In This Issue

From The Editor's Desk

(Petrus Langenhoven, plangenh@purdue.edu, (765) 496-7955)

Welcome to the Vegetable Crops Hotline (VCH), Purdue Extension's exclusive newsletter for people in the business of growing vegetables.

This issue is packed with invaluable information. Our featured article focuses on Food Safety Considerations for Vegetable Farms. This issue also includes our insect and weed spotlight articles. We also examine Marketing and Social Media for Vegetable Farms, the impact of the past week's heat on fruiting vegetables, and the use of silage tarps in weed management on vegetable farms. As usual, we are including a weather update and current vegetables on offer at the Clearspring Produce Auction. We also welcome the newly appointed plant pathologist, Cesar Escalante-Guardado. The newsletter also includes updates regarding upcoming field days and workshops. The July 18 Purdue Fruit and Vegetable Field Day and the July 25 Small Farm Education Field Day schedules are now available! New details about the upcoming September 4 Irrigation Workshop for Small-Scale Vegetable Producers are now available. Reserve your spot now!

Timeless Articles

Spray Less, Pay Less, and Get Better Control of Your Arthropod Pests. Issue 692.
https://vegcropshotline.org/article/spray-less-pay-less-and-get-better-control-of-your-arthropod-pests/

Considerations for Mid-Season Weed Control in Cucurbits. Issue 677.
https://vegcropshotline.org/article/considerations-for-mid-season-weed-control-in-cucurbits/

Website Links

Frequently, we include links to websites or publications available online. If you can't access these resources, don't hesitate to contact your local Extension office or us to request a hard copy of the information.

Midwest Vegetable Production Guide

This annually revised guide is a summary of currently suggested fertility, cultural, and pest management techniques and tools for commercial vegetable growers. It is a collaboration of land-grant universities from eight states. It provides information on vegetable production that is valid for the current year in Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, and Ohio. The audience for the Midwest Vegetable Production Guide is commercial growers.

The searchable **online guide** is available at mwveguide.org. There is no charge for accessing the guide, and any updates will be available immediately. Therefore, access the online guide to get the most up-to-date version of the Midwest Vegetable Production Guide **mwveguide.org/guide**. You can also download a free copy of the guide from your computer or purchase a hard copy for $12 from Stephen Meyers, slmeyers@purdue.edu.

Do not hesitate to contact me at plangenh@purdue.edu if you have any questions or suggestions for improving the newsletter. Let me know if there are specific topics you would like to see more of in the newsletter. Also, let us know if things are not working for you. We want to improve the newsletter, and your input is valuable.

We hope you enjoy the newsletter. Happy reading!

Food Safety Considerations for Vegetable Farms

(Tari Gary, tstrazis@purdue.edu) & *(Amanda J Deering, adeering@purdue.edu)*

Intense heat and long days serve as a reminder that we are officially in the heart of Summer, where Indiana consumers rush to grocery stores and farmers markets to purchase fresh, locally-grown fruits and vegetables. As produce farms strive to meet this demand, it is

important that growers consider food safety and follow good agricultural practices to protect these consumers from foodborne illness outbreaks. Simple actions such as training workers in food safety, monitoring water quality, and proper handling of waste and soil amendments go a long way in reducing food safety risks on the farm.

Farm workers, including paid and volunteer laborers, form the foundation of a successful produce farm. Most fruit and vegetable operations require manual labor, where workers harvest and pack produce with their hands, which creates the opportunity for contamination with foodborne pathogens. To reduce this risk of contamination, produce farms must train their workers on good food safety practices upon hire and at least once annually in a language that is easily understood by all workers. Training programs must review proper handwashing, personal hygiene, proper use of toilets, how to handle illness and injury, how to identify if someone is sick and other food safety risks at harvest. When delivering this training, growers may utilize videos, such as the Fruit and Vegetable Food Safety Training Video for Field Employees developed by the Produce Safety Alliance.

Figure 1. Workers at the Purdue Student Farm harvesting vegetables (Photo by Tom Campbell).

Another important food safety consideration for produce growers is water quality. Insufficient water quality can result in wide-spread contamination of fruit and vegetable crops during irrigation, application of crop sprays, and other instances where the water directly contacts the produce. Therefore, proper water management is key. With the exception of root crops, produce farms can reduce risk by limiting the contact of water with the edible portion of the crop through utilization of drip or trickle irrigation. Water source can also impact risk. Growers should utilize public or ground (well) water sources over surface water from ponds, streams, and reservoirs when possible. Surface water is open to the environment, making it difficult to control animal access, runoff, and other potential sources of contamination. Finally, produce growers may choose to monitor their water quality by testing their water for generic *E. coli*. The presence of *E. coli* indicates that there was fecal contamination of the water source, and there could be an issue with water quality that needs to be addressed. Growers can find a list of laboratories that can test their water on the Safe Produce Indiana website.

Figure 2. Student collecting a surface water sample for microbial testing (Photo by Tom Campbell).

Biological soil amendments of animal origin such as manure, bone meal, and fish emulsion can be indispensable for promoting plant growth and improving soil quality. However, they can carry a biological risk. For growers who choose to apply biological soil amendments of animal origin to their fields, proper handling of these materials is essential to preventing contamination. Growers are encouraged to select soil amendments that have undergone a validated treatment method, such as composting. If a farm chooses to apply raw manure or another untreated soil amendment to their field, this should be applied 90-120 days prior to harvest to maximize the application interval and reduce microbial risk. Growers should never side-dress with raw manure. All biological soil amendments of animal origin should be stored away from produce fields, water sources, and high-traffic areas. Finally, workers who handle soil amendments should receive training on proper handling to prevent cross contamination.

By following these food safety practices, growers can reduce biological risk associated with produce grown on their farm. Food safety can be an overwhelming topic for produce growers to navigate. But never fear; Safe Produce Indiana is here! Purdue Extension's Safe Produce Indiana team is available to answer produce growers' questions about food safety and help them navigate produce safety regulations and audit standards. Safe Produce Indiana has also curated several food safety resources for produce growers. Visit safeproducein.com to learn more, or contact a member of our team today!

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Meet Dr. César Escalante, the New Vegetable Pathologist at the Southwest-Purdue Ag Center

Greetings everyone! I am César Escalante, and I have recently been hired as the new vegetable pathologist by the Purdue Department of Botany and Plant Pathology. Starting July 1, 2024, I will be at the Southwest-Purdue Ag Center in Vincennes, IN. I will be serving as a liaison to Indiana's vegetable industry. As part of my extension program, I foresee establishing a fruitful interaction with large- and small-scale vegetable farmers of the state to support the identification of plant pathogens and the control and management of problems related to plant health. I want to extend my sincere intention to collaborate with Purdue faculty that continuously work to serve farmers throughout their extension efforts. Similarly, I hope to have close interactions with the state and national associations that advocate for improving vegetable farmer's production in Indiana and beyond. In the following months, I will visit farmers, faculty, and grower association officers to introduce myself and learn about their needs and possible collaborations. In the meantime, my contact information is below if you have a question or need to contact me.

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Marketing & Social Media for Vegetable Farms

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Most Americans use social media to share information, find entertainment, and engage with businesses, which has made social media an important information source for all generations. Figure 1 shows findings from the Pew Research Center on the use of social media platforms, with Gen Z and Millennials more inclined to use Instagram, Snapchat, and TikTok, and Baby Boomers and Generation Xers significantly increasing their use of Facebook and other social media platforms. Among social media platforms, YouTube and Facebook remain the most popular, followed by Instagram, Pinterest, TikTok, and LinkedIn.

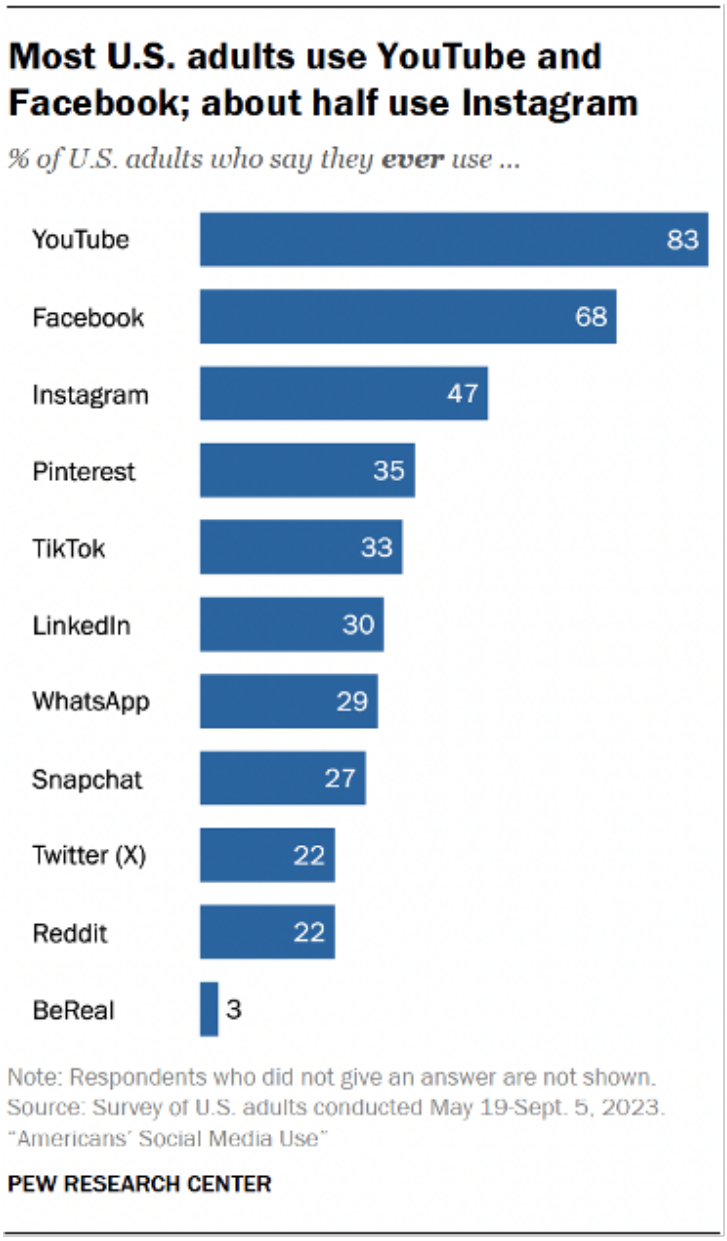

Figure 1. Adults use of social media platforms in the U.S.

Social media influences how Americans purchase and consume products and services, so it is proving to be a powerful — and inexpensive — marketing tool. Businesses can use social media to increase their online exposure, attract new customers, highlight new products or services, hear what customers and potential customers say, and most importantly *build relationships* with current and prospect customers.

Given the popularity and convenience of social media, we would expect farmers are actively engaging customers through Facebook and other platforms. However, many farmers are not using social media for their marketing activities, and some that use it are not using it effectively.

Reasons may include that farmers perceive that social media is time consuming and confusing, or they simply do not understand how to use it.

If you are selling your farm products directly to consumers, this article can assist your business tailor and deliver social media marketing.

Using social media to sell

Social media can help a business attract followers and convert them

into customers. However, just using social media is not the same as using social media *effectively*. Effective social media marketing requires businesses to connect with the right people, construct a tailored marketing strategy, treat followers as if they were face-to-face customers, and offer contests, giveaways, and events to convert followers into customers.

Below, you can find seven social media practices to make sure you are taking advantage of these powerful marketing tools. It is important to note that when selecting social media platforms, farmers should consider their target audience, industry, and marketing objectives. While maintaining a presence on multiple platforms is often effective, you should prioritize platforms where the target audience is most active. Additionally, combining organic content (free posting) with targeted paid advertising can enhance the impact of social media marketing efforts.

1. **Align your priorities.** Use the SMART framework to define the goals you want to achieve with social media. Make sure your goals are SMART: Specific, Measurable, Achievable, Relevant, and Time-bound. This framework ensures that your objectives are well-defined and realistic.

Define specific and measurable objectives that can be quantified. For example, instead of a vague goal like “increase brand awareness”, set a measurable objective such as “increase brand mentions by 20% within six months”. Alternatively, you may want to gain 25 new followers on Facebook in the next months or create at least one Facebook event that generates $1,000 or more in sales in the next month. You may decide to incorporate X (previously Twitter) in your strategy to provide excellent customer service and reply to messages within 10 hours. Your goals will guide you in tracking and evaluating your marketing activities.

Start by aligning your social media goals with the broader objectives of your business. Whether it is increasing sales, building brand awareness, driving website traffic, or improving customer engagement, your social media goals should contribute to these larger business goals.

3. **Build a brand that appeals to your audience**. The content (particularly the visual elements) you post on social media is key to building your brand. Below are some useful tips for social media branding.

    1. Create a logo that represents your company and use it across all platforms. Use a recognizable and high-quality logo or image as your profile picture.
    2. Use the same color palette or filter for your photos consistently so your followers recognize your business across all networks.
    3. Use your bio, profile, and cover photos to communicate who you are and what your company does better than anyone else. Crafting a concise and compelling bio will clearly communicate your brand’s identity and value proposition. Include a link to your website or a specific landing page.
    4. Use *#hashtags* for keywords that highlight your business values, products, events, campaigns, and industry. Hashtags can help you increase engagement, raise awareness, and categorize content.
    5. Share a variety of content, including images, videos, links, and text posts. Mix promotional content with valuable and entertaining posts to keep your audience engaged.
    6. Monitor comments, messages, and reviews regularly. Respond promptly and professionally to build a positive relationship with your audience.

4. **Choose your crops (platforms) wisely**. You may feel the urge to jump into every social media platform, but it is recommended that you instead find the network that aligns with your customers’ profiles. Your business has unique customer segments, demographics, psychographics, and behavioral characteristics. Understand what social media your current and potential customers use to align your ads, events, and content. Each platform has its own strengths and provides a way to reach a unique clientele. For example, Instagram helps reach younger generations via photos, while X is great for providing exceptional customer service.

Select the social media platform(s) that align with your business goals and where your target audience is most active. Focus on quality rather than spreading thin across all platforms. One of the best ways to start social media marketing is (the oldie-but-goodie) Facebook. Make sure you fill your business page entirely, make your photos look good, and use their analytics and ad tools. Once you feel comfortable with Facebook, you can diversify and expand to other platforms by testing the waters in Instagram and others.

4. **Consistency pays off**. As with any farm project, social media requires you to commit time and resources. Develop a content calendar and post regularly to maintain a consistent presence. As soon as you develop your calendar, you can save time by scheduling tools to plan posts in advance. Examples of tools include Sprout Social, Hootsuite, and Buffer. Using tools part of each platform (usually called insights) can help you determine the best times for posting when your audience is active. Sprout Social publishes (Figure 2 below) the global usage time of Facebook and Instagram to help optimize your posting times.

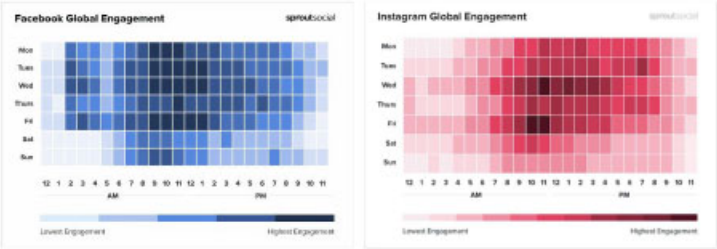

Figure 2. Facebook and Instagram global engagement

Using this information can help you post messages daily and at the time when your followers are around to see them by using the calendar to maintain a consistent posting schedule. Consistency helps build audience expectations and ensures that your brand stays at the top of your mind. You can streamline your content creation process by batching similar tasks across several platforms, especially using social media management tools. While you streamline your posting calendar, you can dedicate specific time to creating images, writing captions, and planning your posts for the upcoming week.

A very useful strategy is to discover the best time to post by understanding the demographics and locations of your audience and then tracking the engagement of your posts at different times of the day. Your posts should help you build relationships with your customers by providing relevant information, replying to comments or questions immediately, and using events and promotions to engage.

6. **Keep it real**. Consumers want to buy products that have a direct impact on their communities. Tell followers your farm

story, share your values and what you care about, and highlight the impact of buying from your farm. Post behind-the-scenes photos to communicate the passion you put in your business. Pose questions to your followers and inspire them to talk. A great way to tell your story is to post videos of your activities, events, and campaigns. Fill in your posts with words and photos that express the DNA of your business — your reason for existing. Convey what it is that you do better than anyone else and be visible and loud as if you were next to your customers.

7. **Track your success**. Identify key performance indicators (KPIs) that align with your goals. Common social media metrics include engagement rate, reach, conversion rate, click-through rate, and follower growth. Select metrics that directly reflect progress toward your objectives. When selecting your KPIs, you should establish realistic timeframes for achieving your goals. These could be short-term objectives (weeks or months) or long-term goals (quarters or years), depending on the nature of your business and industry. Examples of KPIs may be number of followers, shares, and mentions; click-through-rate or the percentage of people who clicked on a post or ad out of the total number of people who saw it; cost per conversion or the amount of money a brand spends on social media advertising to generate one sale. Regardless of your KPIs you should prioritize your goals based on their potential impact on your business. Focus on goals that will bring the most significant benefits and contribute directly to your business objectives.
8. **Obtain and value feedback**. You can regularly evaluate the performance of your strategies and be willing to adapt based on the feedback and insights you gather from your audience and analytics tools. Start with comprehensive market research to understand your current and potential customers. Identify their trends, preferences, and challenges within your market. You can gather valuable feedback through surveys, polls, or direct communication with your existing customers on your social media platforms. You can ask about their preferences, needs, and expectations. This direct input can provide valuable insights and help you tailor products and services, as well as marketing messages to appeal to consumers. While some feedback can be negative, addressing negative feedback promptly, professionally, and publicly is recommended. Demonstrate a commitment to resolving issues and maintaining customer satisfaction. Marketers divide the market into categories based on shared traits, and you can use this tool in Figure 3 to highlight the types of market segmentation useful to group customers with similar attributes and behavior.

Figure 3. Types of market segmentation.

Demographic segmentation groups people with common characteristics (e.g., age, income, education, gender, nationality, etc.) that will have similar lifestyle patterns, tastes, and interests that ultimately influence their purchasing habits. *Geographic* segmentation can allow you to group people based on where they live, work, or travel. *Psychographic* segmentation divides people into groups based on their personality, lifestyle, social status, activities, interests, opinions, and attitudes. Psychographic characteristics include how customers perceive products and services and what are their preferred forms of communication. *Behavioral* segmentation refers to the specific steps in your current and prospective customer's buying process, including what their ideal customers want, why they want it, the benefits sought, and how they go about getting their needs met.SMART is an acronym that can guide the goal-setting process.

Silage Tarps for Small Farm Weed Management

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The use of silage tarps for weed management has increased dramatically in recent years, including in our own research in the Horticulture Crops Weed Science Lab at Purdue University. This article answers five common questions about tarping for weed management.

What are silage tarps?

Silage tarps are reusable, opaque plastic sheets that are black on one side and white on the other side (Figure 1). They have historically been used to cover silage used to feed dairy herds- often with the white side of the tarp facing upward. Compared to plasticulture mulch, which averages 1 mil in thickness, silage tarps are usually 5 mil thick. Silage tarps are commonly applied to the soil surface between crops and removed when it is time to plant a cash crop. This practice, increasingly adopted by small and organic farmers, aims to reduce the need for tillage.


Figure 1. Silage tarps (left) and repurposed greenhouse plastic (right) placed on the ground and secured with sandbags at Purdue Student Farm (Photo by J. Cerritos).

How does tarping work?

- Silage tarps operate based on the principles of *occultation*. Sunlight cannot pass through silage tarps, which prevents plants underneath the tarp to from photosynthesizing light into energy. Without sunlight, plants under the tarp eventually die.
- This is different from *solarization*, which involves the use of clear plastic to trap solar energy and greatly increase soil temperature. Solarization is best done during the hottest part of the year, whereas tarping can be done year-round

How can silage tarps be used?

There are many uses for silage tarps beyond weed control. For example, silage tarps can be placed onto soils with ample soil moisture

to prevent soils from drying out. They can be placed onto fertilized beds that are not yet ready to plant to prevent the loss of fertility from leaching. But here, we will focus on the ways tarps can be used for weed management:

- ***Creating stale seedbeds***

In one of our trials conducted last year at the Purdue Student Farm, we aimed to assess the effectiveness of silage tarps in managing weeds for small-scale onion production. Onions are not particularly competitive against weeds, so we were keen to explore how silage tarps could be used to create a stale seedbed.

A stale seedbed practice involves promoting weed germination and eliminating emerging weeds before planting the crop. One advantage of silage tarps is the potential reduction in tillage passes (Figure 2). During our trial, we observed that tarps provided similar weed control to tilling twice prior to onion transplanting. This suggests that tarps could effectively manage weeds early in the season, helping transplanted onions compete against early-season weed growth.

Figure 2. The first bed was tarped for 5 weeks before transplanting, while the next bed was tilled before transplanting onions. Note the greater soil moisture in the tarped row compared to the tilled row. (Photo by J. Cerritos.)

- ***Early season weed control on slow-to-emerge crops***

Some small farms have used silage tarps to provide an optimal environment for carrot seed germination and emergence while simultaneously providing weed control. We explored a similar strategy with potatoes, which can take several weeks to emerge after planting. We planted seed potatoes and either immediately tarped plots or sprayed them with Dual Magnum, a pre-emergence herbicide. The goal was to control weeds that would typically germinate after potato planting but before potato emergence. The tarps were removed when 50% of the potatoes started emerging (Figure 3). We found that tarped beds did not adversely affect potato emergence but did effectively controlled weeds for the first 3 to 4 weeks after planting. This method also reduced end-of-season above-ground weed biomass significantly compared to the herbicide treatment.

Figure 3. Potato plants emerge from a plot that was tarped for 2 weeks (Photo by J. Cerritos).

- ***Cover crop termination***

Silage tarps are a valuable tool for terminating cover crops, such as annual rye or vetch, which are often planted in the fall and can sometimes be difficult to terminate by other methods. Mowing or roller-crimping the cover crop before tarping will ensure that the tarp is lower to the ground and stays in place better. The mulch left behind by the cover crop residue improves soil moisture retention, suppresses weeds, and reduces erosion. In 2023, at the Purdue Student Farm, we demonstrated how tarping could terminate buckwheat compared to mowed and roller-crimped plots (Figure 4). This year, we are expanding our trials to evaluate the effectiveness of silage tarps for terminating cowpeas alongside traditional mowing and roller-crimping methods.

Figure 4. Silage tarps are placed Laying black plastic on top of flail-mowed buckwheat (Photo by J. Cerritos).

What type of weeds do silage tarps control?

In trials conducted on potatoes and onions, we observed that tarping

effectively controlled annual weeds but was ineffective at managing perennial weeds, such as Canada thistle (Figure 5), because these weeds have energy reserves in their extensive root system. We have also observed that stale seedbed tarping may be ineffective at controlling weeds that prefer light to germinate, such as redroot pigweed. For these weeds, it may be best to wait until they have emerged, then place the tarp over them to kill them. Alternatively, we have seen great initial success by placing clear plastic over a prepared bed to encourage weed seed germination, followed by three weeks of silage tarping to kill the emerged weeds. This works especially well in the early spring by increasing soil temperatures to promote weed seed germination and emergence.

Figure 5. Canada thistle persists after removing a silage tarp (Photo by J. Cerritos).

What are the drawbacks and limitations of silage tarps?

While silage tarps show promise as a valuable tool for weed management on small farms, they also present certain drawbacks and limitations that we have observed. We use sandbags to hold our tarps in place. One significant limitation is the logistical challenge of handling silage tarps (and their sandbags), especially when moving them in windy conditions. This task can be particularly challenging with limited personnel.

Additionally, in one of our trials at the Meigs Horticulture Farm, we encountered another issue after lifting the tarps: a notable increase in voles and mice (Figure 6). Furthermore, while tarps are often reusable, they are made of plastic. Some farmers hesitate to use large quantities of plastic on their farms due to concerns about disposal and potential contamination issues.

Figure 6. A mouse is uncovered while removing a silage tarp (Photo by J. Cerritos).

Take home message

While silage tarps hold potential as a valuable tool for weed management on small farms, tarping alone often will not provide complete, season-long weed control. It should be combined with other weed control practices for optimal results. As with all production practices, the adoption of silage tarping on your farm should be gradual until you understand if and how the practice fits into your production system.

Weed spotlight: Carpetweed

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Common names: Carpetweed, Indian chickweed, whorled chickweed, devils-grip, green carpetweed

Latin name: *Mollugo verticilata L.*

Family: Molluginaceae

General Description and Life Cycle

Carpetweed is a summer annual. Compared to other summer annual weeds, its germination is usually later in the summer. The plant grows rapidly and reproduces by seeds. Carpetweed is mostly found in dry and sandy soils but can be found on disturbed land throughout Indiana.

Identification

Seedlings develop as small basal rosettes (Figure 2). It has oblong cotyledons (seed leaves) that are smooth and 1.5 to 3.5 mm long. Young leaves are alternate, with a rounded shape at the tip and narrow at the base. Leaf surfaces are pale green, smooth, and pink or brown close to the base.

Figure 1. A carpetweed seedling (Photo by J. Cerritos).

Mature Plants

Carpet weed has smooth stems with abundant branching, forming a dense low mat above the soil surface (Figure 2). Whorled leaves radiate out from the center of the plant with each whorl containing 3 to 8 leaves; each leaf is 1 to 3 cm long and less than 1 cm wide.

Figure 2. A mature carpetweed plant growing in a watermelon field (Photo by J. Cerritos).

Flowers

Carpetweed flowers may sporadically emerge as early as June, but their bloom period typically spans July through September. Small clusters of 2 to 5 white to greenish-white flowers form within the leaf axils, each measuring approximately 4 to 5 mm in diameter. The flowers are connected to the plant by pedicels ranging from 1.5 to 4 mm in length (Figure 3).

Figure 3. Carpetweed with small white flowers (Photo by J. Cerritos).

Carpetweed and catchweed bedstraw

Carpetweed is sometimes mistaken for catchweed bedstraw (*Gallium aparine*) due to its similar whorled leaves. Catchweed bedstraw is easily recognized by its square stems and slightly hairy leaves. Unlike carpetweed, which grows close to the ground with a prostrate habit, catchweed bedstraw tends to grow more upright.

Management

Carpetweed is recognized as a weed that is easier to manage than other summer annual broadleaf weeds. Its growth habit and shallow roots (Figure 4) make it simple to pull out of the soil by hand or with cultivation. If using herbicides is necessary, effective herbicides for managing carpetweed include S-metolachlor, flumioxazin, and DCPA for pre-emergence control, as well as flumioxazin, glyphosate, and 2,4-D for post-emergence weed control. Using herbicides containing the active ingredient clomazone seems to increase carpetweed emergence. Always read the label and follow approved rates and guidelines for application. Visit mwveguide.org for more information about herbicides registered in the vegetable crops you grow.

Figure 4. Carpetweed has shallow roots (Photo by J. Cerritos).

Interesting facts

Carpetweeds are often overlooked as harmless weeds but can serve as hosts for root-knot nematodes. Interestingly, carpetweed foliage can be cooked and eaten.

References

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Insect Spotlight: Cabbage White Butterfly (Pieris rapae)

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Cabbage white butterflies are medium-sized white butterflies in the family Pieridae. They have black spots on their wings, and a black band on the top of their forewings (top wings), distinguishing them from other species. The butterflies themselves don’t do any damage, however their caterpillars do significant damage to plants in the Brassica family, including cabbage, broccoli, cauliflower, and collard greens.

Life Cycle (Figure 1)

Cabbage white butterflies overwinter as pupae on their host plants (this may include weeds in the Brassica family) and emerge in the spring to mate and lay eggs on the underside of the leaves of their host. Their eggs are oblong and yellowish, with many vertical ridges on the outside, and laid individually. The eggs hatch after approximately one week, and their larvae, small green caterpillars with a yellow stripe along their back, will feed and grow for two to three weeks until they reach their fifth and final instar. They will then attach to the stem of their host plant near the underside of a leaf and molt into a light yellow-green speckled pupa, usually on the underside of a leaf. After a week or two the adults will emerge to mate and lay eggs once again. This process occurs three

to five times a year.

Figure 1. The various life stages of cabbage white butterflies, consisting of egg (top left), larva (top right), pupa (bottom left), and adult butterfly (bottom right) (Photos by John Obermeyer).

Damage

Cabbage white caterpillars feed in a circular pattern on leaves, resulting in round spots of damage. Their dark brown and green excrement leaves discoloration and contamination (Figure 2). The impact of feeding damage depends on the crop in particular. Broccoli and cauliflower can withstand damage to the outer leaves without compromising floret production, and any feeding on collards and cabbage can reduce yield.

Figure 2. Feeding damage (left) and frass (right) on cabbage leaves (Photos by John Obermeyer).

There are three other caterpillar pests of Brassica, including the diamondback moth, the cross-striped cabbage worm, and the cabbage looper. All these caterpillars have some green coloration but vary in size and distinguishing features. The diamondback moth caterpillar has pointed ends and wriggles violently when disturbed on the plant (Figure 3, bottom right), the cabbage looper has white lines defining their body segments and moves like an inchworm (Figure 3, top right), and the cross-striped cabbage worm is the only one whose eggs are laid in clusters, and therefore found in clusters when they first hatch. This caterpillar has horizontal black, white, and yellow stripes along its back (Figure 3, bottom left). All four of these species produce similar feeding damage and can often be managed using the same techniques. The only one that flies during the day you may see fluttering about in the garden is the cabbage white.

Figure 3. Comparison of Brassica-feeding caterpillars, including the cabbage white (top left), the cabbage looper (top right), the cross-striped cabbage worm (bottom left), and the diamondback moth (bottom right) (Photos by John Obermeyer).

Management

Cabbage white caterpillar populations are naturally controlled via parasitoid species, including several small wasp species and a few species of tachinid flies. Depending on the species, these insects target various life stages of the caterpillar, including the egg, larval, and pupal stages. While these natural enemies are present, they do not manage populations at a level that will reduce economic damage.

However, numerous other methods of pest management can be implemented against cabbage white and all the other caterpillars mentioned. One of the easiest control methods to execute is cultural control, such as the management of weeds in the Brassica family, preventing the caterpillars from increasing their population on separate host plants and migrating over once the crop is planted. Additionally, deploying exclusion netting immediately after planting or transplanting crops prevents the adults from accessing the leaves to deposit eggs. Exclusion netting should be secured as soon as the crop is planted, as hesitation may result in pests being trapped under the netting with the crop. *Bacillus thuringiensis* is a common bacterial biological control agent used against caterpillar pests in general; it must be applied directly onto the plant's leaves once a week after the first larvae appear on the plants. Other conventional pesticides may be applied; however, there is a chance that the insecticides will kill off natural predators in the process. For more information on pest control methods and their implementation, visit the *Midwest Vegetable Production Guide*.

An Introduction to Predatory Gall Midges

(Allison Zablah, azablah@purdue.edu) & *(Laura Ingwell, lingwell@purdue.edu, (765) 494-6167)*

We want to introduce you to a predatory insect that you will find in your cropping systems, and it's a fly! Predatory gall midges belong to the Cecidomyiidae family and undergo complete metamorphosis from egg through three larval instars, pupa, and finally, the adult stage (Figure 1). This insect overwinters as larvae in cocoons in the soil and pupates during spring. While all life stages of this insect may not be easy to identify, they are beneficial to have around.

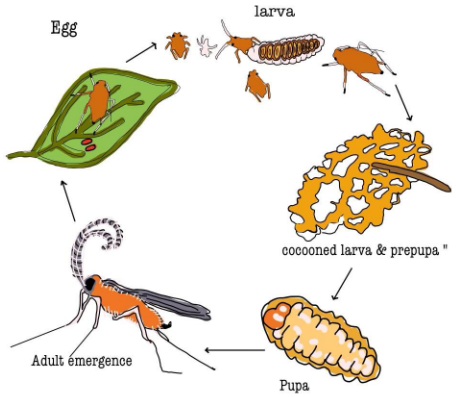


Figure 1. Predatory gall midge life cycle (design by Sheyla Zablah).

The larvae are carnivorous, feeding on aphids, making them predators in agricultural fields and high tunnels. In the recent Insect Spotlight on Syrphid Flies (Issue 737), we noted that the larvae of predatory gall midges are occasionally mistaken for syrphid larvae. While both of these organisms are true flies belonging to the order Diptera, there are significant differences in the appearance of adults and larvae. Adults are characterized by long, hairy legs and distinct wing venation (Figure 2), which are very different from the bee mimics that adult syrphid flies resemble. Similar to syrphids, adult midge flies feed on pollen and live for a short period of time. The larval stage may be confused with syrphid flies. However, predatory gall midge larvae are more brightly colored (yellow, orange, and red) and have less distinct segmentation between body parts (Figure 3). Species such as *Aphidoletes aphidimyza* are natural enemies that effectively suppress pest aphid populations, typically emerging in late spring and summer. During recent farm visits, our lab has observed a significant population of these midges inside high tunnels infested with aphids.

Figure 2. Adult predatory gall midge (Photo by John Obermeyer).

Figure 3. Predatory gall midge larva (Photo by John Obermeyer).

Aphidoletes aphidimyza larvae are also commercially available through various beneficial insect suppliers such as Biobest, Biobee, Arbico, and Koppert. Additionally, they can naturally establish themselves in aphid-infested crops.

Predatory gall midges, *Aphidoletes aphidimyza*, are important predators in IPM, offering biological control of aphid populations in agricultural settings! Keep an eye out for this beneficial insect.

High Temperature Affects Fruit Set of Vegetable Crops

(Liz Maynard, emaynard@purdue.edu, (219) 548-3674) & *(Wenjing Guan, guan40@purdue.edu, (812) 886-0198)*

Recent high temperatures have been above optimum for vegetable crops. Around Indiana, from June 12 to 25 the daily high was more than 90°F on at least 5 days and the low overnight was above 70°F on at least 3 dates (Figure 1). High night temperature is a particular concern because it causes plants to use up more stored carbohydrates. For fruiting crops, a common heat-related problem is abortion of flower buds, flowers, or young fruit (Figures 2 and 3). Depending on crop and timing, this can result in a delay of harvest, or a gap in the harvest period when fruit are not available. The loss of buds, flowers, or young fruit may not be obvious without close inspection to see where they have fallen off. Because the plants aren't spending energy on developing that fruit, vegetative growth may be more vigorous. Based on a windshield survey the plants might look very good.

It will take time for new buds to develop into flowers and fruit. There is not a lot one can do to speed up the process, but here are a few things that might help. Reduce potential stress on the crop. This could include providing timely irrigation and removing weeds that shade the crop, as well as smaller weeds that could compete for water and nutrients. Avoid

pesticide and other foliar applications that you know may cause phytotoxicity. For crops that rely on pollinators, avoid pesticide applications that could harm them.

Because high levels of nitrogen can promote vegetative growth at the expense of fruiting, reassess plans for sidedressing or fertigating. I am not aware of research that pins down the best way to do this. Consider the crop condition and your estimate of nitrogen available in the soil. Take into account likely nitrogen losses from denitrification or leaching. Leaf tissue and soil nitrate tests could be helpful. If there is sufficient nitrogen at this time, additional application could be delayed to allow the next fruit set, without stimulating excess vegetative growth.

For hand-harvested tomatoes, peppers, snap beans, and other crops with smaller fruit, the overall yield is less likely to be affected by losing one set. In machine-harvested crops a split set might reduce the amount ready at the time of a once-over harvest. For a crop like jack-o-lantern pumpkins, with larger fruit and just a few per plant, yield could be reduced if there is not enough time remaining in the season for the next fruit to develop. This heat has occurred early in the season so any affected pumpkins should have time to develop more flowers.

Crop varieties differ in their tolerance to high temperatures. In some cases that information is included in seed catalogs, or can be found by close reading of variety trial reports. But a grower's own experience is invaluable. This would be a good time to make notes about how different varieties have responded to the high temperatures. Have some varieties continued to bloom and set fruit while others have aborted buds, flowers, or young fruit? If they aborted, how long until the next successful fruit set? Factors like planting date, field or tunnel location, nutrient applications, etc., that are different for varieties could affect the response, so include notes on those too.

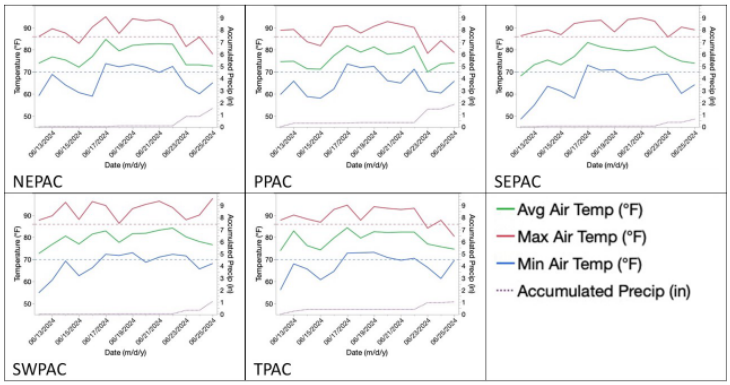


Figure 1. Daily average, maximum, and minimum air temperature and accumulated precipitation, June 12-25, 2024, at Northeast (NEPAC, Columbia City, IN), Pinney (PPAC, Wanatah, IN), Southeast (SEPAC, Butlerville, IN), Southwest (SWPAC, Vincennes, IN), and Throckmorton (TPAC, Lafayette, IN) Purdue Ag Centers. Data from Indiana State Climate Office. 2024. Purdue Mesonet Data Hub. https://ag.purdue.edu/indiana-state-climate/purdue-mesonet/purdue-mesonet-data-hub/ Accessed 26 Jun 2024.

Figure 2. Pumpkin female flower aborted before opening (Photo by E. Maynard).

Figure 3. Arrows point to tomato flowers that are aborting after blooming, indicated by the yellowing of pedicels (Photo by W. Guan).

Fruiting Vegetable Responses to Drought Stress

(Wenjing Guan, guan40@purdue.edu, (812) 886-0198)

It seems the season has shifted abruptly from wet to dry. Over the past week, we've begun to hear reports typically associated with hot and dry conditions. At the Southwest Purdue Agricultural Center, we conduct

side-by-side comparisons of different fruiting vegetables under varying irrigation treatments. This article summarizes our observations on how different fruiting vegetable crops respond to drought stress.

Tomato

Tomato plants are about 3 feet tall and are setting fruit. The harvest has not started yet. A few days ago, we noticed blossom end rot (BER) on the plants that received the least irrigation. As the stress conditions persist, more green fruits are developing this symptom. It's likely that we won't be able to harvest many if any, marketable fruits from the least irrigated treatment. In contrast, we have not observed any BER in the tomatoes that received irrigation three times a day.

Additionally, we noticed more foliage and slightly taller plants in the treatment, which was irrigated the most. Interestingly, during a blind evaluation, I heard comments that the least irrigated plants had more blooms. While we did not count the blooms, it's possible that the fewer leaves on the least irrigated plants exposed them more, creating the impression of more blooms. It is also possible that the stress condition prompted the plants to produce more flowers instead of growing leaves.

Many wonder if the curling of tomato leaves is a sign of drought stress, as often seen in corn. Our observations suggest this is not the case for tomatoes. Regardless of the irrigation treatments, the tomato leaves, especially the older ones, are heavily curled. This may be a plant response to high temperatures, pruning, or other factors, and the extent of curling likely varies by cultivar. More discussion about tomato leaf curling can be found in this article.

Figure 1. The different stages of BER on green tomatoes. The symptom is likely caused by drought stress resulted calcium deficiency (Photo by Wenjing Guan).

Figure 2. The curling of tomato leaves was observed on tomatoes grown on the frequently irrigated bed (Photo by Wenjing Guan).

Pepper

Peppers are also at the fruit-setting stage. The plants that received the most irrigation (right row in Figure 3) are taller and have more leaves compared to those that received the least water (left row in Figure 3). Damaged fruit has been observed in all treatments (Figure 4), although it is more severe in the least irrigated treatment. This suggests that the damage is caused not only by a lack of water but possibly also by heat and sun exposure. It is not always possible to distinguish between blossom end rot (BER) and sunscald symptoms on peppers. To address this, we added shade cloth to the pepper plants, hoping to reduce the number of unmarketable fruits in the adequately irrigated treatments.

Figure 3. The left row of peppers received the least irrigation, and the right row of peppers received the most irrigation (Photo by Wenjing Guan).

Figure 4. Unmarketable pepper fruit from plants that received ample water supply (left) and deficient water supply (right) (Photo by Wenjing Guan).

Cucumber

In this comparison, we selected a Belt-Alpha type cucumber and trained the plant using a single-leader trellising system. Harvesting began on June 3. The cumulative yields for the three irrigation treatments are shown in Figure 5. Initially, yield was higher on the least irrigated treatment. As the drought stress persisted, plant growth and yield declined in the least irrigated treatment (Figure 6). After around mid-June, the total yields of adequately irrigated plants have surpassed those of the least irrigated plants. All harvested cucumbers were marketable, with no unmarketable fruit observed due to drought stress.

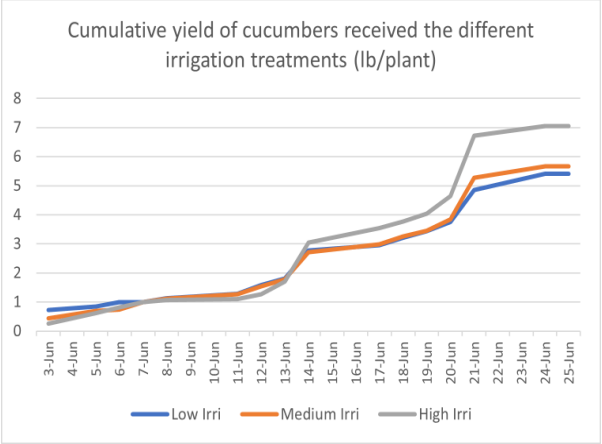


Figure 5. Cumulative yields of cucumber plants receiving different amounts of irrigation.

Figure 6. Cucumber plants received different irrigation treatments (Photo by Wenjing Guan).

It is interesting to note that we have not observed strong wilting symptoms in cucumbers that received the least irrigation. In our previous experience, cucumbers would wilt within one or two days without watering during the middle of the season. In the current case, the least irrigated treatment has gone without irrigation for a few weeks. This greater drought tolerance is likely associated with the plants' root structures. Since they were subjected to a deficient water supply from the beginning of the season, they likely developed stronger roots to access stored water in the soil. Conversely, plants that receive ample water supply early in the season may be more vulnerable to water stress.

Clearspring Produce Auction Update

(Jeff Burbrink, jburbrink@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 3 days a week throughout most of the growing season (Tuesday, Thursday, Friday), with a hay sale on Saturdays. Office hours are Monday and Wednesday, 1 to 4 pm, and Tuesday, Thursday, and Friday, 8 am to 4 pm. An auction report can be heard by calling (260) 463-4131. Besides the produce and hay auctions, Clearspring has an equipment and supply business operating onsite for growers.

It seems the sales of vegetables are ramping up!


Figure 1. Tomatoes sold at Clearspring Produce Auction (Photo by Jeff Burbrink).


Figure 2. Onions sold at Clearspring Produce Auction (Photo by Jeff Burbrink).


Figure 3. Summer squash sold at Clearspring Produce Auction (Photo by Jeff Burbrink).

June 13, 2024

June 18, 2024

June 25, 2024

Insect Monitoring Updates

(Laura Ingwell, 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. Purdue Meigs farm, in Tippecanoe County, is still catching moths in the double digits. Other locations throughout the state are reporting single digits and some zeroes. A reminder that if your sweetcorn is silking and the dent corn in your neighborhood is not there yet, you should be protecting your crop if the trap catches are 1 or more.

The squash vine borer (Figure 2) trapping is behind schedule, but the adults are out and active.

Tomato pinworm (Figure 3) is the other insect we have begun monitoring in high tunnel tomato production. While we are currently processing our first traps, I can confirm that the adults are active at many of the locations that participate in the network. Watch for evidence of leaf mines on your crop and remove them. If you are worried about high populations infesting fruit, you may want to apply an insecticide for protection. In the *Midwest Vegetable Production Guide,* you should navigate to tomatoes and caterpillar pests. Filter for greenhouses to get the most appropriate product recommendations.

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

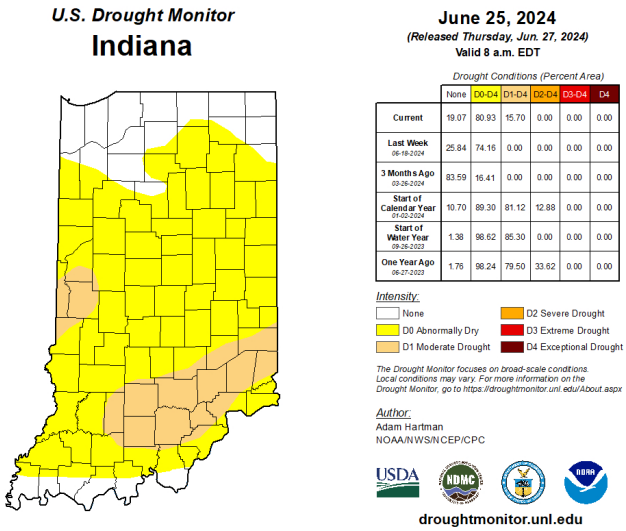
Figure 2. Squash vine borer adult (Photo by John Obermeyer).

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

Will Recent Rain Events Be Enough?

(Beth Hall, hall556@purdue.edu)

Last week, temperatures were higher than normal, and the lack of precipitation was causing lawns to turn brown, creek and lake levels to drop, and some crops to start showing stress. The U.S. Drought Monitor introduced *Abnormally Dry (D0)* conditions across much of the state with concerns that a drought could be right around the corner. In fact, this week's U.S. Drought Monitor (that considers data through early Tuesday morning of this past week) expanded the *Abnormally Dry (D0)* zone a bit and introduced some *Moderate Drought (D1)* areas in west-central and southeast Indiana (Figure 1). To use a highly scientific term … "Yikes!". However, since early Tuesday morning, showers and even some strong storm events have passed through our region. Power outages and downed trees reminded us that our atmosphere still has some moisture and energy to wake us up from our parched state. Another round passed through on Wednesday and this weekend has even more rain in the forecast. Will this be enough, or will this just put us into a false sense of security?



	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	19.07	80.93	15.70	0.00	0.00	0.00
Last Week 06-18-2024	25.84	74.16	0.00	0.00	0.00	0.00
3 Months Ago 03-26-2024	83.59	16.41	0.00	0.00	0.00	0.00
Start of Calendar Year 01-02-2024	10.70	89.30	81.12	12.88	0.00	0.00
Start of Water Year 09-26-2023	1.38	98.62	85.30	0.00	0.00	0.00
One Year Ago 06-27-2023	1.76	98.24	79.50	33.62	0.00	0.00

Figure 1. U.S. Drought Monitor map for Indiana based on conditions through June 27, 2024.

It is useful to first assess our precipitation deficit. Since June 1, 2024, most of Indiana has received 2-3 inches less precipitation than what has been normal for this same period from 1991-2020 (Figure 2). A few rain events will need to be gully washers to try and make that up, and even if those heavy rainfall events occur, how much of that will be "effective". In other words, what percentage of that precipitation will be absorbed by the soils and vegetation, as well as the groundwater supplies, instead of running off into drainage stream systems? Additionally, a significant amount of moisture is evaporating and transpiring – a natural process that peaks this time of year – each day. When stagnant heat events settle in and bring mostly sunny skies, this can rapidly offset much of the precipitation that may have been absorbed.

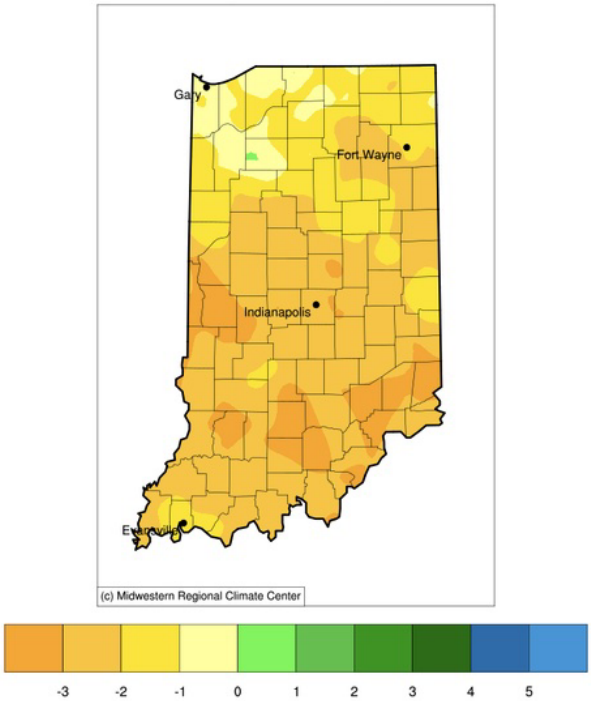


Figure 1. Precipitation departure from normal (inches) for June 1-26, 2024.

Fortunately, the 7-day precipitation forecast is calling for another round of precipitation this weekend (which should mostly benefit northern Indiana), with the middle of next week bringing a bit more (Figure 2). While amounts are relatively moderate, this pattern of rain every few days is ideal and should hopefully discourage any potential drought from intensifying rapidly over the next few weeks. The 6-14-day climate outlooks (through July 10th) are favoring above-normal temperatures (with confidence increasing in the latter half of this period) and above-normal precipitation (with only slight confidence). Precipitation is likely to be more localized with definite winners and losers across the state. Hopefully, over time, it will all be a wash, and everyone will get enough rain to keep things growing and water supplies flowing!

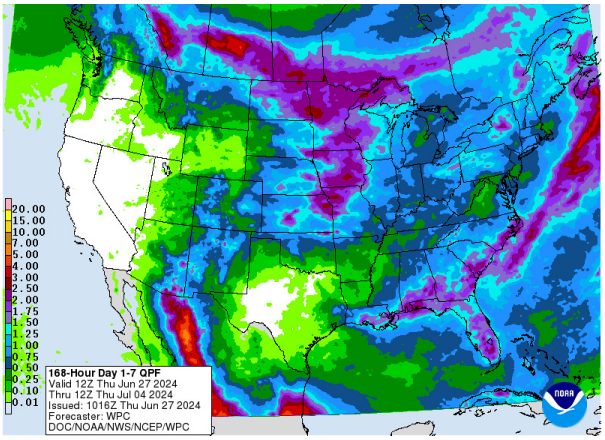


Figure 3. Precipitation amounts (inches) forecasted for June 27 through July 4, 2024.

Purdue Fruit and Vegetable Field Day on July 18, 2024 – Register Now!

(Petrus Langenhoven, plangenh@purdue.edu, (765) 496-7955)

We are happy to announce that Purdue Extension is presenting its annual Fruit and Vegetable Field Day on July 18, 2024, at the Throckmorton/Meigs Horticulture Farm, Lafayette, IN.

Registration is now open! Register here: Purdue Fruit and Vegetable Field Day

The program is now available. Download HERE.

Fruit and Veg Field Day 2024_Agenda FINAL_page1

Fruit and Veg Field Day 2024_Agenda FINAL_page2

Contact Lori Jolly-Brown or Petrus Langenhoven if you have any questions.

Purdue Small Farm Education Field Day on July 25, 2024 – Register Now!

(Petrus Langenhoven, plangenh@purdue.edu, (765) 496-7955)

We are happy to announce that Purdue Extension is presenting its annual Small Farm Education Field Day on July 25, 2024, at the Purdue Student Farm, West Lafayette, IN.

Registration is now open! Register here: Purdue Small Farm Education Field Day

The program is now available. Download HERE.

SF2024_FIeldDay_Demo_Schedule

SF2024_FIeldDay_Demo_Descriptions

Contact Lori Jolly-Brown or Petrus Langenhoven if you have any questions.

Irrigation Workshop for Small-Scale Vegetable Producers on Sept. 4

(Wenjing Guan, guan40@purdue.edu, (812) 886-0198)

Date: September 4, 2024
Time: 3:00 – 8:00 PM EST
Location: Southwest Purdue Ag Center, 4369 N Purdue Rd, Vincennes, IN 47591
Dinner Provided

Join us for an informative workshop designed specifically for small-scale vegetable producers. This event will be held at the Southwest Purdue Ag Center in Vincennes, IN, on September 4th, 2024, from 3:00 to 8:00 PM EST. Dinner will be provided.

Workshop Highlights

- **Understanding Irrigation:** Learn the importance of proper irrigation management for vegetable production.
- **NRCS EQIP Programs:** Discover available programs and how to apply for them.
- **Expert Speakers:**
  - Cara Bergschneider, NRCS Urban Conservationist
  - Wenjing Guan, Purdue Extension Specialist
  - Scott Wagner, NRCS Agricultural Engineer

Topics Covered

- Plant Response to Water
- Irrigation Scheduling
- Automatic Irrigation Control
- Estimating Soil Moisture and Soil Moisture Sensors
- Irrigation Water Quality
- Water and Soil Health

The workshop includes both indoor presentations and field tours to demonstrate the concepts discussed.

Registration

This program is free but limited to 50 participants. If you are interested, please register using the link. For questions about registration, contact Valerie Clingerman at clingerman@purdue.edu or (812) 882-3509. For sponsorship inquiries, contact Barb Joyner at joynerb@purdue.edu or (812) 886-0198.

Partnership and Funding

This event is a partnership between Purdue Extension, NRCS, and the Indiana Urban Soil Health Program. Funding for this workshop was made possible by the Indiana State Department of Agriculture through grant A337-22-SCBG-21-003. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the ISDA. USDA and its partnering organizations are equal opportunity providers, employers, and lenders

Indiana Farm Service Agency Seeking Nominations for Farmers to Serve on Local County Committees

Nominations are now being accepted for farmers to serve on local U.S. Department of Agriculture (USDA) Farm Service Agency (FSA) county committees. These committees make important decisions about how federal farm programs are administered locally. All nomination forms for the 2024 election must be postmarked or received in the local FSA office by Aug. 1, 2024.

Elections for committee members will occur in certain Local Administrative Areas (LAA). LAAs are elective areas for FSA committees in a single county or multi-county jurisdiction and may include LAAs that are focused on an urban or suburban area.

Customers can locate their LAA through a geographic information system locator tool available at fsa.usda.gov/elections and determine if their LAA is up for election by contacting their local FSA office.

Agricultural producers may be nominated for candidacy for the county committee if they:

- Participate or cooperate in a USDA program.
- Reside in the LAA that is up for election this year.

A cooperating producer is someone who has provided information about their farming operation to FSA, even if they have not applied or received program benefits.

Individuals may nominate themselves or others and qualifying organizations may also nominate candidates. USDA encourages minority, women, urban and beginning farmers or ranchers to nominate, vote and hold office.

Nationwide, more than 7,700 dedicated members of the agricultural community serve on FSA county committees. The committees are made up of three to 11 members who serve three-year terms. Committee members are vital to how FSA carries out disaster recovery, conservation, commodity and price support programs, as well as

Market Report for

Clearspring Produce Auction
2050 S 300 W
LaGrange, IN 46761
* Phone (260) 463-4131
* Fax (260) 463-4362
* Market Report (260) 463-4131

Order Buyers:
David Schrock & Richard Yoder

Date of Report:	13-Jun	2024

Description of Product		Unit	Units Sold	Price Average	Price High
Apples		1/2 bu	6	$ 8.33	$ 11.00
Asparagus		lb.	13	$ 0.25	$ 0.25
Beans, Green		lb	10	$ 4.00	$ 4.00
Beets, Red		peck	6	$ 17.00	$ 17.00
Broccoli		head	60	$ 3.50	$ 3.50
Carrots		bunch	343	$ 1.67	$ 2.00
Cauliflower		head	444	$ 3.68	$ 4.50
Cherries, Sweet		peck	6	$ 18.00	$ 18.00
Cucumber		1/2 bu	4	$ 20.00	$ 20.00
Cucumber		peck	31	$ 13.90	$ 16.00
Flowers, 6-8 inch pots			35	$ 5.74	$ 7.50
Fruit Trees		tree	2	$ 22.00	$ 22.00
Garlic		head	192	$ 0.57	$ 0.65
Hanging Baskets, 10 inch			131	$ 6.57	$ 9.00
Hanging Baskets, 12 inch			13	$ 7.85	$ 9.00
Herbs		various	259	$ 1.46	$ 4.50
Kolrabi		ct	191	$ 0.85	$ 0.90
Lettuce		head	448	$ 0.27	$ 0.80
Onions		ct	1394	$ 0.63	$ 1.50
Peaches		1/2 bu	20	$ 7.08	$ 8.00

Peas		qt	4	$ 3.75	$ 3.75
Pepper, Jalapenos		qt	3	$ 4.75	$ 4.75
Peppers		peck	2	$ 16.00	$ 16.00
Perennials		pots	28	$ 10.93	$ 14.00
Potato, Red		5#	179	$ 4.18	$ 5.00
Radishes		bunch	12	$ 0.50	$ 0.50
Raspberry starts			31	$ 3.95	$ 5.50
Rhubarb		lb.	38	$ 1.42	$ 1.75
Strawberries		qt	552	$ 4.83	$ 6.25
Succulents		various	132	$ 0.61	$ 2.50
Tomato, Canner		1/2 bushel	32	$ 9.53	$ 12.00
Tomato, Cherry/Grape		pt	2	$ 3.00	$ 3.00
Tomato, Green		peck	4	$ 10.00	$ 13.00
Tomato, Red		peck	35	$ 9.62	$ 19.00
Tomatoes, Red		10#	372	$ 18.25	$ 27.00
Zucchini		peck	31	$ 12.97	$ 15.00

making decisions on county office employment and other agricultural issues.

More Information

Producers should contact their local FSA office today to register and find out how to get involved in their county's election, including if their LAA is up for election this year. To be considered, a producer must be registered and sign an FSA-669A nomination form. This form and other information about FSA county committee elections are available at fsa.usda.gov/elections.

All nomination forms for the 2024 election must be postmarked or received in the local USDA Service Center by the Aug.1, 2024, deadline. Election ballots will be mailed to eligible voters in November 2024.

Seeking Spanish-Speaking Growers for Online PSA GT Course Pilot

The Produce Safety Alliance is offering an additional pilot of the Spanish Language Online Grower Training. This pilot course will be offered at no cost to the participants and is specifically for Spanish-speaking growers. If you know of any growers who would benefit from participating in an Online Grower Training, please contact Mariana Villarreal Silva (mv378@cornell.edu) with the PSA to find out more details about this training.

More info about the course:
https://es.producesafetyalliance.cornell.edu/curso-para-productores/curso-de-capacitacion-para-productores-de-la-alianza-psa-en-linea/

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Editor: Petrus Langenhoven | Department of Horticulture and Landscape Architecture, 625 Agriculture Mall Dr., West Lafayette, IN 47907 | (765) 496-7955

Market Report for

Clearspring Produce Auction
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Order Buyers:
David Schrock & Richard Yoder

Date of Report:	18-Jun	2024

Description of Product		Unit	Units Sold	Price Average	Price High
Apples		1/2 bu	8	$ 7.63	$ 8.00
Beans, Green		lb	102	$ 2.50	$ 3.00
Beets, Red		bunch	10	$ 1.00	$ 1.00
Beets, Red		peck	12	$ 10.67	$ 16.00
Broccoli		head	100	$ 4.00	$ 4.00
Cabbage		head	130	$ 2.75	$ 2.75
Carrots		bunch	470	$ 2.83	$ 3.00
Cauliflower		head	383	$ 3.55	$ 4.00
Cherries, Sour		lb	33	$ 1.00	$ 1.00
Cucumber		1/2 bu	6	$ 23.00	$ 23.00
Cucumber		peck	48	$ 13.69	$ 24.00
Flower, stems			38	$ 0.10	$ 0.10
Flowers, 6-8 inch pots			218	$ 1.61	$ 4.50
Flowers, cut		bunch	15	$ 2.00	$ 2.00
Garlic		head	180	$ 1.05	$ 1.75
Hanging Baskets, 10 inch			24	$ 4.00	$ 4.00
Hanging Baskets, 12 inch			2	$ 10.00	$ 10.00
Herbs		various	48	$ 3.00	$ 3.00
Kale		bunch	6	$ 0.20	$ 0.20
Kolrabi		ct	475	$ 0.39	$ 0.50

Lettuce		head	420	$ 0.31	$ 1.00
Onions		ct	2441	$ 0.76	$ 1.35
Peas		peck	13	$ 17.77	$ 24.00
Pickles		misc	26	$ 11.46	$ 12.00
Potato, Red		5#	211	$ 3.93	$ 5.00
Radishes		bunch	5	$ 1.00	$ 1.00
Raspberry, Black and Red		pt	60	$ 4.97	$ 5.25
Rhubarb		lb.	45	$ 1.00	$ 1.00
Strawberries		qt	276	$ 5.11	$ 6.75
Succulents		various	88	$ 0.83	$ 6.00
Tomato, Canner		1/2 bushel	90	$ 8.57	$ 12.00
Tomato, Cherry/Grape		pt	76	$ 3.49	$ 4.00
Tomato, Green		peck	6	$ 19.33	$ 21.00
Tomato, heirloom		10#	5	$ 32.50	$ 32.50
Tomato, Red		peck	40	$ 9.03	$ 11.00
Tomato, Yellow		10#	14	$ 15.71	$ 17.00
Tomatoes, Red		10#	598	$ 14.70	$ 27.00
Zucchini		1/2 bu	11	$ 11.45	$ 20.00
Zucchini, Yellow		peck	78	$ 8.70	$ 14.00

Market Report for

Clearspring Produce Auction
2050 S 300 W
LaGrange, IN 46761
* Phone (260) 463-4131
* Fax (260) 463-4362
* Market Report (260) 463-4131

Order Buyers:
David Schrock & Richard Yoder

Date of Report:	25-Jun	2024

Description of Product		Unit	Units Sold	Price Average	Price High
Apples		1/2 bu	8	$ 6.00	$ 6.00
Beans, Green		lb	396	$ 2.43	$ 3.00
Beets, Red		peck	16	$ 8.31	$ 11.00
Black Raspberry starts			10	$ 3.00	$ 3.00
Blueberries		lb	160	$ 2.83	$ 3.00
Bok Choy		head	20	$ 0.85	$ 0.85
Broccoli		head	145	$ 3.50	$ 3.50
Cabbage		head	161	$ 2.97	$ 3.25
Cantaloupe		unit	863	$ 3.15	$ 3.75
Carrots		bunch	337	$ 2.76	$ 3.00
Cauliflower		head	346	$ 3.79	$ 4.25
Cherries, Sweet		qt	24	$ 5.00	$ 5.00
Cucumber		1/2 bu	28	$ 9.91	$ 15.00
Cucumber		peck	113	$ 8.85	$ 14.00
Flower, stems		bunch	180	$ 0.62	$ 0.75
Flowers, 6-8 inch pots			50	$ 2.58	$ 3.00
Flowers, cut		bunch	84	$ 3.60	$ 5.00
Garlic		head	180	$ 2.00	$ 2.00
Hanging Baskets, 10 inch			63	$ 5.89	$ 7.00
Herbs		various	42	$ 4.86	$ 6.50

Hydrangeas		pot	13	$ 15.15	$ 19.00
Kolrabi		ct	148	$ 0.84	$ 1.20
Lettuce		head	202	$ 0.85	$ 1.00
Onions		ct	2716	$ 0.99	$ 1.75
Peaches		1/2 bu	40	$ 25.40	$ 27.00
Pickles		misc	44	$ 10.75	$ 16.00
Potato, Red		5#	288	$ 4.03	$ 6.00
Radishes		bunch	84	$ 0.86	$ 1.00
Raspberry, Black and Red		pt	303	$ 3.96	$ 6.00
Rhubarb		lb.	60	$ 2.50	$ 2.75
Succulents		various	60	$ 0.76	$ 3.00
Tomato, Canner		1/2 bushel	149	$ 8.50	$ 14.00
Tomato, Cherry/Grape		pt	138	$ 3.04	$ 3.75
Tomato, Green		peck	15	$ 9.13	$ 15.00
Tomato, heirloom		10#	5	$ 23.00	$ 32.50
Tomato, Red		10#	1166	$ 13.94	$ 24.00
Tomato, Red		peck	53	$ 9.30	$ 14.00
Tomato, Yellow		10#	8	$ 24.00	$ 24.00
Zucchini		1/2 bu	13	$ 6.92	$ 10.00
Zucchini, Yellow		peck	141	$ 7.81	$ 12.00