



## SPECIALTY CROP BLOCK GRANT PROGRAM FY18 OREGON GRANT PROPOSAL SUMMARIES

### PROJECT COORDINATOR

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**Name of Applicant Organization:** High Desert Food & Farm Alliance

**Project Title:** Enhancing the Value & Supply Chain of High Desert Specialty Crops.

**Grant Request:** \$133,965

**Total Project Amount:** \$221,173

**Project Summary:**

Enhancing the Value & Supply Chain for High Desert Specialty Crops project is submitted by the High Desert Food & Farm Alliance (HDFFA) on behalf of Central Oregon farmers and consumers. HDFFA and Oregon State University Extension Service will provide technical support to improve on-farm efficiencies and food safety standards through workshops and by providing follow-up support utilizing a peer-to-peer mentoring approach where farmers hold each other accountable during the grant period. A one-day field trip to the Food Innovation Center will improve the value add for producers and processors utilizing specialty crops. Farmers, food businesses and processors will also participate in workshops, demonstrations and discussions to deepen their understanding of the look, feel, taste and price associated with locally grown foods. To propel consumer motivation to support local farms and improve the competitiveness of regionally grown specialty crops, HDFFA will utilize an existing state-wide communications strategy developed by the Oregon Community Food System Network and implement a regionally targeted campaign, which can be employed by other regions in the state. Success will be measured through quantitative and qualitative methods using established evaluation techniques. Projected outcomes include improved production techniques and business skills that allow for increased volume and sales by 20-40 farmers, increased purchasing through various market channels by 10-15 businesses, new value-added products developed by farmers and improved purchasing of specialty crops by current processors, and enhanced consumer knowledge and purchasing habits by targeting 70,000 consumers through direct mailings, and social and print media.

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**Name of Applicant Organization:** Oregon AgLink

**Project Title:** Farmers Share – Connecting Consumers with Farmers

**Grant Request:** \$33,719.25

**Total Project Amount:** \$69,047.25

**Project Summary:**

Oregon Aglink will connect Oregon’s specialty crop farmers with consumers by facilitating direct farm tours, luncheons, and digital engagement. All connections will highlight Oregon’s specialty crop farmers and their production practices in different regions of the state. Through these connections, consumers will learn how to buy Oregon grown food on a budget, food safety on and off the farm, as well as concrete ways to incorporate more specialty crops into their families’ lives. Consumers engaging in this project will better understand the economic, environmental, and social impact Oregon specialty crop farms have on our state, country, and world. As a result of this greater understanding, consumers will increase their consumption of our state’s specialty crop products. They will also likely share their knowledge of Oregon specialty crops by word of mouth with friends and family, as well as through their online network. This informative and educational effort includes support from agricultural and food industry stakeholders. The ultimate goal of this multi-faceted outreach through direct farm tours, luncheons, and digital engagement is to inspire consumers to purchase specialty crops grown in Oregon and therefore enhancing their competitiveness.

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**Name of Applicant Organization:** Oregon Blueberry Commission

**Project Title:** Oregon Blueberry Retail Promotions and Market Research in Korea

**Grant Request:** \$123,664

**Total Project Amount:** \$169,664

**Project Summary:**

The Oregon Blueberry Commission will conduct research in Korea to examine why its export volumes have not grown consistently since Oregon fresh blueberries were first allowed access to that market during the 2012 season. Research will be completed with help from a contracted agency and during a visit of OBC representatives to Korea prior to the 2019 season. Research findings will help shape retail promotions that will also be funded with SCBGP resources. Retail promotions will be implemented with leading Korean chains to generate awareness and encourage purchases of fresh Oregon blueberries. The ultimate goals of the project are to increase distribution for Oregon fresh blueberries in Korea and increase exports to that market.

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**Name of Applicant Organization:** Oregon Processed Vegetable Commission

**Project Title:** Enhancing Oregon Broccoli Market Competitiveness by Improving Harvest Efficiency.

**Grant Request:** \$117,453

**Total Project Amount:** \$179,174

**Project Summary:**

The Oregon Processed Vegetable Commission (OPVC) will facilitate mechanical harvest of broccoli by developing, manufacturing and field testing improved mechanical harvester prototypes. This will consist of the adaptation of vision software using camera and computer technology that is tolerant to the natural elements of farm-production fields, and the development of hardware capable of utilizing the computer technology to successfully harvest broccoli in a manner acceptable to the vegetable processing industry. The development of technology will utilize an incredible group of students at Crescent Valley High School in Corvallis whose FIRST Robotics Team has been tackling this real world challenge. These students will benefit from an experience not available to most of their contemporaries. And an ancillary benefit will be students who are exposed to the technological needs of agriculture may pursue careers associated with agriculture

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**Name of Applicant Organization:** Oregon Raspberry and Blackberry Commission

**Project Title:** Market Development for Processed Oregon Berries to Japan.

**Grant Request:** \$81,290

**Total Project Amount:** \$117,041

**Project Summary:**

The Oregon Raspberry & Blackberry Commission (ORBC) and Oregon Strawberry Commission (OSC) will improve market development and access for processed Northwest berries and value-added berry products to Japan by connecting directly with customers via an Inbound Trade Mission to Oregon.

By immersing potential buyers in the Oregon berry story, and connecting them directly to our farmers, value added product producers, and exporters, this inbound trade mission will:

- attract new buyers and drive sales of IQF, canned and freeze-dried raspberries, blackberries, and strawberries as well as value added products
- increase buyer awareness of Oregon berries as premium, healthy, functional, and nutritious food ingredients
- educate buyers on the story of the Oregon growing environment
- communicate food safety practices and processing/packaging technology

The comprehensive program elements for the 3-day inbound trade mission for 10 international foodservice and grocery buyers from Japan include:

- farm tours (3)
- processing plant tours (3)
- value added product tours (3)
- grocery store visit (1)
- an overview of the breeding program by the Oregon State University Research and Extension Center
- a scientific presentation on the health benefits of berries
- a value-added product showcase
- various networking events and presentations with Oregon berry industry representatives and members of select agricultural trade organizations
- one on one meetings with Oregon berry packers/exporters
- filming and production of a short educational video to extend the reach of the program back in Japan
- Follow up shipments of IQF, canned, freeze dried, value added sales and product development samples after the tour.

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**Name of Applicant Organization:** Oregon Tempranillo Alliance

**Project Title:** Expanding Consumption and Sales for Wine from Tempranillo

**Grant Request:** \$37,000

**Total Project Amount:** \$40,000

**Project Summary:**

Oregon Tempranillo Alliance (OTA) is a 501c6 nonprofit organization of 40+ vineyards/wineries who grow many varieties of grapes, including the relatively new Spanish-based Tempranillo. OTA seeks funding to facilitate educational symposiums and consumer samplings to be held throughout the state of Oregon. Federal funds (\$37,000) would be used for:

- Facilities (room and equipment rental);
- Speaker fees (per diems/travel/lodging);
- Marketing (advertising, supplies, photography);
- Catering (Food/beverage fees);
- Miscellaneous (Regulatory fees, Insurance)

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**Name of Applicant Organization:** Oregon State University – Nick Andrews

**Project Title:** Developing Oregon’s Winter Vegetable Industry

**Grant Request:** \$174,992

**Total Project Amount:** \$341,756

**Project Summary:**

The over-arching goal of this project is to increase the production and consumption of winter vegetables in Oregon. The objectives of this project are to: 1) develop markets for high performing winter vegetables (storage and overwintering), 2) engage a broad group of farmers with the project, and 3) evaluate project impact.

To achieve these goals, the project will coordinate: 1) two winter vegetable variety demonstrations at NWREC and two grower field days focused on those demonstrations; 2) two winter vegetable variety Showcases; and 3) two winter vegetable Sagra (festivals). Marketing materials that can be affixed to winter vegetables and that direct consumers to the project marketing website ([eatwintervegetables.com](http://eatwintervegetables.com)) will be distributed to growers, distributors, restaurants and seed companies.

Based on stakeholder input, the project will focus on three storage crops (summer-grown and stored into the winter: winter squash, celeriac and garlic) and five over-wintering crops (Brussels sprout, cabbage, cauliflower, sprouting broccoli and chicory). The project will demonstrate and market varieties that have been shown to be high performing (yield/quality/winter hardiness/storability) and with good market potential in past vegetable variety trial research projects.

To extend project reach to more farmers, the project will present at grower meetings and publish two Extension Publications: 1) production of field-grown winter vegetables, and 2) production, storage and use of winter squash. To extend the project reach to more consumers and chefs, the project will develop a Winter Vegetable website (modeled after [eatwintersquash.com](http://eatwintersquash.com)).



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**Name of Applicant Organization:** Oregon State University – Andony Maletholpuolus

**Project Title:** Promotion of Oregon Nurseries and Specialty Seeds as Bee-Friendly

**Grant Request:** \$174,374

**Total Project Amount:** \$348,138

**Project Summary:**

Oregon State University, in partnership with the Oregon Association of Nurseries (OAN) and the Specialty Seed Growers of Western Oregon (SSGWO) will: 1) develop *Bee Protection Protocols*, 2) promote these protocols to the public and 3) highlight seed mixtures and nursery plants that provide forage for season-long benefits to a broad array of pollinators. The project builds on an existing Specialty Crop Block Grant (SCBG) “The Oregon Bee Pilot Project”, utilizing the Oregon Bee Project brand to promote two specialty crop sectors that compete nationally for the production of plants that are attractive to pollinators. Work with OAN will focus on adapting *Bee Protection Protocols* previously developed by the Horticulture Research Institute (HRI) for Oregon producers, research to develop lists of plants commonly grown in Oregon that benefit pollinators, as well as a marketing strategy to promote the stewardship of the industry and specific plants as *Oregon Bee Project Pollinator Plant Picks*. Work with the SSGWO will focus on finalizing their *Bee Protection Protocol*, improving information on the residual toxicity of pesticides applied prior to honey bee colony arrival for pollination, a key knowledge gap towards the implementation of the Protocol identified by the SSGWO, and a promotional campaign highlighting the SSGWOs adoption of the Protocol. Our proposed project will: 1) increase sales of pollinator-friendly plants from these two industries, 2) enhance pollinator health in the state, 3) provide a scaling-up of the Oregon Bee Project initiative and 4) incentivize environmental stewardship by rewarding industries that contribute to pollinator health.

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**Name of Applicant Organization:** Oregon State University – Yanyun Jung

**Project Title:** Enhancing Productivity and Safety of Oregon Hazelnuts Through Technology Innovation

**Grant Request:** \$169,791

**Total Project Amount:** \$256,073

**Project Summary:**

Drying is essential for ensuring food safety and storability of hazelnuts (*Corylus avellana* L.). Hot-air drying is currently applied by the hazelnut industry. However, hot-air drying takes long time with low efficiency, and could result in undesirable chemical, physical, and sensorial quality changes in nuts. Contamination by *E. coli*, *Salmonella*, and aflatoxin is also a problem encountered during production and storage of hazelnuts. Various physical and chemical methods have been utilized to sterilize postharvest hazelnuts, but several issues have been reported in terms of effectiveness, cost efficiency, and health concern. Advanced drying technologies, such as microwave (MW), infrared (IR), and radio frequency (RF), have been applied to some tree nuts for enhancing drying efficiency and ensuring food safety. Among them, RF energy provides deeper penetration than MW or IR, thus being suitable to hazelnuts with large air gaps between shells and kernels. RF drying also holds potential to control pathogens and fungi. This project is, therefore, aimed to develop an economically feasible, environmental friendly, and safe postharvest RF drying technology for enhancing quality, safety, productivity, and storability of hazelnuts produced in Oregon. The Oregon State University will conduct pilot-plant scale RF drying studies by collaborating with the Washington State University and evaluate the costs for a large-scale commercial process in comparison with the hot-air drying. Results will be disseminated to the Oregon hazelnut producers and processors via Oregon Hazelnut Commission meetings, presentations at conferences, as well as videos and articles on extension websites, and peer-reviewed scientific publications.

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**Name of Applicant Organization:** Oregon State University – Rory McDonnell

**Project Title:** Development of New Biological Control Strategies for Pest Slugs

**Grant Request:** \$174,853

**Total Project Amount:** \$338,688

**Project Summary:**

The most common control methods for slugs rely on chemical pesticides, which have low efficacy, many environmental risks and potential for chemical resistance. Therefore, growers are challenged with developing sustainable management strategies focusing on biological-based environmentally friendly alternatives. Currently in Europe a commercially available biocontrol product (Nemaslug®) comprising a nematode and its associated bacteria is being used to manage slugs. In fact, the efficacy of using this product can significantly reduce slug populations in crops. The recent discovery of this nematode in Oregon by PIs at Oregon State University (OSU) opens the door to serious consideration of the nematode as a potential biological agent in the United States. Further method development by the OSU PIs expands the potential of this nematode system to deliver specific bacteria as vehicles for additional biocontrol strategies.

PIs at the USDA in Oregon recently published the slug transcriptome and hypothesize that genes expressing antimicrobial peptides in the epidermal mucus are a critical component of the immune system essential for slug survival. Therefore, we are looking at these genes as potential biological targets (i.e. RNAi) that, when knocked out, will critically impact slug survival.

In this project, our objectives focus on examining nematodes and associated bacteria for their efficacy in slug control, and as a potential RNAi delivery system to develop new biocontrol strategies for pest slugs in specialty crops. Our team comprises a slug and snail expert, a nematode expert, RNAi specialist, molecular biologist; and we also have the support of multiple specialty crop industries.

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**Name of Applicant Organization:** Oregon State University – Wei Yang

**Project Title:** Improving Fresh Blueberry Quality with Innovative Harvesting and Sensor Technology.

**Grant Request:** \$174,499

**Total Project Amount:** \$354,869

**Project Summary:**

OSU-NWREC will work with USDA, WSU, and the University of Georgia to improve the quality of fresh market blueberries by developing innovative mechanical harvesting solutions and using sensor technology. New mechanical harvesting solutions will alleviate constraints growers are experiencing due to increasing costs and decreasing availability of hand labor for harvesting. Since 2015, our collaborative efforts in machine harvesting research have led to advances in using over-the-row (OTR) mechanical harvesters for fresh market quality blueberries. A newly modified OXBO OTR harvester is being built with soft catch surfaces and a stacked catch frame to reduce fruit dropping distance and internal fruit damage, therefore resulting in mechanically harvested blueberries with quality comparable to hand harvest. We will test the new OXBO harvester in commercial fields to: 1) determine if the soft catch surface and catch frame materials meet food safety standards; 2) take field fruit samples to quantify microbial populations during field harvests; 3) determine the ideal shaking frequency and ground speed for key blueberry cultivars to maximize the harvest of mature fruits; 4) determine the amount of ground loss after each harvest; 5) compare fruit quality and cold storage traits to hand harvested fruits. We will also use a blueberry-sized sensor called BIRD (Blueberry Impact Recording Device) throughout harvest and the fresh packing process to measure the impact force which causes internal bruising damage to fruit. Recommendations to reduce internal bruising damage and improve fresh market quality will be disseminated to growers at regional grower meetings in the PNW.

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**Name of Applicant Organization:** Rogue Farm Corps

**Project Title:** Equipping the Next Generation of Oregon Farmers for Success

**Grant Request:** \$93,121.50

**Total Project Amount:** \$108,121.50

**Project Summary:**

Rogue Farm Corps' project will equip the next generation of Oregon farmers for success by providing advanced-level course work in agricultural skills, business start-up preparedness, land access literacy, and farm succession planning. Through a suite of educational programs catering to the needs of both beginning farmers and retiring farmers, Rogue Farm Corps (RFC) will support the transition of farmland and farm businesses from one generation to the next.

RFC's advanced-level class series will include up to six classes and four weekend intensives each year in four locations across the state: Rogue Valley, South Willamette Valley, Central Oregon, and Portland Metro. This class series compliments RFC's on-farm Apprenticeship Program and will be opened up to include new participants not enrolled in the on-farm portion. Course curriculum will include a combination of the following topics:

Year # 1:

- Farm and Production Planning; Pest & Disease Management;
- Conservation and Restorative Agriculture;
- Food Safety & Post-harvest Handling;
- Irrigation Methods, System Design, and Repairs;
- Seed Production;
- Weekend Intensive #1: Soil Health Management;
- Weekend Intensive #2: Tractors and Equipment;
- Weekend Intensive #3: Perennial Systems; and
- Weekend Intensive # 4: Farm Carpentry and Building Infrastructure.

Year #2:

- Managing People on the Farm;
- Scaling Up and Exploring Distribution Channels;
- Marketing;
- Certification Programs and Recordkeeping;
- Insurance Needs and Considerations; Creating Farm Financing;
- Weekend Intensive #1: Overview of Farm Business Planning;
- Weekend Intensive #2: Enterprise Selection and Diversification, Evaluating and Improving Profitability;
- Weekend Intensive #3: Farm Finances; and
- Weekend Intensive #4: Accessing Land.

Succession planning and land access literacy training will be accomplished through two day-long workshops per year in multiple locations throughout Oregon. Each will include two parallel tracks

for succession planning and land access and facilitated networking for beginning farmers and elder farmers nearing retirement. These workshops will help recruit new farmers to rural areas, build connections across agricultural communities and generations, and support the transition of farmland from one generation to the next.

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**Name of Applicant Organization:** Salem-Keizer Education Foundation

**Project Title:** AgriCulture – Honoring Culture and Agricultural Career Exploration Through Food Systems.

**Grant Request:** \$100,307.90

**Total Project Amount:** \$269,244.04

**Project Summary:**

*Salem-Keizer Education Foundation will use integrated learning to equip Oregon's next generation by using knowledge of the food system to create leaders by organizing, planning and training through agriculture.*

Salem-Keizer Education Foundation (SKEF), a community non-profit is at the cutting-edge of Oregon's Farm to School movement. With thirteen school gardens our robust programs serve over 43,000 students and continues to grow. Through our program students learn to take Oregon specialty crops from the garden to the kitchen to the pantry to the table. By increasing student consumption of Oregon specialty crops at school, we have been able to teach students the importance of having access to food systems and careers based in agriculture. Over the past two years, we have been working to reinforce these classroom lessons at home to have a more lasting effect on families.

This project will create the Salem-Keizer Land Lab at McKay High School which will serve as the catalyst for ag literacy in the community. Students will not only learn how to plant and harvest Oregon specialty crops, they will learn about the entire food system. Students will also learn how to honor different cultures through the commonalities shared through food heritage.

Through a better understanding of the food system; food processing, food innovation and agricultural applications using technology, students will have better access to careers based in Oregon agriculture.

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**Name of Applicant Organization:** Wilco Farmers

**Project Title:** Opening New International Markets for Oregon Grown Hazelnuts

**Grant Request:** \$174,312

**Total Project Amount:** \$220,823

**Project Summary:**

Wilco Farmers, a farmer cooperative, cooperatively-owned by ~3,000 producer-owners, including 216 hazelnut growers, seeks to grow international sales of Oregon hazelnuts (specialty crop) by ~129 percent by 2020 (see *Outcome Measure*); this goal would be fulfilled by increasing the ability of international buyers to purchase Oregon hazelnuts and increasing awareness of Oregon hazelnuts among international buyers. General tasks to accomplish this goal would include developing new webpages that support international buyers purchasing Oregon hazelnuts and creating product exposure at four significant international food tradeshow, with results shared with growers and project partners throughout the project period.



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**Name of Applicant Organization:** Oregon State University – Kaci Buhl

**Project Title:** Creating a Sustainable WPS Training Program at OSU

**Grant Request:** \$149,975

**Total Project Amount:** \$230,975

**Project Summary:**

Oregon State University’s Pesticide Safety Education Program (PSEP) will streamline regulatory compliance and prevent pesticide incidents within specialty crops in Oregon. OSU-PSEP will create a sustainable program to provide required posters and pesticide safety training in English and Spanish. OSU-PSEP will develop procedures, field-test training materials, and build the registration/record-keeping process in order to deliver at least 36 WPS training events across the state of Oregon. Participating employers will be in compliance with WPS training requirements for one year, post required pesticide safety posters and warning signs, and learn about all additional WPS requirements to achieve compliance and prevent pesticide incidents.