

# VEGETABLE CROPS HOTLINE

A newsletter for commercial vegetable growers prepared by the Purdue University Cooperative Extension Service.

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## From The Editor's Desk

(Petrus Langenhoven, [plangenh@purdue.edu](mailto:plangenh@purdue.edu), (765) 496-7955)

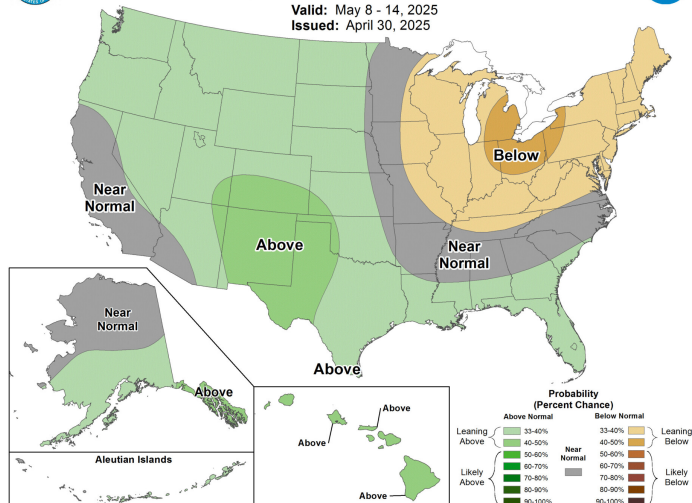
Dear Valued VCH Readers,

Welcome to this week's edition of the Vegetable Crops Hotline! I can't believe it is May already! The 8-14-day precipitation and temperature outlook is leaning below and above normal, respectively. Generally, the precipitation outlook for May is leaning towards below-normal levels.



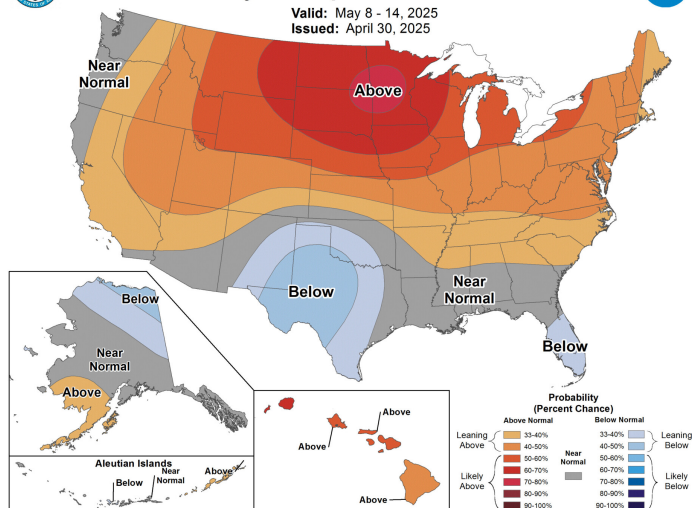
## 8-14 Day Precipitation Outlook

Valid: May 8 - 14, 2025  
Issued: April 30, 2025



## 8-14 Day Temperature Outlook

Valid: May 8 - 14, 2025  
Issued: April 30, 2025

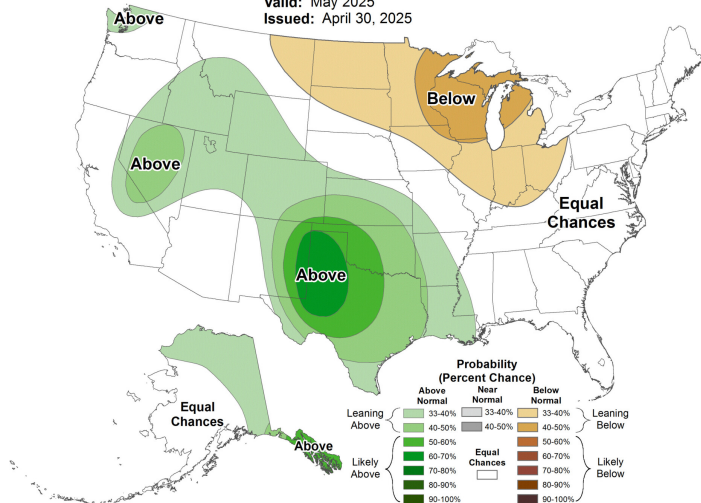




## Monthly Precipitation Outlook



Valid: May 2025  
Issued: April 30, 2025



As many growers prepare to set out transplants in May, please remember to check the soil temperature before planting and ensure your irrigation systems are ready. For successful transplanting, consider reading these helpful articles:

1. [Preparing Vegetable Transplants for Indiana Field Conditions](#)
2. [Start Your Season off Right with Pest-free Transplants](#)
3. [Establishment Failure of Watermelon and Cucumber Transplants Because of Low Soil Temperatures](#)
4. [Why do Watermelon and Melon Plants Wilt?](#)
5. [When to Plant Watermelons](#)

In this issue, we bring you a diverse range of content to support your farming operations. From our first Soil to Market spotlight, examining customer communication strategies for small and medium-sized farms, to practical resources like the annual insect trapper recruitment and succession planning webinars, we've got you covered. You'll also find updates on the Clearspring Produce Auction prices, information about upcoming field days at Southwest Purdue Ag Center and the Small Farm Education event, plus details on the Midwestern Regional Climate Center's innovative weed emergence scouting tool that could revolutionize your pest management approach.

We hope these insights help you navigate the challenges and opportunities of this critical time in the growing season.

### Growers and Purdue Extension Educators

Your input and expertise make this newsletter a truly useful resource. If you have hot topics you'd like us to cover, success stories to share, or questions for our Extension specialists, please get in touch with us at [plangenh@purdue.edu](mailto:plangenh@purdue.edu) or contact the specialist directly. We also welcome high-quality photos of pest issues, unusual symptoms, or innovative production practices you've implemented on your farm.

### Website Links in Newsletter Articles

We frequently include links to websites or online publications. If you are unable to access these resources, please don't hesitate to contact your local Purdue Extension office or us to request a hard copy of the information.

## Midwest Vegetable Production Guide

The 2025 Midwest Vegetable Production guide is now available for growers to visit online at [mwvegguide.org](http://mwvegguide.org), or you can download and print a guide from your computer at [mwvegguide.org/guide](http://mwvegguide.org/guide). The guide can also be purchased for \$15 per copy. Contact your Extension Office or Stephen Meyers ([slmeyeres@purdue.edu](mailto:slmeyeres@purdue.edu)) directly to buy a copy.

## Midwest Vegetable Trial Reports

Are you still considering purchasing vegetable seeds? The [Midwest Vegetable Trial Reports](#) feature many articles to help you make an informed decision. The resource also hosts research results related to production.

Best regards,

Petrus Langenhoven

Clinical Assistant Professor and Vegetable Extension Specialist  
Department of Horticulture and Landscape Architecture  
Purdue University

## Small and Medium Farms: Does Focusing on and Communicating with Customers Pay Off?

(Renee Wiatt, [renewiatt@purdue.edu](mailto:renewiatt@purdue.edu)) & (Maria Marshall, [mimarsha@purdue.edu](mailto:mimarsha@purdue.edu))



**SOIL TO MARKET**  
PROGRAM



In a producer survey done in 2024-2025 by the Soil to Market Team (Maria Marshall, Renee Wiatt, Petrus Langenhoven, Betty Feng, and Nathan Shoaf), small and medium farms were asked questions related to decisions, operations, and people on the farm. Some of those questions inquire about their interactions with and considerations of customers. From interacting with customers to let them know what the farm is selling to farmers making decisions on what to grow (that customers will buy), these interactions and decisions can be complex.

Of the 500 small and medium-sized vegetable farmers surveyed, approximately 52% were categorized as small and 48% as medium. USDA defines small family farms as those with an annual gross cash flow income (GCFI) of less than \$350,000; mid-size farms have a GCFI of \$350,000 to \$999,999; and large-scale farms are those with a GCFI of \$1 million or more (Dorn, 2021). Large-scale farms were excluded from this survey and analysis.

Customer service can be complex for farmers and farm producers (Dethloff et al., 2022), and this may be reflected in their primary business goal. When asked about goals, 85% of vegetable farmers ranked profit as their most important goal, and only 8% responded that a positive reputation with customers was their most important goal. Other goals included business survival, keeping the business in the family, and the opportunity to work with family. Customers can heavily influence the profitability and success of a farm business. When asked about customer influence

on what is planted for the season and the production system utilized, only 53% agreed that customers influence what they plan, and 37.2% agreed that customers influence their production system (Figure 1).

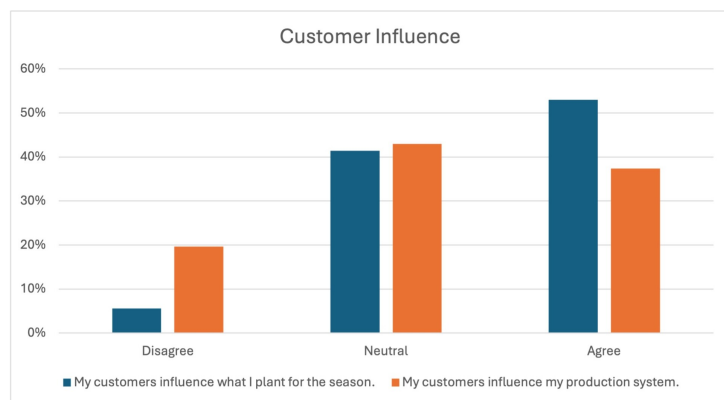


Figure 1. Customer Influence on planting and production system.

The survey also inquired about what farmers believed was important to their customers. When asked about food safety and their production systems, more farmers thought that food safety was important to their customers. Roughly 76% of farmers believed that food safety was important to customers and only 37.6% of farmers believed that the production system was important to them (Figure 2).

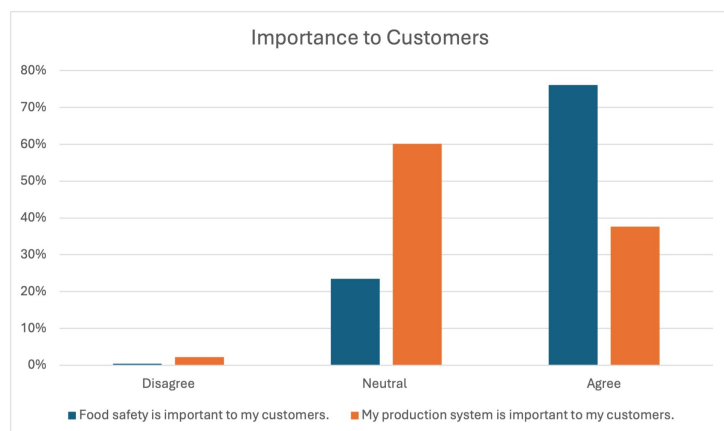


Figure 2. Importance of Food Safety and Production System to Customers.

Lastly, farmers were asked about how much they communicate their production practices to their customers. On a scale from one to six, where one is “none at all” and six represents “a great deal”, farmers were least likely to report “none at all” and “a great deal”. Roughly 26% of farmers responded that they communicated production practices “a lot” (5), and roughly 39% responded that they communicated production practices “a moderate amount” (4).

According to Hyken (2023) with Forbes, transparency with customers can build trust and culminate in a more positive experience for customers. Although the Soil to Market producer survey only focused on the farmer, the data reveal a positive correlation between farm profitability and the extent to which the farmer communicated production practices. There are likely benefits to farmers (as well as their customers) for being communicative about their farm operation and practices.

## References

- Dethloff, N., Van Leuven, A., and Bir, C. (2022, October). *Customer service basics for agricultural entrepreneurs*. Oklahoma Cooperative Extension Service, AGEC-920. <https://extension.okstate.edu/fact-sheets/customer-service-basics-for-agricultural-entrepreneurs.html>.
- Dorn, T. (2021, January 27). Family farms continue to power U.S. agriculture. *U.S. Department of Agriculture*. <https://www.usda.gov/about-usda/news/blog/family-farms-continue-power-us-agriculture>
- Hyken, S. (2023, January 29). Radical transparency: A key to a better customer experience. *Forbes*. <https://www.forbes.com/sites/shephyken/2023/01/29/radical-transparency-a-key-to-a-better-customer-experience/>
- Wiatt, R., Marshall, M.I., Feng, Y., Langenhoven, P., and Shoaf, N. (2024-2025). Soil to Market Producer Survey on Integrated Decision-Making Survey [data file and codebook]. IRB-2024-1552. Funded by USDA-NIFA-AFRI: *Taking the Next Step as a Small and Medium Sized Farm: Understanding the Integration of Production, Food Safety, and Profitability*

## Pathogen Spotlight: *Serratia ureilytica* Causing Cucurbit Yellow Vine Disease

(Kensy Rodriguez, [kdr66@cornell.edu](mailto:kdr66@cornell.edu)) & (Cesar Escalante, [escalac@purdue.edu](mailto:escalac@purdue.edu))

### Introduction

Cucurbit yellow vine disease (CYVD) is an emergent disease in the United States caused by the bacterium *Serratia ureilytica*, and it commonly affects zucchini, squash, watermelon, and melons. The pathogen that causes CYVD is transmitted by the squash bug (*Anasa tristis*, Figure 1), and other potential vectors include the striped cucumber beetle (*Acalymma vittatum*) and spotted cucumber beetle (*Diabrotica undecimpunctata*). Common symptoms of CYVD are yellowing of leaves and vines, stunting, and scorching of leaf margins (Figure 2). When looking at the cross-section, some plants will have discoloration in the vascular tissues (phloem).

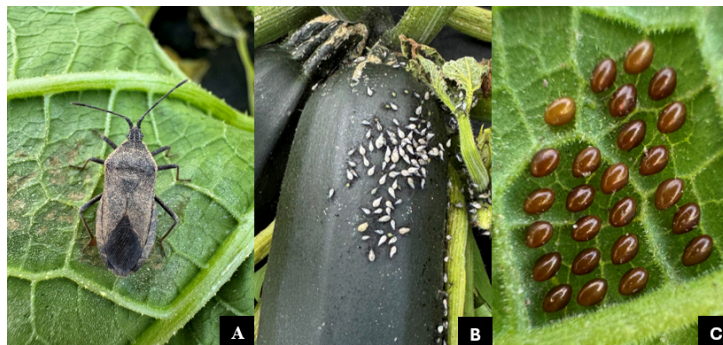


Figure 1. Squash bug stages. Adult squash bug (A). Nymphal stages of squash bug (B). Squash bug egg mass (C) (Photos by Kensy Rodriguez).





Figure 2. Typical symptoms of cucurbit yellow vine disease on a squash field. Symptomatic plant (left) and healthy plant (right) (Photo by Kensy Rodriguez).

In Indiana, CYVD has not been reported officially; however, in conversations with the PPDL personnel, we concluded that the causal agent of this disease was isolated from several cucurbits. The symptoms described above can easily be confused with those caused by nutrient deficiency or other bacterial diseases, such as bacterial wilt. This year, we want to monitor the pathogen's presence in Indiana's cucurbits fields. If you observe plants showing symptoms *similar* to those caused by CYVD, please contact Cesar Escalante to arrange a field visit or submit samples for analysis.

## Disease cycle

Squash bug adults can overwinter with the bacterium in their bodies and infect a cucurbit plant by feeding on it. Secondary infections happen when squash bugs that do not carry *Serratia ureilytica* acquire the bacterium by feeding on an infected plant, later feeding on a healthy plant, and transmitting the pathogen. Symptoms can be expressed as early as one week after transmission; however, symptoms can take up to four weeks to appear.

## Management

Management strategies for CYVD rely on controlling the vectors. Cultural practices, such as reducing crop debris and old fruit, can help reduce the pest population for the next season. Crop trapping is a commonly used method that involves planting an attractive variety of crops before planting the crop, or planting them at the edges, which can help reduce the incidence of insects in the main plot. Zucchini and Hubbard winter squash can be good crop trapping options.

Row cover at the beginning of the season is an effective method to keep squash bugs and cucumber beetles from feeding on the plants, and it can be removed before pollination time. Insecticides are also a standard method for managing squash bugs and cucumber beetles. Ensure the products you are trying to use are registered for the pest and host you plan to use them on. For specific active ingredients and product names, consult the

Midwest Vegetable Production Guide or contact your local Extension Educator or Specialist.

## Additional resources

Cornell SIPS. 2023. Vegetable Pests and Diseases: Cucurbit Yellow Vine Disease (CYVD). YouTube video.

<https://www.youtube.com/playlist?list=PLHPXm2Es8aQC-bvIhKF45KvDlnV6xLIBd>

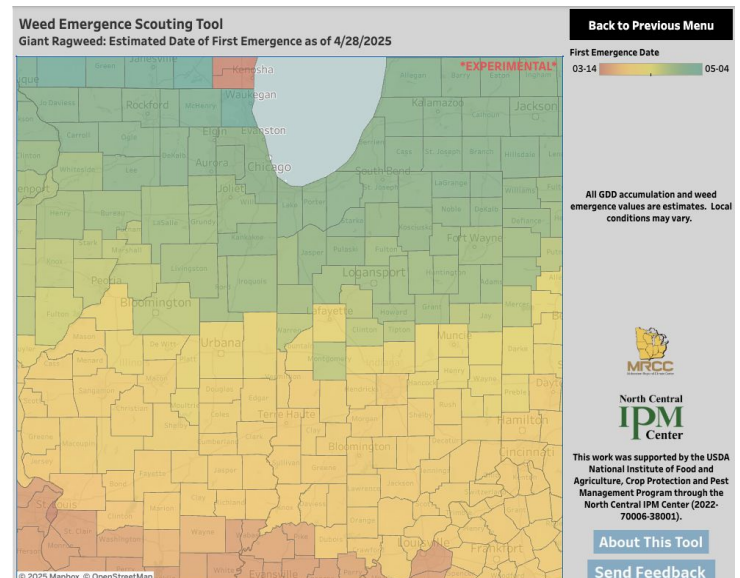
Midwest Vegetable Production Guide. 2025.

<https://mwvegguide.org/guide>

## Midwestern Regional Climate Center Launches New Experimental Weed Emergence Scouting Tool

(Austin Pearson, [pearsona@purdue.edu](mailto:pearsona@purdue.edu), (765) 675-1177)

Midwestern farmers have faced a buildup of pesticide resistance in pigweeds (waterhemp and Palmer amaranth), highlighting the importance of scouting to detect weeds early in their growth stages. Otherwise, weed escapes are a common issue as herbicides lose their efficacy when weeds are allowed to grow long enough into their growth cycle. The **Midwestern Regional Climate Center (MRCC)**, supported by the **USDA National Institute of Food and Agriculture, Crop Protection and Pest Management Program** through the **North Central IPM Center** (2022-70006-38001), has developed the experimental **Weed Emergence Scouting Tool (W.E.S.T.)** to help farmers estimate when agronomic weeds are likely first to emerge and reach peak emergence based on growing degree day (GDD) models. The tool is currently limited to two weeds: waterhemp and giant ragweed. The MRCC hopes to expand its focus to other weeds with future funding.



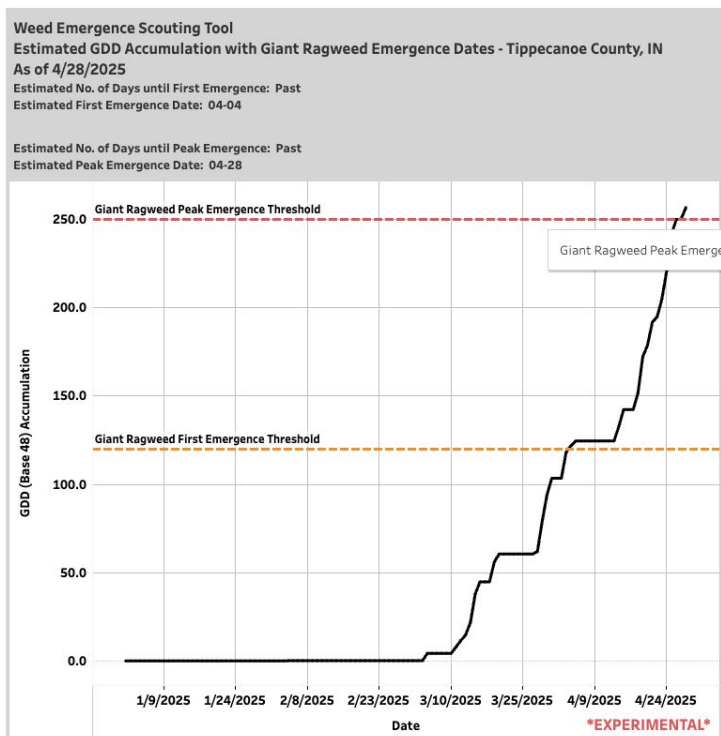
The current version allows users to:

- Track GDD (base 48°F) accumulations over the current



year (January 1 to the current date) for any Midwest County.

- Based on forecast data, determine whether giant ragweed or water hemp is expected to reach its peak emergence within six days and, if so, in how many days.
- Review the current season's emergence dates for giant ragweed or water hemp in specific Midwest counties.



**W.E.S.T.** uses high-resolution PRISM temperature data to calculate GDDs with a base of 48°F and adds them to the previous day's total. Forecast maximum, minimum, and average temperatures from NOAA are adjusted to the county level and then used to calculate daily GDD accumulations over the subsequent six-day period. Research from Iowa State University indicates that giant ragweed typically emerges with fewer than 150 GDD, while waterhemp requires more than 350 GDD. To refine these estimates, Purdue Extension Educators collected field data across Indiana in 2023. Findings include:

- Giant ragweed first emerges at about 120 GDD (base 48°F) and reaches peak emergence between 200 and 300 GDD.
- Waterhemp first emerges at about 425 GDD (base 48°F) and peaks between 500 and 600 GDD.

This tool would benefit from your giant ragweed and waterhemp observations to better refine this product. Email [mrcc@purdue.edu](mailto:mrcc@purdue.edu) if you want to provide weed emergence observations to assist in tool validation and refinement.

## Annual Call for Insect Trappers

(Laura Ingwell, [lingwell@purdue.edu](mailto:lingwell@purdue.edu), (765) 494-6167)

I monitor three different insect pests with pheromone traps to help make informed decisions about when to spray insecticides or take other actions for management. Trap data can be found on the [Extension Entomology Vegetables Website](#). The longest running is the corn earworm (Figure 1) trapping network. Participation in this network entails installing a cone-shaped trap near sweetcorn on your farm, deploying a pheromone lure, and checking the number of moths daily, preferably, or at least three times per week. The results of the moths caught in your trap can help time spray applications or even better, determine when they are not needed!



Figure 1: CEW damage on sweetcorn (Photo by John Obermeyer).

The squash vine borer (Figure 2) trapping network consists of a similar trap, placed lower to the ground near the crop canopy, and monitors for adult activity. Adult moths in the trap indicate mating and can help you time the application of insecticides during that crucial egg-hatch stage when they are most vulnerable.



Figure 2: Squash vine borer adult (Photo by John Obermeyer).

Tomato pinworm (Figure 3) is the other insect we have begun monitoring in high tunnel tomato production and are interested in expanding to field systems. This network is in its infancy, and we are still trying to just get a handle on the biology of this insect, specifically where and when we find it in the landscape. This trap is different from the others in that it employs a sticky card that captures the insect. Reporting periods are less frequent and consist of you sending the actual card (or good pictures of it) to our lab for identification.



Figure 3: Tomato pinworm damage on a tomato leaf (Photo by Dan Egel).

All of these systems utilize pheromones. For each, there is a lure, impregnated with the scent of a female of that particular species. Males are attracted to this scent to find a mate and navigate to the trap, where they either get physically stuck to a board or fly upwards and get stuck in a collection chamber. In participating, you are monitoring adult activity, which is a predictor of egg-laying in the crop in which they are caught. It is the larva in all cases that causes destruction to the crop.

If you look at the data online from last year, you will be able to get a sense of where we are missing collaborators throughout the state. I will provide the trapping supplies, given that you are committed to sharing what you catch with our database. It is a simple number entry in a shared Google sheet. If you are interested in participating in any of these networks, especially in regions where we do not have someone already participating, please email me at [lingwell@purdue.edu](mailto:lingwell@purdue.edu).

## Clearspring Produce Auction Price Update

(Petrus Langenhoven, [plangenh@purdue.edu](mailto:plangenh@purdue.edu), (765) 496-7955) & (Jeff Burbrink, [jburburink@purdue.edu](mailto:jburburink@purdue.edu))

The Clearspring Produce Auction is located just 2 miles south of US 20 in Clearspring Township in the Heart of the LaGrange-Elkhart Amish Settlement. It is within easy driving distance of the towns of Shipshewana, Topeka, Emma, and LaGrange.

Produce is sold three days a week (Tuesday, Thursday, and Friday) throughout most of the growing season, with a hay sale on Saturdays. Office hours are Monday and Wednesday, 1:00 to 4:00 p.m., and Tuesday, Thursday, and Friday, 8:00 a.m. to 4:00 p.m. An auction report can be heard by calling (260) 463-4131. Besides the produce and hay auctions, Clearspring has an on-site equipment and supply business for growers.

April 17, 2025

May 1, 2025

## Succession Planning Basics for Farmers (2-part live webinar series)

(Amy Thompson, [afthompson@purdue.edu](mailto:afthompson@purdue.edu))



### SUCCESSION PLANNING BASICS for Farmers

Two-Part Webinar Series  
June 16 & 17  
1-2pm CDT / 2-3pm EDT



#### Date/Time:

Session #1 6/16/2025 1:00 PM– 2:00 PM (CDT)

Session #2 6/17/2025 1:00 PM– 2:00 PM (CDT)

**Registration Deadline:** 6/16/2025 1:00 PM (CDT)

**Fee:** No Fee

**Register HERE** <https://isbdc.ecenterdirect.com/events/17091>

**Point of Contact:** Catherine King (812) 425-7232

**Program Format:** Multi-session Course

**Training Topics:** Agribusiness, Buy/Sell Business, Legal Issues,



## Description

\*\*\*This is an online-only event.\*\*\*

### Secure Your Farm's Future!

Planning for the next generation is essential to ensuring the long-term success of your farm. Join us for **Succession Planning Basics for Farmers**, a **two-part webinar series** designed to help farm owners and their families navigate the transition process with confidence. **This event provides practical insights to help you create a clear succession plan and protect your family's legacy.**

### What You'll Learn:

#### Part 1 (June 16th): Management Transfer

- How to shift decision-making and leadership responsibilities
- Steps to ensure business continuity and family harmony
- Building leadership capacity for the next generation

#### Part 2 (June 17th): Understanding Heirs' Property

- What is heirs' property and why does it matter
- Legal and financial challenges of unclear land titles
- Strategies for preventing heirs' property through estate planning, wills, and property deeds

### Partners:

This series is brought to you in partnership with **Purdue University Extension** and the **Indiana Black Loam Conference**.

### Presenters:

*Jenna Nees*

County Extension Director | Extension Educator – ANR  
Purdue Extension – Putnam County

*Renee Wiatt*

Family Business Management Specialist, Department  
of Agricultural Economics  
Purdue University

### Resources:

- **Succession Planning (Purdue University Extension)**
- **Guiding Farm Families Down the Road of Succession Planning (Purdue University Extension)**
- **Understanding Heirs' Property at the Community Level (Southern Rural Development Center)**

### Sponsor:

**Fifth Third Bank** is a sponsor of the Southwest Indiana SBDC and makes programming like this possible.

[Get Directions](#)

## Registration Policies:

**Registration and Fees:** Payment of seminar fees may be made by check, money order or credit card. Payment must be received

to guarantee your space in an event.

**Refund Policy:** If you wish to request a refund, please contact the conference organizer listed above to discuss. You may also elect to send a substitute in your place. If the event is cancelled, all fees will be returned.

**Special Accommodations:** In accordance with the Americans with Disabilities Act and state law, you may request accommodations due to a disability by contacting the event organizer listed above. Advance notice may be necessary for some accommodations. Registration must be paid prior to accommodation requests.

## Southwest Purdue Agriculture Center Field Day Set for June 26

(Wenjing Guan, [guan40@purdue.edu](mailto:guan40@purdue.edu), (812) 886-0198)

The Southwest Purdue Agricultural Center (SWPAC) is one of the eight Purdue Agricultural Centers located across Indiana. What makes SWPAC unique is its location in the heart of Indiana's watermelon-growing region—home to one of the state's most significant specialty crop industries. In addition to watermelon and cantaloupe, southern Indiana is known for its diverse fruit and vegetable production, along with a strong presence of agronomic crops. As farming practices advance and industry needs change, research and Extension priorities at SWPAC continue to evolve to meet those demands.

The SWPAC Field Day offers a valuable opportunity to see these changes firsthand. It's an event for anyone passionate about agriculture and eager to learn more about how our food is produced and how production practices are adapting.

During the field day, participants will tour the research plots and hear presentations on a variety of topics, including:

- Winter canola production and market potential
- Sorghum as an alternative crop across Indiana
- Enhancing seed quality traits in cowpeas
- Using drones for pesticide application
- Pollinator health and the use of pollenizers in watermelon production
- Resilient agriculture and Purdue's initiative to implement these practices
- High tunnel tomato production and a cut flower research initiative
- Evaluation of synthetic and biological fungicides for watermelon and tomato production
- Recent updates on field crop diseases
- Changes in food safety regulations and new research projects related to food safety
- The Diverse Corn Belt project

Additionally, Dr. Fred Whitford will deliver a special presentation, *"Horsepower on the Farm: From Hay-Powered Horses to Gas-Powered Tractors"* sharing the fascinating story of how agriculture has evolved over the years.

The SWPAC Field Day is free to attend, and lunch will be provided,

thanks to the support of our generous sponsors!

For more event details, please refer to the flyer. To register, visit <https://tinyurl.com/2025SWPACFieldDay> or call 812-886-0198

**SOUTHWEST PURDUE AGRICULTURAL CENTER**

**FIELD DAY**  
June 26, 2025



Purdue University prohibits discrimination against any member of the University community on the basis of race, religion, color, sex, age, national origin or ancestry, genetic information, marital status, parental status, sexual orientation, gender identity and expression, disability, or status as a veteran.



**PURDUE UNIVERSITY**

Extension

This field day is made possible in part through grant support, including Diverse Corn Belt, a USDA-NIFA Sustainable Agriculture Systems funded grant. Project Improve High Tunnel Sustainability through Biological Control of Root-knot Nematodes supported by North Central SARE Research and Education Grant. Harnessing the Power of Suppressive Soils to Manage Root-knot Nematode in Organic Vegetable Production supported by USDA-NIFA Organic Transitions Program. And Bees & the bottom line: uncovering the effects of insecticides on crop pollination and yield supported by USDA-NIFA Pollinator Health Program.

**GOLD**





**SILVER**



**BRONZE**




**AGENDA**

8:00 – 8:45 am: Registration  
8:45 – 9:00 am: Group Distribution  
9:00 am – 12:30 pm: Tour to Horticulture and Agronomic Crops  
12:30 – 1:30 pm: Lunch (provided)  
Presentations during lunch: Diverse Corn Belt – Project Overview and Dr. Fred Whitford – Horsepower on the Farm: From Hay-Powered Horses to Gas-Powered Tractors  
1:30 pm: Adjourn – Field Day  
1:30 pm: PARP and CCH Credits

For special dietary needs contact Barb Joyner and 812-886-0198 by June 19, 2025.

Topic	Presenter(s)
Field crop disease update on research and things to remember this season	Morgan Goodnight, Botany and Plant Pathology
High tunnel tomato and cut flower research	Wenjing Guan, Horticulture and Landscape Architecture
Fungicide efficacy trial research on vegetable crops	César Escalante, Botany and Plant Pathology
Purdue resilient ag initiative	Laura Ingwell, Entomology
Pollinator health and pollinator use in seedless watermelon production	Amy Lynn Bagby, Entomology
Produce food safety update	Scott Monroe, Purdue Extension, and Kathryn Parraga, Food Science
Overview of spray drones in Indiana	Alex Helms and Jackson Shake, Purdue Agricultural Center
Winter canola production	Brian Calbeck, Calbeck Consulting
Sorghum as alternative crop for niche environments across Indiana	Tesfaye Tefera Tesso, Agronomy
Identifying Genes Behind Protein in Cowpea Seeds	Jean Paul Iyakemey, Botany and Plant Pathology

Registration: <https://tinyurl.com/2025SWPACFieldDay> or call 812-886-0198



The Purdue Small Farm Education Field Day, scheduled for July 24, 2025, will feature demonstrations and presentations designed to support small-scale farming.

The [Department of Horticulture and Landscape Architecture](#) will co-host the event with the [Purdue Student Farm](#). Attendees can learn from Purdue University and Purdue Extension experts about topics such as small-scale farming hacks, container farming (hydroponics), raised garden beds for vegetables, sweet pepper production, equipment demonstrations, food safety in packinghouses, and pest monitoring using pheromone traps.

“This field day creates a vibrant hub where small farm operators and urban growers from across Indiana converge. Its thoughtfully designed structure provides meaningful opportunities for exchanging practical knowledge and building valuable relationships,” said Petrus Langenhoven, Purdue Student Farm director. “We’ve consistently seen participants implement specific techniques learned here to enhance their own farms and urban gardens. Often, it’s the nuanced practices—details we as educators might overlook—that dramatically transform the productivity and sustainability of small-scale agricultural operations.”



2024 Small Farm Education Field Day (Photo by Joshua Clark).

Attendee registration costs \$40 and can be completed [here](#). Students and Extension educators can register at a discounted rate. Registration information will be available at [Purdue Small Farm Education Field Day](#).

The event will run from 8 a.m. to 2 p.m. at the Purdue Student Farm, located at 1491 Cherry Lane, West Lafayette, Indiana. Lunch is not included, but each attendee can receive a free Kona ice cup, and a food truck will be on site.

Program details are being finalized and will be available soon.

If you have questions, do not hesitate to contact Lori Jolly-Brown at 765-494-1296 or [ljollybr@purdue.edu](mailto:ljollybr@purdue.edu)

## Small Farm Education Field Day Will Feature New Research, Live Demonstrations and Purdue Experts

(Olivia Noelle De Young, [odeyoung@purdue.edu](mailto:odeyoung@purdue.edu)), (Petrus Langenhoven, [plangenh@purdue.edu](mailto:plangenh@purdue.edu), (765) 496-7955) & (Lori Jolly-Brown, [ljollybr@purdue.edu](mailto:ljollybr@purdue.edu))

**REGISTRATION OPEN**

**PURDUE SMALL FARM EDUCATION FIELD DAY**

**JULY 24, 2025**  
at the Purdue Student Farm  
<https://www.purdue.edu/hla/sites/studentfarm/events/>

PRESENTED BY:

**PURDUE UNIVERSITY** Horticulture and Landscape Architecture







2024 Small Farm Education Field Day (Photo by Joshua Clark).

## Observations on the Companion Plant: Sweet Alyssum

(Robert Grosdidier, [rgrosdid@purdue.edu](mailto:rgrosdid@purdue.edu)) & (Laura Ingwell, [lingwell@purdue.edu](mailto:lingwell@purdue.edu), (765) 494-6167)



Figure 1. Flowers of sweet alyssum (Photo by Robert Grosdidier).

Spring is in full swing in our research high tunnels at Purdue. Overwintering strawberries that we planted in September are now in full bloom and fruits are being harvested. But as temperatures increase and crops become more productive, we also see the emergence of various insect pests. Aphids, amongst other soft-bodied insect pests (e.g., whiteflies, mites, and thrips), are the primary culprit on the strawberries and spinach we grow in the high tunnels. The damage caused by these pests can lead to

significant yield losses that may offset the economic benefits of growing food for early-season markets. Luckily, as these pests emerge, so do their natural enemies – predacious arthropods and parasitoid wasps! Promoting these insects in high tunnels can provide natural and targeted pest suppression services, thus eliminating the need for chemical sprays or augmentative biological control and reducing crop damage overall. The question becomes, how do we promote these organisms in our high tunnels?

One way is to incorporate insectary plants, like sweet alyssum. Sweet alyssum is a plant in the mustard family (Brassicaceae) characterized by its small white flowers and its pungent, sweet aroma (Figure 1). It is considered an insectary plant because its aroma is alluring to a variety of beneficial insects. Predators and parasitoids depend on their prey as a source of protein, but require carbohydrates in the form of plant nectar to fuel them as they search for their next victim. The smell of sweet alyssum flowers tells these insects that there is plenty of nectar to be had. In our research tunnels, we planted sweet alyssum in half of our high tunnels (Figure 2) and observed a very promising phenomenon. Strawberries planted alongside sweet alyssum had almost no aphids on them; meanwhile, strawberries planted alone had higher aphid pressure. While we can't definitively tie the reduced aphid abundance to the sweet alyssum, sticky card traps that we deployed have shown that parasitoid wasps and syrphid flies (Figure 3) are in increased abundance where sweet alyssum is present. These insects are likely driving the reduction in aphid pressure.

In addition to pest suppression, the sweet alyssum may indirectly increase fruit set in strawberries by increasing the number of pollinators present. This early in the year, bees are only beginning to emerge and are less inclined to enter high tunnels compared to other insects. However, our sticky card traps have shown us that sweet alyssum draws in many types of flies. Flies aren't the typical image you think of when considering pollinators, but they are, in fact, the second most important pollinators behind bees (Figure 4). Flies are especially important pollinators of strawberries. For early-season fruit production in high tunnels, flies are likely doing the bulk of the pollination. Planting sweet alyssum can increase fly abundance in the tunnels, thus theoretically increasing fruit set!





Figure 2. Sweet alyssum grown alongside strawberries in research high tunnels at the Purdue Meigs Horticultural Farm. Notice the yellow sticky card trap with a high abundance of flies and other insects present (Photo by Robert Grosdidier).



Figure 3. Syrphid fly on sweet alyssum flowers (Photo by Robert Grosdidier).

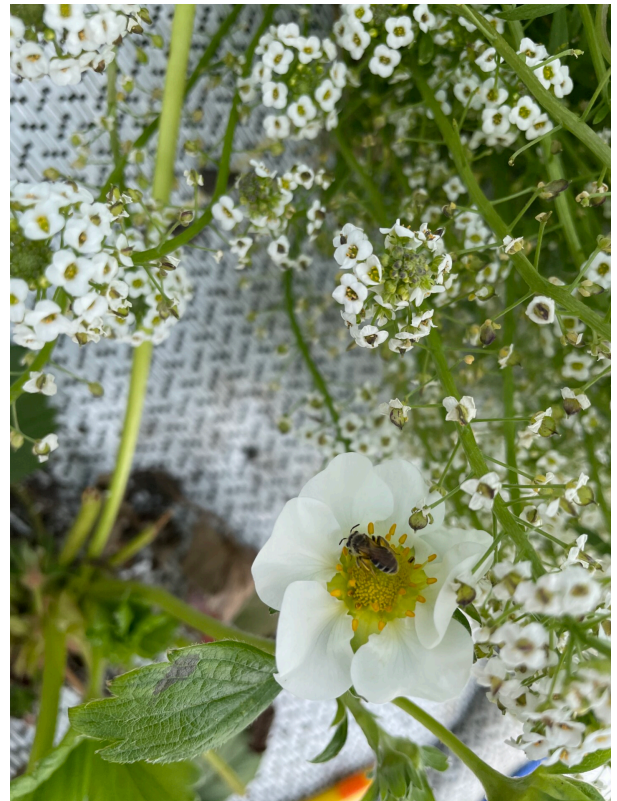


Figure 3. Halictid bee on strawberry flower (Photo by Robert Grosdidier).

We encourage growers to experiment with growing sweet alyssum, as well as other insectary or companion plants, on your own farm! These plantings are a low-cost, low-maintenance method of increasing pest suppression and pollination services. Additionally, they will make your farm a more beautiful, aromatic, and biodiverse system.

## Green Tiger Beetles: Ferocious Little Hunters of the Ground

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The Green tiger beetle (*Cicindela campestris*) is a striking ground-dwelling beetle known for its metallic green sheen and ferocious predatory behavior. Native to Europe but with several North American relatives (e.g., *Cicindela sexguttata*), this beetle belongs to the family Carabidae within the order Coleoptera (Figure 1). It is commonly found in dry, sandy habitats, including heathlands, grasslands, forest edges, and open trails, where it can run fast and hunt effectively.





Figure 1. Adult Green Tiger Beetle (Photo retrieved from [https://commons.wikimedia.org/wiki/File:Cicindela\\_sexguttata\\_Fabricius\\_1.jpg](https://commons.wikimedia.org/wiki/File:Cicindela_sexguttata_Fabricius_1.jpg)).

## Life Cycle and Behavior

Green tiger beetles undergo complete metamorphosis: egg, larva, pupa, and adult. Females lay eggs in loose soil, where larvae construct vertical burrows and lie in wait for prey. Larvae have large mandibles and a characteristic humped shape with hooks on their backs to anchor themselves in their burrows. Tiger beetle larvae feed on other invertebrates that they can capture in their burrows in the soil. The larval period may last up to four years, depending on the species and conditions. The pupa does not feed and is the transitional stage between larva and adult. Pupation lasts three or more weeks. Adults emerge in spring and summer and are most active on sunny days. They are fast runners and excellent flyers. Adults feed on just about anything they can see and catch, including invertebrates that may be larger than themselves.

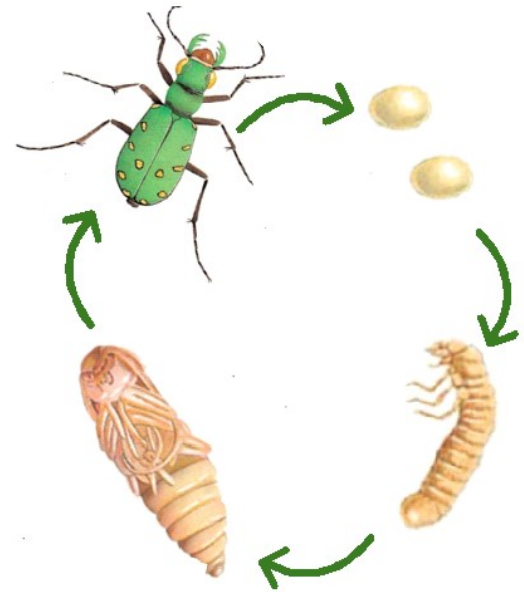


Figure 2. The various life stages of Green Tiger Beetle: egg, larva, pupa, and adult (illustration created by Skarleth Chinchilla and inspired by Q-Files - Online encyclopedia 2025).

## Predatory Skills and Diet

Green tiger beetles are active hunters and consume a wide range of small invertebrates, including ants, spiders, caterpillars, and other ground-dwelling arthropods. They use their powerful mandibles to seize and kill prey. Both adults and larvae help control insect populations naturally.

## Habitat and Conservation

These beetles thrive in open habitats with loose, sandy soil that allows for easy burrow construction and rapid movement. They are sensitive to habitat disturbance. Some of the key practices to conserve their population include maintaining patches of native vegetation, minimizing pesticide use, and preserving sandy areas. Green Tiger Beetles are considered an indicator species for healthy ecosystems due to their sensitivity to changes in habitat structure and pesticide exposure.

## Fun Fact

Despite their small size (about 12-15 mm), Green Tiger Beetles have such sharp vision and speed that entomologists sometimes refer to them as the “cheetahs” of the insect world. Look around, they are already out and on the hunt!

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