

CURRICULUM VITAE

University of Idaho

NAME: James Woodhall

DATE: 23rd December 2023

RANK OR TITLE: Associate Professor and Extension Specialist, Plant Pathologist

DEPARTMENT: Entomology, Plant Pathology and Nematology

OFFICE LOCATION AND CAMPUS ZIP:

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DATE OF FIRST EMPLOYMENT AT UI: March 14th 2016

DATE OF TENURE: 2023

DATE OF PRESENT RANK OR TITLE: March 14th 2016

EDUCATION BEYOND HIGH SCHOOL:

PhD, Plant Pathology, 2001-2004, Harper Adams University College, Shropshire, UK

MSc, Applied Microbiology and Biotechnology, 2000-2001, University of Wolverhampton, UK

BSc (Hons), Biology, 1996-1999, University of Wales, Bangor, UK

EXPERIENCE:

2007-2016, Molecular Plant Pathologist, Applied Genomics and Microbiology team, Food and Environment Research Agency (Fera), York, UK

2004-2007, Plant Pathologist, Plant Health Consultancy team, Food and Environment Research Agency (Fera), York, UK

2003-2004, Research Assistant, Harper Adams University College, Shropshire, UK

TEACHING ACCOMPLISHMENTS: (Academic and Extension teaching)

Areas of Specialization: Plant Pathology and diagnostics

Students Advised::

Major professor:

Lara Brown, Plant Pathology MS, 2019-2021

Mackade Murdock, Plant Pathology MS, 2020-present (part time)
 Madeline Kinnear, Plant Pathology MS, 2021-present
 Ben Wood, Plant Pathology PhD, 2021-present
 Hayden Woods, Plant Pathology MS, 2022-present
 Silas Shumate, Plant Pathology MS, 2024-present (part-time)

Committee member:

Pooria Ensafi, Plant Science PhD, 2016-2018
 Kyler Beck, Plant Science MS, 2017-2019
 Sandesh Dangi, Plant Science PhD, 2017-2022
 Suzette Arcibal, PhD, 2020-present
 Christy Christianson, Plant Science PhD, 2018-2022
 Busra Sadic, Plant Pathology MS, 2022-2023

Students co-advised external to U of I:

Alex Batson, Plant Pathology PhD, Washington State University, 2019-2022
 Norman Muzhinji, PhD University of Pretoria, South Africa, 2012-2016
 Matthew Brown, PhD University Nottingham, UK, 2012-2016
 Andrew Armitage, PhD, University of Warwick, UK, 2010-2014
 Sujung Park, PhD, University of York, UK, 2010-2014

Undergraduate summer students (funder through British Society of Plant Pathology):

Annika Thomas, College of Idaho 2017
 Joel Dube, University of Pretoria, South Africa, 2014
 Alex McCormack, Harper Adams University, 2012

SCHOLARSHIP ACCOMPLISHMENTS:

Peer Reviewed journal publications:

Wharton PS, Dangi S, Woodhall JW, accepted. Development of an innovative loop-mediated isothermal amplification (LAMP) assay for the rapid on-site detection of *Phytophthora infestans*. *Plant Disease*.

Braley LE, Jewell JB, Figueroa J, Humann J, Main D, Mora-Romero GA, Moroz N, Woodhall JW, White RA, Tanaka K, 2023. Nanopore sequencing with GraphMap for comprehensive pathogen detection in potato field soil. *Plant Disease* 107, 2288-2295.

Batson AM, Woodhall JW, du Toit L, 2023. Real-time PCR assays for races of the spinach wilt pathogen. *Plant Disease* 107, 2633-2642.

Thomas W, Borland T, Bergl D, Claassen B, Flodquist T, Montgomery A, Rivedal HM, Woodhall JW, O'camb C, Gent DH, 2022. A Quantitative PCR Assay for detection and quantification of *Fusarium sambucinum*. *Plant Disease* 106, 2601-2606.

Woodhall JW, Brown L, Harrington M, Murdock M, Pizolotto C, Wharton P, Duellman K, 2022. Anastomosis groups of *Rhizoctonia solani* and binucleate *Rhizoctonia* associated with potatoes in Idaho. *Plant Disease* 106, 3127-3132.

Pizolotto CA, Harrington M, Brown L, Murdock M, Harrington S, Marshall J, Neher O, Woodhall JW, 2022. A real-time PCR assay for *Erysiphe betae* and its effectiveness when used with different spore trapping methods. *European Journal of Plant Pathology*. 162, 329-341.

Woodhall JW, Harrington M, Brown L, Jensen J, Painter K, 2021. Development of a real-time loop-mediated isothermal amplification assay for *Stromatinia cepivora* in response to an outbreak in northern Idaho. *Plant Health Progress* 23, 24-27.

Brown M, Jayaweera D, Hunt A, Woodhall JW, Ray RV, 2021. Yield losses and control by sedaxane and fludioxonil of soil-borne *Rhizoctonia*, *Microdochium* and *Fusarium* species in winter wheat. *Plant Disease* 105, 2521-2530

Okaraina H, Woodhall JW, Singleton I, 2021. The potential of silver nanoparticles to control *Rhizoctonia solani* (AG3-PT) growth in vitro. *Jurnal Natural* 21 (1).

Brown M, Woodhall JW, Nielsen LK, Tomlinson D, Farooqi A, Ray RV, 2021. Population dynamics of *Rhizoctonia*, *Oculimacula* and *Microdochium* species in soil, roots, and stems of English wheat crops. *Plant Pathology* 70, 862-874.

Woodhall JW, Brown L, Harrington M, Olsen N, Miller J, Duellman KM, 2020. *Sclerotinia sclerotiorum* causes decay and sclerotia formation in potato tubers in Idaho. *Plant Health Progress* 21, 335-337.

Muzhinji N, JP Dube, EG De Haan, JW Woodhall, JE Van der Waals, 2020. Development of a TaqMan PCR assay for specific detection and quantification of *Pectobacterium brasiliense* in potato tubers and soil. *European Journal of Plant Pathology* 158, 521-532.

Armitage AD, Cockerton HM, Sreenivasaprasad S, Woodhall J, Lane CR, Harrison RJ, Clarkson JP, 2020. Genomics evolutionary history and diagnostics of the *Alternaria alternata* species group including apple and Asian pear pathotypes. *Frontiers in Microbiology*. doi: 10.3389/fmicb.2019.03124

Noble R, Woodhall JW, Dobrovin-Pennington A, Perkins A, Somoza-Valdeolmillos E, Lekuona Gómez H, Lu Y, Henry CM, 2019. Control of *Hymenoscyphus fraxineus*, the causal agent of ash dieback, using composting. *Forest Pathology*. 49 (6), e12568.

Guarnaccia V, Groenewald JZ, Woodhall J, Armengol J, Cinelli T, Eichmeier A, Ezra D, Fontaine F, Gramaje D, Gutierrez-Aguirregabiria A, Kaliterna J, Kiss L, Larignon P, Luque J, Mugnai L, Naor V, Raposo R, Sándor E, Váczy KZ, Crous PW, 2018. *Diaporthe* diversity and pathogenicity revealed from a broad survey of grapevine diseases in Europe. *Persoonia* 40, 135-153.

DeShields J, Bomberger R, Woodhall, JW, Wheeler D, Moroz N, Johnson DA, Tanaka K, 2018. On-site molecular detection of soilborne phytopathogens using a portable real-time PCR system. *Journal of Visualised Experiments*. Feb 23 (132). doi: 10.3791/56891.

Muzhinji N, Woodhall JW, Truter M, van der Waals JE, 2018. Variation in fungicide sensitivity of *Rhizoctonia solani* and binucleate *Rhizoctonia* anastomosis groups recovered from potatoes in South Africa. *Plant Disease* 102, 1520-1526.

Muzhinji N, Woodhall JW, Truter M, van der Waals JE, 2018. Relative contribution of seed tuber- and soilborne inoculum to potato disease development and changes in the population genetic structure of *Rhizoctonia solani* AG 3-PT under field conditions in south africa. *Plant Disease* 102, 60-66.

Woodhall JW, Brown MJ, Perkins K, Somoza Valdeolmillos E, Boonham N, Ray RV, 2017. A TaqMan real-time PCR assay for *Rhizoctonia cerealis* and its use in wheat and soil. *European Journal of Plant Pathology* 148, 237-245.

Gandolfo DS, Mortimer, H, Woodhall JW, Boonham N, 2016. Fourier transform infra-red spectroscopy using an attenuated total reflection probe to distinguish between japanese larch, pine, and citrus plants in healthy and diseased states. *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy* 163, 181–188.

Muzhinji N, Woodhall JW, Truter M, van der Waals JE, 2016. Population genetic structure of *Rhizoctonia solani* AG 3-PT from potatoes in South Africa. *Fungal Biology*, 120, 701-710.

Brierley J, Hilton A, Wale S, Woodhall JW, Lees AK, 2016. The Relative Importance of Seed- and Soil-Borne Inoculum of *Rhizoctonia solani* AG-3 in Causing Black Scurf on Potato. *Potato Research* 59, 181–193.

Armitage AD, Barbara D, Harrison RJ, Lane C, Sreenivasaprasad S, Woodhall J, Clarkson JP, 2015. New highly variable phylogenetic loci identify discrete evolutionary lineages within *A. alternata* species group that are supported by morphological characters. *Fungal Biology* 119, 994-1006.

Muzhinji N, Truter M, Woodhall JW, van der Waals JE, 2015. Anastomosis groups and pathogenicity of *Rhizoctonia solani* and binucleate *Rhizoctonia* associated with potato in South Africa. *Plant Disease* 99, 1790-1802

Sturrock CJ, Woodhall J, Brown M, Walker C, Mooney SJ and Ray RV, 2015. Elucidating the mechanism of damping off disease caused by *Rhizoctonia solani* anastomosis group 2-1 on root traits of wheat (*Triticum aestivum*) and oil seed rape (*Brassica napus*) using X-ray computed tomography and real-time PCR. *Frontiers in Plant Science* 6, article 461.

Park S, Woodhall J, Ma G, Veinot JGC, Boxall ABA, 2015. Does particle size and surface functionality affect uptake and depuration of gold nanoparticles by aquatic invertebrates. *Environmental Toxicology and Chemistry* 34, 850-859.

Muzhinji N, Woodhall JW, Truter M, van der Waals JE, 2014. First Report of *Rhizoctonia solani* AG 4HG-III Causing Potato Stem Canker in South Africa. *Plant Disease* 98, 853.

Park S, Woodhall J, Ma G, Veinot JGC, Cresser MS, Boxall ABA, 2014. Regulatory ecotoxicity testing of engineered nanoparticles: are the results relevant to the natural environment? *Nanotoxicology* 8, 583-592.

Woodhall JW, Adams IP, Peters JC, Harper G, Boonham N, 2013. A new quantitative real-time PCR assay for *Rhizoctonia solani* AG3-PT and the detection of AGs of *Rhizoctonia solani* associated with potato in soil and tuber samples in Great Britain. *European Journal of Plant Pathology* 136, 273-280.

Than DJ, Hughes KJD, Boonham N, Tomlinson JA, Woodhall JW, Bellgard SE, 2013. A TaqMan real-time PCR assay for the detection of *Phytophthora* 'taxon Agathis' in soil, pathogen of Kauri in New Zealand. *Forest Pathology* 43, 324-330.

Woodhall JW, Webb KM, Giltrap PM, Adams IP, Peters JC, Budge GE, Boonham N, 2012. A new large scale soil DNA extraction procedure and real-time PCR assay for the detection of *Sclerotium cepivorum* in soil. *European Journal of Plant Pathology* 134, 467-473.

Tsui CKM, Woodhall J, Chen W, Lévesque CA, Lau A, Schoen CD, Baschien C, Najafzadeh MJ, de Hoog CS, 2011. Molecular techniques for pathogen identification and fungus detection in the environment. *IMA Fungus* 2, 177-189.

Woodhall JW, Lees AK, Edwards SG, Jenkinson P, 2008. Infection of potato by *Rhizoctonia solani*: effect of anastomosis group. *Plant Pathology* 57, 897-905.

Waage JK, Woodhall JW, Bishop SJ, Smith JJ, Jones DR, Spence NJ, 2008. Patterns of plant pest introductions in Europe and Africa. *Agricultural Systems* 99, 1-5.

Smith JJ, Waage JK, Woodhall JW, Bishop SJ, Spence NJ, 2008. The challenge of providing Plant Pest Diagnostic Services for Africa *European Journal of Plant Pathology* 121, 365-375.

Woodhall JW, Lees AK, Edwards SG, Jenkinson P, 2007. Characterisation of *Rhizoctonia solani* from potato in Great Britain. *Plant Pathology* 56, 286-295.

Book chapter:

Llera T, Moncrief I, Isack Y, Yeni F, Cardon V, Gilardi G, Woodhall J, Ortu G, Gullino ML, 2017. Making the Most of International Opportunities and Experiences for Researchers' Training Within a Large, Multinational EU Project: The Students' Perspective. In: Gullino M., Stack J., Fletcher J., Mumford J. (eds) *Practical Tools for Plant and Food Biosecurity. Plant Pathology in the 21st Century*, vol 8. Springer, Cham.

Peer Reviewed extension publications (Disease notes and new disease reports):

Brown L, Harrington M, Murdock M, Woodhall JW, Bell S, Spinazola J, 2021. *Phytophthora cactorum* causing bleeding canker of maple trees (*Acer* spp.) in southern Idaho. *Plant Disease* 105, 4172.

Woodhall JW, Somoza Valdeolmillos E, Perkins K, Barnes, 2021. *Rhizoctonia solani* AG 2-1 causing root rot of wasabi (*Eutrema japonica*) in the UK. *Plant Disease* 105, 1869.

Duellman K, Lent M, Brown L, Harrington M, Harrington S, Woodhall JW, 2021. First report of rubbery rot of potato caused by *Geotrichum candidum* in the United States. *Plant Disease* 105, 1206.

Beck K, Corral CAR, Rodriguez-Rodriguez M, May C, Barnett R, Thornton M, Bates AA, Woodhall JW, Schroeder BK, 2021. First report of *Fusarium proliferatum* causing necrotic leaf lesions and bulb rot on storage onion (*Allium cepa*) in southwestern Idaho. *Plant Disease* 105, 494.

- Brown L, Harrington S, Harrington M, Murdock MR, Pizolotto CA, Woodhall JW, 2021. *Rhizoctonia solani* AG 2-2 IIIB causing root rot of onion in Idaho. *Plant Disease* 105, 494.
- Pizolotto CA, Brown L, Harrington S, Murdock MR, Harrington M, Woodhall JW, Moll M, Marshall JM. 2020. First Report of *Rhizoctonia solani* AG4 HG-II infecting barley stems in Idaho. *Plant Disease* 11, 3058.
- Woodhall JW, Barbour JD, Fairchild K, Wharton PS, 2020. First report of *Rhizoctonia solani* anastomosis group 2-1 affecting shoots of *Humulus lupulus* in Idaho. *Plant Disease* 104, 2520.
- Woodhall JW, Brown L, Harrington M, Keith S, Webb K, Neher OT, 2020. First report of Binucleate *Rhizoctonia* (*Ceratobasidium*) AG F causing dry rot canker in Idaho. *Plant Disease* 104, 2519.
- Woodhall JW, Brown L, Harrington M, Pizolotto CA, Keith S, Marshall JM, 2020. First Report of *Rhizoctonia solani* AG 11 Causing Stem Rot of *Phaseolus vulgaris* in Idaho. *Plant Disease* 104, 2516-2516.
- Woodhall JW, Harrington M, Keith S, Oropeza A, Thornton M, Schroeder B, 2020. First report of *Pythium myriotylum* affecting onion roots in Idaho. *Plant Disease* 104, 2529-2529.
- Woodhall JW, Harrington M, Maggard R, Guggenheim R, Keith S, Fallahi E, Wharton PS, 2020. Binucleate *Rhizoctonia* (*Ceratobasidium*) AG E affecting red raspberry (*Rubus idaeus*) plants in Idaho. *Plant Disease* 104, 281.
- Muñoz RM, Lerma ML, Ortiz P, Armengol J, Valdeolmillos ES, Woodhall JW, 2020. First report of *Stromatinia gladioli* causing neck and corm rot of *Crocus sativus* in Spain. *Plant Disease* 104, 282.
- Woodhall JW, Oropeza A, Guggenheim R, Keith S, Wharton PS, 2019. First Report of *Rhizoctonia solani* AG4 HG-II Causing Stem Rot of Snow Pea in Idaho. *Plant Disease* 103, 2668.
- Murdock MR, Woodhall JW, Maggard R, Keith S, Harrington M, Oropeza A, Stokes B, Duellman KM. 2019. First report of *Rhizoctonia solani* AG 2-1 causing stem canker of potato (*solanum tuberosum*) in Idaho. *Plant Disease* 103, 2130.
- Guggenheim R, Oropeza A, Keith S, Maggard R, Woodhall JW, 2019. First Report of *Ilyonectria robusta* associated with black foot disease of grapevine in the United States. *Plant Disease* 103, 1788.
- Santin Azcona J, Woodhall JW, Perkins K, Henderson D, Barnes AV, Wharton PS, Henry C, 2017. First report of *Rhizoctonia solani* AG1-IB on *Rosmarinus officinalis* in the United Kingdom. *New Disease Reports* 35, 12.
- Lekuona Gómez H, Somoza Valdeolmillos E, Perkins K, Henderson D, Barnes AV, Woodhall JW, 2015. First report of *Rhizoctonia solani* AG2-1 on *Matthiola incana* in the UK. *New Disease Reports* 32, 11.

Muzhinji N, Woodhall JW, Truter M, van der Waals JE, 2014. Elephant Hide and Growth Cracking on Potato Tubers Caused by *Rhizoctonia solani* AG3-PT in South Africa. *Plant Disease* 98, 570.

Woodhall JW, Lutomirska B, Peters JC, Wharton PS, 2013. *Rhizoctonia solani* anastomosis group 3 is predominant in potato tubers in Poland. *Plant Disease* 97, 1245.

Miles TD, Woodhall JW, Miles LA, Wharton PS, 2013. First report of a binucleate *Rhizoctonia* (AG-A) from potato stems infecting potatoes and sugar beet in the Pacific Northwest. *Plant Disease* 97, 1657.

McCormack AW, Woodhall JW, Back MA, Peters JC, 2013. *Rhizoctonia solani* AG3-PT infecting maize stem bases and roots in the UK. *New Disease Reports* 27, 22.

Woodhall JW, Laurenson L, Peters JC, 2012. First report of *Rhizoctonia solani* anastomosis group 5 (AG 5) in wheat in the UK. *New Disease Reports*, 26, 9.

Woodhall JW, Belcher AR, Peters JC, Kirk WW, Wharton PS, 2012. First Report of *Rhizoctonia solani* AG 2-2 IIIB Infecting potato stems and stolons in the United States. *Plant Disease* 96, 460.

Woodhall JW, Wharton PS, Peters JC, 2012. First Report of *Rhizoctonia solani* AG 4 HG-II Infecting Potato Stems in Idaho. *Plant Disease* 96, 1701

Woodhall JW, Webb KM, Harper G, Peters JC, Rodriguez-Carres M, Cubeta MA, 2011. First report of a new binucleate *Rhizoctonia* on potato tubers in the UK. *New Disease Reports* 23, 31.

Woodhall JW, Lees AK, 2004. First report of *Rhizoctonia solani* anastomosis group 5 (AG 5) on couch grass in Britain. *Plant Pathology*, 53, 538.

Peer reviewed Extension Bulletins:

Woodhall JW, Brown L, Schroeder K, Marshall J, accepted. Sharp eyespot disease of wheat and barley. University of Idaho Extension Bulletin.

Woodhall JW, Brown L, Murdock MR, 2023. Diagnosing and managing *Rhizoctonia* in Idaho beans crops. University of Idaho Extension Bulletin. BUL 1040.

Woodhall JW, Bell S, West A, 2023. Verticillium wilt of trees in Idaho. University of Idaho Extension Bulletin. BUL 1043.

Woodhall JW, Bell S, 2023. Phytophthora bleeding canker of maple trees. University of Idaho Extension Bulletin. BUL 1042.

Cumagun CJ, Marshall J, Woodhall JW. 2022. Take-all disease of wheat in Idaho. University of Idaho Extension Bulletin. BUL1029.

Cumagun CJ, Duellman KM, Woodhall JW, 2022. Help protect the famous Idaho potato: Watch for late blight in your home garden. University of Idaho Extension BUL 1022.

Bauske MJ, Cumgun CJ, Murdock M, Miller J, Whitworth JL, Duellman KM, Woodhall JW. 2022. Powdery scab of potato. University of Idaho Extension BUL 1024.

Duellman KM, Wharton P, Olsen N, Woodhall J, Whitworth J, 2022. Managing bacterial ring rot of potato. University of Idaho Extension BUL 1021.

Duellman K, Woodhall JW, Karasev AV, Olsen N, Whitworth JL, 2022. Potato Mop Top Virus: Biology and Disease Management. University of Idaho Extension BUL 1017.

Walsh OS, Woodhall JW, Wenninger EJ, Adjesiwor AT, 2021. Quick Facts - Idaho Sugar Beets. University of Idaho Extension BUL 1003.

Woodhall JW, Murdock M, Beck K, Thornton M, 2021. Pink root of onion. University of Idaho Extension BUL 1000.

Walsh O, Morishita D, Wenninger E, Woodhall JW, Shafian S, 2020. Quick Facts – Idaho Beans. University of Idaho Extension BUL 978.

Painter K, Woodhall J, Jensen J, 2019. Beware signs of white onion rot in garlic and other allium crops. University of Idaho Extension BUL 955.

Plant Disease Management Reports (peer evaluated):

Shumate SW, Thornton MK, Portenier R, Woodhall JW, 2023. Evaluating solarization alone and in combination with fungicides against pink root on drip-irrigated onions in SW Idaho, 2022. 17:V113

Murdock MR, Shumate SW, Feibert EBG, Reitz SR, Woodhall JW, 2023. Evaluating direct-seeded yellow and red onions for pink root on drip-irrigated onions in eastern Oregon, 2022. *Plant Disease Management Reports* 17:V118.

Woods HJ, Neher OT, Woodhall JW, 2023. Effect of irrigation methods on powdery mildew (*Erysiphe betae*) and *Cercospora* leaf spot (*Cercospora beticola*) in southwest Idaho 2022. 17:V073

Woods HJ, Neher OT, Woodhall JW, 2023. Effects of application timing of Inspire XT on the control of powdery mildew and *Cercospora* leaf spot on sprinkler-irrigated sugar beet in southwest Idaho, 2022. 17:V074

Woods HJ, Shumate SW, C. Cumagun, M.R. Murdock, J.W. Woodhall 2023. Efficacy of Priaxor and Tesaris against powdery mildew (*Erysiphe betae*) and *Cercospora* leaf spot (*Cercospora beticola*) on furrow-irrigated sugar beet in southwest Idaho 2022. 17:V115

H. J. Woods, C. Cumagun, M. R. Murdock, J. W. Woodhall 2023, Efficacy of Torino against Powdery Mildew (*Erysiphe betae*) and *Cercospora* Leaf Spot (*Cercospora beticola*) on furrow-irrigated sugar beet in southwest Idaho 2022. 17:V116

S.W. Shumate, B.B. Wood, M.R. Murdock, J.W. Woodhall 2023. Evaluating the effects of *Rhizoctonia* root canker on dry bean varieties in Southern Idaho, 2022. 17:V110

Murdock MR, Ballou C, Cumagun CJ, Woodhall JW, 2022. Efficacy of foliar-applied Inspire XT, Vertisan, Quadris, and Badge against powdery mildew and *Cercospora* leaf spot on sprinkler-irrigated sugar beet in Idaho, 2021. *Plant Disease Management Reports* 16, V011.

Murdock MR, Woodhall JW, 2022. Efficacy of foliar-applied Torino, Domark and Badge against powdery mildew and *Cercospora* leaf spot on sprinkler-irrigated sugar beet in Idaho, 2021. *Plant Disease Management Reports* 16, V012.

Murdock MR, Cumagun CJ, Woodhall JW, 2022. Efficacy of foliar-applied Inspire XT, Priaxor, Provysol, Veltyma, Excalia, and Torino against powdery mildew and *Cercospora* leaf spot on sprinkler-irrigated sugar beet in Idaho, 2021. *Plant Disease Management Reports* 16, V013.

Murdock MR, Ballou C, Cumagun CJ, Woodhall JW, 2022. Evaluating Excalia and Actinovate AG applied in-furrow at-planting against black scurf and common scab on potato in Idaho, 2021. *Plant Disease Management Reports* 16, V014.

Murdock MR, Pizolotto CA, Woodhall JW, 2022. Evaluating Pristine and Luna Tranquility against *Botrytis* leaf spot, *Stemphylium* leaf blight and other foliar diseases on drip-irrigated onions in Idaho, 2020. *Plant Disease Management Reports* 16, V105.

Woodhall JW, Pizolotto CA, Murdock MR, 2021. Evaluating in-furrow treatments for *Rhizoctonia* potato disease on field potato in Idaho, 2019. *Plant Disease Management Reports* 15, V055.

Pizolotto CA, Murdock MR, Woodhall JW, 2021. Evaluating different fungicides for the control of white mold on dry beans in Idaho, 2020. *Plant Disease Management Reports* 15, CF175.

Murdock MR, Pizolotto CA, Woodhall JW, 2021. Efficacy of foliar-applied Torino (cyflufenamid) against powdery mildew (*Erysiphe betae*) on sprinkler-irrigated sugar beet in Idaho, 2020. *Plant Disease Management Reports* 15, V701.

Professional Meetings:

Woodhall JW, 2023. Status of *Stemphylium* leaf blight in the Treasure Valley. National Allium Research Conference, San Antonio Texas. Oral Presentation.

Woodhall JW, 2023. Isothermal detection methods for Onion Plant Pathogens. National Allium Research Conference, San Antonio Texas. Oral Presentation.

Wood, B, Woodhall JW. 2023. Loop mediated amplification for *Pantoea agglomerans*. National Allium Research Conference, San Antonio Texas. Poster Presentation.

Shumate S, Murdock M, Woods H, Woodhall JW, 2023. Impact of straw mulch on onion growth and quality. National Allium Research Conference, San Antonio Texas. Poster Presentation.

Woodhall JW, 2023. Idaho Spore trap network. National Predictive Moiling Tool initiative Annual Meeting. Beltsville, Maryland. Invited oral presentation.

Murdock M, Wood B, Pizolotto CA, Thornton M, Woodhall JW. 2023. A real-time PCR assay for the detection of *Setophoma terrestris* in onion roots and soil. American Phytopathological Society Annual Meeting, Denver, Colorado. Poster presentation co-author.

Woodhall, JW, 2023. Developing and deploying point of care diagnostics for plant diseases. International Society for Molecular plant microbe interactions Congress. Providence Rhode Island. Invited oral presentation.

du Toit, L., Aegerter, B., Colson, G., Coutinho, T., Dutta, B., Gugino, B., Hoepting, C., Kvitko, B., LaHue, G., Malla, S., Nischwitz, C., Reitz, S., Sidhu, J., Uchanski, M., Waters, T., Wilson, R., Woodhall, J., 2023. Combating onion bacterial diseases with pathogenomics tools and enhanced management strategies. International Congress for Plant Pathology, Lyon, France. Oral presentation co-author.

Mnguni Fanele, Gi-Yoon Shin, Du Toit Lindsey, Derie Michael, Brenna Aegerter, Woodhall James, Dutta Bhabesh, Zhao Mei, Hoepting Christine, Gugino Beth, Mazzone Jennie, Coutinho Teresa, 2023. The diversity and pathogenicity of *Rahnella* species isolated from onion bulbs in the United States and South Africa. International Congress for Plant Pathology, Lyon, France. poster presentation co-author.

MacKay, H., du Toit, L., Aegerter, B., Colson, G., Coutinho, T., Dutta, B., Gugino, B., Hoepting, C., Kvitko, B., LaHue, G., Malla, S., Nischwitz, C., Reitz, S., Sidhu, J., Uchanski, M., Waters, T., Wilson, R., Woodhall, J., Asma, M. (presenting author). 2022. Combating onion bacterial diseases with pathogenomics tools and enhanced management strategies: Research objectives and progress towards reducing crop losses. Poster presentation at 14th International Conference on Plant Pathogenic Bacteria, July 2022, Assisi, Italy.

Cumagun CJ, Murdock M, Wood B, Woodhall, J. 2022. *Pythium aphanidermatum* in Idaho and Eastern Oregon associated with the 2021 Western North American heat wave. APS Annual Meeting. Poster.

Kinnear, M. Woodhall, J. 2022. A real-time loop-mediated isothermal amplification assay for *Rhizoctonia solani* AG 2-2. APS Annual Meeting. Poster.

Batson A, Woodhall JW, du Toit L, 2022. Real-time PCR assays that distinguish isolates of two pathogenicity groups of the spinach *Fusarium* wilt pathogen. APS Annual Meeting. Poster.

Du Toit L, Brown H, Shin G, et al. 2022. Distribution and pathogenicity of bacteria collected in surveys of onion crops across production regions in the U.S. in 2020 and 2021. APS Annual Meeting. Poster.

Wood B, Murdock M, Woodhall J 2022. A survey of bacterial species associated with onion bulb rots in the Treasure Valley of southwest Idaho and eastern Oregon. APS Annual Meeting. Poster.

Rodriguez-Salamanca L, et al., 2022. NPDN Interlaboratory Comparison Exercise (ILCE) For A New And Improved *Fusarium sambucinum* qPCR Assay. 6th National Meeting, UC Davis, California, April 26-30, 2022. *Poster presenter co-author.*

Rodriguez-Salamanca L, Woodhall JW et. Al., 2022. PDN Protocols and validation: current projects and future directions. 6th National Meeting, UC Davis, California, April 26-30, 2022. *Poster presenter co-author.*

Cumagun CJ, Wood B, Ballou C, Woods H, Murdock M, Woodhall, J. 2022. Occurrence of *Pythium aphanidermatum* due to the Pacific Northwest 2021 heat wave. 6th National Meeting, UC Davis, California, April 26-30, 2022. *Poster presenter co-author*.

Cumagun CJ, Woodhall J, 2022. Using spore trap data to inform plant disease management decisions. Indian Phytopathological Society 8th International Conference, Rajasthan, India. *Invited oral presentation co-author*.

Woodhall JW, Harrington M, Wood B, Shin GY, Kvitko, 2022. Developing nucleic acid amplification tests for onion pathogenic bacteria. National Allium Research Conference. Denver, USA. *Oral presenter*.

Aegerter B , Donahoo WM, Davey J, Derie M, du Toit L, Dutta B, Feibert E, Foster MJ , Hoepting C, Machado A , Nischwitz C , Reitz S , Sidhu J, Mark Uchanski, Waters T, Woodhall J, 2022. Evaluation of bactericides and plant defense inducers to manage bacterial rots of onion in seven states in the U.S. National Allium Research Conference. Denver, USA. *Oral presenter co-author*.

Aegerter B , Donahoo WM, Davey J, Derie M, du Toit L, Dutta B, Feibert E, Foster MJ , Hoepting C, Machado A , Nischwitz C , Reitz S , Sidhu J, Mark Uchanski, Waters T, Woodhall J, 2022. Evaluation of bactericides and plant defense inducers to manage bacterial rots of onion in seven states in the U.S. National Allium Research Conference. Denver, USA. *Poster presentation co-author*.

Rahman M, Fieweger S, Woodhall J, Rodriguez-Salamanca LM, Moll M, Bec S, LaForest JH, Ong K, Olson JD, Plewa DE, Miles L, Grimme E, Obasa K, May SR, Snover-Clift KL, Mollov D. 2021. National Plant Diagnostic Network Protocols and Validation Committee: Best practice guidelines in plant disease diagnostics. APS Annual Meeting. *Poster presentation co-author*.

MacKay Brown H, Colson G, Coutinho T, Dutta B, Hoepting CA, Kvitko BH, LaHue G, Rajagopalan K, Uchanski M, Waters T, Woodhall J, L. J. du Toit. 2021. Combating onion bacterial diseases with pathogenomics tools and enhanced management strategies: Research objectives and preliminary results. National Plant Diagnostic Network Protocols and Validation Committee: Best practice guidelines in plant disease diagnostics. APS Annual Meeting. *Poster*.

Pizolotto CA, Ryu J, Harrington M, Murdock M, Brown L, Harrington S, Woodhall JW, 2021. Using spore traps in conjunction with unmanned aerial vehicles for the detection of spores associated with plant disease. APS Annual Meeting. *Poster presentation co-author*.

Woodhall JW et al., 2020. National Plant Diagnostic Network protocols and validation committee: facilitating technology transfer from researchers to diagnosticians. American Phytopathology Society Annual Meeting, Virtual. *Poster*.

Woodhall JW, 2020. The Idaho Plant Diagnostic Network. Western Plant Diagnostic Network Meeting. Tucson, Arizona. *Oral presentation*.

Woodhall JW, 2020. NPDPN Protocols and Validation. Western Plant Diagnostic Network Meeting. Tucson, Arizona. *Oral presentation*.

Armitage AD, Cockerton HM, Sreenivasaprasad S, Woodhall J, Lane CR, Harrison RJ, Clarkson JP, 2019. Genomic characterisation of the *Alternaria alternata* species group informs diagnostics for host specific pathotypes. IS-MPMI XVIII Congress, Glasgow, UK. *Oral presentation co-author.*

Phillip Wharton, James Woodhall, Carlos Pizolotto, Miranda Harrington, Katie Fairchild, Alan Malek and Kasia Duellman, 2019. A spore trapping network for the early detection of potato pathogens in the USA. Australasian Plant Pathology Society Conference. Melbourne, Australia. *Poster presentation co-author.*

Woodhall J, Oropeza A, Harrington M, Keith S, Dangi S, Fairchild K, Malek A, Duellman KM, Marshall JM, Wharton PS, 2019. A spore trap network for the early detection of plant pathogens in Idaho. American Phytopathology Society Annual Meeting, Cleveland. *Poster.*

Rodriguez- Salamanca L, Woodhall JW, 2019. Mind the Gap: Ensuring how new diagnostic methods from research labs can be successfully implemented in frontline diagnostic service. American Phytopathology Society Annual Meeting, Cleveland. *Idea Café Co-organizer.*

Woodhall JW, Oropeza A, Marchi G, Mugnai L, 2019. The potential of LAMP assays for the detection of grapevine trunk disease pathogens. 11th International Workshop on Grapevine Trunk Diseases, Penticton, Canada. *Speaker and session chair.*

Woodhall JW, 2019. Validation and verification of diagnostic methods: an introduction. NPDN National Meeting. Indianapolis. *Oral presentation and panel discussion member.*

Rodriguez Salamanca L, Bomberger R, Woodhall J, Bec Sladana, Bush E, LaForest J, Luke E, Moore R, Rahman MM, Brown JK, Ong k, Olson J, Plewa D. 2019. Updates to definitions and terminology in the standard laboratory methods list in the national plant diagnostic network repository. NPDN National Meeting. Indianapolis. *Poster presentation co-author.*

Balbalian CJ, Byrne J, Grimme E, Harmon CL, Iles L, Jones J, Madeiras A, Woodhall J, 2019. NPDN laboratory structure working group accomplishments in strategic planning. NPDN National Meeting. Indianapolis. *Poster presentation co-author.*

Oropeza A, Harrington M, Keith S, Fairchild K, Malek A, Duellman K, Wharton P, Marshall K, Woodhall J, 2019. Spore sampling for the early detection of foliar potato pathogens in Idaho. NPDN National Meeting. Indianapolis. *Poster presentation co-author.*

Woodhall JW, Harrington M, Keith S, Oropeza A, Duellman K, Rodriguez- Salamanca L, 2019. The importance of considering the anastomosis group of *Rhizoctonia* in diagnostic reporting and disease management. NPDN National Meeting. Indianapolis. *Poster.*

Dangi S, Fairchild K, Malek A, Woodhall J, Wharton PS, 2018. Effect of *Pythium ultimum* concentration in the soil, on tubers at harvest and pre-storage temperature on disease incidence and severity in storage. 10th Australasian Soil borne Diseases Symposium, Adelaide, South Australia. 4-7th September. *Oral presentation co-author.*

Dangi S, Woodhall JW, Fairchild K, Oropeza A, Douches D, Wharton PS, 2018. Rapid detection and characterization of *Phytophthora infestans* isolations in the field. International Congress of Plant Pathology, Boston, 29 July – 3 August. *Poster presentation co-author.*

Woodhall JW, Oropeza A, Fairchild KL, Malek A, Duellman K, Wharton PS, 2018. A Spore Sampling Network for Early Detection of Foliar Potato Diseases in Idaho. Potato Association of America Annual Meeting, Boise, 22-26 July. *Poster*.

Dangi S, Woodhall JW, Fairchild K, Oropeza A, Douches D, Wharton PS, 2018. Rapid On-site Detection and Characterization of *Phytophthora infestans*. Potato Association of America Annual Meeting, Boise, 22-26 July. *Oral presentation co-author*.

Wenninger E, Dahan J, Karasev A, Thornton M, Miller J, Nolte P, Woodhall J, Duellman K, Olsen N, Lockner A, Price W. 2018. Phenology of the potato psyllid, *Bactericera cockerelli* (Hemiptera: Triozidae), and “*Candidatus Liberibacter solanacearum*” in commercial potato fields in Idaho, USA. World Potato Congress, Cusco, Peru. 27-31 May. *Poster presentation co-author*.

Woodhall J, Perkins K, Reis P, Rego C, Alves A, Eichmeier A, Romanazzi G, Murolo S, Kovacs C, Karaffa E, Zoltán Váczy K, Marchi G, Mugnai L, Carlucci A, Muñoz R, Berlanas C, Gramaje D, León M, Armengol J, Pinto C, Fontaine F, 2017. An Inter-Laboratory Comparison of DNA Barcoding Protocols For Identifying Fungi Involved In Grapevine Trunk Disease. 10th International Workshop on Grapevine Trunk Diseases, Reims, France, 4-7 July. *Oral Presenter*.

Woodhall JW, Wharton PS, 2017. New findings of *Rhizoctonia* anastomosis groups, symptoms and epidemiology. The Conference on Soilborne Plant Pathogens, Davis, CA, March 28 – 30, 2017. *Oral Presenter*.

Wharton PS, Dangi S, Woodhall J, 2017 Using LAMP and qPCR assays to investigate the epidemiology of *Pythium ultimum* in potato. The Conference on Soil-borne Plant Pathogens, Davis, CA, March 28 – 30, 2017 *Oral presentation co-author*.

Dangi S, Malek A, Woodhall JW, Fairchild KL, Wharton PS, 2017. Effect of concentration of *Pythium ultimum* inoculum in soil, and on tubers at harvest, and storage temperature on disease incidence and severity. Annual Meeting of the American Phytopathological Society, San Antonio, August 6-9, 2017. *Poster presentation co-author*.

Woodhall JW, Dangi S, Fairchild K, Wharton PS, 2016. New insights into the infection of potato by *Pythium ultimum*, from real-time PCR and isothermal detection methods. Australasian Soil Diseases Symposium, Hanmer Springs, New Zealand. *Oral presentation*.

Hiemstra JA, Pham K, Keykhasaber M, Perkins K, Woodhall JW. 2016. Distribution and dynamics of *Verticillium dahliae* in olive fields. 12th International Verticillium Symposium, Ljubljana, Slovenia, October 6-9. *Oral presentation co-author*.

Wharton PS, Carrillo I, Fairchild KL, Woodhall JW, 2016. Management of *Pythium* leak of potato from field to storage in Idaho, USA. Australasian Soil Diseases Symposium, Hanmer Springs, New Zealand. *Oral presentation co-author*.

Woodhall JW, Rutter J, Fairchild KL, Wharton PS, 2016. Characterizing isolates of *Rhizoctonia* recovered from crops in the Pacific Northwest USA. Australasian Soil Diseases Symposium, Hanmer Springs, New Zealand. *Poster*.

Dangi S, Woodhall JW, Fairchild KL, Marshal J, Wharton PS, 2016. Detection of mefenoxam resistance in *Pythium ultimum* on barley in Southern Idaho, USA. Australasian Soil Diseases Symposium, Hanmer Springs, New Zealand. *Poster presentation co-author.*

Wharton PS, Woodhall JW, Carrillo I, Fairchild KL, 2016. Evaluation of biological and novel seed and in-furrow treatments for the control of *Rhizoctonia* diseases of potato. Australasian Soil Diseases Symposium, Hanmer Springs, New Zealand. *Poster presentation co-author.*

Lewis T, Hallet P, Woodhall J, Elphinstone J, Raffman A, Meakin R. 2016. The Influence of polyhalite calcium on club root and aspects of soil structure. American Society of Agronomy Annual Conference, Phoenix, Arizona. *Poster presentation co-author.*

Woodhall JW, Dangi S, Fairchild KL, Perkins K, Azcona JS, Rivzi R, Wharton PS, 2016. On-site detection of *Pythium ultimum* in potatoes using loop-mediated isothermal amplification (LAMP). Annual Meeting of the American Phytopathological Society, Tampa, FL, July 30 - August 3, 2016. *Poster.*

Fairchild KL, Windes S, Malek A, Woodhall J, Wharton PS, 2016. Fungicide resistance in populations of *Fusarium proliferatum* causing bulb rot of onion in the Pacific Northwest. Annual Meeting of the American Phytopathological Society, Tampa, FL, July 30 - August 3, 2016. *Poster presentation co-author.*

Woodhall JW. 2015. Solving the challenges presented by soil borne plant pathogens through the application of nucleic acid detection methods. 18th International Plant Protection Congress, August 24 - 27, 2015 in Berlin, Germany. *Speaker, session organiser and Co-chair.*

Woodhall JW, Adams IP, Perkins K, Boonham N. 2015. Advances in nucleic acid-based detection methods for *Verticillium dahliae* in soil. 61st Annual Conference on Soilborne Plant Pathogens, Riverside, California. *Oral presentation*

Woodhall JW, Brown M, Mooney S, Ray R. 2015. The occurrence and population dynamics of *Rhizoctonia* spp. in winter wheat. 61st Annual Conference on Soilborne Plant Pathogens, Riverside, California. *Oral presentation*

Brown M, Woodhall J, Mooney SJ, Ray RV. 2014. The occurrence and population dynamics of *Rhizoctonia solani* in soil of winter wheat. The Dundee Conference. Crop Protection in Northern Britain, 2014, Dundee, UK, 25-26 February 2014.107-112. *Oral presentation.*

Woodhall J, Tomlinson J, Perkins K, Ostoja-Starzewska S, Harrison C, Boonham N, 2014. On-site nucleic acid based detection of fungal plant pathogens. The 10th International Mycological Congress, Bangkok, Thailand. 4th-8th August. *Session chair and speaker.*

Woodhall JW, 2013. Molecular diagnostics for potato diseases: A tool for both researchers and growers. Potatoes South Africa Conference. *Langebaan*. 23rd-25th July. *Invited keynote speaker.*

Woodhall JW, Peters JC, 2012. Factors affecting the infection of potato by *Rhizoctonia solani*. The Dundee Conference. Crop Protection in Northern Britain, 2012, Dundee, UK, 28-29 February 2012., 215-220. *Oral presentation.*

Mason AL, Woodhall J, Peters J, Dickinson M, Ray RV, 2012. Developing novel methods to investigate the relationship between eyespot disease and yield loss. The Dundee Conference. Crop Protection in Northern Britain, 2012, Dundee, UK, 28-29 February 2012. 181-186. *Poster presentation co-author.*

Woodhall JW, Adams IP, Peters JC, Boonham N, 2012. Using real-time PCR to detect plant pathogens in soil. QBOL-EPPO Conference on DNA barcoding and diagnostic methods for plant pests. Haarlem, The Netherlands, 21st – 25th May. *Oral presentation*

Groenewald JZ, Quaadvlieg W, Crous PW, Woodhall J, Boonham N, Verstappen ECP, Dullemans AM, Bonants PJM, 2012. QBOL: Barcoding fungi of Quarantine importance. QBOL-EPPO Conference on DNA barcoding and diagnostic methods for plant pests. Haarlem, The Netherlands, 21st – 25th May. *Oral presentation co-author.*

Armitage A, Woodhall J, Barbara D, 2012. Alternaria Leafspot Pathogens: Genetics, Evolutionary History and Diagnostics. *11th European Conference on Fungal Genetics*, p. 128. 278. *Poster presentation co-author.*

Woodhall J, Peters J, 2012. Genetic diversity of *Rhizoctonia solani* isolates from UK potato crops. *11th European Conference on Fungal Genetics*, p. 278. *Poster.*

Peters JC, Woodhall JW, Brierley JL, Wale S, Davey T, Lees AK, 2010. Determining the distribution pattern of soil-borne *Rhizoctonia solani* AG3. *Proceedings Crop Protection in Northern Britain*, 183-188. *Oral presentation co-author.*

Woodhall JW, Harper G, Stroud GP, Peters JC, 2010. Using real-time PCR to identify potato stocks at risk of skin spot. *Proceedings Crop Protection in Northern Britain*, 225-230. *Oral presentation.*

Woodhall JW, Adams IP, Peters JC, Boonham N, 2010. The detection of fungi in soil by molecular based methods. The 9th International Mycological Congress, Edinburgh, UK. *Oral presentation.*

Woodhall JW, 2008. Rhizoctonia disease of potato: Importance of Anastomosis Group. 4th International Symposium on *Rhizoctonia*, Berlin, Germany, 20-22 August 2008. *Poster.*

Woodhall JW, 2008. Rhizoctonia potato disease in the UK. British Society of Plant Pathology Potato meeting. Edinburgh, UK. *Oral presentation.*

Woodhall JW, Jenkinson P, 2002. Differences between *Rhizoctonia solani* isolates from potato crops. Proceedings of the BCPC Conference - Pests and Diseases, 757-760. *Poster.*

Departmental seminars

Cornell University, 2023. Predictive diagnostics for plant diseases.

U of I, EPPN, 2022 The Allium Assassin – white rot of onion and garlic.

U of I, EPPN, 2021 The root killer – investigating *Rhizoctonia*.

NDSU, 2021. Choosing the right tool for the job – developing predictive diagnostic methods for crop diseases in the Pacific Northwest.

U of I, EPPN, 2021 Stemphylium leaf blight: a re-emerging disease of onions?

Washington State University, USA, 2019. Predictive diagnostics for plant diseases.

Oklahoma State University, USA, 2015. Overview of diagnostic development work at Fera.

Royal Botanic Gardens, Kew, UK, 2014. Development and deployment of diagnostic methods to support Plant Health.

University of Warwick, UK 2013. Development and deployment of diagnostic methods to support Plant Health.

University of Pretoria, South Africa, 2013. Molecular diagnostics for plant health.

Webinars presented/organised.

Diagnosing Plant Diseases. Agbeats webinar. West Virginia University. Presenter.

Hop research at Parma Research and Extension Center. U of I Ag talk Tuesday. Presenter.

Western IPM Webinar 2022. Predictive Diagnostics. Presenter.

GPDN Webinar 2022. Interlaboratory comparison testing for phytodiagnostic assays – a key component of method validation? Presenter.

APS Webinar series 2021. Technology Transfer: From the Lab to the Diagnostician's Bench Series: High Throughput Sequencing. Four webinars 17th February to 31st March. Organizer and moderator.

APS Technology Transfer Series 2020. Linking protocol developers to end users. Part 3 – Let us break it down for you. Presenter.

APS webinar: Using spore trapping in research and disease forecasting. 2020 Organizer and moderator.

Official Reports:

Woodhall JW, 2013. Pest Risk Analysis for *Ceratocystis platani*. *UK Plant Health Risk Register*.

Woodhall JW, Sansford CE, 2007. *Phytophthora ramorum* datasheet. *UK Plant Health Risk Register*.

Woodhall JW, Smith JE, Mills PR, Sansford CE, 2007. A UK commodity Pest Risk Analysis for the cultivated mushroom, *Agaricus bisporus*. *UK Plant Health Risk Register*.

Sansford CE, Woodhall JW, 2007. Pest Risk Analysis for *Iris Yellow Spot Virus*. *UK Plant Health Risk Register*.

Woodhall JW, Sansford CE, 2007. Summary Pest Risk Analysis for *Xanthomonas axonopodis* pv. *poinsettiicola*. *UK Plant Health Risk Register*.

Woodhall JW, Macleod A, Sansford CE, 2007. Risks associated with imports of *Salix* spp. from Poland. *UK Plant Health Risk Register*.

Woodhall JW, Sansford CE, 2006. Summary Pest Risk Analysis for *Alternaria panax*. *UK Plant Health Risk Register*.

Woodhall JW, Sansford CE, 2006. Pest Risk Analysis for *Phytophthora lateralis*. *UK Plant Health Risk Register*.

Waage J, Woodhall JW, Bishop SJ, Smith JJ, Jones DR, Spence NJ, 2006. Patterns of new plant disease spread: evidence of a growing problem? In: Brownlie *et al.*, 2006. Foresight. Infectious Diseases: preparing for the future. A Vision of Future Detection, Identification and Monitoring Systems. Office of Science and Technology, London.

Wright AJ, Woodhall JW, 2006. *Phytophthora ramorum*, an emerging plant pathogen in cultivated and wild environments In: Brownlie *et al.*, 2006. Foresight. Infectious Diseases: preparing for the future. A Vision of Future Detection, Identification and Monitoring Systems. Office of Science and Technology, London.

Grants and Contracts Awarded:

Federal

du Toit LJ, Dutta B, Kvitko B, Hoepfing C, Aegerter B, Uchanski, M. & collaborators. 2019-2023. Stop the rot: Combating onion bacterial diseases with pathogenomics tools and enhanced management strategies. USDA-NIFA Specialty Crop Research Initiative. Total: \$4,044,300. Spending authority: \$174,143.

Woodhall JW, 2016-present. National Plant Diagnostics Network - Idaho subcontract. 2016 – present. Spending authority: \$350k

Whitworth J, Woodhall JW, Tanaka K. 2020-2023. Integrating Predictive Diagnostics and Disease Management Strategies for Powdery Scab and Potato Mop Top Virus in the Pacific Northwest (UI). USDA-Agricultural Research Service (ARS) state partnership grant. Spending authority: \$82,200.

Rashed *et al.*, USDA-NIFA. Extension Implementation Plan for IPM in Idaho 2021-2024. Total: \$887,571 Spending authority: \$22,701.

Regional

Achela KA, Woodhall JW 2023-2025. Biocontrol for grapevine Trunk Diseases. Northwest Center for Small Fruits. 30k.

Woodhall JW, 2022-2024. Characterization and Epidemiology of Grapevine Trunk Diseases (GTD) in Idaho. Northwest Center for Small Fruits. \$43,445.

Woodhall JW, 2021-2023 Rhizoctonia and AGs Disease Management. Northwest Potato Research Consortium. Total: \$9k.

Miller, Olsen, Woodhall. Management of Powdery Scab and Potato Mop Top Virus State. Total: \$23k. Spending authority: \$3k.

Woodhall JW, Duellman K, 2017-present. A network of spore samplers as an early warning detection system for foliar potato pathogens, Northwest Potato Research Consortium. Total: \$201k. Spending authority: \$144k.

Duellman K, Woodhall JW, Wharton PS, 2017 – 2020. Characterizing *Fusarium* species associated with and refining management of potato dry rot in the Pacific Northwest. Northwest Potato Research Consortium. Total: \$105k. Spending authority: \$22.5k.

Thornton M, Wharton PS, Woodhall JW. 2018. Development of Verticillium Wilt-Suppressive Soils and Evaluation of Fungicidal and Biorational Products for Northwest Potato Production, Northwest Potato Research Consortium. Total: \$18k. Spending authority: \$7k.

Woodhall JW, Thornton M. 2019. Determining the risk of individual anastomosis groups of *Rhizoctonia* to potato production in the Pacific Northwest. Northwest Potato Research Consortium. Total: \$8k. Spending authority: \$5k.

Woodhall JW, Tanaka K, 2019.-Present. Developing collaborative modern diagnostic approaches for potato pest and pathogen detection and characterization for the Pacific Northwest. Total: \$79k. Spending authority: \$32k.

State

Woodhall JW, 2023. Impact of smoke on beans. Idaho Bean Commission, \$12k

Woodhall JW, 2023. Support for extension and diagnostics. Idaho Potato Commission, 8k.

Woodhall JW, 2023. Support for onion extension. Idaho Eastern Oregon Onion committee, 8k

Woodhall JW, 2023. Impact of straw mulch on onions. Idaho Eastern Oregon Onion committee, 12k

Woodhall JW, 2023. Alternative fungicides for Cercospora leaf spot. 12k.

Woodhall JW. Developing a database of seed testing services to facilitate export of Idaho seed. ISDA SCBG 35k

Woodhall JW. Evaluating sustainable approaches for managing bacterial diseases of onion in Idaho ISDA SCBG 74k

Wharton PS, Woodhall JW, Duellman. 2023. Sustainable alternatives to fumigation for managing potato early die. 35k.

Woodhall JW, 2023. Seed transmission and management of High Plains Wheat Mosaic Virus in sweet corn seed crops. 100k.

Woodhall JW, 2023. Developing and Promoting Best Practices for Managing Grapevine Trunk Diseases in Idaho 92k

Schroeder B, Woodhall JW. 2023. The role of co-infection in onion bulb rot in the Treasure Valley 35k

Woodhall JW, Duellman K, Schroeder B, 2022-2024. Developing optimum management strategies for bacterial rot diseases of potato. Idaho Specialty Crop Block Grant. Spending Authority \$70k

Woodhall JW, 2022-2024. Tools to predict and stabilize onion yield and quality from extreme weather conditions. Idaho Specialty Crop Block Grant. Spending authority, 99k.

Woodhall JW, 2022. Control of foliar pathogens. Snake River Sugar beet research and seed alliance. Total: \$9k.

Woodhall JW, 2022. Survival of pathogens in soil. Snake River Sugar beet research and seed alliance. Total: \$9k.

Woodhall JW. 2022. Support for bean pathology. Idaho Bean Commission. Total: \$5.2k.

Woodhall JW. 2022. Support for onion pathology. Idaho Eastern Oregon Onion Committee. Total: \$7k.

Woodhall JW. 2022. Determining the risk of seed-borne disease in Idaho and Eastern Oregon. Idaho and Eastern Oregon Onion Committee. Total: \$9,522.

Woodhall JW, 2022. Valent Sugar beet trial. \$16k

Woodhall JW, Karasev AK. 2021-2023. Establishing a Center of Excellence for Specialty Crop Seed Health in Idaho. Total: \$120k. Spending authority: \$75k.

Woodhall, Karasev. 2021-2023. Advanced Detection and Surveillance Methods to Safeguard Bean Health in Idaho. Total. \$133,466. Spending authority: \$67k.

Schroeder, Woodhall, Thornton. 2021-2023. Investigating the emergence of onion leaf and bulb rot pathogens in the Treasure Valley. Total: \$145k, Spending authority: \$60,780.

Woodhall JW. 2021-2023. Detection and epidemiology of airborne pathogens of hops in Idaho, ISDA Specialty Crop Block Grant. Total: \$30k.

Woodhall JW, Thornton M, 2020-22. Developing integrated disease management strategies for pink root disease of onions. ISDA Specialty Crop Block Grant. Total: \$116,415.72. Spending authority: \$89k.

Schroeder B, Woodhall JW, Thornton, 2020-22. ISDA Specialty Crop Block Grant. *Developing Sophisticated Disease Surveillance Methods to Safeguard Potato Soil Health*. Total: \$138,839.00. Spending authority: \$55k.

Woodhall JW, Schroeder B, 2020-2022. Developing rapid molecular diagnostic tests for bacterial diseases of dry beans. ISDA Specialty Crop Block Grant. Total: \$89k. Spending authority: \$70k.

Woodhall JW, 2020-2021. Building epidemiological disease models for sugar beet powdery mildew and cercospora leaf spot, Total: \$16.5k.

Woodhall JW, Support for Potato Pathology Diagnostic and Extension Projects. 2020-2021 Idaho Potato Commission. Total: \$15k.

Woodhall JW, 2020-2021. Predicting bean diseases. Idaho Bean Commission. Total. \$32k.

James W. Woodhall IEOOC FY22 Thrips Control. Idaho Eastern Oregon Onion Commission. Total: \$6k.

Woodhall JW, 2020. Bleeding canker of maple. ISDA Nursery Advisory Committee. Total: \$9.5k

Woodhall JW. 2020. Understanding Translucent scale. Idaho Eastern Oregon Onion Committee. Total: \$9.5k.

Woodhall JW. 2020. Emerging diseases of onion. Idaho Eastern Oregon Onion Committee. Total: \$7k.

Woodhall JW, Thornton M, Schroeder B, 2019-2021. Managing onion storage diseases through an integrated approach of diagnostics, modelling and optimum disease management. ISDA Specialty Crop Block Grant, Total: \$141k. Spending authority: \$90k.

Woodhall JW, Marshall J, Schroeder K, 2019 – 2021. Fungal and oomycete soil-borne diseases of cereals in Idaho: causal agents, relative importance and disease management tools, Idaho Barley Commission. Total: \$36k. Spending Authority: \$28k.

Woodhall JW, Wharton PS, Duellman K. 2018. Developing and deploying advanced detection methods for bacterial ring rot of potatoes. ISDA Specialty Crop Block Grant. Total: \$141.3k. Spending Authority: \$91k

Woodhall JW, Wharton PS, 2018. Soil-borne diseases of beans: determining the primary causal agents and developing disease management practices. ISDA Specialty Crop Block Grant. Total: \$72k. Spending Authority: \$64k

Woodhall JW, 2018. Investigating soil borne diseases of beans in Idaho: causal agents, epidemiology and disease management. Idaho Bean Commission. Total: \$8.5k.

Woodhall JW, Marshall J, Schroeder K, 2018 – 2021. Fungal and oomycete soil-borne diseases of cereals in Idaho: causal agents, relative importance and disease management tools, Idaho Wheat Commission. Total: \$63k. Spending Authority: \$51k.

Woodhall JW, 2018 – 2021. Using molecular diagnostics to understand the distribution and disease thresholds of soil-borne diseases of sugar beet, Snake River Sugar Beet Seed and Research Alliance. Total: \$28k.

Woodhall JW, 2018. Fungal canker and vascular diseases as a threat to woody plant health in Idaho. ISDA Nursery Advisory Committee. Total: \$6.5k

Woodhall JW. 2018 to 2020. Understanding factors driving the incidence and severity of onion storage diseases. Idaho Eastern Oregon Onion Committee. Total: \$13k.

Marshall J, Woodhall JW, Schroeder K, 2018. Weather stations to support cereal production. Idaho Wheat Commission. Total: \$15k. Spending Authority \$5k.

Thornton M, Woodhall JW, 2018-2020. Pink root control in onions. Idaho Eastern Oregon Onion Committee. Total: \$73k. Spending Authority: \$29k

Wharton PS, Woodhall JW, 2017. Early warning systems for detection of foliar potato pathogens using spore sampling and weather data. ISDA Specialty Crop Block Grant. Total: \$198,925. Spending authority: \$99k.

Woodhall JW, Thornton M, Schroeder B, 2017. Predictive diagnostic methods and soil health measures for sustainable management of soil-borne diseases of onion. ISDA Specialty Crop Block Grant Total: \$124,663. Spending authority: \$90k.

Woodhall JW. 2017. Developing rapid on-site diagnostic methods for fungal plant pathogens Idaho State Department of Agriculture Nursery Advisory and Florists Advisory Committee. Total: \$8,450.

Woodhall JW. 2017. Spore trapping for foliar diseases of bean. Idaho Bean Commission. Total: \$6k

Woodhall JW. 2017 to 2019. A spore trap network for the early detection of foliar sugar beet pathogens. Snake River Sugar Beet Research and Seed Alliance. Total: \$21k

Woodhall JW. Spore sampling Network for Idaho – industry support for purchasing spore traps. Idaho Potato Commission. Total: \$80k.

Woodhall JW, Marshall J, 2017-2019. Spore trapping for foliar diseases of barley. Idaho Barley Commission. Total: \$20k. Spending authority \$12k.

Woodhall JW, Marshall J, 2017-2019. Spore trapping for foliar diseases of wheat. Idaho Wheat Commission. Total: \$25k. Spending authority \$20k.

Wharton PS, Woodhall JW, 2016-2018. Mitigating losses in Exported Potatoes. Idaho Potato Commission. Total: \$83k. Spending authority: \$6k.

Schroeder B, Thornton M, Woodhall JW. 2016. Filling the knowledge gaps to develop robust disease management strategies for *Fusarium proliferatum* in onions. ISDA Specialty Crop Block Grant. Total: \$124,663. Spending authority: \$90k.

Weninger E, Olson N, Karasev K, Woodhall JW, Duellman K, 2016 to 2018. Monitoring the incidence, distribution, and abundance of potato psyllid, *Liberibacter*, and zebra chip (ZC) disease in Idaho. Idaho Potato Commission. Total: \$126k. Spending authority: \$30k.

Gift

Woodhall JW, 2016. Supporting field research. Du Pont \$12.5k

Woodhall JW, 2017. Supporting field research. Valent \$5k.

Woodhall JW, 2018. Supporting field research. Valent \$7.5k

Woodhall JW, 2019. Supporting field research. Valent \$8.5k

Woodhall JW, 2019. Supporting laboratory research. Valent \$4.5k

Woodhall JW, 2017. Spore trap. Idaho Onion Growers. \$5k.

Woodhall JW, 2018. Weather station. Idaho Onion Growers. \$5k.

Woodhall JW. 2019. Hyperspectral Camera. Idaho Onion Growers. \$3k.

Woodhall JW., 2020. Supporting field research. Valent. \$13k.

Woodhall JW., 2020. Supporting field research. Gowan \$5k.

Woodhall JW, 2021. Supporting field research. Valent \$22.5k

Woodhall JW, 2021. Supporting field research. Gowan \$14k

Woodhall JW, 2021. Supporting field research. Bayer \$4.8k

Woodhall JW, 2021. Supporting field research. BASF \$4k

Woodhall JW, 2021. Supporting field research. Thymox \$3k

Woodhall JW, 2021. Supporting field research. Certis \$2.4k
 Woodhall JW, 2021. Supporting field research. Mustgrow \$12k
 Woodhall JW, 2021. Supporting field research. Vive \$5k
 Woodhall JW, 2021. Supporting field research. Syngenta \$2,025
 Woodhall JW, 2021. Supporting field research. Helena \$10k
 Woodhall JW, 2021. Supporting field research. Agbiome, \$3k
 Woodhall JW, 2022. Supporting field research. Syngenta \$3.2k.
 Woodhall JW, 2022. Supporting field research. Gowan \$62k.
 Woodhall JW., 2022. Supporting field research. Valent. \$6k.
 Woodhall JW, 2022. Supporting field research. Thymox \$12.5k
 Woodhall JW., 2022. Supporting field research. Valent. \$4.5k.
 Woodhall JW, 2022. Supporting field research. BASF \$16k
 Woodhall JW, 2022. Supporting field research. BASF \$8.9k.
 Woodhall JW., 2022. Supporting field research. Bayer. \$5k.
 Woodhall JW., 2022. Supporting field research. Vive. \$8k
 Woodhall JW., 2022. Supporting field research. Koppert. \$14k.
 Woodhall JW., 2022. Supporting field research. Nichino. \$12k.
 Woodhall JW., 2023. Supporting field research. Gowan. \$54k
 Woodhall JW., 2023. Supporting field research. Syngenta \$10k
 Woodhall JW., 2023. Supporting field research. Valent 23k
 Woodhall JW., 2023. Supporting field research. BASF 22k
 Woodhall JW., 2023. Supporting field research. Bayer 3k

SERVICE:

Plant diagnostic lab director, Parma Research and Extension Center.

Professional and Scholarly Organizations

American Phytopathological Society: Member 2015 - Present

British Society of Plant Pathology: Member 2001 – Present, Archivist 2008 – 2016.

Committee Membership (U of I)

Biosafety Committee 2019- present

Research Support Scientist Search Committee Chair 2018, 2020

EPPN Head of Department Search committee member 2017

Parma Entomology Faculty search committee member 2019

Parma Entomology Faculty search committee member 2023

Committee Membership (external)

EU Cost Action on Grapevine Trunk Diseases	Working Group Leader 2012-2016
English wine research and Development Group	Member 2015-2016
10th International Workshop on Grapevine Trunk Disease	Scientific Committee Member
11 th International Workshop on Grapevine Trunk Disease	Scientific Committee Member
11 th International Workshop on Grapevine Trunk Disease	Student presentation prize judge
Idaho Association of Plant Protection	2018-2019 Chairperson
Publicity Committee Member, PAA Meeting Boise	2018
NPDN Diagnostics/IT Committee	2016-2019
NPDN Annual Meeting planning committee	2019
NPDN Lab structure strategic planning committee	2018-2019

NPDN Dictionary/validation group	2017-2019
NPDN Advisory Committee - member at large	2019-present
NPDN Protocols and Validation Committee, co-chair	2020-present
APS Diagnostic Committee Vice Chair/Chair	2022-2023

Journal Editing

New Disease Reports (BSPP)	Mycology Editor 2019-Present
European Journal of Plant Pathology	Associate Editor 2021-2023

Outreach Service:

Extension articles:

Woodhall JW, Woods, HJ, Murdock M, 2023. Effects of Application Timing of Inspire XT® on the Control of Powdery Mildew and Cercospora Leaf Spot on Sprinkler-Irrigated Sugarbeet. *The sugar beet magazine*

Woodhall JW, Woods, HJ, Murdock M, 2023. Effect of Irrigation Methods on Powdery Mildew and Cercospora Leaf Spot in Southwest Idaho. *The Sugar beet magazine*.

Kasia Duellman, Jeff Miller, Nora Olsen, Mike Thornton, Phill Wharton and James Woodhall. 2023. Importance of scouting for late blight. *Idaho Potato Pulse*. July.

Duellman K, Wenninger, E, Woodhall JW, 2023. Monitoring vectors of potato pathogens to assess risk. *Potato Grower Magazine*. November.

Woodhall JW, 2023. Asking the right questions to diagnose emergence issues. *Potato Grower Magazine*. February.

Woodhall JW, 2017-present. Idaho Spore trap bulletin.

Woodhall JW, Rodriguez Salamanca L, Wilson T. 2022. Sample adequacy controls (SAC) for molecular detection methods. *NPDN Communicator*.

Tanaka K, De Shields J, Moroz N, Woodhall JW, 2022. Isothermal amplification for potato disease diagnosis: what have we learned from detection of the powdery scab pathogen? *Potato Progress* 22, 4.

Woodhall JW, Murdock M, 2022. Efficacy of Foliar-Applied Fungicides Against Powdery Mildew and Cercospora Leaf Spot on Sprinkler-Irrigated Sugarbeet (Part 1). *The Sugarbeet* p. 15-16

Woodhall JW, Murdock M, 2022. Efficacy of Foliar-Applied Fungicides Against Powdery Mildew and Cercospora Leaf Spot on Sprinkler-Irrigated Sugarbeet (Part 1). *The Sugar Beet* p. 17-18

Woodhall JW, 2021. Then and Now. November. *Potato Grower Magazine*.

Woodhall JW, 2021. Finding the Culprit. March. Potato Grower Magazine.

Woodhall JW, Rodriguez-Salamanca L, 2021. Tips for identifying *Rhizoctonia*. NPDN Communicator.

Woodhall JW, Rodriguez-Salamanca L, 2020. Tips for coping with PCR inhibitors. NPDN Communicator. Volume 1 issue 1. December.

Rodriguez-Salamanca L, Woodhall JW, 2020. Quick Tips for working with synthetic oligonucleotides. NPDN News. Volume 15 Issue 4, May. p. 2.

Rodriguez-Salamanca L, Woodhall JW, 2020. Need of a positive control for a molecular test? Try synthetic DNA! NPDN News. Volume 15 Issue 3, April p. 3.

Woodhall JW, 2020. Bleeding canker of maple trees in Idaho. The Taproot, July/August. 10-11.

Woodhall JW, 2020. Gray area – *Rhizoctonia* more complicated than you think. March. Potato Grower Magazine.

Duellman, K., Olsen, N., Hutchinson, P.J.S., and Woodhall, J. 2019. Now is the time to destroy cull potatoes. Potato Grower, published online May 14, 2019

Painter K, Woodhall JW, 2018. Beware of white rot in your garlic and garden. Bonners Ferry Herald 1st November.

Painter K, Woodhall JW, 2018. Beware of white rot in your garlic and garden. Kootenai Valley Times, 10th October.

Woodhall JW, 2018. Down to the Nitty-Gritty- Tools to determine soil health and detect soil-borne diseases. February Potato Grower Magazine.

Woodhall JW, Wharton PS, 2016. Potato doctors – diagnostic developments. November Potato Grower Magazine.

Wharton PS, Woodhall JW Duellman K. 2016. Potato Late Blight Control Recommendations for Southern Idaho in 2016. Potato Progress, 16, 7.

O'Neill TM, Roberts H, Woodhall J, Boonham N, 2015. Strawberry Verticillium wilt proves wilt difficult to predict. HDC News.

Woodhall J, Boonham N, Roberts H & O'Neill TM, 2014. The challenges of direct pathogen detection from soil. HDC News.

Miles TD, Woodhall JW, Miles L, Hamm PB, Wharton PS. 2013. Surveying Anastomosis Groups of the Black Scurf Pathogen (*Rhizoctonia solani*) on Potatoes in the Pacific Northwest. Potato progress, 2013. Volume 8, Number 2.

Oral extension presentations

2023

- Seed health update. IESOA Summer convention. McCall.
- Seed and soil tuber testing. Idaho Potato Conference, Pocatello.
- The new IPM dashboard - diseases. Idaho Potato Conference, Pocatello.
- New and unusual potato diseases – potato wart. Idaho Potato Conference, Pocatello.
- Plant Pathology Field Trials in Southern Idaho. Idaho Potato Conference, Pocatello.
- Bacterial diseases – are we making progress. Idaho Onion Growers Association and Malheur County Onion Growers Association conference. Ontario, OR.
- Fungal diseases of onions. Idaho Onion Growers Association and Malheur County Onion Growers Association conference. Ontario, OR.
- Bean Bacteria Diseases. Treasure Valley Bean School, Nampa
- Bean Bacterial Diseases. Magic Valley Bean School.
- Plant disease. Master gardeners. Bonner County – zoom presentation.
- Onion bacterial disease diagnostics. Stop the rot annual meeting/South east fruit and vegetable conference. Savannah, Georgia.

2022

- The impact of a cool wet spring on onion diseases. Pacific Northwest Vegetable Association Annual Meeting.
- Plant Disease Update. Idaho Association of Plant Protection. Burley
 - Seed Health Research. IEOSA Winter Convention, Boise.
 - Rhizoctonia diseases. Valent PNW Group.
 - Bean disease update. Magic Valley Bean School. Twin Falls, Idaho.
 - Bean disease update. Treasure Valley Bean School. Nampa, Idaho.
 - Treasure Valley IPM Plant Disease update. Virtual.
 - Diagnosis – the plant pathology perspective. Idaho Potato Conference, Pocatello.
 - Combatting Rhizoctonia potato disease. Idaho Potato Conference, Pocatello.
 - Onion Disease Update. Idaho Onion Growers Association and Malheur County Onion Growers Association conference. Nampa.
 - Plant disease. Master gardeners, Twin falls.

2021

- The Use of Spore Trapping for the Early Warning of Potato Diseases. Washington Oregon Potato Conference. Virtual.
- Stop the Rot: Diagnostic and Survey Results. PNW Vegetable Association. Kennewick.
- Use of Models and Trapping in Pest Management. PNW Vegetable Association. Kennewick.
- Diagnosing and predicting foliar diseases in Idaho, Idaho Potato Conference. Virtual.
- New and unusual plant disease diagnoses. Idaho Association of Plant Protection. Burley.
- Soil-borne diseases – what causes them and what you can do about it. Idaho Potato Conference. Virtual.
- Bean Disease Update. Idaho Bean School. Virtual.
- White rot in garlic & onions. Cultivating Success Small Farms Team webinar. Virtual.
- Seed Health Research. IEOSA Summer Convention. McCall.
- Hop pathology and diagnostics. Idaho Hops Field day. Virtual.
- Fungicide Resistance. Valent PNW Meeting. Virtual.
- Seed health work at Parma R&E Center. IEOSA Winter convention. Virtual.
- Rhizoctonia potato disease: Current status in Idaho. Miller Research Pest Management Seminar. Virtual.

- *Spongospora* and PMTV. Miller Research Pest Management Seminar. Virtual.
- Seed and soil diagnostics. Seed Potato Advisory Meeting. Virtual.
- Foliar diseases of onion in the Treasure Valley. Onion Crop Protection Meeting. Virtual.
- Seed Pathology Research at the Parma R & E Center. IEOSA Virtual Winter Convention.
- Plant Disease Diagnosis and Management. Latah County Master Gardeners course. Virtual.
- Plant Disease Diagnosis and Management. Bonner/Boundary County Master Gardener course. Virtual.

2020

- Verticillium Wilt in Woody Plants: Diagnosis and Disease, Management, 2020 Idaho Horticultural Expo, Boise.
- Soil-borne pathogens of sugar beet. Snake River Sugar Beet Research and Seed Alliance. Twin Falls.
- Spore trapping and disease forecasting, Idaho Potato Conference, Pocatello.
- Seed-borne diseases, Idaho Potato Conference, Pocatello.
- Surveillance for pests and diseases – an overview, Idaho Potato Conference, Pocatello.
- Predictive diagnostics for soil-borne disease & Rhizoctonia update, Idaho Potato Conference, Pocatello. Idaho Potato Conference, Pocatello.
- Bean Disease Update 2020, Treasure Valley Bean School. Nampa.
- Bean Disease Update 2020, Magic Valley Bean School. Twin Falls.
- Soil borne diseases and spore trapping. Wheat and Barley Research Review, Boise
- Soil-borne Diseases of Sugar beet, Snake River Sugar Beet Conference, Caldwell
- Plant disease diagnostic update. Idaho Association of Plant Protection. Virtual.
- Stemphylium Leaf Blight Identification and Control Strategies. Pacific Northwest Vegetable Association Meeting. Virtual.
- Diagnostics and Detection Tools. Far west Agribusiness Association Meeting. Virtual.

2019

- Using Diagnostics and Molecular Detection Methods to Support Sustainable Potato Production. Invited Speaker. Mid-Michigan Agronomy Conference.
- Managing Foliar Potato Diseases with Traditional Weather-Based Disease Risk Management Systems and Modern Spore Trapping Networks. Invited Speaker. Mid-Michigan Agronomy Conference
- The Use of Spore Trapping for the Early Warning of Plant Diseases in Idaho, Far west Agribusiness Annual Meeting, Twin Falls
- Pesticide Resistance Management – Fungicides. Idaho Potato Conference, Pocatello.
- Potato Diseases Overview. Idaho Potato Conference, Pocatello.
- The Use of Spore Trapping for the Early Warning of Potato Diseases in Idaho, Idaho Potato Conference, Pocatello.
- Plant Disease Update, Magic Valley Bean School. Twin Falls.
- Cutting edge diagnostic methods, Idaho Nursery and Landscape Association Annual Conference. Boise.
- Plant Disease Update, Treasure Valley Bean School. Nampa.
- Soil-borne diseases of onion in the Treasure Valley. Idaho-Malheur County Onion Growers Association Annual Meeting.
- Soil borne diseases and spore trapping. Sugar beet research Review, Twin Falls
- Soil borne diseases and spore trapping. Wheat and Barley Research Review, Boise
- Plant Diseases and their treatment., Canyon County Farm Bureau Pesticide Recertification, Caldwell
- Plant Disease Update. ISDA Inspectors training, Boise.
- Plant Disease Update. Master Gardeners, Sandpoint.
- Technologies for plant disease detection, Cropping Systems field day, Parma.
- Plant Disease update, Horticulture in service training, Idaho Falls.
- Soil-borne diseases of Allium, Bonners Ferry, Garlic growers' workshop.

- Soil-borne diseases of Allium, Sandpoint, Garlic growers' workshop.
- Pest and Disease Trends 2019, IGSA, Sun Valley.
- Surveillance strategies for potato pests and disease, IGSA, Sun Valley.
- Potato Spore disease trapping, Rupert, Miller Research Field Day.
- An Introduction to Plant Pathology, Twin Falls Advanced Master Gardeners Class.
- New and unusual vegetable diseases diagnosed in 2019. Idaho Association of Plant Protection
- Plant Diseases and their impact, Master Gardeners lecture series, Caldwell.
- Soil-Borne Diseases of Sugar beet, Snake River Sugar Beet Conference, Burley
- Idaho Plant Disease Updates, UI Extension Pesticide Recertification Class, Caldwell.

2018

- Spore trapping as part of an early warning detection system for foliar pathogens of major crops. Idaho Potato Conference, Pocatello.
- Rhizoctonia potato disease –biology and epidemiology. Idaho Potato Conference, Pocatello.
- Bacterial ring rot - Disease cycle, survival and Diagnostics. Idaho Potato Conference, Pocatello.
- Molecular diagnostics to investigate soil-borne diseases of onion Idaho-Malheur County Onion Growers Associations Annual Meeting.
- Disease Diagnostics and Spore sampling – Southern Idaho Cropping School, Caldwell.
- Diagnostics and current Research for Potato Diseases. Idaho Potato seed growers' advisory group.
- Spore trapping as part of an early warning detection system for foliar pathogens of major crops. McCain Growers meeting.
- Soil borne diseases and spore trapping. Snake Sugar Beet River Research and Seed Alliance Sugar beet research review, Twin Falls.
- Soil borne diseases. IBC Bean research review, Boise.
- Soil borne diseases and spore trapping. IWC Wheat research review. Boise.
- Soil borne diseases and spore trapping. IBC Barley research review. Boise.
- Kimberly snake river pest management tour – talk on spore trapping
- Spore trapping for early detection of potato diseases. IACI Raw Products meeting. Idaho Grower Shippers Conference. Sun Valley.
- Spore trapping for early detection of potato diseases. IPC Ag Affairs Committee. Idaho Grower Shippers Conference. Sun Valley.
- Disease Forecasting. Onion Field Day meeting, Parma.
- Plant Disease Update, Idaho Association of Plant Protection, Twin Falls.
- Plant Pathology update, Potato pest advisory meeting, Twin Falls.
- Plant Pathology update, Pesticide recertification, Caldwell.
- The Importance of proper diagnosis for onion diseases. Pacific Northwest Vegetable Association Annual Meeting, Kennewick, WA. November 2018.
- Diagnosing Vegetable Problems. Pacific Northwest Vegetable Association Annual Meeting, Kennewick, WA. November 2018.
- Idaho State onion annual report, 2018 W-3008 Onion Multistate Project Annual Meeting Agenda, Kennewick, WA
- Onion Pathology Research in the Treasure Valley, 2018 W-3008 Onion Multistate Project Annual Meeting Agenda, Kennewick, WA

2017

- Molecular tools for pathogen detection and disease diagnosis. University of Idaho Potato_Conference, Pocatello.
- Diagnostics and Management of Bacterial Diseases in Potato. University of Idaho Potato Conference, Pocatello.

- Spore trapping for potato diseases. Idaho Grower Shippers Association Annual meeting, Sun Valley.
- Plant Pathology at Parma R&E Center. Idaho Treasure Valley Bean School. Nampa.
- Plant Pathology at Parma R&E Center. Parma Lions Agriculture Appreciation Lunch.
- Plant Disease Diagnostics. West Idaho Cropping School. Caldwell.
- New Diagnostics Lab and research into grapevine diseases at Parma. Presentation to Idaho Wine Commission Committee, Boise.
- New Findings from the Parma Diagnostic Lab. Idaho Association of Plant Protection meeting. Twin Falls.

2016

- Lab samples, in-field collecting and new technologies available for plant diagnostics. Horticulture in Service, Twin Falls.
- New developments in diagnostics for plant diseases. Idaho Association of Plant Protection. Jerome.
- New developments in biology, epidemiology and diagnostics for plant diseases. Pesticide Recertification Seminar, Caldwell.

Meetings organized

Treasure Valley IPM, 2022. Virtual.

Onion Crop Protection Meeting, 2021. Virtual.

Workshops

On-site detection of pathogens from soil – workshop with WSU at the 2018 Washington Oregon potato conference 24th January

Molecular Diagnostics for Potato Diseases Workshop for U of I and Idaho USDA-ARS, 2018 Parma, April.

Plant Disease Diagnostics workshop. U of I Extension Conference 2017, Burley, Idaho.

U of I and ISDA diagnostic workshop. 2016. Parma, Idaho

Field days

Parma Research and Extension Center IPM field day August 2023. Lead organizer.

Parma Research and Extension Center field day June 2023. Lead organizer.

Parma Research and Extension Center field day 2022. Lead organizer.

Parma Research and Extension Center Onion Disease field day 2018. Field and lab tour.

Parma Research and Extension Center Field day 2017. Field and lab tour.