



May 10, 2023

Finger Lakes Vineyard Update

IPM

Phomopsis



Phomopsis infections on shoot, petiole and leaf blade.

With budbreak comes growers' first "opportunity" to manage disease development in their vineyards. The first spores of Phomopsis start emerging from their overwintering state right about now and will continue to do so until they are "spent" sometime around bloom. Phomopsis fruiting bodies overwinter on cordons, spurs, rachises, and other woody tissue. Spores are spread by water splashing them onto green tissues, and the extent of the disease is therefore strongly tied to the amount of rainfall during the budbreak to post-bloom period. Infections are possible anytime through early summer, but most of the serious ones happen early in the season if that period is wet. Therefore, early sprays (3-5" of shoot growth) have been shown to be especially important in managing this disease.

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That being said, I noticed several sprayers out in vineyards yesterday when I was out and about. I thought it was curious for a couple of reasons:

1. One of the most important reasons for this early spray is to protect the cluster stems as soon as they are exposed and can potentially be infected by phomopsis spores. While there can be quite a lot of variation in how far along different varieties and blocks are, most of the early shoots I was seeing yesterday (this was in several Concord blocks) were still too short for the clusters to be exposed, like the picture on the left. The cluster stems on shoots at this stage are getting almost no protection at all from a spray application. With the heat and sun that is forecast for the next week, these shoots will likely get to that "cluster stem exposure" stage in the next few days, which would be a better time to spray.
2. Phomopsis spores are transported from the overwintering infections on older wood to green tissues by rain splashing. Logic tells us that this means that if there's no rain, there won't be new infections of phomopsis, and therefore the protectant sprays that are applied for this disease (mancozeb and the like do not have any post-infection activity) aren't doing much good during stretches of dry weather but are best used before a rain event. Looking at the forecast for the next week, there's very little chance of rain for the next several days or more, and therefore very little pressure for phomopsis infections.



When we talk about using IPM practices to manage diseases, these are the kinds of factors that should be taken into

IPM

account when making decisions about loading up the sprayer or not. There are obviously other factors that must be considered when deciding whether to spray or not, like other work that has to get done around the farm, when equipment and people are available, etc., so I'm not intending to be critical of those who I saw spraying yesterday. They had their reasons. I did think that this was a good opportunity for a reminder about some of the factors that we need to *integrate* into decisions regarding pest management if we want to do it in a more sustainable and cost-effective way.

Know Your Bindweeds



The beginning of the growing season for grapevines is also the beginning of the growing season for many weed species, including bindweed. It isn't hard to find bindweed in vineyards, or many other types of cropping systems for that matter. They can quickly take over open space that isn't being used by other plants if given the opportunity, and then start growing up the trunks and into the fruit zone and canopy, causing congestion and shading in those places where growers are trying to encourage sun exposure and air movement.

Because it is a perennial, it's generally harder to control something like bindweed than an annual weed, but some types of bindweed are (relatively) easier to control than others. That's why it's important to identify which types are present in vineyards, so that the appropriate strategies can be taken.

Lynn Sosnoskie, weed scientist at AgriTech, developed a simple two-page ID guide to distinguish between field bindweed, hedge bindweed, and wild buckwheat, which can be mistaken for bindweed sometimes. The guide is included in this week's Update and is also available on [our website](#).

A few years ago, we conducted a field trial with NYSIPM weed scientist Bryan Brown, looking at bindweed management options beyond just glyphosate, which is the standard treatment for it. Here's the basic summary of what we found:

- **Hedge bindweed** was as effectively controlled with two applications of rimsulfuron ('Matrix') as it was by three applications of glyphosate. Cultivation also reduced hedge bindweed compared to where we didn't do anything, but it wasn't as effective as the chemical herbicides. One advantage of 'Matrix' is that it does not cause the kind of injury to exposed foliage that glyphosate does. This herbicide now has a 2(ee) exemption in New York for use on hedge bindweed.
- **Field bindweed** was completely unaffected by rimsulfuron. Cultivation seemed to reduce it to some extent but worked better on other weeds. Glyphosate (3 applications) and a combination treatment of cultivation, glyphosate and rimsulfuron (1 time each) were significantly better than the other treatments. Given rimsulfuron's inactivity by itself, it is reasonable to think that you would get the same effect from just cultivation and glyphosate and skipping the rimsulfuron altogether, which would reduce the cost of the program.

You can read the [final report about this trial](#) for more information

One caution about using cultivation to control field or hedge bindweed – both species are capable of reproducing from small fragments of the rhizomes underground. If the rhizome is shallow enough, the cultivator can cut it and drag fragments to other portions of the vineyard and actually spread the weed to new areas, which would defeat the whole purpose of cultivating in the first place.

Which Bindweed Am I Looking At? A Quick ID Guide For Three Common Species

Field Bindweed (*Convolvulus arvensis*)

Field bindweed is a prostrate to climbing perennial vine in the *Convolvulaceae* (morning glory family). The species possesses taproots that can reach tens of feet deep and an extensive lateral root system that occupies the top 1 to 2 feet of soil. Root pieces 1 inch in length can re-sprout following fragmentation.



Seedlings emerge in spring/early summer. Cotyledons are square to kidney-shaped. Leaves are alternate and arrow-shaped and rounded at the apex; the leaf base is relatively flat with lobes that point away from the stem. On average, field bindweed leaves are approximately 1 to 2.5 inches in length. Leaves can be hairless to hairy. Vines can be up to 6.5 feet long.



Hedge Bindweed (*Calystegia sepium*)

Hedge bindweed is a perennial vine in the *Convolvulaceae* (morning glory family). The species has an extensive, but shallow, rhizomatous root system. Much like field bindweed, it can spread via the regeneration of fragmented rhizomes. Like field bindweed, pieces 1 inch in size can regrow.



Seedlings emerge in spring/early summer. Cotyledons are square with prominent indentations at the apex. Leaves are alternate and triangular with sharply pointed apices. The leaf base is deeply lobed, especially compared to field bindweed. Leaves, which are smooth, can be up to 5 inches in length. Vines can be up to 9 feet long.



Hedge bindweed vs. field bindweed root systems
(Photo courtesy of Dr. Andrew Senesac)

Wild buckwheat (*Fallopia convolvulus*)

Wild buckwheat, also known as black bindweed, is a fast-growing annual vine with fragile stems in the *Polygonaceae* (knotweed/smartweed family). The root system of wild buckwheat is composed solely of fibrous roots. Unlike the perennial bindweeds, reproduction does not occur from root fragments.



Seedlings emerge in spring/early summer. Cotyledons are long and oval. Leaves are alternate, almost heart-shaped and pointed at the apex. The leaf base has deep and rounded to pointed lobes. At the base of each leaf, a cylindrical, membranous ocrea surrounds the stem. Leaves can be up to 3.5 inches long. Vines are branched at the base; internodes are long.



Which Bindweed Am I Looking At? A Quick ID Guide For Three Common Species

Field Bindweed (*Convolvulus arvensis*)



Flowers (approximately 1 inch in length and trumpet- or funnel-shaped because the petals are fused) are produced early summer through fall, with each opening for a single day. Flowers are mostly solitary, white to pink in color, and produced in the axils of leaves. A set of small, leafy bracts approximately 0.5 inches in size can be found about 1 inch below the base of the flower tube.

Brown to black and wedge/half moon-shaped seeds are produced in round, papery capsules. Seed are dormant and persistent in the soil.

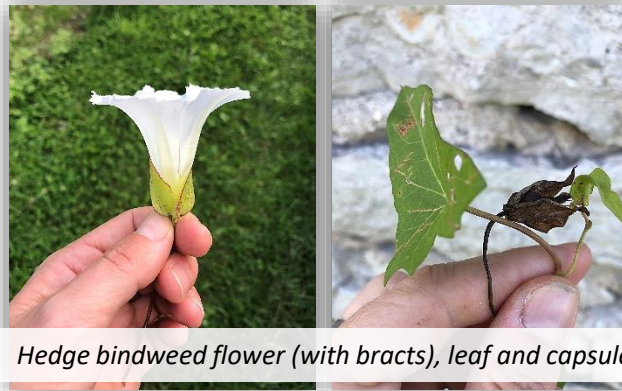


Hedge Bindweed (*Calystegia sepium*)



Flowers (usually white, sometimes pink, especially on Long Island) are produced in mid to late summer and into the fall. Flowers are solitary in leaf axils and white in color. Hedge bindweed flowers are also trumpet- or funnel-shaped (due to their fused petals) and larger than those of field bindweed (greater than 2 inches in length). Unlike field bindweed, the bracts of hedge bindweed are very prominent (concealing the sepals) and overlap at the base of the flower.

Brown to black, egg-shaped seed are produced in papery capsules. Seed are dormant and persistent in the soil.

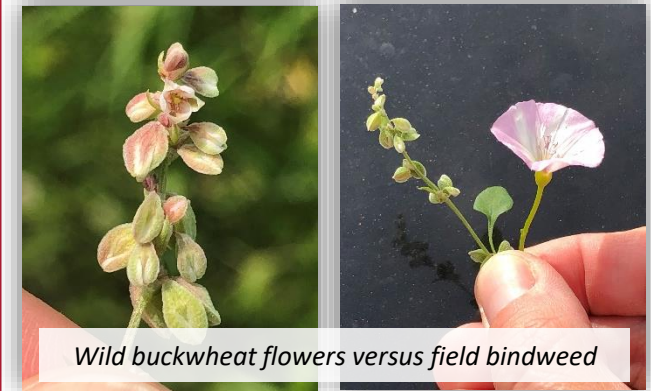


Wild buckwheat (*Fallopia convolvulus*)



Flowers are produced from mid-summer through fall. Individual flowers are small and inconspicuous (less than 0.5 inches in length), unlike those of field and hedge bindweed. There are no petals (just sepals that are white to pink to green in color). Flowers are held in small clusters in the axils of the leaves or at the end of stems (racemes). There are no bracts present below the flowers.

Wild buckwheat produces triangular (3-angled) seed that are short-lived. Unlike field and hedge bindweed seed, which may last for decades in the soil, black bindweed seed only persist a few years.



Upcoming Events

Don't forget to check out the calendar on our website (<http://flgp.cce.cornell.edu/events.php>) for more information about these and other events relevant to the Finger Lakes grape industry.



Tailgate Meetings

This year's Tailgate Meetings will start on Tuesday, May 16, and continue every two weeks after that through August. We are not currently planning to hold any virtual Tailgate Meetings this year. Here is the schedule for this year's meetings, all of which will run from 4:30 – 6:00 PM. Each meeting has also been approved for 1.5 pesticide recertification credits.

- May 16, 2023: Lakewood Vineyards
4024 Route 14, Watkins Glen, NY
- May 30, 2023: Hosmer Winery
7020 Route 89, Ovid, NY
- June 13, 2023: Glenora Farms
340 Dundee-Glenora Road, Dundee NY
- June 27, 2023: Keuka Lake Vineyards
8882 County Road 76, Hammondsport, NY
- July 11, 2023: Young Sommer Winery
4287 Jersey Rd, Williamson, NY
- July 25, 2023: Gage Vineyards
6104 Hicks Road, Naples NY
- August 8, 2023: Tango Oaks Vineyard
5557 NY Route 414, Hector, NY
- August 22, 2023: Fox Run Vineyards
670 Route 14, Penn Yan, NY

Upcoming Events

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GiESCO Conference Professional Day

Thursday, July 20

Cornell University

The [GiESCO](#) conference is one of the most important viticulture meetings in the world. Scientists from all over the globe attend this meeting. In July, many of the world's experts in viticulture and related fields will be coming to Cornell for this important gathering.

While much of the week is devoted to scientific talks and tours, the final day of the conference is devoted to information that is geared towards more practical use by the industry, especially the local growers and winemakers, and this year THAT IS YOU!!

On Thursday, July 20, the *Professional Day* will feature industry relevant, applied viticulture topics presented by international speakers.

Keynote speakers (and topics) are:

- Dr. Nick Dokoozlian, E&J Gallo (The vineyard of the future)
- Dr. Kaitlin Gold, Cornell University (Remote sensing for disease detection)
- Dr. Michela Centinari, The Pennsylvania State University (The threat of the invasive insect spotted lanternfly).

Other topics will include:

- Managing grapevine diseases with UV radiation
- New fumigation alternatives
- Vineyard nutrient budget and sampling protocols
- Response of vineyard soils to biochar
- and other timely topics that address grower challenges.

I encourage all of you to consider attending this one-day workshop that is devoted to the local industry. The Professional Day can be attended in person on the Cornell Campus (\$150) or virtually via Zoom (\$75).

Here is the link to register:

<https://app.certain.com/profile/form/index.cfm?PKformID=0x33447239940&&varPage=register>

Finger Lakes Vineyard Update

Finger Lakes Grape Program

May 10, 2023

2023 GDD & Precipitation

FLX Teaching & Demonstration Vineyard – Dresden, NY					
Date	Hi Temp (F)	Lo Temp (F)	Rain (inches)	Daily GDDs	Total GDDs
5/3/23	45.7	38.5	0.24	0.0	155.6
5/4/23	53.6	42.8	0.00	0.0	155.6
5/5/23	59.2	37.8	0.00	0.0	155.6
5/6/23	65.8	40.6	0.00	3.2	158.8
5/7/23	72.7	44.8	0.10	8.8	167.5
5/8/23	65.5	46.2	0.00	5.9	173.4
5/9/23	59.0	42.8	0.00	0.9	174.3
Weekly Total			0.34"	18.7	
Season Total			6.28"	174.3	

GDDs as of May 9, 2022: 113.4

Rainfall as of May 9, 2022: 2.12"



Seasonal Comparisons (at Geneva)

Growing Degree Days

	2022 GDD ¹	Long-term Avg GDD ²	Cumulative days ahead (+)/behind (-) ³
April	135.9	62.8	+13
May	14.5	256.3	+ 7
June		484.6	
July		646.1	
August		597.4	
September		360.2	
October		112.5	
TOTAL	150.3	2519.8	

¹ Accumulated GDDs for each month.

² The long-term average (1973-2022) GDD accumulation for that month.

³ Numbers at the end of each month represent where this year's GDD accumulation stands relative to the long-term average. The most recent number represents the current status.

2023 GDD & Precipitation

Precipitation

	2023 Rain ⁴	Long-term Avg Rain ⁵	Monthly deviation from avg ⁶
April	5.73"	2.80"	+2.97"
May	1.28"	3.07"	
June		3.56"	
July		3.43"	
August		3.21"	
September		3.47"	
October		3.41"	
TOTAL	7.01"	23.02"	

⁴ Monthly rainfall totals up to current date

⁵ Long-term average rainfall for the month (total)

⁶ Monthly deviation from average (calculated at the end of the month)

Finger Lakes Vineyard Update

Finger Lakes Grape Program

May 10, 2023

Additional Information

Become a fan of the [Finger Lakes Grape Program on Facebook](#), or follow us on [Twitter \(@cceflgp\)](#) as well as YouTube. Also check out our website at <http://flgp.cce.cornell.edu>.

Got some grapes to sell? Looking to buy some equipment or bulk wine? List your ad on the [NY Grape & Wine Classifieds website](#) today!

Finger Lakes Grape Program Advisory Committee

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Gregg McConnell- Farm Credit East

Matt Doyle- Doyle Vineyard Management

Eileen Farnan- Barrington Cellars

Chris Gerling- Cornell University Extension

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Cornell Cooperative Extension Finger Lakes Grape Program

Hans Walter-Peterson—Team Leader

Donald Caldwell—Viticulture Technician

The Finger Lakes Grape Program is a partnership between Cornell University and the Cornell Cooperative Extension Associations in Ontario, Seneca, Schuyler, Steuben, Wayne and Yates Counties.

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