

# OHIO GRAPE-WINE ELECTRONIC NEWSLETTER

Edited by: Dr. Maria Smith

May / 2020



Photo: De Chaunac nears bloom on 27 May 2020 in Athens, Ohio. Photo credit: Ross Corder

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*“Nothing that we do, is done in vain. I believe, with all my soul, that we shall see the triumph.” - Charles Dickens*

Thankfully, at least one thing in 2020 still holds true: the seasons change, and with them, the grapevines grow.

We are finally well on our way into the growing season across all regions of the state despite a tenuous and stressful start. The long days of management are here and now, but we embrace them knowing that all of our time and effort in the vineyard does not lay waste. Every delicate shoot we care for carries with it the promise of a great vintage ahead.

*-Maria and the OSU V&E team*

# It's herbicide drift season!

*New fact sheet series available to help growers prepare and respond*

By: Cassandra Brown, HCS-OSU program manager

Since 2016, soybean and cotton farmers have quickly adopted dicamba- and 2,4-D-ready crops in their fight against herbicide-resistant weeds. However, the expanded use of dicamba and 2,4-D during the growing season has created drift damage and major headaches for many specialty crop growers.

It's a headache many grape growers are all too familiar with. Both 2,4-D and dicamba can cause serious damage to grapevines even in ultra-low concentrations—as little as 1/800<sup>th</sup> of the labeled rate in some studies.

## The future of dicamba

The U.S. legal system has dealt two major blows to manufacturers of dicamba – one this February when it decided in favor of Bader Farms, a peach farm suing dicamba manufacturers for extensive drift damage. The second blow came in early June when the 9th Circuit Court of Appeals struck down three dicamba product registrations, citing major flaws in the EPA's 2018 approval process.

But don't celebrate yet. These rulings do not apply to all dicamba products, and there has been no talk of similar restrictions for using 2,4-D on emerged crops. Also, it remains unclear if applicators will be able to use existing stocks of dicamba products. According to Peggy Kirk Hall from the Ohio State law office this will hinge on further court decisions and possible state regulatory decisions. Manufacturers are unlikely to let go of dicamba-resistant cropping systems without more legal wrangling. Indeed, Bayer is already working on new dicamba product registrations for 2021. Watch for updates on the Ohio State Farm Office website. <https://farmoffice.osu.edu/blog>

Meanwhile, a new series of fact sheets on dicamba and 2,4-D drift will be available late next week through the North Central Integrated Pest Management Center. Written for specialty crop growers, the series provides detailed information on steps a grower can take to prevent and prepare for drift damage, as well as tips on documenting and reacting to drift injury.

## Preparing for drift

“Vigilance and communications are the two big things,” says Ohio State Weed Specialist Doug Doohan, “Knowing who your neighbors are, talking to them about your plans, talking to them about their plans, being aware of who's doing what on the land and when.”

But who is your neighbor when it comes to drift? Just how far can dicamba drift travel? Most spray droplet drift will move short distances. This type of damage is generally limited to adjacent fields. However, dicamba and 2,4-D are likely to drift as a gas or via a temperature inversion. Temperature inversions can be especially damaging, moving

**If your vineyard is in an area dominated by conventional corn and soybean rotations, there are several actions you should take to prepare yourself for potential damage:**

- Familiarize yourself with drift damage injury symptoms, pesticide regulations, as well as analytical labs and legal counsel that could be contacted in case of a drift event.
- Register your fields with Drift Watch or a similar sensitive crop registry and make sure your neighbors are aware of the risk to your vines.
- Invest in a good camera or weather station to help record information.
- Scout your vineyards regularly for drift injury as well as other cultural concerns. Spotting drift injury becomes much harder in the midst of other plant health problems.

# Herbicide drift (continued)

suspended pesticides in a fog-like layer for longer distances.

“There’s all kinds of circumstantial evidence of much greater movement,” says Doohan. “When you’re talking inversions, if an inversion is motivated by a 2-3 mph wind, it could go miles—especially if the conditions persist through the evening.”

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Doohan has helped investigate several drift cases and was one of the co-writers for the new fact sheet series. He encourages growers to establish a Standard Operating Procedure to prepare for a drift incident, just as they might for food safety. He also stresses the importance of documenting suspected drift quickly, thoroughly, and repeatedly. The new fact sheet series offers detailed suggestions for these activities.

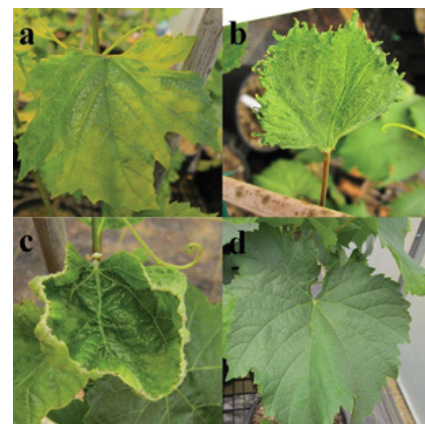
## Symptoms of dicamba and 2,4-D drift on grapes

Symptoms of 2,4-D injury include parallel veins, fan-shaped leaves, shortened internodes, and reduction of new growth (resulting in shorter shoots). Most effects were observed in the youngest growth. Dicamba drift symptoms include upward cupping of younger leaves, with very occasional downward cupping (Fig. 1).

[A 2013 Ohio State study](#) compared drift damage injury across several common Ohio grape varieties. Herbicide treatments included several drift-like rates of dicamba, 2,4-D, and glyphosate. The varieties tested, ranked from most to least sensitive, were Chardonnay ≥ Riesling ≥ Chardonee ≥ Vidal blanc ≥ Traminette.

## More reading

1. Details on the June 3, 2020 Ruling against the EPA: <https://farmoffice.osu.edu/blog/thu-06042020-901pm/dicamba-takes-another-blow-court-appeals-vacates-dicamba-registration>
2. A Review of the Bader Farms case: <https://farmoffice.osu.edu/blog/mon-02172020-143pm/peach-farm-wins-big-dicamba-case-against-monsanto-and-basf>
3. New IPM Fact Sheet series: available online on Thursday, June 11. <https://ipm-drift.cfaes.ohio-state.edu>



**Figure 1.** Common leaf injury symptoms observed in vines 42 days after being treated with (a) glyphosate at 8.4 g ha<sup>-1</sup>, (b) 2,4-D at 8.4 g ha<sup>-1</sup>, (c) dicamba at 5.6 g ha<sup>-1</sup>, and (d) non-treated control



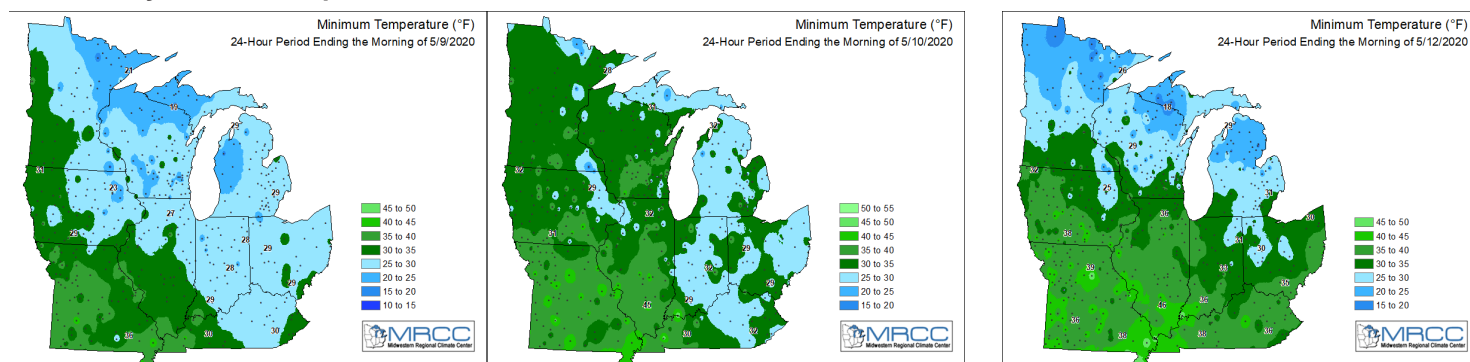
# Statewide update: May 2020

By: Maria Smith, HCS-OSU

## Continued freeze events and below average temperatures through mid-May

Cold temperatures persisted through mid-May, with several additional freeze events from May 9 through May 11 (**Table 1; Fig. 1**). On May 9, temperatures across the state ranged between 26.8°F at South Charleston in western Ohio to 32.4°F at the AARS in Kingsville along Lake Erie (**Table 1**). Unlike the events of April that were formed through radiative freezing, the May 9 event developed from advective conditions. During **advective freeze events**, cold air masses that are characterized by wind and well-mixed air move into a region. Although the winds died down overnight on May 9, areas aided by sufficient cloud cover - particularly those nearest to the lake - escaped further damage that could have been caused by an additional morning radiative event.

Thankfully, below average temperatures in April slowed the rate of bud and shoot development for late bud break varieties in southern Ohio and all but the earliest varieties in Northern Ohio. Although we're now playing catch-up to that delay in bud break, most growers were able to avoid wide-spread primary shoot loss from these events because of it. **For assistance in vine recovery from spring freeze, make sure to check out the newsletter from [April](#) and plan to attend our [viticulture webinar on early season canopy management](#) on Tuesday, June 9 at 3pm EST.**



**Figure 1.** Minimum temperatures for Ohio and the Midwest region from 09 May 2020 (left), 10 May 2020 (center), and 11 May 2020 (right). Maps obtained from [https://mrcc.illinois.edu/cliwatch/DLY\\_LT\\_MAPS.htm#](https://mrcc.illinois.edu/cliwatch/DLY_LT_MAPS.htm#)

**Table 1.** Ohio regional minimum temperatures for 09 May through 11 May 2020.

Region	Location <sup>1</sup>	Date		
		9 May	10 May	11 May
Southwest	Cincinnati	28.0 <sup>2</sup>	40.0	35.0
South-central	Piketon	30.4	31.3	40.1
Southeast	Caldwell	37.3	38.1	33.5
West	South Charleston	26.8	37.4	36.5
Central	Columbus	30.9	38.3	37.4
Northeast	Wooster	27.7	35.1	35.8
North-central	Berlin Heights	30.0	40.2	36.3
Northwest	Defiance	29.0	41.0	36.0
Northeast	Geneva	31.9	39.0	35.6
Northeast	Kingsville	32.4	39.0	36.1

<sup>1</sup>Temperatures retrieved from <https://newa.cornell.edu>

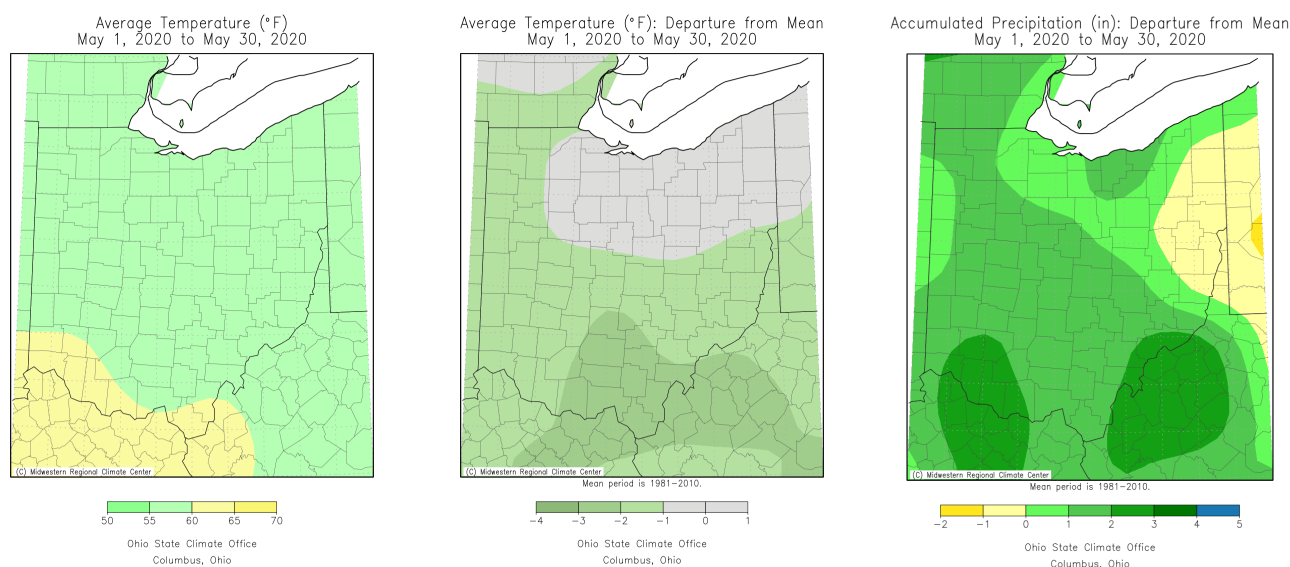
<sup>2</sup>Temperatures are in °F

# Statewide update May (continued)

## Late May warm-up and patterns of precipitation

Temperatures quickly ramped up in the days following the freeze events in May, with high temperatures reaching 85 to 90°F across the state for several days in late May. Despite the above average temperature spike, the overall mean monthly temperatures were 2 to 4°F below the long-term average in southern and western Ohio, while northeast Ohio ended right on average (**Fig. 2**).

As if freeze wasn't enough, May also saw heavy rains and some localized flooding from May 15 through May 19 thanks to precipitation brought from [Tropical Storm Arthur](#). However, since then, the remainder of May into early June has remained drier, bringing the state within -1 to 3" of average rainfall for May (**Fig. 2**).



**Figure 2.** Mean temperature (left) from 1 May to 30 May 2020 and deviation of the mean temperature from the 30-year average (center). Accumulated precipitation deviation from the 30-year average (right). Maps retrieved from <https://climate.osu.edu/climate-tools/climate-maps-ohio>.

## Implications for the start of the 2020 season

With warm temperatures and plenty of water, vines will grow quickly and bloom will be here shortly. With the quick pace that vines are developing, it's easy to miss key timings for canopy management and the timing for important spray applications. Make sure that you are keeping track of your [vine phenological development](#) to avoid any mishaps that could set you back!

# OARDC-Wooster May vineyard update

By: Diane Kinney and Imed Dami, HCS-OSU

**Our on-site restrictions remain in place due to the COVID-19 pandemic. We have resumed limited field and greenhouse work upon approval from the Dean of our College, but common practices continue to have some delays.**

## Late spring freeze

The last recorded low temperature was 29°F on May 9th. Our vineyard did suffer some freeze damage but the impact was relatively low due to late bud break. Most of our grapes were just nearing 50% bud break on that date. Some early varieties sustained primary shoot injury, but secondary shoots are coming in as replacements without further damage.

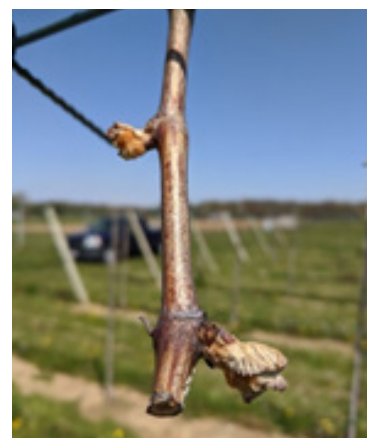
## Grape Phenology

This year, GDD did not reach 100 until the first week of May, and since grapevines usually begin bud break in the neighborhood of 100 to 200 GDD, we experienced later bud break across the board. Marquette and La Crescent both hit 50% bud break within the first few days of the month, with all other varieties hitting 50% by May 12th.

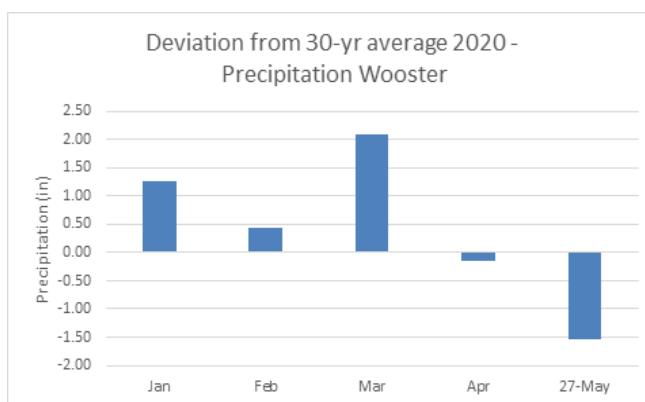
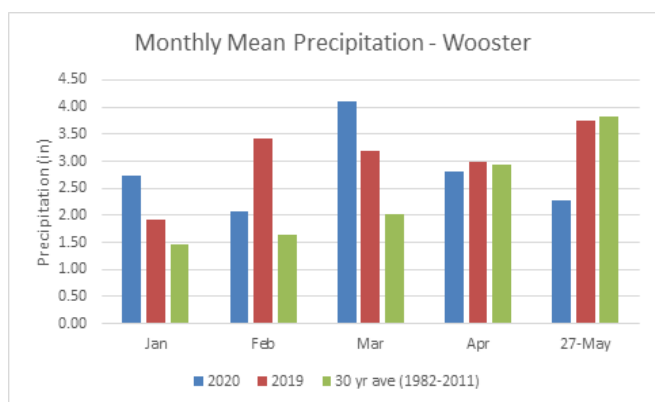
## Weather

Early May continued on with unusually cool weather. Through the 14th of the month, our average temperatures was only 48°F with GDD of only 34. During the second half of the month, average temperature rose to 67°F and GDDs jumped by 219. Overall, both April and May have been cooler than the 30-yr average, which translates into dramatically low GDD of 345 vs. the cumulative normal of 475. At the same time in 2019, GDD were 505.

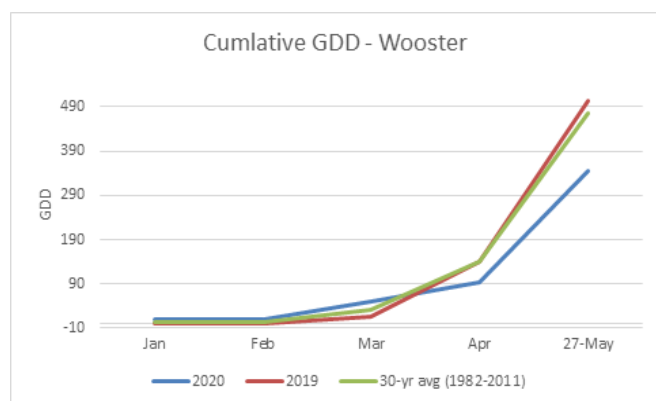
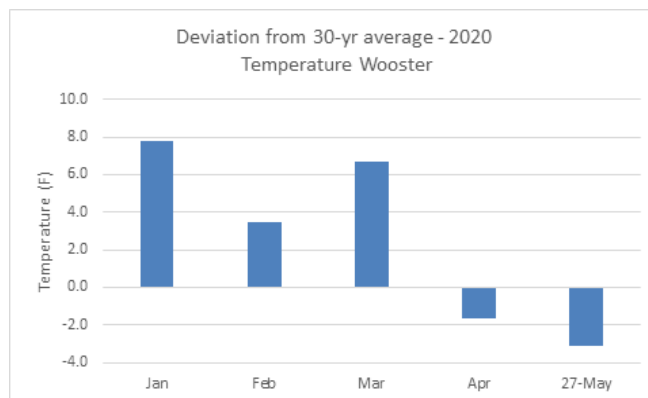
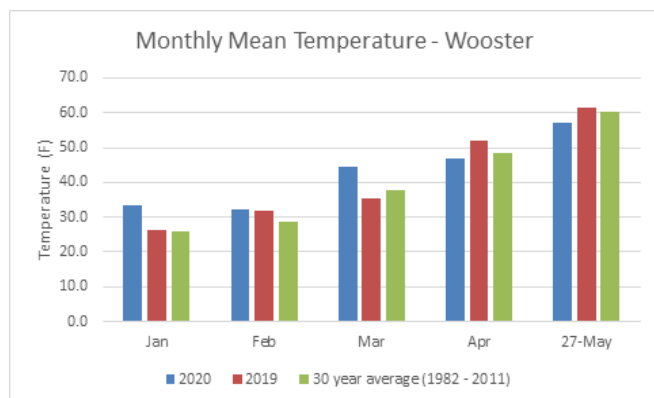
Precipitation in April and May was also -1.7" below normal rainfall from the long-term average, resulting in a cumulative precipitation of just over 2" above the 50-year average.



**Figure 1.** Table grape, 'Jupiter' on 13 May 2020



# OARDC-Wooster update (cont.)



## Cultural Practices

To date, we have applied three fungicide sprays as well as the herbicide glyphosate prior to dehill. We also grafted and planted vines to replace missing/dead vines from the 2019 winter damage.



**Figure 2.** Newly grafted grapevines (8 May 2020)



CFAES

TUESDAYS, MAY 19 TO JUNE 16, 3-4PM

**May 19:** Dr. Elizabeth Long, Purdue Entomology

**May 26:** Dr. Melanie Lewis Ivey, OSU Plant Pathology

**June 2:** Dr. Doug Doohan, OSU Weed Science

**June 9:** Drs. Maria Smith and Imed Dami, OSU Viticulture

**June 16:** Mr. Todd Steiner, OSU Enology

# VITICULTURE AND ENOLOGY SIP AND CHAT SESSIONS

TUESDAYS, MAY 19 TO JUNE 16, 3-4 P.M.

Join us remotely by Zoom as we provide weekly 1-hour events covering timely and emerging issues throughout the late spring in the vineyard and winery. Each week's session will feature a webinar focused on grape entomology, pathology, weed management, viticulture, and enology. Attendees are encouraged to stay following the webinar to ask questions and discuss their issues with our experts in the virtual office!

**A PARTNERSHIP BETWEEN HORTICULTURE AND CROP SCIENCE, PLANT PATHOLOGY, OSU SOUTH CENTERS AND PURDUE UNIVERSITY ENTOMOLOGY**

**Hosted by:** Maria Smith, Gary Gao, and Imed Dami

**Cost:** Free

**Details:** Zoom link will be provided with registration

**Registration contact:** Diane Kinney at [kinney.63@osu.edu](mailto:kinney.63@osu.edu)



**THE OHIO STATE UNIVERSITY**

COLLEGE OF FOOD, AGRICULTURAL,  
AND ENVIRONMENTAL SCIENCES

**PURDUE**  
UNIVERSITY



*By: Diane Kinney and Imed Dami, HCS-OSU*

Vine & Wine News continues to provide updates on grape growing and wine making in Ohio and elsewhere. These updates will be posted on the program website, *Buckeye Appellation* (BA) at: <http://ohiograpeweb.cfaes.ohio-state.edu/>. We would like to invite you to visit the website on a regular basis to help inform you of what our OSU Team has available to you through OGEN, TGE, research updates, events and news. Our hope is that it becomes a resource you look up periodically. So why not bookmark this site today?

In the past month (May), we have posted the following updates. Simply click on the blue link and the desired document will automatically open.

## **Educational Materials:**

- Ohio Grape Electronic Newsletter ([OGEN](#)) on homepage and tab (Special Frost issue).
- The Grape Exchange ([TGE](#)) on the homepage and tab (latest posting on April 24).
- OSU Extension Video: [Using the Great Lakes Early Detection Network App for Spotted Lanternfly](#)
- OSU Extension Video: [Utilizing Tree-of-Heaven \(Ailanthus altissima\) to Help Detect Spotted Lanternfly](#)

## **Events:**

- Viticulture and Enology Sip and Chat Sessions: [Dr. Elizabeth Long](#)
- Viticulture and Enology Sip and Chat Sessions: [Dr. Melanie Lewis Ivey](#)
- Viticulture and Enology Sip and Chat Sessions: [Dr. Doug Doohan](#)
- Viticulture and Enology Sip and Chat Sessions: [Drs. Maria Smith and Imed Dami](#)
- Viticulture and Enology Sip and Chat Sessions: [Todd Steiner](#)

## **Misc:**

- Factsheet [Spotted Lanternfly](#)

Name & Address	Phone	Email	Area of Expertise & Assistance Provided
<b>Dr. Imed Dami, Professor &amp; Viticulture State Specialist</b> Horticulture & Crop Science 216 Gourley Hall - OARDC	330-263-3882	email: <a href="mailto:dami.1@osu.edu">dami.1@osu.edu</a>	Viticulture research and statewide extension & outreach programs.
<b>Dr. Doug Doohan, Professor</b> Horticulture & Crop Science 116 Gourley Hall - OARDC	330-202-3593	email: <a href="mailto:doohan.1@osu.edu">doohan.1@osu.edu</a>	Vineyard weeds and control. Recommendation on herbicides.
<b>Dr. Gary Gao, Professor &amp; Small Fruit Specialist</b> 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: <a href="mailto:gao.2@osu.edu">gao.2@osu.edu</a>	Viticulture research and outreach in Southern Ohio.
<b>Dr. Melanie Lewis Ivey, Asst. Professor</b> Plant Pathology 224 Selby Hall - OARDC	330-263-3849	email: <a href="mailto:ivey.14@osu.edu">ivey.14@osu.edu</a>	Grape diseases, diagnostics, and management. Recommendation on grape fungicides and biocontrols. Good agricultural practices and food safety recommendations.
<b>Diane Kinnney, Research Assistant</b> Horticulture & Crop Science 218 Gourley Hall - OARDC	330-263-3814	email: <a href="mailto:kinnney.63@osu.edu">kinnney.63@osu.edu</a>	Vineyard and lab manager - viticulture program. Website manager for Buckeye Appellation website.
<b>Andrew Kirk, AARS Station Manager</b> Astabula Agricultural Research Station 2625 South Ridge Rd. Kingsville, OH 44048	440-224-0273	email: <a href="mailto:kirk.197@osu.edu">kirk.197@osu.edu</a>	Viticulture research and outreach in northeastern Ohio.
<b>Dr. Erdal Ozkan, Professor</b> Food Agriculture & Biological Engineering 590 Woody Haes Drive Columbus, OH 43210	614-292-3006	email: <a href="mailto:ozkan.2@osu.edu">ozkan.2@osu.edu</a>	Pesticide application technology. Sprayer calibration.
<b>Dr. Maria Smith, Viticulture Outreach Specialist</b> Horticulture & Crop Science 205 Gourley Hall - OARDC	330-263-3825	email: <a href="mailto:smith.12720@osu.edu">smith.12720@osu.edu</a>	Maria is the primary contact for viticulture extension and outreach. Evaluation of site suitability for vineyard establishment and all aspects of commercial grape production.
<b>Todd Steiner, Enology Program Manager &amp; Outreach</b> Horticulture & Crop Science 118 Gourley Hall - OARDC	330-263-3881	email: <a href="mailto:steiner.4@osu.edu">steiner.4@osu.edu</a>	Todd is the primary contact for enology research and extension. Commercial wine production, sensory evaluation, laboratory analysis/setup and winery establishment.