

Ohio Grape-Wine Electronic Newsletter

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Grape Acreage Expansion in Ohio: Status and Role of OSU

By: Imed Dami, State Viticulturist, HCS-OARDC

and Maurus Brown, Small Fruit Crops Specialist, South Centers

Overview of Ohio Grape and Wine Industry:

The Ohio grape and wine industry ranks 8th in grape acreage (2,500 acres), production (8,000 tons), and number of wineries (116) in the country. The industry employs 1,500 people and attracts 1.7 million visitors every year. The estimated economic impact of the grape and wine industry to state revenues is more than \$400 million annually (Marrison, 2008).

Grape production has become the fastest growing sector in Ohio Agriculture (ODA, 2006). In fact, the industry has experienced a recent resurgence with a tremendous demand for locally grown “wine” grapes. As a result, the traditional “juice” grape acres are being replaced with wine grapes. About 1,000 acres are used for wine production and the remainder for juice production. This growing interest is driven by the high value of winegrape as an alternative and profitable cash crop in Ohio and its adaptation to the already existing lands that are otherwise unsuitable for row crop production. In fact, it is estimated that the value of 10 acres of winegrapes equates to that of approximately 1,500 acres of corn. Furthermore, the continuous increase in number of wineries, grape shortage and large demand for Ohio-grown grapes has led to a rapid expansion of vineyard acreage. The current rate of expansion averages 5 to 10 new wineries and 50 to 100 acres of wine grapes planted each year. This rapid expansion has created an increasing demand for resources, gain in knowledge, and training on the basics of grape growing by prospective and new growers across the state. New grape growers are a critical part of Ohio’s expanding wine industry. Their grape production will have an important impact on future winemaking and sales in Ohio.

OSU Role with grape acreage expansion in Ohio:

In response to these increasing needs of our industry members, The OSU Viticulture and Enology Team (VET) at OARDC has developed several initiatives in partnership with ODA, OGIC, OWPA, South Centers, and OSUE. The purpose of these initiatives is to support our growing industry and assist grape growers to be successful in their new ventures. Several of these initiatives have been already implemented and some are underway. OGIC have funded several projects supporting these initiatives and for that the OSU Team is greatly thankful. Outline of these initiatives are highlighted below:

- Provision of resources on commercial grape growing
- Development of educational program for new growers
- Outreach programs and on-site visits
- Development of new research initiatives

Commercial grape growing resources:

- One of the most important resources in learning about grape growing in Ohio is the recent Extension Bulletin #919 and titled: “Midwest Grape Production Guide”. It is a MUST have by any serious new grape grower. This bulletin, and other written publications can be purchased through your local County Extension office or downloaded from the OSUE website: ohioline.osu.edu.
- We have also developed user-friendly resources for new growers, including contact information for field tiling contractors, land leveling contractors, recommended laboratories for soil and plant tissue analysis, fertilizer companies, and companies that deal in herbicides, fungicides and insecticides. Information can be obtained from the Ohio Grape Web (<http://www.oardc.ohio-state.edu/grapeweb/>).
- We have also developed the Ohio Grape-Wine Electronic Newsletter (O-GEN). This newsletter was created to efficiently provide periodic and timely technical information on grape and wine production, regional updates, upcoming events and any important news relating to our industry. O-GEN is sent to more than 200 subscribers and posted on our website. In 2007, OGEN was viewed by more than 1,500 visitors.

Educational Programs:

Due to the immediate need for knowledge and intensive training on winegrape production, we have developed educational programs geared toward new growers.

- 1) Gallia County will be hosting an informational session Nov. 12 @ 6:30pm to provide information to potential growers about starting new winegrape vineyards. This will be a multi-agency (OSU Extension, Ohio Grape Industries Program, OSU South Centers, and Southern Ohio Agriculture and Community Development Foundation) event where growers can ask questions about the Ohio Grape and Wine Industry, where to find resources to start a new vineyard and who will assist growers with site visits and locating financial resources to start a vineyard.
- 2) One of the focus themes of the upcoming Ohio Grape & Wine Conference will be on vineyard establishment. OSU Team specialists and featured speakers including Dr. Tony Wolf from Virgins Tech and Mark Chien from Penn State University will present topics for new grower as well. Topics will address critical issues that face new growers as they make decisions on where to locate a new vineyard, what varieties of winegrapes to grow, how to prepare their site for planting and locating resources to help new growers get started. This conference will be held on February 16-17, 2009 at the OSU/OARDC Shisler Center, Wooster, OH.

Outreach programs and on-site visits:

Our program has provided site visits to prospective and new growers to help them get started correctly. One of the most critical aspects of establishing a vineyard in Ohio is site selection. Our Team has provided more than 100 visits in the past 5 years to appraise sites for vineyard suitability. Dave Scurlock, has conducted most of the site visits across the state. In 2007, Dr. Maurus Brown has joined OSU South Centers and our Team. He has conducted site visits in southern Ohio with 10 new winegrape growers that have plans to establish more than 30 new acres of grapes within the next two years.

As new potential vineyard owners seek assistance, there is a set of recommended site requirements that should be followed before an OSU Specialist visits your farm. Provision of this information is critical to best assess the suitability of the site and what cultivar best matches that environment.

- 1) Obtain a copy of your county soil survey, including a soil map of your area.
 - a. Obtain from your local County Extension office or Soil and Water
 - b. Send us a copy of the information.
- 2) In the same book there is information on:
 - a. Season length
 - b. Frost events
 - c. Soil drainage
 - d. Send us a copy of the information
- 3) Elevation is critical for vineyard establishment.
 - a. Obtain a topographic map of your county.
 - b. Check with your local County Extension office or USGS office.
- 4) Collect random subsamples of soil from your vineyard site.
 - a. Submit a composite sample of subsamples to a lab for analysis
 - b. Soil Test Labs: <http://www.oardc.ohio-state.edu/grapeweb/testing.htm>
 - c. Send us a copy of the results
- 5) The Midwest Grape Production Guide (OSU Extension Bulletin 919) is a good resource for commercial grape growers.
 - a. You can order a copy from your local County Extension office
 - b. You may also go online: <http://ohioline.osu.edu/b919/index.html>

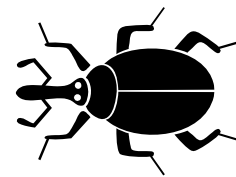
Our Team has provided assistance to existing growers who sought our advice as well. Most assistance is handled via phone or e-mail, and at times if needed, an on-site consultation is conducted. During vineyard visits, we provide the opportunity for the growers to ask questions. We try to carefully address each question and recommend specific information to address their needs. Furthermore, all of our research vineyards are available to the growers to visit. Usually,

growers contact us to schedule a visit to see different varieties and cultural practices and current research projects. Field days, however, are the most common venue. For example, on 10 August 2008, The OSU South Centers conducted a Horticulture Field Night to demonstrate how a new research vineyard was established using modern commercially acceptable practices including intensive tiling, 9ft. row spacing, appropriate vine spacing within rows, vertical shoot position (VSP) and high bi-lateral cordon (HBC) training systems.

Development of new research initiatives

- *New Variety Trials (NE10320 Project):* Even though Ohio has a long history of grape growing, the landscape of varieties grown has shifted dramatically from juice to wine grapes. There is limited experience and research-based information on the performance of several winegrape varieties in Ohio. In 2008, Dr. Dami coordinated the establishment of new variety trials in 3 geographically distinct regions in Ohio (Kingsville, Piketon, and Wooster) in collaboration with OSUE Small Fruit Specialist, Dr. Maurus Brown, and AARS station manager, Greg Johns. More than 40 varieties were planted for wine production. These varieties will be evaluated for their viticultural and enological performances. This trial is part of a national project, NE-1020. The purpose of NE-1020 is to evaluate varieties and clones of winegrapes using standard practices and protocols, and eventually provide research-based recommendations to growers and winemakers.
- *Use of GIS to expand grape acreage in Ohio:* Two years ago, Imed Dami, collaborated on similar project with Dr. Kaan Kurtural. However, funding was limited to complete the project. This fall, Dami in collaboration with the VET Specialists, submitted a new grant proposal to OARDC titled “Expanding Grape Production in Ohio by Using Geographic Information System Technology” to seek funding to help develop new technology that can be implemented in Ohio to locate potential growing sites for new vineyards. This initiative will enable OSU Specialists to train grape growers and Extension Educators and Specialists to identify specific sites within Ohio that will be favorable in terms of weather, soil structure and growing degree days best suited for grape production.

2008 Grape Insect Situation in Review



By Roger Williams and Dan Fickle, Entomology, OARDC/OSU

In a nutshell, Ohio had reduced insect pressure for most of the major grape pests.

Grape berry moth numbers were low across the state for the second consecutive year. Why we have experienced a decline in recent years may be contributed to natural cycles or it may in part be due to growers doing a better job of timing pesticide applications. In recent years we have gained several new pesticide labels for grapes including pyrethroids, insect growth regulators and neonicotinoids all of which produce good efficacy against the grape berry moth if applied at the most opportune time. By utilizing pheromone traps and scouting, growers are doing a better

job of timing their pesticide applications and in turn reducing the number of applications. In times of shrinking dollars these practices can only help the bottom line.

Japanese beetle populations in some northern Ohio vineyards this season were excessive and required up to three applications of pesticide to prevent serious defoliation. Overall it appears that most vineyards experienced average JB numbers.

Grape phylloxera was sparse this season. Many growers noted that it was not evident in their vineyard till late in the season. We have many compounds that are highly effective against the foliar form of this pest so if you are experiencing a problem with phylloxera please let us know.

Multicolored Asian lady beetle (MALB) was almost non-existent in 2008. The lowest year since this insect became a concern for grape growers. Next year is an odd year and expected to be a bad year for the soybean aphid and in turn possibly the MALB. Don't let your guard down on this one or it could be costly.

Something New to worry about?

Grape cane borer is a pest which has recently caused concern in several Ohio vineyards. This wood feeding beetle is brown to black in color, cylindrical in shape and 1cm long. The adult beetles emerge from dead grape wood in August and continue to feed on dead wood for a period of 2 to 3 weeks thereafter. Adults begin to bore into live canes looking for overwintering sites in the fall as shoots start to harden. This is when economic damage can be inflicted. Cultural practices such as the removal and disposal of affected canes and excess dead wood from pruning before adults become active in the spring can help to eliminate a cane borer problem. Treatment with an insecticide when adults become active in the spring before they lay eggs and again in the fall when adults are moving to overwintering sites can also help in control of this pest. A broad spectrum insecticide like Imidan is recommended. For pictures of the different stages of the cane borer see: <http://www.nysipm.cornell.edu/factsheets/grapes/pests/gcb.pdf>



REGIONAL UPDATES:

1) OSU South Centers' Winegrape Research Fall Update

By Maurus Brown, Small Fruit Crops Specialist, OSU South Centers

OSU South Centers' NE-1020 winegrape research trial showed good growth this summer. New trellises were built in June. Vinifera and French-American varieties were trained to vertical shoot position (VSP) and high-bilateral cordon (HBC) training systems, respectively. Some powdery mildew was observed on young vines in August and September, Nova was applied for control. Weed management was very good throughout the growing season, as spot treatments of Roundup were applied as needed. Some Japanese beetle feeding was observed in late June and vines were sprayed with Brigade.

A new 10ft. high mesh fence (Eads Fencing, Cincinnati, OH) was installed by the OSU South Centers' field research staff during the summer to protect horticulture and field crop research trials from deer depredation. The fence was built 3ft. behind the existing high-tinsel strength wire fence (electrified every other strand) and should provide added protection against the heavy local deer population. The 4-inch perforated polyvinyl tile that was installed in August 2007 was very effective in providing soil drainage in the vineyard during the spring and early summer. Following each rain event, the soil dried out quickly and little or no tracking from equipment occurred in the vineyard. Tile was installed approximately 30-inches in the ground between each trellis row (9ft. apart).

Three different hilling machines will be tested on the Omulga silt loam soil at OSU South Centers. Each piece of equipment will be evaluated to determine which machine will move the heavier clay-based soil most effectively and provide good coverage. Due to young age of the vines, we have decided to apply a manure compost to protect graft unions during the winter of 2008-2009. All Vinifera and French-American varieties are grafted onto a 101-14 rootstock. We will use one of the selected hilling machines to hill up vines as normally recommended starting in the fall of 2009.

Variety	Type	Location	1 st Year Growth
Cabernet Sauvignon	Vinifera	Reps. = 6	Good
Merlot	Vinifera	Reps. = 6	Good
Petit Verdot	Vinifera	Reps. = 6	Good
Viognier	Vinifera	Reps. = 6	Good
Tempranillo	Vinifera	Reps. = 6	Good
Petite Syrah	Vinifera	Reps. = 6	Good
Pinotage	Vinifera	Reps. = 6	Good
Cabernet franc	Vinifera	Guard Row	Good
Chardonnay	Vinifera	Guard Row	Good
Malbec	Vinifera	Guard Row	Good
Hibernal	French-American	Reps. = 6	Good
Noiret	French-American	Reps. = 6	Good
Vidal	French-American	Reps. = 6	Good
Chambourcin	French-American	Reps. = 6	Good
Vidal	French-American	Guard Row	Good
Chambourcin	French-American	Guard Row	Good

2) OARDC Vineyard Update

By David Scurlock, HCS-OARDC

Wow! Has harvest come and gone? Not really? I had to look back at our last newsletter to know where to begin with our latest updates. I was listing some of the more familiar varieties that are common to many of you around the state to let you see how you compared to Wooster's harvest numbers. I kept waiting for the other shoe to drop but, harvest proceeded in an orderly manner until last weeks' killing frost that occurred for most of you on Sunday October 19. This was 9 days later than the long term average for a killing frost. We mobilized our resources to harvest 8 experiments in 3 different locations last week. This week we will harvest 3 more experiments in 3 locations. Overall quality has been exceptional where crop thinning was practiced and yield has been the biggest I have ever seen across the board. The bloom period in

the spring was exceptional not only for fruit crops but, for ornamentals as well. The good growing conditions that we encountered in the summer and fall of 2007 also contributed equally well to our bountiful crops this year. Brix levels were high this year with acids dropping more slowly than usual but, eventually reaching acceptable levels. Every year you witness different characteristics in the ripening process and this is just one of the aspects that makes growing grapes and making wine so interesting. Some of the post harvest chores we will want to look at are both cultural and mechanical. Newly planted vineyards and established vinifera vineyards will benefit from hilling to protect them from severely cold winters. I always feel if we have this accomplished prior to Thanksgiving Day then we will be protected before the threat of any killing winter temperatures. Loosen wires so that the contraction and expansion of the wires through the winter **do not pull** on the posts causing them to heave out of the ground. The removal of bird netting except, where ice wine grapes are involved, takes some time. I did not see much damage due to birds in the Wooster area although I did hear of some severe bird damage in the State. Sharpen and oiling of picking clippers so they are in good condition for next years harvest. Try to clean and properly store your harvest containers. If lugs or bins can be stored out of the elements they will have an extended service life for you. Looking back at our summer we had one of the most beautiful summers I can remember. The potential is there again for next years' crop to be every bit as good as this years'.

3) AARS Vineyard Update

By Greg Johns, Manager AARS/OSU

Our growing-season ends with a record low of 27.4 F on October 19 which prompted harvest of all remaining varieties at the AARS, Kingsville, and in many area vineyards throughout the region. This was a record low at AARS (the old record was 28.3 on this date in 1986). We typically do not experience a season-ender until the last week of October or first of November. Not to worry though, the fall ripening season has treated local grapes well. Flavors as well as maturity numbers are very good, especially in some of our late season reds.

All in all, the growing season was very typical for northeastern Ohio. If your fungicide spray program held up through our unusually wet June, when rainfall was recorded in 18 out of 30 days, the balance of the growing season was fantastic, with rain events occurring at fairly regular intervals. We weren't so fortunate with our Pinot noir at AARS and harvested a week or two earlier than we would have liked due to fruit rot. But a number of area vineyards, including ones at AARS, were able to hang fruit later than usual making for a rare 'vintage year' for some of our more finicky varieties like Pinot gris.

A rare event, we extended hang-time in a very clean block of Pinot gris and harvested them on October 27 with maturity of 26.0 Brix, pH 3.67 and 0.65% T.A. at pressing. Cabernet franc is currently being harvested with maturity ranges of 19.6- 22.6 Brix, pH ranges 3.18- 3.33 and %T.A. ranges 0.98- 1.04. Many area growers harvested Riesling in early October due to deteriorating fruit. We had similar observations at AARS but let our fruit hang to allow development of desired varietal flavors. Although some price was paid in the area of crop loss,

the remaining fruit had very desirable dehydration and much better flavor development overall. Maturity numbers for Riesling were 19.6-20 Brix, pH 2.99- 3.03 and %T.A. ranges from 1.01- 1.06. Some varieties, such as Riesling, have retained higher acidity levels than we might like, but this quality may be attributed to terroir. Bright, lively, acidic and long-lived wines... nothing wrong with that!

Our 2008 growing season provided area vineyards with 2,547 Growing Degree Days as recorded at AARS from April 1 through October 31. Note: "I didn't back this season summation up to our frost date since not all of our vineyards were defoliated by the Oct 19 frost." This summation compares well with our long-term GDD average of 2,616. The GDD totals for August- October (prime ripening window) for 2008 were 1,055 GDD compared to 1,104 GDD for the same period long-term. We were about 50 GDD below average for the month of August which is when most varieties hit *véraison* and ripening begins. From this, we can see that the later two-thirds of our ripening season accumulation was right on target.

At this writing I can see flocks of hungry birds preparing for their winter migration... let's see who can harvest the last of the Cabernet grapes first!

That's the News from the North.

Upcoming Events:

- 1) The Ohio Grape & Wine Conference will be held on 16-17 February at the Shisler ConferenceCenter at OARDC in Wooster, OH. Marketing will focus on customer service with nationallyrenowned speakers. Rick Sigel, a Certified Speaking Professional, and seasoned retailer of 25 years, will discuss customer service from a global perspective. Veronica Barclay, is VP and General Manager of Barclay & Browning Wines, will discuss customer service from a tasting room/winery perspective. Marketing will also feature an industry panel to discuss how to be properly prepared for a festival/special event. Due to multiple requests by attendees in the previous conference on basic and advanced grape growing, these topics will be the focus of viticulture sessions. Featured speakers include Dr. Tony Wolf, Professor of Viticulture at Virginia Tech University, and Mark Chien, winegrape Extension Educator from Penn State University. Featured speakers in enology will include Dr. Christian Butzke, Professor of Enology at Purdue University and Ellie Butz, Enologist, Vintage Winery Consultants. More information will be forthcoming. Please mark your calendar!
- 2) Gallia County will be hosting an informational session Nov. 12 @ 6:30pm to provide information to potential growers about starting new winegrape vineyards. This will be a multi-agency (OSU Extension, Ohio Grape Industries Program, OSU South Centers, and Southern Ohio Agriculture and Community Development Foundation) event where growers can ask questions about the Ohio Grape and Wine Industry, where to find resources to start a new vineyard and who will assist growers with site visits and locating financial resources to start a vineyard.

3) November 19, 2008 – Industry Research Strategic Planning Session – 1 p.m.-4 p.m. at OARDC, Shisler Center in Wooster

The Ohio Grape Industries Committee (OGIC) is focusing on the future and looking for new ways to help vineyards and wineries develop and grow their business. In our efforts to provide the best support we can for this important segment of Ohio's economy, we are inviting you and other key industry contributors to participate in a grape and wine research strategic planning session. This session will help OGIC and OARDC assess the industries' research priorities for Ohio's grape and wine industry. Your input and ideas will provide critical assistance as we work together to grow our research programs and enhance our organization's efforts. We really need to hear from you, the stakeholders, as to the direction of our research programs for the upcoming years. Your participation is vital to the program's success.

I realize that participating in this important discussion adds duties to your already busy work schedule. If you are unable to attend, I would encourage you to send a representative who will have suggestions and a vision for the grape and wine research plan. Also, if you know of others who should receive notification of this discussion, please feel free to pass this e-mail along. I hope you will find the time to participate - your input is important to this program and will benefit a number of Ohio vineyards and wineries. Please RSVP by contacting Christy Eckstein at (614) 728-6438 or ceckstein@agri.ohio.gov no later than November 14, 2008.

If you have any questions or concerns with any of OGIC's programs, always feel free to contact me.