

# Northwest Potato Research Consortium

## Cooperative Effort of the Potato Commissions of ID, OR, & WA

Current Projects -- Growing year 2020, Commission fiscal year 2020-21

<https://nwpotatoresearch.com/>

(\*\*Contact information for each scientist is listed at the end of this document.\*\*)

<b>Plant Pathology/Soil Health</b>	
<i>Kasia Duellman</i>	Relationship between in vitro fungicide resistance of Fusarium dry rot pathogens and disease control of Fusarium dry rot in vivo and in the field
<i>Ken Frost</i>	Using next generation sequencing to characterize the total microbial community in soils associated with seed potato
<i>Ken Frost</i>	Data mining for crop rotations that predict the occurrence of mefenoxam-resistant <i>Pythium</i> species
<i>Deirdre Griffin LaHue, Tarah Sullivan</i>	Managing the potato microbiome for improved soil and potato health
<i>Markus Kleber, Dave Myrold</i>	"Active Carbon" as a critical control of microbial performance in potato fields
<i>Jeff Miller</i>	Evaluation of phosphorous acid fungicide programs for improved pink rot management
<i>Jeff Miller, Nora Olsen</i>	Evaluation of new potato varieties for disease susceptibility and relative response to fungicide programs
<i>Kylie Swisher Grimm</i>	Support for the investigation of emerging and persistent potato diseases in the Northwest
<i>Kiwamu Tanaka</i>	Testing environmentally friendly agents to control silver scurf disease
<i>James Woodhall, Phill Wharton, Kasia Duellman, Tim Waters, Lindsey du Toit</i>	A network of spore samplers as an early warning detection system for foliar potato pathogens
<i>James Woodhall, Kiwamu Tanaka, Ken Frost</i>	Developing collaborative modern diagnostic approaches for potato pest and pathogen detection and characterization for the Pacific Northwest
<b>Nematology</b>	
<i>Cynthia Gleason</i>	Identification of potato genes responsible for susceptibility to <i>Meloidogyne chitwoodi</i>

<i>Cynthia Gleason</i>	An investigation into the potential for broad-spectrum resistance against plant parasitic nematodes in potato
<i>Louise-Marie Dandurand, Joe Kuhl, Allan Caplan, Fangming Xiao, Inga Zasada</i>	Functional Genomics of <i>Solanum sisymbriifolium</i> (Litchi Tomato) Immunity for PCN Eradication
<i>Inga Zasada</i>	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
<i>Alan Schreiber</i>	Development of New Nematicides for Potatoes
<b>Potato Virus</b>	
<i>Aymeric Goyer</i>	Improving detection of PVY-infected plants with innovative peptide application
<i>Aymeric Goyer</i>	Testing genes that have the potential to provide resistance to PVY
<i>Alex Karasev, Ken Frost</i>	Monitoring the PVY strains in Othello and Hermiston trials
<i>Alex Karasev</i>	'Window of susceptibility' to PVY <sup>NTN</sup> infection in potato and effect on virus translocation into tubers
<i>Kylie Swisher Grimm, Max Feldman</i>	Understanding Tobacco rattle virus epidemiology through basic and applied assays
<b>Entomology</b>	
<i>Rodney Cooper (+Dave Horton, Kylie Swisher Grimm), Dave Crowder, Ken Frost</i>	Molecular and landscape approaches to understanding beet leafhopper and potato purple top disease in the Columbia Basin
<i>Rodney Cooper</i>	Development of a sex pheromone lure to detect low-level populations of wireworms
<i>Rodney Cooper</i>	Role of vector saliva in pathogen transmission
<i>Alan Schreiber</i>	Development of Crop Protection Chemicals for Pacific Northwest Potatoes
<i>Tim Waters</i>	Quantifying Crop Safety and Efficacy when Tank Mixing Insecticides and Fungicides
<i>Tim Waters</i>	Attempting to Establish the Economic Threshold for Lygus in Potatoes and Determining Efficacy and Tolerance of Insecticides for Control of Lygus
<b>Cropping Systems, Plant Physiology</b>	
<i>Roy Navarre, Mark Pavek</i>	Determination of factors that regulate tuber glycoalkaloid content

<i>Mark Pavek</i>	Improving Potato Value and Quality by Refining Irrigation Recommendations
<i>Ray Qin, Sagar Sathuvalli, Rhett Spear</i>	Evaluation of Potassium Requirement for Different Potato Varieties
<b>Breeding/Variety Development</b>	
<i>WSU Postharvest Physiology (vacant position)</i>	Postharvest Quality of Clones in the Western Regional Potato Variety Development Program
<i>Mark Pavek</i>	In-Field Testing to Identify New Potato Varieties and Best Management Practices for Growers
<i>Rhett Spear, Rich Novy, Mike Thornton</i>	Breeding and Selecting Russet and Specialty Varieties with Improved Tuber Qualities, Disease and Pest Resistance, and Sustainability
<i>Rhett Spear, Nora Olsen</i>	Storage Requirements for New and “Potential Release” Cultivars for the Potato Industry
<i>Sagar Sathuvalli, Brian Charlton, Clint Shock</i>	Genetic Improvement and Cultivar Development of Russet, Chip and Specialty Potatoes for the PNW Potato Industry
<i>Sagar Sathuvalli, Cynthia Gleason, Kelly Vining, Max Feldman</i>	Breeding for Resistance to Columbia Root-Knot Nematode: Introgression of new sources of resistance and development of genomic resources
<i>Max Feldman, Sagar Sathuvalli</i>	Identifying molecular genetic markers linked to Tobacco Rattle Virus tolerance and other critical processing traits

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### Funded Scientists: Growing year 2020, Commission fiscal year 2020-21

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