Ohio Grape–Wine Electronic Newsletter

Editor: Christy Eckstein, Executive Director,
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Content:

31 July 2017 (10)

Ohio WINES Grown Here

THE OHIO STATE UNIVERSITY
COLLEGE OF FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES

Vineyard Update from OARDC in Wooster: July 17, 2017

By Diane Kinney, Research Assistant and Dr. Imed Dami, Viticulture State Specialist

Grape Phenology:

In Wooster, all varieties are pea sized and beginning to have berry touch.

Phenology progression of Cabernet franc:

(25 Apr 17)

(30 May 17)

(29 June 17)

(17 July 17)

Weather Conditions:

In Wooster, at only half way through the month (17 July) the average daily temperature of 71.7 ^{o}F is just slightly below the 30-year average of 72.9 ^{o}F. Our GDD are at 1517 for the year which are also a bit low. Overall, this trend has followed true throughout the growing season. So far, we have had 2.66" of rain with a cumulative amount of 23.94" which even at this early date in the month maintains 5.49" above the 30 year average. I feel we would be safe to anticipate with 2 weeks remaining in the month, all three data units of temperature, GDD, and precipitation will dramatically go up.

Cultural Practices:

It has been a challenge, due to rain, getting into the vineyard these past two weeks but it is our hope to complete cluster thinning on all varieties as well as leaf removal soon. Hedging of our VSP training systems is on the near horizon as well as the regular maintenance of tucking and suckering. Regular intervals of moisture has allowed the canopies of vines to grow very well. The variety trial is no exception and training is a constant on our To-Do list.

Control of the Japanese beetles has been an ongoing battle that the rain exasperated by delaying timely applications. Our first application of Sevin occurred on June 27th and our second on July 5th (just 8 days later). At this point we were keeping up fairly well but then the precipitation took control. Our farm crew tried (and failed!) to apply a combination of fungicides and insecticides between rain showers on July 13 to no success. By Friday July 14, we had excessive visible beetle damage and infestation where some varieties suffering loss of leaf area to approximately one third of the shoot. This prompted an emergency spray of Sevin to occur over the weekend on July 15.

Update on Frontenac Grapes at OSU South Centers

Gary Gao, Extension Specialist and Associate Professor

Frontenac is one of the several cold hardy wine grape cultivars planted at OSU South Centers in Piketon, Ohio. As I was writing this article on July 19, some of the Frontenac grapes have started turning color, which is called veraison. It will be interesting to see how long we have to let the fruits hang on the vines to so that fruit chemical can reach "ideal" levels. Let's hope it is not early to mid August since we are not ready for fruit harvest yet. According to the information from the University of Minnesota, typical time to harvest Frontenac is September 28 at the University of Minnesota Horticultural Research Center, Chaska, MN. Brix level is around 24.7 while titratable acidity is 14 g/l. Refer to this link https://mnhardy.umn.edu/varieties/fruit/grapes/frontenac for more information.

Frontenac has medium to large clusters of small black berries. It is quite disease resistant and nearly immune to downy mildew. Frontenac is very good and cold hardy cultivar. Like all good fruit cultivars, it took a long time to develop. Frontenac was a 1996 University of Minnesota release and the cross was made in 1978.

Since Frontenac can have very high acid levels. Malolactic fermentation will be necessary to reduce acid levels. Consult our OSU Enology team member for more information. It is also critical to harvest fruits at the right acidity levels. Patience will pay off big since acid levels can be as high as 16 g/l when fruit sugar levels are around 23^{o}Brix. Higher sugar levels will be quite common. We are quite excited about our first harvest and will keep you posted.

Frontenac wine grape cultivar was developed by the University of Minnesota, Minnesota Agricultural Experiment Station. Photo credit: "University of Minnesota, David L. Hansen."

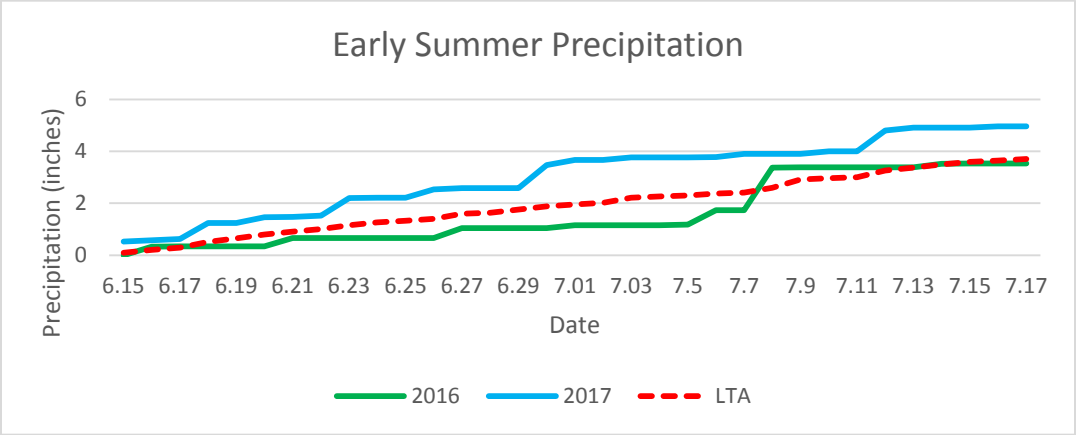
Acknowledgement: We thank Ohio Grape Industry Program for its financial support of our wine grape research project and extension program at OSU South Centers.

AARS Vineyard Update

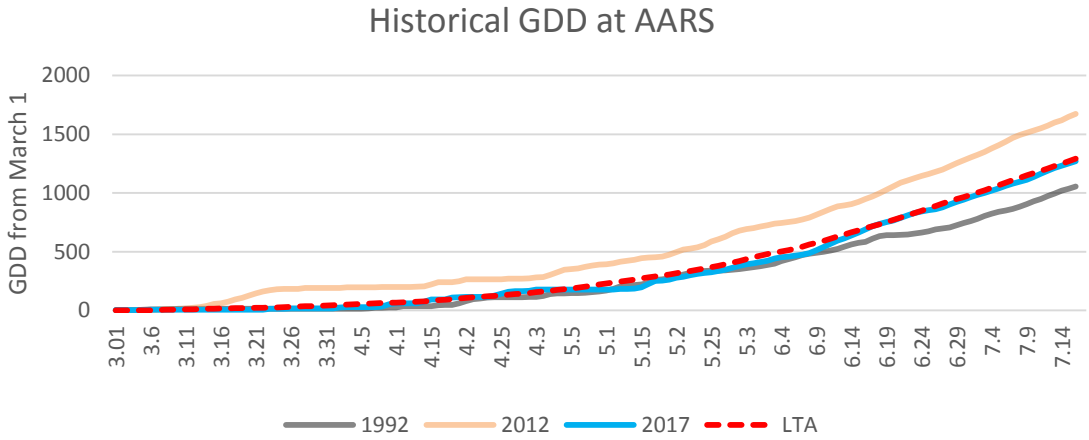
Andy Kirk, Ashtabula Agricultural Research Station

Don't look now, but we're about half way to harvest at the Ashtabula Agricultural Research Station. Fruit has been set, and our crew is full speed ahead trying to keep up with what has been an unpredictable growing season thus far. In terms of phenology, our vineyards are characterized right now by expanding berries, most of which are beyond "berry touch", or the point at which berries expand to be touching one another. Shoot length has varied, of course, depending on variety and location, but in many cases our shoots have grown to a height of 7ft or more.

If your intuition is telling you it's been rainy this past month, your sense would be correct. We've had roughly an inch and a half more precipitation than average since the 15th of June (see figure below). If you recall last year, we had drought concerns during June. So far this year, we've had water aplenty, with rainfall tracking slightly above its long-term average (LTA) since the beginning of March. On a quick technical note, I will be watching the rainfall patterns particularly closely after veraison, as moderate water deficit during ripening has been linked to many positive fruit quality attributes (Roby et Al. 2004).

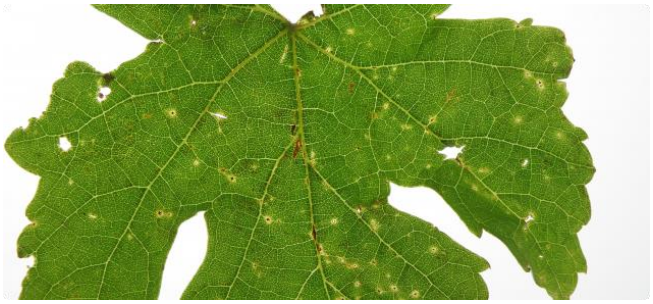


On the temperature side, this growing season has been remarkably average. We are within 20 GDD of our long term average, and the last month has tracked almost point for point with "the norm". A wise man at a local vineyard here in Ashtabula County once told me that our best years are our average



years. If this keeps up we may get to see that theory in action.

With all the rain in the past month, there has been an elevated level of disease pressure at the research station. I've particularly noticed a few issues in areas where we have young vines or fell behind on suckering, which in turn created dense, humid areas of foliage where our sprays did not penetrate well. In these instances, it has mostly been Phomopsis that I have been seeing. Check out this link on the Buckeye Appellation page for more information on Phomopsis symptoms.



Elsewhere I have seen some downy mildew, which is no surprise as many of the large rainfall events have been occurring in the evening or at night, leaving canopies damp for long periods of time. Black Rot has also been problematic for some, particularly those either not spraying or trying to limit their use of conventional pesticides. In speaking to organic growers over the years, Black Rot tends to be one of the more difficult diseases to control without Mancozeb and Ziram.

Recently, our primary vineyard pest has been the Japanese Beetle. It defoliated a significant percentage of young leaves in several of our vineyard blocks. Fortunately, we were going to hedge much of this foliage off anyway, rendering the damage from the Japanese beetles somewhat less relevant. With the staggering numbers of beetles this year, I chose not to gauge their level of interest in mature leaves and fruit, and sprayed an insecticide. I understand from Dr. Long that there has been a lot of interest in these beetles this summer.

Since last update, our crew has spent much time doing canopy management in our vineyards. Recently we have been shoot positioning to encourage air circulation and, importantly, to facilitate hedging. We did some amount of shoot thinning this year, although some of our blocks did not necessitate this practice. Some of our blocks required crop reduction this year. In others, we set an appropriate amount of crop with our pruning regimen and by means of what looks like a moderate fruit set this year.

I also would encourage everyone to visit this resource from Dr. Dami on crop estimation, as we enter into that critical period of the season.

References

Roby, G., Harbertson, J. F., Adams, D. A., & Matthews, M. A. (2004). Berry size and vine water deficits as factors in winegrape composition: anthocyanins and tannins. *Australian Journal of Grape and Wine Research*, *10*(2), 100-107

*Can you recognize the **beneficial** insects in your vineyard?*

I know I don't have to tell you growers that managing pests in the vineyard is a full-time job! However, when it comes to close encounters of the "insect kind" sometimes it is hard to know who is friend and who is foe! Although the focus is often on pests (as it should be) it's important to know that there are beneficial insects in vineyard systems too - making a living on any pests that might be around, utilizing pollen from grape flowers, or just seeking a protected place to complete their life cycle. Some of these insects are tiny and you'll likely never see them, while others are eye-catching (and maybe creepy) because you're not sure what they are. I'd like to share some images with you to dispel your fears and hopefully make you aware the things you don't need to worry about if you spot them in the vineyard. ☺ Below you'll see several examples of beneficial insects I've spotted so far this year while walking through vineyards and I've included a little blurb about each.

- Dr. Elizabeth Long, OSU/OARDC Entomology

Pink lady beetle *larva*:
Black and orange, "mini-alligator like". This is an active forager that is voracious! They will feed on aphids or other small soft-bodied insects, including insect eggs.

Photo credit: Alex Wild photography

Minute pirate bug:
Black and white, roughly the size of a sesame seed. Though tiny they may be, they will attack aphids, small caterpillars, and insect eggs.


Photo credit: Chanel Bluntschly, undergraduate in Long lab

Wild bees: *Super fuzzy and honeybee-sized or smaller. Even though grapes do not require insect pollination, many wild bees will visit the sweet-smelling flowers for pollen. Check out the pollen load she has on her hind leg!*


Photo: Elizabeth Long

Pink lady beetle *pupa*:
Orange, motionless, roughly pea-sized. When ready to become an adult, the larva above will "glue" itself to a safe place (like this grape leaf) and finish developing. After 10 days or so, it will emerge as a lady beetle!


Photo: Elizabeth Long

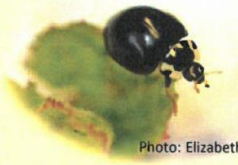


Photo: Elizabeth Long

Fifteen-spotted lady beetle:
Nearly black, large lady beetle (roughly the size of an M&M candy). These beetles are also voracious for their size, feeding on aphids, mealy bugs, and other soft-bodied insects.

Grape Growers Get Hands-on Pest Diagnostic Training

by Melanie L. Lewis Ivey

The Ohio State University Grape Integrated Pest Management (IPM) Team, with support from the Ohio Grape Industry Committee (OGIC) held a successful grape pest diagnostic workshop at the Ashtabula Agriculture Research Station (AARS) on July 21. Grape growers, OSU Extension Educators and industry representatives participated in the day long workshop.

Participants learned how to scout for insect and diseases in the vineyard. They also learned how to identify weeds and the importance of weed control in the vineyard. All of the participants received a diagnostic tool kit that included essential tools needed to assist with the identification of insect and diseases in the vineyard. The day ended with a presentation by Tim Weigle, Senior Grape IPM Extension Associate, from Cornell Lake Erie Research and Extension Laboratory. Tim gave a lively presentation on using the Network for Environment and Weather Applications (NEWA) to support and advance IPM and best management practices for the grape industry. Growers also got to see and handle a Rainwise weather station.

The OSU Grape IPM Team would like to thank Andy Kirk and his team at AARS for all their hard work in getting the station and vineyards ready for the workshop. We also extend our thanks to Rachel Medina in the OSU Fruit Pathology Laboratory for going above and beyond to get everything organized for the workshop. Lastly we wish to thank the OGIC for sponsoring the workshop. To learn more about insects, weeds and diseases in the vineyard, and to see more images from the workshop, visit the Grape IPM website. To learn more about how NEWA can help you manage grape insect pests and diseases contact Dr. Melanie Lewis Ivey.

Dr. Elizabeth Long describes how to scout for insect pests and collect samples for insect identification.

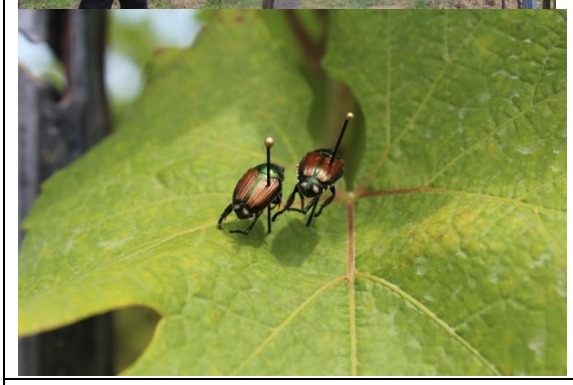
Dr. Elizabeth Long demonstrates how egg masses can be used to identify insect pests in the field.

Dr. Time Weigle from Cornell describes the functions of the Rainwise weather station.

Dr. Doug Doohan describes to the group how to incorporate herbicides into an IPM program.

Growers getting ready to diagnose diseases using the tools in their diagnostic tool kit!

Dr. Doug Doohan talks “weeds” with growers!



Growers scout for insect pests in the vineyard. Don’t worry, Dr. Long made sure the insects were ready!

Tips for Capturing Images for Plant Disease Diagnosis

by Melanie L. Lewis Ivey

The American photographer Wynn Bullock once said “When I photograph, what I’m really doing is seeking answers to things.” Digital photos are just one of many tools in our tool kit for diagnosing plant diseases. When capturing images of the problem we recommend that a series of photos be taken that show the problem from multiple views. We also recommend that you take multiple images of each view.

Field view: A field view shows the location of the symptomatic plants within the entire planting and within the row. Field views can reveal patterns of the problem in the vineyard.

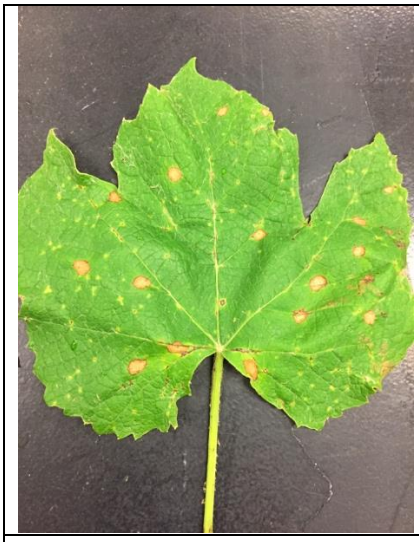
Plant view: A plant view shows the entire plant, preferably from multiple angles. Plant views can reveal symptom patterns within the plant.

Plant part view: A plant part view shows a close-up of the entire part(s) of the plant affected (i.e. an entire leaf and/or fruit). If multiple parts of the plant are affected a separate close-up of each part should be taken.

Close-up views: Close-up views of the signs or symptoms on the plant part can provide clues about what is causing the problem. For example, some fungi produce survival structures within a lesion that can be seen with a close-up image.

	
Field View showing the location of the symptomatic plants within the entire planting.	**Plant View** showing symptoms on the entire plant.

Plant Part Views showing a close-up of the parts of the plant affected.



Plant Part View showing symptoms on a grape leaf.

Close-up Views of the leaf symptoms.

Tips for Capturing High Quality Images

High quality images can allow for an initial diagnosis and provide guidance on what types of samples will be needed to make a final diagnosis.

1. Use a camera that allows for high spatial resolution. Generally, the more pixels per inch the higher the spatial resolution.
2. View photos on a computer screen before sending them to make sure they are in focus. Photos that are out of focus are not helpful to us.
3. Do not edit the image. Changing the scale of an image, cropping an image and altering the color of the image can change the image resolution. In addition, when cropping an image, you may delete things in the image that could be important for diagnosing the problem.
4. When possible, include a size reference such as a ruler or a coin.

As with live plant samples include as much additional information about the problem as possible. Information such as planting date, age of plant, chemicals used, number of plants affected, when symptoms were first noticed can expedite the diagnosis. Digital images of potential grape disease problems can be sent to Dr. Melanie Lewis Ivey, ivey.14@osu.edu.

Vine & Wine News @ Buckeye Appellation 2017

By: Diane Kinney, Research Assistant and Imed Dami, Viticulture State Specialist

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 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, we have posted the following:

Educational Materials:
• Ohio Grape Electronic Newsletter (OGEN) on homepage and tab (current issue).

• The Grape Exchange (TGE) on the homepage and tab (latest posting on July 20).

News:

Misc:
• Video: Grapevine Canopy Management

Upcoming Events:
• Orchard Sprayer Field Day hosted by OSU and USDA-ARS

Upcoming Events:

1. **Orchard Sprayer Technology Field Day: Bauman Orchards, Rittman OH:**
   Thursday August 3, 2017. Although the field day will be conducted in an apple orchard, principles discussed for air blast sprayers and the sprayers used in demonstrations are applicable to grape growers as well.

OHIO STATE UNIVERSITY EXTENSION

Orchard Sprayer Technology Field Day

BAUMAN ORCHARDS

161 RITTMAN AVENUE, RITTMAN OH 44270
2:30 PM - 7:30 PM

The field day will be an opportunity to gain some education and hands on experience regarding:

- Effective spraying using airblast sprayers
- Calibration of sprayers
- Orchard and small fruit equipment and supplies
- Distribution and Deposition of spray material
- Conventional sprayer Demonstrations
- Intelligent Sprayer Demonstration: Automatic adjustment of spray volume, spray pattern and nozzle output based on tree size, canopy density and spacing between trees

Presented by OSU Extension, USDA-ARS, and Bauman Orchards

SPONSORS OF THE FIELD DAY INCLUDE:

CPS - Dave O'Brian, Columbus Irrigation, Farm Credit Mid-America, Farmers National Bank, Farmers State Bank, Fred's Water Service, The George F. Ackerman Company, Miller Chemical, Sterling Farm Equipment, and Wayne Savings Bank

Handout Materials, Refreshments and Light Supper Provided!
Pre-register to the Wayne County Extension Office by July 27 COST: $5 per person
Contact the office for more information at 330-264-8722 or Lewandowski.11@osu.edu

Orchard Technology Field Day

Registration cost is only $5/person. Pre-registration requested to the Wayne County Extension Office at 330-264-8722 or email Lewandowski.11@osu.edu by **Thursday, July 27**. Make checks payable to Ohio State University Extension and mail to Ohio State University Extension – Wayne County, 428 W. Liberty St. Wooster, OH 44691. Please detach and return this form with payment. Thank you.

Name:_____

Address:_____

Phone Number:_____ Email:_____

$5 registration fee. Register by phone at 330-264-8722 or by email at lewandowski.11@osu.edu

OSU Grape & Wine Research & Outreach Specialists

Please contact the following Research, Extension/Outreach Specialists and Educators if you have any questions relating to their respective field of expertise.

Contact Information			
Name & Address	**Phone**	**Email & Website**	**Area of Expertise & Assistance Provided**
Dr. Imed Dami, Professor & Viticulture State Specialist Dept. Of Horticulture & Crop Science 216 Gourley Hall – OARDC 1680 Madison Avenue Wooster, OH 44691	330-263-3882	e-mail: dami.1@osu.edu Website: Buckeye Appellation	Viticulture research and statewide extension & outreach programs. Recommendation on variety selection. Imed is the primary research contact of the viticulture program.
Dr. Doug Doohan, Professor Dept. Of Horticulture & Crop Science 205 Gourley Hall – OARDC 1680 Madison Avenue Wooster, OH 44691	330-202-3593	Email: Doohan.1@osu.edu Website: OARDC Weed Lab	Vineyard weeds and control. Recommendation on herbicides.
Dr. Gary Gao, Small Fruit Specialist and Associate Professor, OSU South Centers 1864 Shyville Rd, Piketon, OH 45661 OSU main campus, Rm 256B, Howlett Hall, 2001 Fyffe Ct Columbus, OH	740-289-2071 Ext. 123 Fax: 740-289-4591	Email: gao.2@cfaes.osu.edu Website: OSU South Centers	Viticulture Research and Outreach, VEAP visits in southern Ohio, vineyard management practices, soil fertility and plant nutrition, fruit quality improvement, variety evaluation, table and wine grape production.
Dr. Melanie Lewis Ivey, Assist. Professor Dept. of Plant Pathology 224 Selby Hall – OARDC 1680 Madison Avenue Wooster, OH 44691	330-263-3849 330-465-0309	Email: ivey.14@osu.edu Website: OSU Fruit Pathology Facebook: OSU Fruit Pathology	Grape Diseases Diagnostics and Management. Recommendation on grape fungicides and biocontrols. Good Agricultural Practices and Food Safety Recommendations.
Andrew Kirk, AARS Station Manager Ashtabula Agricultural Research Station 2625 South Ridge Road Kingsville, OH 44048	330-263-3881	Email: Kirk.197@osu.edu Website: OSU Branch Campus	Wine grape production in Northeast OH, especially *vinifera* varieties
Dr. Elizabeth Long, Assist. Professor OSU/OARDC Entomologist 105 Thorne Hall 1680 Madison Avenue Wooster, OH 44691	330-263-3725	Email: long.1542@osu.edu	Fruit and vegetable insects.
David Marrison, County Extension Director, Assoc. Professor & Extension Educator OSU Extension – Ashtabula County 39 Wall Street Jefferson, OH 44047	440-576-9008 Ext. 106	Email: Marrison.2@osu.edu Website: Ashtabula OSU	Vineyard and winery economics, estate planning and extension programs in Northeast Ohio.

Contact Information			
Name & Address	**Phone**	**Email & Website**	**Area of Expertise & Assistance Provided**
Dr. Erdal Ozkan, Professor & Extension State Specialist Food, Agriculture & Biological Engineering Dept, OSU 590 Woody Hayes Drive Columbus, OH 43210	614-292-3006	Email: ozkan.2@osu.edu	Pesticide application technology, Sprayer calibration
Patrick Pierquet, Dept. Of Horticulture & Crop Science 130 Gourley Hall – OARDC 1680 Madison Avenue Wooster, OH 44691	330-263-3879	Email: Pierquet.1@osu.edu	Wine Cellar Master – OSU Micro-vinification, sensory evaluation and laboratory analysis
Todd Steiner, Enology Program Manager & Outreach Specialist Dept. Of Horticulture & Crop Science 118 Gourley Hall – OARDC 1680 Madison Avenue Wooster, OH 44691	330-263-3881	Email: Steiner.4@osu.edu Website: Buckeye Appellation	Commercial wine production, sensory evaluation, laboratory analysis/setup and winery establishment. Todd is the primary research and extension contact of the enology program.
Dr. Celeste Welty OSU main campus Department of Entomology Columbus, OH	614-292-2803	Email: Welty.1@osu.edu	Fruit and vegetable insects