Lake Erie Regional Grape Program

LERGP Crop Update
February 26, 2026

Photo credit-
Kim Knappenberger

Cornell Cooperative Extension
Lake Erie Regional Grape Program

PennState Extension

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Click here to watch Podcasts

The Lake Erie Regional Grape Program is a Cornell Cooperative Extension partnership between Cornell University and the Cornell Cooperative Extensions in Chautauqua, Erie and Niagara county NY and in Erie County PA.

2026
LERGP
WINTER GRAPE GROWER CONFERENCE

THURSDAY, MARCH 19, 2026
WILLIAM'S CENTER
SUNY FREDONIA COLLEGE
8:00am-4:30pm

Come spend a day with your LERGP team, invited guest speakers and fellow growers.

Take a look at the full agenda and register by clicking on or scanning the QR code.

We look forward to seeing you!

Register now to avoid the price increase March 8!

Business Management

Andrew Holden, Business Management Educator, Penn State University, LERGP

Unsold Grapes Survey – Results from Pennsylvania
By: Andrew Holden, **Claudia Schmidt**, and **Cain Hickey**

This article discusses the results of the Lake Erie Regional Grape Program survey of unsold grapes and the potential impacts to Pennsylvania grape growers.

Please read the entire article here.

WEBINAR: Pennsylvania Ag Innovation Grant Info Session
Register: https://extension.psu.edu/pennsylvania-ag-innovation-grant-info-session
When: March 18, 2026 (12:00 PM-12:45 PM ET)

The Agricultural Innovation Grant Program helps farmers and agricultural businesses implement new technologies, conservation strategies, and renewable energy innovations that increase profitability, improve soil and water resources, and support on-farm energy production. This informational session will cover program eligibility, the types of projects supported, and how the grant can help you adopt innovative practices to enhance your farm or agricultural operation.

This event is being offered at no charge to participants.

Registration is required to receive the link to access the webinar.

A link to the recorded webinar will be emailed to registrants within ten business days after the live event. The recording will be accessible for six months from the event date.

Who is this for?

- Farmers
- Developers
- Energy industry professionals
- Policymakers
- Regulators

What will you learn?

- Whether you may be eligible for the Agricultural Innovation Grant Program
- How the grant can support innovative agricultural practices to improve your farm or agricultural business

What I'm reading:

- 5 steps to start farm transition – Farm Progress

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Viticulture

Jennifer Russo, Viticulture Extension Specialist, LERGP

In the Vineyard

I am glad that the weather is more seasonal this week and not as bone chilling. I hope that everyone is able to get into the vineyards to continue pruning work. If you are concerned about cold hardiness, there is the Cold Hardiness Risk AssessmentTool on NEWA Click Here to Access the Tool.

Remember to check out our website for winter programming, but we also have another Eastern Viticulture and Enology Forum webinar series program coming up next week. Below is the link, and Terry Bates has been a major proponent of this work.

Link: https://extension.psu.edu/advancements-in-grapevine-nutrition

Description: **Advancements in Grapevine Nutrition**
This session brings together four members of the USDA/SCRI Hi-Res Vineyard Nutrition Project to share concise research updates and practical deliverables that support balanced grapevine nutrition in commercial vineyards. Presenters will address practitioner perspectives on nutrient needs across regions, best timing and tissues for macro- and micronutrient sampling, new outcomes from fertilization studies, and the use of spatial technologies to guide variable rate applications. The program will conclude with an open discussion and question-and-answer period to encourage applied learning and grower-focused dialogue.

The Eastern Viticulture and Enology Forum (EVEF) Webinar Series is a collaborative initiative of the Penn State Extension Grape and Wine Team and partnering viticulture and enology extension programs from U.S. land-grant institutions. You will have the opportunity to submit questions prior to the webinar using the link contained in your registration confirmation email.

Dr. Lynn Sosnoskie reached out to me to share a scientific article that she came across in her research. Per Lynn, Glufosinate is a frequently used POST herbicide, but we know that many factors affect its performance.

Below is a link to a meta-analysis looking at the impacts of weather of glufosinate efficacy (for select reference species) and thinking forward to impacts of climate change on future weed control success.
Weather and glufosinate efficacy: a retrospective analysis looking forward to the changing climate | Weed Science | Cambridge Core

From the abstract:
Target species: waterhemp (Amaranthus tuberculatus), morningglory spp. (Ipomoea spp.), and giant foxtail (Setaria faberi). Low rainfall (≤20 mm) in the 5 days before application reduced control success for A. tuberculatus and S. faberi. Low relative humidity (≤70%) and low solar radiation (≤23 MJ m^{-2} d^{-1}) on the day of application generally decreased control probability. Average air temperature ≤25 °C during the 5 days after application reduced control success for all species. Increasing climate variability is likely to raise the risk of unacceptable glufosinate control of these weed species. Dr. Sosnoskie shared it in case it is helpful with extension programming.

Now, this is where I believe that AI can be helpful. I copied the scientific paper and ran it through AI asking it to give me an extension article. The below is the result of the technology. There is also a link to the entire paper in the above paragraph if you are interested in reading it. I hope that you find the information useful.

Weather Variability and Glufosinate Performance in Corn and Soybean Systems

Understanding How Weather Influences Glufosinate Activity

Glufosinate has been an important postemergence herbicide tool in U.S. corn and soybean production since the introduction of glufosinate-resistant crops in the late 1990s and 2000s. Today, it is widely used in soybean and cotton and plays a critical role in managing herbicide-resistant weeds such as **Amaranthus tuberculatus** (waterhemp), **Setaria faberi** (giant foxtail), and **Ipomoea** species (morninglories).

Glufosinate works by inhibiting glutamine synthetase, leading to ammonia accumulation and the rapid buildup of reactive oxygen species (ROS) in the presence of light. This causes membrane destruction and visible injury within hours under favorable conditions. However, successful control depends heavily on environmental conditions around the time of application.

A recent large-scale analysis combining 30 years of herbicide evaluation data (over 1,600–2,400 weather environments per species) provides new insights into how temperature, rainfall, solar radiation, and relative humidity influence the probability of successful glufosinate control (≥85% control). These findings help refine best management recommendations for growers facing increasingly variable weather.

Key Findings for Growers

1. Temperature Before Application Matters

Five days before application was a critical window.

- For **waterhemp**, control probability improved when average temperatures were ≥24°C (75°F).
- For **morningglory species**, control declined when temperatures exceeded ~27°C (81°F), likely due to faster growth and larger plant size at application.
- Low rainfall (≤20 mm or ~0.8 in.) during the 5 days before application slightly reduced control of waterhemp and giant foxtail.

Why?

- Cooler or drier pre-application conditions may alter cuticle thickness or slow plant growth.
- Faster growth under warm conditions can increase plant size, even if still under the labeled 15 cm (6 in.) height limit.
- Subtle physiological changes may reduce herbicide absorption.

Takeaway:
Apply glufosinate when weeds are small and actively growing. Monitor both size and recent weather—not just height thresholds.

2. The Day of Application Is Critical

☀️ **Solar Radiation Is Essential**

Solar radiation on the day of application was one of the most important predictors of success.

- Control declined when total solar radiation was:
  - ≤17 MJ m^{-2} day^{-1} for morningglory
  - ≤23 MJ m^{-2} day^{-1} for giant foxtail

Because glufosinate's mode of action depends on light-driven ROS formation, cloudy conditions reduce efficacy.

Best Practice:

- Apply glufosinate during bright, sunny conditions.
- Avoid late-evening or heavily overcast applications when possible.
- Ensure several hours of sunlight following application.

💧 Relative Humidity Has a Threshold Effect

Relative humidity (RH) below ~70% reduced control probability for all species, particularly giant foxtail.

Low RH:

- Speeds droplet evaporation
- Reduces herbicide absorption
- Limits leaf surface wetting time

Best Practice:

- Apply during mid-morning when humidity remains moderate.
- Avoid hot, dry afternoon applications.
- Always use ammonium sulfate (AMS) per label requirements.

3. Weather After Application Also Influences Outcomes

🌡️ Temperature 5 Days After Application

Cooler temperatures (≤25°C / 77°F) during the 5 days after application significantly reduced control of waterhemp and giant foxtail.

Cool conditions may:

- Slow herbicide uptake and movement
- Delay injury development
- Reduce overall plant mortality

Recommendation:
Avoid applying glufosinate immediately before extended cool periods.

🌧️ Rainfall 5 Days After Application

Heavy rainfall (>100 mm / 4 in.) within 5 days after application had species-specific effects:

- Reduced control of giant foxtail
- Increased control of waterhemp under some cooler conditions
- Minimal effect on morningglory

Unlike earlier research that focused on rainfall within 4–8 hours of application, this study suggests rainfall impacts can extend beyond the initial rainfast window.

Recommendation:
Consider extended rainfall forecasts—not just 24-hour predictions—when planning applications.

What This Means Under Climate Change

Climate projections for major corn and soybean regions indicate:

- 🌡️ Warmer average temperatures (+2–5°C over the century)
- 🌦️ More frequent extreme rainfall events
- 🌬️ Potential reductions in relative humidity
- ☁️ Increased variability in cloud cover

These changes could:

- Increase growth rates of weeds
- Increase risk of low-humidity applications
- Reduce working days due to rainfall
- Increase variability in glufosinate performance

Even if warmer temperatures sometimes improve activity, increased weather variability raises the risk of unacceptable control.

Integrated Weed Management Is Essential

Given the weather sensitivity of glufosinate, reliance on a single postemergence application is increasingly risky.

Recommended Integrated Approaches:

1Cultural Practices

- Narrower row spacing
- Increased crop seeding rates
- Competitive cultivars
- Cover crops

2 Mechanical Practices

- Interrow cultivation
- Timely field scouting

3 Chemical Strategies

- Use residual (PRE) herbicides

- Apply POST treatments to small weeds
- Rotate modes of action
- Use labeled tank mixtures
- Avoid repeated glufosinate-only programs

4 Resistance Management

Globally, several weed species have evolved resistance to glufosinate. Environmental stress combined with repeated use may accelerate selection pressure.

Diversified programs reduce escape risk under unfavorable weather conditions.

Practical Field Checklist for Glufosinate Applications

Before spraying, ask:

✅ Are weeds <15 cm and actively growing?
✅ Has rainfall in the past 5 days been adequate?
✅ Is solar radiation forecast to be strong today?
✅ Is relative humidity ≥70% during application?
✅ Are temperatures expected to remain warm for several days?
✅ Is heavy rainfall forecast within the next 5 days?

If multiple risk factors are present (low humidity, cloudy day, cool forecast), consider delaying application or using additional tactics.

Final Thoughts

This 30-year, multi-environment analysis confirms that glufosinate efficacy is strongly influenced by environmental conditions before, during, and after application. While glufosinate remains a valuable tool for managing waterhemp, giant foxtail, and morningglory species, its performance is highly weather-dependent.

As climate variability increases, successful weed management will require:

- Closer attention to short-term weather windows
- Earlier and more timely applications
- Greater reliance on integrated weed management systems

Proactive planning—rather than reactive spraying—will be essential to maintain consistent, acceptable weed control in corn and soybean production systems.Top of FormBottom of Form

PA Update

Megan Luke, Penn State Extension Viticulture and Tree Fruit Educator

PA Update

I am currently in State College, presenting my new talk: “Drought to deluge, pesticide application best practices for changing weather patterns”. A summary of this talk and the key points will be in my next Crop Update. In the meantime, I have some brief updates on pesticide label registrations from pathologists at Ohio State University and Penn State University*.

EPA Herbicide AND Insecticide Strategy Updates

If you haven’t read about the upcoming changes to pesticide labeling, please see the resources listed below from previous Crop Updates.

These changes to pesticide use requirements are a drastic change from our standard practices and require additional record-keeping and research before every pesticide application. I will provide more information on these requirements as they become available. My presentation at the LERGP Annual Grape Grower Conference will focus on creating a risk map for your property and using the runoff and drift calculators, as well as the mitigation menu, now required by the EPA for many pesticides.

For the 2026 growing season, pay special attention to your herbicide and insecticide labels. Look for “mandatory mitigation”, Bulletins Live, and drift mitigation language.

Current status* of several pesticides under review:

New updates have been provided by colleagues in pathology with connections to the EPA

Ziram- Can be used for the 2026 growing season. A 12-month grace period to remove the product from the pipeline was supposed to start in 2025, but has not yet been announced. Product manufacturers have completed a “last call” production run and are not planning to resume production unless the EPA reverses its previous cancellation.

Mancozeb- Can be used for the 2026 growing season. The proposed cancellation of use for grapes is still under review following the public comment period, which closed in October 2024. I was told that the EPA committee is waiting for the conclusion of a human health risk study in seed potato production, which is not slated to conclude until 2027, for the revised interim decision. This means we will not know whether the cancellation of grapes has been revised until then. I will continue to track the dockets in case they proceed more quickly, but for now, we can likely use mancozeb per processor guidelines until at least the 2027 growing season.

Captan- Labels will be updated to reflect the new language for Bulletins Live 2! and the Mitigation Calculator. Review the label carefully at the time of purchase.

Antimicrobials- A general alert went out several weeks ago, indicating that antimicrobial agents

used in the manufacturing of food products will be reviewed under EPA guidelines for Endangered Species Act compliance. This may require testing of effluent leaving production facilities (such as wineries) to ensure that these chemical agents are not entering sensitive watersheds. No action is needed at this time, but it may be prudent to review the movement of water through your operation and determine the final outflow from water used for sanitizing practices, as well as the proximity to any risk zones, such as wells, creeks, rivers, etc.

The Erie Horticultural Society is hosting its annual Banquet on Wednesday, March 11th!

Jennifer Phillips Russo is the Guest Speaker this year and will provide information on spotted lanternfly research relevant to Northwestern PA and Western NY. We hope to see you there!

Where: The American Legion Hall, 17 S Mill St, North East, PA 16428
When: March 11th, Wine Tasting starts at 5:30pm, Dinner at 6:30pm

Tickets are $25 and available at Fruit Growers, Burch Farms Country Market, and from any member of the Hort Society Board.

Contact information:

Mobile (*call or text*): (716) 397-9674 (*preferred*)

Office: (814) 825-0900

Email: MFL5873@psu.edu

Respirator Fit Test Program 2026

Jan. 27-28 at Mid-Atlantic Fruit & Vegetable (MAFVC)— Hershey, PA
Feb. 3 at Penn State Crops Conference— Lebanon, PA
Feb. 11 at Winter Tree Fruit School— North East, PA (Erie)
Feb. 12 at Winter Tree Fruit School— Wexford, PA (Allegheny)
Feb. 16 at Winter Tree Fruit School— Biglerville, PA (Adams)
Feb. 19 at Winter Tree Fruit School— Leesport, PA (Berks)
Feb. 25 at PA Wine and Grape Conference— State College, PA
Mar. 12 at Penn State Vegetable Grower meeting— Wexford, PA
Jun. 18 at Phipps Conservatory — Pittsburgh, PA

For more details, contact: stw5035@psu.edu or 814-863-9606 or
visit: extension.psu.edu/upcoming-respirator-fit-test-sessions

Photo: Garo Goodrow, Penn State Extension

*Participants **must** bring their respirator(s) and be clean shaven.

The Penn State Pesticide Education Program has partnered with third-party vendors to provide FREE respirator fit testing and medical evaluations! A 30-minute respirator training will be offered at each event. The events assist individuals in satisfying the EPA's Worker Protection Standard (WPS) respirator regulations.

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ALWAYS READ AND FOLLOW LABEL DIRECTIONS.

Do you or any of your employees need to take the test to become a certified pesticide applicator?

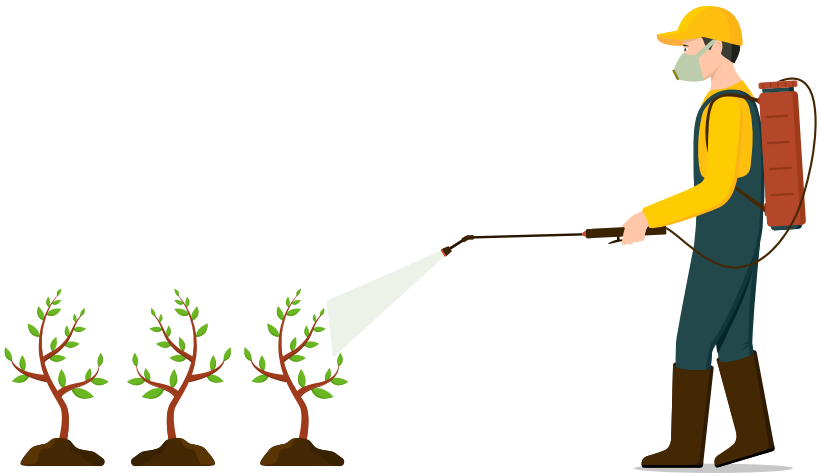
We are hosting a class for “How to Become Certified” on Wednesday, April 8th, 2026 at CLEREL from 10:00am- Noon.

At this class, you will be able to sign up for the test that will be held the following week, Wednesday, April 15th, 2026 from 10:00am to 1:00pm at the CLEREL location.

You just need to attend, bring a valid NYS ID and a check made payable to the NYSDEC for $100.00. We will have a Notary on-site.

You can purchase study materials at the Cornell Bookstore on-line.

Register for the class by mailing the form on next page and a check made payable to LERGP to the address indicated or online.



2026 NYSDEC How to Get Certified Course

April 8, 2026- 10:00am- Noon

$25.00- please make the check payable to LERGP and mail to:
LERGP at CLEREL
6592 W. Main Rd.
Portland, NY 14769

Name:_____
Address:_____
Town:_____
Zip:_____
Phone:_____
E-mail:_____

You can register for the exam the day of the course. You must bring a valid NYS ID and a check made payable to NYSDEC for $100.00.

Upcoming Events and Mark Your Calendar Days

Thursday, March 19, 2026-Winter Grape Grower Conference- register today!
Wednesday, April 8, 2026-How to Certified Course-NYSDEC
Wednesday, April 15, 2026- NYSDEC Pesticide Applicator Exam at CLEREL

Stop in to the CLEREL office to pick up your 2026 LERGP Planning calendar anytime!

Links of Interest:

Cornell Cooperative Extension:
https://cals.cornell.edu/cornell-cooperative-extension

Efficient Vineyard:
https://www.efficientvineyard.com/

LERGP:
https://lergp.cce.cornell.edu/
https://lergp.com/

NYSIPM:
https://cals.cornell.edu/new-york-state-integrated-pest-management

Veraison to Harvest:
https://cals.cornell.edu/viticulture-enology/research-extension/veraison-harvest

Spotted Lanternfly Pocket Guide:
https://lergp.com/spotted-lanternfly