

INSIDE AGRONOMY

ISSUE 11 - FEBRUARY 27, 2025

PURDUE
UNIVERSITY

Agronomy

In case you
missed it...



All issues of Inside Agronomy are now available on the Agronomy website. Click below to view past issues.

[Inside Agronomy](#)



Dr. Anna Paltseva took the stage at [SYNKD Live](#) in Atlanta, where she moderated an engaging panel discussion on how curiosity drives innovation. The session inspired fresh ideas and practical insights for advancing the green industry.

In addition, Dr. Paltseva coauthored the study "[Nickel phytotoxicity thresholds for ryegrass: Insights from historical copper smelting sites in Bashkortostan, Russia](#)." This research identifies nickel as the key factor affecting ryegrass growth in soils impacted by historical copper smelting. The

study establishes EC25 and EC50 thresholds for nickel toxicity, emphasizing the importance of targeted soil remediation and ecotoxicological evaluations.

Anna also attended and presented at the Indiana Green Expo 2025 (Feb. 10-12) in Indianapolis, the largest Green Industry conference in the state. In her presentation "Soil Health and Its Role in Sustainable Landscaping" she discussed soil management strategies for greener urban spaces.

On Feb. 18th, Anna was the featured guest expert at [SYNKD's Virtual Happy Hour](#), where she led a discussion on Soil Analysis. She shared insights on soil testing, its significance in sustainable land management, and engaged with green industry professionals in an interactive conversation.



Dr. Dan Quinn, Purdue Extension Corn Specialist recently presented at the 6to Foro Intagri de Maiz de Alto Rendimiento in Guadalajara, Mexico to share his research in corn response to starter fertilizer applications.



Expanding Precipitation Observations in Indiana

By: Austin Pearson, Beth Hall, Jacob Dolinger

How often have you heard that your neighbor received rain while you missed it? Precipitation is highly variable and has significant impacts on communities. Insufficient rainfall can cause drought and water supply issues, while excessive rain can lead to flooding and damage to infrastructure. The dense precipitation measurements provided by the [Community Collaborative Rain, Hail, & Snow \(CoCoRaHS\) Network](#), a national volunteer precipitation observation network, are essential for Indiana's well-being.

The [Indiana State Climate Office \(IN-SCO\)](#) collaborates with the [National Weather Service \(NWS\)](#) to coordinate Indiana's CoCoRaHS network via monthly newsletters, quarterly meetings, and the recruitment and retention of volunteers. Rain or shine, volunteers measure precipitation and report their findings to the CoCoRaHS headquarters each morning. CoCoRaHS plays a crucial role in providing high-quality precipitation data, helping to bridge gaps in data between the [NWS Cooperative Observer Network](#), [airport weather measurements](#), and the [Purdue Mesonet](#). Let's quickly examine how CoCoRaHS precipitation observations fill the gap.

In January, Indiana received 1.47 inches of precipitation, which was 1.48 inches below normal and accounted for only 50 percent of the usual amount. Heavier precipitation was observed in southern Indiana, while northern regions experienced significantly lower totals (Figure 1). The addition of CoCoRaHS measurements highlighted notable differences in southern Indiana, particularly in Harrison, Crawford, Floyd, and Clark Counties. Areas in northern Indiana, especially Fort Wayne, showed broader regions with higher precipitation totals when CoCoRaHS data were included. Drought conditions showed improvement throughout January, thanks to above-normal precipitation in December. However, this improvement was followed by January precipitation levels in the northern two-thirds of the state that were 1.5 to 2 inches below normal. As a result, abnormally dry conditions have expanded from northern Indiana to just south of Indianapolis. CoCoRaHS has helped the IN-SCO stay on top of the ever-changing drought conditions.

We continually need new CoCoRaHS observers to help fill the gaps (Figure 2); as the saying goes, "the rain doesn't fall the same on all!" In March, CoCoRaHS is hosting its annual [Rain Gauge Rally](#), a contest to see who can recruit the most new volunteers. Indiana always gets beat by Minnesota, but we're proud of the 61 new observers we recruited last March. This helped push us to a record 185 new observers in 2024, a number we hope to expand upon in 2025.

[Join CoCoRaHS!](#)

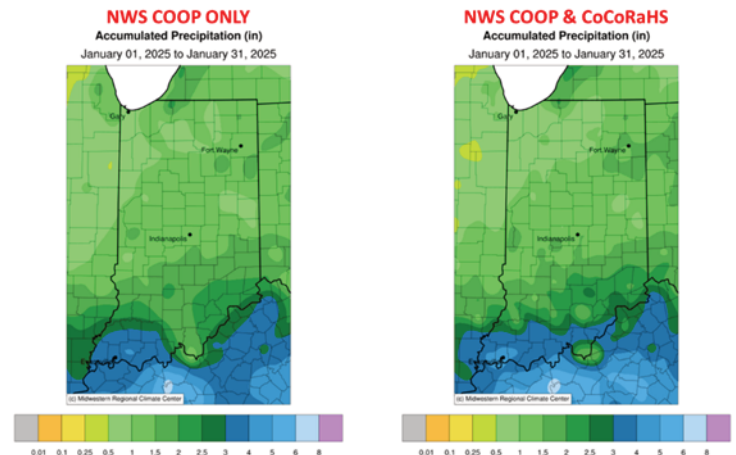


Figure 1: Left - January 2025 accumulated precipitation from NWS COOP network only. Right - January 2025 accumulated precipitation including both NWS COOP and CoCoRaHS.

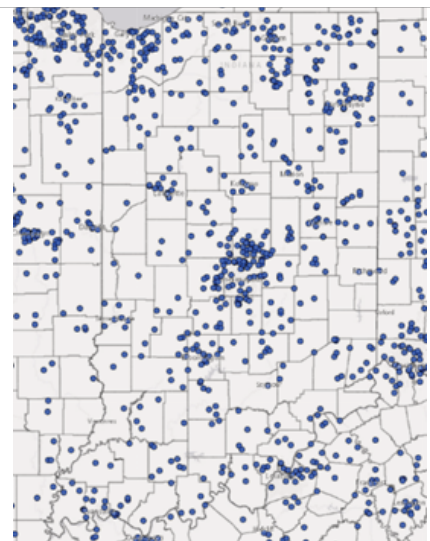


Figure 2: Active Indiana CoCoRaHS stations.

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JOINT POSTER SESSION & NETWORKING GATHERING



FRIDAY
MARCH 7th
3 - 6:30 PM
MARRIOTT HALL

The latest research, excellent food, live music, and interdisciplinary networking opportunities.

Undergraduate and Graduate students, Faculty, Staff, and Friends are all welcome to attend!

SUBMIT A POSTER OR TABLE TO: coagnetworking@purdue.edu DEADLINE: Friday, February 28th

CUISINE

- Waffle Bar
- Cheesy Grits
- Poutine
- Butcher Block Brats
- Hawaiian Roll, Canadian Bacon, & Egg Sandwich



AVAILABLE ON DRAFT



LEARN MORE:

purdue.ag/coag-coeng



Hemp Seminar

-From Field to Function

26
MARCH

2025

FREE EDUCATIONAL EVENT

The Hemp Seminar-From Field to Function is a half day seminar focused on hemp production, some of the many different applications of the plant, and research on health and environmental contamination of hemp. Speakers will present on current research and the opportunities that exist in the hemp industry.

EVENT INFO + REGISTRATION

March 26, 2025 | 9:00 AM-12:30 PM EST
Pfendler Hall-Dean's Auditorium 241
purdue.ag/hemp-seminar



PURDUE UNIVERSITY Agronomy

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PRODUCTION



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AGRY 320: GENETICS

Overview

Introductory genetics course designed to teach fundamental principles to students with a broad range of interests. This well-organized course has been taught several times.

Pre-reqs

BIOL 110/11, BIOL 110 or 111 + BTNY 110, BIOL 121/131, or BTNY 110 + HORT 301

Dates

Course opens June 1 and begins June 13. Final exam is August 6

PURDUE UNIVERSITY

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THINK SUMMER



Learn more at
<https://bit.ly/3Yz5X8P>

ION *in Action*



The **Indiana Organic Network (ION)**, a new initiative launched in 2024 with support from a USDA NIFA grant, hosted its inaugural Advisory Board meeting on February 18 and co-hosted the 2025 Indiana Organic Grain Farmer Meeting with Purdue Extension on February 19. Project team members include Yichao Rui, Eileen Kladviko, Bryan Overstreet, Roli Wilhelm, Sidd Paul, Annie Benson, Arsen Yerlan, Fitsum Teshome, and Ismael De Lara from the Agronomy Department. Its mission is to support the growth of organic agriculture in Indiana through knowledge sharing, community building, and on-farm research.

(Submitted by Yichao Rui)

AGRONOMY SPRING 2025 SEMINAR SERIES



Agronomy

**Mondays at 2:30
p.m.
LILY 2-425**
(unless otherwise noted)

**Join friends and
colleagues as they
discuss the latest
in Agronomy and
other related
topics.**

Zoom links for virtual
attendance and
online-only seminars will
be shared closer to their
scheduled date.

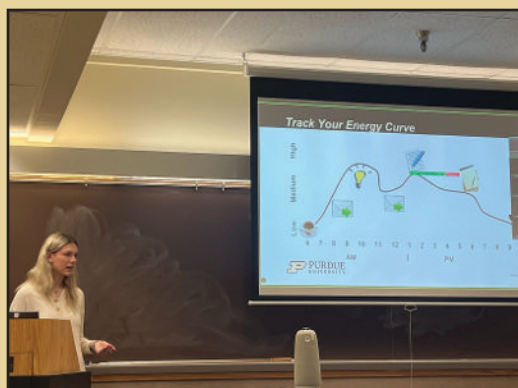
A detailed flyer will be
shared prior to each
seminar. Please refer to
the specific event flyer for
any changes.

**Visit the Agronomy
Seminar Series Website at:
purdue.ag/agryseminars
or by scanning the QR code
below.**



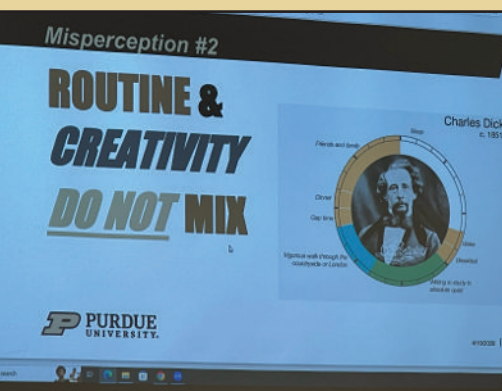
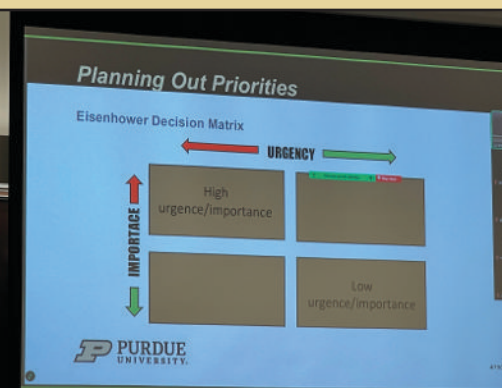
Date	Speaker
January 27th	Dr. Bruno Basso - Michigan State University - On-line only Topic: Understanding Drivers of Spatial and Temporal Variability of the Soil-Plant-Atmosphere System Host: Dr. Bruce Erickson
February 3rd	Dr. Darrell Schulze - Purdue University - Agronomy Topic: Soil Explorer - Visualizing and Understanding Soil Landscapes Host: Dr. Cindy Nakatsu
February 10th	Dr. Gary Steinhardt - Purdue University - Agronomy Topic: A 48-Year Soils Journey in a Land-Grant University Host: Dr. Eileen Kladivko
February 17th	Dr. Chad Penn - USDA ARS National Soil Erosion Research Lab Topic: Phosphorus Management: Feast and Famine Host: Dr. Yichao Rui
February 24th	Dr. Elizabeth Rieke - Soil Health Institute Topic: TBD Host: Dr. Roland Wilhelm
March 3rd	Dr. Mitch Tuinstra - Purdue Agronomy - Dean's Auditorium Seminar Topic: Named Professor Review Host: Dean Engel
March 10th	Dr. Ling Li - Mississippi State University Topic: From Arabidopsis to Crops: A Molecular Tool to Increase Protein Content and Disease Resistance Host: Dr. Cankui Zhang
March 24th	Dr. Joyce Van Eck - Boyce Thompson Institute - Cornell Topic: Leveraging Genome Editing for Pre-Breeding of Physalis Species Seminar co-sponsored by Agronomy & Center for Plant Biology Host: Dr. Cankui Zhang
March 31st	Dr. Eliana Monteverde - University of Illinois Urbana-Champaign Topic: TBD Host: Dr. Karen Hudson
April 7th	Dr. Keith Johnson - Purdue University - Agronomy Topic: Story Telling Has Value at Educational Events Host: Dr. Eileen Kladivko
April 14th	Dr. Pragati Pramanik - Indian Agriculture Research Institute - Delhi Topic: Application of Machine Learning Approaches in Soil Health Assessment Host: Dr. Sidd Paul
April 21st	Dr. Kateryna Zhelnina - Lawrence Berkeley National Lab Topic: Metabolomics/Cover Crops Host: Dr. Roland Wilhelm
April 28th	Dr. Jean-Michel Ane - University of Wisconsin - Madison Topic: Biological Nitrogen Fixation on the Aerial Roots of Maize and Sorghum for Sustainable Agriculture Host: Dr. Jianxin Ma

AGRONOMY GRADUATE STUDENT ORGANIZATION (AGSO)



TIME MANAGEMENT AND PROCRASTINATION WORKSHOP

"I don't have time... I'm too busy!" a common challenge for many of us. Today, Agronomy graduate student organization invited Purdue Recreation & Wellness team to deliver a talk on time management. This session provided valuable insights to help students effectively balance their studies,



On Saturday, February 22nd, our wonderful Agronomy Graduate Student Organization hosted a game night for department graduate students, postdocs, and visiting scholars! It was a fantastic opportunity to connect with fellow students and researchers in a casual setting and bring some warmth and energy to this cold winter.



The Agronomy Graduate Student Office has a fresh new look!

