

Kentucky Field Crop News

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Martin-Gatton College of Agriculture, Food and Environment

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High Hessian Fly Infestations Found in Western Kentucky Wheat: Scouting and Management Considerations

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Current Status

During recent evaluations of winter wheat research plots at the University of Kentucky Research and Education Center in Princeton, we have observed unusually high populations of Hessian fly (*Mayetiola destructor*) (Figure 1). In samples collected from 1-foot sections of wheat rows, we have recovered averages of over 100 Hessian fly larvae and puparia (also known as "flaxseeds") (Figure 2). For comparison, last season we found an average of approximately 30 individuals in untreated plots, while almost none were found in plots with insecticide-treated seeds. This fall, we are finding significant numbers even in seed-treated plots planted during the second half of September.



Figure 1. Hessian fly larvae located behind the leaf sheath near the base of a wheat tiller. Photo: Felipe C. Batista.

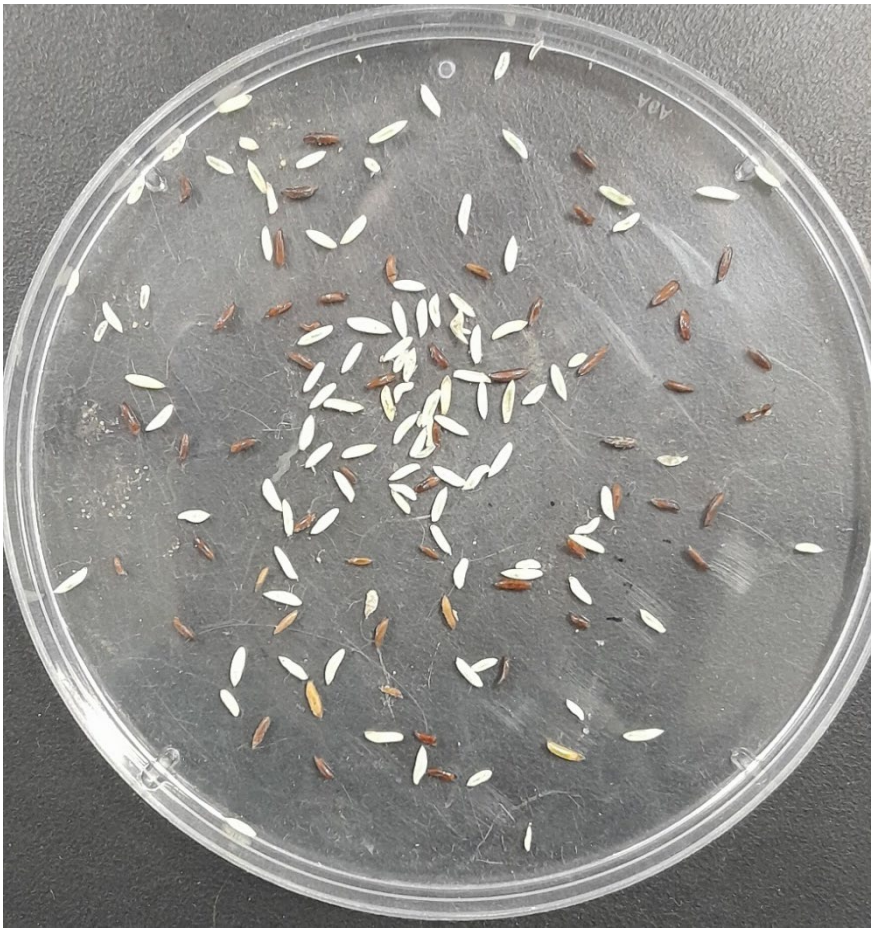


Figure 2. Hessian fly larvae (white) and puparia or "flaxseeds" (brown) recovered from a 1-foot section of a wheat row in research plots at the University of Kentucky Research and Education Center in Princeton. Photo: Felipe C. Batista.

Although these observations are from research plots and may not represent conditions across Kentucky, they highlight the importance of scouting for Hessian fly in wheat fields this fall.

Weather Conditions and Potential Impact

This fall has been warmer than average in western Kentucky and this can impact the development, survival and activity of Hessian flies. Although some areas experienced frost in October, more widespread freezing temperatures did not arrive until early November. Warmer fall conditions may extend the period of adult activity and egg laying, potentially increasing the risk of infestations in recently emerged wheat.

Scouting and Identification

Hessian fly infestations can be difficult to detect because larvae feed behind the leaf sheaths, near the base of wheat plants (Figure 1).

Infested plants may appear stunted, with shortened or thickened leaves, darker green coloration, and reduced tillering. Severely infested tillers may turn yellow or die; however, infestations can occur even without visible symptoms.

To scout wheat fields:

1. Check several areas of the field, including stunted and apparently healthy plants.
2. Collect at least 10 tillers per point, pulling them out with the roots to ensure the base remains intact.
3. Carefully peel back the lower leaf sheaths to expose the base of each tiller (Figures 1 and 3).
4. Look for small, white, legless larvae or shiny brown, seed-like structures known as "flaxseeds" (puparia) (Figures 1-3).
5. Record the percentage of infested tillers with larvae or flaxseeds.

Checking several locations will provide a better picture of infestation levels and help identify fields that may require closer monitoring next spring. A rescue treatment will not be effective once Hessian fly larvae are below the sheaths; scouting now will inform management decisions for the spring rather than trigger an application this fall.



Figure 3. Hessian fly puparia ("flaxseeds") found behind the leaf sheath of an infested wheat plant. Photo: Felipe C. Batista.

Management Strategies

Hessian fly management is primarily based on preventive strategies, including planting after the Hessian fly-free date, using resistant varieties and insecticide seed treatments.

Systemic insecticide seed treatments can provide protection against early Hessian fly infestations; however, this protection generally lasts approximately 20-30 days. Under high pest pressure or when adult activity continues beyond this protection period, infestations may still develop. This could help explain why we are finding significant numbers of Hessian flies in some of our seed-treated plots.

Unfortunately, there is no effective rescue treatment once Hessian fly larvae become established behind the leaf sheaths. Foliar pyrethroid insecticides may control adults and newly hatched larvae if applied early, before larvae move behind the leaf sheaths. However, applications after larvae are established are not expected to provide effective control.

At this point, the goal of scouting is to inform growers about pest pressure for the spring, rather than to make a decision about applying an insecticide this fall. Identifying heavily infested fields now will help growers monitor potential damage and make management decisions next spring.

According to UKY recommendations, fields with 20% or more infested tillers in late winter or early spring may experience significant yield losses. Under severe infestations, growers should evaluate whether spring nitrogen applications are likely to provide the expected economic return. Spring insecticide applications targeting newly emerging adults are unlikely to be effective and require careful timing.

The Take-Home Message

We are observing unusually high Hessian fly populations in some western Kentucky research plots this fall. While the extent of infestation in commercial fields is still unknown, growers, county Extension agents, and crop scouts are encouraged to examine wheat fields, especially those planted early in the fall. While a rescue treatment is not practical for Hessian fly, knowing infestation levels now can help with management decisions in the spring.

Additional Information

- Hessian fly threat persists in Kentucky wheat
- UKY ENTFACT-155: Biology and Management of the Hessian Fly in the Southeast
- UKY IPM: Hessian Fly in Wheat

Citation: *Batista, F., Adewinle, A., Viloria, Z., Peterson, J., 2026. High Hessian Fly Infestations Found in Western Kentucky Wheat: Scouting and Management Considerations. Kentucky Field Crops News, Vol. 02, Issue 11. University of Kentucky, November 13, 2026.*

Are You Thinking About Growing a Second Year of Soybean (In Some Fields)?

John Grove, Soil Science Research & Extension

Input costs are causing some grain growers to consider shifting some of their corn after soy acres to soy after soy (2nd year soy). I've had questions from grain producers, among others, indicating an interest in knowing more about this shift. What are some of the recommended considerations when looking at this option? My first thought, because many of us keep records on a field basis, is that this decision should be made field-by-field. Use your field records and consider past soybean yields, weed control issues, soil fertility status, and existing pest (especially cyst nematode) pressures.

First, don't assume that 2nd year soy will be more profitable that 1st year corn. To start with, you're going to leave some yield on the table. Figure 1 indicates that 2nd year soy is more like continuous soy than 1st year soy, but that the yield penalty to soy after soy is not that large. Over the 11-year period, 1st year soy, 2nd year soy, and continuous soy yields averaged 56, 54 and 53 bu/ac, respectively, and in the better years the yield spread rose from 3 bu/ac to 5-6 bu/ac. But this research was done in a field plot area with minimal weed problems (I hand rogued the marestail/horseweed) and no soybean cyst nematode. In this study area, soil pH was about 6, and soil test phosphorus (P) and potassium (K) were 'very high' and 'high', respectively.

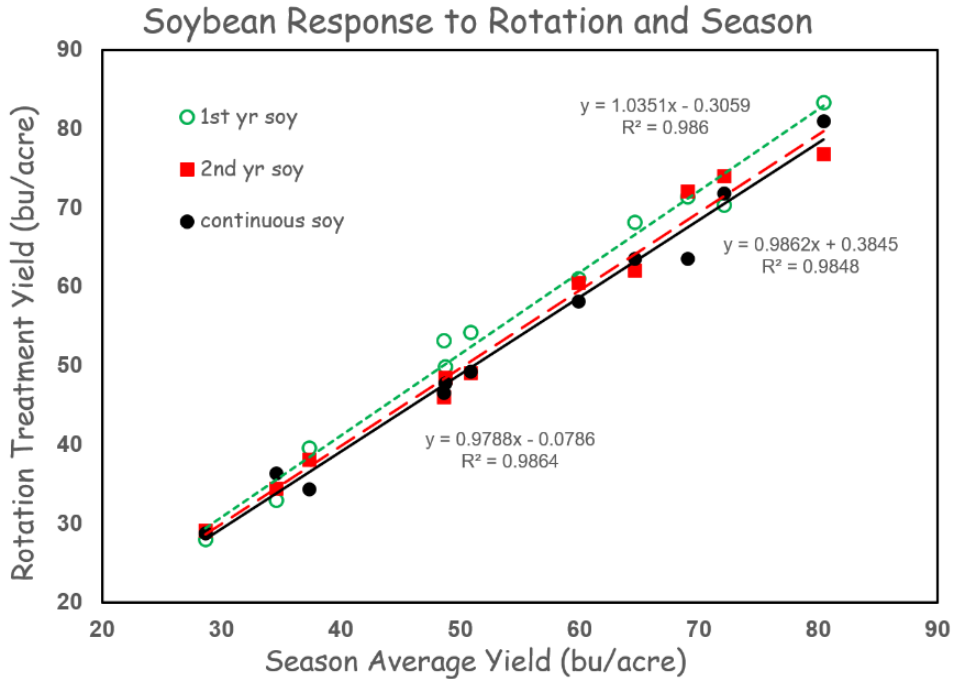


Figure 1. Soybean grain yield over 11 years in three rotations; 1st year soy after 2 years of corn, 2nd year soy after 1 year of soy and 2 years of corn and continuous soy; as related to the season average yield (2009-2019).

Second, don't assume that the yield dollars lost will be replaced by reduced production input costs – whether those yield dollar losses are less than production input dollar cost reductions will need to be considered on a field-by-field basis. I'd recommend considering your production input costs for both corn and soybean weed control, nutrition, and pest pressure reduction in each field you're thinking about planting to 2nd year soy.

Third, carefully consider weed control needs for each field. Generally, weeds are more easily/economically controlled with crop rotation, but that isn't always true. A second year of soybean might help control a corn weed problem in one field. But a second year of soy might increase a soy weed problem in another field. Consult your field notes on weed problems (or lack thereof) and look ahead at per acre herbicide costs for each field. Some fields will be better candidates for 2nd year soy than others.

Fourth, looking ahead at 2nd year soy nutrition, were all the lime and fertilizer inputs for the corn-soy rotation put on the corn acres two years back? What is the soil fertility status for a possible soy after soy (3rd year) crop? Don't guess, get a soil test on these acres – even if you don't think one is needed because you're not going back to corn. Ask for fertilizer rate recommendations for both corn and soybean on these samples – you might decide to stick with corn on some fields.

If the pH is marginal (less than 5.9), remember that 'lime takes time' and corn is a bit more tolerant of low pH. Soybean is a legume, legumes rely on Rhizobia for their nitrogen (N) nutrition, and Rhizobia functions best when soil pH is between 6 and 7. You can apply lime this fall/next spring, but the soil pH may not be where you need it to be for your 2nd year soy. An average pH of 6.5 means more of the field area is in that ideal pH range – ready for 2nd year soy.

Monitor/maintain soil test soil P levels – there may have been less change after this last soy crop than after the preceding corn crop, but soil test P still might drop below the mid-medium level, into the 'really needed' zone. With phosphate needs, crop choice matters. UK AGR-1 corn fertilizer P_2O_5 rate recommendations range from 50 to 120 lb P_2O_5/ac as soil test P falls from 60 to 6 lb P/ac (30 to 3 ppm P). For soy the range is 40 to 110 lb P_2O_5/ac as soil test P falls from 60 to 6 lb P/ac (30 to 3 ppm P). So, for the same soil test value, a 2nd year soy crop will cause a lower P_2O_5 rate recommendation.

With potash, the situation is different. UK AGR-1 corn for grain (corn for silage is different) fertilizer K_2O rate recommendations range from 50 to 120 lb K_2O/ac as soil test K falls from 300 to 100 lb K/ac (150 to 50 ppm K). For soy the range is 60 to 150 lb K_2O/ac as soil test K falls from 300 to 46 lb K/ac (150 to 23 ppm K). At low-medium soil test K values (100-190 lb K/ac; 50-95 ppm K) there is no difference in the fertilizer K_2O rate recommendation for corn or 2nd year soy. But soil test values outside this range (< 100 lb K/ac or > 190 lb K/ac) the fertilizer K_2O rate recommendation will be higher for 2nd year soy. With medium high soil test K (> 190 lb K/ac), 'maintenance' K_2O rates are 10 lb/ac higher for 2nd year soy than for corn. With very low soil test K (< 100 lb K/ac), recommended fertilizer K_2O rates are up to 30 lb K_2O/ac higher for 2nd year soy. So, at many soil test K levels, there is no difference in recommended K_2O rates for 2nd year soy and corn. But outside that the 100 to 190 lb soil test K/ac (50 to 95 ppm soil test K) range, corn needs less fertilizer K than 2nd year soybean.

With N, the major consideration is that well-inoculated/nodulated soy does not need N fertilizer and corn needs quite a bit. To be fair to corn in this comparison, especially if you

are making corn N management changes that reduce corn N costs, use your most recent corn N budget values when comparing corn to 2nd year soy. Besides N material costs, consider N application/timing/placement costs, too.

Consider adding sulfur (S), for early-planted 2nd yr soy. Purdue data shows soy S deficiency is more likely with early planting into cool soils where S mineralization from SOM is reduced/slow. In this situation, use an immediately soluble source like gypsum (calcium sulfate) – elemental S sources require biological oxidation of the S, and biology is slow when it's cool. Another nutrition management budget item.

If there is a 'more likely' 2nd year soy fertility problem, it will be K. That said, K fertilizer prices have been more reasonable/fairly stable, and that makes fertilizing soy acres with K look a bit better than fertilizing corn acres with more expensive/less stable P and N materials. Adequate K nutrition is important to good soy yield. I'm seeing more K deficiency in soy fields – and most all those acres were previously in corn. Don't expect things to be better with a second year of soy and no added K. Of course, some of those K deficiencies could have been induced by root pruning (compaction, nematodes, etc.), but if you have fields where you've seen K deficiency, especially during early grainfill, you need to get these fields soil tested.

Fifth, fields proposed for 2nd year soy should also be checked for nematodes, especially soybean cyst nematode (SCN). The Kentucky Soybean Association is supporting free soil SCN testing – see your local extension agent for sample submission instructions. SCN and other diseases can be inflamed by planting soy after soy and field with a history of SCN or other soil-borne diseases might not be good candidates for 2nd year soy if rotation to corn (or another summer crop) would help dampen an existing soy disease issue and make the entire rotation more profitable.

Finally, remember that 2nd year soy is generally a more stressful situation for the crop. This makes your choice of varieties important. Shawn Conley (Univ. Wisconsin extension specialist) has said: "Every variety has one or two holes in it", so mix up your varieties to reduce the greater risk associated with soy after soy.

And further, as a soil scientist who is observing more soil erosion with our changing rainfall behavior, you should budget for cover cropping behind 2nd year soy grown in fields with rolling topography. Residue coverage will be no better with soy after soy, so a cover crop is needed to reduce soil erosion. Corn residue is often sufficient for reasonable erosion control (if corn residue is not fall chopped into smaller pieces that move with runoff water).

Citation: *Grove, J., 2026. Are You Thinking About Growing a Second Year of Soybean (In Some Fields)? Kentucky Field Crops News, Vol. 02, Issue 11. University of Kentucky, November 13, 2026.*

Top 10 Soybean Varieties from 2026 Kentucky Trials

Bill Bruening, UK Scientist III



Variety selection is recognized as a simple way to maximize production profitability potential. Regardless of growing conditions or managements practices, yield potential starts with the seed (genetics). University variety testing programs provide annual unbiased evaluation of variety performance. The University of Kentucky soybean variety trial results are available and can be accessed using the QR Code.

The table presented here shows the Top Ten soybean varieties tested in 2026. 98 varieties were tested by maturity class in either an Early, Medium or Late maturity trial. The yield data represents the average results of 6 trial locations. At each location, each variety was tested in 4 replicated plots and the state average represents the average of 24 plots from the 6 test locations.

Table 1. 2026 Kentucky Soybean Variety Trial - Top 10. Early Maturity Trial (MG 3.3 - 3.9)

Variety	MG	Herbicide Technologies	Average Yield (bu/a)
Xitavo XO 3555E	3.5	Enlist E3/STS	85.0
Armor 36-E77S	3.6	Enlist E3/STS	83.9
Dyna-Gro S38EN75	3.8	Enlist E3	83.5
HOEGEMEYER 3605E	3.6	Enlist E3	83.5
Xitavo XO 3956E	3.9	Enlist E3/STS	83.4
HS 38E50	3.8	Enlist E3	82.7
Revere X37E76	3.7	Enlist E3	82.0
Voltis V3787E3	3.7	Enlist E3	81.2
NK38-B5E3S	3.8	Enlist E3/STS	79.7
HS 39E40	3.9	Enlist E3	79.2

Table 2. 2026 Kentucky Soybean Variety Trial - Top 10.Medium Maturity Trial (MG 4.0 - 4.5)

Variety	MG	Herbicide Technologies	Average Yield (bu/a)
USG 7435ET	4.3	Enlist	85.2
HS 44E60	4.4	Enlist E3	84.8
Revere 42-E22	4.2	Enlist E3	83.1
Revere X42F60	4.2	XTFlex	82.9
HS 41E40	4.1	Enlist E3	81.7
HOEGEMEYER 4036E	4.0	Enlist E3	81.5
Armor 42-E77	4.2	Enlist E3/STS	80.6
Voltis V4037E3	4.0	Enlist E3	79.7
HS 42F50	4.2	XTFlex	79.2
Innvictis B4136ES	4.1	Enlist E3/STS	79.0

Table 3. 2026 Kentucky Soybean Variety Trial - Top 10. Late Maturity Trial (MG 4.6 - 5.2)

Variety	MG	Herbicide Technologies	Average Yield (bu/a)
HOEGEMEYER 4517BE	4.5	Enlist E3/STS	81.8
HOEGEMEYER 4743E	4.7	Enlist E3	79.3
Donmario DM46F76S	4.6	XTFlex/STS	77.8
Innvictis B4956ES	4.9	Enlist E3/STS	77.4
USG 7497ETS	4.9	Enlist/STS	77.1
HS 47F60	4.7	XTFlex	76.2
Innvictis A4862XF	4.8	XTFlex	76.2
Revere 48-F22	4.8	XTFlex	75.9
HOEGEMEYER 4965E	4.9	Enlist E3	75.4
Revere 47-E74	4.7	Enlist E3	75.3

For more information and to access the full trial results (with individual location data), please visit the website via the QR Code or https://varietytesting.mgcafe.uky.edu/ . We thank the Kentucky Soybean Promotion Board for their support and all others who helped make another successful year in variety testing!

Citation: *Bruening, W., 2026. Top 10 Soybean Varieties from 2026 Kentucky Trials. Kentucky Field Crops News, Vol. 02, Issue 11. University of Kentucky, November 13, 2026.*

KATS Drone Pilot Certification Workshop



The Kentucky Agriculture Training School is offering a Drone Pilot Certification Workshop on January 21-22, 2027. This 2-day workshop is designed to prepare participants to take the Part 107 exam, which is required by the FAA to use drones commercially. As drone usage continues to increase across many industries, the remote pilot certificate is valuable for those in agriculture, real estate, public safety, and many other areas where drones are essential.

The training and the exam will both be coordinated in Madisonville, with the exam taking place on the afternoon of the second day.

More information and to register, can be found at https://DronepilotcertificationJan2027.eventbrite.com.

University of Kentucky

2027 Winter Wheat Meeting

SAVE THE DATE

February 2, 2027



2027 Winter Wheat Meeting

UK Research and Education Center

348 University Drive, Princeton, KY 42445

9 am to 3 pm CST

Pre-register: 2027 Winter Wheat Meeting

Lunch sponsored by Kentucky Small Grain Growers Association

5th Annual Kentucky Crop Health Conference scheduled for February 4

KCHC
Kentucky Crop Health Conference

Get your **tickets** now for the 2027 Kentucky Crop Health Conference (KCHC), scheduled for Feb. 4, 2027, at the National Corvette Museum in Bowling Green, Ky. Now in its fifth year, the annual event has quickly grown into Kentucky's premier pest management conference.

Organized by the University of Kentucky Grain Crops Pest Management Group, KCHC is an in-depth and enhanced conference covering insect pests, plant pathogens, and weeds affecting Kentucky corn, soybean, and wheat acres. Presentations include University of Kentucky extension specialists and invited nationally prominent extension specialists from across the United States.

This year's guest speakers include Alison Robertson of Iowa State University, presenting "Crown rot of corn: Is there a party going on?" and Aaron Hager of the University of Illinois, presenting "The Challenges of the Waterhemp Conundrum."

KCHC is tailored toward producers, crop consultants, agents, and others in the Ag community/industry.

Museum doors will open at 8 a.m. CST for conference room entry and sign-in. Breakfast and lunch are included in the ticket price. Certified Crop Advisor and Kentucky applicator credits will be requested for conference attendees.

Upcoming Events

2026

Fall Crop Protection Webinars

- **EPA Herbicide Strategy for Protection Endangered Species - What Is It and How to Implement it on Your Farm?**
  Nov. 19, 2026 - Travis Legleiter

2027

Kentucky Commodity Conference - Bowling Green, KY
January 21, 2027

KATS Drone Pilot Certification Workshop – Madisonville, KY
January 21-22, 2027

UK Winter Wheat Meeting – Princeton, KY
February 2, 2027

Kentucky Crop Health Conference - Bowling Green, KY
February 4, 2027

Italian Ryegrass Field Tour – Princeton, KY
April 1, 2027

UK Wheat Field Day – Princeton, KY
May 11, 2027

Pest Management Field Day – Princeton, KY
June 24, 2027

UK Corn, Soybean and Tobacco Field Day – Princeton KY
July 20, 2027

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Lexington, KY 40506

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