

**Cornell Cooperative Extension**  
Lake Erie Regional Grape Program

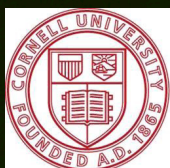


**PennState Extension**



Concord Cluster in bloom  
photo credit-  
Jennifer Phillips Russo

## LERGP June 2022 Newsletter



### **Building Strong and Vibrant New York Communities**

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## ***Congratulations to Andy Muza on his retirement!***

USDA Emergency Relief- *Kevin Martin*

Betts Farm Case Study – Cover Cropping in Concord Grape Vineyards- *Jennifer Phillips Russo, Bob Betts, and Joseph Amsili*

Tips in Preparation of Herbicide Shortages in 2022 – Tree Fruit and Small Fruit Crops  
*Thierry E. Besançon, Rutgers University, and Lynn M. Sosnoskie, Cornell University*

VIP- Deadline Approaching-*Kim Knappenberger*

2022 LERGP Research Demonstration Day at CLEREL- *Registration open!*

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





The Lake Erie Regional Grape Program (LERGP) would like to take a moment to honor one of our team members since the inception of this program, Mr. Andy Muza. Our team is the only Cornell Cooperative Regional Team that is a joint program between Penn State and Cornell Universities, grape growers and grape industries in Pennsylvania and New York. The four-member LERGP Extension Team is responsible for research-based educational programming for growers and industry representatives in Erie County, Pennsylvania; and Chautauqua, Cattaraugus, Erie and Niagara Counties, New York. Andy Muza was an extension educator in Erie County, PA with responsibilities for commercial agriculture in grapes, tree fruit, small fruit, and vegetables. He was part of Penn State's Horticulture Team and a member of our Lake Erie Regional Grape Program (LERGP) Extension Team. After over three decades of hard work and dedication to Extension in our region, Andy has earned his retirement.

Andy graduated from Penn State with a B.S. in Entomology in 1979. Upon graduating he worked at two of Penn State's Research and Extension Centers as a field scout in the Apple Pest Management Program (Fruit Research Laboratory, Biglerville, PA) and a research technician (Erie County Field Research Laboratory, North East, PA). He also managed the Lake Shore Crop Management Cooperative, a non-profit, grower-owned pest management farm cooperative in North East, PA. While working as a research technician at the U.S. Regional Pasture Research Laboratory, USDA, University Park, PA, he pursued an M.S. degree in Plant Pathology and graduated in 1990. Andy acquired a full-time position with Penn State in 1988 as a research assistant at the Lake Erie Regional Grape Research and Extension Center and was also manager at this facility for three years. He began working as an extension educator in Erie County in December 1997.

Andy has devoted over three decades to our industry and has made many contributions and fostered friendships with many of you throughout his career. Personally, Andy took me under his wing when I became a member of LERGP and I was new to our industry. He was very patient, kind, and supportive of my many questions without making me feel like I was a bother. He took me around the grape belt and introduced me to many of you, showed me your vineyards, and discussed his history working with you all to ease my transition. He welcomed me, helped shape me into the specialist that I have become, and I am grateful for sharing our journeys and blessed to witness Andy at work in our industry. Andy has a talent of talking to others, listening to their goals and needs, and assisting them with research-based educational programming to help them achieve their goals. His sense of humor and breadth of knowledge will certainly be missed. He has been an integral member of our team and his absence will surely leave large shoes to fill. Andy's greatest satisfaction was assisting farmers in solving crop-related problems and cooperating with numerous faculty and staff on research and demonstration projects.

The LERGP Team and our industry have been blessed to have Andy Muza as a confidant, colleague, extension specialist, and friend and we wish him only the best as he begins his life of retirement; May everyday be Saturday from this point on and thank you for all that you have given to our industry for over thirty years. I cannot say enough, nor properly put into words, what Andy and his expertise has meant to me and our industry over the years.

We will miss you, Mr. Muza, enjoy the next chapter!

Jennifer Phillips Russo

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# 2022 LERGP Coffee Pot Meeting Shedule

|                |                   |   |  |
|----------------|-------------------|---|--|
| April 27, 2022 | 10:00am           | Arrowhead Winery                                | 12073 East Main St. North East, PA 16428 |
| May 4, 2022    | 10:00am           | Militello's Farm Supply                         | 2929 Route 39 Forestville, NY 14062      |
| May 11, 2022   | 10:00am<br>6:00pm | John Mason, Mason Farms<br>Virtual Zoom Meeting | 8603 West Lake Rd. Lake City, PA 16423   |
| May 18, 2022   | 10:00am           | Andrew Nichols                                  | 1850 Ridge Rd. Lewsiton, NY 14092        |
| May 25, 2022   | 10:00am           | Alicia & Zach Schneider                         | 771 Bradley Rd. Silver Creek, NY 14136   |
| June 1, 2022   | 10:00am           | Knight Farms                                    | 18 Shaver St. Ripley, NY 14775           |
| June 8, 2022   | 10:00am<br>6:00pm | TrolleyLine Vineyards<br>Virtual Zoom Meeting   | 12029 Middle Rd. North East, PA 16428    |
| June 15, 2022  | 10:00am           | Dan Sprague Farm                                | 12435 Versailles Rd. Irving, NY 14081    |
| June 22, 2022  |                   | NO COFFEE POT MEETING                           |  |
| June 29, 2022  | 10:00am           | Betts' Farm                                     | 7365 East Route 20 Westfield, NY 14787   |
| July 6, 2022   | 10:00am           | Paul Bencal Farm                                | 2645 Albright Rd. Ransomville, NY 14131  |
| July 13, 2022  | 10:00am<br>6:00pm | Liberty Winery<br>Virtual Zoom Meeting          | 2861 Route 20, Sheridan, NY 14135        |
| July 20, 2022  | 10:00am           | Beckman Farm                                    | 2386 Avis Dr. Harbor Creek, PA 16421     |
| July 27, 2022  | 10:00am           | Arrowhead Spring Winery                         | 4746 Town Line Rd. Lockport, NY 14094    |



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# Business Management

Kevin Martin, Penn State University, LERGP, Business Management Educator

## USDA Emergency Relief

The Emergency relief program is being implemented that target specialty crops that had disasters in 2020 and 2021. This disaster recovery assistance for commodity and specialty crop producers is being administered for FSA. The impetus for this relief program were areas that had severe drought and wildfires, but many other disasters are covered.

ERP payments will be indexed by a calculation based on the level of Crop Insurance or NAP Insurance the business entity has. ERP factor is 75% - 90%, with higher percentages for growers carrying higher levels of crop insurance.

Payments are heavily limited for growers that derive more than 25% of their income from off-farm sources. Calculating this income level will be based on the three previous tax years. For growers lacking off-farm income, the payment limitation for specialty crops increases from \$125,000 to \$900,000.

Growers that accept payments will be legally obliged to continue to carry crop insurance policies for the next two years.

For our region the most relevant disasters include winter storms, excessive moisture, and freeze. During 2020 and 2021, disasters were not the most severe as they have ever been as far as crop losses are concerned. So long as disasters were declared, a grower that had losses will be eligible. The Emergency Relief Program (ERP) will be funded in phases. Phase one will provide payments using existing Federal Crop Insurance or NAP data that has already been submitted. FSA is sending application forms to growers to further determine eligibility. Only producers who received an indemnity as determined by RMA under certain crop insurance policies or a payment for NAP received an application for Phase 1. Growers working regularly with FSA should already have forms on file that are required for this application process. Growers can contact their local county office if they're uncertain if files that should be regularly maintained are current.

If you did receive an application for phase 1 it can be submitted to your local FSA office. If you did receive a crop insurance claim, based on Yield, but did not receive an application from FSA, you'll need to contact your crop insurance provider. If your claim was triggered by other coverages such as supplemental coverage or enhanced coverage option a letter will be sent later this summer. ERP payment percentages will also be enhanced for the historically underserved. Growers should have this information on file with FSA to receive this enhanced funding.

Phase 2 will provide additional funding, in part to growers that were not eligible for phase 1. The idea will be to target those with small losses, uninsured crops, and quality losses not accounted for in Phase 1. Any phase 2 payments will be offset by phase 1 payment amounts.

The Crop Insurance Level with ERP factor is available on the next page.



| Crop Insurance Level                                     | ERP Factor (Percent) |
|--|----------------------|
| Catastrophic coverage                                    | 75                   |
| More than catastrophic coverage but less than 55 percent | 80                   |
| At least 55 percent but less than 60 percent             | 82.5                 |
| At least 60 percent but less than 65 percent             | 85                   |
| At least 65 percent but less than 70 percent             | 87.5                 |
| At least 70 percent but less than 75 percent             | 90                   |
| At least 75 percent but less than 80 percent             | 92.5                 |
| At least 80 percent                                      | 95                   |



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SEASON AFTER SEASON



# Viticulture

Jennifer Russo, Viticulture Extension Specialist, LERGP

## Betts Farm Case Study – Cover Cropping in Concord Grape Vineyards

Jennifer Phillips Russo<sup>1</sup>, Bob Betts<sup>2</sup>, and Joseph Amsili<sup>3</sup>

<sup>1</sup>Cornell Cooperative Extension Lake Erie Research and Extension Laboratory, <sup>2</sup>Betts Farm, and <sup>3</sup>Soil and Crop Sciences Section, Cornell University



Bob Betts proudly shows a well aggregated clod from a cover cropped area (left) and a compacted clod from a non-cover cropped area (right).



Betts Farms in Westfield, NY, grows 185 acres of Concord grapes and has been working on breaking the mold of how the space between their Concord grape rows (middle rows) is managed for over a decade. The standard practice in Concord grape production is to burn down all living grass and weeds in late spring to ensure optimum fertility for the Concord grapes, which typically produce twice the yield of wine grape varieties. But this practice is slowly changing. Growers like the Betts are establishing cover crops in the middle-row space to alleviate soil compaction, reduce erosion, build soil organic matter, and foster life in the soil. Initially, the Betts was motivated to plant cover crops because he was worried about the negative effects of soil compaction on infiltration of water, root proliferation, and vine productivity. But he soon realized that cover crops were providing additional benefits for soil structure and the biological health of the soil. In 2011, Betts Farms decided to try cover crops into a 5-acre block of his vineyard before expanding across the whole farm. After a few years of experimenting, the Betts were convinced and decided to incorporate cover crops on all 185 acres. Here's their story.

In 2011, Betts Farms experimented with their first winter annual cover crop, tillage radish. They planted it in several middle-row alleys (pathways between the concord vines) to help alleviate soil compaction. Radishes are brassicas that form a thick taproot, like a carrot, and are well known to break up soil compaction and scavenge excess nitrate in the soil. When the radish dies, its large and decaying taproot leaves tunnels in the soil that allow for increased water infiltration and gas exchange. The farm planted tillage radish in every other middle row, where they had just put in tile drainage. They wanted the soil pores left by the radish roots to help channel the water infiltrating to the tile lines below. Not only were the Betts impressed by the water infiltration benefits that the radishes provided, but also by the amount of biomass they produced. He decided to add another species to their cover crop experiment – annual ryegrass.

The following year (2012), Betts Farms seeded annual ryegrass and radish in bands seven inches apart, totaling nine bands within each between-row alley. The idea was that the annual ryegrass would complement the large holes that the radishes left behind, and they hoped that it would stabilize the ground during wet periods to allow for easier tractor access in the vineyard. But, the radishes grew so big that they crowded out the ryegrass. This is a common occurrence if the radish seeding rate is too high (one extra pound of radish seed per acre can make a huge difference) or there is high residual nitrogen in the soil.

Fortunately, that same year, the National Resource Conservation Service (NRCS) was subsidizing cover crop efforts to combat soil erosion and improve soil health through the Environmental Quality Incentive Program (EQIP). The Betts Farms took advantage of this and planted cocktail mixes varying from three to seven different species in the middle-row alleys. Working with the Lake Erie Regional Grape Program (LERGP), they added control fallow plots within their experimental block where they did not plant cover crops in sections three panels long (24 feet per panel) and three rows wide (9 feet between each row). This experiment has now been ongoing for eleven years.

The Betts Farms cover crop program has helped address many practical concerns on the farm, including preventing erosion, improving moisture retention in the summer, and suppressing weeds. A unique aspect is using an I & J roller crimper to terminate their cover crops, which is not a common practice in Concord grape vineyards (they began using this 5-foot wide tool in 2015).

The aboveground portion of the cover crop protects the soil from the impact of rain droplets, and the cover crop roots hold soil in place during periods of intense rainfall. These help decrease runoff and erosion that may carry pesticides, valuable nutrients, and topsoil away from the grapevines. **Figure 1** shows a mat of rolled cover crop biomass protecting the soil from a heavy rain in mid-summer.





**Figure 1.** A mat of rolled cover crop biomass helped to protect soil during an intense rainfall event that delivered 5 inches in 2 hours on July 14<sup>th</sup> 2015.



**Figure 2.** Weed concerns being reduced: Marehail coming up in a non-cover cropped area, but not in the cover cropped portion behind it.

One concern with cover crops is competition with the grapevines for soil moisture during times of drought. But the reverse is happening as the cover crop is terminated with a roller crimper in early June, and the mat of biomass shades the ground and leaves it wetter than bare soil. Cooler temperatures also promote better soil microbe habitat than hot, dry soil without cover crops.

Both the actively growing cover crop and the resulting mat of biomass help suppress weeds. Weed suppression is especially important for problematic annual weed species such as Marehail, which is commonly resistant to glyphosate (Roundup). While Marehail was a significant problem in non-cover cropped rows, it was hardly noticeable in cover cropped rows (**Figure 2**). The Betts Farms roller crimping has also allowed them to reduce reliance on glyphosate since it can be an effective cover crop termination strategy in some years. If it doesn't provide effective termination, then they will go back and apply the herbicide.

Betts Farms started their cover crop journey to reduce soil compaction but ended up with excellent soil health benefits. Visual observations showed increased soil life— especially earthworms which pull plant litter into the soil, acting as nature's plow. As earthworms eat, soil and decomposing organic matter are mixed together in their gut. They then deposit these "casts" of stable assemblages of organic and mineral particles at the top of their burrows. They are more fertile than the surrounding soil and help increase nutrient availability to the shallow-rooted grapevine roots. Furthermore, the Betts have noticed that this promoted lateral root growth of the Concord grapevines into the middle-row alleys.

## Soil Health Benefits:

How is the Betts Farms cover cropping program impacting soil health? Let's put some numbers to this. In May 2021, the farm worked with Cornell's New York Soil Health Initiative to collect four composite soil samples from the cover crop (CC) and non-cover crop (NCC) treatments for a standard soil health assessment at the Cornell Soil Health Lab. Composite samples were collected from two locations within the experimental area. The soil was collected from an area classified as a Barcelona silt loam that has approximately 13% sand, 60% silt, and 27% clay. The sampling protocol required six 0-6 inch soil slices for each composite sample.

The soil samples from the cover-cropped plots had consistently higher soil respiration (27% increase) and aggregate stability (58% increase) compared to the non-cover cropped plots (Table 1, Figure 3). The higher soil respiration indicates that inputs of cover crop biomass are fueling microbial activity. This means that microbes are converting organic residues into mineral-accessible nutrients, such as nitrate and ammonium, faster than the non-cover cropped plots.

The higher aggregate stability measurements confirmed our observations that the soil under cover crops appeared much better aggregated compared to the non-cover cropped soil, which was very poorly aggregated and compacted (Table 1, Figure 3). Research has demonstrated that living roots, their associated mycorrhizal fungi (brassicas do not host AMF), and increased organic matter inputs all help build and maintain stable aggregates. Improved aggregate stability translates into greater infiltration of water and reduced erosion of topsoil. Figure 3 shows the respiration and aggregate stability values and SH scores for the treatments on Betts Farms compared to pastures and perennial fruit (orchards and vineyards) on silt loam soils in New York. The perennial fruit data provide relevant benchmarking for Betts Farm, and pasture data shows the potential upper limit for what is possible for that soil type.

A high initial level of soil organic matter and inherent variability at the site may explain why no significant differences were observed in soil organic matter content and active carbon. There is indication in the data that P and K are more available due to the cover crops, which could help drive increases in vine productivity.

**Table 1.** Cover crop (CC) vs. non-cover crop (NCC) treatment effect for the Betts Farms vineyard in 2021. These values reflect the mean of two composite soil samples per treatment.

| Year | Trt | SOM | Active Carbon | Resp                  | Agg Stab | pH  | P   | K   | Mg  | Fe  | SH score |
|------|-----|-----|---------------|-----------------------|----------|-----|-----|-----|-----|-----|----------|
|      |     | %   | mg/kg         | mg CO <sub>2</sub> /g | %        |     | ppm | ppm | ppm | ppm |          |
| 2021 | CC  | 4.4 | 693           | 0.95                  | 30       | 6.7 | 2.3 | 170 | 302 | 7.7 | 83       |
|      | NCC | 4.6 | 728           | 0.75                  | 19       | 6.5 | 1.7 | 136 | 289 | 5.6 | 75       |

## Vine Productivity Benefits:

The final test of any new management system is to ensure that it does not negatively affect crop productivity. It may even be possible to find win-win solutions where management improves soil health and leads to higher crop productivity. We measured the effects of cover crops on vine productivity through pruning weight measurements between 2019-2021. These assess the one-year-old growth removed from dormant vines as an indicator of larger vine size and potential crop yield. To the Betts' excitement, cover crops consistently had higher pruning weights compared to non-cover cropped plots (Table 2). Therefore, cover crops are improving soil health and nutrient availability,



which in turn supports better vine growth. Conversely, loss in vine size would have indicated that the addition of cover crops caused competition for water and nutrients with the vines. In the future, we'll be working with the farm to analyze their Concord grape yield data to see if these trends hold.

**Table 2.** Pruning weights for cover cropped and non-cover cropped areas between 2019-2021.

| Year | Cover Cropped Area<br>Pruning Weights | Non-Cover Cropped Area<br>Pruning Weights |
|------|---------------------------------------|---|
|      | lbs/ft                                | lbs/ft                                    |
| 2019 | 0.23                                  | 0.18                                      |
| 2020 | 0.33                                  | 0.27                                      |
| 2021 | 0.39                                  | 0.33                                      |

Conclusion:

Betts Farms began their cover cropping journey to reduce soil compaction, but it has led to more soil health and vine productivity benefits. It has also sparked further research questions that the Betts want to pursue. They first worked in a trial area to test how cover crops in the middle-row alleys would affect their operation and are now confident in the benefits. Working with the Cornell Lake Erie Research and Extension Laboratory, NRCS, New York Soil Health Initiative at Cornell, and the New York Farm Viability Institute helped Betts Farms improve vineyard soil health and obtain their farm goals. Stay tuned for exciting cover crop innovations from Betts Farm.





# Updates and Information

Kimberly Knappenberger, Viticulture Assistant, LERGP

## Vineyard Improvement Program

### DEADLINE APPROACHING!!!!

If you have a project that you have been putting off, now is the time to apply. This grant for Concord vineyard removal will be coming to a close in less than a year! It was recently discovered that the end date for the grant is March 31, 2023. This is 7 months sooner than we had been thinking!



This current deadline would mean that all projects will need to be completed this year and final expenses reported by January 2023 to give time for the reimbursements to be completed by the end of March 2023. There is still quite a bit of money available for projects, but you will need to act now and get the removals done this year. All acreage involved in this project does need to continue to be agricultural. The cleared land will need to be planted to a seed crop this fall and have a final site visit completed before the snow flies this winter. At the final site visits we look for complete removal of vines – no/few grapevines growing in the crop, and crop growth of at least 4-6 inches in height.

If you would like to learn more, please visit [lergp.com](http://lergp.com) and click on the big purple Vineyard Improvement Program button.

Or you can email Kim at [ksk76@cornell.edu](mailto:ksk76@cornell.edu).





# Tips in Preparation of Herbicide Shortages in 2022 – Tree Fruit and Small Fruit Crops

*Thierry E. Besançon, Rutgers University, and Lynn M. Sosnoskie, Cornell University*

Many growers in the US have been focused on predicted herbicide shortages in the upcoming field season. While the primary concerns have surrounded glyphosate and glufosinate, **there is increasing apprehension that active ingredients of importance to tree fruit and small fruit growers may also be affected.** Although the supply change is dynamic, chemical stocks may become, and remain, tight at the local or regional level as growers try to fill gaps in their toolboxes. As spring residual herbicide are soon to be applied, please consider the following when planning for the 2022 season.

**Important note: Not all herbicides are available in all crops in both New Jersey and New York. Always review current labels before applying products.**

## Successful Weed Identification, Regular Scouting and Detailed Field Records are Crucial for Optimizing Weed Control Success

The first step in developing a novel herbicide program is knowing what species are present and determining which combination of products will be the most effective (and affordable) at suppressing them. Not all active ingredients are equally useful against all species and careful consideration needs to be paid to each chemical's spectrum of control. Please, carefully review herbicide effectiveness tables for various weed species that are available in the 2022 Commercial New Jersey Pest Control Recommendations for blueberry, tree fruits or grape (<https://njaes.rutgers.edu/pubs/>). Similar tables are available in Cornell's weed control guides ([PMEP Guidelines \(cornell.edu\)](https://www.cornell.edu/pmeep/))

## Familiarize Yourself with Chemical Substitutes before Applying Them over Many Acres

Some switches may be intuitive (e.g. using Poast (sethoxydim) or Fusilade (fluazifop) in place of clethodim where allowed) while others may be more complicated (e.g. using a tank-mixture in place of a single product). In addition to knowing a product's target species, become acquainted with each herbicide's labeled rate structure and spray volume, use patterns (e.g. application timing), environmental limitations (e.g. soil type or temperature restrictions), adjuvant requirements, and potential interactions with tank-mix partners. Not all chemicals are compatible with each other, and antagonism can reduce weed control efficacy while enhancing crop injury concerns. Contact your Extension Specialists if you have any doubt regarding physical compatibility and efficacy of herbicides mixtures.

## Soil-Applied Preemergence Herbicides are Critical Tools

Soil-applied preemergence herbicides are very useful tools for suppressing weeds that emerge with the crop; these plants are the most injurious as early season competitors are very likely to reduce yields. Like postemergence products, soil-applied herbicides must be carefully selected to balance crop safety with weed control needs. Pay attention to rate requirements according to soil type, as this can influence both efficacy and injury. Preemergence herbicides need to be moved (aka activation) into the soil solution (via either rainfall or irrigation) where they are taken-up by emerging weed seedlings; delays in activation can reduce overall performance if some weeds continue to germinate and emerge under low soil moisture conditions. Delays may also facilitate the degradation of some products susceptible to breakdown in sunlight (i.e. photolysis). Be aware that trickle irrigation may cause less effective and less consistent weed control by washing off residual herbicides from top soil where weeds germinate, thus increasing herbicide application costs. **When possible, use overlapping residual products to suppress weed emergence throughout the season.** Some active ingredients may have both preemergence and postemergence activity (e.g. flumioxazin (Chateau) or simazine (Princep)).

## Timing Matters

**Postemergence (i.e. foliar) weed control should be undertaken when weeds are small and succulent.** Herbicide labels will have specific recommendations regarding the optimal size for

treatment. For instance, clethodim (Select Max) and sethoxydim (Poast) have a maximum height or lateral growth requirement of 6 inches for effective control of goosegrass or crabgrass. Weeds are more sensitive to control measures when they are small and succulent, so rapid identification and management will improve control success. Because many foliar-applied herbicides can also damage crops, as well, always follow label guidance to reduce risk of injury.

### **Optimize Herbicide Application Rate for Postemergence Applications**

Target using the lowest effective herbicide rate to stretch your herbicide supply. For example, instead of applying 32 or 44 oz/acre of a glyphosate brand product, consider using the standard rate on the label such as 22 oz/acre for Roundup PowerMax. **Again, timing of application with regards to weed size will be critical to optimize your herbicide supply.** The smaller the weeds, the less herbicide you will have to apply to control it! Therefore, frequent scouting as highlighted above will be very important to optimize your herbicide application and stretch your herbicide supply.

### **Don't Skimp on Adjuvants**

If herbicides are going to be in short supply, then there may be fewer shots to control weeds. If there are fewer shots available, make every shot count as much as possible. **Follow label recommendations regarding the inclusion of water conditioners, surfactants, etc..., to maximize product efficacy.** Refer to point number two about potential compatibility concerns when tank-mix partners are involved.

### **Get Perennial Weeds under Control**

Perennial species such as Canada thistle, goldenrods, bindweed or quackgrass are frequent and troublesome weeds of tree fruit and small fruit crops. Because control of these weeds requires the use of systemic herbicides that may be in short supply (i.e. glyphosate), appropriate timing of application will be critical to maximize herbicide efficacy. For example, Canada thistle should be sprayed with a systemic herbicide in late spring after flower buds started to develop whereas Virginia creeper or poison ivy should be targeted in mid- to late summer after vines flowers but before fall color appears in the foliage. Use effective alternatives such as clopyralid (Stinger) for control of leguminous and composite (e.g. Canada thistle) weeds or soil-applied pronamide (Kerb) for control of perennial grasses where authorized. This may help you to reserve the use of glyphosate for perennial weeds that cannot be efficiently controlled by other products.

### **Consider Non-Chemical Weed Control Strategies When and Where Appropriate**

This includes hand weeding, cultivation, and mowing practices. Like herbicides, these practices are not effective against all species at all times. For example, while cultivation can control many weed seedlings, particularly at the white-thread stage, soil disturbance is less effective against well-developed plants. In the case of some perennials (for instance, field bindweed or Canada thistle), cultivation contributes to break up and disperse root fragments within and across fields, facilitating dispersal. Ultimately, plan for hand-weeding escapes prior to the weeds setting seeds as this will help reducing the weed seedbank for future growing seasons.

### **Plan Ahead Now**

2022 could be a difficult year if many crop production and protection chemicals are limited. Herbicide shortages could impact weed control success in the coming growing season...and beyond. Weeds that are not controlled in 2022 will set seed that will cause problems in the future. **Planning now can help with weed management in both the short and long term.**



# The Cornell Lake Erie Research and Extension Laboratory Research Demonstration Day

## Agenda

8:30 AM – Registration and Check In

9:00-10:45 AM – Welcome and Indoor Flash Talks

Dr. Terry Bates, Director of the Cornell Lake Erie Research and Extension Laboratory, will give the Welcome Opening, history of CLEREL, and Research Overview.

- Dr. Lynn Sosnoskie, Assistant Professor, School of Integrative Plant Science Horticulture Section Cornell AgriTech, will discuss her work with the weed precision spot sprayer.
- Dr. Rob Chancia, Post Doctoral Researcher, Rochester Institute of Technology, Chester F. Carlson Center for Imaging Science, to discuss work on sensor imaging for nutrient deficiency detection.
- Dr. Abhisesh Silwal, Carnegie Mellon University, Robotics Institute Project Scientist, will introduce his work with the robotic pruner.
- Nick Gunner, CEO, Chief Platform Engineer & Lead Designer for Orbitist, to discuss the [Efficient Vineyard Project](#) and the [MyEV tool](#).
- Dr. Debbie Aller, New York Soil Health Alliance Extension Associate, will discuss sustainable soil management practices.
- Nicole Kubiczki, Resource Soil Scientist for the Natural Resources Conservation Service (NRCS), will discuss what to expect at our soil pits.

10:50-12:30 PM - Vendor Show and Lunch

12:30-4:00 PM – Afternoon Tour of Research Blocks and NRCS Gravel and Heavy Soil Pit Presentations

[Register On-line Here](#)

or mail in the hard copy form on next page.

## 2022 SUMMER DEMONSTRATION CONFERENCE REGISTRATION FORM

to be held at CLEREL  
on Tuesday, August 2, 2022

**Deadline for registration is Friday, July 29, 2022**

Name (1<sup>st</sup> attendee) \_\_\_\_\_ \$ \_\_\_\_\_

Farm Name \_\_\_\_\_

Address, City, State, Zip Code \_\_\_\_\_

\_\_\_\_\_

Phone \_\_\_\_\_ E-mail \_\_\_\_\_

Are you enrolled in Lake Erie Regional Grape Program (LERGP)? Yes \_\_\_\_\_ No \_\_\_\_\_

| REGISTRATION FEES     |          |
|-----------------------|----------|
| LERGP Member attendee | \$ 25.00 |
|                       |          |
| Non- member           | \$50.00  |

### Additional Attendees: (Member/non-member fees apply)

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\*Please add a **\$10.00 late fee** for each reservation made after July 29, 2022.

**TOTAL \$** \_\_\_\_\_

Please make check payable to **LERGP (Lake Erie Regional Grape Program)** and mail to: Kate Robinson  
(US funds only) LERGP  
6592 W Main Rd  
Portland NY 14769

Name \_\_\_\_\_ NY DEC/PA PDA NUMBER \_\_\_\_\_

Name \_\_\_\_\_ NY DEC/PA PDA NUMBER \_\_\_\_\_

Name \_\_\_\_\_ NY DEC/PA PDA NUMBER \_\_\_\_\_

| <u>Date Ck. Rec'd</u> | <u>Amount</u> |
|-----------------------|---------------|
|                       |               |

Call Kate at 716-792-2800 ext 201 with any questions,  
Or e-mail at [kjr45@cornell.edu](mailto:kjr45@cornell.edu).



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