



**Illinois Extension**

UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN

## ***Illinois Fruit and Vegetable News***

**Vol. 30, No. 1, January 29, 2024**

**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](mailto:njohann@illinois.edu) or Bronwyn Aly 618-695-2441, [baly@illinois.edu](mailto: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.

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### ***Upcoming programs***

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

- **Equine Pasture Management Webinar** | Thursday, February 1 Zoom Webinar 6:00-7:00PM CST  
As part of the Livestock Production and Principles for Beginners Extension Webinar series, this month's webinar will provide participants strategies for building and maintaining pasture health, fencing options, equine health on pastures, and alternate strategies for keeping horses on small acres. Extension Educator Katie Bell will share insights from her own experiences and reliable resources to get you on the right track. Registration and additional information can be found [here](#).
- **2024 Southwestern Illinois Commercial Tree Fruit School** | Tuesday, February 6 at Knights of Columbus Hall 19899 Illinois River Road, Hardin, IL 62047. For more information or to pre-register visit [go.illinois.edu/TreeFruitSchool](https://go.illinois.edu/TreeFruitSchool) or contact Ken Johnson at [kjohnso@illinois.edu](mailto:kjohnso@illinois.edu) or 217-243-7424.

- **2024 Southern Illinois Fruit and Vegetable School** | Wednesday, February 7 at Doubletree Meeting & Event Center 222 Potomac Boulevard, Mt. Vernon, IL 62864. For more information or to pre-register visit [go.illinois.edu/FruitVegetableSchool24](https://go.illinois.edu/FruitVegetableSchool24) or contact Chris Lueking at [lueking@illinois.edu](mailto:lueking@illinois.edu) or (618) 548-1446.
- **2024 Stateline Fruit and Vegetable Growers Conference** | Monday, February 19 at NIU Rockford, IL. Registration and additional information can be found at [go.illinois.edu/stateline2024](https://go.illinois.edu/stateline2024) or by calling 815-986-4357.
- **Legal Training for Illinois Small Farms Webinar Series** | This is a quarterly webinar series for Illinois small farmers including new, beginning, and urban farmers brought to you by Illinois Extension's Local Food Systems and Small Farms team and presented by [Farm Commons](#). Sessions will be held quarterly on Mondays from 7 – 8 pm CST, via Zoom. Please register at the links below for each session of the series:
  - [Forming an LLC](#), March 18, 2024
- **2024 Summer Horticulture Field Day** | Thursday, June 6 at Jonamac Orchard Malta, IL Save the date! More details and registration information in future issues.

## ***News and announcements***

### **Legal training for Illinois small farms webinar series**

This is a quarterly webinar series for Illinois small farmers including new, beginning, and urban farmers brought to you by Illinois Extension's Local Food Systems and Small Farms team and presented by [Farm Commons](#).

**Date and Time:** Sessions will be held quarterly on Mondays from 7 – 8 pm CST, via Zoom. Here are the links to live individual registration pages for each session of the series:

- [Forming an LLC](#), March 18, 2024

### **Session Description**

**March 18, 2024: Forming an LLC** presented by Rachel Armstrong, Executive Director Farm Commons. If you or your producers are curious about the details of an LLC, you're not alone! Most farmers choose the LLC as their preferred business structure. The good news is that forming one is quite simple. But at the same time, farmers and ranchers need to know a few keys to ensure they get the benefits they're expecting from this entity. We'll do a quick recap of why an LLC is a good risk management tool before going into how to form one, which best practices to implement after it's formed, and regular obligations to keep the LLC in top legal shape. Even farmers who have had an LLC for years will learn some things about how to preserve their resilience.

## **Stateline Fruit and Vegetable Growers Conference, Rockford IL**

### **February 19 NIU-Rockford \$35 per person, \$25 per person from additional farm**

Blueberries, pumpkins, apples, and tomatoes are all on the agenda for the 28th Annual Stateline Fruit and Vegetable Growers Conference in Rockford, Illinois. Serving commercial growers that sell to farmers markets, orchards, and other direct to consumer channels, this day-long University of Illinois Extension conference provides educational sessions for attendees to learn about best practices for the upcoming 2024 season. Researchers and Extension educators from Michigan State, University of Wisconsin-Madison and University of Minnesota will present on topics for new and established growers. New for the 2024 conference is beginning grower-farmer track.

## **Curran's Orchard And Grissom Family Orchard And Farm Market Claim Top Honors At The 2024 Illinois Cider Contests**

The Illinois State Horticulture Society sponsored its 34<sup>th</sup> Illinois Sweet Cider Contests and the 21<sup>st</sup> National Hard Cider Contest, held in conjunction with the From Food to Flowers Everything Local Conference on January 18<sup>th</sup> in Springfield, Illinois. Patrick Riofredo and Victor Rios of Curran's Orchard in Rockford, IL, produced the No.1 overall rated cider at this year's contest, winning the Illinois contests. Patrick and Victor used Cortland, Honeycrisp, Evercrisp, Yellow Delicious, Jonathan, Jonagold, Cameo, and Rosalee apples to make their winning cider.

Second Place in the Illinois Cider Contest went to Joe and Christine Migliorini of Boggio's Orchard and Produce in Granville, IL. Third Place went to Greg Durdan of Big Bear Orchard in Grand Ridge, IL.

In the Hard Cider Contest, Trevor Grissom of Grissom Family Orchard and Farm Market in Greenup, IL. Trevor produced his winning hard cider for this year's contest with a combination of Gravenstein, Golden Delicious, Ambrosia, and Jonagold apples.

The sweet and hard cider contests are open to members of the Illinois Specialty Growers Association/Illinois State Horticultural Society.

Judges evaluated the cider entries using a 25-point rating scale for cider quality characteristics. The judges conducted "blind" evaluations where only a randomly chosen sample number identified each cider entry. The Illinois State Horticultural Society has conducted the sweet cider contest since 1990.

Hard cider entries were each individually awarded points based on characteristics like clarity, color, bouquet, balance of alcohol, acidity, sweetness, sugar/acid balance, body, flavor, astringency and bitterness, any off-flavors, and overall quality.

The ISHS gratefully acknowledges the dedication and hard work of our judging team. Plus, a special thanks to Sangamon County Master Gardeners Steve and Sharon Petrilli, Don Wisniewski, and Jane Willman. Thank you! Most importantly, thanks are extended to all who entered the contest this year. Start planning now for the next contest in 2025.

A summary of more contest notes is outlined below.

<b>Illinois Cider Contest (sweet)</b>	Farm/orchard	Location	Apple cultivars used
First Place	Curran's Orchard	Rockford, IL	Cortland, Honeycrisp, Evercrisp, Yellow Delicious, Jonathan, Jonagold, Cameo, Rosalee
Second Place	Boggio's Orchard and Produce	Granville, IL	Gala, Jonagold, Honeycrisp, Jonathan
Third Place	Big Bear Orchard	Grand Ridge, IL	Golden Delicious, Red Delicious, Gold Rush, Granny Smith
<b>Hard Cider Contest</b>			
Champion	Grissom Family Orchard and Farm Market	Greenup, IL	Gravenstein, Golden Delicious, Ambrosia, Jonagold

Ken Johnson, Cider Contest Coordinator  
University of Illinois Extension Educator

## ***Regional Reports***

From St. Louis Metro East...The big question on everyone's mind is whether the peach crop has been affected by the recent cold snap. Experience tells us -9°F is the benchmark temperature of concern for peaches, where there is an ever-increasing risk of bloom thinning and cambial damage as temperatures approach and drop past it. Much of the region received at least 1.5" of rain since the beginning of the year, so soil was fairly soggy from recent rain just prior to the temperature dropping rapidly from the upper 40's on Saturday, the 13<sup>th</sup>, down to single digits. Temperatures continued to drop throughout the holiday weekend, with morning lows on Sunday and Monday both reported from just below freezing to -10°F. Bare ground soil temperature at 4" is below freezing at 27.8°F according to the Illinois State Water Survey. Other possible crops affected by recent temperature lows are blackberries and plums. Apples are very cold tolerant and should be unaffected by the cold to date. Horseradish harvest is delayed until soils unfreeze and dry a bit.



*Dormant buds on 'Crimson Crisp' apple. Photo credit: E. Wahle Elizabeth Wahle (618-344-4230; [wahle@illinois.edu](mailto:wahle@illinois.edu))*

From Southwestern Illinois (Waterloo)... Rain, rain, glorious rain!!! We are happily finally getting some much-needed rain in quantities that actually can help us recover the depletion of soil moisture from over the first month of this year. The nice part is that it really is not hampering any major field activities right now so that is good. So far this year as of January 29 I have had 5.28" of rain. This is more rain than we have had for a month in quite some time. Included in our precipitation was 4" of snow that fell late night January 5 into the morning of January 6. The nice part is this precipitation has come fairly slowly as good soaking rains. Most of the rain had fallen on non-frozen ground and always less than 1" in a given day. We endured significant cold over the last couple of weeks with multiple days well below freezing. The coldest air temperatures I observed was -6° but there were a few days that we could not even climb up above 0. The last week we have gotten a reprieve in the temperatures and have had highs back up in the 40s with some 50s promised at some point in the near future. The long-range temperatures are forecasted to stay at or above freezing for the next week.

Out in the field not a lot is going on. Pruning, farm clean up and equipment repairs and upgrades are common, but even some of those things slowed down some in the cold (unless you have a nice, heated shop). High tunnels and other crop protection has kept good harvests on greens and other cold weather crops. Most had a layer or two of row cover even inside a tunnel for protection, but with that most were able to keep a crop through the weather.

Now we are always thinking about varieties as we order seeds. Remember the [Midwest Vegetable Trial Report](#) is always a great resource from seeing research reports from various university researchers around the Midwest. This can be a great way to see how new varieties might compare with older standards to help guide your selections.



*Young spinach and lettuce surviving the cold in a low tunnel. Photo: N. Johannig*

As of the first of this year I also have started participating in the [Community Collaborative, Rain, Snow, & Hail Network \(CoCoRaHS\)](#). This is a great way to contribute to better understanding of local precipitation patterns and document local rainfall variability. The data from this is used by meteorologists and scientist, including our State Climatologist, Trent Ford. I have been interested in participating for a long time but was inspired by the variable rainfall from 2023 and wanting to do what I could to help document that. Anyone can participate as long as you purchase the standard rain gauge required. We submit rainfall totals everyday rain or no rain at the same time each day. They also have a phone app which makes the daily report as easy as just a few seconds to open your device and submit. We all watch the rain on our farms, and I would encourage you to consider signing up. They also have many ways you can view and get reports from your data and anyone can go online to see rainfall reports from reporters all across the country. Just click "[Join CoCoRaHS](#)" on the website to apply and learn more!

*Nathan Johannig (618-939-3434; [njohann@illinois.edu](mailto:njohann@illinois.edu))*

From Dixon Springs Ag Center...For many growers, January and February is the time to attend meetings and conferences to learn about the latest research information, production and marketing management practices, and to network with other growers. Many have already made seed orders for the coming season but may decide on a last minute addition or change to try something they heard might be worth trialing on their farm. It was great to catch up with old friends and make new contacts during the From Food to Flowers Everything Local Conference in Springfield. The positive energy and excitement for the upcoming growing season was very noticeable as hundreds of growers and marketers from across the state came together to learn and connect.



Its hard not to talk about the weather and speculate about its effects on the upcoming season. In our area in the far southeastern portion of Illinois, soil conditions were still dry through the second week of January. Some rain hit the area just before the cold air pushed through. Temperatures stayed below freezing for several days, and the coldest actual temperature (not including wind chill) at DSAC was 0 or -1 °F. The

last full week of January saw mild temperatures in the mid 40's with 3-5" or more of rain, helping to replenish soil moisture but also creating a sloppy mess for those with outside chores.

Assuming the spring oat cover crop would winter kill with the impending arctic blast, I took a photo of the cover crops in the treatment high tunnel two days before the temperature drop and then a follow-up photo on January 24. The damage to the spring oats was a bit surprising. Even with the high tunnel being closed up before the temperature drop, I was expecting to see more damage to the spring oats.



The photo of the late seeded cover crops shows damage to the spring oat seedlings as well but considering their small size, it is doubtful that they will survive. Sticky traps for insect monitoring continue to be changed out weekly and sent the Dr. Athey's lab for identification and counts. We are now into year two of the HR 133 grant, *Strategies for Improving Biological Control of Insect Pests for Vegetable Growers Utilizing High Tunnels*.



*Photo credits: B. Aly, Illinois Extension 2023*

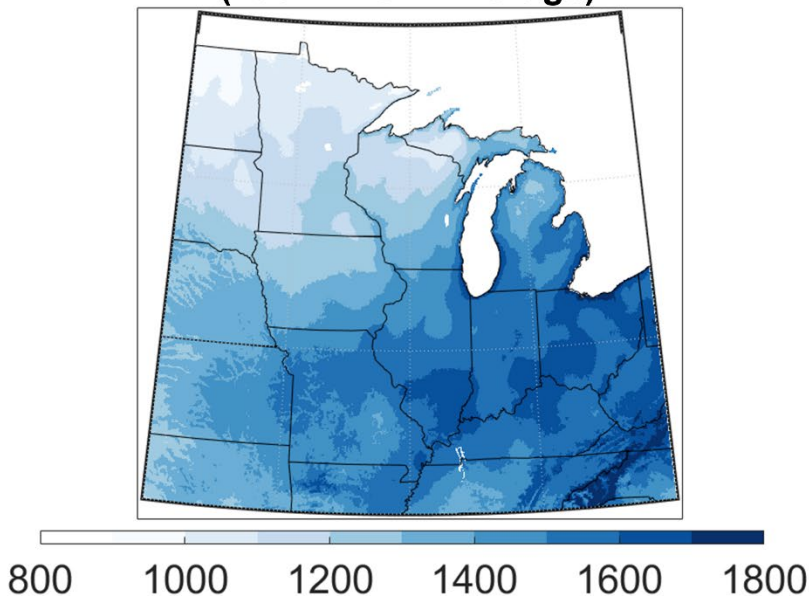
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## ***Fruit and Vegetable Production and Pest Management***

### **Chilling Requirements for Plants**

With climate change, many growers are concerned about plants receiving enough cold to be fruitful the next year. Endodormancy (period of rest) is a term used when plant buds remain dormant due to some internal physiological block, even when external growing conditions are conducive to growth. A chilling requirement is one such physiological block employed by most perennial fruit plants grown in Illinois. To break endodormancy, the plant must be exposed to a specific number of accumulated chilling hours, roughly in the temperature range between 32°F and 45°F, before growth can resume when favorable conditions occur. So even if it is shorts weather outside for us between Christmas and New Year, a dormant apple or peach tree will not break bud if its chilling requirement has not been met. Nothing in nature is that cut and dry though. There are also growth-regulating substances that are tied to the chilling requirement. In fact, periods of intermittent warm temperatures require more chilling than continuous cold, suggesting temperatures above optimum subtract from the chill accumulation.

### Total Season Chilling Units (1951 – 2021 Average)



Generally, fruit growers have most success with species/cultivars that have chilling requirements similar to the chilling typically received at the planting location, so in general low chill (500 hours and less) cultivars for crops like apple, peaches and blackberry are not suitable to Illinois growing conditions. Illinois historically accumulates 1100 to 1700 chill hours per season.

The reason Illinois growers shouldn't grow low chill cultivars is the increased chance of winter kill and crop loss. A good example is Prime-Ark<sup>®</sup> Freedom blackberry. Blackberries in general don't require as much chill as something like an apple, but several cultivars are still suitable for unprotected culture in Southern Illinois. Not so with Prime-Ark<sup>®</sup> Freedom. It appears to be too low chill for Illinois in unprotected culture. The florican crop is very early, roughly 7-10 days before Natchez, which sets it up to break bud with the first late winter warm-up, sometimes as early as the first or second week of February; way too soon to escape a freeze event, and the reason it is not recommended for unprotected culture in Illinois.

We also have climate change to consider. Dr Trent Ford, Illinois State Climatologist, has developed models to predict changes in chilling hours over the next several decades. For most of us in Illinois, there will be minimal changes in chilling hour accumulation. But for the northern tier counties and above, chilling hours are predicted to increase over the next several decades. This seems somewhat counter-intuitive, especially when climate change usually means a gradual shift warmer. And that is true in this case as well. Chilling hours don't usually accumulate below 32°F, so being in the north meant a lot of hours didn't count because temperatures were too cold. With climate change, winter temperatures are predicted to shift upwards, falling more and more into the temperature range that does count. The concern is plants meeting chilling sooner are more likely to break bud during a late winter warm over the next several decades. It has long been known that fall-applied Ethephon (ethylene-based plant



growth regulator) delays bloom in deciduous fruit species, but not all species and cultivars are as responsive or productive. Further research will be needed to dial in the specifics for each species and cultivar.

The other end of the spectrum is not meeting the chill requirement. This has already been reported in southern states, and according to Dr. Ford's prediction model this will only become more and more likely for states south of Illinois. If a plant does not obtain its required chilling hours it either may not flower at all or will flower much less and therefore produce a lot less fruit. Again, research will be needed for possible mitigation strategies. Fortunately, Dr. Ford's model does not predict Illinois losing chill hours over the next 70 years.

*Elizabeth Wahle (618-344-4230; [wahle@illinois.edu](mailto:wahle@illinois.edu))*

### ***Less Seriously***



They say beauty is in the eye of the beholder but as I am holding my lovely attempt at art, my are not sending signals of beauty to my brain. I guess this was a fun activity, but I think I will keep my day job!

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