

An aerial photograph of a vineyard at sunrise. The sun is low on the horizon, casting a warm, golden glow over the landscape. The vineyard rows are visible in the foreground, and rolling hills and fields extend into the distance. The sky is a clear, pale blue.

WA

46°N

WINE

**2019
RESEARCH
ANNUAL
REPORT**



Dear Washington State wine industry colleagues and friends,

In just four years, Washington State Wine has more than achieved the goals set in the industry's initial strategic research plan. The following program components ensure that it remains effective and relevant to industry needs:

- Industry-Driven: Research priorities are established by growers and wineries.
- Industry-Guided: Funding recommendations are approved by the industry.
- Accessible to All: Winemakers and growers, regardless of size, have access to research results.

Washington's wine research program is one of the few in the nation funded by all wine grape growers and wineries in the state. Two key committees of industry volunteers oversee and direct the research program. The Research Committee, composed of Washington State Wine Board members, has fiduciary oversight and drives the Washington State Wine research program. The Wine Research Advisory Committee (WRAC) is a subcommittee of Washington State Wine and works to keep the viticulture and enology research projects focused on needs specific to the Washington wine industry.

Washington State University is working to create a viticulture and enology degree and department by 2021, which will further help elevate viticulture and enology research and education. With the updated Strategic Research Plan approved by the Washington State Wine board in June 2019, we will launch two new research grant programs in 2020 to extend the industry's research reach and encourage collaboration with other wine regions. This targeted focus on research is to help the Washington wine industry grow better grapes and make better wine by providing data-driven tools for both growers and winemakers. We look forward to building a world-class research program at WSU that attracts the best and brightest scientists, increases collaboration among researchers and universities, and leverages industry funds to achieve outside grant awards.

Research is an integral part of the Washington wine industry, playing an essential role in moving it forward. Please reach out to us if you have any questions, thoughts, or if you would like to be more involved in wine and grape research in Washington.

Cheers,

Steve Warner, President and CEO

Melissa Hansen, Research Program Director

RESEARCH ACTIVITIES & HIGHLIGHTS



Industry Engagement

70

Growers and wineries attended Washington State Wine's annual Research Review to hear research progress reports and new proposals. A total of 30 industry members provided input to the Wine Research Advisory Committee.

144

Growers and wineries attended three WAVEx condensed research seminars (Washington Advancements in Viticulture and Enology) held in the Columbia Gorge, Richland and Woodinville.

175

Industry members participated in the 2019 Research Survey and shared 134 research topic ideas and comments. Survey findings included:

- » 60% of respondents attended a WAVE or WAVEx research seminar.
- » 65% received information about industry-supported research from trade publications.



Strategic Research Plan

An updated [Strategic Research Plan](#) for FY2020-2023 was approved by the Washington State Wine Board to advance the industry's research program for the next four years. As part of the new plan:

- » Washington State Wine launched its own competitive grant program for FY2020 to complement the industry's ongoing support of research at Washington State University.
- » We launched a short-term research grant program for FY2020 to fund proof of concept and demonstration-type projects conducted by Washington community colleges and universities.



Strategic Communications

26

Research articles, news releases, and stories written by Washington State Wine were published in trade publications, including Good Fruit Grower, Wine Business Monthly, local newspapers, Washington State University newsletters ("Voice of the Vine" and "Viticulture and Enology Extension News") and wine industry newsletters like WineBusiness.com and WineIndustryAdvisor.com.

34

Radio segments produced for the WAVE Minute, a weekly wine research radio program (AM 560/610) highlighting research and sponsored by Washington State Wine.

4

WAVE Reports published. The WAVE Report is our quarterly research newsletter published in February, May, August, and November.

696

The number of plays received for [three research-themed videos](#) produced by Washington State Wine. The short videos highlight the importance of research and were sent to state and federal government officials.



RESEARCH ACTIVITIES & HIGHLIGHTS



Sustainably Fund Research

x3

For three consecutive years, the Washington State Wine Board approved more than \$1 million in grants for viticulture and enology research projects. Sustainable funding is in part due to strong support from the Auction of Washington Wines and Washington State Wine.

21

Research projects were funded, covering a range of topics from pest management, cultural practices, and mechanization to wine spoilage and microbial ecology, phenolic management, smoke exposure, and wine sensory topics. (See page 6 for the full list.)

\$3.1 million

Research projects supported by Washington State Wine helped leverage more than \$3.1 million in state and federal grants to Washington State University scientists. For every dollar spent in the statewide research program, WSU scientists leveraged approximately \$3 in outside monies.



Research Website

63

[Research reports archived](#) on the Washington State Wine website. The archive grows annually as projects are completed and final reports are posted.



Research Collaboration

2

Washington State Wine participated in two research-oriented organizations:

- » National Grape Research Alliance
- » Northwest Center for Small Fruits Research

3

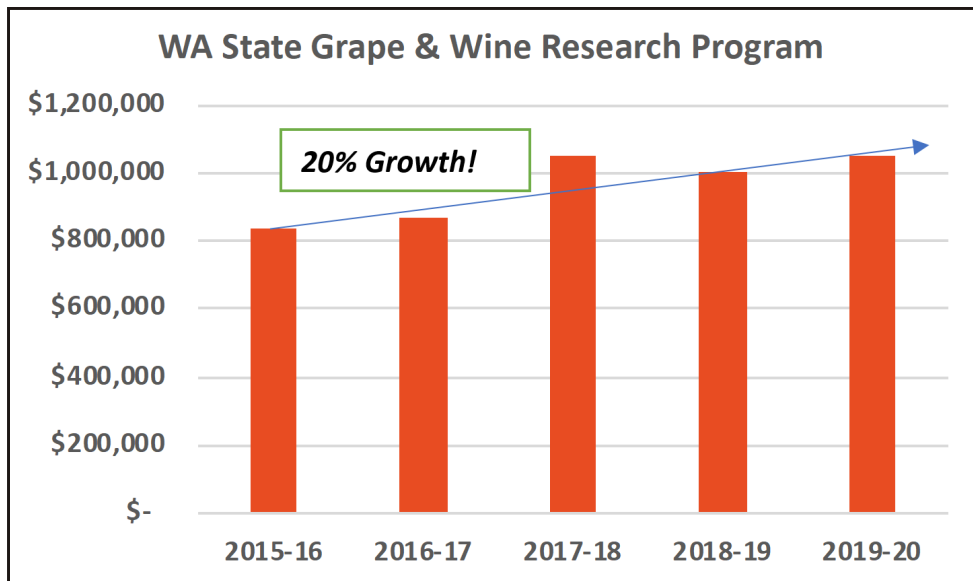
Washington State Wine collaborated with other wine regions in two multi-state research projects (mechanization and sustainability) and one task force on smoke exposure.



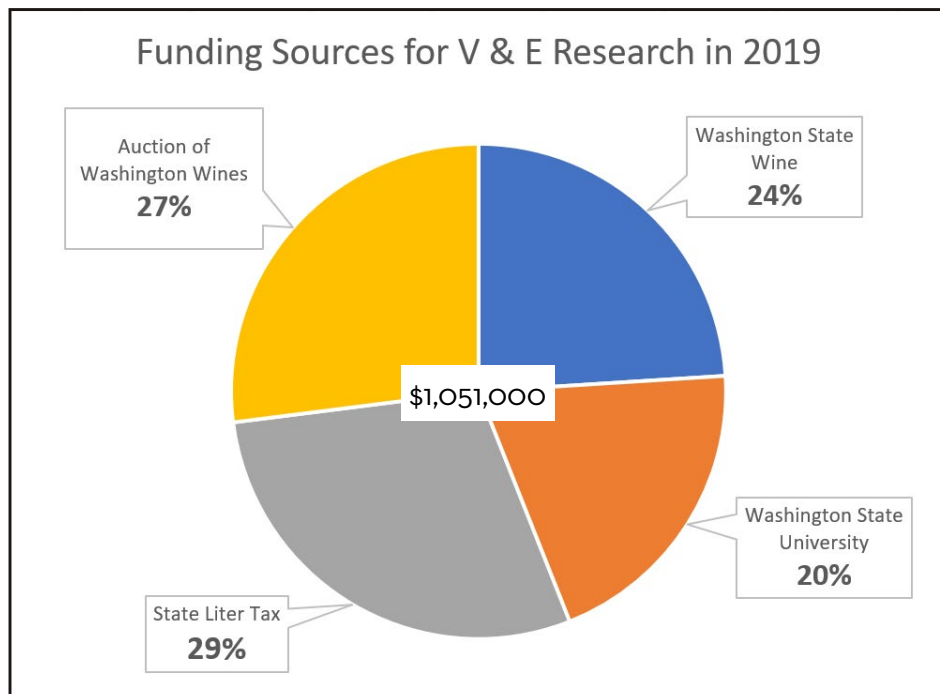
RESEARCH PROGRAM GROWTH

Thanks to significant increases in research funding from the Auction of Washington Wines and Washington State Wine, research funding for the Washington State Grape and Wine Research Program has topped more than \$1 million the last three years, an increase of 20% since FY 2016.

For the third consecutive year, the Washington State Wine Board of Directors approved nearly \$1,051,000 in grant funding in 2019-20 for 21 research projects to continue our strategic pillar of innovating research.



The statewide research program is uniquely supported by industry, public and private funding. In 2019, the statewide program received funding from the following:



RESEARCH PROJECTS FUNDED IN 2019-2020

Viticulture (14 Total Projects)

- Develop grapevine virus management strategies
- Monitor grape mealybug (insect that transmits grape leafroll virus) for potential resistance and buffalo treehoppers (red blotch virus vector) for susceptibility of imidicloprid
- Identify factors behind recent spider mite outbreaks
- Survey for newly detected leafroller in Washington vineyards
- Develop strategies to manage plant parasitic nematodes
- Monitor and map grape powdery mildew fungicide resistance
- Identify temperature thresholds for climate variability on grapevine phenology
- Develop smartphone app for crop load estimation
- Develop machine vision system for precise mechanical shoot thinner
- Develop economic benchmarks for mechanization to help growers make mechanization decisions
- Optimize the impact of mycorrhizal inoculations on soil health and grapevine growth
- Dissect the importance of grape variety versus environment for irrigation management
- Understand impacts on fruit ripening and acidity from the double whammy of heat stress and water deficit to develop recommendations to mitigate heat stress effects
- Research vineyard maintenance support



Enology (7 Total Projects)

- Develop winery management and sanitation practices for control of wine spoilage
- Assess smoke taint risk in berries and resulting wine
- Manage phenolic compounds in the vineyard and winery to improve wine quality (grape ripening/maturity and mechanical pruning impacts on wine quality; develop tannin model system for wineries)
- Understand the impact of pH on wine microbial ecology and wine quality
- Understand sensory characteristics and consumer acceptance of WA wines
- Evaluate Cabernet Sauvignon grapes exposed to freeze and potential wine quality impact
- Research winemaking support

INDUSTRY-DRIVEN RESEARCH PROGRAM

Wine Research Advisory Committee

The Wine Research Advisory Committee (WRAC) serves as the scientific review arm for the wine industry. WRAC is a subcommittee of Washington State Wine and members are appointed by the Washington State Wine board. WRAC annually establishes research priorities based on stakeholder input, issues Requests for Proposals (RFPs) to the scientific community and reviews research reports and proposals. The volunteer WRAC members make annual research funding recommendations for approval by the board.

2019 WRAC Members

Chair: Rick Hamman, Hogue Ranches, Prosser
Leah Adint, Canoe Ridge Estate, Paterson
Dick Boushey, Boushey Vineyards, Grandview
Brian Carter, Brian Carter Cellars, Woodinville
Kevin Corliss, Ste. Michelle Wine Estates
Marie-Eve Gilles, Valdemar Estates, Walla Walla
Julia Kock*, Roosevelt

F. Linn Scott, Sparkman Cellars, Woodinville
Kay Simon, Chinook Winery, Prosser
Russell Smithyman, SMWE, Prosser
Bruce Watson*, Consultant, Seattle
Scott Williams, Kiona Vineyards & Winery, Benton City
Wade Wolfe, Thurston Wolfe Winery, Prosser

*Many thanks to Julie Kock and Bruce Watson for their years of research service to the industry. Both stepped off the Committee in June 2019.

2019 Washington State Wine Research Committee Members

Chair: Dick Boushey, Boushey Vineyards, Grandview
Sadie Drury, North Slope Management, Walla Walla
Rachael Horn, Niche Cellars, Underwood
Larry Pearson, Tapteil Vineyard, Benton City

