

Elevating Wine Quality Through Enhanced Extension Efforts: An OSU Perspective

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CFAES



THE OHIO STATE UNIVERSITY

COLLEGE OF FOOD, AGRICULTURAL,
AND ENVIRONMENTAL SCIENCES

Appreciation

The 2025 FWGGA Conference

The FWGGA Board for the invitation to present

- Sue Elliot for her conference organizational efforts
- The FWGGA board members and conference organizing committee for their important involvement

Conference Attendees

- Taking valuable time out of your busy schedules



GO-BUCKEYES



OH-IO



Outline

Viticulture and Enology Program (VEP) Overview

Past and current enology extension projects

Ohio wine industry statistics

New initiatives for extension projects in meeting the needs of the growing Ohio wine industry

OSU/OARDC Viticulture & Enology Program



2019 OGWC



OSU/OARDC Viticulture Personnel

Dr. Imed Dami

- Viticulture Research Leader
 - **Viticulturist extension responsibilities**
- Unfortunately, Dr. Dami passed away on October 12, 2024, and will be solely missed as a colleague and his viticulture research efforts in grape cold hardiness known on a national and international level
 - **Position intended to be filled - TBD**

Diane Kinney

- Research Assistant - Vineyard Manager

Fernanda Cohoon

- Viticulture Technician

Dr. Maria Smith

- State Viticulture Outreach Specialist
 - **Primary viticulture outreach contact**



OSU/OARDC Enology Personnel

Todd Steiner

- Enology Program Leader (2001) & State Enology Outreach Specialist
- Recently moved to 100% outreach/extension
 - **Due to tremendous industry growth recently and meeting needs**

OSU enology program is currently in the process of filling a faculty level enology research position

- **Once filled, a supporting research technician and graduate students will further develop and support the enology program**
- Continue excellent research through the OSU enology program
- Collaborate with our peer institutions across the country in providing up to date enology research (ASEV-ES member institutions)
- Helps benefit the OSU Enology Program, the growing wine industry and beyond

OSU/OARDC Enology Recent Personnel

Previous Enology Personnel

- Dr. Jim Gallander – Professor Emeritus (Retired early 90's)
 - **Part time until FY 15, working with me on enology research/extension projects**
- Dr. Roland Riesen – Professor Changins, Haute Ecole de Viticulture et Oenologie, Doyen HES
 - **President, IVES - International Viticulture and Enology Society**
- Patrick Pierquet
 - **Research Associate - Cellar & Laboratory Manager (Retired 2020)**
 - **Helped with research and extension functions**
- Lisa Dunlap, PhD - Grad Student & Research Associate
 - **Helped with enology research and extension projects**

OSU/OARDC State Specialists

Horticulture and Crop Science:

- Dr. Ram Yadav– Weed Science
 - **New hire answering Ohio vineyard weed management issues**
- Dr. Guil Signorini – Production management and strategic marketing of specialty crops, Ag-food value chain management

Plant Pathology:

- Dr. Melanie Lewis Ivey
- Dr. Feng Qu (Virology)

Entomology:

- Dr. Ashley Leach
 - **Recent hire answering Ohio vineyard/grape pests**

OSU/OARDC State Specialists

OSU South Centers:

- Dr. Gary Gao - Small Fruit Crop Specialist
 - **Performs site visits and grower outreach**

AARS Branch:

- Andy Kirk - Research Specialist and Branch Manager
 - **Performs site visits in NE Ohio and research**

Mission – Enology Extension

Provide service to the Ohio grape and wine industry by improving wine quality as a major goal

Provide relevant up-to-date educational programs at regional and statewide meetings/workshops

Evaluate current and future status of the extension/research program in providing effective leadership of the Ohio commercial wine industry

Coordinate research & extension efforts with surrounding states

- Ex. Eastern Viticulture and Enology Forum (2021)
 - **Initialized by Cornell Agritech, Virginia Tech and Penn State**
 - Tim Martinson, Elizabeth Chang and Cain Hickey
 - **Multi-state & multi-university collaboration in viticulture & enology webinars**

Current OSU Enology Outreach Efforts

The Ohio Grape and Wine Conference

The Ohio Wine Competition (OWC)

The Ohio Quality Wine Program (OQW)

Grape and Wine Industry Trips

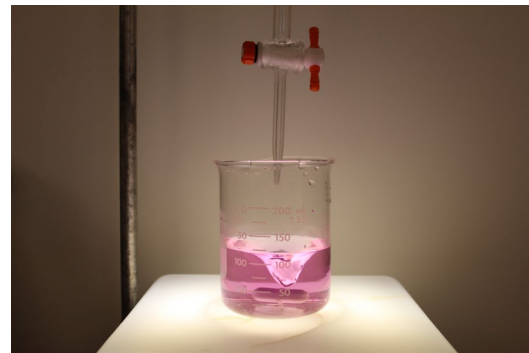
Enology Workshops

Presentations/Webinars

Site visits

Off site Winery Consultations

Commercial Wine Analysis



Current OSU Enology Outreach Efforts

Co-coordinate & organize the Ohio Grape & Wine Conference (OGWC)

- One of the longer running conferences in the country since the late 60's
- Receive near 240 attendees, 35 trade show booths and close to 400 total attendees
- Feature national and internationally renowned viticulture & enology featured speakers

Co-coordinate & organize The Ohio Wine Competition (OWC)

- OSU enology program started competition in early 70's
- **Introduced educational component to the OWC (2001) in supplying both judge's comments and chemical evaluation of wines**
 - **In many cases, chemical analysis will back up judge's comments and sensory results**
- Now hosted/performed in collaboration with KSU Ashtabula grape and wine program
 - **Effective collaboration between OSU and KSU Ashtabula programs**
 - **I currently serve as consultant and competition director since 2014**
 - **We receive on average near 400 entries into the OWC**

Current OSU Enology Outreach Efforts

Co-coordinate the Ohio Quality Wine Program (OQW)

- Program to recognize wines made with 90% Ohio grown fruit
- Provides national acclaim/recognition to wine writers, media etc.
- Indicates quality standard achieved for consumer acceptance of American, Hybrid and Vinifera varieties
- Initialized in 2007 with pilot program
- Organize sensory and chemical evaluation of submitted OQW wines
- Consists of up to 4 submittal times to answer different bottling times
- **There are multiple marketing opportunities for OQW wines**
 - **Specific OQW tasting events, Featured OQW 5 course food & wine pairing at the annual Ohio Grape and Wine Conference, Directors Choice Award**

Current OSU Enology Outreach Efforts

Grape and wine industry trips

- Excellent way to bring cohesion to a growing wine industry
- Locations based on similar growing conditions and varietal production
- Consist of detailed vineyard and cellar tours and tastings
- Destinations: Italy, Germany, Canada (NOTL), NY Finger Lakes
 - **Other areas of interest: Michigan and Virginia**

Perform enology workshops

- Post Fermentation Workshops (PFWS)
 - **Evaluate commercial wines from the current vintage**
 - **Perform 4 PFWS per year on regional basis**
 - **Receive approximately 25 attendees on average at each regional workshop**
- Other past workshops
 - **Laboratory analysis workshops, Sensory evaluation workshops, OSU South Centers, AARS Twilight Tour, viticulture and enology webinars**

Current OSU Enology Outreach Efforts

Provide presentations (in state & out of state)

- Nice to observe other state programs and industry while emphasizing Ohio's

Site visits – important and of high priority for OGIC, OSU & industry

- Perform 50 to 60 winery site visits on average each year
- Provides personal factor of trust and information tailored to individual winery setup, design, equipment and capabilities

Consult with Ohio commercial winemakers

- Phone, e-mail and virtual
 - **Free service for Ohio commercial wineries for effective discussion & advice**

Analysis and troubleshooting of commercial wines

- Chemical and Sensory performed free of charge (**OGIC grant assistance**)
 - **Valuable service to industry since initiated in 2001**
 - **Follow up with winemaker consultation in discussing results and actions**
 - **Receive between 350 to 400 wines on average per year**

Current OSU Enology Outreach Efforts

Extension publications/resources:

- Workshop handouts, enology fact sheets, laboratory analysis manual (currently revised and ready for publishing), OGEN articles, peer reviewed publications etc....

Co-Authored Book Chapter/Questions

- **Steiner, T.E. 2010. Wine Packaging and Storage. Chapter Questions: 7.1, 7.4, 7.5, 7.7, 7.15,. In: Butzke, C.E., (Editor) 2010. Winemaking Problems Solved. Woodhead Publishing Limited. CRC Press LLC, Boca Raton, FL.**

Wine Production Guide

- ***Steiner T., 2022. "The Wine Production Guide," Steiner, T., Auth. Ohio State University Extension Publishing, Copyright, Ohio Grape Industries Committee.***

Partnership with OSU

**Ohio Wine
Producers
Association (OWPA)**

**Ohio Grape
Industries
Committee (OGIC)**



www.ohiowines.org/



<https://www.findohiowines.com/about-ogic/>

Ohio Grape & Wine Industry Stats – 2022

Ohio ranks 7th in US wine economic output by state

- Also similar in overall production across the US

OGIC receives \$0.05/gallon of wine sold in Ohio

- Generates ~\$1.25 million annually
 - **Portion goes to research, extension and marketing**

Ohio's market share = ~ 7% annually (2022)

Full economic impact of wine and grapes to Ohio economy = 3.8 billion considering all inputs

- I.e., Wineries, vineyards, wholesale, distribution, tourism, jams/jellies, research/extension, associations etc.

Ohio Grape & Wine Industry Stats 2024: A Growing Industry

Wineries = 430 - A2, A2F permit (up 15% from 2021, and 60% from 2016)

- There were 368 wineries reported in 2021
- There were 265 wineries reported in 2016
- There were 77 wineries reported in 2000
- There were near 40 wineries in 1996 – my start date at OSU with the Ohio wine industry

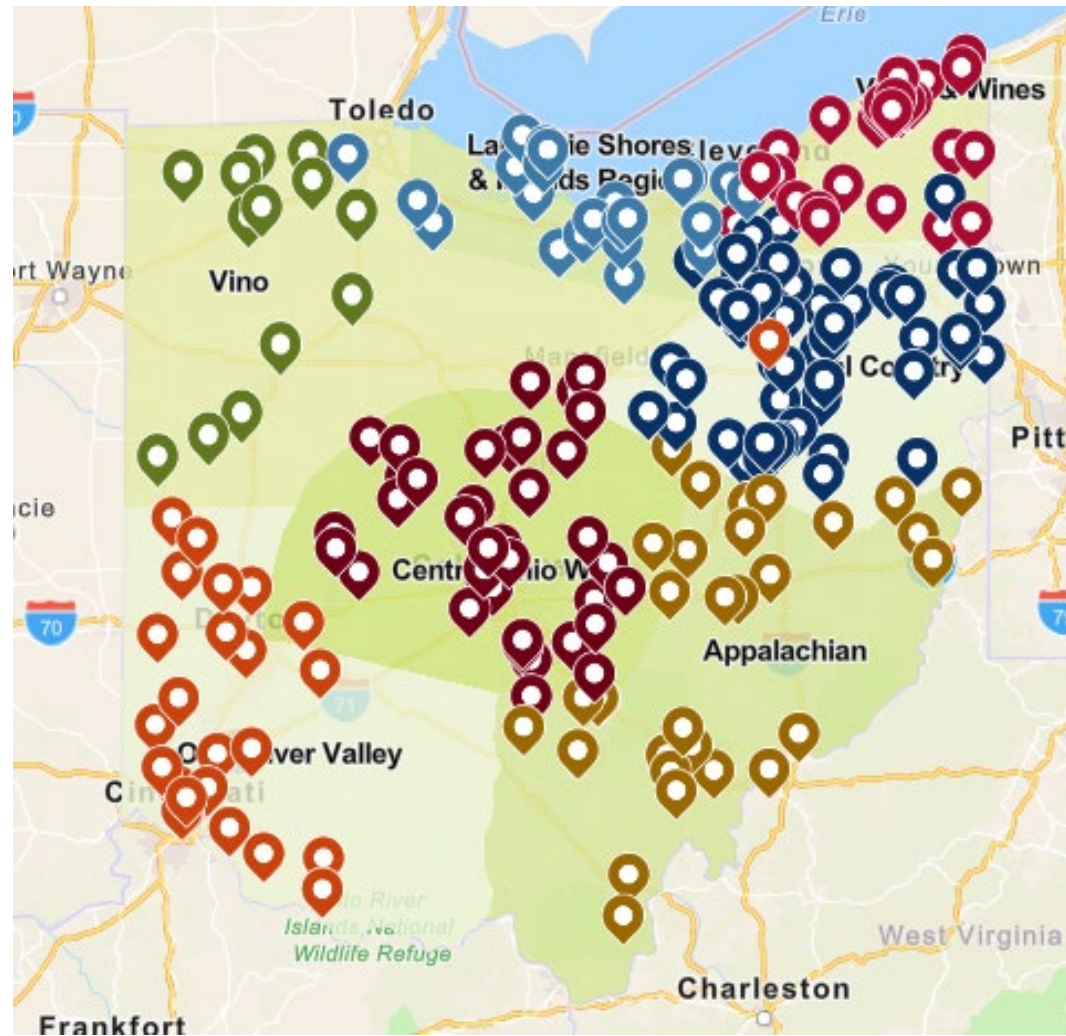
Range in size from 1,000 gal. to over 1 million gal.

- Average range ~ 5,000 to 8,000 gal.
- Several wineries over 100,000 gal. (~ 42,000 cases)

Producing vineyards = 2,100 acres

- Indications appear to be planting additional vineyards
 - Vineyard Expansion Program (VEAP) seeing more growth
 - Collaboration between OGIC and OSU viticulture program

Ohio Wine Guide Map



In Response: OSU Enology FY 19 Proactive Info

Extensive wine industry survey of best winery practices

- Last survey completed in 2004
- Out of date in terms of number of wineries, types of operations and processing techniques
- Interested in finding up to date information on fruit sourcing, varieties, volumes used for wine production and estate operations
- Also, to evaluate industry thoughts on OSU research and participation in OSU extension related events/activities
 - **Help assess and organize programmatic changes for a growing industry**
- The survey took approximately 20-30 minutes to complete
- Of the 308 surveys, 130 wineries (43%) attributed to the survey
 - **Pleased with participation in representing overall industry and regions**

In Response: OSU Enology Outreach - FY 22 & Beyond

Virtual Enology Consultation Team

- Set up a team of five knowledgeable winemakers/consultants
 - **provide six, one-hour consultations per quarter, per consultant to participating wineries/winemakers**
Benefit 30 wineries/winemakers per quarter and 120 per FY
- In collaboration with OGIC effort & support through FY 22 grant
 - **Performed to benefit the growing Ohio wine industry and address quality**
- Many years of collaboration & experience with each consultant
 - **Trust and value any information being disseminated**
- Scheduling occurs through Christy Eckstein at OGIC in utilizing Microsoft Teams as platform for the virtual conference

In Response: OSU Enology Outreach - FY 22 & Beyond

Virtual Enology Consultation Team Cont.

- Suggested topics recommended for discussion based on a quarterly format and timely winemaking practices occurring in the cellar
 - **1st quarter: Best practices involving harvest, crush, must handling and fermentation management options**
 - **2nd quarter: Discussions of wine stabilization (tartrate and protein), wine pH, filtration and SO₂ management**
 - **3rd quarter: Conversations on wine aging, blending, finning, oxygen management, SO₂ management and microbial concerns**
 - **4th quarter: Consultations on preparing wine for bottling, sanitation, sterile filtration, and bottling**
 - Above topics provide only suggestions with freedom to discuss desired topics

In Response: OSU Enology Outreach - FY 22 & Beyond

Virtual Enology Consultation Team Cont.

- 1st quarter consultations booked well
 - **Great discussions and winery satisfaction based on feedback**
 - **Followed up on additional winery questions and further discussions on several consultation topics**
- 2nd quarter consultations observed a disappointing signup
- 3rd and 4th observed a respectable response
 - **Encourage wineries to take advantage of this educational opportunity in discussing winemaking best practices to implement in their facility or simply confirm their current production practices**

Virtual Winemaking Consultant Team

Lee Lutes, Head Winemaker,
Black Star Farms



Peter Bell, Head Winemaker,
Fox Run Vineyards



Tom Payette, Winemaking
Consultant



Chris Stamp, Owner –
Head Winemaker,
Lakewood Vineyards



Denise Gardner,
Wine Consultant



Todd Steiner, OSU Enologist



Christy Eckstein, OGIC Executive Director

In Response: OSU Enology Outreach - FY 22 & Beyond

Enology Extension Educator Team (EEET)

- Develop a team of OSU extension educators with an enology outreach focus on a regional basis
- Excellent collaboration between OSU, OSUE and OGIC
- Interested candidates were identified and selected based on regional location, background and education
- Educators express high desire to increase their knowledge in best wine production practices and getting to know the Ohio wine industry
 - **Look to furthering their career in wine production practices and help lead the Ohio wine industry into the future**

In Response: OSU Enology Outreach - FY 22 & Beyond

Enology Extension Educator Team (EEET)

- Initial training started beginning FY 22
 - **Included lecture and sensory evaluation training and experience**
 - **Site visit experience and training**
- Additional training and EEET events continued through FY 23 - 24
 - **Grant accepted and ongoing through FY 25**
- Excellent opportunity for increased growth in extension activity/programming for future needs
 - **Workshops, webinars, training, publications, factsheets etc..**
- More boots on the ground for winery site visits and visibility
- Benefit both existing and new industry members

The Enology Extension Educator Team



Ken Ford, OSU Extension,
Fayette Co.



Emily Marrison,
OSU Extension,
Coshocton Co.



Andrew Holden,
OSU Extension,
Ashtabula Co.



Shannon Smith,
OSU Extension,
Wood Co.



In Response: OSU Enology Outreach - FY 22 & Beyond

Wine Production Guide

- Provide a detailed wine production guide covering winery best practices for Ohio and beyond
- Collaborated with well respected authors who are considered experts in their fields
 - **Many contributors associated with ASEV & ES**
 - **Help bring validity to publication**
- Start out with winery establishment followed by a comprehensive overview of white, red and rosé wine production
- Reference further details within wine production overview of important winemaking practices in subsequent chapters from Contributing authors
- Will be available for print and online Pdf versions through OSU Publications at: extensionpubs.osu.edu

The image shows a collage of wine-related scenes: wooden barrels in a cellar, a white wine being poured into a glass, a red wine in a glass, and a bunch of green grapes. Overlaid on this is a white triangular graphic containing the title 'WINE PRODUCTION GUIDE' in purple and green text.

WINE PRODUCTION GUIDE

Wine Production Guide Contributing Authors



Dr. Murli Dharmadhikari,
ISU, Retired



Dr. James Gallander, OSU



Dr. Thomas Henick-
Kling, WSU



Dr. James Kennedy,
Functional Phenolics, LLC.



Maria Peterson, Scott lab's



Thomas Payette,
Wine Consultant



Patrick Pierquet, OSU, Retired



Dr. Sara Spayd, NC State, Retired



Chris Stamp, Lakewood Vineyards

In Response: OSU Enology Outreach - FY 25 & Beyond

Plan to continue collaboration between the Ohio commercial wine industry, OGIC and OSU research & extension efforts continuing to improve wine quality into the future

- This collaboration will help provide a positive consumer and media perception as we continue to grow as an industry

Promote wine quality and industry cohesion

- Encourage regional winemaker meetings involving sensory evaluation and best practice discussions

Continue collaborative effort with other viticulture and enology programs on extension efforts improving grape and wine quality

- New virtual workshops and town hall meetings becoming very good options and extremely educational
 - **Post Covid era finding new and exciting virtual opportunities**

Ohio Wine Industry Accomplishments

Increasing wine quality and consistency throughout the state

- Evidence supported within our quality program (OQW), in state and out of state wine competition accolades and through observed workshops

Further improving winery technology and processing practices

- Better SO₂ and oxygen management, winery hygiene, cellar must handling practices, fermentation technology, filtration technologies temperature control, lab analysis and bottling practices to name a few

Nice facilities coming on board with sound business plans and proper funding to provide successful and efficient operations for quality wine production

- Pleasing aesthetically for consumer perception and overall experience

Ohio Wine Industry Challenges

Winery succession planning

- As our wine industry further ages (crosses generations), it has become more evident of this being a concern for family operations

Lack of good cellar help with desired knowledge and skills

With increased winery growth rates comes the need for effective extension programming in maintaining quality and consistency

Observe continue need for sound wine production practices

- Quality fruit source, SO₂ and oxygen management, temperature control, wine stabilization, bioprotection strategies, fermentation management, sterile filtration, lab analysis and bottling line sterilization

Effective and efficient winemaker/grower relations

THANK YOU!

Todd Steiner
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