INSIDE AGRONOMY

ISSUE 6 - DECEMBER 9, 2024

PURDUE UNIVERSITY | Agronomy

VOTE FOR YOUR FAVORITE DOORS!

Thank you to all who participated in brightening the halls of Agronomy by decorating your door! Take a walk through the halls and check out the creativity!

Scan the QR code below or click the link to cast your vote in the three categories listed!

https://form.jotform.com/243244796434059

Decorated door numbers:

2438	2420	LSPS103	3434	3440
2452	3450	3460	3440C	B350
2418	3347	3364	3374	2444

VOTING ENDS Friday, December 13 at 5:00 p.m.

UPCOMING

December

9 - 14 - Finals Week

16 - January 12 - Winter Break for Students

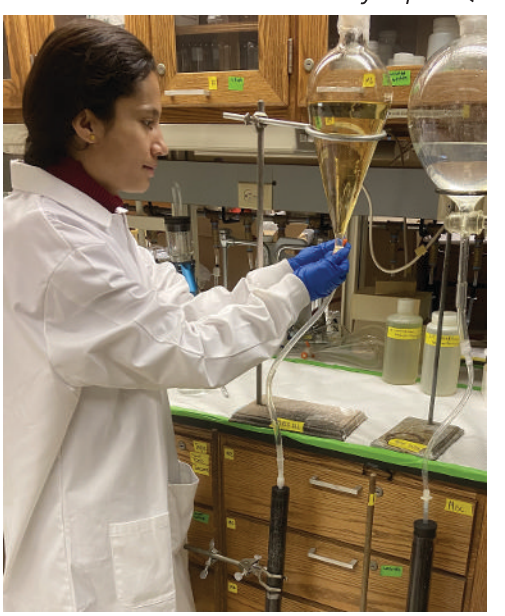
23 - January 1 - Winter Recess - offices closed

January

13 - Spring semester begins

Congratulations to **Asmita Gautam** for successfully passing her Ph.D. Dissertation Defense!

Submitted by Sophia Qu



Agronomy Accolades & Retirements

Thank you to all who had a part in organizing and presenting at the Agronomy Accolades & Retirements event on November 22nd at the Beck Center. These photos are just a small view of what the department had to celebrate for the year 2024!

Agronomy Extension is proud to announce that Dr. Shaun Casteel was recently awarded the Mid-Career PUCESA Award & AGRY PhD Candidate; Ana Morales received the PUCESA Student in Extension Award.

Submitted by Crystal Paris

Purdue's Forage Team is hitting the books to compete in the January '25 American Forage and Grassland Conferences Forage Bowl. Held in Kissimmee, Florida, this year's team includes Andrew Miller, Ava Antic, Camden Calloway & Evan Cohagen. Not Pictured, Dr. Keith Johnson-Coach.

PURDUE UNIVERSITY | Extension

NEWS RELEASE
FOR IMMEDIATE RELEASE

Contact: Emily Evers - Ag & Natural Resources Educator, Purdue Extension – St. Joseph County
574-235-9605 / everse@purdue.edu

Students, Farmers, and Researchers are invited to share work at Indiana Small Farm Conference Poster Session

Danville, Indiana – December 3, 2024 – Students, farmers, and researchers are invited to present at the 13th Annual Small Farm Poster Session at the Indiana Small Farm Conference at the Hendricks County Fairgrounds in Danville, Indiana. The poster session will be held on Tuesday March 4, 2025 from 4:30 p.m. to 6:00 p.m. (EST). Each year a diverse group of presenters share their experiences relevant to local foods, diversified agriculture, or small farm production and education. In exchange for sharing their experiences, poster presenters receive a discount on their conference registration.

The Indiana Small Farm Conference has provided an educational and networking opportunity for the small and diversified farmers of Indiana for the past twelve years. In that time, the number of poster presenters steadily increased.

The poster session chair, Emily Evers explains, "Each year, more and more farmers are presenting posters for the first time. It's important to provide an opportunity for these farmers to share their experiences with each other. The small and diversified farmers in Indiana want more peer-to-peer learning opportunities and the poster session is just one way that the Indiana Small Farm Conference encourages networking."

To encourage and assist new presenters, poster presentation tips and guidelines are provided here https://bit.ly/PUposterguidelines Registration to participate in the poster session is simple; presenters submit their proposal at https://puext.in/SFC2025PosterSession. The deadline for submitting a proposal is January 31, 2025. Applicants will be notified once their proposal has been accepted, and they will receive the $25 discount code for their conference registration. If you're a student who does not have access to funds to cover conference registration, please still contact us about potential poster presentation opportunities.

Please direct any questions about poster session presentations and submissions to Emily Evers, chair of the poster session committee, at 574-235-9605 or everse@purdue.edu

Indiana's 2024 Growing Season Climate Summary is Now Available

By: Austin Pearson

The 2024 growing season in Indiana started with unseasonably warm temperatures, leading to early vegetation dormancy break—late February in the south and mid-March in the central and northern areas. April's wet conditions posed challenges for early planting, but crops sown early benefited from good soil moisture, while later plantings suffered from limited rainfall in June. In early July, remnants of Hurricane Beryl provided much-needed rain, improving conditions briefly. However, drought re-emerged in August and September, with significant impacts across over two-thirds of counties, leading to burn bans and several fires, including a tragic incident resulting in a farmer's death in Clinton County. Despite these difficulties, harvest was mostly complete by late October. The season ended with temperatures 1°F to over 2°F above normal and predominantly drier precipitation patterns, although some northern and eastern areas saw slightly above-normal rainfall. Variability in weather was evident in the monthly and seasonal averages, with Modified Growing Degree Days tracking above average throughout.

[READ FULL SUMMARY]

Indiana's 2024 Growing Season Climate Summary | PURDUE UNIVERSITY | Indiana State Climate Office

Indiana's 2024 Growing Season Climate Summary: April - October

The 2024 growing season in Indiana began with unseasonably warm temperatures, causing vegetation to break dormancy approximately two weeks earlier than normal – in late February for the southern region and mid-March for the central and northern areas. April brought wet conditions, making early planting challenging. Early-planted crops benefited from initial soil moisture, while later-planted crops struggled due to limited rainfall in June. In early July, remnants of Hurricane Beryl provided much-needed rainfall, improving crop conditions. Although drought conditions initially improved, parts of Indiana began drying out in August and September. The remnants of Hurricane Helene brought short-lived relief to southern Indiana, but drought rapidly intensified across the entire state. Over two-thirds of Indiana's 92 counties implemented burn bans due to elevated fire concerns during harvest season. Numerous roadside fires and combine-sparked fires occurred. One such fire tragically resulted in the death of a farmer in Clinton County. Despite these challenges, harvest was fast and mostly complete by the end of October. The 2024 growing season concluded with temperatures ranging from 1°F to over 2°F above normal (Figure 1). Precipitation patterns were predominantly drier than normal, with only isolated areas in the northern and eastern regions experiencing slightly above-normal precipitation. There was a lot of variability throughout the growing season, as indicated by the monthly and seasonal average temperatures and precipitation totals (Figure 2). Modified Growing Degree Days (MGDDs) tracked above average throughout the growing season (Figure 3).

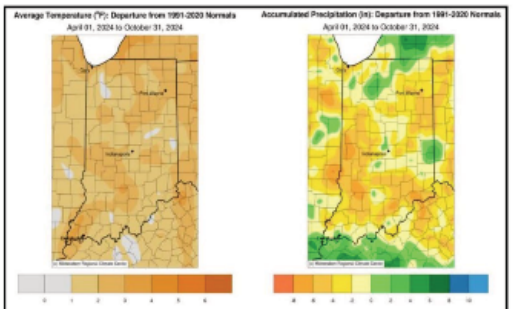


Figure 1: (Left) Average temperature departures for the 2024 growing season. (Right) April-October 2024 precipitation accumulation represented as the departure from the 1991-2020 normal. Obtained from the Midwestern Regional Climate Center.

Division	Avg Temperature (Departure from 1991-2020)							
	Apr	May	Jun	Jul	Aug	Sep	Oct	Apr-Oct
1	51.8 (2.2)	64.6 (3.9)	72.1 (2.0)	71.4 (-1.8)	71.4 (0.1)	67.2 (2.4)	56.8 (3.7)	65.0 (1.8)
2	51.8 (2.3)	64.7 (4.2)	72.2 (2.3)	71.6 (-1.3)	71.6 (0.5)	67.1 (2.6)	56.1 (3.2)	65.0 (2.0)
3	52.2 (2.8)	64.6 (4.3)	71.9 (2.3)	71.6 (-1.2)	71.5 (0.6)	67.4 (3.1)	56.1 (3.4)	65.0 (2.2)
4	54.4 (2.2)	66.8 (4.0)	72.9 (1.4)	72.8 (-1.4)	73.1 (0.5)	68.2 (2.1)	57.8 (3.3)	66.6 (1.7)
5	54.9 (2.9)	67.0 (4.7)	72.6 (1.6)	72.9 (-1.0)	73.0 (0.7)	68.0 (2.2)	57.6 (3.3)	66.6 (2.1)
6	54.1 (2.8)	66.0 (4.4)	71.7 (1.3)	71.9 (-1.4)	72.1 (0.5)	67.2 (2.1)	56.5 (2.7)	65.6 (1.8)
7	58.4 (3.0)	69.0 (3.8)	74.8 (1.1)	76.0 (-0.7)	75.4 (0.2)	70.7 (2.2)	60.1 (3.1)	69.2 (1.8)
8	57.1 (2.6)	67.9 (3.8)	72.9 (0.6)	74.8 (-0.7)	74.3 (0.2)	69.5 (2.1)	58.7 (2.7)	67.9 (1.6)
9	57.5 (3.2)	67.9 (4.1)	73.3 (1.4)	75.1 (-0.7)	74.6 (0.6)	70.0 (2.7)	58.6 (2.8)	68.1 (2.1)
State	54.8 (2.7)	66.6 (4.1)	72.8 (1.6)	73.2 (-1.1)	73.1 (0.5)	68.4 (2.4)	57.7 (3.2)	66.7 (1.9)

Division	Total Precipitation (Departure from 1991-2020)							
	Apr	May	Jun	Jul	Aug	Sep	Oct	Apr-Oct
1	6.72 (2.98)	3.77 (-0.55)	3.71 (-1.04)	6.05 (1.70)	3.42 (-0.65)	1.81 (-1.45)	0.94 (-2.42)	26.42 (-1.43)
2	6.68 (2.92)	4.44 (0.13)	3.99 (-0.58)	5.54 (1.30)	2.39 (-1.61)	2.02 (-1.21)	0.45 (-2.78)	25.51 (-1.83)
3	6.44 (2.69)	4.19 (-0.22)	3.20 (-1.04)	3.92 (-0.09)	2.26 (-1.58)	1.88 (-1.21)	0.49 (-2.50)	22.38 (-3.95)
4	6.96 (2.49)	4.11 (-0.51)	2.50 (-2.56)	5.36 (0.94)	2.58 (-0.76)	2.20 (-0.97)	0.18 (-3.26)	23.89 (-4.63)
5	7.22 (2.84)	5.19 (0.43)	3.07 (-1.97)	4.95 (0.62)	2.97 (-0.54)	2.64 (-0.60)	0.22 (-3.06)	26.26 (-2.28)
6	7.58 (3.38)	3.33 (-1.27)	3.03 (-1.83)	4.36 (0.14)	2.69 (-0.85)	3.28 (0.16)	0.22 (-2.86)	24.49 (-3.13)
7	6.46 (1.38)	5.74 (0.42)	1.92 (-2.86)	5.24 (0.90)	1.78 (-1.41)	4.93 (1.37)	0.19 (-3.36)	26.26 (-3.56)
8	6.27 (1.13)	6.20 (0.85)	1.85 (-2.98)	5.55 (1.25)	2.72 (-0.72)	5.16 (1.61)	0.12 (-3.39)	27.87 (-2.25)
9	5.35 (0.47)	5.18 (-0.04)	1.90 (-3.01)	5.23 (0.86)	3.19 (-0.41)	5.34 (2.04)	0.24 (-3.17)	26.43 (-3.26)
State	6.67 (2.28)	4.77 (-0.01)	2.81 (-1.99)	5.17 (0.88)	2.65 (-0.95)	3.19 (-0.10)	0.34 (-2.99)	25.60 (-2.88)

Figure 2: (Top) average monthly and growing season (April-October) temperatures in degrees Fahrenheit, categorized by Indiana Climate Division. It also includes the monthly temperature departures (in parentheses) from the 1991-2020 climatological average. (Bottom) monthly and growing season precipitation totals in inches, similarly broken down by Indiana Climate Division. This section also provides the monthly precipitation departures from the 1991-2020 climatological average.

Share Your News!

Email your news, photos, and articles to Stephanie Orem at sorem@purdue.edu to be shared in the next issue of Inside Agronomy!

SPRING 2025

ADVANCED AGROECOLOGY

AGRY598

WITH

DR. YICHAO RUI

This course offers an in-depth exploration of agroecological principles, practices, and cutting-edge research. Building on a foundational understanding of agriculture and ecology, it will discuss theoretical insights, current issues, and forward-looking solutions for designing resilient and sustainable farming systems that address the pressing challenges faced by human societies.

Critical Thinking Workshops

Farm Visits

Invited Expert Lectures

PURDUE CULTIVATE PRODUCE SUSTAIN
AGRONOMY
SOIL PLANTS WATER

3 CREDIT HOUR

Tues & Thurs
12:00-1:15 PM

ENROLL TODAY!

SPRING 2025

Geospatial Informatics

Learn cutting-edge tools in GIS, Remote Sensing, and Digital Soil Mapping

Course #: AGRY 59800GI (3 credit hour) | **CRN #:** Lecture - 29998 / Lab - 29999

Lecture: TR 1:30-2:20pm, LILY G428 | **Lab:** R 2:30-4:20pm, LILY G428

Course Overview

This course delves into advanced topics in geospatial science, focusing on practical applications in soil, agriculture, and natural resource management. Students will learn state-of-the-art techniques in geographic information systems (GIS), remote sensing, and spatial modeling. The course aims to equip students with specialized skills relevant to sustainable soil management, precision agriculture, and environmental sustainability.

Topics Covered

- Emerging Remote Sensing Techniques
- Digital Elevation Model, Global Positioning System, Geodatabase
- Digital Soil Mapping
- Precision Agriculture and Site-Specific Management
- GIS-Based Decision Support System
- R, ESRI ArcGIS Pro, and ArcPy

Prerequisite: Any GIS and/or Remote Sensing course (e.g. FNR 210, ILS 250, ASM 540) **OR** relevant work experiences. Contact the instructor for further information.

Instructor: Dr. Sidd Paul, Assistant Professor of Geospatial Science (sspaul@purdue.edu)

PURDUE UNIVERSITY | Agronomy

SPRING 2025

FUNDAMENTALS OF CROP MODELING

AGRY 598
CRN: 30396
Credits: 3

THEORY AND APPLICATIONS

DR. PRATISHTHA POUDEL

ASSISTANT PROFESSOR
AGROECOSYSTEMS MODELING

Learn the theory and applications of crop models including:
- Basic concepts behind crop models
- How to build a simple crop model
- Setting up and using existing crop models such as DSSAT or APSIM
- Calibration and parameter estimation
- Sensitivity analysis
- Making inferences from crop model results

No pre-requisites; Basic knowledge of plant growth and development, and R programming language are expected.

SEND ANY INQUIRIES TO PPOUDEL@PURDUE.EDU

COURSE WEBSITE: COMING SOON!

PURDUE UNIVERSITY | Agronomy