

Update on Mancozeb in Grapes: DFR Study and Replacement Program Trials Planned for 2026

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Many of you have asked for an update on the status of mancozeb registration review and what is happening next for grapes. The short version is that EPA's proposed interim decision for mancozeb remains under review, and new grape-specific data will be generated this summer to help inform the next stage of the process.

As a reminder, EPA released a proposed interim registration review decision for mancozeb in 2024 that included cancellation of all grape uses, based primarily on post-application worker exposure concerns for vineyard activities such as tying/training, leaf pulling, hand harvesting, girdling, and turning. The public comment period for that proposed decision closed on September 16, 2024.

Since that time, the grape industry, university extension specialists, registrants, and grower organizations have been working to provide EPA with better information on how mancozeb is used in vineyards, what activities occur after application, and how loss of this tool would affect disease management, resistance management, and production costs. EPA received over 700 public comments on the proposed decision (including over 100 mailed letters from Lake Erie!), and meeting notes indicate that approximately 250 were considered substantive. If you submitted a comment, it is worth checking the EPA docket to confirm that your feedback was received and included in the public record.

A major next step is now planned: **UPL will fund a \$100,000 dislodgeable foliar residue study for mancozeb in a New York vineyard this summer**, with additional modest support from the New York Wine & Grape Foundation to help support execution. The study will be conducted in Dundee, NY, by Lange Research Consultant Group. Dislodgeable foliar residue studies measure how much pesticide residue can be transferred from treated foliage over time and are used to refine worker exposure estimates for post-application vineyard activities.

This is an important and positive development, and has taken many meetings (cat herding), phone calls, and email chains to get us to this point. It means that grape-specific field data from the humid, rainy East coast will be generated and provided to EPA before the Agency moves forward with the next stage of its decision process. It also reflects the value of grower, industry, registrant, and extension engagement during the comment period. However, it is important to be clear about what this study can and cannot do. This is expected to be a **single DFR study**, not a multi-year repeated study, and while the data may help refine EPA's worker exposure assessment for grapes, **it does not guarantee a specific regulatory outcome.**

A related study is also underway in the seed potato sector. EPA has expressed interest in better understanding the practical realities of both grape and seed potato production systems before moving forward. My lab is exploring opportunities for EPA staff to visit New York grape production so they can see vineyard production practices, disease pressure, post-application activities, and the practical implications of potential label changes in the field in the 2026 season. If you are in the Finger Lakes and interested in hosting an enthusiastic group of EPA scientists for a visit this summer, please let me know.

For the 2026 season, mancozeb remains available for use in grapes under currently approved labels. Growers should remember that the pesticide label is legally enforceable; EPA's pesticide label guidance states that pesticide labels carry the statement that it is a violation of federal law to use a product in a manner inconsistent with its labeling. In practical terms: **the label is the law.** Continue to follow the current label, including rates, restricted-entry intervals, preharvest intervals, personal protective equipment, and all other use directions. Based on current information, we do not have any reason to believe that mancozeb production will cease in the near term. Mancozeb is produced and used internationally, so this situation is not expected to mirror recent ziram or thiram availability disruptions.

We also anticipate that EPA's Endangered Species Act work, specifically the soon to be released fungicide strategy, will affect future mancozeb label language regardless of the DFR study results. EPA's mancozeb proposed interim decision already notes that additional mitigation may be needed in a subsequent interim determination or final registration review decision. EPA has also finalized broader ESA strategies for other pesticide classes, including herbicides and insecticides, and EPA describes the insecticide strategy as a framework it will use when registering and re-registering pesticides. A similar fungicide strategy is expected to shape future mitigation requirements for fungicides, including but not limited to mancozeb.

At this point, we expect EPA will issue a revised proposed interim decision before any final decision is made. Based on current conversations, the earliest we would likely hear an update from EPA is late 2027 or early 2028, with early 2028 currently seeming more likely. After a revised proposal is released, there would be another comment period, followed by EPA review of comments and eventual movement toward an interim or final decision. Practically speaking, this means we are likely still several years away from any new mancozeb label changes taking effect. An optimistic estimate would put new label language no earlier than 2030, and it could realistically take longer.

At the same time, we are not waiting passively. In parallel with the DFR work, Cornell Grape Pathology and regional collaborators (MSU and UGA) are preparing field trials to evaluate potential mancozeb replacement strategies for key grape diseases, especially black rot and downy mildew. My program and Tim Miles program at Michigan State will mirror treatments being tested by Phil Brennan at UGA, allowing us to compare results across sites and begin building a regional assessment of practical alternatives.

The replacement-focused treatments will include programs such as:

- Low-rate captan with surfactant
- Low-rate captan alone

- Copper with surfactant
- Copper alone
- LifeGard
- LifeGard plus surfactant

The goal of this work is not to suggest that any single material is a direct one-for-one replacement for mancozeb. Rather, the goal is to identify realistic management programs that could help growers maintain disease control if mancozeb access is restricted in the future. This will be especially important for early-season black rot and downy mildew management, resistance management, and vineyards where broad-spectrum protectants remain an important part of an integrated disease management program.

In addition to these efficacy-focused replacement trials, Kyle Bekelja and I will repeat our **mancozeb cost-match study** in juice grape to evaluate practical, grower-relevant alternatives under realistic cost constraints. Through this work, we are asking a question that matters directly to farm decision-making: if mancozeb access becomes restricted in the future, what disease management programs can provide comparable protection at a comparable price point for juice grapes? We will compare mancozeb-free or mancozeb-limited programs designed to approximate the cost of current mancozeb-based approaches, while assessing disease control outcomes under field conditions. This work is planned for three trial locations: Concord grapes in Geneva, Concord grapes at CLEREL, and Niagara grapes at CLEREL. The project will be supported by Cornell IPM, with additional support from the New York Wine & Grape Foundation pending the state budget process.

In parallel to these efforts, Hans Walter-Peterson and I are leading a Smith-Lever funded extension project focused on **mancozeb-free grape disease management**. This project will develop practical curricula and workshops to help growers prepare for multiple possible regulatory outcomes by translating field trial results, resistance management principles, and spray program design into usable disease management guidance. The goal is not to assume that mancozeb will be lost, but to ensure that growers have clear, science-based options if access becomes more limited in the future.

The first in-person workshops will be held throughout New York and are planned **for spring 2027**, including sessions at CGP Winter Fruit School, B.E.V. NY, and regional meetings in Lake Erie, Long Island, and the Hudson Valley. Webinar versions are planned for **fall 2027**. These workshops will focus on managing black rot, downy mildew, Phomopsis, and resistance risk in mancozeb-free or mancozeb-limited programs, with emphasis on practical decisions such as material selection, tank-mix partners, spray timing, cultivar susceptibility, and adapting programs to local disease pressure. We have based our format on Dr. Michelle Moyer's successful FRAME workshop approach to fungicide resistance education and are grateful for her support and guidance as we continue to develop and refine our materials.

Cornell Grape Pathology will continue to keep growers and stakeholders updated as the DFR study proceeds, as replacement trials are established, and as we learn more about EPA's timeline. For now, the key message is this: **mancozeb remains available under the current label, new grape-specific residue data will be generated in New York**

this summer, and Cornell and regional partners are actively testing practical alternatives, so the industry is prepared for multiple possible regulatory outcomes.

Key takeaways

- **Mancozeb remains available for the 2026 season under current labels.** Growers should plan for the 2026 season using currently registered products according to the current label and wait for updated guidance as new data and EPA timelines become available before making any program changes. Reminder: follow the label exactly, the label is the law.
- **UPL is funding a \$100,000 mancozeb DFR study in a New York vineyard.** Pending state budget finalization, NYWGF will likely provide additional modest support to help execute the work.
- **The study will generate grape-specific residue data that can help refine worker exposure estimates under Eastern U.S. growing conditions.** These data will be provided by UPL to the EPA before their next major decision point.
- **This is a positive step, but not a guarantee.** The study may refine EPA's exposure assumptions, but future label changes are still possible.
- **A revised EPA proposal is still expected.** New DFR data, public comments, the related potato work, and EPA's ESA fungicide strategy are all likely to shape the next version of EPA's decision.
- **Any new label language is likely still several years away.** Current estimates suggest 2030 would be an optimistic earliest timeline.
- **Replacement strategy trials are underway.** Cornell and regional collaborators will evaluate captan-, copper-, and LifeGard-based approaches for black rot and downy mildew management. In partnership with Cornell IPM, we will also run a mancozeb price-match study to evaluate whether alternative programs can provide practical disease control in juice grape at a comparable cost to current mancozeb-based programs.
- **The goal is preparedness, not panic.** Cornell Grape Pathology is working to ensure that EPA has access to high-quality, Eastern grape-specific data on mancozeb use and exposure, while also identifying workable alternatives and developing extension curricula in case access changes in the future.

Meet the Author: Dr. Katie Gold is an Assistant Professor of Grape Pathology at Cornell AgriTech in Geneva, NY, with research and extension responsibilities for grape disease management in New York State and beyond. She leads the Grape Sensing, Pathology, and Extension Lab and conducts large-scale fungicide efficacy trials alongside ground and aerial sensing to understand how environment, pathogen biology, and management choices shape disease outcomes. Digital viticulture research and extension in her lab is supported by NASA Acres Domestic Agriculture Research Consortium (80NSSC23M0034), USDA NIFA Specialty Crop Research Initiative Award Numbers 2024-51181-43184 and 2022-51181-38240, Federal Capacity Funds awarded to Cornell University, the Cornell AgriTech Research Venture Fund, and the New York Wine and Grape Foundation. Dr. Gold can be reached by email at kg557@cornell.edu.