



Illinois Extension

UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN

Illinois Fruit and Vegetable News

Vol. 29, No. 3, March 16, 2023

Editors: Nathan Johannning & Bronwyn Aly

A newsletter to provide timely, research-based information that commercial fruit & vegetable growers can apply to benefit their farming operations.

Address any questions or comments regarding this newsletter to the individual authors listed after each article or to its editors, Nathan Johannning, 618-939-3434, njohann@illinois.edu or Bronwyn Aly 618-695-2441, baly@illinois.edu. The ***Illinois Fruit and Vegetable News*** is available on the web at: <https://extension.illinois.edu/specialty-crops/ifvn>. To receive or be removed from email notification of new postings of this newsletter, contact Nathan Johannning or Bronwyn Aly at the phone numbers or email addresses above.

In this issue...

- **Upcoming programs** (listings for beginning and established growers)
- **Regional Reports** (St. Louis Metro East, southwestern Illinois (Waterloo), Dixon Springs)
- **Fruit & Vegetable Production & Pest Management** (Mild Winters Leads to a Cooler Start to Spring, Updates and Information Related to FSMA, Information for Plasticulture Strawberry Growers, Monitoring Key Insect Pests in Tree Fruits using Pheromone Traps, Managing Cereal Rye Cover Crop Termination in Vegetable Crops)
- **Less Seriously**
- **University of Illinois Extension Educators and Specialists in Fruit and Vegetable Production and Pest Management**

Upcoming Programs

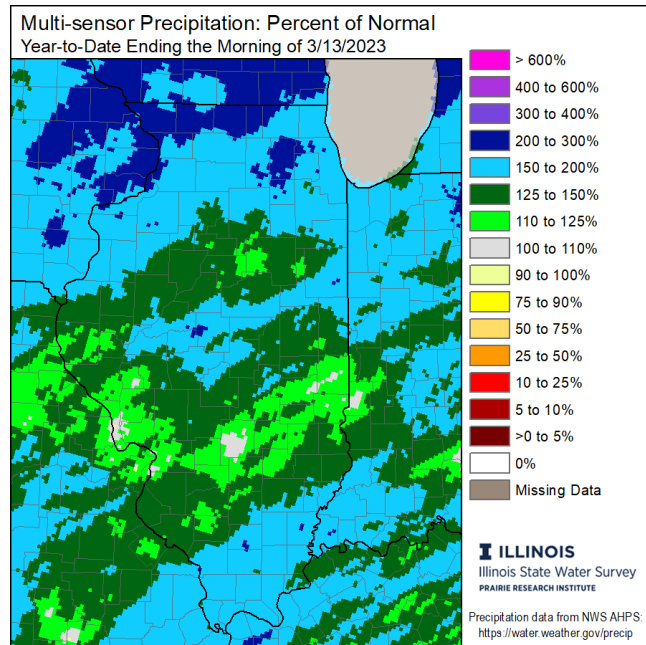
See the **University of Illinois Extension Local Food Systems and Small Farms Team's website** at: <https://extension.illinois.edu/lfssf>

- **ISHS Summer Hort Field Day (Champaign, IL)** | Thursday June 8, 2023 at Curtis Orchard, Champaign, IL. Save the date and look for more information in future newsletter issues.
- **Southern Illinois Summer Twilight Series** | 3rd Monday Evening in May-August across southern Illinois
 - **Bass Farms** in May, Cobden, IL hydroponic tomatoes & strawberry plasticulture
 - **Burnt Hill** in June, Dahlgren, IL pasture raised beef, lamb, chicken, & pork
 - **Higginson Farm Market** in July, Carmi, IL farm market sourcing from local producers/vendors
 - **The Patch** in August, Marion, IL cover cropped pumpkin patch & fall agritourism

Regional Reports

From the St. Louis Metro East...

The St Louis Metro East is on a roller coaster ride temperature- and rain-wise. Much like the rest of the state, the region has received above average rainfall, delaying some operations like horseradish harvest and field prep. In the last month, the 4-inch bare soil temperatures have peaked into the low 50s three times followed by a rapid drop. The last 50+°F peak was March 6, and since then there has been a steady drop back into the upper 30s. Air temperature has followed suit, and according to IL State Climatologist, Trent Ford, the current forecasts show 3-6 hours below 25 degrees and 1-2 hours (possibly) below 20 degrees between this Saturday (March 18) and Sunday (March 19). The hope is temperatures will moderate as we get closer, especially since peach has begun the bloom cycle and could be further affected/thinned by sub-zero temperatures. Peaches in the region are anywhere from bud swell to first bloom. Apples can also be affected, but they are not as far along (tight bud to calyx green) in the bloom cycle and the hope is none will be affected beyond minor thinning. The one good thing about the current cool conditions is that flower/bud development has slowed, hopefully keeping some flowers in a less vulnerable stage.



Peaches	Bud Swell	Calyx Green	Calyx Red	First Pink	First Bloom	Full Bloom	Post Bloom
Old temp	23	--	--	25	--	27	30
10% Kill	18	21	23	25	26	27	28
90% Kill	1	5	9	15	21	24	25
Apple	Silver Tip	Green Tip	Half-inch Green	Tight Cluster	First Pink	Full Pink	First Bloom
Old temp	16	16	22	27	27	28	28
10% Kill	15	18	23	27	28	28	28
90% Kill	2	10	15	21	24	25	25

Old standard temperature represented the critical temperature in Fahrenheit (the lowest temperature that can be endured for 30 minutes without damage). In addition, the chart shows the temperature at which 10% and 90% of normal buds will be killed. These numbers were taken from Washington (WSU) Extension Bulletins 0914 and 0913.

Despite the current cold weather, the season is roughly 7-10 days ahead of schedule. Pruning of all woody fruit species is ongoing, and high tunnel operations are ramping up.

Fruit is often a good indicator of San Jose scale presence because the red pigment the fruit produces in response to scale presence shows up well against the fruit skin background in all but a mature red apple. Their presence is easy to miss on the bark of the trees until they have built to such a level that the bark becomes ghost-like from multiple layers of scales. At this point, it is difficult to implement control in time to save the trees. The best timing for spraying superior oil is when temperatures are above 40°F in the dormant season. This is not just in reference to potential injury to the tree during freezing temperatures, but also targeting a more vulnerable stage of the insect. Oil works on the suffocation principle and if applied when the insect is inactive with little respiration, the control is not as effective as when applied in warmer temperatures late dormant when the insect is more active and respiring. Adding Esteem (pyriproxyfen) increases control.



Left) Heavily infested plum with San Jose scale; (Right) Peach fruit from a tree heavily infested with San Jose scale.

Elizabeth Wahle (618-344-4230; wahle@illinois.edu)

From southwestern Illinois (Waterloo)... It does feel a little more like “late winter” now from what it was as we have had highs in the 40s and lows in the mid-20s the last few nights. We have had some rain over the last few weeks but locally have dodged any heavy rainfall. We have only gotten a total of 0.4” of rain over the last two weeks from two different systems. There is good soil moisture, but the surface of the ground has dried, allowing for field traffic to spread fertilizer and other basic maintenance.

The colder weather has slowed growth on fruit crops for now. Cool season crops are off and growing in high tunnels and lots of transplants are getting started for the field season that will be here soon. In a small bed, I did experiment with



Early-planted peas germinated with clear plastic to improve emergence. Photo: N. Johanning

some early plantings of carrots and peas in the field. I planted both February 13 and to improve and speed up early germination, I covered them with clear plastic. Note that I used clear plastic as it allows the light to enter and then traps it for the true “greenhouse effect.” Clear plastic will actually accumulate more heat than even black plastic. They were up in about 2 weeks and I then removed the plastic and the peas are up about 1 ½” tall now. Whether in a tunnel or field production for some smaller scale early crops, this could be a good tool to help increase germination and get some first of the season crops rolling. For temporary use like this, heavy weight clear plastic from hardware or farm stores could work and if taken care of could be used for many years. Also, would be a good way to repurpose old high tunnel plastic for added usefulness.

We have more continued cold temperatures forecasted with lows even down to 20 over the next week. Hopefully, after we get through this we can break for a little more spring-like weather.

Nathan Johannig (618-939-3434; njohann@illinois.edu)

From Dixon Springs Ag Center... The warm temperatures and rainfall from earlier in the month have now transitioned back into colder, more late winter conditions. I had to laugh at a social media post that said we sprang forward a bit too far since we are now back to winter. Tomato and pepper transplants have been potted up and are growing off nicely.

Now for the much anticipated update on the growth of the clover cover crop in the high tunnel. The measured height as of March 14, 2023 is 19.5 inches, growing taller and wider each day. For our location, March 18 will be the first day for 12 hours of daylight which is the signal for flower initiation in clover. During yesterday’s scouting, one flower bud was discovered. Wouldn’t it be cool to find a hint of crimson color throughout the planting on March 19th?



Photos by Bronwyn Aly.

Bronwyn Aly (618-695-2441; baly@illinois.edu)

Fruit & Vegetable Production & Pest Management

A Mild Winter Leads to a Cooler Start to Spring

February, much like January, was much warmer than normal. Several places saw daily high temperatures in the 70s in February, including 74 degrees in Williamson County. The mild weather in February broke 17 daily high maximum temperature records and 11 daily high minimum temperature records. Overall, February was 5.4 degrees above normal and the 12th warmest on record statewide.

February wrapped up a very mild climatological winter season, with only a handful of cold air outbreaks and below normal snowfall for most of the state. The 2022-23 climatological winter average temperatures ranged from high 20s in northern Illinois to the low 40s in southern Illinois, between 2 and 6 degrees above normal (Figure 1). The statewide average winter temperature was 33.7 degrees, 3.9 degrees above normal and the 8th warmest winter on record.

March has begun much as February ended, with mostly mild conditions and above normal temperatures. One consequence of the persistently mild weather since the start of the new year has been an early start to spring phenology in our perennial plants. The National Phenology Network estimates spring phenology is about 2-3 weeks ahead of normal in most of Illinois: <https://www.usanpn.org/usa-national-phenology-network>.

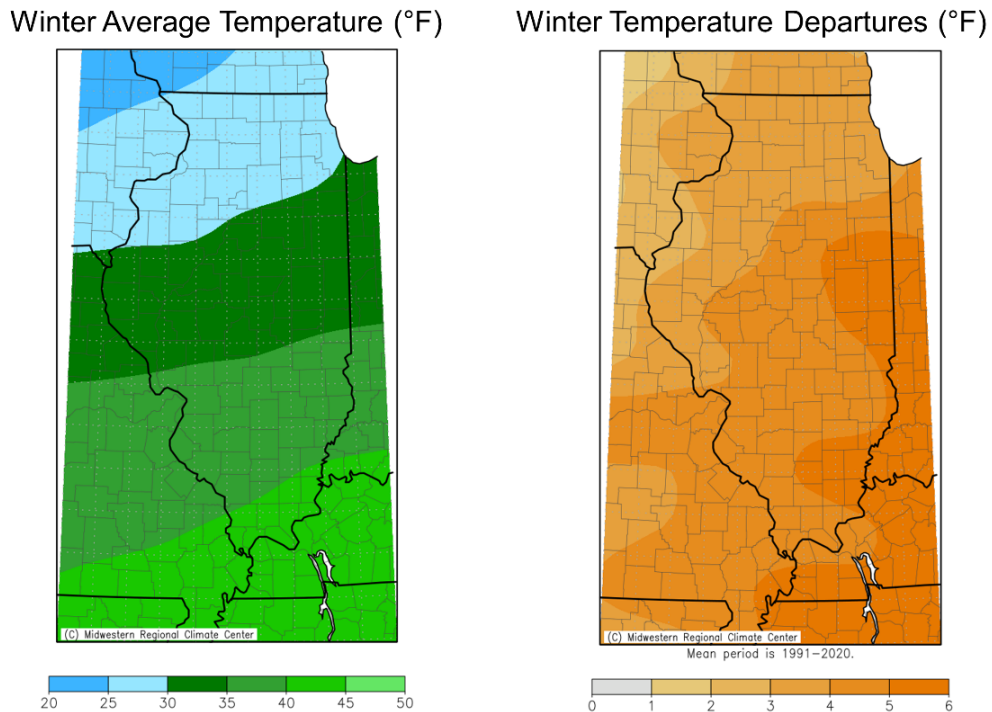


Figure 1. Maps show (left) winter average temperatures and (right) winter temperature departures from normal.

January and February were both somewhat to slightly wetter than normal, especially in far northern and far southern Illinois. March has also begun wetter than normal for virtually all the state. As Figure 2 shows, most of the state is 1 to 6 inches wetter than normal over the last 30 days and is 1 to 8 inches wetter than normal for 2023 to date.

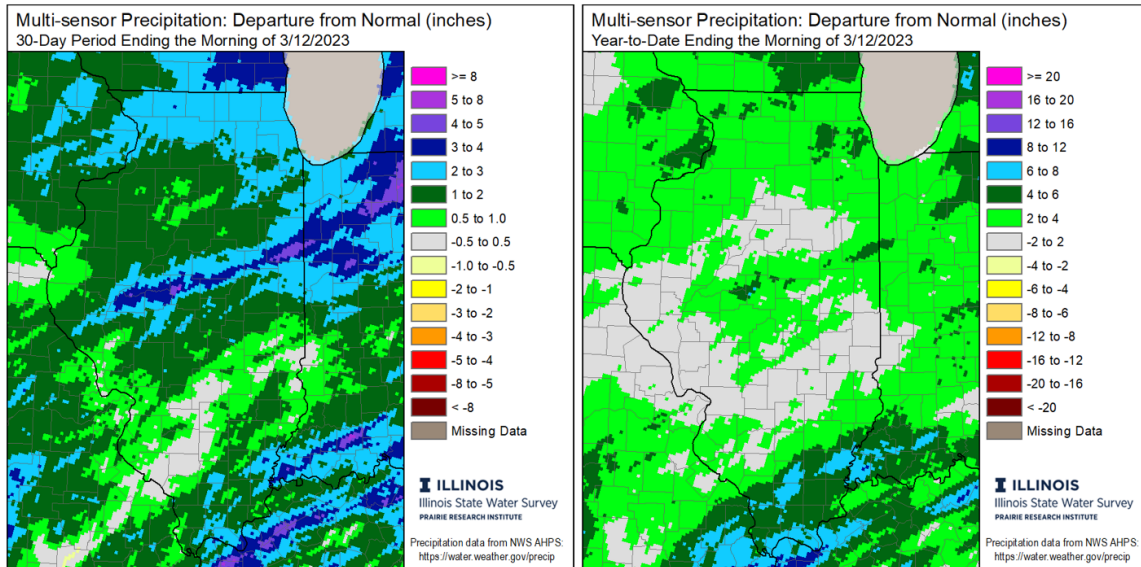


Figure 2. Maps show precipitation departure from normal (left) over the last 30 days and (right) since the start of 2023.

The wet start to 2023 has eradicated drought conditions that persisted from last fall. Drought recovery in southern Illinois has been particularly remarkable, as all the south 7 counties were in severe to extreme drought on December 1st. As of March 1st, the entire state is lacking any drought or abnormal dryness according to the US Drought Monitor. In fact, following a fall with significant impacts from low-flow on the lower Mississippi River due to drought, the latest National Weather Service spring outlook shows increased risk of flooding on the Mississippi from Dubuque to St. Louis: https://www.weather.gov/dvn/2023_springfloodoutlook.

Speaking of outlooks, the Climate Prediction Center shows likely below normal temperatures throughout the state until the first week of April. While we won't see temperatures akin to the middle of winter, it is likely most of the state will see many nights with temperatures below freezing. The cooler start to spring could help slow the progression of dormancy break and phenology in our perennials, but given how far spring has advanced in Illinois it is likely we'll be dealing with some level of spring freeze damage risk this season. The climatological average last 32 degree spring freeze is around the first week of April in southern Illinois, the middle two weeks of April in central Illinois, and the third to fourth week of April in northern Illinois.

Trent Ford, Illinois State Climatologist (217-244-1330; twford@illinois.edu)

Updates and Information Related to FSMA

Many of you may have already seen information on the updates related to agricultural water use and traceability as they relate to FSMA and the Produce Safety Rule, but in case you missed that information here are those links:

<https://www.fda.gov/food/food-safety-modernization-act-fsma/fsma-proposed-rule-agricultural-water>
<https://www.fda.gov/food/food-safety-modernization-act-fsma/fsma-final-rule-requirements-additional-traceability-records-certain-foods>

The [Produce Safety Alliance](#) is the first stop when needing resources and information related to FSMA compliance. As a reminder, The Produce Safety Alliance (PSA) is a collaboration between Cornell University, FDA, and USDA to prepare fresh produce growers to meet the regulatory requirements included in the United States Food and Drug Administration's Food Safety Modernization Act (FSMA) Produce Safety Rule. View the [PSA fact sheet](#) to learn more about the program. Under the [Resources](#) tab on the website, information related to water, soil amendments, land use issues, sanitation, recordkeeping, exemptions and exclusions, US FDA, USDA, and OFRR can be found with dates listing recent updates. An Excel tool, [Labeled Sanitizers for Produce](#), was just updated on March 2, 2023 and provides the most current information on sanitation products to help growers chose which product(s) fit best with their production system.

Bronwyn Aly (618-695-2441; baly@illinois.edu)

Information for Plasticulture Strawberry Growers

The [Mid America Strawberry Growers Association](#) hosted a two-day conference on March 2-3, 2023 in Branson, Missouri with the goal of bringing together regional experts in the field of strawberry production to educate members on best practices to improve production and reduce environmental impacts. With about 60 or so members in attendance, the conference agenda covered a wide range of production and marketing topics enlisting presentations from University of Arkansas, University of Missouri Extension, Missouri Department of Agriculture, University of Illinois Extension, industry representatives, and seasoned growers.

There were several resources mentioned during the conference that may be of benefit to strawberry growers across Illinois and the Midwest. The first resource comes in the form of YouTube videos from University of Arkansas Extension & Research Fruit & Vegetable Program. This [channel](#) covers a range of crops with an emphasis on blackberries, blueberries, and strawberries. Within the [strawberry playlist](#) there are 33 videos with information on fertility, insect/disease management, site preparation, frost protection, etc. The second resource is also a YouTube video, [Preventing Strawberry Fruit Rot – Using Foliar Fungicides to Prevent Disease - 2023](#), with information on different fungicides, including an example spray schedule with a rotation of modes of action. And the final resource, which is probably most applicable to growers in the southern region of Illinois, is information collected on the [Southern Region Small Fruit Consortium](#) website. Scrolling through the tabs on the website, there are links to a vast collection of resources on production topics, recent and ongoing research projects, regional experts, and more. While the majority of the information included in these resources is geared towards plasticulture strawberry growers, there is some information that would be beneficial to matted row

strawberry production as well, especially as the same disease and insect pests target both types of production systems.

If anyone is interested in becoming a member of the Mid America Strawberry Growers Association visit their website (linked above) for more information. During the conference in March, it was noted that they had members from seven states, from Minnesota to Louisiana, gleaned information and support from the educational sessions provided by the association.

Bronwyn Aly (618-695-2441; baly@illinois.edu)

Monitoring Key Insect Pests in Tree Fruits using Pheromone Traps – Updates for 2023

Apple and peach growers, it is that time of year again to order your pheromone traps for insect pest monitoring. These traps should be used through harvest to monitor for pests. Traps are useful for monitoring many insects of fruit crops, and the most important pests for Illinois growers are listed in Table 1.

What kind of traps work best?

Large plastic delta (LPD) traps work best. Several companies manufacture these traps, Trecé, Scentry, Suterra, and Alpha Scents. As a note, Trecé markets it as the Pherocon VI trap. This trap is quick to set up and easy to maintain; the sticky trapping surface is a card that slides in and out quickly and easily. If you bring the trap “shell” indoors at the end of the season, you can expect to get at least 2 to 3 years use from each trap (while replacing lures and liners as needed).

How do traps work?

Most of the insects listed in the table below are moths in their adult stage. For these moths, the trap must be baited with a pheromone lure – usually a small piece of rubber or plastic containing a synthetic blend of chemicals that is very similar to compounds used by female moths to attract males. When traps capture male moths, that indicates that females are also present, and mating and egg-laying are occurring. When ordering pheromone traps, you must order lures for the specific insect(s) you wish to monitor. Remember that although you may use the same type of trap to monitor different pests, you must use only a single lure per trap, it does not work to put lures for codling moth and dogwood borer in the same trap. Depending on the pest species, lures usually last 2 to 8 weeks (suppliers list the effective life of the lures they sell), so be sure to order enough lures for the whole season.

If you are growing apples in the northern half of Illinois, monitoring the flight of apple maggot flies is useful. Traps for apple maggot flies rely on appearance (especially the color and shape of a bright red apple) and the use of a food odor (“apple volatiles”) instead of a pheromone, and they are designed to capture female apple maggot flies ready to lay eggs on fruit. All the major suppliers of insect traps carry these kinds of traps. Growers should order the red spheres, tanglefoot, and the food lures recommended by the supplier. Apple maggot traps may be used without any food lures; spray thresholds vary based on use of food lures.

How many traps are needed for each pest species?

Guidelines often recommend at least 3 traps per pest species for any orchard up to 10 acres in size and 1 more trap for every 3 to 5 acres above 10. To monitor 50 acres of trees in 3 or 4 separate blocks, use 3 traps per block and at least 9-12 traps total ... for each pest species. Always use at least 3 apple maggot traps (red spheres) per block of trees. See the table below regarding placement of traps. Check these traps and record counts in each at least twice per week.

If you have only one relatively small block of trees, you may want to order 3-trap kits available for each of the major pests. These kits generally include 3 lures per trap and since lures need to be replaced every 4 weeks, most Illinois growers will need another 2 lures per pest species per trap to get through the entire season.

If you operate an orchard larger than 10 to 15 acres, you'll need more traps, so contact a supplier and make plans to order in bulk. Long-life lures (last 8 weeks) are available for the codling moth and other species and are the best choice for almost all Illinois growers.

Table 1. Pheromone lures and traps available for purchase in Illinois

Crop	Pest	Area of Illinois	When to place traps?	Where do you hang the traps?
Apples	Codling moth	Statewide	Bloom	Upper third of canopy, spaced throughout the block, including one somewhere near the upwind edge and one near the downwind edge.
	Dogwood borer	Statewide	Petal fall	4 feet above the ground and within the tree canopy. (This height is very important, 1 foot higher or lower reduces attractiveness.)
	Apple maggot	North of Springfield	June 15	In the outer portion of the canopy of trees on the edge of the block ... VERY visible to adults flying into the block (remove foliage around the sticky red spheres). Hang in border rows or end trees nearest any woods or brush outside the block
	Oriental fruit moth	Southern Illinois	Bloom	Upper third of canopy, but do not exceed 6-8 feet above ground.
Peaches	Lesser peachtree borer	Statewide	Bloom	Upper third of canopy, but do not exceed 5-6 feet above ground.
	Peachtree borer	Statewide	May 15	Upper third of canopy, but do not exceed 3-4 feet above ground.
	Oriental fruit moth	Statewide	Green tip to pink	Upper third of canopy, but do not exceed 6-8 feet above ground.



Left: A Pherocon VI trap (an example of a large plastic delta trap), with the sticky liner partially removed, showing a pheromone lure. Right: An apple maggot trap.

Table 2. Midwestern suppliers of pheromone traps include:

Supplier	Address
Great Lakes IPM	https://www.greatlakesipm.com/ 7563 N Crystal Rd Vestaburg, MI 48891-9746 email: glipm@greatlakesipm.com Phone: 989-268-5693
Alpha Scents Inc	https://www.alphascents.com/ 360 S. Sequoia Parkway Canby, OR 97013 email: sales@alphascents.com phone: 503-342-8611
Gemplers	https://gemplers.com/collections/pest-insect-control-pheromone-lures P.O. Box 5175 Janesville, WI 53547-5175 email: customerservice@gemplers.com Phone: 800-382-8473

Kacie Athey (217-244-9926; kathey@illinois.edu)

Managing Cereal Rye Cover Crop Termination in Vegetable Crops

So you have a cereal rye cover crop planted; spring is rapidly approaching. When and how are you going to terminate it? These questions are loaded and have many different answers mainly depending on your goals, but I wanted to share a few thoughts and experiences to help guide your decisions that would apply to cereal rye or any other cereal grains like wheat, triticale, or barley used as a cover crop.

Tillage

Cover crops are a great tool to help hold the soil overwinter even if you are planning to till for plastic mulch or simply bare ground production. For cereal grain cover crops, I would plan to terminate them when they are 12-18" tall or less. You want to catch them when the stems are still very soft and the growth is lush. At this point the biomass has a relatively low carbon to nitrogen (C:N) ratio. What does

that mean? Practically speaking, its means that the residue will break down quickly and will immobilize much nitrogen (N) during decomposition. As the grains get more upright growth the stems increase in lignin and become stiffer and at that point they are 1) very hard to till up and 2) can tie up nitrogen (especially when mixed in the soil with tillage).



18" tall cereal rye tilled in the soil after herbicide application and mowing. Photo: N. Johanning.

What if you are late to terminate and the cover crop gets too big? If you are still needing to till, I would first consider mowing them (flail mower would be the best) to a great enough extent that you can make the necessary tillage passes. Then, depending on how thick the biomass was I would monitor your crops for signs of nitrogen deficiency. You may potentially need to add more N to compensate for the microbial tie up during breakdown of the residue. Remember this is temporary and still a positive for your soil overall, however, in some cases the N may not be re-released at the time that your crop needs it.

What if you don't need the field tilled early in the season but want to manage the cover crop? Then, periodic mowing might be beneficial until closer to when you need the area. You could also use a simple burndown of glyphosate. Even if you have used glyphosate, depending on the amount of dead residue, it may be beneficial to mow residue before tillage. This mainly depends on your tillage equipment and how well it will cut and handle the residue. Its best to allow cereal rye at least two weeks after

glyphosate application to completely die before you try to incorporate residue. Between then it can get very tough and hard to cut.

No-Till

No-till with a cover crop has many benefits and can be great for many different systems if you are set up for it. For cereal grain cover crops I usually like to let them go until heading and flowering, especially when you want to maximize the weed suppression provided by the cover crop. In vegetable crops, this is often a common goal as we are usually challenged by weed control. Since you are not putting all of the biomass into the soil to break down, the N immobilization is not as large of an issue as if you took a mature grain and tilled it in the ground. Grains are very good at scavenging N so there probably will not be a large amount available right after termination. I don't target increasing the total N I provide to a no-till/cover crop planted crop, however I do make sure adequate starter N is provided, ideally along the row or near the plants and I monitor crop progress with a plan to apply N, split 2-3 times across the season, monitoring growth and adjusting rates accordingly.



No-till transplanted peppers into a rolled and sprayed cereal rye cover crop. Photo: N. Johannig

Termination with glyphosate is the most simple and effective herbicide option. In organic systems, roller crimping can be effective termination, however, you need to wait until at or after flowering for it to actually terminate the cover crop. If you roller crimp before that, the plant will often provide significant re-growth. No matter herbicide or not, I think rolling down the residue in the end is ideal for most of our specialty crops. For crops like tomatoes that require hand work for pruning and tying, it keeps the residue out of the way. It also reduces any shading standing residue can make on young, small plants so they receive adequate sunlight. Residue flat on the ground maximizes any weed suppression and reduces habitat for voles.

Cover crops have so many benefits and different ways they can adapt to your system. I hope these thoughts help you make decisions on how to best manage your cover crop this spring!

Nathan Johannig (618-939-3434; njohann@illinois.edu)

Less Seriously...

Some words of wisdom we thought we should remind you of from a previous edition (10:4)...

- It's always darkest before dawn. So if you're going to steal your neighbor's newspaper, that's the time to do it.
- Always remember you're unique. Just like everyone else.
- Good judgment comes from bad experience, and a lot of that comes from bad judgment.
- A closed mouth gathers no foot.
- Duct tape is like the Force. It has a light side and a dark side, and it holds the universe together.
- No matter what happens, somebody will find a way to take it too seriously.
- Everyone seems normal until you get to know them.

University of Illinois Extension Educators and Specialists in Fruit and Vegetable Production and Pest Management

Extension Educators – Local Food Systems and Small Farms		
BRONWYN ALY , Gallatin, Hamilton, Hardin, Pope, Saline, & White counties	618-695-2441	baly@illinois.edu
KATIE BELL , Franklin, Jackson, Perry, Randolph, & Williamson counties	618-687-1727	klbell@illinois.edu
SARAH FARLEY , Lake & McHenry counties	847-223-8627	sfarley@illinois.edu
NICK FRILLMAN , Woodford, Livingston, & McLean counties	309-663-8306	frillma2@illinois.edu
ZACHARY GRANT , Cook County	708-679-6889	zgrant2@illinois.edu
DOUG GUCKER , DeWitt, Macon, & Piatt counties	217-877-6042	dgucker@illinois.edu
GRACE MARGHERIO , Jackie Joyner-Kersey Center, St. Clair County	217-244-3547	gracem@illinois.edu
GRANT MCCARTY , Jo Daviess, Stephenson, & Winnebago counties	815-235-4125	gmccarty@illinois.edu
KATHRYN PEREIRA , Cook County	773-233-2900	kpereira@illinois.edu
Extension Educators – Horticulture		
CHRIS ENROTH , Henderson, Knox, McDonough, & Warren counties	309-837-3939	cenroth@illinois.edu
ANDREW HOLSINGER , Christian, Jersey, Macoupin, & Montgomery counties	217-532-3941	aholsing@illinois.edu
Extension Educators – Commercial Agriculture		
ELIZABETH WAHLE , Fruit & Vegetable Production	618-344-4230	wahle@illinois.edu
NATHAN JOHANNING , Madison, Monroe, & St. Clair counties	618-939-3434	njohann@illinois.edu
Campus-based Extension Specialists		
KACIE ATHEY , Entomology	217-244-9916	kathey@illinois.edu
MOHAMMAD BABADOOST , Plant Pathology	217-333-1523	babadoos@illinois.edu

University of Illinois Extension provides equal opportunities in programs and employment.
 University of Illinois College of Agricultural, Consumer and Environmental Sciences -
 United States Department of Agriculture - Local Extension Councils Cooperating



Illinois Extension
 UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN

Return Address:

Nathan Johanning
University of Illinois Extension
901 Illinois Avenue; PO Box 117
Waterloo, IL 62298



Illinois Extension
UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN

Illinois Fruit and Vegetable News