Washington State Grape & Wine Research Program

Research Proposal Format

Due: December 12, 2017, 5:00 p.m.

Email to: [ARCGrants@wsu.edu](mailto:ARCGrants@wsu.edu)

The Washington State Grape and Wine Research Program is a competitive grant program that funds viticulture and enology research. The research program combines public, private, and industry funds (Washington State University, Washington State taxes from all wines sold, Auction of Washington Wines and Washington State Wine Commission) support viticulture and enology research. This document is an invitation to scientists to submit new and ongoing proposals for consideration by the Wine Research Advisory Committee, the industry scientific review subcommittee of the Washington State Wine Commission.

Review Process:

The Committee will review proposals and make funding recommendations for approval by the Washington State Wine Commission. All proposals will be held confidential. Proposals will only be accepted from the time the current RFP is released through December 12, 2017. Melissa Hansen, research program manager for the Washington State Wine Commission, coordinates the review process and activities of the Wine Research Advisory Committee.

Presentations of all research projects (new, continuing, final reports) will be given at the annual Research Review on January 18-19, 2018.

*Note: No proposals will be accepted outside normal submission cycle. Proposal applications will be accepted through December 12th 2017; applications postmarked or emailed after the December 12th, 2017, deadline will not be considered for funding.*

Eligibility:

The WSGWRP is open to Principal Investigators (PI) at all Washington State public institutions with the capabilities to address the research and outreach needs of the Washington viticulture and enology industry. Collaboration with out-of-state researchers is encouraged but a PI must be located within the state of Washington. There is no limit to the number of proposals submitted by each PI.

Funding and Reporting:

Consideration of continuing proposals will be contingent upon receipt of progress reports from investigators funded the previous year and based on the progress documented, as well as the continuing scientific merit and promise of accomplishment. For consideration of continuing projects, the progress report for the previous year must be submitted with the continuing proposal.

*Presentation of a final report is required at the Research Review in January.**Written final reports are due upon project termination or end of a project’s funding cycle. For long-term projects that support programs, a final report of completed objectives is required, even if other portions of the project is ongoing.* ***Funding of future projects is contingent upon receipt of a final report.***

Proposals will be held at ARC Grants Department of Washington State University and will not be returned.

PI’s of each RFP need to contact the Wine Research Advisory Committee member assigned as Lead for each project for a work-in-progress update. A short paragraph to convey progress is due on or before September 30, 2017. If you do not know the appropriate member to contact, email: Melissa Hansen, [mhansen@washingtonwine.org](mailto:mhansen@washingtonwine.org) .

Proposal Submission:

Submit proposals electronically in MSWord or PDF format to [arcgrants@wsu.edu](mailto:arcgrants@wsu.edu)

no later than December 12, 2017. Receipt of proposals will be acknowledged by return email.

Format:

* Not to exceed 8 pages to describe research project, materials and methods
* Page limit does not apply to title, literature cited, vita, or budget
* Times New Roman
* 12 pt. font
* At least one inch margins
* Submit proposal as one pdf in the order listed in this RFP

Proposed Duration:

* For new proposals, check “NEW PROPOSAL” and state duration of project: 1, 2, or 3 years
* For continuing proposals:
* Click “YEAR 1 complete, YEAR 2 proposal” if reporting on year 1 progress and requesting funding for year 2
* Click “YEAR 2 complete, YEAR 3 proposal” if reporting on year 2 progress and requesting funding for year 3

Project Title:

Self-explanatory but be succinct yet descriptive.

Tracking Number:

Each funded project will receive an internal tracking number for the Research Program Manager to quickly indicate start year.

Principal Investigator(s):

Name, organization, phone, email, address including department and physical location.

Co-PI(s):

Name, organization, phone, email, address including department and physical location.

*Note: An email from each Co-PI is required acknowledging their participation in new projects, but is not necessary for continuing projects.*

Cooperator(s):

A cooperator is a company donating products or services or an individual serving in an advisory capacity. Include role of each cooperator; make sure they are aware of their proposed participation.

*Note: An email from each Cooperator is required acknowledging their participation for a new project. For continuing projects, a confirmation email is required only if there is a change in Cooperators.*

Other Funding Sources and Support:

If you have received funding from other sources that can be used in support of the project being proposed, please list. Other funding and support is for informational purposes only to understand the scope of the project. These estimated costs are not presented as formal cost-sharing and therefore do not constitute cost-share obligations on the part of the University. Moreover, there is no requirement for the University to document this other support as part of any cost-share or matching obligation.

Funding from multiple sources is encouraged and expected by universities and the industry. This information is part of the award consideration. If you are soliciting funds from other agencies, please indicate name and amount you are requesting in this section. If potential funding from another source is dependent on 'matching' funds from this process, please indicate and be clear.

While PI’s are encouraged to leverage funding and to pursue funding from multiple sources for complex problems, the PI should clearly delineate how each grant addresses separate components of the same larger issue.

If additional funding occurs for identical objectives, a reallocation of funds will occur based on research priorities and all unfunded projects that were submitted. Priority consideration will be given to projects submitted during the normal proposal period by the researcher who received the additional funding.

Budget Request:

Although funding is reviewed on a year-to-year basis, continuation of projects must be justified annually. Please prepare a budget that reflects your needs for the entire project, for up to three years. Please list amount requested for each year of project and fiscal year it was received, or will be proposed. If you are requesting funds for years two or three, please also list funding received in prior year(s).

Prepare a budget page using the attached format and have it approved prior to submitting your proposal (list name of person who approved the budget and date of approval on proposal). Please use footnotes to justify your budget request. List benefit rates for each person funded, types of materials/supplies to be purchased, justify travel (number of trips, destinations, people, miles, meals, etc.).

Clearly identify potential carry-forward funds from previous years.

Please indicate budget allocation percentages for each proposed activity. Be prepared to identify activities that could be reduced or eliminated if full funding is not available.

Funds become available after July 1, 2018.

*Note: For research projects that include making wine, please refer to the RFP Addendum that provides research winemaking and harvest guidelines and budget instructions.*

Statement of Problem:

See industry research priorities below. Specifically identify problem(s) to be addressed.

Justification and Importance of Proposed Research:

Describe previous work done to date and importance of proposed research to industry, or any other industry where grapes or grape products could be utilized. Describe reasons why work should be performed by principal investigators. Discuss how project addresses Washington wine industry research priorities and what value, such as return on investment, findings would have to grape/wine industry.

Objective(s) of Proposed Research:

Be specific. Proposals requesting year 2 or year 3 funding should restate objectives outlined in previously funded request.

*Note: If your research priority has changed such that scope of work and/or objectives will be revised for current proposal from previous year’s submission it will be considered a new project.*

Procedures to Accomplish Objective(s):

For each objective, discuss experimental procedures you propose to employ. Be specific enough to discuss plot design, anticipated statistical analysis, methods used in the experiment, kinds of results expected, means by which data will be analyzed or interpreted, potential pitfalls, and limitations to proposed procedures.

Research Timetable for Project:

Provide an outline of your research as described below under Objectives as a function of time in terms of initiating various phases of research and target for completion.

Success and Benefits to Industry:

Briefly describe the potential success in accomplishing this project and the benefits to growers and winemakers or industry at large.

Information Dissemination, Extension and Outreach Activities:

Include an explanation of how information or technology developed during project will be communicated with or transferred to end users. Be specific. If citing a specific industry meeting, confirm your invitation to speak. Outreach and Education proposals must explain how information reaches end-users.

Display of a research poster at industry meetings such as the annual WAVE (Washington Advances in Viticulture and Enology) and public places (i.e. county extension offices) is *strongly encouraged*.

Literature Cited:

Summarize pertinent publications with emphasis on relationship to effort being proposed. Include all important and recent publications from other institutions as well as those from your institution. Citations should be accurate, complete, and written in an acceptable journal format.

Vita:

Please include no more than a two-page vita for each PI.

Current and Pending Funding:

Attach list of current and pending funds received by PI. *(See current and pending funding template.*)

Final Reporting:

A final report is required of all research projects, including completed objectives. Presentations of final reports will be given during the Research Review in January, with the final report document due at the of the end of the project’s terminating date or end of its funding cycle.

***Note: Funding of future projects will be contingent upon receipt of a final report.*** If you have questions about your final report, please contact Melissa Hansen.

Acknowledgments:

Please acknowledge the appropriate funding sources: Washington State Wine Commission, Auction of Washington Wines, Washington State University Agriculture Research Center, and Washington State Liter Tax during presentations and poster displays.

Questions:

Katy Roberts, WSU Grant and Contract Coordinator

(509) 335-2885, [katy.roberts@wsu.edu](mailto:katy.roberts@wsu.edu)

Melissa Hansen, WSWC Research Program Manager

(206) 669-7127, [mhansen@washingtonwine.org](mailto:mhansen@washingtonwine.org)

**Washington State Viticulture and Enology Research Priorities**

**July 1, 2017 – June 30, 2018**

**Fermentation Management**

• Phenolic measurement and management

• Yeast strains, including indigenous (influence on fermentation, sensory properties, etc.)

• Management of microbiological spoilage (Brettanomyces, Lactobacillus, Pediococcus, etc.)

• Management at winery of diseased/disordered fruit (Botrytis, bunch rot, shrivel)

• Impact/management of nutrients on fermentation (e.g. fermentation adjuvants)

• Fermentation management and monitoring (cap extraction, process control, real-time methods, etc.)

**Aroma and Flavor Compounds in Wine**

• Impact of various filtration options on wine quality (chemistry, mouth feel, oxygen impact, etc.)

• Vineyard-derived sulfur off aromas—avoidance and removal

• Optimizing sensory compounds in wine (e.g. role of glutathione on oxidation)

• Smoke taint analysis and removal

**Viticulture Production Efficiency and Profitability**

• Impact of canopy management/mechanization on wine quality

• Improve water use efficiency/water savings to optimize grape production and wine flavors

• Impact on vine health from water quality (salinity, alkalinity, others)

• Develop nutrient management for optimal vine health

• Develop/assess labor-savings crop estimation tool

• Berry and sour shrivel

• Optimize clonal selections for Washington State

• Impact of field grafting (vinifera to vinifera)

**Disease, Insect, and Vertebrate Control (including sustainable and organic)**

• Develop strategies for viral disease management (preventing spread, replanting, impact on vine health, developing vector control, etc.)

• Develop/refine IPM and sustainable strategies for insects and weeds with economic impact potential, with emphasis on stable, biological systems

• Trunk canker disease management

• Management of powdery mildew and Botrytis (early detection, efficacy of new fungicides, resistance management, etc.)

• Develop nematode management strategies (efficacy, economic thresholds, resistant rootstock)

• Develop effective control of birds, deer, gophers, and other vertebrate

**Climate Impacts on Site/Viticulture**

• Optimum light and heat exposure of fruit

• Impact of climate variability on fruit maturity, dormancy, phenology, pest/disease management

• Winter trunk injury and secondary infections (e.g. crown gall)

• Develop decision support system for inversion, frost protection (i.e. alert system)

**Mechanization Options**

• Development and evaluation of mechanization tools that reduce reliance on hand labor within the vineyard and winery (e.g. canopy management, pest management, crop reduction, sorting, MOG removal)

**Winery Waste**

• Develop methods to recycle/reuse/repurpose biomass from harvest

• Winery waste and water management

**Emerging Issues**

• Unforeseen viticulture and enology emerging issues

• Extension bulletins for transfer of research information (i.e. publication costs)

* Comparative analysis of Washington State viticulture practices to other wine regions (e.g. sustainable pest and disease management systems)

**Research Winemaking and Harvest Guidelines**

The Washington wine industry had a major role in helping construct the Ste. Michelle Wine Estates WSU Wine Science Center (WSC) in Richland, a state-of-the-art research facility. The WSC is a catalyst for cooperation, communication, and synergy among all disciplines of research.

The following guidelines have been developed for research projects with a winemaking component.

Dr. James Harbertson, Associate Professor of Enology, WSU (509) 372-7506, [jfharbertson@wsu.edu](mailto:jfharbertson@wsu.edu) and Dr. Richard Larsen, Research Winemaker, WSU, (509) 372-7508, [rclarsen@wsu.edu](mailto:rclarsen@wsu.edu), are responsible for making research wines at the WSC in Richland. Please contact Jim or Richard to discuss winemaking objectives, costs, coordination, and scheduling.

Winemaking Fees:

Costs for making research wine at the WSC should be included as a line item in Jim Harbertson’s budget and as a line item (but separate from budget) of the proposed research project. This will help the review committee understand the total cost of a proposed project, while still being able to keep all winemaking expenditures in Jim Harbertson’s account.

Fees are determined based on analytics and type of winemaking requested but generally cost:

$500 per lot or replicate

Researcher will receive approximately 2-3 cases of wine in return from 12 to 18 months after crush for red wine, less than 12 months for white wine.

Data provided from winemaking include information on TA (total acidity), pH, EtoH (ethanol), RS (residual sugar), and malic acid. For red wine, color and tannin measurements can be provided if requested.

Data can be provided in Dropbox as it is generated and will be provided prior to the researcher’s need for progress or final reporting purposes.

Grape Harvest Protocols:

A set of industry targets below are shared to encourage harvest and winemaking practices that most closely follow commercial practices. Please use the following as targets when picking grapes for winemaking:

* Whites
* Brix from 21-23, with target of 22.5 (23 for Chardonnay)
* pH below 3.6
* Winemaker will water back lots when greater than 22.5-23 Brix.
* Reds
* Brix from 23-26, with target of 23.5 to 24.5 Brix
* pH should be below 3.8
* Winemaker will water back lots greater than 23.5-24.5 Brix.

Please contact Jim or Richard to schedule delivery of grapes to the WSC. Morning delivery—when grapes are cool—is encouraged to avoid having to refrigerate fruit overnight.

Please use bins that are designed for use with a forklift rotator for ease of transferring fruit into crush equipment.

Volume Needed for Winemaking:

Research fermentation tanks at the WSC are designed to handle the equivalent of 300 pounds per lot (replicate). 300 pounds of fruit equate to around 40 liters of wine, which goes down to about 30 liters after racking. Research trials should be designed with that in mind so that enough fruit is generated for winemaking.

It is recognized that not all trials can accommodate such volume. Each project will be considered individually and there may be special circumstances that allow deviation from the 300-pound per replicate requirement.

An option for projects that don’t need full scale winemaking is analysis of juice for basic grape quality components (Brix, pH, TA, and other) by a commercial laboratory.

Please discuss options with the WSU winemaking team and outline your winemaking needs in your research proposal.