

OHIO GRAPE-WINE ELECTRONIC NEWSLETTER

Edited by: Dr. Maria Smith

October / 2019



Photo: Chardonnay at harvest 9/24/2019, OARDC Wooster, OH. Photo credit: Maria Smith

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A spook-tacular end to harvest 2019!

Harvest 2019 was a wrap with Chambourcin on October 9 at the OARDC research station.

While folks in Northeast may be waiting out the final late-ripening varieties, the rest of the state is now into the post-harvest period.

Although the fruit is off the vine does not mean that the work for the year is done quite yet. Follow along as we discuss fall vineyard management strategies and prepare for the next year ahead.

OARDC-Wooster October Vineyard Update

By: Diane Kinney and Imed Dami, HCS-OSU

Grape phenology

Harvest was completed earlier this month on October 9th in Wooster after picking our late ripening varieties, Cabernet franc and Chambourcin. When compared to the past three years, the 2019 GDD accumulation was not the highest (**Table 1**). However, the abundance of sunshine, dry conditions, and cool nights have created nearly perfect weather conditions for optimum fruit maturity (Table 2). We can't wait to taste wines from the stellar 2019 vintage!

Table 1. Harvest dates and growing degree days (GDD) of selected varieties grown at OARDC in Wooster from 2016-2019.

Variety	2016		2017		2018		2019	
	Harvest Date	GDD*	Harvest Date	GDD*	Harvest Date	GDD*	Harvest Date	GDD*
Cabernet franc	5-Oct	3124	3-Oct	2831	19-Oct	3262	1-Oct	2861
Chambourcin	6-Oct	3140	13-Oct	2975	19-Oct	3262	9-Oct	2968
Chardonnay	29-Sep	3068	18-Sep	2660	21-Sep	2942	25-Sep	2764
Regent							9-Sep	2462
Sauvignon blanc	20-Sep	2915	25-Sep	2727	7-Sep	2678	17-Sep	2626

*GDD: Cumulative daily mean temperatures above 50 °F since January.

Table 2. 2019 fruit composition at harvest of selected varieties grown at OARDC in Wooster.

Variety	Soluble Solids (SS %)	pH	Titrateable acidity (TA g/L)	Fruit maturity index (FMI SS/TA * 10)
Cabernet franc	22.8	3.42	7.4	31
Chambourcin	22.9	3.33	8.6	27
Chardonnay	21.6	3.05	8.2	26
Regent	21.6	3.36	10.3	21
Sauvignon blanc	21.7	3.16	9.4	23

October OARDC update (continued)

Phenology progression of Cabernet franc:



Cab franc (25 Apr 2019)



Cab franc (30 May 2019)



Cab franc (27 Jun 2019)



Cab franc (31 Jul 2019)



Cab franc at harvest (1 Oct 2019)

October OARDC update (continued)

Weather conditions

Wooster has enjoyed a period of dry and warm weather during fruit ripening in September and October. However, cumulative rainfall is still nearly 12" over the long-term average which is also two inches higher than in 2018 at this time (38.04" vs 36.64"). This year's cool nights have kept the GDDs below those of 2018, but near the 30-year average. The dry weather has allowed growers to hang fruit for longer periods of time if they stayed on top of their spray programs in the early season.

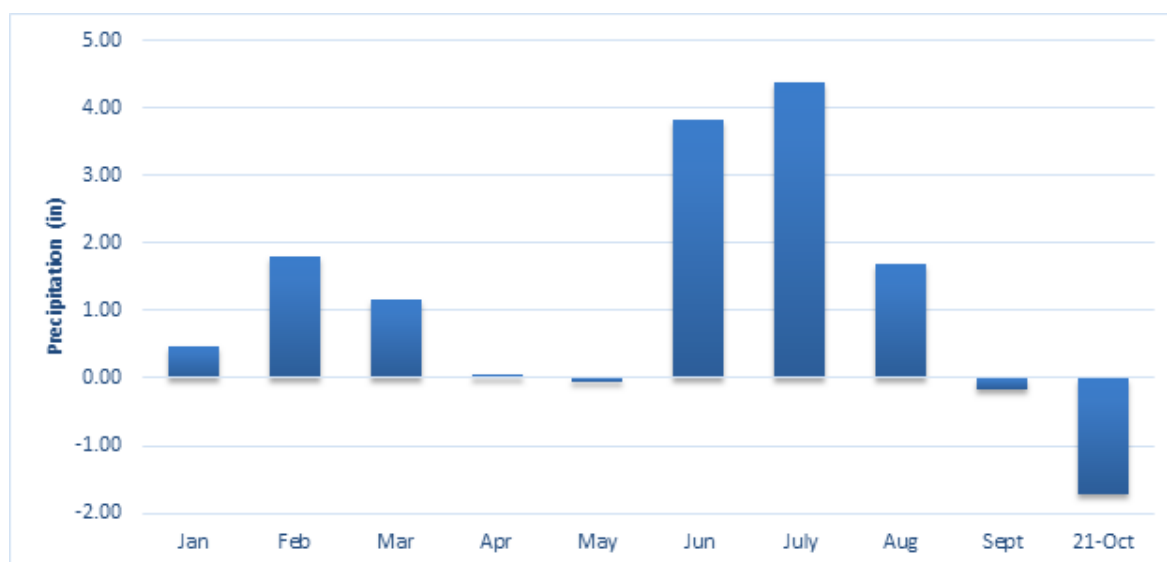


Figure 1. 2019 deviation of monthly mean precipitation from the 30-year average

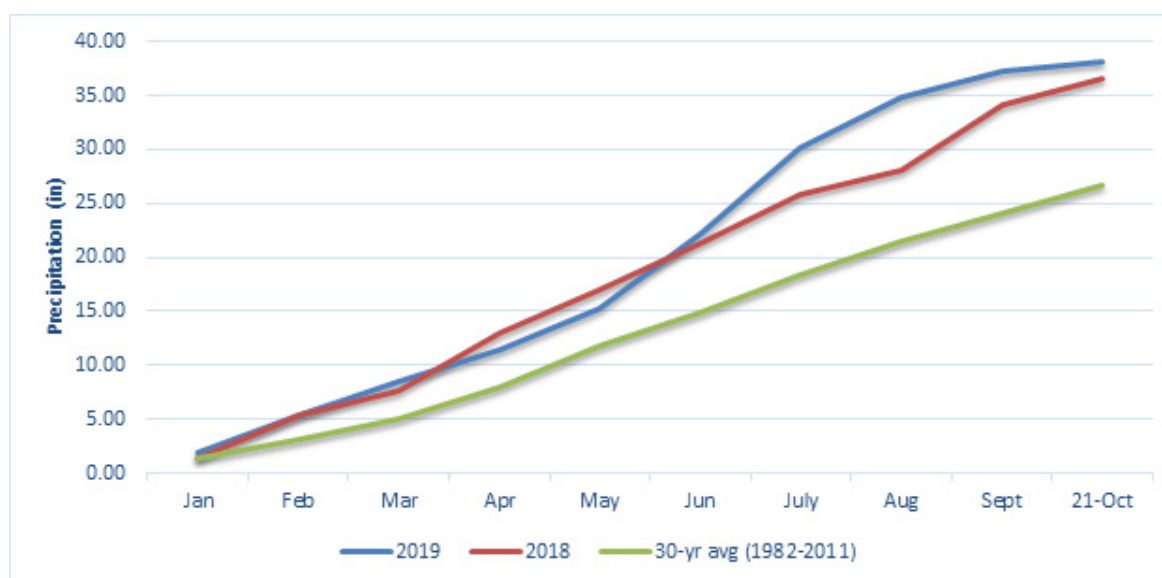


Figure 2. Cumulative precipitation at OARDC-Wooster for 2019, 2018, and the 30-year average

October OARDC update (continued)

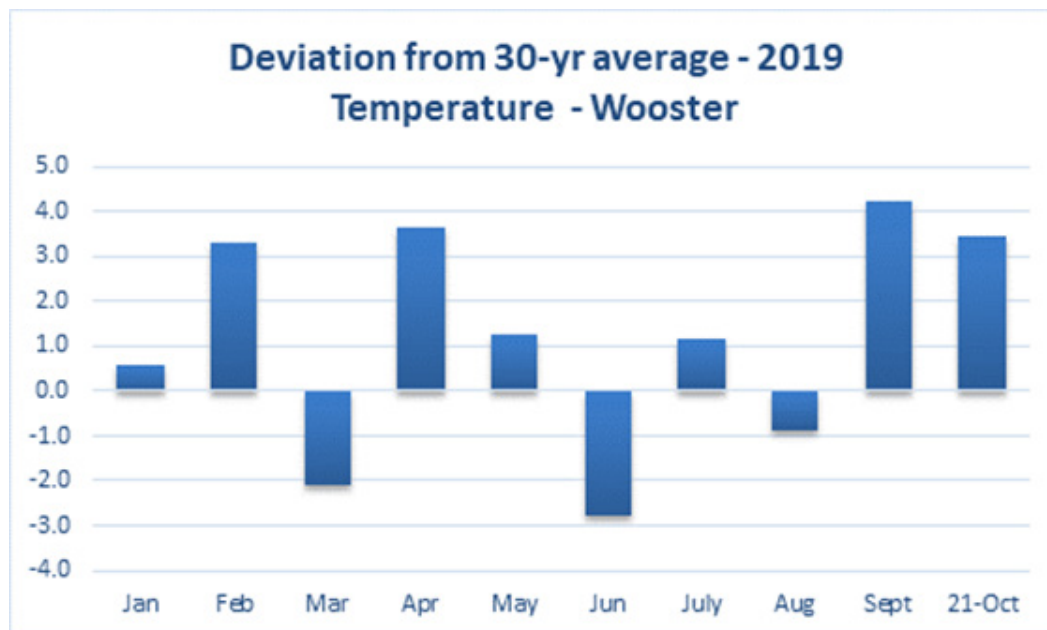


Figure 3. 2019 temperature deviation from the 30-year average at OARDC-Wooster

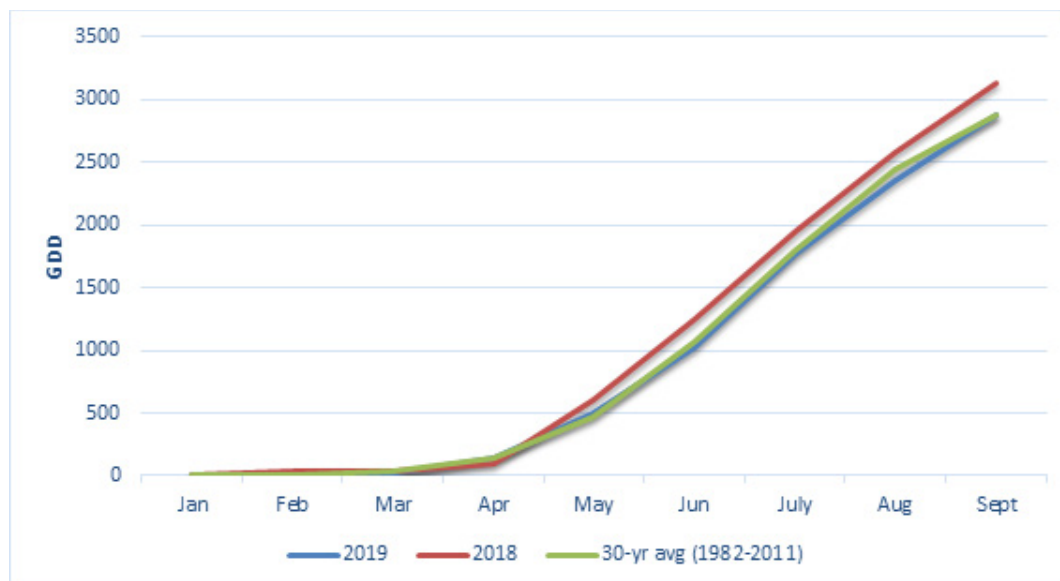


Figure 4. Cumulative growing degree days (GDD) at OARDC-Wooster for 2019, 2018, and the 30-year average

October OARDC update (continued)

Cultural practices

As of October 28, we are still waiting to see our first subfreezing temperatures in the vineyard. We have completed a first pass of hilling-up on grafted vines and will conduct a second pass in November. Another roller coaster season that has a difficult start with winter injury but is ending with high hopes of a great vintage and smiles on our faces!



Figure 5. Under-vine soil mounding following first hilling pass in October 2019.

Fall vineyard management overview

By: Dr. Maria Smith, HCS-OSU

With harvest wrapped up, the major focus shifts to the cellar. However, don't neglect important fall vineyard management that impact the success of your 2020 season.

Post-harvest disease management

Although the threat of fruit disease is over, vines still need leaves in order to successfully shut down for the winter.

Why? Because **leaf senescence**, or the color change and die-back of leaves, is a major contributor of nutrient storage in the vine over winter. During senescence, cellular components responsible for the green color of leaves during the summer (i.e., chlorophyll) are broken down into proteins, lipids, and other nutrients to be transported back to the vine. These nutrients are then used to support vine growth and development during the next spring.

Protect your foliage! Downy mildew and powdery mildew may continue to threaten foliage into the post-harvest season, requiring one or two late-season fungicide applications in order to avoid premature leaf fall [1].



Figure 1. Late-season foliar downy mildew, September 2019.

Nutrition monitoring and fertilization

Vine and soil nutrition are often overlooked aspects of vineyard management in Ohio during the busy growing season. However, optimal vine nutritional management can be critical to the success of vines and fruit. **Excessive** fertilization can have several drawbacks, including unnecessary business expenses, environmental run-off and pollution, and excessive vine vegetative growth and poor wood maturation. Nutrient **deficiencies**, in contrast, may stunt vine growth and may adversely affect fruit quality in terms of Brix, pH, and yeast assimilable nitrogen (YAN), that may lead to fermentation and wine quality issues [2, 3].

Monitor and amend soil nutrition in the fall. If it's been a while, the fall is a great time to submit soil samples and make amendments based on the test results to adjust pH, phosphorous (P), or potassium (K). **However, save nitrogen application for the spring.** Unlike K and P, nitrogen is highly mobile in soil. Since vine roots are less active in the fall, there is a high chance that nitrogen applied now will be lost to leaching, since vine roots are less actively taking it up for use. You can then check in the following season for how that fertilization affected vine nutrient status [4]. For additional information on fall vineyard fertilizing, see [5].

Fall vineyard management (continued)

Weed management

If weeds were a plague during the growing season, the fall is a good time to work to get them back under control. There are several means for controlling weeds in the vineyard, including **mechanical** disturbance (**Fig. 2**), establishing **ground cover** under the vines (**Fig. 3**), or using **chemical** control via herbicides.

Ultimately, however, weed control relies on several factors (e.g., weed species, herbicide selection and application timing) and should be performed using a combination of methods (i.e., integrated weed management) to ensure long-term success.

Herbicide selection depends on the type of weed problem, state of weed emergence (pre- or post-), timing of application, and the vine age. There are more than 20 registered herbicides available for grapes, so choose based on your individual vineyard situation and needs. For more information on registered herbicides in grapes, see [6]. For questions regarding specific weed control strategies, please contact Maria Smith (smith.12720@osu.edu) or Doug Doohan (doohan.1@osu.edu).



Figure 2. Prototype mechanical weeder demonstration at OARDC-Wooster, October 2019



Figure 3. Example of under-vine ground cover using creeping red fescue in mature *Vitis* hybrid Vidal blanc. August 2019.

Cited references:

- [1] Ivey M.L. Late Season and Post-Harvest Disease Management in the Vineyard. OGEN. 31 Oct. 2017.
- [2] Schreiner RP and Osborne J. 2019. AJEV. doi: 10.5344/ajev.2019.19043
- [3] Bell S-J and Henschke PA. 2005. Aus J Grape Wine Res. 11:242-295.
- [4] Dami I and Smith M. 2019. <https://ohiograpeweb.cfaes.ohio-state.edu/grape-growing/grapevine-nutrient-management-petiole-sampling-and-analysis>
- [5] Klodd A and Sawyer A. 2019. <http://enology.umn.edu/news/applying-fertilizer-vineyards-after-harvest>
- [6] Beckerman J et al. 2019. Midwest Fruit Pest Management Guide 2019-2020. Herbicide recommendations for grapes. pp. 140-142. <https://ag.purdue.edu/hla/Hort/Documents/ID-465.pdf>

Save the Date!



2020 Ohio Grape & Wine Conference

February 17-18, 2020

Embassy Suites Columbus/Dublin

5100 Upper Metro Place, Dublin, OH 43017



2020 Ohio Grape & Wine Conference

February 17-18, 2020

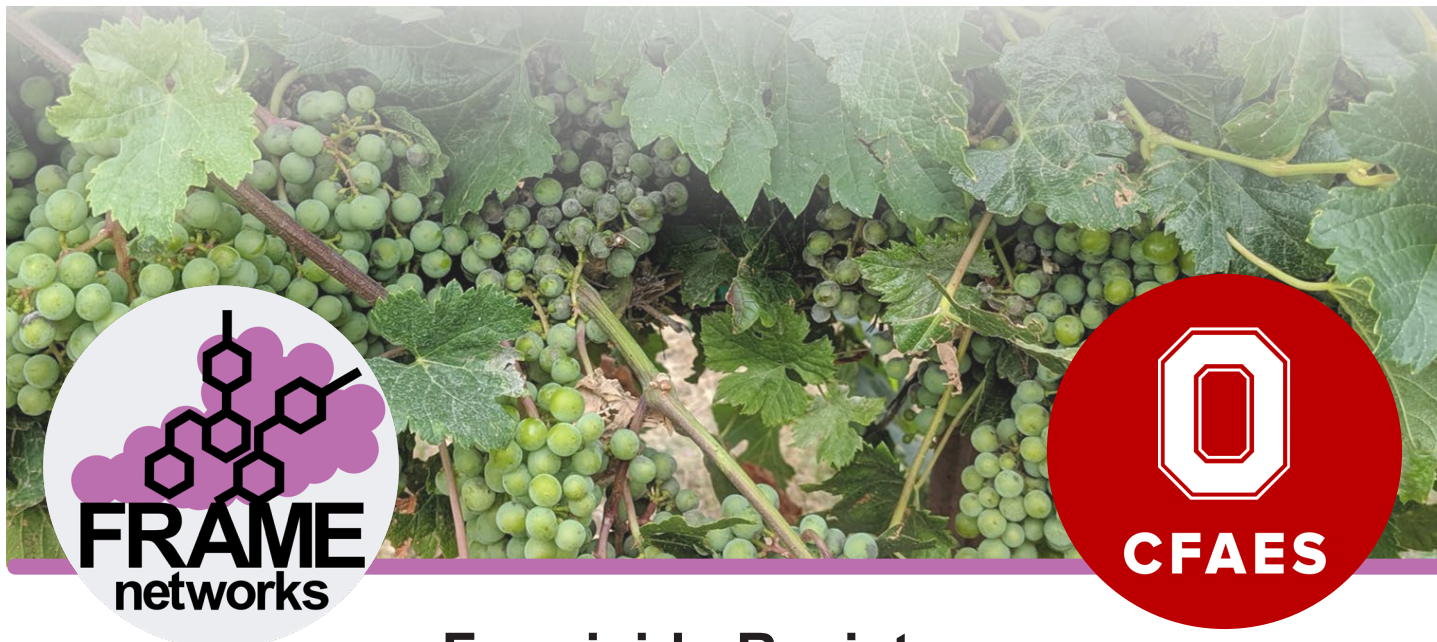
Embassy Suites Columbus- Dublin
5100 Upper Metro Place
Dublin, OH 43017
(614) 790-9000

Program Highlights:

- ◆ Two information-packed days with viticulture, enology, entomology, plant pathology, virology and weed science presentations, as well as an industry trade show, Ohio wine reception, and exquisitely-prepared banquet.
- ◆ Flexible registration options and affordable registration fee.



Ohio Grape Industries Committee
8995 E. Main Street
Reynoldsburg, OH 43068-3342



Fungicide Resistance Management Full Day Workshop

SAVE THE DATE
February 16th 2020
Dublin, OH

This workshop is designed for crop consultants, vineyard managers or anyone who writes or recommends fungicide programs.

Preregistration is required. Registration using the 2020 Wine and Grape Conference Registration Form.
Registration is limited to 60 people.

Contact Dr. Melanie Lewis Ivey, ivey.14@osu.edu for more information.

For more information visit:  framenetworks.wsu.edu

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AND ENVIRONMENTAL SCIENCES

This project is funded in part by the United States Department of Agriculture – National Institute for Food and Agriculture – Specialty Crop Research Initiative Award No. 2018-03375 titled "FRAME: Fungicide Resistance Assessment, Mitigation and Extension Network for Wine, Table, and Raisin Grapes; the Ohio Grape Industry Committee; and federal and state funds appropriated to The Ohio State University, Department of Plant Pathology.

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Fungicide Resistance Management Workshop
February 16, 2020
Dublin Ohio

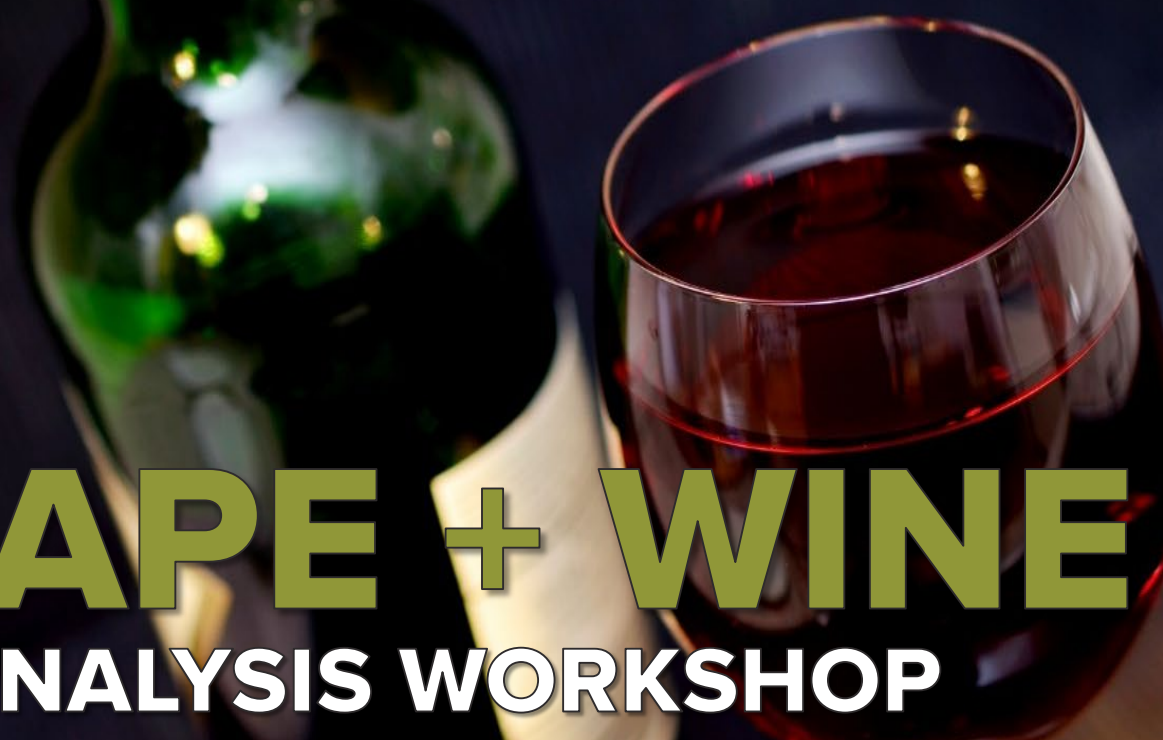
Fungicide resistance to powdery and downy mildews is a growing concern for Ohio grape producers. Developing spray programs that slow the development of resistance in a vineyard can be challenging, especially when there are limited fungicides available that have different modes of action. This workshop is designed to assist crop consultants, vineyard managers or anyone who writes or recommends fungicide programs, with developing a fungicide spray program for wine or table grapes.

During the first part of the day, participants will learn about mildew diseases and management, best practices for using fungicides, and best sprayer practices, from national experts in grape diseases and fungicide resistance management. Participants will then break out into groups and build a spray program based on a real-life scenario. During the last part of the day each group will defend their spray programs and provide suggestions and advise to other groups on how each program could be improved.

REGISTRATION INFORMATION

- **Preregistration is required.**
- Registration costs are \$35 per person.
- Participants can preregister using the 2020 Wine and Grape Conference Registration form.
- Registration opens the week of December 9 and closes December 31 or when there are 60 participants registered.

Additional costs of this workshop are offset with financial support by USDA – NIFA – SCRI Award No. 2018-03375 titled “FRAME: Fungicide Resistance Assessment, Mitigation and Extension Network for Wine, Table, and Raisin Grapes; the Ohio Grape Industry Committee; and federal and state funds appropriated to The Ohio State University, Department of Plant Pathology.



GRAPE + WINE

ANALYSIS WORKSHOP

THURSDAY, DECEMBER 5, 2019 • 9:30 a.m. - 3:30 p.m.

Hosted by Dr. Gary Gao and Ryan Slaughter
Featuring Todd Steiner, Dr. Maria Smith, and Patrick Pierquet

Come join us for an informative workshop to learn proven wine grape growing techniques, acquire basic tools to successfully manage a vineyard, and come away with a better understanding of winery sanitation procedures and essential practices for sound wine production. Experts from The Ohio State University South Centers and Department of Horticulture Crop Science will be on hand for presentations and to answer your questions.

Topics to be discussed include:

- 2019 Vintage Overview
- Back to the Basics: A Focus on Red and White Grape and Wine Production
- Vine Establishment and Training
- Grape Cultivars Trialed at OSU South Centers
- Sensory Evaluation of OSU Enology Trials
- Vineyard Maintenance And More

LOCATION: OSU SOUTH CENTERS

1864 SHYVILLE ROAD

PIKETON, OHIO, 45661

go.osu.edu/winegrapes

COST: \$25 per person

Lunch will be provided

REGISTER: Contact Bradford Sherman

sherman.1473@osu.edu

740-289-2071 x 115

DEADLINE TO REGISTER:

Monday, December 2, 2019

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Name & Address	Phone	Email	Area of Expertise & Assistance Provided
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Dr. Doug Doohan, Professor Horticulture & Crop Science 116 Gourley Hall - OARDC	330-202-3593	email: doohan.1@osu.edu	Vineyard weeds and control. Recommendation on herbicides.
Dr. Gary Gao, Professor & Small Fruit Specialist OSU South Centers 1864 Shyville Rd., Piketon, OH 45661 OSU Main Campus, Rm 256B, Howlet Hall, 2001 Fyffe Ct., Columbus, OH 43210	740-289-2071 Ext. 123 Fax: 740-289-4591	email: gao.2@osu.edu	Viticulture research and outreach in Southern Ohio.
Dr. Melanie Lewis Ivey, Asst. Professor Plant Pathology 224 Selby Hall - OARDC	330-263-3849	email: ivey.14@osu.edu	Grape diseases, diagnostics, and management. Recommendation on grape fungicides and biocontrols. Good agricultural practices and food safety recommendations.
Diane Kinnney, Research Assistant Horticulture & Crop Science 218 Gourley Hall - OARDC	330-263-3814	email: kinnney.63@osu.edu	Vineyard and lab manager - viticulture program. Website manager for Buckeye Appellation website.
Andrew Kirk, AARS Station Manager Astabula Agricultural Research Station 2625 South Ridge Rd. Kingsville, OH 44048	440-224-0273	email: kirk.197@osu.edu	Viticulture research and outreach in northeastern Ohio.
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Dr. Maria Smith, Viticulture Outreach Specialist Horticulture & Crop Science 205 Gourley Hall - OARDC	330-263-3825	email: smith.12720@osu.edu	Maria is the primary contact for viticulture extension and outreach. Evaluation of site suitability for vineyard establishment and all aspects of commercial grape production.
Todd Steiner, Enology Program Manager & Outreach Horticulture & Crop Science 118 Gourley Hall - OARDC	330-263-3881	email: steiner.4@osu.edu	Todd is the primary contact for enology research and extension. Commercial wine production, sensory evaluation, laboratory analysis/setup and winery establishment.