

HORT INDIANA CONFERENCE & EXPO

January 14-15, 2025

Hendricks County Fairgrounds, Danville, IN

2025



PURDUE
UNIVERSITY®

Horticulture and Landscape Architecture

www.IndianaHortConference.org





HORT INDIANA CONFERENCE & EXPO

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WELCOME

HORT INDIANA CONFERENCE & EXPO

Welcome to the 2025 Indiana Hort Conference and Expo!

We welcome you back to the Hendricks County Fairgrounds in Danville, IN for this year's event. This year's conference features two jam-packed days. In addition to the traditional tracks, we are excited to reintroduce a High Tunnel track this year, and we encourage you to join a presentation in that track to hear about the great high tunnel work being done by Purdue, The Ohio State and the USDA-NRCS.

One of our favorite things about this event is the networking opportunities. We have a great line-up of vendors and poster session presenters, so be sure to stop by the North Hall and Main Entryway, respectively, during coffee breaks and lunch to mingle with old friends or meet someone new. As always, the highly anticipated Cider Contest will be held on Wednesday, and we will need your help to decide this year's winner! Don't forget to join us at the end of each day for PARP recertification opportunities.

Please take a moment to take the survey that will be emailed out after the event. We value your feedback and hope to improve the event each year. Suggestions can also be emailed to: inhortconference@purdue.edu.

Lastly, thank you to those who support the conference through financial and in-kind contributions. See this year's sponsors throughout the printed program. Thank you to the education session track leaders and presenters for sharing their time and knowledge. Finally, we thank each and every attendee for joining us. This event would not be possible without you!

Sincerely,

Stephen Meyers, Miranda Purcell,
and Nathan Deppe
*Indiana Horticultural
Conference & Expo Co-Chairs
Purdue University
Department of Horticulture &
Landscape Architecture*

Matt Chandler
Indiana Hort Society President

and

John Young
*Indiana Vegetable Growers Association
President*

2025 SPONSORS



Agricultural Alumni Association



Extension - Safe Produce Indiana



CONFERENCE DETAILS

REGISTRATION

January 14 & 15 / 8:00 am – 5:00 pm / North Lobby

Please stop by the registration desk to sign in and pick up your name badge and publications. Name badges must be worn to all sessions.

EXPO

January 14 & 15 / 9:00 am – 4:00 pm / North Hall

The Expo features a wide range of exhibitors including vendors of seed, agricultural supplies, and farm services. We encourage you to visit the exhibits.

CIDER CONTEST

Wednesday, January 15 / 12:00 – 1:00 pm / North Hall

Our favorite Indiana cider makers will be bringing their cider to the 2025 Indiana Horticultural Conference & Expo for our traditional cider contest on Wednesday, January 15th.

Ciders will be judged to determine the best cider produced by Indiana cider makers. Submit two 1 gallon jugs of cider to the Indiana Horticultural Conference registration desk personnel when you arrive at the Hendricks County Fairgrounds, 1900 E Main St, Danville, IN 46122.

QUESTIONS

Phone: (765) 494-1296

Fax: (765) 494-0391

inhortconference@purdue.edu

www.indianahortconference.org



CONFERENCE DETAILS

CREDITS

Certified Crop Advisor (CCA), Private Pesticide Applicator (PARP), and Commercial Pesticide Applicator (CCH) credits are available at this conference. Those seeking CCH should secure a Continuing Certification Record page in their first educational track. Those seeking CCA Continuing Education Units (CEUs) should sign the CCA-CEU sign-in sheet or scan the QR code located in each track. For more information about PARP requirements, see page 32.

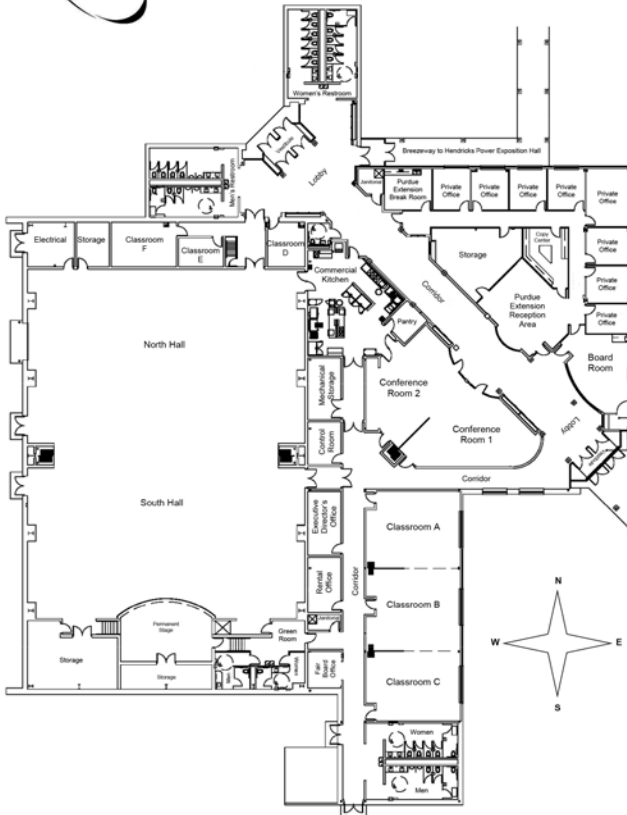
MEET THE PARTNERS

The annual IHC is sponsored by the Purdue University Departments of Horticulture and Landscape Architecture, Entomology, Botany and Plant Pathology, Food Science, Agriculture Economics, and Purdue Extension.

Affiliated Organizations:

- Indiana Farm Market Association
- Indiana Horticultural Society
- Indiana Hydroponics Growers Association
- Indiana Vegetable Growers Association
- Red Gold
- Safe Produce IN, Purdue Extension

CONFERENCE MAP



TUESDAY, JANUARY 14, 2025

Today's Highlights

REGISTRATION & LIGHT BREAKFAST (North Hall)

8:00 am - 9:00 am

POSTER SET UP (Main Entry Corridor)

8:00 am - 9:00 am

EXPO TRADE SHOW (North Hall)

9:00 am - 4:00 pm

POSTER SESSION (Main Entry) & COFFEE BREAK (North Hall)

2:30 pm - 3:00 pm

PARP RECERTIFICATION: 2025 Regulatory Update (South Hall)

4:00 pm - 4:30 pm

2025 Regulatory Update includes: 2023-2024 Legislative Changes; Storage & Containment of Bulk Pesticides; Direct Supervision of Noncertified Applicators Using RUPs; Drones; Clean Sweep.

Tuesday, January 14, 2025

Schedule at-a-glance

P = PARP Recertification Credits

January 14	RAW PRODUCTS (Red Gold) <i>South Hall</i>	FRESH VEGETABLES <i>Classroom C</i>
8:00-9:00	Registration & Light Breakfast (North Hall)	
9:00-9:30	Tomato Industry Update	Connecting with Research Projects
9:30-10:00		What's New in Vegetable Diseases?
10:00-10:30	IT Security Updates	Scotch Bonnet Production: Bringing Spiciness to the Midwest
10:30-11:00	Coffee Break and Refreshments (North Hall)	
11:00-11:30	Generation Transfer: Roadmapping Your Succession and Adding Another Member to the Farm Business	Weed Management Updates for Vegetable Farms P
11:30-12:00		Insectary Strips and Beneficial Insects P
12:00-1:00	Lunch Break (North Hall)	
1:00-1:30	How Recent Changes in Government May Impact the Agriculture Sector	Cover Cropping for Soil Health P
1:30-2:00		
2:00-2:30	Private & Public Funding Programs for Conservation Ag Practices	Two System Approach to Soil Health & Nutrient Mgmt in Pepper Production
2:30-3:00	Coffee Break (North Hall) and Poster Session (Main Entry)	
3:00-3:30	Weed Control Tips for 2025 P	Future Climate-Related Challenges for Vegetable Production in Indiana, a Panel Discussion with Specialists
3:30-4:00		
4:00-4:30	PARP Recertification: 2025 Regulatory Update (South Hall)	

EXPO TRADE SHOW OPEN TODAY

9:00 am - 4:00 pm

BUSINESS & MARKETING <i>Classroom A</i>	FOOD SAFETY <i>Conference Rooms 1 & 2</i>	EXPO TRADE SHOW <i>North Hall</i>
Registration & Light Breakfast (North Hall)		
Virtual Reality Farm Tour <i>(Classroom B)</i>	Ag Water Produce Safety Rule	9:00 am to 4:00 pm
	IDH Update on Food Safety Produce	
From Field to Fork: What Your Buyers Really Want	ISDA Food Safety Produce	
Coffee Break and Refreshments (North Hall)		
Can Beneficial Insects Pay Their Way? A Cost-Benefit Analysis for High Tunnel Spinach	Food Traceability Rule	
Lunch Break (North Hall)		
Market Readiness	Safe Produce Indiana Updates	
	Home-based Vendors	
Growing Markets: The Role of Food Hubs	Agriculture Innovation Center - Program Offering	
	Coffee Break (North Hall) and Poster Session (Main Entry)	
Virtual Reality Farm Tour <i>(Classroom B)</i>	Hydroponic Lettuce & Herbs Value-added Products	
	Food Safety: Diversifying Orchard	
PARP Recertification: 2025 Regulatory Update (South Hall)		

Tuesday, January 14, 2025

Trade Show Hours: 9:00 am – 4:00 pm

RAW PRODUCTS (RED GOLD) / South Hall	
8:00 am – 9:00 am	Registration and Light Breakfast
9:00 am – 10:00 am	Tomato Industry Update <i>A. J. Anderson, Red Gold</i>
10:00 am – 10:30 am	IT Security Updates <i>Brian White, Red Gold, Inc. and Dave Dungan, Anderson University</i>
10:30 am – 11:00 am	Coffee Break and Refreshments (North Hall)
11:00 am – 12:00 am	Generation Transfer: Roadmapping Your Succession and Adding Another Member to the Farm Business <i>Renee Wiatt, Purdue University</i>
12:00 pm – 1:00 pm	Lunch, provided (North Hall)
1:00 pm – 2:00 pm	How Recent Changes in Government May Impact the Agriculture Sector <i>Denise Bode, Constitution Partners</i>
2:00 pm – 2:30 pm	Overview of Private and Public Funding Programs for Conservation Ag Practices <i>Caleb Smith, Keystone Cooperative, Inc.</i>
2:30 pm – 3:00 pm	Coffee Break (North Hall) & Poster Session (Main Entry)
3:00 pm – 4:00 pm	Weed Control Tips for 2025 P <i>Jeff Nagel, Keystone Cooperative, Inc.</i>
4:00 pm – 4:30 pm	PARP Recertification: 2025 Regulatory Update (South Hall)

Tuesday, January 14, 2025

Trade Show Hours: 9:00 am – 4:00 pm

FRESH VEGETABLES / Classroom C	
8:00 am – 9:00 am	Registration and Light Breakfast
9:00 am – 9:30 am	Connecting with Research Projects <i>This section highlights ongoing research initiatives that seek farmer collaboration and input. Topics include innovative cellulose-based biomulches for vegetable farming (Petrus Langenhoven), enhanced understanding of tomato spot diseases (César Escalante), strawberry production on small farms (Wenjing Guan), and an insect monitoring networks (Laura Ingwell).</i>
9:30 am – 10:00 am	What's New in Vegetable Diseases? <i>Meet our new plant pathologist, César Escalante, Purdue University</i>
10:00 am – 10:30 am	Scotch Bonnet Production: Bringing Spiciness to the Midwest <i>Petrus Langenhoven, Purdue University</i>
10:30 am – 11:00 am	Coffee Break and Refreshments (North Hall)
11:00 am – 11:30 am	Weed Management Updates for Vegetable Farms P <i>Stephen Meyers, Purdue University</i>
11:30 am – 12:00 pm	Insectary Strips and Beneficial Insects P <i>Laura Ingwell, Purdue University</i>
12:00 pm – 1:00 pm	Lunch, provided (North Hall)
1:00 pm – 2:00 pm	Cover Cropping for Soil Health P <i>Eileen Klavivko Purdue University</i>
2:00 pm – 2:30 pm	A Two System Approach to Soil Health and Nutrient Management in Pepper Production <i>Petrus Langenhoven and Nathan Shoaf, Purdue University</i>
2:30 pm – 3:00 pm	Coffee Break (North Hall) & Poster Session (Main Entry)
3:00 pm – 4:00 pm	Future Climate-Related Challenges for Vegetable Production in Indiana: Panel Discussion with Specialists <i>Laura Ingwell, Stephen Meyers, César Escalante, Liz Maynard, Wenjing Guan, Petrus Langenhoven, Purdue University</i>
4:00 pm – 4:30 pm	PARP Recertification: 2025 Regulatory Update (South Hall)

Tuesday, January 14, 2025

Trade Show Hours: 9:00 am – 4:00 pm

BUSINESS AND MARKETING / Classroom A

8:00 am – 9:00 am	Registration and Light Breakfast
10:00 am – 10:30 am	From Field to Fork: What Your Buyers Really Want <i>Ariana Torres, Purdue University</i>
10:30 am – 11:00 am	Coffee Break and Refreshments (North Hall)
11:00 am – 12:00 pm	Can Beneficial Insects Pay Their Way? A Cost-Benefit Analysis for High Tunnel Spinach <i>Jean Pierre Zavala, Torres Lab, Purdue University</i>
12:00 pm – 1:00 pm	Lunch, provided (North Hall)
1:00 pm – 2:00 pm	Market Readiness <i>Tim Woods, University of Kentucky</i>
2:00 pm – 3:00 pm	Growing Markets: The Role of Food Hubs in Expanding Reach for Local Produce <i>Moderator: Sarah Hanson, Purdue University</i> <i>Panelists: Dan Brunner, Market Wagon; Virginia Pleasant or Anne Massie, Region Roots; Mary and Roger Winstead, Local Source</i>
2:30 pm – 3:00 pm	Coffee Break (North Hall) & Poster Session (Main Entry)
4:00 pm – 4:30 pm	PARP Recertification: 2025 Regulatory Update (South Hall)

VIRTUAL REALITY / Classroom B

9:00 am – 10:30 am	Virtual Reality Farm Tour <i>Yaohua "Betty" Feng, Purdue University</i>
3:00 pm – 4:00 pm	Virtual Reality Farm Tour <i>Yaohua "Betty" Feng, Purdue University</i>
4:00 pm – 4:30 pm	PARP Recertification: 2025 Regulatory Update (South Hall)

Tuesday, January 14, 2025

Trade Show Hours: 9:00 am – 4:00 pm

FOOD SAFETY / Conference Rooms 1 & 2

8:00 am – 9:00 am	Registration and Light Breakfast
9:00 am – 9:45 am	Ag Water Produce Safety Rule <i>Scott Monroe, Purdue University</i>
9:45 am – 10:00 am	IDH Update on Food Safety Produce <i>Indiana Department of Health</i>
10:00 am – 10:30 am	ISDA Food Safety Produce <i>Don Lamb, Indiana State Department of Agriculture</i>
10:30 am – 11:00 am	Coffee Break and Refreshments (North Hall)
11:00 am – 12:00 pm	Food Traceability Rule <i>Angela Fields, Food and Drug Administration</i>
12:00 pm – 1:00 pm	Lunch, provided (North Hall)
1:00 pm – 1:30 pm	Safe Produce Indiana Updates <i>Amanda Deering, Purdue University</i>
1:30 pm – 2:00 pm	Home Based Vendor <i>Tari Gary, Purdue University</i>
2:00 pm – 2:30 pm	Agriculture Innovation Center - Program Offering <i>Madison Mehringer, FEMI</i>
2:30 pm – 3:00 pm	Coffee Break (North Hall) & Poster Session (Main Entry)
3:00 pm – 3:30 pm	Hydroponic Lettuce and Herbs Value-Added Products <i>Brenda Hash, Morning Harvest Produce</i>
3:30 pm – 4:00 pm	Food Safety: Diversifying Orchard <i>Perry Kirkham, Wea Creek Orchard</i>
4:00 pm – 4:30 pm	PARP Recertification: 2025 Regulatory Update (South Hall)

Tuesday, January 14, 2025

Trade Show Hours: 9:00 am – 4:00 pm

POSTER SESSION

2:30 – 3:00 pm / Main Entry Corridor

Advancing agricultural resilience through Purdue applied research and Extension

Pin-Hsueh Lee

The role of weeds as a non-crop habitat for aphid pests in high tunnel systems

Isabela Arias, Samantha Willden, Laura L. Ingwell

Portable handwash stations for fruit and vegetable growers

Doriane Hans Mawouena Sossou

Tomato pinworm (*Keiferia lycopersicella*) distribution and plant damage over time in Indiana high tunnels; an observational study.

Sydney Territo, Laura Ingwell

Aphid parasitoids communities in high tunnels,

Laura Ingwell

A survey of entomopathogenic nematodes in Indiana specialty crops soils

Skarleth Chinchilla, Laura Ingwell

High tunnels and high temps; temperature differences in high tunnels and implications for IPM

McCarter, Marlo McCarter, Samantha Willden, Kacie Athey, Anna Wallingford, Laura Ingwell

Pulse width modulation conserves energy in controlled environment agriculture

Hanna Dykema, Sangrak Son, Victor Zaderej, Krishna Nemali

Increasing the yield of organically-grown lettuce in hydroponic production

Sangrak Son, Krishna Nemali

Mapping a farm data lifecycle: Lessons from the Purdue Student Farm 2024 CSA program

Thirawat Bureetes, Ankita Raturi, Christopher Adair, Nellie Walthery*

**corresponding author*

WEDNESDAY, JANUARY 15, 2025

Today's Highlights

REGISTRATION & LIGHT BREAKFAST

8:00 am – 9:00 am

EXPO TRADE SHOW (North Hall)

9:00 am – 4:00 pm

CIDER CONTEST (North Hall)

12:00 pm – 1:00 pm

PARP RECERTIFICATION: 2025 Regulatory Update (South Hall)

4:00 pm – 4:30 pm

2025 Regulatory Update includes: 2023-2024 Legislative Changes; Storage & Containment of Bulk Pesticides; Direct Supervision of Noncertified Applicators Using RUPs; Drones; Clean Sweep.

POST CONFERENCE

Your experience and feedback concerning the 2025 IHC conference is important to us!

Please watch your email in the coming days for a brief online survey to help us improve future conferences.

Your participation is voluntary and confidential.

Wednesday, January 15, 2025

Schedule at-a-glance

EXPO TRADE SHOW OPEN TODAY

9:00 am - 4:00 pm

P = PARP Recertification Credits

January 15	TREE FRUIT (South Hall)	SMALL FRUIT (Classrooms B & C)
8:00-9:00	Registration and Light Breakfast	
9:00-9:30	How to Assemble & Place Fruit Insect Monitoring Traps in the Orchard P	
9:30-10:00	Threats Posed by the Invasive Spotted Lanternfly to Specialty Crops P	
10:00-10:30	Products & Techniques to Improve Efficiency of Irrigation on Specialty Crops	
10:30-11:00	Coffee Break and Refreshments (North Hall)	
11:00-11:30	Herbicide Application Technologies P	
11:30-12:00	Endangered Species Act Update P	
12:00-1:00	Lunch Break & Cider Contest (North Hall)	
1:00-1:30	Retooling IPM Programs for the Changing Pest Status of Plum Curculio P	Intro to Growing Grapes
1:30-2:00	Apple Rootstock Update	New Threats to Strawberry Crops: Understand/Manage Neoepistalotiopsis P
2:00-2:30	Trellising and High Density Production Systems	Managing Spotted Wing Drosophila in Small Fruit P
2:30-3:00	Coffee Break and Refreshments (North Hall)	
3:00-3:30	Round Table Discussion: Heirloom and Hard-to-find Varieties	Produce Drying Interactive Learning Session
3:30-4:00		
4:00-4:30	PARP Recertification: 2025 Regulatory Update (South Hall)	

WEDNESDAY EDUCATION

HIGH TUNNEL (Classroom A)	CONTROLLED ENVIRONMENT AG (Conference Rooms 1 & 2)	TRADE SHOW (North Hall)	
Registration and Light Breakfast			
Addressing Plant Parasitic Nematodes Challenges	Vertical Indoor Propagation	9:00 am to 4:00 pm	
Insect Management in High Tunnels P	Organic Crop Production in Greenhouses		
Disease Management in High Tunnels P	Break		
Coffee Break & Refreshments	Greenhouse Hydroponics: An Industry Perspective		
High Tunnel Tomato Irrigation Management	Greenhouse Strawberry Production		
NCRS and High Tunnels			
Lunch Break & Cider Contest (North Hall)			
Pollination in High Tunnel Crops			
Maintaining Soil Health in High Tunnels			
2:30 - 2:45 pm Coffee Break and Refreshments (North Hall)			
Companion Plants: What are They and What Do They Provide?			
Managing Environment for Strawberry & Greens over Winter			
PARP Recertification: 2025 Regulatory Update (South Hall)			

WEDNESDAY EDUCATION

Wednesday, January 15, 2025

Trade Show Hours: 9:00 am – 4:00 pm

WEDNESDAY EDUCATION

TREE FRUIT / South Hall	
8:00 am – 9:00 am	Registration and Light Breakfast
9:00 am – 9:30 am	How to Assemble and Place Fruit Insect Monitoring Traps in the Orchard P <i>Elizabeth Long, Purdue University</i>
9:30 am – 10:00 am	Defining the Threat Posed by the Invasive Spotted Lanternfly to Specialty Crops and Tools for Their Monitoring and Management P <i>Tracy Leskey, USDA West Virginia</i>
10:00 am – 10:30 am	Products & Techniques to Improve the Efficiency of Irrigation on Specialty Crops <i>Mark Torkelson, Indiana Irrigation Co., Inc.</i>
10:30 am – 11:00 am	Coffee Break and Refreshments (North Hall)
11:00 am – 11:30 pm	Herbicide Application Technologies P <i>Stephen Meyers, Purdue University</i>
11:30 am – 12:00 pm	Endangered Species Act Update P <i>Aaron Kreider, OISC</i>
12:00 pm – 1:00 pm	Lunch and Cider Contest (North Hall)
1:00 pm – 1:30 pm	Retooling IPM Programs to Accommodate the Changing Pest Status of Plum Curculio P <i>Tracy Leskey, USDA West Virginia</i>
1:30 pm – 2:00 pm	Apple Rootstock Update <i>Peter Hirst, Purdue University</i>
2:00 pm – 2:30 pm	Trellising and High Density Production Systems <i>Peter Hirst, Purdue University</i>
2:30 pm – 3:00 pm	Coffee Break and Refreshments (North Hall)
3:00 pm – 4:00 pm	Round Table Discussion: Heirloom and Hard-to-find Varieties <i>Peter Hirst, Purdue University</i>
4:00 pm – 4:30 pm	PARP Recertification: 2025 Regulatory Update (South Hall)

EXCLUSIVE FREE SUBSCRIPTION OFFER




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Wednesday, January 15, 2025

Trade Show Hours: 9:00 am – 4:00 pm

SMALL FRUIT / Classrooms B & C

1:00 pm – 1:30 pm	Intro to Growing Grapes <i>Miranda Purcell, Purdue University</i>
1:30 pm – 2:00 pm	New Threats to Strawberry Crops: Understanding and Managing Neopestalotiopsis P <i>César Escalante, Purdue University</i>
2:00 pm – 2:30 pm	Managing Spotted Wing Drosophila in Small Fruit P <i>Elizabeth Long, Purdue University</i>
2:30 pm – 3:00 pm	Coffee Break and Refreshments (North Hall)
3:00 pm – 3:30 pm	Produce Drying Interactive Learning Session <i>Yaohua "Betty" Feng, Purdue University</i>
4:00 pm – 4:30 pm	PARP Recertification: 2025 Regulatory Update (South Hall)

Wednesday, January 15, 2025

Trade Show Hours: 8:00 am – 4:00 pm

HIGH TUNNEL / Classroom A

8:00 am – 9:00 am	Registration and Light Breakfast
9:00 am – 9:30 am	Addressing Plant Parasitic Nematodes Challenges in High Tunnels <i>Wenjing Guan and Lei Zhang, Purdue University</i>
9:30 am – 10:00 am	Insect Management in High Tunnels P <i>Laura Ingwell, Purdue University</i>
10:00 am – 10:30 am	Disease Management in High Tunnels P <i>César Escalante, Purdue University</i>
10:30 am – 11:00 am	Coffee Break and Refreshments (North Hall)
11:00 am – 11:30 am	High Tunnel Tomato Irrigation Management: Enhancing Efficiency with Soil Moisture Sensors <i>Wenjing Guan and Liz Maynard, Purdue University</i>
11:30 am – 12:00 pm	NCRS and High Tunnels <i>Cara Bergschneider, USDA-NRCS</i>
12:00 pm – 1:00 pm	Lunch and Cider Contest (North Hall)
1:00 pm – 1:30 pm	Pollination in High Tunnel Crops <i>Robert Grosdidier, Purdue University</i>
1:30 pm – 2:30 pm	Maintaining Soil Health in High Tunnels <i>Matt Kleinhenz, The Ohio State University</i>
2:30 pm – 3:00 pm	Coffee Break and Refreshments (North Hall)
3:00 pm – 3:30 pm	Companion Plants: What Are They and What Do They Provide? <i>Allison Zablah, Purdue University</i>
3:30 pm – 4:00 pm	Managing Environment for Strawberry and Greens over Winter <i>Liz Maynard and Wenjing Guan, Purdue University</i>
4:00 pm – 4:30 pm	PARP Recertification: 2025 Regulatory Update (South Hall)

Wednesday, January 15, 2025

Trade Show Hours: 8:00 am – 4:00 pm

CONTROLLED ENVIRONMENT AGRICULTURE / Conference Rooms 1 & 2

8:00 am – 8:30 am	Registration and Light Breakfast
8:30 am – 9:15 am	Vertical Indoor Propagation <i>Celina Gómez, Purdue University</i>
9:15 am – 10:00 am	Organic Crop Production in Greenhouses <i>Krishna Nemali, Purdue University</i>
10:00 am – 10:15 am	Coffee Break and Refreshments (North Hall)
10:15 am – 11:00 am	Greenhouse Hydroponics: An Industry Perspective <i>Joe McGuire, CEO, Pure Green Farms</i>
11:00 am – 11:45 am	Greenhouse Strawberry Production <i>Krishna Nemali, Purdue University</i>
12:00 pm – 1:00 pm	Lunch and Cider Tasting (North Hall)
4:00 pm – 4:30 pm	PARP Recertification: 2025 Regulatory Update (South Hall)

WEDNESDAY EDUCATION

AGRICULTURE INNOVATION CENTER:

VALUE-ADDED FOOD PRODUCTS PROGRAM

Program Overview:

Phase 1 - Online Course Learning

Six self-paced food industry and business development online courses.

* Accommodations are available for those who cannot complete courses online.

Phase 2 - Food Product Life Cycle Workshop

Covering topics including ideation, production and business planning.

Phase 3 - Product Formulation and Development

Work with the AIC team to solve your product and/or business challenges.

Summary of Eligibility:

Must live in Indiana and create a product fit for human consumption, not containing controlled substances, with at least 51% of the ingredients being self grown/raised.



Food Entrepreneurship and
Manufacturing Institute

E/FOU

Nelson Hall / 745 Agriculture Mall Dr., Rm. 1257 / W. Lafayette, IN 47907

SPEAKERS

Denise Bode, Constitutional Partners, LLC

Denise focuses her practice on food and agriculture, energy, environment, tax and trade policy advice and counsel, particularly coalition management and development and implementation of public policy strategies, at the state and federal level. Denise brings over four decades of experience crafting, implementing, and advocating for policy and regulatory proposals at every level of government. Her close connections to policymakers and decision-makers is the result of an extensive career advocating for best practices for both the public and private sector.

Amanda Deering, Purdue University

Amanda's research focuses on examining internalization of human pathogenic bacteria in plants, as well as routes of contamination that can contribute to plants harboring pathogenic bacteria. Amanda works closely with industry to develop and test novel sanitization treatments that can be used for fresh produce. She leads the Purdue SafeProduceIN team that works in Indiana to deliver Good Agricultural Practices (GAPs) and Good Manufacturing Practices (GMPs) trainings for growers/producers, coordinating training for county and campus staff in GAPs and related food safety needs, and developing resources that address the real-time needs of growers in Indiana. Amanda also oversees the ServSafe program at Purdue.

David Dungan, Anderson University

David is Executive Director of the Center for Security Studies & Cyber Defense (CSSCD) at Anderson University. David came to this role with more than 25 years of experience in law enforcement and most recently served as a public and private sector liaison at the Indiana Intelligence Fusion Center. The CSSCD is a manifestation of our cybersecurity, national security, and computer science programs. The center is aimed to develop a pipeline of graduates with excellent technical skills, strong Christian ethics, and a desire to serve on the front lines in defending the nation, our communities, and institutions from threats, foreign and domestic, in both the physical and cyber realms.

César Escalante

César joined the Purdue Department of Botany and Plant Pathology July 1, 2024 as a vegetable pathologist at the Southwest-Purdue Ag Center in Vincennes, IN. As part of his extension program, he plans to establish a fruitful interaction with large- and small-scale vegetable farmers of the state to support the identification of plant pathogens and management of problems related to plant health.

Yaohua "Betty" Feng, Purdue University

Betty is an Associate Professor and Extension Specialist at Purdue University, dedicated to reducing foodborne illness and enhancing food safety through effective risk assessment, messaging, and communication. Her research program employs a socioecological approach to explore cultural, social, and environmental factors that influence food safety behaviors. By identifying barriers to understanding food safety issues and evaluating strategies to empower stakeholders, Dr. Feng aims to promote science-based decision-making across the food supply chain. Her work improves food safety compliance from farm to fork.

SPEAKERS

SPEAKERS (CONTINUED)

Tari Gary, Purdue University

Tari is the Extension Administrator in the Food Science Department at Purdue University. In this position, Tari assists with the Safe Produce IN program, ServSafe, and home-based vendor education by providing food safety programming and technical assistance, curating resources, and providing administrative support. Tari began working with the Safe Produce IN program in 2019 as the Food Safety Outreach Coordinator at ISDA, where she led outreach and promotional efforts for the program.

Robert Grosdidier, Purdue University

Robert is a Ph.D. student interested in insect ecology. He is originally from Kansas and received his Bachelors of Science from Kansas State University. He earned his Master's degree in Entomology from the University of Florida. There, he studied insect functional traits and explored the role of these traits in governing community assembly processes. Robert's current research will be focused on understanding the ecology of insect pollinators and pests in high tunnel growing systems.

Wenjing Guan, Purdue University

Wenjing is a horticultural specialist at Purdue University. She conducts applied research in commercial vegetable production, focusing on watermelon, cantaloupe, as well as season extension of diverse vegetables using different plastic cultural systems. Her specialty is vegetable grafting, a technique used on tomato, cucumber, watermelon and cantaloupe for improving crops' tolerance to abiotic and biotic stresses. She leads annual watermelon and cantaloupe variety trials at Southwest Indiana. Wenjing serves as the editor of the Purdue Extension Publication Vegetable Crops Hotline Newsletter.

Peter Hirst, Purdue University

Peter is a professor of horticulture at Purdue University. In his 40 year career he has conducted research on many aspects of apple tree management and physiology including fruit development, pollination, rootstock evaluation, pruning strategies and automation. He is also assistant dean and associate director of international programs in the College of Agriculture and works to extend Purdue's footprint around the world.

Laura Ingwell, Purdue University

Laura is an Assistant Professor in the Department of Entomology at Purdue University. Her primary role is an Extension Specialist of Pest Management in Horticultural Crops. Dr. Ingwell's research focuses on watermelon, sweet corn, and pest management on specialty crops grown in protected environments.

Perry Kirkman, Wea Creek Orchard

Perry received his BS from Purdue in Biology/Chemistry Education. After 5 years as a teacher he returned to school to get his Ph.D. in immunology at the University of Alabama at Birmingham. After research positions at various places around the world, he returned to Lafayette in 2007 to work at Purdue. With his wife and three daughters, Perry moved onto his family farm in rural Lafayette where his brother, father, and himself planted the beginnings of what was to become Wea Creek Orchard.

SPEAKERS (CONTINUED)

Eileen Kladvik, Purdue University

Eileen is Professor of Agronomy at Purdue University, where she teaches and does research and Extension work in soil physics, soil biology, and soil health management. Her overall research focus has been to identify soil management systems that improve environmental quality and promote agricultural sustainability. She is a founding member of the Midwest Cover Crops Council (MCCC) and serves on the Executive Committee. She is a Purdue representative and an active participant in the Indiana Conservation Cropping Systems Initiative (CCSI); the North-Central Regional Committee on Drainage and Water Quality (NCERA-217), and the Conservation Drainage Network. She is a Fellow of the Soil Science Society of America and the American Society of Agronomy.

Matt Kleinhenz, The Ohio State University

Matt is a Professor and Extension Specialist in the Dept. of Horticulture and Crop Science at The Ohio State University (OSU) operating from the OSU CFAES Wooster Campus. Matt collaborates with many to develop research-based information used to enhance the productivity, efficiency, and sustainability of vegetable production systems - including high tunnel-based ones, with which he has more than 20 years of experience. He approaches this process holistically, beginning with identifying key challenges and opportunities and asking how his and others' expertise can be leveraged to meet them. Today, he will summarize challenges in and steps that can be taken to maintain the productivity of high tunnels soils, i.e., their health. <https://u.osu.edu/vegprolab/>

Aaron Kreider, Office of Indiana State Chemist (OISC)

Aaron is a pesticide investigator for OISC for the past 7 years and was previously the assistant manager of the W.H. Daniel Turfgrass Research Center.

Don Lamb, Indiana State Department of Agriculture

Don is the Director of the Indiana State Department of Agriculture, appointed by Governor Eric Holcomb on March 1, 2023. He also serves as the Director of Agribusiness Development for the Indiana Economic Development Corporation, reports directly to Lt. Governor Suzanne Crouch, who serves as Indiana's Secretary of Agriculture and Rural Development and serves on Governor Holcomb's cabinet. Don is a second-generation farmer for Lamb Farms in Boone County where, alongside his father, brother, and nephews, they produce corn, popcorn, seed soybeans and seed wheat. They also own two other enterprises including AgRecycle which is a composting business and Lamb Farms Agronomy which provides neighboring farmers with agronomy products and services. Don is currently a member of the Advisory Council for the Indiana Agricultural Law Foundation.

SPEAKERS (CONTINUED)

Petrus Langenhoven, Purdue University

Petrus is a Horticulture and Hydroponics Crops Specialist at Purdue University. With specialization in hydroponics and vegetable crop production, Dr. Langenhoven is a key member in the Department of Horticulture and Landscape Architecture's Controlled Environment Agriculture (CEA) Team. Interest in healthy sustainably produced food, local foods, and urbanization of the state, and emerging new technologies provide a set of conditions that pushes this segment of horticulture forward. His strong background in horticulture production research and Extension allows him to leverage research and Extension programming around new technologies and expertise in high tunnel and greenhouse management, and open field vegetable production. Dr. Langenhoven serves as Co-Director of the Purdue Student Farm and Co-Chair of the Indiana Horticulture Conference & Expo.

Elizabeth Long, Purdue University

Elizabeth is an assistant professor of Entomology at Purdue University, in West Lafayette, IN with research and extension efforts focused on the integrated pest management of pest and beneficial insects in horticultural crop production systems. Prior to joining Purdue University, Dr. Long was an assistant professor at Ohio State, focusing on insect management in winegrapes and specialty crop muck vegetables. Currently, Dr. Long's research program focuses on understanding the ecological interactions between plants, insects, and their environment, and how these interactions scale up to influence pest management strategies.

Liz Maynard, Purdue University

Liz serves as an Extension specialist for vegetable crops in Purdue's Dept. of Horticulture and Landscape Architecture. She spends most of her time developing educational programs and conducting applied research to support sustainable vegetable farming. Her office is in Valparaiso and research trials are at the Pinney Purdue Ag Center in Wanatah, Indiana.

Joe McGuire, Pure Green Farms

Joe is CEO of Pure Green Farms. Pure Green Farms is one of the most high-tech, sustainable indoor farms in the country that grows, packs, and ships leafy greens year-round at their hydroponic farm in South Bend, Indiana.

Madison Mehringer, Purdue University

Madison works at the Food Entrepreneurship and Manufacturing Institute (FEMI) within the Food Science Department at Purdue University. In her role, Madison manages and runs the Agriculture Innovation Center (AIC) program that seeks to provide resources and product and business development assistance to Indiana agricultural commodity producers looking to bring value-added food products to market. She has created multiple online courses focusing on food industry and business planning fundamentals, has established and run workshops focusing on the life cycle of food products, and manages food and business development projects.

SPEAKERS (CONTINUED)

Stephen Meyers, Purdue University

Stephen joined the faculty in the Purdue University Department of Horticulture and Landscape Architecture as an Assistant Professor in August 2019. He conducts research in weed biology, weed-crop interactions, herbicide tolerance, and integrated weed management strategies and provides the state's specialty crop producers with timely, research-based weed management recommendations.

Scott Monroe, Purdue University

Scott, an Indiana native, is the sixth generation in his family to be involved in vegetable production and spent most of his youth working in his family's watermelon fields. He attended both Vincennes and Purdue Universities, earning degrees in Agriculture, Horticultural Science, and Plant Pathology. Scott has worked in various capacities in the produce industry, including self-employment as the operator of a farm supply store, R & D Director for a large vegetable farm, and assistant plant breeder for Abbott & Cobb, Inc. Upon coming to Purdue, Scott initially worked as an Extension ANR Educator before becoming a Food Safety Educator in 2015. Based in Southwestern Indiana, Scott conducts statewide produce food safety programming and research, as part of the Safe Produce Indiana team, from the Purdue Extension Food Safety Training Hub near Vincennes, Indiana.

Jeff Nagel, Keystone Cooperative, Inc.

Jeff is based in West Lafayette, IN, and is currently an Agronomist at Keystone Cooperative. He earned his Master of Science degree in Agronomy and Crop Science at Purdue University.

Krishna Nemali, Purdue University

Krishna is an Associate Professor with extension, research, and teaching related to Controlled Environment Agriculture (CEA). The goal of his extension program is to increase the knowledge, decision-making ability, and income of CEA growers, and engage with schools and home growers to translate the benefits of CEA to the community. In his applied research, he develops region-specific practices that increase the productivity and value of crops grown in CEA. He also develops state-of-the-art 'smart sensors' for monitoring the growth, health, and quality of crops grown in CEA. He developed and taught a course titled 'Controlled Environment Production of Horticultural Crops' to undergraduate students. Currently, he is developing a new course titled 'Sensors and Automation in Horticulture Production' for senior level undergraduates and graduate students.

Miranda Purcell, Purdue University

Miranda is a Viticulture Extension Specialist at Purdue University. She works with Indiana grape growers to improve the quality of grapes and wine produced in the state. She is a Co-Chair of Indiana Horticulture Conference, and she also serves as the editor of the Purdue Extension Publication Facts for Fancy Fruit Newsletter. Contact: mrrpurcel@purdue.edu

SPEAKERS (CONTINUED)

Ariana Torres, Purdue University

Ariana's research focuses on the decision-making processes of specialty crop farmers along with customers' perceptions and preferences. Her expertise includes the economic modeling of adoption of new technologies, the development of decision-making tools for specialty crop growers, and the economic impact of growers decision-making processes. Her research provides relevant research-based information to her extension program, Horticulture Business (www.hort.purdue.edu/hortbusiness) to provide trainings and publications to farmers, business owners, Extension personnel, and policymakers.

Caleb Smith, Keystone Cooperative, Inc.

Caleb is the Sustainability Business Development Lead for Keystone Cooperative headquartered out of Indianapolis. In his role, Caleb works with Keystone's 100+ agronomy branches in Indiana, Michigan, and Ohio to enroll farmers into a variety of ecosystem service programs and provide education on emerging markets for low carbon intensity grain. Additionally, Caleb leads Keystone's winter oilseed production and annual sustainability report. Caleb received his B.S. from Indiana University and M.S. in agronomy from Purdue University.

Renee Wiatt, Purdue University

Renee serves as the Family Business Management Specialist for the Purdue Institute for Family Business housed in the Department of Agricultural Economics at Purdue University. She works on Extension and applied research in family-business interface and balance, succession, and family business management. She is a member of the Purdue Extension Succession Planning Team, working on programming and directly with families to guide them through some steps in the succession planning process. Renee also serves as the research and extension specialist for the North Central Regional Center for Rural Development, where she studies the intersection of rural businesses and healthcare.

Tim Woods, University of Kentucky

Tim is an Extension Professor in the University of Kentucky Department of Agricultural Economics. Dr. Woods manages studies of Kentucky Consumer households and carries out a variety of Farmer's market, small producer as well as industry wide studies. He established the MarketReady Producer Training Program to assist producers and manufacturers in preparing to enter or expand into new food markets such as restaurants, commercial, institutional, and retail markets. The MarketReady Training program addresses the business practices and risks small farmers and ranchers must manage as they develop supplier relationships with restaurant, retail, and wholesale buyers. While significant opportunity exists to build on the demand for local products in local markets, many farmers are unprepared to meet the transactional requirements set by these buyers in order for them to manage their own food safety, insurance, product quality, and traceability risks. The MarketReady training program has been developed to help better equip growers to more successfully enter new markets. The training is based around best business practices identified by buyers in these markets that are actively seeking local suppliers.

SPEAKERS (CONTINUED)

Allison Zablah, Purdue University

Allison is an international student from Honduras. She received her BS from Zamorano University, where she majored in Agronomy. Allison joined the lab in summer 2022 as a research scholar; she is currently working on her M.S.. Allison studies beneficial insects such as syrphid flies, which, in addition to being predators in their larval stage, are pollinators in their adult stage. Information on syrphid flies is currently lacking, especially in the context of high tunnel specialty crops production. Her thesis aims to measure the ecological role that syrphid flies play in these protected culture environments.

Jean Pierre Zavala, Purdue University

Jean Pierre, a graduate student at Purdue's Horticulture and Landscape Architecture Department, focuses on the economic feasibility of pest management strategies for specialty crops in high tunnels within urban and peri-urban areas. Holding a BS in Agribusiness Management and an MBA, he brings six years of experience serving the Government of Ecuador in agricultural roles. His research aims to contribute valuable insights at the intersection of horticulture and economic viability.

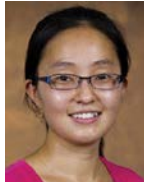
PURDUE HLA EXTENSION SPECIALISTS



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Kyle Daniel
Landscape &
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Wenjing Guan
Specialty Crop



Peter Hirst
Tree Fruit



**Petrus
Langenhoven**
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Miranda Purcell
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Ariana Torres
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<https://extension.purdue.edu/>



PRIVATE APPLICATOR RECERTIFICATION PROGRAM (PARP)

A Private Applicator Recertification Program (PARP) is being offered for those who currently have Private Applicator permits and need recertification.

A person with a Private Applicator license must attend at least three recertification programs in five years in order to maintain certification. A maximum of two recertification programs per year can be credited toward recertification. There are two recertification sessions during the Indiana Hort Conference (Monday and Tuesday afternoons). Individuals could receive two recertification program credits at IHC.

In order to receive your recertification credit you must:

- Attend 90 minutes equivalent of qualifying presentations indicated by a **P** in the program (sessions vary from 30 to 60 minutes).
- Make sure you collect vouchers at the end of the presentations.

Then:

- Attend the PARP recertification session on Tuesday, January 14 or Wednesday, January 15 at 4:00 pm.
- At the conclusion of either of these sessions, present the vouchers from the previous sessions you attended the same day to the Purdue Extension Educator in charge of the session. You will need your private applicators license number. There is a \$10 fee for receiving PARP credit. Cash or check only please.

Be sure to bring:

- ****PARP**** Vouchers
- Cash or check for \$10.00 fee
- Private applicator license number

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ONLINE RESOURCES

PURDUE HORTICULTURE & LANDSCAPE ARCHITECTURE (HLA) EXTENSION WEB LINKS

Horticulture & Landscape Architecture Extension Home Page.
ag.purdue.edu/hla/extension/Pages/Home.aspx

Commercial Nursery and Landscape
hort.purdue.edu/greenindustry

Consumer Horticulture (Indiana Yard & Garden)
hort.purdue.edu/ext/

Controlled Environment Agriculture
purdue.edu/hla/sites/cea/

Horticulture Business
purdue.edu/hla/sites/hortbusiness/

Pest & Crop
extension.entm.purdue.edu/pestcrop/

Purdue Master Gardener Program
hort.purdue.edu/mg

HLA EXTENSION NEWSLETTERS & BLOGS

Facts for Fancy Fruit
hort.purdue.edu/fff/fff.shtml

In The Grow
purdue.edu/hla/sites/yardandgarden/publication/in-the-grow/

Purdue Greenhouse Newsletter
purdue.edu/hla/sites/cea/home/extension/purdue-greenhouse-newsletter/

Purdue Landscape Report
www.PurdueLandscapeReport.org

Turf Tips
purdueturftips.blogspot.com/

Vegetable Crops Hotline
ag.purdue.edu/hla/Extension/vegcropshotline/Pages/Home.aspx

Yard & Garden Calendar
www.purdue.edu/hla/sites/yardandgarden/publication/gardening-calendars/

Yard & Garden News
www.purdue.edu/hla/sites/yardandgarden/publication/yard-and-garden-news/

ONLINE RESOURCES (continued)

HLA EXTENSION SOCIAL MEDIA

Consumer Horticulture (Indiana Yard & Garden)
facebook.com/purduehomehort/

Purdue Extension NWCH Twitter
<https://x.com/NWCH>

Purdue Hort Extension Facebook
facebook.com/PurdueHortExt?ref=hl

Purdue Hort Extension Twitter
twitter.com/PurdueHortExt

Purdue Landscape Report
www.facebook.com/PurdueLandscapeReport
www.twitter.com/PurdueLandscape

Purdue Master Gardener Program
twitter.com/purduemg
www.facebook.com/purduemastergardener/

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