dr. Dennis B. Egli, UK Professor Emeritus

We grow grain crops for their seeds, so it makes sense that we should give some thought to how seeds grow. After all, the production of yield is not just about leaves and photosynthesis, seeds are also important.

Seeds of grain crops vary widely in color, size, the proportions of oil, protein, and starch, and structure. Canola and millet, for example, produce a tiny seed (45,400 seeds per pound, 10 mg $seed^{-1}$) while broadbean seeds are huge (227 seeds per pound, 2000 mg $seed^{-1}$). Corn (1513 kernels per pound, 300 mg $kernel^{-1}$), soybean (2270 seeds per pound, 200 mg $seed^{-1}$) and wheat (11,350 seeds per pound, 40 mg $seed^{-1}$) fall in between. Interestingly, these genetic differences in size, as well as genetic differences within a species, are usually not related to yield. Corn kernels are, strictly speaking, a fruit (pericarp is fused to the seed coat surrounding the endosperm and the embryo) that is high in starch, while soybean seed has two cotyledons that are high in oil and protein.

In spite of all this variety, seed growth characteristics are very uniform across species. If you understand growth of one species, you understand them all - only the details differ.

Growth of an individual seed starts with pollination followed by a period of rapid cell division (lag phase) when all basic seed structures are produced. Rapid accumulation of dry weight then continues until the seed stops growing at physiological maturity (PM) (maximum seed dry weight) (Fig. 1). The increase in seed size as the seed grows requires water movement into the seed to drive the increase in cell volume which reaches a maximum before the seed reaches PM. The increase in volume and maximum seed weight can be limited by seed structures (seed coat or pod wall). The concentration of water in the seed declines steadily during seed growth reaching a characteristic level at PM (approximately 55% for soybean and 34% for corn) (Fig. 1). Seeds of all grain crops would follow a pattern similar to that shown in Fig. 1 for soybean.

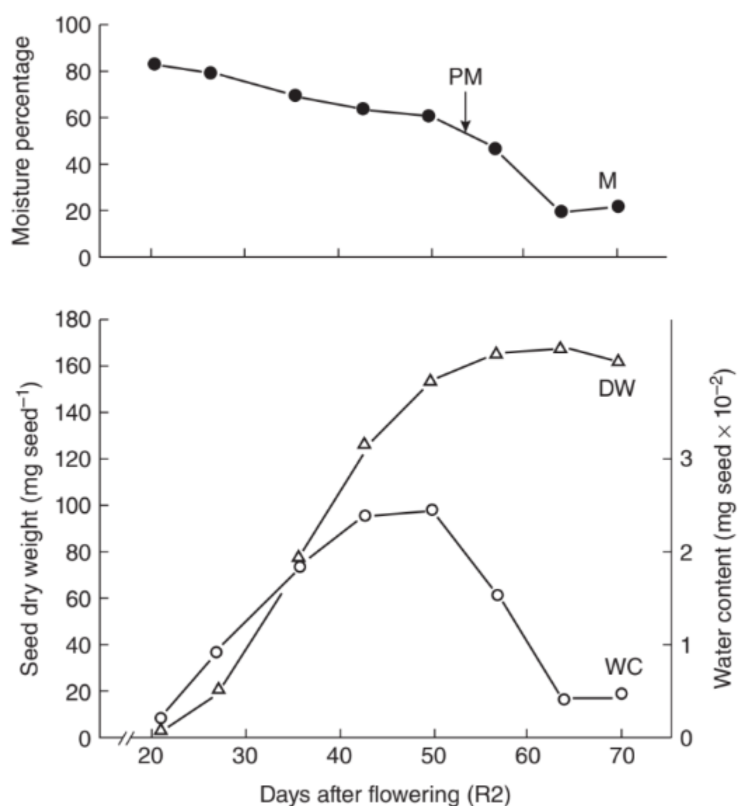

Figure 1. Growth dynamics of a single soybean seed in the field. Seed dry weight (DW), water content per seed (WC), water concentration (M), and physiological maturity (PM). From Fraser et al. (1982) Agronomy Journal 74: 81-85.

Obviously, all the seeds on the plant don't start growing at the same time. We measured as much as 35 days between the start of growth of the first and last pods on a soybean plant, but roughly 80% of the pods started growth within a 16-day period. Others reported 4 to 8 days between the start of growth of seeds at the base of a corn ear and those at the tip. All the seeds on a plant (or ear) do not reach physiological maturity at the same time, but the variation is much less than when they start growing.

Seeds are metabolic powerhouses, producing the oil, protein, and starch that give them their value from sucrose and amino acids imported from the mother plant. The rate of growth of an individual seed is regulated, in part, by the supply of sucrose and amino acids from the mother plant, but the characteristics of the seed are also important. For example, the growth rate of a canola seed will always be much less than the rate of a corn kernel. The seed is no longer connected to the plant's vascular system at PM, so yield production is finished – no more sugars or amino acids move into the seeds. Growth sage R7 (one normal pod on the main stem has reached its mature pod color) is a useful whole plant indicator of physiological maturity in soybean, although all the pods on the plant have not reached PM. Black layer (a black layer at the bottom of the kernel, growth stage R6) is the accepted indicator of PM in corn.

Since the seed is cut off from the plant, the loss of water by the seed after PM is controlled by environmental conditions. Seeds will dry rapidly if it's hot and dry, but the water content may increase in rainy weather. Soybean seeds usually dry faster than corn, probably because the corn husks slow the movement of water out of the seed.

There are reports of yield losses after PM that are not caused by harvest losses. Seed moisture concentrations at PM are high enough to support respiration (loss of carbon) which would continue until the seed dries to a level that stops metabolic activity. This continued metabolic activity (respiration) could cause yield losses. The amount of yield loss would probably depend upon how fast the seeds dry (i.e., environmental conditions).

Flowers or immature seeds (in the lag phase) will abort if plants are stressed. Seeds rarely abort once they start rapid growth; they may grow fast or slow depending upon the supply of raw materials from the mother plant, but they won't just give up the ghost and stop growing.

Yield is often related to the duration of seed filling. The longer seeds grow, the larger they are, and the higher the yield. Genetic differences in seed size resulting from longer seed-filling periods are associated with higher yields. Environmental conditions during seed filling also influence duration of seed fill, seed size, and yield. Moisture stress will accelerate leaf senescence, shorten the seed-filling period, and reduce yield. We found that just 3-days of stress in greenhouse experiments with soybean accelerated senescence and reduced yield even though the plants were well watered after the stress. No stress during seed filling may be a requisite for super-high yields.

The length of the seed filling period, seed size, and yield also depend upon temperature – increasing temperature shortens the seed-filling period and lowers yield. This relationship provides another mechanism by which the higher temperatures associated with climate change can reduce yield.

The production of yield is not just a matter of photosynthesis using solar energy to produce sucrose and amino acids and dumping them into storage containers (seeds). The seeds play a vital role in the process, and we cannot hope to completely understand the production of yield without considering the seed. Understanding how seeds grow makes us better managers. Or as the Italian poet Virgil (70-19 BC) put it "Flex que potuit cognoseve causes (Fortunate is he who understands the cause of things)".

Adapted from Egli, D.B. (2017). Seed Biology and Yield of Grain Crops. CABI. 219 pp.

Citation: Egli, D., 2025. The Seed – An Essential Component of Yield Production. Kentucky Field Crops News, Vol 1, Issue 9. University of Kentucky, September 12, 2025.

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FEBRUARY 3, 2025

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Crop protection webinars begin Oct. 30th

Register now for multiple webinars focusing on agronomic crops and Integrated Pest Management. The University of Kentucky Martin-Gatton College of Agriculture, Food and Environment will present the 2025 Fall Crop Protection Webinar Series, hosted through the Southern Integrated Pest Management Center. The series will begin at 10 a.m. ET/9 a.m. CT on Thursday, Oct. 30, 2025, and will continue consecutive Thursday mornings through Nov. 20 at the same time. Each webinar will be one hour in length. Continuing Education Units for certified crop advisors will include 1 CEU in Integrated Pest Management per webinar or 4 CEUs total for participation in all four webinars; Kentucky pesticide applicators will receive 1 CEU in Category 1A (Ag Plant) for each webinar attended.

The webinars are open to agriculture and natural resource county extension agents, crop consultants, farmers, industry professionals, and others, whether they reside or work in Kentucky or outside the state. Pre- registration is required by clicking on the links below.

Webinar #1: Oct. 30, 2025; 9 a.m. CT — Dr. Carl Bradley, Extension Plant Pathologist
Title: Research Update on Red Crown Rot of Soybean
Registration link: https://zoom.us/webinar/register/WN_lyKRsRuTR7iSKjzMCGh36g

Webinar #2: Nov. 6, 2025; 9 a.m. CT — Dr. Raul Villanueva, Extension Entomologist
Title: Delayed Appearance or Declining Insect Pest Numbers in Field Crops in Recent Years
Registration link: https://zoom.us/webinar/register/WN_gmiW6VE5R5GzmJJulSbiDw

Webinar #3: Nov. 13, 2025; 9 a.m. CT — Dr. Kiersten Wise, Extension Plant Pathologist
Title: Stopping Southern Rust: Scouting, Spraying, and Staying Ahead
Registration link: https://zoom.us/webinar/register/WN_uRGIZOK-T1KCnRBvU3LscA

Webinar #4: Nov. 20, 2025; 9 a.m. CT — Dr. Travis Legleiter, Extension Weeds Specialist
Title: Defense Wins the Ryegrass Battle
Registration link: https://zoom.us/webinar/register/WN_X72XkI21QzGKiX2BA9Ht6w

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University of Kentucky.

Join us at the National Corvette Museum in Bowling Green, KY.

Tickets on sale beginning Nov. 1, 2025 at https://kchc2026.eventbrite.com

Upcoming Events

2025

Sept. 16, 2025	**KATS Soil Pit Workshop**	**EKU, Richmond, KY**

4-part Series — **Fall Crop Protection Webinar Series**

Oct 30, 2025	#1 Research Update on Red Crown Rot of Soybean
Nov 06, 2025	#2 Delayed Appearance or Declining Insect Pest Numbers in Field Crops in Recent Years
Nov 13, 2025	#3 Stopping Southern Rust: Scouting, Spraying, & Staying Ahead
Nov 20, 2025	#4 Defense Wins the Ryegrass Battle

Dec. 15-16, 2025	**Drone Pilot Certification Training**	**Madisonville, KY**

2026

Jan. 15, 2026	**KY Commodity Conference**	**Bowling Green, KY**
Feb. 3, 2026	**Winter Wheat Meeting**	**Hopkinsville, KY**
Feb. 5, 2026	**2026 Kentucky Crop Health Conference**	**Bowling Green, KY**
Mar 26, 2026	**Italian Ryegrass Field Tour**	**Princeton, KY**
May 12, 2026	**UK Wheat Field Day**	**Princeton, KY**
Jun 25, 2026	**Pest Management Field Day**	**Princeton, KY**
Jul 21, 2026	**UK Corn, Soybean & Tobacco Field Day**	**Princeton, KY**

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