



WASHINGTON STATE POTATO COMMISSION

2018

ANNUAL REPORT

2019

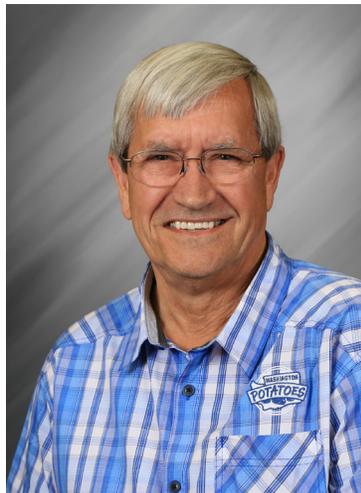
2018-2019 COMMISSIONERS

Roger Hawley, Chair
Mike Madsen, 1st Vice Chair
Chris Olsen, 2nd Vice Chair
Heath Gimmestad, Secretary
Mark Hammer, Treasurer
Stacy Kniveton, Past Chair
Grant Morris
Rex Callaway
Ellie Charvet
Hector Castro
Albert Stahl
Ted Tschirky
Josh Bungler
Kraig Knutzen
Mike Dodds



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A LETTER FROM THE COMMISSION CHAIR



I have served on the Washington State Potato Commission since 2008. My father served as Chairman for the Commission back in 1976, so this was a great honor to follow in his footsteps. It has been an incredible experience working with the Commissioners and people throughout the state to advocate for the potato industry.

This report provides information about the programs and projects accomplished within the last year. As expected, there is more material than we can fit into a small space, but these highlights offer a snapshot of what our four committees (Marketing, Government Affairs, Research & Outreach, and Finance) worked on during for the 2018-2019 fiscal year.

The theme of this year's Annual Report, "Powered by Potatoes," focuses on the health benefits of potatoes for athletes at every level. This campaign was created by the Marketing & Industry Affairs committee, which is charged with promoting not only Washington state potatoes but Washington state agriculture as well. The Washington Grown TV show, also a committee project entering its 7th season, highlights the best of Washington's AG industry.

The Government Affairs committee actively tracks governmental issues that potentially affect potato growers on both the state and national levels. We aim to have a large group of potato growers and industry experts travel to both Olympia and Washington, D.C., every year to educate our elected leaders and policy directors on how their decisions affect our industry. Keeping you all up to date with Ag bills and tariff issues is a primary goal at the Commission.

Our finance committee strives to ensure your dollars are being spent according to budget in hopes of the best return on investment for Washington state potato growers.

The Research & Outreach committee prioritizes research to enhance our industry. The committee engages with Washington State University, Oregon State University, University of Idaho and the USDA ARS researchers to maximize your research dollars. The committee also works on outreach including GAP support and farm safety programs. Soil Health has been a large area of focus and has brought a lot of attention to the table with our processors.

It has been an absolute pleasure to work with the WSPC staff. Without them, these projects would cease to continue. They work hard, their intentions focused on small and large issues.

I encourage all potato farmers to get involved by joining one of the Commission's committees or by becoming a Commissioner at some point in your career. If interested, please contact the WSPC office, and information will be promptly provided. Please know we take great pride in working for this industry and actively attempt to influence the world with modern ideas. Thank you for all of your support, and please enjoy the 2018-2019 Annual Report.

Roger Hawley,
2018-2019 Chair



This year, the WSPC hit the ground running with our Powered by Potatoes campaign, designed to highlight the power potatoes pack to help athletes excel in their given sports. The Powered by Potatoes campaign promotes potatoes as nutrient-dense snacks both pre- and post-workout. Of special emphasis this year was educating athletes about how potatoes boost energy during endurance events such as marathons, bike rides, and triathlons. Many runners find that baking mini potatoes and seasoning them simply with salt and a few choice flavors, serves as the perfect snack to bring along in a resealable zipper storage bag to eat along their routes. While energy gels are popular among runners for race-day fueling, the Powered by Potato campaign encourages runners to choose potatoes instead because potatoes offer a high-quality, easily digested source of all-natural carbs. The Powered by Potatoes campaign made its mark at events like Chelan Man in Chelan, the St. Patty's Day Dash in Seattle, Bloomsday in Spokane, Ski to Sea in Bellingham and at the Seattle Rock 'n' Roll Marathon. At these events, we offered runners bags of raw russets, reds, and yellows, as well as some potato-themed athletic swag—from water bottles to cooling towels to glow-in-the-dark bracelets—all to remind them to power up with Washington Potatoes.



WSPC Celebrates 50 Years at NRA

Half a century. That's how many years the WSPC has exhibited at the National Restaurant Association Show (NRA). This year marked 100 years for the Chicago-based trade show and WSPC was honored to be recognized for our five decades of participation. This prestigious event features 2,500 exhibitors from 35 countries. Some 80% of the more than 65,000 attendees from 117 countries, have influence or are decision-makers for their organization, which is why the WSPC ^{has} utilized our ventless fryers to serve up our golden Washington Fries on the show floor.

MIA COMMITTEE 2019-2020:

- Mark Hammer, Chair
- Kraig Knutzen, Vice Chair
- Ted Tschirky
- Josh Bunger
- Hector Castro
- Mel Calloway*
- Jerry Heilig*
- Frank Martinez*
- Suzy Schaapman*
- Karen Halvorson-Johnson*
- Kristy Gundersen*
- Shelley Olsen*
- Randi Hammer*
- Staff: Brandy Tucker**

*at large industry position



WE'RE #1!

GRANT COUNTY, WA, GROWS MORE POTATOES THAN ANY OTHER COUNTY IN THE NATION!
GRANT COUNTY GROWS ON AVERAGE 44% MORE POTATOES PER ACRE THAN OTHER GROWING REGIONS DUE TO THE AREA'S IDEAL SOIL, ELEVATION AND PERFECT GROWING SEASON.



Potatoes Take Center Stage

Potatoes took center stage at the So Northwest Women's Show in Tacoma, WA. More than 8,000 attendees packed the newly remodeled Tacoma Dome, and the buzz was all about potatoes! The Commission sponsored the Demo Stage where Food Influencers and Chefs cooked up potato-inspired dishes like Potato Taco Bowls and Shepherd's Pie. In the WSPC booth across from the stage, attendees enjoyed samples of the delicious dishes being prepared on the stage. This annual event, in conjunction with National Woman's Day, was organized by KOMO-TV and celebrities in attendance included Extra TV Host Mario Lopez and HGTV's Matt Muenster. The So Northwest Women's Show gave potatoes a chance to shine on stage as a healthy, versatile option as both a side dish and entrée.



WSNA POTATO RECIPE CONTEST

WSPC partnered with the Washington School Nutrition Association for its inaugural School Nutrition Recipe Contest. Contestants from across the state submitted potato-themed, USDA-approved school recipes for a chance to win a free trip to the summer WSNA conference in Spokane with paid mileage, a commemorative plaque, bragging rights, and other perks

1ST PLACE: **JALAPENO CHEESE POPPERS** submitted by Chris Lutgen of the Wenatchee School District. Lutgen took the cheese mixture of a very popular menu item – Jalapeno Grilled Cheese Sandwiches – and adapted it to become a Poutine.

2ND PLACE: **POTATO SOUP** submitted by the Northshore School District.

3RD PLACE: **FIESTA POTATOES** submitted by Kaydee Harris of kelso School District.

4TH PLACE: **LOADED POTATO DOG** submitted by Valerie Gray, from Wenatchee School District.

Without a doubt, this contest was a huge success in encouraging school districts around the state to feed nutritious Washington-grown potatoes to their students, and to honor the creativity of these educators as they develop much-welcomed, made-from-scratch menu items for the kids.

RECIPES ARE AVAILABLE ~~XXXXXXXXXXXXX.COM.~~

under the Foodservice tab @ Potatoes.com

Washington Grown Tells the State's Ag Story

Almost nine years ago, the Washington potato industry prioritized sharing our state's agriculture story with the public. The concern has always been that someday we all could be regulated out of business by people who just don't understand what it takes to grow and make food. The WSPC responded to this priority by creating the Emmy Award-winning television program, "Washington Grown." This agriculture show, disguised as a food show, helps consumers and policy-makers connect the dots and better understand that without farmers, there is no food. Each episode focuses on a particular Washington grown food product. We begin in the restaurant with a chef describing how they use this Washington grown product to create culinary delights. Then we travel to the farm and learn how it was grown, meet the family who grew it, learn the heritage of the farm and the challenges they face, the technologies they employ, but most importantly, the passion and love that goes into growing this crop. Nutritionists, processors, researchers, packing sheds, extension agents, shipping companies, state officials, all have a role in telling the Washington Grown story.

WASHINGTON GROWN CAN BE SEEN ON THESE TELEVISION STATIONS:

KIRO-Seattle
KIMA-Yakima
KEPR-Tri-Cities
KLEW-Lewiston
KSPS-Spokane
KTNW-Tri-Cities
KWSU-Pullman
KBTC-Tacoma
RFD TV-All across the USA
NCW Life-Wenatchee
Online: wagrown.com

ALL AG TOUR

Three years ago, the WSPC initiated the first effort to bring all agriculture groups together to form an annual "Food and Farming Policy Tour" for state legislators and state agency regulators. This year, the WSPC hosted the tour in Grant County. Twenty-seven members of the legislative community and nine agency personnel participated in the tour to learn what it takes to produce food at the farm level. What made this year's tour especially memorable was that at each stop, participants engaged in a hands-on activity and sampled food or beverage made from that crop. The focus at each stop included:

- **POTATO FARM:** Took petiole & soil samples for proper fertilization
- **VINEYARD:** Grape production, sampled wine
- **FRUIT STAND:** Value-added products
- **WHEAT FARM:** New spot spray technology
- **DAIRY & FEEDLOT:** Milk production and manure management
- **RESEARCH FACILITY:** How the EPA determines safe MRL's for pesticide
- **AIRPORT:** Climbed into an airplane cockpit for pesticide apps *demonstrations*
- **QUINCY IRRIGATION DISTRICT:** Importance of irrigation infrastructure
- **APPLE ORCHARD:** Labor issues, toured migrant housing



The tour's goal is to give legislators and policymakers first-hand experience within agriculture in a fun, interactive setting so that when it comes time to propose rules and regulations, they will make more informed decisions as to how their actions impact food production in our state.

TARIFFS IMPACT POTATOES

Chinese Retaliatory Tariffs on U.S. Frozen Fries and Dehydrated Potatoes



High tariffs continue to be the primary constraint on the growth of exports of U.S. potato products to China. Notwithstanding China responding to the third round of U.S. Section 301 tariffs, an additional 10% tariff on U.S. dehydrated potatoes and an additional 5% on U.S. fries, China's most favored nation (MFN) tariffs remain prohibitively high. Total Chinese tariffs including MFN and retaliatory are potato flakes, granules and pellets 40%; frozen fries 15%; and dehy 30%.

The tariff issue has become more important as China has now implemented separate free trade agreements with both New Zealand and Australia. As of January 1, 2013,

New Zealand fries enter China duty-free. More recently, China and Australia implemented an FTA in December 2015, under which the Chinese tariff on Australian fries will also be eliminated over five years (by 2020). To remain competitive, it is essential to secure similar tariff concessions with China.

In 2018, U.S. exports of frozen and processed potato products were valued at over \$93 million. To ensure continued growth in exports, it is important to remove the retaliatory tariffs imposed on US potato products as quickly as possible.

Mexico Retaliatory Tariffs on U.S. Frozen Fries

On June 1, 2018, Mexico imposed a 20% tariff on U.S. frozen fries in response to the 232 U.S. Steel and Aluminum tariffs. This was a blow to the U.S. processed potato industry. Mexico is the second largest export market for U.S. fries, with approximately \$141 million worth of product exported to the market in 2018. Mexico's 20% tariff on U.S. fries harmed exports to the market and valuable market share was lost to Canada and the European Union. Canadian fries are imported to Mexico duty-free under the North American Free Trade Agreement. Mexico also recently concluded negotiations with the European Union on an updated trade agreement. While specific tariffs schedules have yet to be published, this agreement will likely eliminate tariffs on product from the E.U. In the spring of 2019, Mexico and the U.S. resolved the 232 U.S. Steel and Aluminum tariffs, and trade retaliation stopped. It's unknown if U.S. fry exports will rebound from the damage done.

U.S. & Japan Free Trade Talks

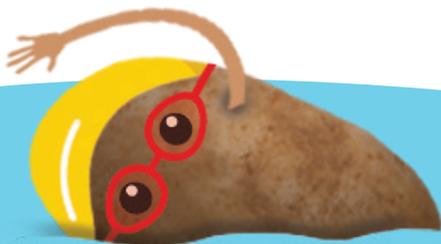
In August 2018, the U.S. and Japan agreed to initiate negotiations on a bilateral trade agreement. The announcement was a welcome and positive step, marking a shift in the position of the Japanese government, which to that point had been pushing for the U.S. to rejoin the Trans-Pacific Partnership (TPP) trade agreement. Following months of pressure from the Administration, and the looming threat of U.S. tariffs on its car imports, Japan agreed to start trade negotiations with the United States.

Achieving these tariff concessions is important given Japan's active trade policy over the past 18 months. Japan now has free trade agreements in place with major potato exporting nations including Canada, Australia, and New Zealand under the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), and with the European Union under the E.U.-Japan Economic Partnership Agreement (EPA). Under both agreements, Japan has committed to reduce and ultimately eliminate its 8.5% tariff on frozen fries. For Canada, Australia, New Zealand, and other CPTPP signatories, Japan's fry tariff currently stands at 4.2% and will be eliminated completely in 2021. For E.U. member states, Japan's fry tariff is 4.3% and will also be eliminated in 2021. Tariffs on other potato products will also fall. In comparison, U.S. fries will remain at Japan's current standard tariff rate of 8.5%, meaning the U.S. potato industry will face a competitive price disadvantage in its largest export market of over \$294 million in FY 2018.

It's a Wrap in Olympia

Governor Jay Inslee (D) completed executive action on the 469 bills approved by the 2019 Legislature, including the 2019-21 Operating Budget, bringing the 105-day regular session to a formal close. In odd-years ~~is~~ the Legislature is tasked with adopting a new biennial budget. At \$52.4 billion, the 2019-21 Operating Budget is an increase of \$6.6 billion compared to the current two-year spending plan. Items of particular interest to agriculture include:

- Enactment of the recommendations of the Pesticide Application Safety Workgroup as SB 5550, establishing a forum for pesticide issues led by science and facts.
- Appropriation of \$250,000 to increase pesticide applicator safety training at the Department of Agriculture.
- A \$36.4M appropriation to Washington State University to finish the final two-thirds of the Washington Animal Disease Diagnostic Laboratory (WADDL). Agricultural research at WSU was fully funded.
- Good news for irrigators in the Odessa. The Capital Budget includes \$15 million for the groundwater replacement program under a tightly written proviso. WSU and the Department of Agriculture also helped by dedicating funds to study soil health in Washington state.
- The Transportation Budget was limited to maintenance levels, but lawmakers did authorize tolls to accelerate completion of the Gateway infrastructure projects into the Ports of Seattle and Tacoma (I-167/ I-509) and on I-405.
- Just in time for harvest, SSB 5883 provides an overweight exemption of 5% for trucks hauling ag commodities out of the field during harvest. Within that allowance, two written warnings (per driver, per year) must be issued prior to a citation.



BIODEGRADABLE PLASTICS, PACKAGING MATERIALS, GMO LABELING, & MAXIMUM RESIDUE LEVELS, OH MY!

This year has been full of surprises for the U.S. potato industry. New and ongoing regulatory initiatives have kept the potato community busy. Those include:

- Saudi Arabia requiring plastic materials to be biodegradable and registered in-country.
- Japan intends to replace its current negative list for food packaging and container materials with a positive list.
- Indonesia's noncompliance with a World Trade Organization (WTO) order claiming more than 18 of Indonesia's import licensing measures represent restrictive or prohibitive trade barriers and are therefore non-compliant with WTO rules.
- Subjection to Korea's biotech and mandatory GMO labeling requirements unless the product can prove it does not contain GMO components.
- And monitoring positive list Maximum Residue Levels (MRLs) in Japan, Korea, Taiwan, China, Brazil, Hong Kong, Canada, and numerous other major export markets to ensure crop protectants used in the U.S. comply.

GOVERNMENT AFFAIRS COMMITTEE 2019-2020:

Heath Gimmestad, Chair
Grant Morris, Vice Chair
Ted Tschirky
Mike Dodds
Mark Hammer
Stacy Kniveton
Chris Olsen
Darrin Morrison*
Kees Weyns*
Randy Mullen*
Lynn Olsen*

Mel Calloway*
Ben Harris*
Jared Balcom*
Bob Halvorson*
Blaine Meek*
Adam Weber*
Matt Hawley*
Staff: Matt Harris

**at large industry position*

OUR MISSION

The mission of the Washington State Potato Commission is to support an economically and environmentally sustainable Washington State potato industry by providing strong leadership and innovation, and building partnerships to meet the demands of global consumers.



THANK YOU FOR YOUR SERVICE 2018-2019 COMMISSIONERS!

Back Row: Grant Morris, Albert Stahl, Matt Harris, Rex Calloway, Chris Voigt, Heath Gimmestad, Kraig Knutzen, Mike Madsen

Front Row: Matthew Blua, Mike Dodds, Ellie Charvet, Hector Castro, Brandy Tucker, Chris Olsen, Roger Hawley

Not pictured: Josh Bunger, Mark Hammer, Ted Tschirky

WSPC STAFF AVAILABLE TO PROVIDE PRESENTATIONS

Staff members at the WSPC are available to present to your local civic or school group. Topics can cover a range of subjects relating to our activities at the Commission to meet the needs and interests of your organization. To submit a request or find out more please call our office (509) 765-8845.

FINANCIALS

\$3.45m

Assessment
Revenue

**APPROVED
BUDGET REVENUE**

Subtotal \$3,749,630

**APPROVED
PROGRAM BUDGETS**

Subtotal \$3,724,630

\$1,126,340

Research & Outreach

\$1,080,750

Office & Operations

\$759,340

Market & Industry Affairs

\$758,200

Government Affairs

\$168,130

Reserve Account
Transfer

\$96k

Tri State Research
MOU

\$35k

Interest Income

FINANCE COMMITTEE 2019-2020:

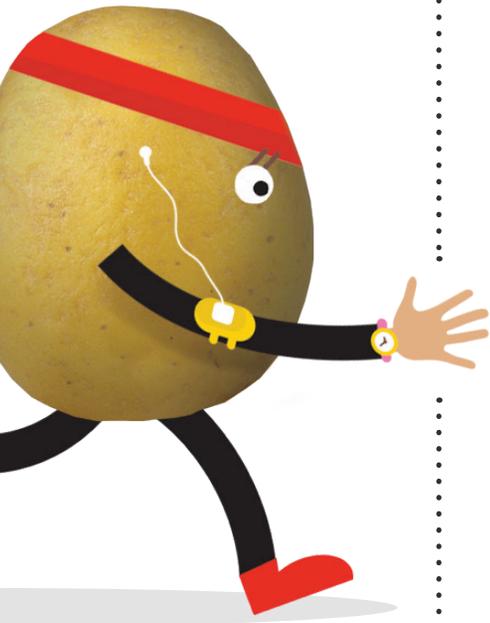
Chris Olsen Chair
Mike Dodds, Vice Chair
Albert Stahl
Mike Madsen
Rex Calloway
Ellie Charvet

Staff: Chris Voigt

**at large industry position*

\$500

Administrative
Service Income



PROVISIONING POTATO GROWERS FOR SUCCESS

The WSPC proudly supports WA potato growers by providing pest monitoring supplies, farm safety videos, and Good Agricultural Practices (GAP) notebooks. Among the provisions we supply are:

- Yellow sticky cards and stands to monitor aphids, potato psyllid, and beet leafhopper
- Sweep nets and beat sheets to monitor many insect pests and beneficial insects
- Delta traps with stands, sticky liners, and pheromone caps to monitor tuber moth
- Instructions on how to use insect monitoring supplies
- Free disease diagnostics through Washington State University
- In print and downloadable: 2019 Integrated Pest Management Guidelines for Insects and Mites in Idaho, Oregon, and Washington Potatoes by A. Schreiber, A. Jensen, S.I. Rondon, E.J. Wenninger, S. Reitz, and T. Waters.
- Pest identification spiral-bound books with photographs and descriptions of WA potato pests
- GAP notebooks, in print and downloadable: USDA GAP, USDA Harmonized GAP, Primus Gap, and GLOBAL G.A.P
- Agricultural Safety DVD Library, including the 2019 WSCP produced Potato Safety DVD.

RESEARCH COMMITTEE 2019-2020:

Mike Madsen, Chair
 Albert Stahl, Vice Chair
 Ellie Charvet
 Heath Gimmestad
 Grant Morris
 Stacy Kniveton
 Rex Calloway
 Bob Halvorson*
 Greg Harris*
 Jordan Reed*
 Matt Taylor*

Staff: Matthew Blua

**at large industry position*

Soil Health: Agriculture's Final Frontier

Relative to other crops, potatoes are tough on soil, largely because they cannot be grown without substantial tillage, and spuds must be harvested from under the soil surface, further disrupting and degrading soils. Indeed, potatoes did not evolve in the dry sandy-loam soils of the Columbia Basin, nor the wet loamy soils of the Skagit Valley. Because potatoes represent a huge cache of energy and resources underground that divergent organisms might exploit, producing the quality and quantity of potatoes we expect from WA growers is challenging to say the least.

Classic soil scientists and agronomists have been instrumental in helping growers achieve potato production in WA that is unmatched worldwide. But a new discipline of agricultural science promises to help achieve even higher overall production and consistent quality with fewer inputs. This new discipline will integrate studies involving physical and chemical aspects of soils with emerging technologies that can describe interactions among plants, nematodes, and the plethora of microbial organisms occurring in the root zone. The WSPC is teaming up with Lamb-Weston, Simplot, and McCain Foods, to generate funds to support a scientist to conduct this type of research. Thus far, we have generated nearly \$2 million to support the Endowed Chair in Soil Health for Potato Cropping Systems at Washington State University (WSU). Our goal is to generate a total of \$3 million. The interest generated by these funds is expected to be around \$120,000 annually and will support research endeavors by the scientist who will be hired to fill this position. The WSU College of Agricultural, Human, and Natural Resource Sciences, the WSPC, and our industry partners, will work closely with this to-be-named scientist to provide direction in ways that will enhance potato production and sustainability in WA.

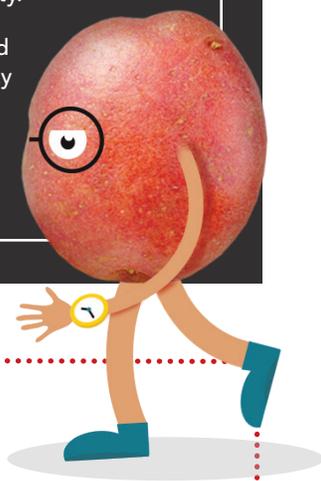
RESEARCH HIGHLIGHT: IMPROVING INSECT PEST MANAGEMENT IN COLUMBIA BASIN POTATOES BY ALAN SCHREIBER AND TIM WATERS

The WSPC is dedicated to supporting research that leads to increased production, profit, and sustainability. Thus, we engage our scientists to educate them on our grower's research needs and scrutinize their research proposals. The profit margin for WA potato growers is slim, and we realize that research leading to a reduction in even a single pesticide application, while maintaining or enhancing our high yields and quality, is worthwhile.

One of the projects we are pleased to support in fiscal year 2019-20 is by Dr. Alan Schreiber, a private researcher in Eltopia, and Dr. Tim Waters, an extension scientist from Washington State University in Pasco. This team has long worked together, focusing on pest management. In their current project, they are comparing two pest management strategies in potato that they refer to as (1) "Growers Standard Practice", and (2) "Intensive IPM" (integrated pest management). This study features 20 paired or split fields spread throughout the Columbia Basin, which creates a more realistic circumstance relative

to conducting experiments on small plots in a single location. In one of the fields in the pair, or half of a split field, the grower and his advisors will scout fields and make all pest management decisions (Grower Standard Practice). In the other field in the pair, or other half of the split field, Schreiber and Waters will scout fields and make pest management decisions based on action thresholds, (i.e. insect-pest levels warranting insecticide application) that may be less conservative than the Grower's Standard Practice. Schreiber and Waters predict that their "Intensive IPM" treatment will provide adequate pest control and maintain higher levels of beneficial insects while reducing insecticide applications without compromising potato yield or quality.

At the end of the experiment, Schreiber and Waters will compare potato yield and quality between the two treatments.



IPM Strategic Plan For Potatoes Underway

The WSPC, along with our potato commission partners in Oregon and Idaho, provided \$10,000 to generate the Integrated Pest Management Strategic Plan for Potatoes in Oregon, Washington, and Idaho. Also funding this project was the Extension Implementation program of the USDA National Institute of Food and Agriculture. The team coordinating this project and writing the plan consists of Katie Murray, Paul Jepson, Isaac Sandlin from Oregon State University, and Andy Jensen, of the Northwest Potato Research Consortium. The project was kicked off with a February 2019 workshop in Portland, Oregon, that was attended by potato growers, commodity-group representatives, pest control advisors, university research and extension representatives, and other technical experts who discussed major potato pests, current management practices, critical needs, activity timetables, and efficacy ratings of various management tools for specific pests in potato production. This yet-to-be completed plan is designed to identify pest priorities and lay a foundation for future management strategies, including the increased use of integrated pest management in potato production.

AND THAT'S NOT ALL . . .

The WSPC Research and Outreach arm is steadfast in our resolve to make WA a great place to grow potatoes profitably and sustainably. Here are some of our focal points:

- Serve as board members on the Potato Variety Management Institute (PVMI), a nonprofit group that markets potato varieties by universities, USDA Agricultural Research Service. PVMI also collects royalties and licensing fees, which are used for breeding efforts.
- In our commitment to farm safety, we provide DVD's and work with the WA Dept. of Labor & Industries to provide Ag Safety Days to the agricultural community.
- Engage the EPA and provide commentary when they review agri-chemicals that are important to WA potatoes.
- Keep abreast of new technology, including crop rotations benefiting potato, spectral imaging, drone scouting and artificial intelligence detection of potato pathogens and pests.
- Play an active role in the WSU Potato Field Day.
- Engage the National Resource Conservation Service and county conservation districts to find ways potato growers can use their services.
- Provide guest lectures to Big Bend Community College in food safety and pest management.
- Serve on hiring committees for WSU & USDA Agricultural Research Service.

WA Researchers Garner Funding for Potato Projects Funded by Other Agencies in FY2019-20

~~in~~
for

The WSPC helps our scientists generate research funds for potato projects from other funding agencies, including the United States Department of Agriculture (USDA) Agriculture and Food Research Initiative (AFRI); USDA Agricultural Research Service (ARS) / State Partnership Program; the Specialty Crop Block Grant Program; and the Washington State Commission on Pesticide Registration. WSPC staff typically work directly with researchers by helping guide research directions, organizing, providing critical reviews of proposals prior to submission, and writing letters of support to the agencies. We are particularly pleased to play an important role in providing grant funding early in a research program as “seed money” that can lead to six-figure funding. ~~In FY2019-20,~~ we helped our scientists garner a total of \$1,540,085 in research funds that are important to WA’s potato industry.

W

for FY2019-20

USDA AFRI: Commodity Board Cost Sharing Program (\$249,511)

- Kiwamu Tanaka and Cynthia Gleason: Rhizospheric Delivery System of Biodegradable Immunostimulants to Control Powdery Scab Disease in Potato. \$489,040.58 (\$249,510.50 from both AFRI and the Consortium).

USDA AFRI: Foundational Program, Pests, and Beneficial Species in Agriculture (\$450,000)

- Cynthia Gleason: Molecular mechanisms of root-knot nematode parasitism on potatoes: potential targets to engineer durable resistance. Unofficial, \$450,000

Washington State Commission on Pesticide Registration (\$85,786)

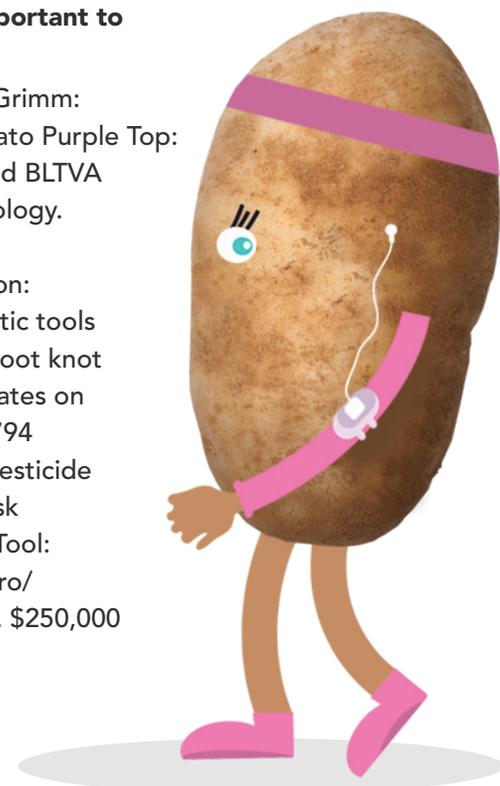
- David Horton: Pinpointing the weed sources of purple-top disease in potatoes. \$26,000
- David Crowder: Evaluating effects of non-crop hosts on beet leafhopper and purple top pathogen. \$19,786
- Alan Schreiber: Nematode management in Columbia basin potatoes. \$20,000
- Alan Schreiber and Tim Waters: Restarting Potato IPM in Washington. \$20,000

USDA ARS/State partnership program (\$469,565)

- Rodney Cooper and Pete Landolt: What’s that smell? Search for wireworm attractants. \$96,347
- Rodney Cooper and David Horton: Understanding factors affecting beet leafhopper and potato purple top disease in Washington. \$45,000
- Rodney Cooper: Identification of psyllid salivary proteins to improve use of host plant resistance. \$47,500
- Rodney Cooper: Confirmation of Potato Germplasm and hybrids screening for Tolerance/Resistance to potato psyllids and Lso Infection. \$31,000
- Inga Zasada: Nematode community assessment as part of defining potato soil health. \$55,393
- Inga Zasada: Assessing the risk of Globodera spp. to U.S. potato production by defining global diversity. \$48,275
- Max Feldman: Characterization of Soil Health Parameters from Nematode Infested Potato Fields in the Columbia Basin. \$62,050.
- Kylie Swisher-Grimm: Addressing prevalence of beet curly top virus in beet leafhopper and potato, and screening potato cultivars for susceptibility to BCTV. \$55,000
- David Horton: Identifying anti-psyllid and anti-aphid compounds from epiphytic fungi that associate with morning glories. \$29,000

Specialty Crop Block Grant Proposals Funded (\$484,713 potato specific, \$734,773 in total that are important to our industry)

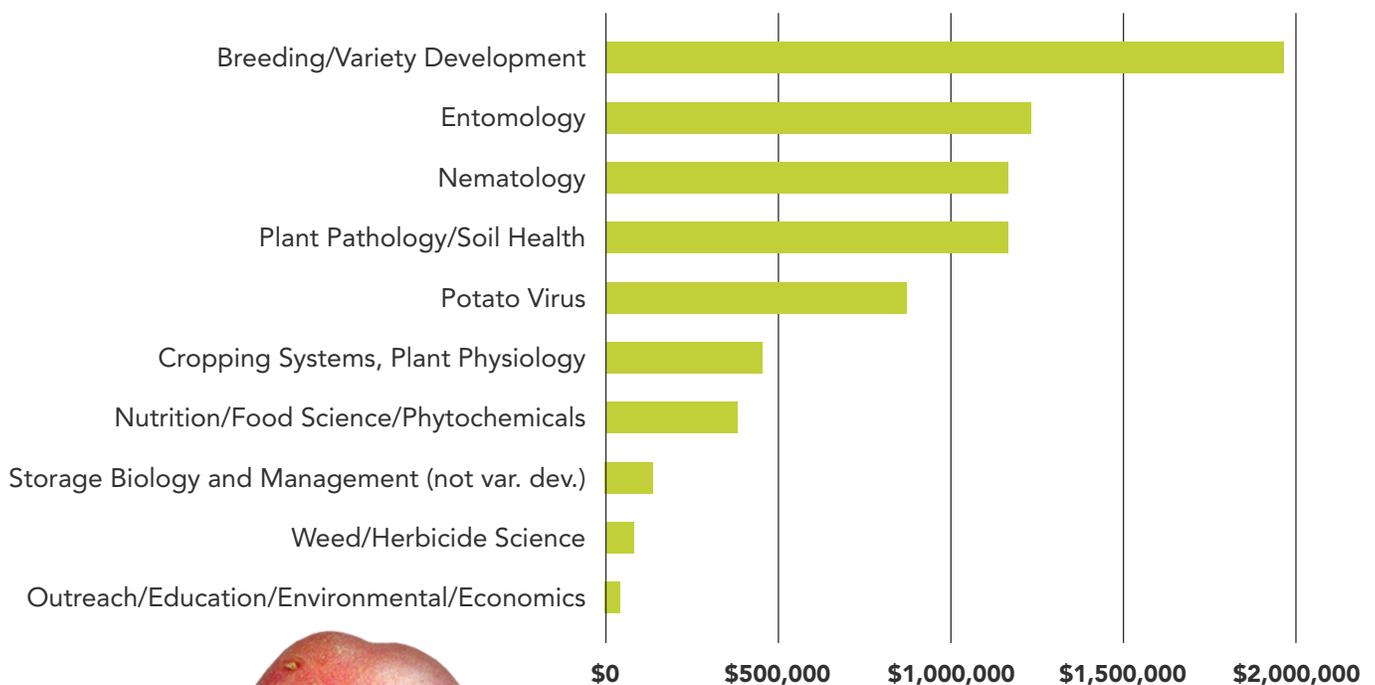
- Kylie Swisher-Grimm: Managing Potato Purple Top: Leafhopper and BLTVA Landscape Ecology. \$244,979
- Cynthia Gleason: Novel diagnostic tools for Columbia root knot nematode isolates on potato. \$239,794
- Kit Galvin: A Pesticide Application Risk Management Tool: The PestiSeguro/ PestiSafe App. \$250,000



Northwest Potato Research Consortium and WSPC Funded Research

The Northwest Potato Research Consortium (NPRC) is a syndicate comprised of the potato commissions from Washington, Oregon, and Idaho that annually pool research dollars to fund potato research conducted by scientists at universities, the USDA Agricultural Research Service, and private research groups. Since the beginning of the NPRC in FY2014-15, the NPRC has provided scientists nearly \$6 million for research that has enhanced potato production in the tri-state region. The figure below shows our funding by topic area. In addition to our contribution to the NPRC, the WSPC provides further research funding for projects that are important to potato growers in our state.

NW POTATO RESEARCH CONSORTIUM FUNDING BY TOPIC FY2014-15 TO FY2018-19



Projects Funded by the Northwest Potato Research Consortium FY2019-20

PLANT PATHOLOGY/SOIL HEALTH

Controlling nightshades in PNW potato production the entire growing season to prevent yield loss, virus-vector host presence, and increase of weed seed bank: *Tim Miller/Steven Seefeldt*

Controlling latent infections of black dot with early fungicide applications: *Chris Benedict, Babette Gundersen, \$12,000*

Characterizing *Fusarium* species associated with and refining management of potato dry rot in the Pacific Northwest: *Kasia Duellman, Phill Wharton, James Woodhall, Ken Frost, Don McMoran, \$40,906*

Using next generation sequencing to characterize the total microbial community in soils associated with seed potato: *Ken Frost, \$38,940*

Development of a web-based late blight forecasting application: *Ken Frost, \$14,321*

Data mining for crop rotations that predict the occurrence of mefenoxam-resistant *Pythium* species: *Ken Frost, \$32,673*

Defense responses signaled in potato tissue: *Lee Hadwiger, \$7,000*

Evaluation of phosphorous acid fungicide programs for improved pink rot management and assessment of mefenoxam resistance in pink rot pathogen populations in the PNW: *Jeff Miller, Carrie Wohleb, Rachel Bomberger, \$14,000*

Evaluation of new potato varieties for disease susceptibility and relative response to fungicide programs: *Jeff Miller, Nora Olsen, \$50,400*

Testing environmentally friendly agents to control silver scurf disease: *Kiwamu Tanaka, \$40,103*

A network of spore samplers as an early warning detection system for foliar potato pathogens: *James Woodhall, Phill Wharton, Kasia Duellman, Tim Waters, \$30,000*

Developing collaborative modern diagnostic approaches for potato pest and pathogen detection and characterization for the Pacific Northwest: *James Woodhall, Kiwamu Tanaka, \$23,000*

Determining the risk of individual anastomosis groups of *Rhizoctonia* to potato production in the Pacific Northwest: *James Woodhall, Mike Thornton, \$8,000*

Support for the investigation of emerging and persistent potato diseases in the Pacific Northwest: *Kylie Swisher Grimm, \$12,000*

NEMATOTOLOGY

Natural products from *Solanum sisymbriifolium* to control plant-parasitic nematodes: *Louise-Marie Dandurand, Matt Morra, Inga Zasada, \$47,855*

Identifying and exploiting susceptibility genes in potato to build resistance against *Meloidogyne chitwoodi*: *Cynthia Gleason, \$30,000*

An investigation into the potential for broad-spectrum resistance against plant parasitic nematodes in potato: *Cynthia Gleason, \$30,000*

Functional Genomics of *Solanum sisymbriifolium* (Litchi Tomato) Immunity for PCN Eradication: *Louise-Marie Dandurand, Joe Kuhl, Allan Caplan, Fangming Xiao, Inga Zasada, \$65,000*

Development of a multiplex real-time PCR assay for the detection and quantification of the root-knot nematodes species important in the production of potato: *Inga Zasada, \$32,531*

Development of New Nematicides for Potatoes: *Alan Schreiber, \$20,000*

POTATO VIRUS

Characterization of the resistance mechanism against Potato Virus Y for preventing future resistance failure: *Aymeric Goyer, \$27,000*

Ensuring safety and high quality of the Idaho potato tissue culture lines: *Alex Karasev, \$12,500*

Monitoring the PVY strains in Othello and Hermiston trials: *Alex Karasev, Ken Frost, \$25,808*

New sources of PVY resistance: *Alex Karasev, Joe Kuhl, Sagar Sathuvalli, \$26,000*

Monitoring the PVY strain composition in seed potato in the PNW: *Alex Karasev, Kasia Duellman, \$26,877*

'Window of susceptibility' to PVYNTN infection in potato and effect on virus translocation into tubers: *Alex Karasev, \$45,000*

Advancing tobacco rattle virus research through basic and applied strategies: *Kylie Swisher Grimm, \$30,000*

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FOR

ENTOMOLOGY

Molecular and landscape approaches to understanding beet leafhopper and potato purple top disease in the Columbia Basin: *Rodney Cooper, Dave Horton, Dave Crowder, Ken Frost, \$60,467*

Development of a sex pheromone lure to detect low-level populations of wireworms: *Rodney Cooper, \$14,521*

Role of vector saliva in pathogen transmission: *Rodney Cooper, \$6,250*

Development of Crop Protection Chemicals for Pacific Northwest Potatoes: *Alan Schreiber, \$30,000*

Do Lygus Cause Economic Damage to Potatoes? *Tim Waters, \$15,000*

CROPPING SYSTEMS, PLANT PHYSIOLOGY

Screening for stress tolerance and development of PGR approaches to optimize yield and raw product recovery for cultivars/clones from the NWVDP: *Rick Knowles, \$38,500*

Cover Crop Alternatives for Potato Growers: *Don McMoran, Steven Seefeldt, Deirdre Griffin, \$20,260*

Determination of factors that regulate tuber glycoalkaloid content: *Roy Navarre, Jeff Stark, Mark Pavek, Sagar Sathuvalli, \$41,000*

Improving Potato Value and Quality by Refining Irrigation Recommendations: *Scrutinizing Existing Crop Coefficients Used for Potato Irrigation: Mark Pavek, \$16,782*

Evaluation of Potassium Requirement for Different Potato Varieties in the Columbia Basin: *Ray Qin, \$28,380*

BREEDING/VARIETY DEVELOPMENT

Postharvest Quality of Clones in the Western Regional Potato Variety Development Program: *Rick Knowles, \$56,600*

In-Field Testing to Identify New Potato Varieties and Best Management Practices for Growers: *Mark Pavek, \$68,930*

Breeding and Selecting Russet and Specialty Varieties with Improved Tuber Qualities, Disease and Pest Resistance, and Sustainability: *Jeff Stark, Rich Novy, Mike Thornton, \$73,920*

Genetic Improvement and Cultivar Development of Russet, Chip and Specialty Potatoes for the PNW Potato Industry: *Sagar Sathuvalli, Brian Charlton, Clint Shock, Solomon Yilma, \$134,001*

Breeding for Resistance to Columbia Root-Knot Nematode: Introgression of new sources of resistance and development of genomic resources: *Sagar Sathuvalli, Cynthia Gleason, Kelly Vining, \$55,000*

Identifying molecular genetic markers linked to Tobacco Rattle Virus tolerance and other critical processing traits: *Max Feldman, Sagar Sathuvalli, \$40,000*

ECONOMIC ANALYSES

Tri-State Breeding Program Economic Analysis: *Gina Greenway, \$15,000*

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Washington Commercial Potato Seed Lot Trial: *Mark Pavek, \$37,186.00*

Regional Sampling Network for Insect Pests of Potato in the Columbia Basin of WA: *Carrie Wohleb, \$30,141.00*

Developing Insect IPM Programs in Washington Potatoes: *Alan Schreiber, Tim Waters, \$40,000.00*

A Network of Spore Samplers as an Early Warning Detection System for Foliar Potato Pathogens: *James Woodhall, Phillip Wharton, Kasia Duellman, Tim Waters, \$10,000*

Controlling latent infections of black dot with early fungicide applications: *Chris Benedict, Babette Gundersen (Lydia Tymon), \$12,000*

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