

## SPECIALTY CROP BLOCK GRANT AWARDS 2015

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**In 2015, the Washington State Department of Agriculture received approximately \$4.1 million to help fund 24 projects:**

**Grant Recipient:** USDA-ARS

**Project Title:** The Weed Link in Zebra Chip Epidemiology

**Award:** \$150,143

**Abstract:** The goal of this project is to develop a "risk-index" for weedy hosts of potato psyllid, the vector of the pathogen that causes zebra chip disease of potato. Managing zebra chip requires control of the psyllid, generally by use of calendar-based applications of insecticides. A major challenge in controlling potato psyllid is the inability to predict what fields will be colonized by infective psyllids. Colonization of Washington potato fields is due to psyllid dispersal from any of several species of weeds identified as potential hosts of psyllids. We will develop risk-designations for each of 12 targeted weed species, based on five plant traits: 1) suitability to potato psyllid, 2) suitability to the pathogen, 3) whether it is a preferred host of the psyllid, 4) seasonal availability, and 5) regional abundance. From these five traits, we will develop "risk-rankings" for each species that will allow growers to predict which weeds are sources of infective psyllids, and thereby allow growers to manage psyllids by targeted weed control and by insecticide applications timed to coincide with psyllid arrival. This risk index will be made available to growers and University extension personnel through oral and written reports and by posting on the industry webpage.

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**Grant Recipient:** WA Red Raspberry Commission

**Project Title:** Managing Washington Berry Diseases

**Award:** \$147,078

**Abstract:** Diseases are a major threat to berry production in Washington and controlling them represents significant production costs for Washington berry producers. The efficacy of fungicides applied to control these diseases is under severe threat due to the development of resistance to the fungicides currently used in Washington berry production. Fungicide resistant *Botrytis* is costing berry growers millions of dollars in losses and increased costs of control. If resistance in *Botrytis* worsens or resistance develops in the blueberry mummyberry pathogen, losses will be in the tens of millions of dollars. Goals of this project are: 1) to determine the extent of fungicide resistance in several key berry pathogens across multiple counties in Washington and 2) to identify new disease control tools including biofungicides and conventional synthetic fungicides of novel chemistry with different modes of action. Results of this integrated research project will be used to develop a resistance management plan for Washington berry growers allowing them to effectively manage fungicide resistance in berries and thus extend the useful life of our most effective fungicides. This research will also provide a new set of disease control tools for Washington growers that will complement existing control measures and provide additional control options.

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**Grant Recipient:** Washington State University- DeVetter

**Project Title:** Pre-Plant Management Techniques for Nematodes and Soilborne Raspberry Diseases

**Award:** \$141,274

**Abstract:** Washington State is a national leader in the production of red raspberry (*Rubus idaeus*) for processing purposes. Despite the significance of this industry to the state and local economies, production is challenged by management of soilborne pests and pathogens, including nematodes and phytophthora. Growers traditionally rely on pre-plant chemical fumigation to control these organisms, but the effectiveness is short-term and evidence is mounting that current cover cropping practices may actually serve as a bridge that allows these pests and pathogens to rapidly re-infest subsequent plantings. This project addresses the industry's need for improved integrated pest management (IPM) techniques for

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soilborne pest and disease management. Two experiments are proposed that address the overall goal of this project, which is to develop improved IPM tools for red raspberry growers. In experiment #1, we will compare conventional and alternative pre-plant soil fumigation techniques, including the alternative treatments of tarping and supplementations with shallow applications of metam sodium. In experiment #2, we will evaluate management techniques of cover crops established during renovation, including timing of cover crop planting and destruction, as well as method of cover crop destruction. Results will be shared with the grower community via field days, conferences, and extension newsletters.

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**Grant Recipient:** Washington State University - Kiwamu Tanaka

**Project Title:** Improved Disease Control Strategies of Potato Powdery Scab

**Award:** \$236,127

**Abstract:** This project is to initiate control strategies for potato powdery scab disease, which in recent decades has spread in many regions including most potato production areas in Washington State. Typical symptoms are cosmetic damage on the skin of potato tubers and the formation of root galls, which reduce nutrient and water uptake. Moreover, the powdery scab pathogen vectors a virus, *Potato mop-top virus* (PMTV), which causes plant growth suppression and internal tuber necrosis. Most importantly, PMTV is an impediment to foreign trade. The objectives of this proposal are to develop a diagnostic method to survey powdery scab infestation on farms, and to improve grower education about the powdery scab disease. This proposed work is important because current management of the disease relies heavily on fungicides and soil fumigations that are only partially effective against powdery scab, and are expensive and risky to applicators and the environment. Improved control strategies for the powdery scab disease are required for the sustainability and profitability of the state's potato industry.

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**Grant Recipient:** Washington State University-Naidu Rayapati

**Project Title:** Strengthening the Grapevine Supply Chain for Healthy Vineyards

**Award:** \$247,878

**Abstract:** Certified planting stock is the foundation for healthy vineyards. This project will deploy science-based strategies to empower nurseries to maintain clean planting stock in certified mother blocks for growers to plant healthy vineyards. In addition, collaborative efforts will be pursued to encourage growers to use self-propagated cuttings that meet the standards of grapevine certification to alleviate the shortage of certified planting stock for planting new vineyards. Certified nurseries and vineyards planted with clean planting stock will be monitored in a coordinated manner for strengthening the effectiveness of the grapevine supply chain. Participatory approaches will be pursued with growers to implement roguing as a post-planting management strategy to minimize virus spread through planting stock. Outreach and education activities will be conducted to showcase advantages of using clean plants and implementing roguing for healthy vineyards. Partnerships will be strengthened through this project (i) between certified nurseries, Washington State Department of Agriculture and Washington State University to maintain an inventory of virus-tested grapevines in certified mother blocks and (ii) with industry stakeholders and National Clean Plant Network to promote science-based 'start clean, stay clean' strategies against viral diseases for advancing sustainable growth of the wine grape industry in Washington State.

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**Grant Recipient:** Washington State University - Gary Chastagner

**Project Title:** Identification, Distribution, and Management of Needle Cast Diseases on Noble Fir

**Award:** \$104,624

**Abstract:** A complex of needle cast diseases that growers have been unable to control, including two that appear to be caused by pathogens not previously reported on noble fir in the Pacific Northwest, is causing significant reductions in the production of noble fir boughs and Christmas trees in Washington and Oregon. This project addresses the 2015 "control pests and diseases" WSDA SCBG funding priority by identifying the specific pathogens causing needle cast diseases impacting noble fir bough and Christmas tree production and quality, determining the prevalence and distribution of these pathogens, identifying fungicides or mixtures of fungicides effective in controlling these diseases, and determining the impact of increased reliance on low elevation boughs on the postharvest quality of greenery products. As a result of this research, we will provide growers with management recommendations that will reduce the impact of needle cast diseases on the production and quality of noble fir bough material from high and low elevation production sites.

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**Grant Recipient:** Washington State University-Musacchi

**Project Title:** Cosmic Crisp: Training System and Orchard Management

**Award:** \$249,191

**Abstract:** Washington produces around 62% of the apples in the U.S. and generates 28% of the state's total agricultural receipts. Total production has increased annually, with widespread renovation of orchards using modern, high-density systems. The Washington State University (WSU) apple breeding program recently released a very promising variety, WA 38 (trade named Cosmic Crisp™) characterized by an unusually firm, crisp and juicy texture and excellent storability. Current grower demand for this variety greatly exceeds supply and it is clear the variety will be widely planted throughout the state over the next five years. Thus, Washington apple producers will require critical information on horticultural management issues. Horticultural performance will be evaluated using innovative 2 or 3 axis training systems. In addition, we will analyze the horticultural and economic aspects of orchard establishment of Cosmic Crisp™ using a top grafting approach, which can bring an orchard into commercial production faster than the usual practice of planting young trees.

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**Grant Recipient:** Washington State University - Pete Jacoby

**Project Title:** Deep Sub-Surface Micro-Irrigation to Increase Water Use Efficiency in Vineyards

**Award:** \$249,971

**Abstract:** This research project will contribute to a programmatic effort to increase plant water use efficiency (quantity of high quality grapes per unit of water applied) while overcoming a number of problems associated with surface irrigation (listed below). A technique employing the use of PVC delivery tubes placed vertically (1-3 feet) below the soil surface is anticipated to overcome problems experienced by users of buried line subsurface irrigation methods, including destruction by gophers, undetected leaks and soil clogged emitters. Research will document ability of deep subsurface irrigation to permit deeper root development than observed with surface applied drip irrigation and ability of vines to exhibit hydraulic redistribution of water from deeper portions of the soil profile. Subsurface micro-irrigation is anticipated to reduce water loss from surface evaporation by creating a dry topsoil zone, thus reducing weeds, insect pests and plant diseases. Assuming vines can be maintained on a fraction of the water used in surface irrigation (as demonstrated by buried line research), growers will realize savings of water, power and maintenance. This program will also evaluate use of thermal and multi-spectral imaging from aerial and ground platforms for early detection of plant water stress (beyond levels from regulated deficit irrigation).

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**Grant Recipient:** Washington State University - Lindsey du Toit/Nordquist

**Project Title:** Evaluations of Arbuscular Mycorrhizal Fungi of Onions and Carrot

**Award:** \$211,099

**Abstract:** Symbiotic arbuscular mycorrhizal fungi (AMF) colonize roots of many plant species, help plants mine soil for immobile nutrients, and defend plants against some soilborne pathogens. Onions depend significantly on AMF to compensate for the sparse, unbranched roots with few root hairs. However, the use of soil fumigation on ~90% of 22,000 acres of onion crops and ~10,000 acres of carrot crops in the Columbia Basin, and relatively high rates of phosphorus (P) fertilization, adversely affects the association of onion and carrot plants with AMF. The objectives of this proposal are to evaluate commercial AMF products in onion and carrot crops in the Columbia Basin, using greenhouse and grower-cooperator field trials, to assess equipment compatibility and potential benefits of AMF products on onion and carrot growth, P use efficiency, and soilborne disease management. A longer-term goal is to assess how AMF inoculants can improve soil quality by facilitating reduced dependence on soil fumigation and fungicide applications, and reduced rates of P fertilization. The study will provide objective research on the efficacy, compatibility, and economic viability of commercial AMF products currently being promoted by companies to specialty crop growers in Washington, particularly onion and carrot producers.

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**Grant Recipient:** Pear Bureau Northwest - Multi-state with Oregon

**Project Title:** USA Pear Road Show in Southern China

**Award:** \$100,000

**Abstract:** 2015 will be the third full season of market access to China, where consumers are more familiar with crisp, Asian pear varieties. Following the success of the USA Pear Road Show conducted in 2014/15 in Beijing and Shanghai, the activity will move to Guangzhou and Shenzhen to continue to introduce USA Pears as a new item in the produce department. The Road Show will serve as a mobile classroom, educating consumers about USA Pears. As the truck moves around China, it will serve as a mobile billboard for USA Pears. When the truck reaches the supermarket/hypermarket destination, the outfitted truck will unfold in the parking lot, where consumers can learn about the varieties, origin, versatility in recipes, and nutritional benefits of pears. The Pear Bureau will target all shoppers as well as children, both of which are key demographic targets. The Road Show will be a centerpiece activity that will increase the effectiveness of the other promotional activities. The Road Show will generate excitement and attention for the new product among retailers, consumers, and the media. The Pear Bureau will also use the activity to generate media coverage to reach a broader audience in these markets.

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**Grant Recipient:** Washington State University- Lee Kalcsits

**Project Title:** Physiological Responses of Apple under Photosensitive Hail Netting

**Award:** \$248,608

**Abstract:** Washington State's high light/temperature environment can cause significant losses in productivity to the tree fruit industry. Currently, a combination of overhead cooling mixed with chemical protectants are used to reduce the effects of light and temperature-related stresses. In the future, overhead cooling to protect fruit from sunburn may not be available because of changes to food safety regulations, may have negative effects on the orchard microenvironment and additionally, consumes large amounts of water during late summer. This project will evaluate photosensitive anti-hail nets as an alternative to irrigated overhead cooling to reduce sunburn in tree fruit orchards and reduce orchard water use. The goal of this project is to measure the impact of netting in both commercial and research orchard environments. Measurements will include the impact on physiology, microenvironment and light conditions to determine how those changes affect horticultural requirements of tree fruit grown under anti-hail netting. Furthermore, this project seeks to develop information for the industry to increase the adoption of the

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technology by growers. This project will provide a comprehensive evaluation of the use of colored anti-hail nets and present relevant scientific and grower-applicable information that is applicable to Washington State's unique growing environment.

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**Grant Recipient:** Washington State University-Sablani

**Project Title:** Developing Value-Added Products from Washington Grown Red Raspberries

**Award:** \$91,878

**Abstract:** Ninety five percent of Washington's raspberries go directly from field to freezer. Twenty percent of frozen berries are moved into frozen retail packs; however, 80% reach consumers throughout the world as ingredients for products developed by food manufacturers or in food service. Although freezing produces high-quality berries that offer the advantages of long storage life, it also causes physical changes that affect the texture of thawed fruit. Since raspberries are high in water content with a less elastic cellular structure, they are prone to more damage from freezing than other products, e.g., bleeding and crumbling.

In this project, we will develop high-quality dehydrofrozen red raspberries with structural integrity to increase market opportunities for processed whole berries in baked and snack products. In dehydrofreezing, products are first dehydrated to a desirable moisture content and then frozen. Initially, whole berry fruit will be vacuum-impregnated with a range of low methoxyl pectin and calcium solutions to firm up their texture. Then they will be partially dried to 50-60% moisture content and coated with biopolymers. We will also develop bakery products to demonstrate the viability of dehydrofrozen berries as an ingredient. Findings may expand markets considerably for this important product.

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**Grant Recipient:** Washington State Potato Commission

**Project Title:** SE Asia Market Activation

**Award:** \$42,776

**Abstract:** International markets continue to grow in importance for the Washington state potato industry. The opportunity to develop new markets for Washington potatoes greatly benefits the industry throughout the state as it helps all potato growers no matter where they may be marketing their potatoes.

This project will allow the Washington State Potato Commission the opportunity to build upon a recent trade mission to select regions of South East Asia. The project will prove critical in assisting with follow-up efforts to ensure the interest that was developed and the willingness to further consider purchasing Washington state potatoes will mature amongst the buyers within the area. Specifically, we are requesting funding to help with promotional efforts of Washington state potatoes in Vietnam and the test shipments of potatoes to Myanmar. Both countries showed keen interest in expanding and developing their use of fresh Washington state potatoes within their countries. This additional support will prove to be the next critical steps to helping develop these two markets into key destinations for Washington potatoes now and for the future.

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**Grant Recipient:** WSDA-Office of Compliance and Outreach

**Project Title:** Bridging the GAP between Voluntary and Required Food Safety Standards

**Award:** \$249,460

**Abstract:** WSDA seeks funding to provide outreach and education to Washington's fruit and vegetable growers, to assist them to meet new mandatory FDA Produce Safety rules and obtain voluntary USDA GAP certification required for entry into many markets. (1) a reliable, accurate, and updated Farm Guide and templates to help farms prepare to meet FDA Produce Safety rules and GAP standards in cost-

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effective ways; (2) Six on-farm workshops with WSDA educators and GAP Auditors to provide real-world examples and solutions that help farms meet GAP standards and prepare for FDA rules; (3) WSDA exhibits and presentations at farm conferences and events statewide; (4) a farmer food safety mentorship program; and (5) technical assistance to growers, processors and distributors to meet buyer-driven and mandatory food safety standards and to become approved vendors for the USDA Pilot for the Procurement of Unprocessed Fruits and Vegetables, which allows schools to set-aside federal USDA Food funds to buy locally-grown produce from qualified vendors. This project will allow WSDA to have a staff member dedicated to this work for the next 2.5 years, and to work closely with WSDA GAP auditors, as momentum grows for GAP certification and growers prepare for FDA produce safety rule implementation.

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**Grant Recipient:** Sustainable Connections

**Project Title:** Growing Producer-Wholesaler Opportunities in Whatcom & Skagit Counties

**Award:** \$80,000

**Abstract:** Growing Producer-Wholesaler Opportunities in Whatcom & Skagit Counties is a project that will help connect local specialty crop producers with wholesale buyers as an important component to producer business growth and expansion.

Demand for local food is at an all-time high and Northwest Washington specialty crop producers want to reach more markets. Often these two facts do not coincide. 42% of Sustainable Connections producer members are currently producing more than they can sell, and 50% need to know how to work with large buyers, noting that as a barrier to growth in their business (according to the 2014 Food & Farming Program Survey).

Sustainable Connections offers a suite of services connecting specialty crop producers and wholesale buyers: one-on-one technical assistance with specialty crop farmers and wholesale buyers; facilitated farmer/chef mentorships; Forward Contract development support; hosting the annual Northwest Washington Farm-to-Table Trade Meeting, being a strong regional resource for sourcing referrals; and sharing valuable resources. This project will expand wholesale markets for Northwest Washington specialty crop producers and grow regional food system capacity.

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**Grant Recipient:** US Hop Industry Plant Protection Committee

**Project Title:** Supplemental Hop Residue Trials and Codex Submission

**Award:** \$54,000

**Abstract:** This project seeks funding to support necessary fourth residue trials on two key crop protection compounds important to the US hop industry. This data will allow pesticide maximum residue levels (MRLs) to be established in the industry's largest export market, the European Union. Currently, these two compounds have only three trials each, and therefore will not be accepted by the EU (which requires a minimum of four trials). A third compound has an adequate number of residue trials, but the data must be submitted to Codex for review and shepherded through the regulatory process. Establishing EU MRLs for these three compounds will allow Washington hop growers to use these important crop protection tools to address serious plant protection issues, to produce a higher quality crop, and to avoid rejections of the crop upon arrival in the EU for residue violations. USHIPPC will contract with IR-4 to conduct the needed field trials and analyses, and to draft these data submissions to seek the MRLs. USHIPPC will also rely on its MRL contractor to ensure the data packages are properly submitted for regulatory review that will result in EU MRLs.

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**Grant Recipient:** Washington State Fruit Commission

**Project Title:** Sweet Cherry Health Based Research

**Award:** \$60,000

**Abstract:** The Washington State Fruit Commission (WSFC) is seeking funds from the WSDA Specialty Crop Block Grant program to conduct research into the effects of sweet cherry consumption on gut health and on the impact on obesity-related disorders using an *in vivo* murine model. Research will be conducted by Washington State University's School of Food Science. The goal of the project is to provide WSFC with talking points that can be used to: (1) gain significant media coverage; and (2) create an association between cherries and health, similar to the success that the blueberry industry has generated. This research will benefit the 1,480 sweet cherry growers in Washington State that produce around \$700 million in cherries each year. WSFC expects an immediate boost in demand with the communication of cherry health benefits. Positive results from this project are expected to result in a 10% increase in crop value for sweet cherry growers.

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**Grant Recipient:** Washington State University-Dhingra

**Project Title:** Sliced Pears: A Novel Avenue for Pear Consumption in the U.S

**Award:** \$204,466

**Abstract:** The pear industry has repeatedly highlighted the urgent need for increasing pear consumption as its most important priority every year since 1994. Inconsistent quality of the fruit is the major cause of dissatisfaction for the consumer. The industry has attempted to use ethylene receptor blocker 1-methyl cyclopropene to block ripening which undesirably locks the fruit in an unripened state further exacerbating the low consumption issue. With the increased consumer desire for convenience, the pear industry seems to be losing out to other fruits. This project addresses this issue by enabling predictable ripening of sliced 1-MCP treated pears thereby addressing the urgent issues of inconsistency, convenience and consumption all at once. Preliminary trials at Crunch Pak and WSU with the ripening compound (RC) on 1-MCP-treated sliced pears have shown promising results while meeting the McDonald's quality standards. This project will enable performance of comprehensive market evaluation to develop information that will support the sale of sliced pears in the market. This project is important for the enhancement of the competitiveness of Washington state pear industry. With the immediate potential to increase per capita pear consumption, this project addresses one of the highest needs of the U.S. pear industry.

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**Grant Recipient:** Washington Hop Commission

**Project Title:** Sustainability/Best Practices Program Development for Hops

**Award:** \$131,252

**Abstract:** The brewing industry is increasing requirements to implement Good Agricultural Practices (GAP), sustainability, food safety, and quality control/quality assurance programs. Several merchant-driven and independent programs currently exist, but there is no standardization or coordination. All require a substantial investment of resources to understand, implement and maintain compliance/certification. These include Global GAP, USDA GAP, Salmon Safe, and several merchant programs. Additional standards and requirements are being developed by individual brewing companies. The current situation creates confusion and frustration for established growers, and is a substantial barrier to entry for new growers.

We propose to evaluate existing sustainability/quality control/GAP programs to determine common elements, and develop a baseline "Best Practices" program for hop producers. This will include the most important, commonly accepted practices that are required by most or all of the existing certification programs. An educational and outreach component will be developed, including a web-based format for

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ease of access and utilization. Grower implementation of these practices will feed into third party certification programs, should they wish to subscribe to an audited certification platform. Summaries of these certification/audit programs and contact information will be provided, allowing growers who may wish to subscribe with a “one-stop shop” for these resources.

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**Grant Recipient:** Tilth Producers of Washington

**Project Title:** Educating Specialty Crop Growers

**Award:** \$144,935

**Abstract:** The goal of this project is to educate small-scale specialty crop growers (small-scale growers) on organic and/or sustainable practices to have direct impact on the success of their operation. Feedback from participants of past Tilth Producers of Washington farm walks, conference workshops, farm tours and other workshops indicate that enhancing knowledge regarding sustainable practices increase farm efficiencies and moves growers toward fiscal solvency. Furthermore, the organic marketplace continues to grow, and for small-scale growers there is increasing competition for distribution channels. Tilth Producers of Washington offers educational opportunities that teach proven technical skills and practices to both beginning and experienced, small-scale growers, allowing them to be more competitive within today’s marketplace. Programs under this proposal will offer a diverse set of activities specifically geared towards specialty crop growers. These educational opportunities will be focused on farmer-to-farmer exchange of information regarding best practices for organic and sustainable specialty crop production and marketing.

The proposed 2.5-year project includes a total of 12 specialty crop farm walks, 3 “One Day University” workshops, 15 advanced and 15 beginning workshops on organic specialty crops at Tilth Producers of Washington annual conferences, and 3 one-day specialty crop farm tours associated with Tilth Producers of Washington annual conference.

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**Grant Recipient:** SnoValley Tilth

**Project Title:** Expanding and Enhancing the Experience Farming Project

**Award:** \$72,600

**Abstract:** The Snoqualmie and Snohomish Valleys are known for fertile farmland and specialty crop farmers dedicated to sustainable farm practices. These farmers came together to create SnoValley Tilth (SVT) in order to support each other and the community and now have their sights set on growing a new generation of farm businesses. SVT’s “Expanding and Enhancing the Experience Farming Project” builds on the success of a pilot project designed to increase the number of new specialty crop farmers in the Puget Sound Region by expanding the number of landowners and new farmers participating in the Experience Farming Project (EFP) over a three-year period. This project recruits and screens new farmers who, as part of the EFP model, pay a subsidized lease rate in exchange for land, tools, resources, and mentorship for up to five years while they gain invaluable farming experience, establish a professional network, and develop their business model including establishing relationships with buyers, in preparation for buying or leasing their own farmland. SnoValley Tilth has over 10 years of experience in supporting and advocating for farmers in their service area and is poised to take the EFP to the next level.

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**Grant Recipient:** WSDA-Farmworker Education & Training

**Project Title:** Farmworker Pesticide Education Expansion

**Award:** \$240,000

**Abstract:** This grant will allow for the expansion of the Hands-on Handler Training and Sprayer Application Equipment Best Management Practices (BMP) training courses as provided by the WSDA

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Farmworker Pesticide Education Program. The Pesticide Education program will work in collaboration with the Washington Growers League, the Washington Tree Fruit Association and Washington Friends of Farms & Forests to expand the training and to offer new, innovating training to farmworkers and farm supervisors. WSDA will purchase equipment for the training, including an air blast sprayer, a trailer to haul the sprayer, a multi-channel flow rate meter to enable the current training curriculum, and a mobile vertical patternator to expand the technical content of the Pesticide Application Equipment BMP's curriculum. WSDA will make the equipment available to all training events to offer hands on training to other trainers to use in their training and research programs.

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**Grant Recipient:** LINC Foods

**Project Title:** Market Expansion through GAP Certification

**Award:** \$138,000

**Abstract:** The requested SCBGP funds will equip LINC Foods to provide training, technical assistance, and pay audit fees to ensure that 30+ specialty crop growers located within a 100-mile radius of the City of Spokane obtain Good Agricultural Practices (GAP) certification within the 2-year project period. Regional retailers and institutions face increasing demands for local produce, however, most require suppliers to be GAP certified. Currently, none of the specialty crop growers within the local targeted region are GAP certified, and thus, retailers and institutions requiring GAP certification are not able to distribute local produce. GAP certification will, therefore, lead to an immediate expansion of market opportunities for specialty crop growers in eastern Washington. The proposed project represents the launch of the LINC Foods Safety Program. SCBGP's upfront investment will allow LINC Foods to establish the necessary infrastructure so that we can effectively provide food safety training and technical support to local farmers long-term without additional outside funds after the grant period. By helping farmers obtain and maintain GAP certification and comply with food safety policies, Spokane-area local specialty crop growers will be equipped to sell more products to retailers and institutions in an era with increasing demand for local food.

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**Grant Recipient:** Washington State Tree Fruit Association

**Project Title:** Enhanced Food Safety Education and Training for Tree Fruit Producers

**Award:** \$216,682

**Abstract:** The Washington State Tree Fruit Association (WSTFA) will address the needs of tree fruit producers and packers in Washington State to learn about the requirements and implementation procedures of the U.S. Food and Drug Administration's (FDA) regulations, relating to the Food Safety Modernization Act (FSMA). WSTFA will help reduce regulatory barriers by providing education, training and materials to over 1,500 tree fruit producers to aid in the understanding and adoption of newly established federal food safety standards. The complexity of the four rules directly affecting the fresh produce supply chain will cause fruit growers difficulty in understanding and implementing these new requirements without expert assistance. WSTFA will organize educational materials and training sessions with food safety experts to help growers navigate these rules. WSTFA will also engage in individual grower consultations with 525 tree fruit producers currently participating in GAP certifications, by providing growers with information necessary to update their food safety manuals, as well as incorporating the new FSMA requirements into their orchard operations.