

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, (765) 496-7955)

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



Figure 1. Pepper variety Flavorburst is almost ready to harvest (Photo by Petrus Langenhoven).



Figure 2. We have been harvesting eggplant for the past 5 weeks. The variety in this picture is Dancer (Photo by Petrus Langenhoven).

Everyone is probably seeing a glut of tomatoes and other vegetables coming in from the farm or your personal gardens. It is certainly the month of plenty!

This issue includes an important notice from the Environmental Protection Agency. We also examine the importance of cover cropping and include our regular insect and weed spotlight articles. An update on the Clearspring Produce Auction is also included.

Details about the upcoming September 4 Irrigation Workshop for Small-Scale Vegetable Producers are now available. The Mechanical Weed Control Field Day is the following week, September 11, at Meigs. Read more about these events in this newsletter. Reserve your spot now!

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 summarizes 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 at 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!

Feed the Soil, Feed your Crops... Feed your Livestock!

(Ashley Adair, holmes9@purdue.edu)

We've (already) flipped the calendar to the month of August, which means that you might be in the throes of seeding fall vegetables and purchasing some cover crop seed for the end of the season. But if you haven't gotten cover crops yet, there's still some time left to order your preferred varieties before they begin to sell out. With a little luck and a bit of planning, you will hopefully be able to seed some fall covers a couple of weeks ahead of your first frost date. For most of the state, your first frost date (a frost of 32 degrees F) usually falls around October 15th. If you are located near Lake Michigan or in some parts of southern Indiana, your first frost date will fall a week or so later.

Annual cover crops are an important food source for one of our most important types of livestock: soil microbes. They provide soil microbes with habitat, protection, and food. But cover crops can also be a great option for larger, above-ground animals!

More growers are turning their attention toward integrating livestock into their crop rotations for a variety of reasons. Enhancing soil fertility is a big reason since animals deposit nutrients in the form of manure as they go about their business.

Other reasons include managing problem plants and insects (e.g., chickens love to eat grasshoppers, and goats eat weeds), extending the grazing season, and supplementing animal nutrition.

When considering annual cover crops that your livestock may enjoy, you have a lot of choices to make when it comes to selecting the best cover crop species. Animal preferences and utilization of annual forage vary. Below are a few tips and suggestions to get you started, focusing on some of our smaller livestock species:

- **Chickens** – chickens are omnivores that will eat insects, small animals, and plants to meet their dietary needs. A chicken's ability to use forage depends on their type and breed, but generally, chickens can meet somewhere between 5 and 20% of their dietary needs through foraging¹. Generally, laying hens are better foragers than broilers. Chickens will eat grasses and legumes and generally prefer tender shoots that are between 2 and 5 inches tall². Good choices include oats, rye, barley, and wheat. Because chickens pluck and peck at shoots, they may encourage grasses to tiller, as long as they are not overgrazed. Chickens will also eat perennial legumes such as clover and alfalfa. Plant annual grasses during the cool season, in early spring and in fall, and allow a few weeks of growth until shoots are tall enough for chickens to forage.
- **Other poultry** – ducks, geese, and turkeys all forage to a certain extent on tender plants like young cover crops in addition to seeds, insects, and small animals. Of these, geese eat the largest proportion of plant material (up to 80% of their diet!), but they tend to prefer clovers and tender grasses like bluegrass and timothy over tougher types³. This preference may make them less suitable for annual cover crop grazing. Turkeys are excellent foragers and will consume a wide variety of plants, but generally need supplemental protein for the best quality bird⁴. Ducks will eat grass and other plants to a lesser extent than either geese or turkeys.
- **Small ruminants** – sheep and goats are herbivores and derive their dietary needs from plants (in spite of goats' storied reputation of eating just about anything). Sheep forage differently from goats. Sheep are grazers, like cattle, whereas goats are browsers, like deer. A sheep's diet will consist of approximately 60% grasses, 30% forbs, and 10% woody browse. A goat, on the other hand, will eat 20% grass, 20% forbs, and about 60% woody browse, if available⁵. Sheep are better suited to grazing annual cover crops based on their natural preferences than goats. A couple of advantages to grazing sheep and goats on annual cover crops are giving them a parasite-free pasture area, allowing permanent pasture to rest, and extending grazing into the winter⁶. Some species to try include oats, winter peas, turnips, and radishes.

What about water? For chickens, a water source will be required regardless of whether chickens have access to forage or not. For

sheep and goats, a water source may need to be supplied under certain conditions, such as during late pregnancy and lactation, but forages will generally be able to supply a significant portion of their daily water requirement. In the wintertime, snow can also help with water intake.

Fencing is another important consideration. Small livestock like chickens, goats, and sheep can be contained with portable electric fencing – which is not only helpful for managing grazing pressure in a particular area but also helps you control where livestock fit into your crop rotation schedule. For organic growers, this is imperative since you must follow the 90-120 day rule⁷ for raw manure. If you have cattle, more substantial electric or permanent fencing might be required. This article focuses on smaller livestock species that you might have integrated into your vegetable operation, so we don't go into detail about cattle here. But if you're curious about cattle and grazing cover crops, see the following resources:

- Extend the Grazing Season with Cover Crops, South Dakota State University Extension – <https://extension.sdstate.edu/extend-grazing-season-cover-crops>
- Grazing Cover Crops, University of Missouri Extension – <https://extension.missouri.edu/publications/g4165>
- Grazing Bites with Victor Shelton – <https://u.osu.edu/beef/2015/11/18/grazing-bites-november-2015/>

As for seeding rates, you can use cover crop seeding rates suggested by resources like the Midwest Cover Crops Council. You can try out their row crop species selector tool here: <https://www.midwestcovercrops.org/selector-tools/> Select Indiana as your state, and use “mechanical forage harvest value” to show what species might be applicable to your livestock and your grazing situation. You will also see seeding windows appropriate for each species. If you'd like to take a look at seeding rates, click on the species of interest and then click “Planting Information” on the species landing page. Don't be afraid to seed a little bit extra to ensure a proper stand, as germination rates on different species and varieties can vary, or if you are broadcasting rather than drilling. In addition, cover crops seeded for forage will likely benefit from some supplemental nitrogen to get them off to a healthy start. If you think your covers will need supplemental N, aim for around 50 lbs N/acre from a preferred nitrogen source to start with.

These are all just a few tips, tricks, and resources to help you think through the best cover crops to graze on your farm. If you have further questions, don't hesitate to contact us here at Purdue Extension with your vegetable, forage, and livestock questions!



Sheep graze a cover crop mix of oats and peas at Meigs Horticulture Research Farm in late spring 2024. Sheep were contained by a portable electric fence. Animals are part of a FFAR study by Dr. Moriah Bilenky's Sustainable Horticulture Lab involving crop and livestock integration (Photo by Moriah Bilenky).

Citations

1. Feeding the Flock by Jonathan Moyle, University of Maryland Extension. <https://extension.umd.edu/resource/feeding-flock/>
2. Storey's Guide to Raising Chickens, 2nd (2002) by Gail Damerow. <https://www.amazon.com/Storeys-Guide-Raising-Chickens-Facilities/dp/158017325X>
3. Feeding Geese by Dr. Jacquie Jacob, University of Kentucky. <https://poultry.extension.org/articles/feeds-and-feeding-of-poultry/feeding-geese/>
4. Pastured Turkey Production by Kevin Ellis, NCAT. <https://attra.ncat.org/publication/pastured-turkey-production/#4>
5. Grazing Preferences of Sheep and Goats by Randy Shaner, University of Nebraska Extension. <https://extension.unl.edu/statewide/lincolnmcpherson/Grazing%20Preferences.pdf>
6. Use of annual forages in pasture rotations and as cover crops to benefit small ruminant farming systems by Richard Ehrhardt, Michigan State University Extension. <https://midwestcovercrops.b-cdn.net/wp-content/uploads/2017/03/2017MCCC-Forage-Ehrhardt.pdf>
7. Soil Building – Manures & Composts, USDA-AMS Grades and Standards for Organic Producers. <https://www.ams.usda.gov/grades-standards/soil-building-manures-composts>

EPA Issues Emergency Order to Stop the Use of Dacthal herbicide

(Stephen Meyers, slmeyers@purdue.edu, (765) 496-6540)

DACTHAL® FLOWABLE HERBICIDE AGRICULTURAL HERBICIDE

ACTIVE INGREDIENT:	By Wt.
DCPA (dimethyl tetrachloroterephthalate)	54.9%
INERT INGREDIENTS:	45.1%
Total	100.0%

Contains 6 lbs. DCPA per gallon.

In a press release on August 6, 2024, the EPA announced the emergency suspension of all registrations of DCPA (marketed and sold as Dacthal® herbicide). The full press release can be viewed here: [EPA Issues Emergency Order to Stop Use of Pesticide Dacthal to Address Serious Health Risk | US EPA](#)

Why did EPA do this?

EPA determined that exposure of pregnant mothers to DCPA can result in changes to fetal thyroid hormone levels, which in turn can result in low birth weight, impaired brain development, decreased IQ, and impaired motor skills.

EPA determined that even when personal protective equipment is used and the labeled re-entry interval (12 hours) is followed, the risk of exposure to field workers could be greater than 20 times what EPA estimates is safe for unborn babies.

Why did this happen now?

Although this decision seems sudden, the EPA expressed concerns about DCPA in 2013 and requested additional data from the herbicide's registrant, AMVAC Chemical Corporation. In 2022, EPA issued a notice of intent to suspend production of DCPA, which I wrote about in a Facts for Fancy Fruit article here: [Future of Dacthal® Herbicide Uncertain | Purdue University Facts for Fancy Fruit](#). The EPA suspended the registration of Dacthal® in August of 2023, then lifted the suspension in November of that same year. EPA intends to issue a notice of intent to cancel DCPA products in the next 90 days.

What does this mean?

All use of Dacthal must stop effective immediately.

We will update this information on the *eMidwest Vegetable Production Guide* database (mwvegguide.org) and in future revisions of the *Midwest Fruit Pest Management Guide*.

Additional information is available in the DCPA registration review docket [EPA-HQ-OPP-2011-0374](#).

[Read the DCPA Emergency Order](#)

New Anthem® Flex Supplemental Herbicide Label for Mint and Potatoes

(Stephen Meyers, slmeyers@purdue.edu, (765) 496-6540)



Earlier this year, FMC released a supplemental label for Anthem® Flex herbicide that includes additional uses for potatoes and mint. Anthem® Flex is a premix product containing pyroxasulfone (the active ingredient in Zidua® SC) and carfentrazone (the active ingredient in Aim® EC). Carfentrazone, a postemergence contact herbicide, is registered for use in Indiana for both potatoes and mint. Pyroxasulfone, a soil-applied preemergence herbicide, is registered for use in both potatoes and mint, but its use in mint is restricted to the Northwestern states of Idaho, Montana, Oregon, and Washington. In Indiana, this supplemental Anthem® Flex label represents the first registered use of a pyroxasulfone product in peppermint and spearmint.

In 2021 and 2022, we applied 4.5 fluid ounces of Anthem® Flex per acre to dormant peppermint on mineral soils with no meaningful injury to the crop. Weed control varied from 79 to 90% control 1 week after treatment but increased to 95 to 98% by 6 weeks after treatment (Figure 1). In those trials, Anthem® Flex provided significantly greater weed control than Zidua® SC alone. In our trials, Anthem® Flex applications included spray-grade ammonium sulfate (AMS) and methylated seed oil (MSO).





Figure 1. Peppermint 6 weeks after being sprayed with 4.5 fl oz/a of Anthem® Flex herbicide (bottom) compared to a non-treated control (top) at Fair Oaks, IN (Photos by S.L. Meyers).

The new supplemental label allows for a single application of 3.5 fl oz/a of Anthem® Flex to dormant, healthy, established mint. The label prohibits its use on mint grown on soils classified as sand. Anthem® Flex may be applied to potatoes after planting and before emergence at rates of 3.5 to 6.0 fl oz/a, depending on soil texture. Do not apply Anthem® Flex on soils with less than 1% organic matter. Before the supplemental label, plant back interval restrictions were 4 months for mint and 0 months for potatoes.

This is not an endorsement of Anthem® Flex herbicide or its component herbicides. As with any new product or practice, adoption on the farm should be gradual until you have a sense of how it fits with your individual production system. The supplemental Anthem® Flex label can be found here: <https://www.cdms.net/ldat/ldC07001.pdf>. To explore other weed management options for potato and mint, visit the Midwest Vegetable Production Guide website at <https://mwveguide.org/>.

Insect Spotlight: The Spined Stilt Bug

(Tucker Cade LaRue, laruet@purdue.edu) & (Laura Ingwell, lingwell@purdue.edu, (765) 494-6167)

Description

Spined stilt bugs are small, slender insects in the family Berytidae. Typically brown or bronze in color, these insects have slim bodies with long and thin legs (Figure 1). The antennae of stilt bugs bend at very sharp angles and frequently have obvious swelling at the tip. Occasionally, some stilt bug species will also have slight swelling at the joints and ends of their legs. Stilt bugs are omnivores and, in the context of vegetable production, feed mainly on the sap of tomatoes, though they may feed on different crops like corn, peaches, and okra. They will also supplement this plant food with other insects as a source of protein. When left unmanaged, they can cause significant damage.



Figure 1. Stilt bug on flower (Photo by Laura Ingwell).

Life cycle

Like all Hemiptera insects, stilt bugs go through incomplete metamorphosis. They overwinter as adults under grasses and emerge in the spring to lay eggs on weeds and other herbaceous plants (Figure 2). Their eggs are typically about 1 mm long, usually yellow to white, and are oval. Upon hatching, they go through five immature “instar” stages before becoming adults. While growing, they require food from both plants and other insects. They will feed on many crop species, as well as hornworm caterpillars, aphids, and budworms, to supplement their diet.

When born on tobacco, stilt bugs can benefit the farmer. Though they will occasionally take “drinks” of sap from the tobacco, they are much more inclined to feed on the insect pests present instead. Stilt bug nymphs can consume, on average, 12 hornworm eggs and 80 budworm eggs during their development, while adults will consume roughly two hornworm eggs and ten budworm eggs a day. Over their roughly 80-day lifespan, stilt bugs have the potential to provide an extremely significant amount of pest control.



Figure 2. Stilt bug mating on snapdragon (Photo by John Obermeyer).

Damage

Stilt bugs are occasional pests of fruiting plants, most often tomatoes, especially in climate-controlled areas like greenhouses

and high tunnels. Nymphs and adults feed on the stems, flowers, and fruit of the plant, causing flowers to blacken and die, reducing yield. When stilt bugs feed on unripened tomatoes, they cause the tomatoes to become malformed and develop white blotches beneath the skin, much like the damage caused by stink bugs and other hemipterans, damaging the fruit quality (Figure 3).



Figure 3. Stilt bug damage to tomato (Photo by Kacie Athey).

Management

Because stilt bugs are significant biocontrol agents in tobacco and only occasional pests in tomatoes, the control of their populations has not been researched extensively, and few studies have been done specifically on tomatoes. The only situation in which we have encountered this insect at potentially damaging levels is on high tunnel tomato crops. Unfortunately, we cannot make any insecticide recommendations at this time. Crop rotation has been found to have some effect on stilt bug populations, and controlling the population of prey insects can also assist in controlling stilt bug populations.

Other management practices can influence stilt bug populations in agricultural fields. Delayed tobacco planting dates showed increased populations later in the season, and when non-crop plants like alyssum were planted alongside tomato plants, higher densities of stilt bugs were found on both plants.

Clearspring Produce Auction Update

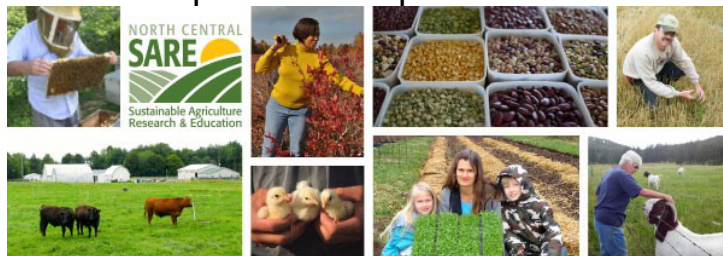
(Jeff Burbrink, jburbrink@purdue.edu)

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 Shippshewana, 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.

July 25, 2024

NCR-SARE Announces 2025 Call for Partnership Grant Proposals



Extracted from a SARE email received on August 1, 2024.

The North Central Region Sustainable Agriculture Research and Education Program (NCR-SARE) 2025 Partnership Grant Program Call for Proposals is now available online at: <https://northcentral.sare.org/Grants/Apply-for-a-Grant/Partnership-Grant/>.

NCR-SARE's Partnership Grant Program is intended to foster cooperation between agriculture professionals and small groups of farmers and ranchers to catalyze on-farm research, demonstration, and education activities related to sustainable agriculture.

Individual grants are limited to \$50,000 total funding request per application is allowed. A total of \$1,000,000 is available to fund roughly 20 projects this year. Last year, NCR-SARE received 39 proposals for this grant program and funded 22.

Deadline

The deadline for Partnership Grant Program proposals is October 17, 2024, at 4pm Central. The call for proposals is online at <https://northcentral.sare.org/Grants/Apply-for-a-Grant/Partnership-Grant/>.

NCR-SARE will accept online submissions for the Partnership Grant Program. The call for proposals provides more information about the online submission system.

Partnership Zoom Session

A Partnership Grant Zoom webinar will occur on September 5 at

10 am Central. NCR-SARE intends to record the Zoom session and post it online. Register for the Zoom online at: https://umn.zoom.us/webinar/register/WN_2nvF1hdvTZyzBgIrtVqj8g

Funding Decisions

NCR-SARE administers each grant program with specific goals, audiences, and timelines. Funding considerations are based on how well the applicant presents the problem being addressed, its relevance to sustainable agriculture in the 12-state North Central region, farmer-rancher engagement in the project, and how well it aligns with NCR-SARE's goals.

[A regional Administrative Council \(AC\) makes funding decisions, with review from a grant review committee.](#) The Administrative Council is a collection of producers, university representatives, nonprofit group interests, Extension and NRCS people, other government employees, and agribusiness representatives. This group sets research priorities and recommends projects for funding.

Each state in SARE's North Central Region has one or more State Sustainable Agriculture Coordinators who can provide information and assistance to potential grant applicants. Interested applicants can find their state SARE coordinator online at <https://northcentral.sare.org/state-programs/state-coordinators/>.

Questions?

For questions or additional information regarding the Partnership Grant Program, contact Betsy Wieland at (612) 626-6556 or eliza003@umn.edu.

Weed Spotlight: Common Purslane

(Celia Corado, ccoradom@purdue.edu) & (Stephen Meyers, slmeyers@purdue.edu, (765) 496-6540)

Common names: purslane, pusley, pursley, wild portulaca, common portulaca, little hooweed, low pigweed

Latin name: *Portulaca oleracea* L.

Family: Portulacaceae (Purslane family)

Life Cycle

Common purslane is a summer annual that extends along the ground with its thick, fleshy stems and leaves (Figure 1). Thanks to its ability to reproduce not only by seeds but also through stem fragments that can root at their nodes, common purslane grows and spreads easily. This plant has a main taproot with smaller, secondary fibrous roots (Figure 2). Seeds germinate from late May/early June through August when soil-surface temperatures are high, 86°F (30°C).



Figure 1. Common purslane has a mat-forming habit (Photo by C. Corado).



Figure 2. Common purslane taproot (Photo by C. Corado).

Identification

Leaves and stem

The first true leaves are long, fleshy, and smooth. They are green on the upper leaf surface and maroon-colored on the lower leaf surface (Figure 3). Leaves can be opposite or alternate on the stem. Leaves are smooth on top, rounded at the tips, and have no hairs. The stems are numerous and have many branches. Common purslane lies flat on the ground but turns up at the stem tips. Thanks to the succulent stems and leaves that serve as water storage organs, common purslane is drought tolerant.



Figure 3. Hairless, fleshy leaves with red margins of common purslane (Photo by C. Corado).



Figure 5. Common purslane seed capsules containing hundreds of mature seeds. One capsule is encircle in red (Photo by C. Corado).

Flowers and Seeds

Yellow flowers appear on common purslane from July to September, about 4-6 weeks after seedlings emerge. These flowers grow individually in the leaf axils and branch junctions, where the branches meet, but they only open on sunny days (Figure 4). The fruit (Figure 5) is a small, oval capsule that opens by splitting across the middle. In fact, the genus name “Portulaca” is believed to be derived from the Latin word “portula”, meaning “little gate” in reference to how the purslane seed capsule opens to release its seeds. Purslane seeds are tiny (1 mm or less in diameter), black, flattened, rounded, or kidney-shaped, and have a bumpy surface.



Figure 4. Common purslane flowers (Photo by C. Corado).

Fun Fact

Similar to dandelions, common purslane is edible. In fact, the second part of this species’ name (*oleracea*) is derived from the Latin word “oleraceus”, meaning “vegetable-like”. This plant is rich in omega-3 fatty acids, vitamin E and vitamin C. In many cultures, its used in salads, soups, and stews. Livestock fed large amounts of common purslane can develop nitrate and oxalate poisoning.

Management

- Cultivation: Cultivating the top 1 to 2 inches of soil with tillage two to four times after the soil warms can be highly effective at removing most of the purslane that will emerge during the season.
- Organic mulch: Common purslane tends to rot under continuously shady, humid conditions. A thick plant-based mulch can be used to control it. Similarly, dense crop planting helps control this weed in crops that will tolerate high-density plantings or those that close their canopy quickly.
- Cover crops: When applicable, cover crops can be utilized for common purslane management. This can include fall-planted cover crops, such as cereal rye, that are terminated in a manner that leaves their residue on the soil surface to act as a mulch. Alternatively, summer cover crops can be utilized if they fit into your farm’s rotation strategy. Summer cover crops that grow taller than the common purslane will outcompete it for light. For help choosing a cover crop, we recommend the Midwest Cover Crop Council selector tool: [mwcc \(midwestcovercrops.org\)](http://mwcc.midwestcovercrops.org)
- Plastic mulch: Acting as a physical barrier, plastic mulch prevents germinating common purslane seedlings from reaching the soil surface, except for in planting holes.
- Silage tarps: Silage tarps prevent weeds from receiving sunlight. They will work well for common purslane seedlings.
- Hand-weeding, hoeing, and cultivation: Common purslane seedlings can easily be removed by hand or hoe, but

established plants will need to be removed from the field. Otherwise, they are still capable of producing seeds and re-rooting at their nodes.

- Flame weeding: Use flame weeding to control common purslane in its seedling stage. Flaming will not control large common purslane unless unusually long exposure times are used.
- Herbicides: The best time to control common purslane is in the spring or early summer when the plant is young. Pre-emergence and non-selective post-emergence herbicides can be applied to control common purslane. Visit the *Midwest Vegetable Production Guide* (mwveguide.org) to learn which herbicides are labeled for the crops you intend to grow.

References

Mohler, C., Teasdale, J., & DiTomaso, A. (2022). Manage weeds on your farm- a guide to ecological strategies.

Neal, J., Uva, R., DiTomaso, J., & DiTomaso, A. (2023). Weeds of the Northeast (2nd ed.). Cornell University Press.

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

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

Microirrigation Workshop for Small-Scale Farms



Workshop Highlights

- Understanding Irrigation
- NRCS EQIP Programs
- Irrigation Scheduling
- Water and Soil Health
- Estimating Soil Moisture
- Automatic Irrigation Control and other topics!

Speakers Include:

Cara Bergschneider, NRCS State Urban Conservationist

Wenjing Guan, Purdue Extension Specialist

Scott Wagner, NRCS Agricultural Engineer



This program is limited to 50 participants. Use the QR to register. Contact Valerie Clingerman at clingerman@purdue.edu or 812-882-3509 for questions.

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

This is a free event and dinner will be provided. You must register.

 United States Department of Agriculture
Natural Resources Conservation Service

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.

Irrigation workshop September 4, 2024.

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.

2024 Midwest Mechanical Weed Control Field Day

(Ashley Adair, holmes9@purdue.edu)

The 7th Annual Midwest Mechanical Weed Control Field Day is heading to Meigs Horticulture Research Farm in Lafayette, IN, in 2024!

This amazing event consistently draws more than 150 farmers from around the Midwest to hear from experts, meet with company representatives, network with other farmers, and

experience in-field equipment demonstrations of all manner of weeding tools. Whether you have products to showcase or equipment to demonstrate, this is your opportunity to get dedicated face-to-face time with a captive audience of farmers who are interested in what you have to offer. The field day is promoted to farmers throughout the US (with a focus on the Midwest) in print, digital, and social media.



**7th Annual
Midwest
Mechanical
Weed Control
FIELD DAY**

Wednesday, Sept. 11, 2024
Meigs Horticulture Research Farm
Lafayette, Indiana

Weeding Machines for Vegetables & Row Crops

- Hear from national experts on weeding tools and techniques
- Meet farmers from all over the country
- See weeding tools of all scales: From two-wheel tractors up to 12-row camera-guided cultivators.
- Watch field demos of weeding machines and hear from company reps
- Connect with companies and suppliers at the trade show

For questions, or to collaborate, please contact Sam Oschwald Tilton at (414) 213-5327. Scan the QR code to register or visit <https://www.thelandconnection.org/event/2024-mmwcf/>



Every element of the event is crafted to maximize contact between the participants and sponsors. The morning features a dedicated Trade Show area for farmers to connect with exhibitors. Additionally, the morning includes educational events such as presentations and roundtable discussions. But, by far, the main draw is the afternoon in-field equipment demonstrations, including tools of all scales of production. The demonstrations feature everything from walk-behind tractors, autonomous weeding machines, belly-mounted vegetable tools, and 6-row camera-guided row crop cultivation tools. The demonstration plots are planted specifically for the field day so that crops are at the optimum stage for cultivation. Each sponsor runs their demonstration several times so that all attending farmers can see each demo, giving sponsors quality face-to-face time to show how their machines work in the field and to connect with farmers.

The Midwest Mechanical Weed Control Field Day is a partnership between Sam Oschwald Tilton, Purdue University, and The Land Connection (TLC). The Land Connection is a 501 (c)(3) non-profit based in Champaign, IL. TLC offers training, resources, and support to farmers, food businesses, and eaters so that together, we can realize a more just, equitable, and sustainable food system that we know is possible. All sponsorship funds are used for the organization and execution of the Midwest Mechanical Weed Control Field Day.

Visit the [event registration website](#) to see videos, press coverage, and sponsor testimonials from the previous six years of the field day.

Registration is \$75.

Thank you for being an integral part of sustainable agriculture,

Crystal Siltman and Jesse Schaffer, Farmer Training Coordinators,
The Land Connection

Sam Oschwald Tilton, MMWCFD Event Founder and Organizer,
Glacial Drift Enterprises

Website: <https://www.thelandconnection.org/event/2024-mmwcf/>

[Sponsorship Packet](#)

[Flyer](#)

Cooler Temperatures should Settle in for a While

(Barbara J Joyner, joynerb@purdue.edu, 812-886-0198)

After a period of hot and humid weather where heat indices reached triple digits in some locations, we welcome cooler than normal temperatures for the next several days. It is still summer, though, so sweaters, mittens, and scarves will not be necessary! There were a few temperature records broken over the August 5-6, 2024, period, but surprisingly none otherwise across Indiana. What a nice reminder that we are usually hot and humid this time of year! In fact, the July 2024 average daily temperature (as well as the average daily maximum and minimum temperatures) were very close to normal. Does this mean global climate change is not real? Absolutely not! The key word there is “global” and while the average temperatures for the month were near normal, the variability and extremes illustrate how much the atmosphere has been agitated.

Which brings us to precipitation. July’s precipitation was well above normal across much of Indiana except for a few areas (Figure 1). Overall, this seemed to be beneficial for both agricultural production and statewide water supplies. The timing seemed good, too, with rainfall events happening every few days. Unfortunately, several of those events were particularly heavy at times that led to flooded areas, but impacts were predominantly minimal.

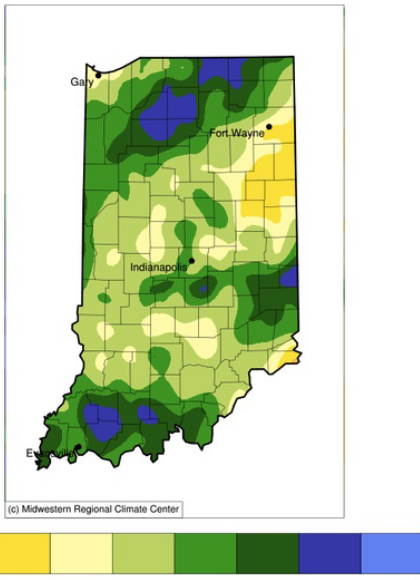


Figure 1. July 2024 precipitation presented as the percentage of normal (1991-2020 base period).

Because of these often-timely rainfall events, Indiana remains clear of any drought with only few area still classified as *Abnormally Dry (D0)* by the U.S. Drought Monitor (Figure 2). Unfortunately, the precipitation forecast for the next 7 days (Figure 3) is predicting very little moisture. With cooler temperatures forecasted over this time, evapotranspiration rates should remain lower, but drought development should be monitored closely. Extended climate outlooks (August 15-21, 2024) are favoring above-normal temperatures with near-normal precipitation amounts. Assuming this outlook is correct, any short-term dryness over the next week should hopefully not lead

to serious impacts for long.

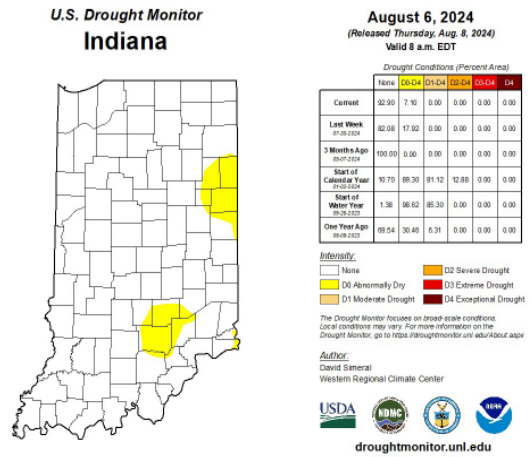


Figure 2. U.S. Drought Monitor status for conditions as of Tuesday, August 7, 2024.

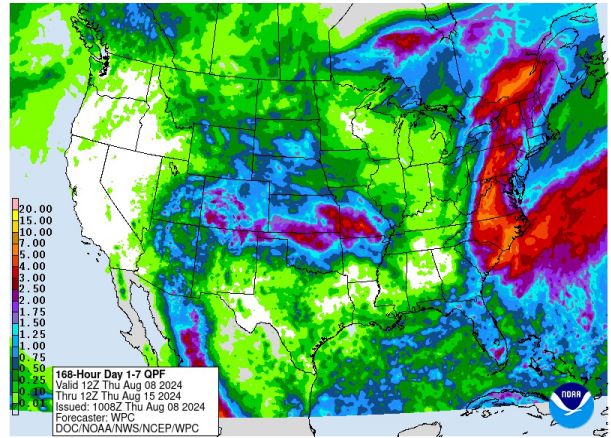


Figure 3. Accumulated precipitation forecast for August 8-15, 2024.

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