



**OREGON  
DEPARTMENT OF  
AGRICULTURE**

# Specialty Crop Block Grant Program FY2021 Project Summaries

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OREGON DEPARTMENT OF AGRICULTURE - IPPM - JOSH  
PROJECT TITLE

**Stop the spread of a Gill's mealybug in Oregon**

DURATION OF PROJECT

**Start Date:** October, 2021                      **End Date:** September, 2022

PROJECT PARTNER AND SUMMARY

Gill's mealybug (FEGI), *Ferrisia gilli*, is an emerging pest. In Oregon, the crop most at risk for damage is grape. Oregon grape production was worth nearly \$238 million in 2019, and there are over 1,200 vineyards in Oregon.

In one California (CA) study of FEGI impacts, up to 42% of grape clusters were infested. FEGI has been in CA since around 1968, but it was first detected in Jackson County Oregon during 2014. It was apparently brought to a vineyard on infested stock for planting from CA. Since then, FEGI has persisted and spread. FEGI could pose a regulatory problem for growers shipping to uninfected countries or states. FEGI is also a vector of grapevine leafroll disease, a significant concern for growers. If no action is taken, this pest will spread through suitable growing areas throughout the state. In addition to grape production, it may impact both the nursery and fruit industries. Plant Program's Insect Pest Prevention and Management proposes a program to delimit the area infested by the mealybug with the intent of educating Oregon grape growers about this pest and management practices to limit its spread. Delimitation will be conducted by ODA staff and with the assistance vineyards. No lure is available for this pest. Research is being conducted to determine the pheromone of FEGI. If it becomes available as a lure, we will utilize it in our survey effort. The work will be implemented in cooperation with OSU extension.

ODA Pest Alert for more information:

<https://www.oregon.gov/ODA/shared/Documents/Publications/IPPM/GillsMealybugAlert.pdf>

**OREGON DEPARTMENT OF AGRICULTURE - IPPM - JESSICA  
PROJECT TITLE**

**Invasive Wasp and Bee Survey and Educational Outreach to Beekeepers**

**DURATION OF PROJECT**

**Start Date:** 10/1/2021

**End Date:** 3/31/2024

**PROJECT PARTNER AND SUMMARY**

The ODA-IPPM Program proposes to 1) survey for invasive hornet, mason bee, and exotic wasp species and 2) conduct educational outreach on hornet identification and recognition of hornet attacks on honey bee colonies. Because invasive hornet species can destroy honey bee colonies, they pose a threat to our honey producing industry, and to Oregon specialty crops reliant upon honey bee pollination. As our beekeepers are likely to encounter these pests, they require education on recognizing invasive hornets and hive attack. Invasive mason bee species threaten our mason bee industry, which is the pollination source for several specialty crops. These invasive bees can contaminate our managed mason bee stock and increase the likelihood of transporting novel bee pests throughout the state. Exotic wasps pose a threat to our Christmas tree export industry as they can lead to product rejection if found. The outcomes of this project are 1) documenting any of the listed species found at high-risk sites and 2) creating a webinar and outreach materials targeted at beekeepers. To complete these goals, we will identify appropriate trapping sites, work with collaborators on appropriate trapping methodology, identify the specimens at ODA and OSU, and produce and disseminate the outreach materials.

CHEMEKETA COMMUNITY COLLEGE  
PROJECT TITLE

**Dry Farming Variety Trials: Connecting Producers, Researchers, and Students**

DURATION OF PROJECT

**Start Date:** October 2021                      **End Date:** March 2024

PROJECT PARTNER AND SUMMARY

Chemeketa Community College's project, *Dry Farming Variety Trials: Connecting Producers, Researchers, and Students*, will educate students, producers, and the community about dry farming as a resilient and reliable specialty cropping system to increase the amount of land that is considered suitable for agriculture production by demonstrating the ability to produce specialty crops without irrigation. This project will establish dry farm research trials at the Chemeketa Agriculture Complex, provide research internship opportunities for community college students to study dry farming and collaborate with Oregon State University students and researchers, and disseminate the results to a wide audience through a variety of outreach activities and events. These experiences will directly teach students and the community about specialty crop research, production, and consumption.

## OREGON AGRICULTURE IN THE CLASSROOM FOUNDATION PROJECT TITLE

Crop Chats: Connecting Specialty Crop Professionals with Secondary Science Classrooms

## DURATION OF PROJECT

**Start Date:** October 2021                      **End Date:** March 2023

## PROJECT PARTNER AND SUMMARY

Oregon Agriculture in the Classroom Foundation in collaboration with Oregon State University (OSU) Department of Agricultural Sciences and Agricultural Education, OSU Extension and OSU College of Agricultural Sciences Web Communications will provide a platform for specialty crop scientists, researchers and professionals to increase knowledge, familiarity and exposure to Oregon's specialty crops within middle and high school science classrooms. This will be accomplished through a series of recorded conversations, virtual field trips, educator workshops and a repository of free media and curriculum featuring Oregon's vibrant specialty crop industry.

**OREGON POTATO COMMISSION  
PROJECT TITLE**

Grow This! Driving Sales of and Access to Specialty Crops

**DURATION OF PROJECT**

**Start Date:** October 2021                      **End Date:** December 2022

**PROJECT PARTNER AND SUMMARY**

The Oregon Potato Commission (OPC) is submitting this proposal. If awarded, OPC will be the organization with the contractual relationship with the state. OPC will establish agreements with Oregon Aglink and Oregon State University Extension (OSU). OSU Food Hero will lead this project and coordinate partners.

This is a market access and development project designed to enhance the competitiveness of 40+ specialty crops through increasing child and adult nutrition knowledge and consumption of specialty crops by expanding access at schools and in local neighborhoods.

Project activities will scale up and expand Oregon State University's successful Grow This! Oregon Challenge to include (1) growing and procurement of specialty crops at schools in every county in Oregon, (2) potatoes, (3) expanded longitudinal evaluation, (4) new remote events and (5) marketing materials developed by and targeted to Indigenous Peoples, African Heritage, Micronesian and Pacific Islanders, Latinx and Older Adult participants in OSU Food Hero cultural workgroups.

Supplies provided to participants will include seed potatoes, soil, grow bags, and other fruit, vegetable and herb seeds. Marketing and educational materials will include virtual farm field trips and culturally relevant Food Hero garden monthlies, including videos on how to grow, tend, harvest, and prepare specialty crops at home and schools.

This project is a creative public-private partnership-based solution to (1) the ongoing needs of local market development for multiple specialty crops, (2) engaging diverse communities in culturally relevant ways, and (3) sustaining and tracking changes in sales and consumers' knowledge and consumption over time.



## OREGON RASPBERRY AND BLACKBERRY COMMISSION PROJECT TITLE

**Generating Demand for Oregon Berries: Consumer Education In-Store and Online**

## DURATION OF PROJECT

**Start Date:** October 15, 2021

**End Date:** September 30, 2023

## PROJECT PARTNER AND SUMMARY

The Oregon Raspberry and Blackberry Commission (ORBC) and the Oregon Strawberry Commission (OSC) will generate consumer awareness and demand for Oregon grown blackberries, raspberries, and strawberries in West Coast US markets by implementing a multi-pronged consumer education campaign both in-store and online for processed berries and value-added products. Activities will focus on the top three highly motivational messaging territories confirmed through consumer research (conducted as part of a 2019 Specialty Crop Block Grant Program (SCBGP) project) to positively impact purchase intent:

- 1) The high **QUALITY** and great **TASTE** of Oregon berries
- 2) The story of **OREGON** farmers and multi-generational farming families
- 3) The beneficial **NUTRITION** offered by the berry varieties grown in the state

The program will be executed in 3 phases from October 2021 through September 2023, and program elements will include:

- 1) Data Collection and Planning
  - a. Purchase of Category Sales Data for Key States in the Western Region
  - b. Commissioning a Health Benefits Research Study for Blackberries. The study will be shared at the Berry Health Benefits Symposium (BHBS) in early 2022 and subject to a peer review and publishing process.
- 2) Program Development – Messaging, Design, and Production of Materials
  - a. To include “Oregon Grown Berries” communication tools such as a packaging seal and graphics, signage, floor/glass case infographics, and collateral materials including a recipe booklet and coupons
- 3) In-Market Execution
  - a. Retail Partnership Program including in-store sampling, display activity, coupon execution both in-store and online, and retail magazine communication
  - b. Social Media Campaign including promoted posts

**OREGON STATE BEEKEEPERS ASSOCIATION  
PROJECT TITLE**

Oregon Master Beekeeper Training for Spanish-Speaking Beekeepers

**DURATION OF PROJECT**

**Start Date:** October 1, 2021      **End Date:** March 31, 2024

**PROJECT PARTNER AND SUMMARY**

The Oregon State Beekeepers Association will work with the Oregon State University Honey Bee Lab to develop the Oregon Master Beekeeper Program in Spanish. This effort to train Spanish-speaking beekeepers of all levels will improve inclusivity in the beekeeping industry as well as provide economic opportunity for new beekeepers (honey production, pollination services). Training will improve job performance of those working in pollination services to Oregon's specialty crops and commercial honey production.

## OREGON STATE UNIVERISTY - ADAMS PROJECT TITLE

New alternatives to replace chlorpyrifos in tree and small crops

## DURATION OF PROJECT

**Start Date:** 10/1/2021

**End Date:** 9/30/2023

## PROJECT PARTNER AND SUMMARY

Chlorpyrifos has been an important tool for the control of insects in many cropping systems across Oregon. The recent ruling to phase out this tool has left many growers scrambling to find viable alternatives for protecting against key insect pests. Oregon State University has been instrumental in researching new and innovative alternative control tactics that seek to increase sustainability and profitability for growers (see Table 1). Many of these innovative tools are still in development and require more research before they can be scaled up and applied industry wide. This applied research is a critical first step that will allow us to optimize these tools, we will then need to extend this knowledge to stakeholders and communicate the effective application of these new alternative tools. To accomplish this we have assembled a multidisciplinary working group with experience in entomology, chemical ecology, horticulture and extension working in a number of important crops including hazelnut, pear, sweet cherry, blueberry, cane berry and wine grape. In this proposal we outline research into alternative control tactics against four key insect pests, codling moth (CM), spotted wing drosophila (SWD), brown marmorated stink bug (BMSB), and filbertworm (FBW). Various technologies have been developed for these pests, sterile insect technique against CM, a new arrestant against SWD, attractants for BMSB, and mating disruption for FBW. These technologies have had promising early results and have the potential to significantly enhance IPM for growers. This project strives to advance the development and implementation of these promising technologies.

**OREGON STATE UNIVERISTY - BUCKLAND  
PROJECT TITLE**

Growing Oregon's Asian Herb and Vegetable Production Systems

**DURATION OF PROJECT**

**Start Date:** October, 2021

**End Date:** March, 2024

**PROJECT PARTNER AND SUMMARY**

Oregon State University, in partnership with Herb Farm and Iverson Family Farms, will train farmers on the adoption of specialty Asian vegetables and medicinal herb crops. Additional project partners Oregon College of Oriental Medicine, SEDCOR, and Organically Grown Company will also take part in Extension market events to connect adopting farmers with market research and opportunities to showcase locally grown crops to potential buyers, creating a path to market to support new specialty crop production.

## OREGON STATE UNIVERISTY - LEVIN PROJECT TITLE

Optimizing Irrigation Initiation Time in Oregon Vineyards

## DURATION OF PROJECT

**Start Date:** October, 2021      **End Date:** March, 2024

## PROJECT PARTNER AND SUMMARY

Wine grapes are the most valuable fruit/nut specialty crop in Oregon, and the 7<sup>th</sup> most valuable agricultural commodity overall. Despite being known for its dry-farmed vineyards, about 30% of Oregon's vineyard acreage is irrigated, and competition for freshwater resources is increasing between urban and rural entities. Though there is extensive scientific literature on the subject of irrigation quantity (e.g., *how much?*), there is a surprising lack of literature on the subject of irrigation timing (e.g., *when?*). Moreover, few wine grape irrigation studies consider fruit quality as the response variable of interest. Led by Oregon State University, this project brings together a multidisciplinary team of partners across all major wine producing regions of Oregon that include researchers, extension specialists, and producers. We aim to bridge this knowledge gap in irrigation management, and develop best irrigation management practices for wine grapes in Oregon. Project objectives include: (1) Determine how growers currently manage irrigation in Oregon vineyards using surveys distributed through Oregon Wine Research Institute's industry outreach network; (2) Conduct a multi-year field experiment across three distinct sites in which irrigation initiation time is varied over a two-month period; (3) Quantify responses of vine physiology and fruit quality to delayed irrigation initiation, and (4) Relate fruit quality parameters to initiation timing to develop best practices for irrigation management; (5) Disseminate information developed in this project to industry stakeholders through a collaborative extension program driven by Oregon State University and including industry partners.

## OREGON STATE UNIVERISTY - NACKLEY PROJECT TITLE

Establishment of a comprehensive hydroponic agriculture research and training program

## DURATION OF PROJECT

**Start Date:** October, 2021                      **End Date:** March, 2024

## PROJECT PARTNER AND SUMMARY

Oregon State University (OSU) will establish a comprehensive hydroponic agriculture research and training program to increase the State's capacity to educate new and existing farmers who are interested in diversifying their production with technologically intensive hydroponic systems. Hydroponically produced vegetables can be grown year-round, near urban centers, and in relatively small spaces to help farmers meet increasing consumer demand for local food. Despite being a national leader in horticulture and widely known for its local food movement, Oregon lacks opportunities to support farmers interested in hydroponic production. This project will enhance the competitiveness of Oregon specialty crops by creating opportunities for sustainable, diverse, and resilient hydroponic production systems. This project has two phases: development and delivery. Year 1 we will develop workshop curricula and build a hydroponic demonstration and teaching facility at the North Willamette Research and Extension Center (NWREC). NWREC is ideally located at the Portland metro urban growth boundary with easy access to the interstate, enabling access by both rural and urban communities. Year 2 we will host free workshops, release materials on best-management-practices for Oregon hydroponic production, and conduct research comparing hydroponic and field grown crops. Through our research, we will document the extent to which hydroponic systems can increase yields, reduce inputs, and increase efficiencies, which can increase economic return. Additionally, because high yielding hydroponic production can be achieved in small spaces, this project will provide opportunities for new and socially disadvantaged farmers who do not have access to larger acreages.

**OREGON STATE UNIVERISTY - SPRING  
PROJECT TITLE**

Improving Containment of Wild Carrot in Oregon Seed Production

**DURATION OF PROJECT**

**Start Date:** October 1, 2021      **End Date:** March 1, 2024

**PROJECT PARTNER AND SUMMARY**

The Oregon State University Central Oregon Agricultural Research & Extension Center and Oregon State University Institute for Natural Resources will investigate the current and potential geographic and habitat-type distribution of the industry-priority weed wild carrot in and around the carrot seed producing region of Oregon, and develop current, research-based recommendations for detection and control of this critically important seed contaminant, which poses considerable potential risk to the continued profitability of carrot seed production in Oregon. Expected products include a spatially explicit Species Distribution Model, accompanying probabilistic risk maps for use by weed control

**OREGON STATE UNIVERISTY - ZHAO**  
**PROJECT TITLE**

Novel coatings to prevent uptake of smokes into wine grapes

**PROJECT PARTNER AND SUMMARY**

**Start Date:** October 1, 2021      **End Date:** September 30, 2023

**PROJECT PARTNER AND SUMMARY**

Oregon State University will conduct research to produce novel food coatings to stop uptake of smoke volatile compounds into wine grapes. The recent wildfires impacted wine regions throughout the states of Oregon, Washington and California, with many wineries and vineyards not picking fruit or producing wine. The wines made from affected grapes can develop smoke related off-aromas and flavors associated with negative wine quality. To solve the urgent need of ensuring productivity and quality of wines, this team of experts in edible coating techniques, wine quality, and analytical chemistry propose to: 1) develop novel coating formulations for vineyard applications that can effectively sequester volatile smoke compounds, thus preventing their uptake into wine grapes; 2) conduct initial technoeconomic analyses to determine feasibility for scale-up to vineyard applications; 3) validate effectiveness of developed coatings resulting from Objectives 1 and 2 through field trials in collaboration with wine grape producers; and 4) engage stakeholders and project partners to foster implementation of developed technology by Oregon wine growers. Our research team has the specific skills to meet the goals of this project, including noteworthy research for developing edible coatings to improve productivity of fruit crops, evaluating impact of smokes on quality of grapes and wines, and determining specific problematic smoke compounds in final wine. This project will enhance the productivity and innovation of specialty crop producers by developing a new management strategy for dealing with the risk associated with wildfire smoke exposure. Currently, no successful strategies are available to the grape and wine industries.



## OREGON WINE BOARD PROJECT TITLE

Oregon wine direct sales reporting and benchmarking and workforce education

## DURATION OF PROJECT

**Start Date:** October 2021                      **End Date:** March 2024

## PROJECT PARTNER AND SUMMARY

The Oregon Wine Board, which represents all Oregon winegrowers and wine producers, will equip all interested producers and associations within Oregon's statewide wine industry with a sophisticated platform to aggregate, benchmark and provide analytics for direct sales data. It is anticipated that through the adoption of this new business model and recommended practices, 125 enrolled wineries will increase sales in their direct-to-consumer channels by 15% on average, in part driven by increasing access through new wine club memberships.

This proven analytical platform from Community Benchmark is currently used in the wine industries of Washington and California. The integration of this technology will be coupled with coaching from Community Benchmark and educational offerings from WISE Academy, a longtime direct sales productivity partner to Oregon's wine businesses. These trainings will help producers and regional groups understand their data, visualize patterns and identify actionable practices for business-building programming and staff skills enhancement. Direct sales are a key component and often deliver the highest margins of a family-owned winery's sales mix.

As a result of this project, wineries around Oregon will be better equipped to compete in the increasingly data-driven landscape of direct sales. Individual businesses and regional and statewide groups will benefit from having a personalized, data-rich dashboard that can be used to benchmark current performance; more precisely target prospective consumers; measure conversions, transaction trends and returns on investments; and identify where further employee development is needed.

## UMPQUA VALLEY FARM TO SCHOOL AND SCHOOL GARDEN PROJECT TITLE

### Farm to Fork: Building On-Farm Experiences

## DURATION OF PROJECT

**Start Date:** 11/1/ 2021                      **End Date:** 01/31/2023

## PROJECT PARTNER AND SUMMARY

Umpqua Valley Farm to School (UVF2S) is a nonprofit organization which, if awarded, will establish a contractual relationship with the State Department of Agriculture to lead and execute this project.

Goals of this project:

- Build on-farm program for use with the Farm to School Program in local schools in Douglas County by building relationships with farms and schools
- Building farm field trips where students gain hands-on experience planting and harvesting vegetables
  - This will increase fruit and vegetable consumption
  - Increase sales of local produce by the community
- Provide trainings for farmers in the following areas:
  - Field trip and food safety including liability insurance requirements and equipment and supply needs
  - Best practice and requirements for selling to schools including food safety and washing, and transportation and packaging
  - Age-appropriate activities and curricula for field trips
- Increase markets for farms by creating a purchasing program for seeds and crops by school districts to be used in school meal programs and school gardens
- Increase capacity of UVF2S in order to sustain the Farm to School program and provide farmer trainings

UVF2S will plan and implement farm field trips with local school districts and build a sustainable plan with local partners. By providing training to farmers in the areas listed, the farmers will increase sales and the ease of which they partner with school nutrition staff. Students and families will have a better understanding of our local food system and the importance of supporting local agriculture.