INSIDE AGRONOMY

ISSUE 7 - DECEMBER 20, 2024

PURDUE UNIVERSITY | Agronomy

IMPORTANT REMINDER!

ACRE Field Research Requests are due January 10th. Please fill out your requests using the linked form. Additionally, please fill out the ACRE 2024 Student/Funding form to help us track our impact at ACRE. If you have any questions, please reach out to Rachel Stevens at rhstevens@purdue.edu

- Fill out the ACRE Land Request forms for 2025 - Due January 10th
- Fill out the ACRE 2024 Student/Funding Tracking form

UPCOMING

December

16 - January 12 - Winter Break for Students

23 - January 1 - Winter Recess - offices closed

January

13 - Spring semester begins

PURDUE UNIVERSITY
Agronomy Center for Research and Education

ACRE 2024

JANUARY *Field tile installation of Field 200 was completed. 193 acres were installed on some of the poorest drained soil on the farm.*

APRIL *Broke ground on new ACRE grain center.*

MAY *A great weather window in early May led to very timely production and research planting the first 2 weeks of May.*

JUNE *With Rachel out on maternity leave, Aaron and Evan stepped in to handle all farm matters with ease!*

SEPTEMBER *We hosted ACRE75, the 75th Anniversary of the farm, featuring demo plots by faculty and students, a fantastic dinner, keynote speaker and awarded the next installment of Legends of Agronomy.*

SEPTEMBER *The Ozzie Luethemeier Endowment was created to support research at ACRE. Gifts to the endowment can be directed by scanning the QR code below or visiting the link below.*

purdue.ag/ozziegift

OCTOBER *The first grain bin was erected at the new grain center.*

NOVEMBER *Finished harvest, with record setting yields, another successful field research season, and over 80 faculty conducting research at ACRE in 2024*

DECEMBER *The tower and leg were installed at the new Grain center.*

LEARN *more about ACRE in 2024*

Rachel Stevens
ACRE Farm Manager
rhstevens@purdue.edu
765-496-0974
Instagram: @acrepurdue
X: @ACRE_Purdue

ACRE STATS
IN 2024

CROPS GROWN

Corn
Soybeans
Wheat
Popcorn
Sorghum
Hemp
Alfalfa

AVERAGE YIELDS

262 bushels/ac

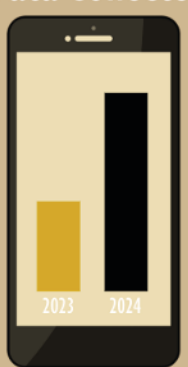
83 bushels/ac

80 +

researchers conducting studies at ACRE from

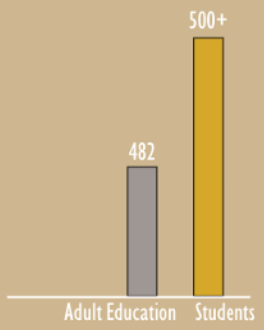
15 departments

Data Collected



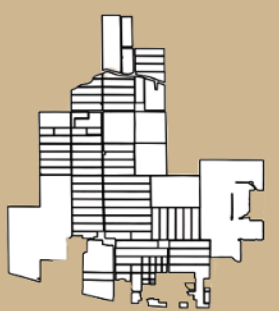
+200 TB of data collected

EDUCATION



500+ Students visited and learned at ACRE in 2024 through DTC, visits to ICSC, and field trips to the farm

Supported 5 senior design/capstone projects,
40+ Masters and PhD students research projects
& 5 undergraduate teams and clubs



Soil Sampled 655+ acres

PURDUE UNIVERSITY

Agronomy Center for Research and Education

WEATHER YTD

High: 95° (6/17/24)

Low: -8° (1/14/24)

Rainfall: 32.56" YTD

Made the final land payment on McCarty (Field 200) purchased in 2015.

Last day of rotational harvest: Nov. 11
Last day of research harvest: Nov. 25

RECORD SETTING

October was the driest on record, measuring 0.18".
(Second driest on record was 0.29 " set in 1908.)

160+ Drone Flights

Trucked

6,400+ miles hauling grain this fall, over 168,000 bushels!

THANK YOU FOR YOUR SUPPORT OF ACRE.

Congratulations to Dr. Linda Lee for being selected by the National Academies of Sciences, Engineering, Medicine to the committee that will provide the initial framework to guides the efforts of the U.S. Department of Agriculture's Farm Production and Conservation (FPAC) programs. (see more details in the artical and the links below.

From Laura Bowling:

"Congratulations Linda, it is fantastic that your expertise is being recognized in this way, and that people like you can help to develop the policies that will protect consumers and farmers. Thanks for being awesome!"

Assistance to the U.S. Department of Agriculture in Building a Framework for Addressing PFAS on Agricultural Land

A committee appointed by the National Academies of Sciences, Engineering, and Medicine (National Academies) will provide an initial framework to guide the efforts of the U.S. Department of Agriculture's Farm Production and Conservation (FPAC) programs that directly deal with conservation on the land, including the Environmental Quality Incentives Program, the Conservation Stewardship Program, the Conservation Reserve Program, and the Agricultural Conservation Easements Program, to respond to the impacts ofper- and polyfluoroalkyl substances(PFAS) contamination of agricultural land. In a consensus report, the committee will:

- Characterize the scope of PFAS challenges in agriculture and the capability of the conservation programs, practices, and initiatives to address on-farm PFAS contamination and mitigation.

- Identify what factors FPAC agencies may consider when evaluating the risk that on-farm actions supported by FPAC conservation programs could cause or exacerbate PFAS soil or water contamination on or off the farm.

- Identify cost-effective and implementable options within the FPAC remit to support PFAS mitigation on farms (e.g., crop changes, land retirement, changes to on-farm water infrastructure), the research needed to inform the efficacy of these options, and considerations of actions to mitigate risk and the impacts of contamination in agricultural systems.

- Identify other actions, including conservation practices, that could mitigate or avoid PFAS contamination in agricultural systems but are outside the FPAC remit or may not yet be economically or technically feasible to implement at a large scale.

- Identify applied research gaps for land management of PFAS contamination in the context of conservation practices on the ground.

- Provide guidance for decision making based on what is currently known as well as emerging information about the fate and transport of different PFAS in agricultural systems.

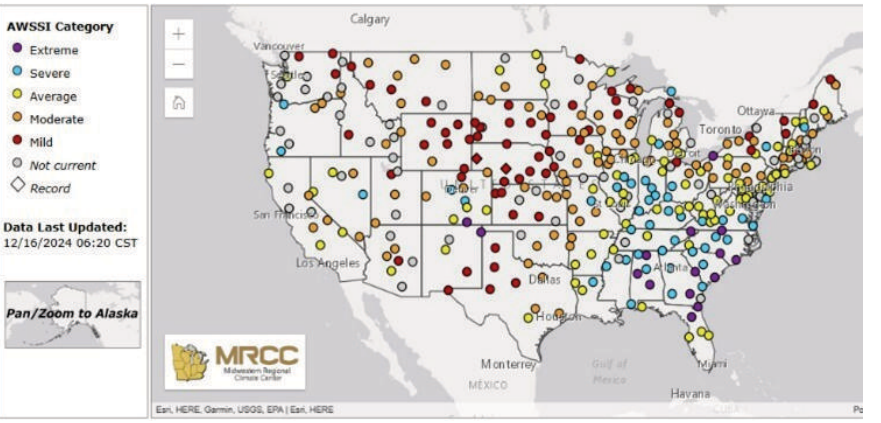
- Provide considerations for the development of an agricultural working definition of PFAS in the context of the PFASfor which the US EPA has determined regional screening levels.

Learn More

To learn more about this project, visit theproject webpage. To learn more about the responsibilities and commitments of our volunteer committee members, visit theinformation webpage.

Tracking Winter Severity with the MRCC
By: Austin Pearson & Melissa Widhalm

The Accumulated Winter Season Severity Index (AWSSI) from the Midwestern Regional Climate Center (MRCC) measures the severity of winter by evaluating the intensity and duration of cold weather, snowfall, and snow cover. The AWSSI provides an objective method to quantify and describe how severe a winter season is compared to historical snow seasons. Notably, the AWSSI is not restricted to the typical meteorological winter months of December through February; it takes into account winter weather from the earliest onset of cold in the season until the latest occurrence. According to the map displayed, many stations in Indiana are currently classified the 'Severe.'



How does the AWSSI work?

The winter season begins with the first occurrence of any of the following conditions:

- The first measurable snowfall of 0.1 inches or more.
- A maximum temperature of 32°F or lower.
- If neither of the above conditions has been met, the winter season begins on December 1.

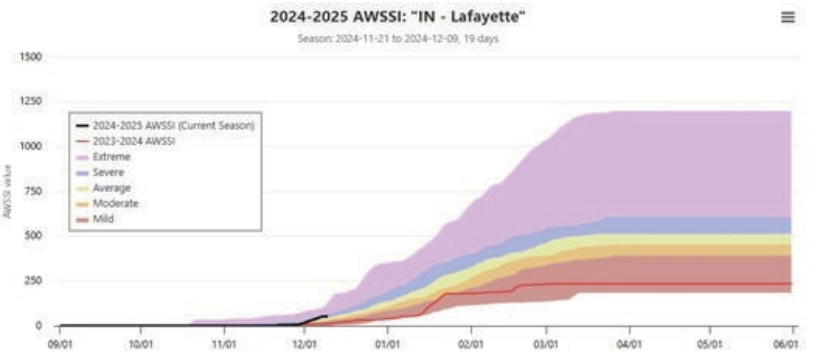
The winter season ends with the last occurrence of any of the following conditions:

- The last measurable snowfall of 0.1 inches or more.
- The last day with at least 1 inch of snow on the ground.
- The last day with a maximum temperature of 32°F or lower.
- If the above conditions have already occurred, the winter season will end on February 28 or 29.

Daily scores are determined by evaluating temperature, snowfall, and snow depth. These scores accumulate throughout the winter, providing a running total that reflects the severity of a location's winter conditions during the season. The AWSSI has been calculated for each winter season from 1950-1951 to the present, enabling comparisons of each season to established quantiles.

AWSSI Quantiles	
Percentile	**Category**
20th	**W1 - Mild**
40th	**W2 - Moderate**
60th	**W3 - Average**
80th	**W4 - Severe**
99th	**W5 - Extreme**

The tool displays a map of AWSSI rankings for stations across the United States. Users can click on a location to view the ranking value and a time series chart of daily AWSSI accumulations. An example chart for Lafayette, Indiana, is shown here. Previous season accumulations can be overlaid on the chart for easy comparisons. For instance, in Lafayette, last winter (2023-2024 season) turned out to be mild, with only a few events leading to the accumulation of AWSSI values. This season (2024-2025) is currently trending in the Severe category, but a lot can change.



How will conditions progress throughout the winter? Stay tuned to the AWSSI for daily updates! Reach out to the MRCC should you have any questions about this tool.

A great team working together to provide the latest in Corn & Soybean Research!

Dr. Casteel & Dr. Quinn fill the room with attendees at the 2024 INCCA Conference in Indy. Purdue University's Crop Extension Specialists share the latest in "Nitrogen & Sulfur Interactions w/ Cereal Rye in Corn + Soybeans".

From DTC & Agronomy FaceBook pages by Crystal Paris

Congratulations to the 2024-25 Agronomy Club officers!

President: Kyra Kiel
Vice President: Maddie Brink
Treasurer: Jonathan Starke
Secretary: Katlynn Asbury
Business Manager: Justin Bedel
Soils Manager: Anna Phillips
Seeds Manager: Kendrick Crowder
Plants Manager: Alex Osburn
Historian: Emma Smith
Soils Invitational Chairman: Kaia Wright
Crops Invitational Chairman: Max Maschino

Thank you to all who participated in the door decorating contest!

Hot cocoa, coffee and cookies were served on December 17th to celebrate the end of the semester and the winners of the door decorating contest. We hope you enjoyed this time to gather, visit, and relax together for a short time.

The winners were...

Most Creative
Room 2444
Lexie Wilson

Best Construction
Room 2452
Stephanie Orem

Most Agronomic
Room B365
Lee Lab
Araiana Lazo