

CURRICULUM VITAE
University of Idaho

NAME: Walsh, Olga S.

DATE: January 17, 2020

RANK OR TITLE: Research Associate Professor

DEPARTMENT: Plant Sciences

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DATE OF FIRST EMPLOYMENT AT UI: September 29, 2014

DATE OF TENURE: tenured

DATE OF PRESENT RANK OR TITLE: July 1, 2019

APPOINTMENT: 30% Research, 62% Outreach and Extension, 3% Teaching and Advising,
5% University Service and Leadership

EDUCATION BEYOND HIGH SCHOOL:

Ph.D., Soil Science, 2009, Oklahoma State University, Stillwater, Oklahoma

M.S., Soil Science, 2006, Oklahoma State University, Stillwater, Oklahoma

B.S., Soil Science, 1997, St. Petersburg State University, St. Petersburg, Russia

EXPERIENCE:

Teaching, Extension and Research Appointments:

2019-current, Research Associate Professor, Cropping Systems Agronomy,
University of Idaho, Parma, Idaho

2014-2019, Assistant Extension Professor, Cropping Systems Agronomy,
University of Idaho, Parma, Idaho

2010-2014, Assistant Professor, Soil Nutrient Management, Montana State
University, Bozeman, Montana

2004-2009, Graduate Research Assistant, Precision Nutrient Management,
Oklahoma State University, Stillwater, Oklahoma

TEACHING ACCOMPLISHMENTS:

Courses Taught:

2016, PLSC 502 DS, Sensor Technology. University of Idaho, fall semester,
directed study on application of remote sensors for water and nutrient
management in agricultural crop production.

2008, SOIL 4234, Soil Nutrient Management. Oklahoma State University, fall

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semester, 2 lectures and 2 labs per week, soil fertility and use of fertilizer materials for conservation, maintenance and improvement of soil productivity and to minimize environmental concerns.

Non-Credit Classes, Presentations, Workshops, Seminars, Invited Lectures, etc.:

2012, GPYH 429/LRES 525- Applied Remote Sensing. Montana State University. Guest lecture.

Students Advised:

Major Professor:

Arjun Pandey, Ph.D. started May 2012, transferred August 2015.

Graduate Student Committees:

Aparna Nayak, M.S., Agricultural Engineering. Starting date: August 2014. Graduated, Spring 2016. Jae Ryu. Economic Viability of Sustainable Agriculture Business Model-Aquaponics.

Kathrin LeQuia, M.S., Weed Science. Fall 2018. Don Morishita. Comparing Dry Bean Plant Populations in Narrow Row Spacing.

Kyler Beck, M.S., Plant Science. Expected completion date: Fall 2019. Michael Thornton. Remote Sensing for Monitoring of Pink Root Disease in Onion.

Garrett Thurgood, M.S., Plant Science. Expected completion date: Fall 2020. Juliet Marshall. Barley Agronomy.

Razieh Khajehyar, Ph.D., Plant Science. Expected completion date: Spring, 2019. Transferred Spring 2018. Esmaeil Fallahi. Quantitative and Qualitative Pre- and Postharvest Evaluations of Different Peach and Nectarine Cultivars in Idaho, USA.

SCHOLARSHIP ACCOMPLISHMENTS:

Areas of Specialization:

Soil fertility, nutrient management, precision agriculture

Publications:

Refereed/Adjudicated:

Journals:

Contributions to each manuscript as follows: 1 – grant proposal development; 2 – funds acquisition; 3 – data collection; 4 – project supervision; 5 – data analysis and interpretation; 6 – manuscript writing; 7 – manuscript editorial and communication with editorial board.

Walsh O.S. 2019. Nitrogen Fertilizer and Residue Management on No-Till Hard Red Spring Wheat Production. *Agrosystems, Geosciences & Environment*. 2(1):1-7. (1, 2, 3, 4, 5, 6, 7) DI

Walsh O.S., and W.L. Walsh. 2019. Seeding Rate and Nitrogen Fertilizer Rate Effect on Wheat Grain Yield and Quality. *Agrosystems, Geosciences & Environment*. In Print. (1, 2, 3, 4, 5, 6, 7) DI

- Walsh O.S. 2019. Nitrogen and Potassium Fertilization on No-Till Hard Red Spring Wheat Production. *Agrosystems, Geosciences & Environment*. In Print. (1, 2, 3, 4, 5, 6, 7) DI
- Walsh O.S., and W.L. Walsh. 2019. Nitrogen Fertilizer Rate and Time Effect on Wheat Production. *Agrosystems, Geosciences & Environment*. In Print. (1, 2, 3, 4, 5, 6, 7) DI
- Torrion, J.A., Walsh, O.S., Liang, X., Bicego, B., and A. Sapkota. 2019. Managing a wheat cultivar 'Egan' with gene for high grain protein. *Agrosystems, Geosciences & Environment*. 2:190019. doi:10.2134/age2019.03.0019. (1, 2, 3, 4, 5, 6, 7) DI
- Yang, R., X. Liang, J. A. Torrion, O.S. Walsh, K. O'Brien, and Q. Liu. 2018. The Influence of Water and Nitrogen Availability on the Expression of End-Use Quality Parameters of Spring Wheat. *Agronomy*. 8, 257; doi:10.3390/agronomy8110257 (1, 2, 3, 4, 7)
- Walsh O.S., S. Shafian, J.M. Marshall, C. Jackson, J.R. McClintick-Chess, S.M. Blanscet, K. Swoboda, C. Thompson, K.M. Belmont, and W.L. Walsh. 2018. Assessment of UAV Based Vegetation Indices for Nitrogen Concentration Estimation in Spring Wheat. *Advances in Remote Sensing*. Doi:10.4236/ars.2018.72006 (1, 2, 3, 4, 5, 6, 7)
- Walsh, O.S., S. Shafian, J.R. McClintick-Chess, K.M. Belmont, and S.M. Blanscet. 2018. Potential of Silicon Amendment for Improved Wheat Production. *Plants*. Special Issue. 7(2), 26; doi:10.3390/plants7020026 (1, 2, 3, 4, 5, 6, 7)
- Walsh O.S., S. Shafian, and R.J. Christiaens. 2018. Evaluation of Sensor-Based Nitrogen Rates and Sources in Wheat. *International Journal of Agronomy*. doi:10.1155/2018/5670479. (1, 2, 3, 4, 5, 6, 7)
- Pishchik V.N., Vorobyev N.I., Ostankova Yu.V., Semenov A.V., Totolian Areg A., Popov A.A., Khomyakov Y.V., Udalova O.R., Shibanov D.V., Vertebny V.E., Dubovitskaya V.I., Sviridova O.V., Walsh O.S., and S. Shafian. 2018. Effect of Combine Use of Bacteria *Bacillus subtilis* and Humic Preparation on Physiological Characteristics of Tomato Plants. *International Journal of Plant and Soil Science*. 22(6): 1-12 (5, 6, 7)
- Walsh O.S., S. Shafian, and R. J. Christiaens. 2017. Nitrogen Fertilizer Management in Dryland Wheat Cropping Systems. *Plants*. Special Issue. 7(1), 9 (1, 2, 3, 4, 5, 6, 7)
- Samborski S. M., D. Gozdowski, O. S. Walsh, P. Kyveryga, and M. Stępień. 2017. Sensitivity of Sensor Based Nitrogen Rates to Selection of Within-Field Calibration Strips in Winter Wheat. *Crop and Pasture Science*. 68(2):101-114. (5, 6, 7)
- Walsh O.S. and R. Christiaens. 2016. Relative Efficacy of Liquid Nitrogen Fertilizers in Dryland Spring Wheat. doi:10.1155/2016/6850672. *International Journal of Agronomy*. (1, 2, 3, 4, 5, 6, 7)

- Walsh O.S., and K. Girma. 2016. Environmentally Smart Nitrogen Performance in Northwestern Great Plains' Spring Wheat Production Systems. *International Journal of Agriculture*. doi:10.1155/2016/8969513. (1, 2, 3, 4, 5, 6, 7)
- Pishchik V.N., N.I. Vorobyov, O.S. Walsh, V.G. Surin, and Y.V. Khomyakov. 2016. Estimation of Synergistic Effect of Humic Fertilizer and Bacillus Subtilis on Lettuce Plants by Reflectance Measurements. *Journal of Plant Nutrition*. doi: 10.1080/01904167.2015.1061551. (5, 6, 7)
- Samborski S. M., D. Gozdowski, E.S. Dobers, M. Stępień, O.S. Walsh, and E. Leszczyńska. 2016. On-Farm Evaluation of an Active Optical Sensor Performance for Variable Nitrogen Application in Winter Wheat. *European Journal of Agronomy*. (74):56–67. (2, 5, 6, 7)
- Samborski S. M., D. Gozdowski, O.S. Walsh, D.W. Lamb, M. Stępień, E.S. Gacek, and T. Drzazga. 2015. Winter Wheat Genotype Effect on Canopy Reflectance: Implications for Using NDVI for In-Season Nitrogen Topdressing Recommendations. *Agronomy Journal*. 107 (6):2097-2106. (2, 5, 6, 7)
- Walsh O.S., J.B. Solie, and W.R. Raun 2013. Can Oklahoma Mesonet Cumulative Evapotranspiration Data Be Accurately Predicted Using Three Interpolation Methods? *Communications in Soil Science and Plant Analysis*. 44(5):892-899. (1, 3, 4, 5, 6, 7)
- Walsh O.S., A.R. Klatt, J.B. Solie, C.B. Godsey, and W.R. Raun. 2012. Use of Soil Moisture Data for Refined Greenseeker Sensor Based Nitrogen Recommendations in Winter Wheat (*Triticum aestivum* L.). *Journal of Precision Agriculture*. 14:343-356. (1, 2, 3, 4, 5, 6, 7)
- Walsh O.S., A.R. Klatt, J.B. Solie, and W.R. Raun. 2012. Effect of Delayed N Fertilization on Corn Grain Yields. *Journal of Plant Nutrition*. 35(4):538-555. (1, 2, 3, 4, 5, 6, 7)
- Tubaña B.S., D.B. Arnall, O.S. Walsh, B. Chung, J.B. Solie, K. Girma, and W. R. Raun. 2008. Adjusting Midseason Nitrogen Rate Using a Sensor-Based Optimization Algorithm to Increase Use Efficiency in Corn (*Zea mays* L.). *Journal of Plant Nutrition*. 31:1975-1998. (1, 3, 4, 5, 6)
- Freeman K.W., A.R. Klatt, W.R. Raun, K. Girma, D.B. Arnall, B. Tubaña, S.L. Holtz, K.D. Lawles, O.S. Walsh, B. Chung, and K.D. Sayre. 2007. Bed and flat-planted dryland winter wheat as influenced by row configuration. *Archives of Agronomy and Soil Science*. 53:293-304. (1, 3, 6)

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- Martin K., K. Girma, K.W. Freeman, R.K. Teal, B. Tubaña, D.B. Arnall, B. Chung, O.S. Walsh, J.B. Solie, M.L. Stone, and W. R. Raun. 2007. Expression of Variability in Corn as Influence by Growth Stage Using Optical Sensor Measurements. *Agronomy Journal*. 99:384-389. (1, 3, 6)
- Moges S.M., K. Girma, R. Teal, K. Freeman, H. Zhang, D.B. Arnall, S.L. Holtz, B. Tubaña, O.S. Walsh, B. Chung, and W.R. Raun. 2007. In-Season Estimation of Grain Sorghum Yield Potential Using a Hand-Held Optical Sensor. *Archives of Agronomy and Soil Science*. 53:617-628. (1, 3, 6)
- Girma K., S.L. Holtz, D.B. Arnall, L.M. Fultz, T.L. Hanks, K.D. Lawles, C.J. Mack, K.W. Owen, S.D. Reed, J. Santilliano, O.S. Walsh, M. J. White, and W.R. Raun. 2007. Weather, Fertilizer, Previous Year Yield and Fertilizer Levels Affect Ensuing Year Fertilizer Response of Wheat. *Agronomy Journal*. 99:1607-1614. (1, 3, 5, 6)
- Teal R., B. Tubaña, K. Girma, K. Freeman, B. Arnall, O.S. Walsh, and W.R. Raun. 2006. In- Season Prediction of Corn Grain Yield Potential Using Normalized Difference Vegetation Index. *Agronomy Journal*. 98:1488-1494. (1, 3, 6).

Peer Reviewed/Evaluated:

- Walsh, O.S., M. Thornton, X. Liang, C.W. Rogers. 2019. Uniform Plant Stand is Key to Crop Yield and Quality. Bulletin 951. University of Idaho. 20 pp. OAE
- Dari B., Rogers C.W., and O.S. Walsh. 2019. Understanding Factors Controlling Ammonia Volatilization from Fertilizer Nitrogen Applications. Bulletin 926. University of Idaho. 8 pp. OAE
- Rogers C.W., Dari B., and O.S. Walsh. 2019. Best Management Practices for Minimizing Ammonia Volatilization from Fertilizer Nitrogen Applications in Idaho Crops. Bulletin 927. University of Idaho. 10 pp. OAE
- Walsh, O.S. and J. McClintick-Chess. Know the Demographic Trends: The Findings of a Three-Year Survey on Nitrogen Management and Precision Agriculture Adoption in Southern Idaho. RES 200. University of Idaho. 5 pp. OAE
- Walsh O.S., D. Tarkalson, A. Moore, G. Dean, D. Elison, J. Stark, O. Neher, and B. Brown. 2019. Southern Idaho Fertilizer Guide: Sugar Beets. Bulletin 935. University of Idaho. 15 pp.
- Walsh O.S., Kathleen M. Painter, Jordan R. McClintick-Chess, and Steven M. Blanscet. 2019. A Grower's Guide to Successful On-Farm Research. Bulletin 914. University of Idaho. 11 pp.
- Walsh, O.S., R. Mahler, and T. Tindall. 2019. Soil Sampling. Bulletin 913. University of Idaho. 7 pp.

Brown B. and O.S. Walsh. 2016. Planting Dates in Wheat Production. Bulletin 906. University of Idaho. 10 pp.

Walsh O.S. and K.M. Belmont. 2015. Improving Nitrogen-Use Efficiency in Idaho Crop Production. Bulletin 899. University of Idaho. 11 pp.

Walsh O.S. 2015. Nitrogen Management in Field Crops with Reference Strips and Crop Sensors. Bulletin 896. University of Idaho. 6 pp.

Walsh O. S., R.J. Christiaens, and A. Pandey. 2013. Foliar-Applied Nitrogen Fertilizers in Spring Wheat Production. Western Nutrient Digest. 5(3). pp. 1-5.

Walsh O.S. 2012. Evaluation of Sensors for Improved Nitrogen Recommendations in Spring Wheat Production. Western Nutrient Digest. 4(1). pp. 1-5.

Newsletters:

Walsh O.S. Idaho Crops & Soils News. Newsletter. January 2015 – 2018.

Editor Reviewed Publications and Reports:

Walsh O.S. 2019. Nitrogen and Potassium Fertilization for improved Dryland Spring Wheat Grain Yield and Quality. Crops & Soils. 52(6). pp. 10-16. OAE

Olga S. Walsh and J.R. McClintick-Chess. 2019. Cover Crops for Improved Soil Health in Silage Corn Cropping System in Idaho. Crops & Soils. 52(2). pp. 32-37. OAE

Walsh O.S., Marsalis M., Ghimire R., Norberg S., and S. Kesoju. Recap of the 2019 Western Society of Crop Science Meeting. 2019. CSA News Magazine. 64 (8):26. OAE

Walsh O.S. Conducting On-Farm Research. 2019. Crops & Soils. 52(5). pp. 26-31. OAE

Ondoua R. N. and O.S. Walsh. 2017. Varietal Differences in Nitrogen Use Efficiency among Spring Wheat Varieties in Montana. Crops & Soils. 50(5). pp.40-42.

Ondoua R. N. and O.S. Walsh. 2017. Precision Agriculture, Advances, and Limitations: Lessons to the Stakeholders. Crops & Soils. 50(3). pp.40-47.

Ondoua R. N., O.S. Walsh, and K. Desta. 2017. Grazing and Organic Amendments Enhance Growth and Development of Biennial Winter Canola. Crops & Soils 50(2). pp. 32-34.

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- Walsh O.S. 2016. Recap of the Nitrogen Use Efficiency Conference. CSA News Magazine. 61. pp. 28-29.
- Walsh O.S. 2016. Unmanned Aerial Imagery and Ground-Based Crop Sensors for Improved Nitrogen Management in Wheat. *Crops & Soils*. pp. 30-33.
- Walsh O.S. 2015. Reference Strips and Precision Sensors for Increased Nitrogen Use Efficiency in Wheat Production. USDA-NIFA, Western SARE. Final Research Report. 6 pp.
- Walsh O.S. 2014. Efficiency Test of HUMA GRO® SUPER PHOS® in Spring Wheat. Research Report. 2 pp.
- Walsh O. S., R.J. Christiaens, and A. Pandey. 2014. Liquid Nitrogen Fertilization in Spring Wheat. *Fluid Journal*. 22(1). pp. 4-8.
- Walsh O.S. 2014. Winter Wheat Study- Montana State University: WTARC. Research Report. 4 pp.
- Walsh O.S. 2013. Productive Journey to Successful Retention. CSA News Magazine. 58. pp. 34-35.
- Walsh O. S., and R.J. Christiaens. 2013. Reference Strips for Efficient Nutrient Management. Extension brochure. Montana State University. 12 pp.
- Walsh O.S., R.J., Christiaens, and A. Pandey. 2013. Local Data is Required for Improved Sensor-Based Nitrogen Recommendations. *Better Crops*. 97(4). pp. 26-28.
- Walsh O.S., R.J. Christiaens, A. Pandey, and D.A. Miller. 2013. Local Data Improves Sensor-Based Nitrogen Recommendations. *Crops & Soils*. 46(6). pp. 20-23.
- Walsh O.S., R.J. Christiaens, and A. Pandey. 2013. Foliar-Applied Nitrogen Fertilizers in Spring Wheat Production. *Crops & Soils*. 46(4). pp. 26-32.
- Walsh O.S., D.E. Edmonds, Y. Kanke, and W. R. Raun. 2009. Improving Mid-Season N Rate Recommendations for Winter Wheat Using Soil Moisture Data. *Better Crops*. 93(1). pp. 26-27.
- Walsh O.S. 2011-2014. Soil Fertility Annual Research Report. WTARC, Montana State University:
January 2015. 2014 Annual Report, 21 pp.
January 2014. 2013 Annual Report, 26 pp.
January 2013. 2012 Annual Report, 32 pp.
January 2012. 2011 Annual Report, 29 pp.

Other Publications:

Abstracts:

- Improving Nutrient Management for Wheat through Comprehensive Soil and Crop Survey. O. S. Walsh, C. W. Rogers, S. Shafian, J. McClintick-Chess, and J. Marshall. 2019. *Proc. of the ASA International Annual meetings. DI*
- Nitrogen Response, Uptake and Use Efficiency of Spring Wheat Cultivars. O. S. Walsh, S. Shafian, J. Marshall, and K. O'Brien. 2019. *Proc. of the ASA International Annual meetings. DI*
- UAV-Based in-Season Assessment of Fruit Trees. O. S. Walsh, S. Shafian, and E. Fallahi. 2019. *Proc. of the ASA International Annual meetings. DI*
- Nitrogen and Water Management for Optimized Sugar Beet Yield and Sugar Content. O. S. Walsh, S. Shafian, and J. McClintick-Chess. 2019. *Proc. of the ASA International Annual meetings. DI*
- Nitrogen Management Aid Application in Winter Wheat and Barley. O. S. Walsh and J. McClintick-Chess. 2019. *Proc. of the ASA International Annual meetings. DI*
- Survey of C/N Ratios of Barley and Wheat Cultivars in Idaho. G. Thurgood, C.W. Rogers, B. Dari, J. Marshall, Olga S. Walsh, and K.L. Schroeder. 2019. *Proc. of the ASA International Annual meetings. DI*
- UAV-Based Assessment of Nitrogen Response, Uptake, and Use Efficiency of Spring Wheat Cultivars. Walsh O.S., S. Shafian, J. Marshall, C. Jackson, J.R. McClintick-Chess. 2018. *Proc. of the ASA International Annual meetings.*
- The Influence of Water and Nitrogen Availability on the Expression of End-Use Quality Parameters of Spring Wheat. Yang, R., X. Liang, J. A. Torrión, O.S. Walsh, K. O'Brien, and Q. Liu. 2018. *Proc. of the ASA International Annual meetings.*
- Walsh O.S., J. R. McClintick-Chess, and S.M. Blanscet. Rate and Application Time of Plant Available Silicon on Winter Wheat Yield and Quality. 2017. *Proc. of the 7th International Conference on Silicon in Agriculture.*
- Walsh O.S., S. Shafian, J.R. McClintick-Chess, and S. Blanscet. A Comparison of Machine Learning Techniques Applied to UAV Data for Nitrogen Content Estimation. 2017. *Proc. of the ASA International Annual meetings.*
- Walsh O.S., J. R. McClintick-Chess, and S.M. Blanscet. Rate and Application Time of Plant Available Silicon on Winter Wheat Yield and Quality. 2017. *Proc. of the ASA International Annual meetings.*

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- Walsh O.S., D. Morishita, A. Woolf-Weibey, J. R. McClintick-Chess, and S.M. Blanscet. Irrigation Water Amount and Delivery Method Effect on Garden Bean Production under Conventional and Strip Tillage Systems. 2017. *Proc. of the ASA International Annual meetings.*
- Stanislaw Marek Samborski, Dariusz Gozdowski, Olga Walsh, Michał Stępień and Elżbieta Bodecka. Improving Optical Sensor Calibration for Winter Wheat Nitrogen Management in on-Farm Conditions. 2017. *Proc. of the ASA International Annual meetings.*
- Yang R., Liang X., O'Brien K., Walsh O.S., and J. Deficit Irrigation Affects Wheat Yield and End-Use Quality. 2017. *Proc. of the ASA International Annual meetings.*
- Abi-Ghanem R., Bryla D., Walsh O.S., and L. Celi. Humic Products: Uses in Crop Production and Soil Improvement. 2017. *Proc. of the ASA International Annual meetings.*
- Walsh O.S., J. R. McClintick-Chess, and S.M. Blanscet. 2016. Evaluation of NZone Max Nitrogen Aid in Corn. *Proc. of the ASA-CSSA-SSSA International Annual meetings.*
- Walsh O.S., J. Marshall, C. Jackson, J.R. McClintick, S.M. Blanscet, C. Thompson, and K. Swoboda. 2016. UAV - Based Scouting for Precision Nitrogen Management in Wheat. *Proc. of the ASA-CSSA-SSSA International Annual meetings.*
- Walsh O.S., J.A. Torrion, X. Liang J. R. McClintick-Chess, and S.M. Blanscet. 2016. Sensor-Based Technologies for Improving Water and Nitrogen Use Efficiency. *Proc. of the ASA-CSSA-SSSA International Annual meetings.*
- Walsh O.S., J. R. McClintick-Chess, and S.M. Blanscet. 2016. Evaluation of Micro Carbon Technology® -Based P Fertilizer, Super Phos® in Spring Wheat. *Proc. of the ASA-CSSA-SSSA International Annual meetings.*
- Walsh O.S., J. R. McClintick-Chess, and S.M. Blanscet. 2016. Potential of Silicon Amendment for Improved Wheat Production. *Proc. of the ASA-CSSA-SSSA International Annual meetings.*
- Walsh O.S., J. R. McClintick-Chess, and S.M. Blanscet. 2016. Foliar Application of Agxplre Prevent Phosphorus Aid in Winter Wheat. *Proc. of the ASA-CSSA-SSSA International Annual meetings.*
- Walsh O.S., J. R. McClintick-Chess, and S.M. Blanscet. 2016. Evaluation of Seed Coating Treatments in Soft White Winter Wheat. *Proc. of the ASA-CSSA-SSSA International Annual meetings.*

- Liang X., O.S. Walsh, J.A. Torrion, H. Sadeghi, and H. Neibling. 2016. Developing Efficient Deficit Irrigation and Nutrient Management Strategies for Spring Wheat Grown in Southeastern Idaho, USA. *Proc. of the ASA-CSSA-SSSA International Annual meetings.*
- Walsh O.S. 2015. Precision Sensing for Improved Wheat Production. *Proc. of the ASA-CSSA-SSSA International Annual meetings.*
- Walsh O.S. 2015. Identifying and Distinguishing Between Nitrogen and Water Stress. *Proc. of the ASA-CSSA-SSSA International Annual meetings.*
- Walsh O.S. 2015. Evaluation of Seed Coating Treatments in Soft White Winter Wheat. *Proc. of the ASA-CSSA-SSSA International Annual meetings.*
- Walsh O.S., P. Jha, A. Varanasi, V. Kumar, and S. Leland. 2014. Light-Activated Sensor Controlled Sprayer (Weed Seeker®) for Cost-Effective Weed Control in Post-Harvest Wheat Stubble. *Proc. of the ASA-CSSA-SSSA International Annual meetings.*
- Walsh O.S., R.J. Christiaens, and A. Pandey. 2014. Potassium Management for Improved Dryland Spring Wheat Grain Yield and Quality. *Proc. of the ASA-CSSA-SSSA International Annual meetings.*
- Walsh O.S., R.J. Christiaens, and A. Pandey. 2014. Evaluation of Urea- Potassium Chloride Blend and Residue Management in Spring Wheat. *Proc. of the ASA-CSSA-SSSA International Annual meetings.*
- Walsh O.S., R.J. Christiaens, and A. Pandey. 2014. Evaluation of Micro Carbon Technology – Based Phosphorus Fertilizer, Super Phos, in Spring Wheat. *Proc. of the ASA-CSSA-SSSA International Annual meetings.*
- Walsh O.S., R.J. Christiaens, and A. Pandey. 2014. Liquid Nitrogen Fertilizers in Spring Wheat. *Proc. of the ASA-CSSA-SSSA International Annual meetings.*
- Walsh O.S., R.J. Christiaens, and A. Pandey. 2014. Urea, Urea-ESN Blends and ESN as N Sources for Wheat. *Proc. of the ASA-CSSA-SSSA International Annual meetings.*
- Walsh O.S., R.J. Christiaens, and A. Pandey. 2014. Evaluation of Precision Sensors and Nitrogen Algorithms in Wheat. *Proc. of the ASA-CSSA-SSSA International Annual meetings.*
- Walsh O.S., R.J. Christiaens, and A. Pandey. 2014. Effect of Nitrogen Sources, Rates and Application Time on Spring Wheat Yield and Grain Protein. *Proc. of the ASA-CSSA-SSSA International Annual meetings.*

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- Walsh O.S., R.J. Christiaens, and A. Pandey. 2013. Effect of Nitrogen Sources, Rates and Application Time on Spring Wheat Yield and Grain Protein. *Proc. of the ASA-CSSA-SSSA International Annual meetings.*
- Walsh O.S., R.J. Christiaens, and A. Pandey. 2013. Liquid Nitrogen Fertilizers in Spring Wheat. *Proc. of the ASA-CSSA-SSSA International Annual meetings.*
- Walsh O.S., R.J. Christiaens, M. Knox, and A. Pandey. 2013. Comparison of Nitrogen Sources for Spring Wheat Production. *Proc. of the ASA-CSSA-SSSA International Annual meetings.*
- Walsh O.S., R.J. Christiaens, M. Knox, and A. Pandey. 2013. Evaluation of Sensor-Based Technologies and Nitrogen Sources for Improved Spring Wheat Recommendations. *Proc. of the ASA-CSSA-SSSA International Annual meetings.*
- Walsh O.S. 2012. Effect of Nitrogen Sources, Rates and Application Time on Spring Wheat Yield and Grain Protein. *Proc. of the ASA-CSSA-SSSA International Annual meetings.*
- Walsh O.S., and M.P. Westcott 2012. Evaluation of Sensor-Based Technologies and Nitrogen Sources for Improved Recommendations for Dryland and Irrigated Spring Wheat Production in Montana. *Proc. of the ASA-CSSA-SSSA International Annual meetings.*
- Walsh O.S., and M.P. Westcott. 2012. Foliar Applied Nitrogen Fertilizers in Spring Wheat. *Proc. of the ASA-CSSA-SSSA International Annual meetings.*
- Walsh O.S. 2011. Effect of Nitrogen Sources, Rates and Application Time on Spring Wheat Yield and Grain Protein. *Proc. of the ASA-CSSA-SSSA International Annual meetings.*
- Walsh O.S., and M.P. Westcott. 2011. Evaluation of Sensor-Based Technologies and Nitrogen Sources for Improved Recommendations for Dryland and Irrigated Spring Wheat Production in Montana. *Proc. of the ASA-CSSA-SSSA International Annual meetings.*
- Walsh O.S., W.R. Raun, J.B. Solie, A. Klatt, C. Godsey, B. Arnall, D. Edmonds, B. England, C. Daft, and Y. Kanke. 2008. Use of Soil Moisture Data to Refine GreenSeeker Sensor Based on Recommendations in Winter Wheat. *Proc. of the ASA-CSSA-SSSA International Annual meetings.*
- Walsh O.S., W.R. Raun, J.B. Solie, R. Elliot, A. Sutherland, K. Girma, and D.B. Arnall. 2007. Real-Time Use of Mesonet Weather Data for Refined Greenseeker Sensor Based N Recommendations in Winter Wheat. *Proc. of the ASA-CSSA-SSSA International Annual meetings.*

- Chung B.K., D.B. Arnall, B.S. Tubaña, K. Girma, S.L. Holtz, P.L. Turner, O.S. Walsh, C.R. Dotson, J.B. Solie, and W.R. Raun. 2007. Changes in Response Indices as a Function of Time in Winter Wheat. *Proc. of the ASA-CSSA-SSSA International Annual meetings*.
- Edmonds D.E., D.B. Arnall, B. Chung, M.C. Daft, K. Girma, C.R. Dotson, B.B. England, S.L. Holtz, C.J. Mack, W.R. Raun, J.B. Solie, R.K. Taylor, B.S. Tubaña, P.L. Turner, O.S. Walsh, and D.L. Zavodny. 2007. Extension and Analysis of the Ramp Calibration Strip Fertilization Strategy. *Proc. of the ASA-CSSA-SSSA International Annual meetings*.
- Girma K., D.B. Arnall, S.L. Holtz, W.R. Raun, B. Chung, B.S. Tubaña, O.S. Walsh, P.L. Turner, C.R. Dotson, B.B. England, D.E. Edmonds, M.C. Daft, and D. Zavodny. 2007. Weather, Fertilizer, Previous Year Grain Yield and Fertilizer Response Levels Affect Ensuing Year Grain Yield and Fertilizer Response of Winter Wheat. *Proc. of the ASA-CSSA-SSSA International Annual meetings*.
- Holtz S.L., B.S. Tubaña, D.B. Arnall, K.W. Freeman, R.K. Teal, B. Chung, O.S. Walsh, P.L. Turner, K.D. Lawles, C.J. Mack, D.E. Edmonds, K. Girma, and W.R. Raun. 2007. Response of Corn (*Zea mays* L.) Grain Yields to Variable Row Nitrogen Fertilization. *Proc. of the ASA-CSSA-SSSA International Annual meetings*.
- Tubaña B.S., D.B. Arnall, K.W. Freeman, R.K. Teal, B. Chung, O.S. Walsh, D.E. Edmonds, S. Holtz, P. Turner, C.R. Dotson, B. England, M.C. Daft, C.J. Mack, K. Lawles, K. Girma, and W.R. Raun. 2007. Corn (*Zea mays* L.) Grain Yield Response to B y-Plant Nitrogen Fertilization. *Proc. of the ASA - CSSA - SSSA International Annual meetings*.
- Chung B., B.S. Tubaña, B. Arnall, S. Holtz, O.S. Walsh, K. Martin, K. Desta, and W.R. Raun. 2006. Optimum Spatial Scale and Management Resolution for Corn (*Zea mays* L.). *Proc. of the ASA-CSSA-SSSA International Annual meetings*.
- Holtz S., K. Desta, B. Arnall, B. Tubaña, R. Teal, K. Lawles, C. Mack, B. Chung, O.S. Walsh, and W.R. Raun. 2006. Aboveground Nitrogen Accumulation as a Function of Time in Corn and Winter Wheat. *Proc. of the ASA-CSSA-SSSA International Annual meetings*.
- Lawles K., K. Freeman, R. Teal, B. Arnall, B. Tubaña, O.S. Walsh, B. Chung, S. Holtz, and W.R. Raun. 2006. Effect of Delayed Emergence on Corn (*Zea mays* L.) Grain Yields. *Proc. of the ASA-CSSA-SSSA International Annual meetings*.
- Tubaña B., R.K. Teal, B. Arnall, K. Freeman, B. Chung, O.S. Walsh, K. Lawles, C. Mack, and W.R. Raun. 2006. Adjusting Mid-Season Nitrogen Using a Sensor-Based Optimization Algorithm to Increase Use Efficiency in Corn (*Zea mays* L.). *Proc. of the ASA-CSSA-SSSA International Annual meetings*.

Arnall D.B., K.W. Freeman, K.L. Martin, K. Girma, R.K. Teal, C.J. Mack, W.R. Raun, B. Tubaña, O.S. Walsh, and B. Chung. 2005. Refining Response Index in Winter Wheat with the Use of CV's. *Proc. of the ASA-CSSA-SSSA International Annual meetings.*

Girma K., K.W. Freeman, K.L. Martin, R.K. Teal, D.B. Arnall, C.J. Mack, J. Mosali, B. Tubaña, B. Chung, O.S. Walsh, W.R. Raun, H. Zhang, and S. Moges. 2005. Long-Term Municipal Biosolids and Ammonium Nitrate Fertilizer Effects on Grain Yield and Nitrogen Uptake and Concentration of Selected Metals in Dry Land Winter Wheat (*Triticum aestivum* L.) *Proc. of the ASA-CSSA-SSSA International Annual meetings.*

Proceedings of Professional Meetings:

Improving Nutrient Management for Wheat through Comprehensive Soil and Crop Survey. O. S. Walsh, C. W. Rogers, S. Shafian, J. McClintick-Chess, and J. Marshall. 2019. *Proc. of the Western Crop Science Society Conference. DI*

Nitrogen Response, Uptake and Use Efficiency of Spring Wheat Cultivars. O. S. Walsh, S. Shafian, J. Marshall, and K. O'Brien. 2019. *Proc. of the Western Crop Science Society Conference. DI*

UAV-Based in-Season Assessment of Fruit Trees. O. S. Walsh, S. Shafian, and E. Fallahi. 2019. *Proc. of the Western Crop Science Society Conference. DI*

Nitrogen and Water Management for Optimized Sugar Beet Yield and Sugar Content. O. S. Walsh, S. Shafian, and J. McClintick-Chess. 2019. *Proc. of the Western Crop Science Society Conference. DI*

Nitrogen Management Aid Application in Winter Wheat and Barley. O. S. Walsh and J. McClintick-Chess. 2019. *Proc. of the Western Crop Science Society Conference. DI*

Is Dual-Purpose Canola Feasible in the PNW? S. C. Fransen, D. Llewellyn, D. L. Boss, and O. S. Walsh. 2019. *Proc. of the Western Crop Science Society Conference. DI*

Walsh O.S., S. Shafian, J.R. McClintick-Chess. 2018. Silicon Amendment in Wheat Production. *Proc. Idaho Nutrient Management Conference.*

Walsh O.S., S. Shafian, J. Marshall, J.R. McClintick-Chess. 2018. UAV-Based Vegetation Indices Can Accurately Estimate Wheat (*Triticum aestivum* L.) Nitrogen Content. *Proc. Idaho Nutrient Management Conference.*

WALSH, Olga S.

- Walsh O.S., S. Shafian, J. Marshall, C. Jackson, J.R. McClintick-Chess. Assessment of Red Edge Based Vegetation Indices Derived from Unmanned Aerial Vehicle for Plant Nitrogen Content Estimation. 2018. *Proc. International Conference on Precision Agriculture*.
- Walsh O.S., S. Shafian, J. Marshall, C. Jackson, J.R. McClintick-Chess. Assessment of Red Edge Based Vegetation Indices Derived from Unmanned Aerial Vehicle for Plant Nitrogen Content Estimation. 2018. *Proc. of the Western Crop Science Society Conference*.
- Walsh O.S., D. Morishita, A. Woolf-Weibey, J. R. McClintick-Chess, and S.M. Blanscet. Irrigation Water Amount and Delivery Method Effect on Garden Bean Production under Conventional and Strip Tillage Systems. 2017. *Proc. of the Agrophysics Trends Conference*.
- Walsh O.S., J.A. Torrion, X. Liang, J.R. McClintick, S.M. Blanscet. Response of Spring Wheat to Varied Nitrogen and Water Applications. 2017. *Proc. of the Agrophysics Trends Conference*.
- Walsh O.S., J. Marshall, C. Jackson, J.R. McClintick-Chess, S.M. Blanscet, C. Thompson, and K. Swoboda. Precision sensing for improved wheat production. 2017. *Proc. of the Agrophysics Trends Conference*.
- Walsh O.S., D. Morishita, A. Woolf-Weibey, J. R. McClintick-Chess, and S.M. Blanscet. 2017. Irrigation Water Amount and Delivery Method Effect on Garden Bean Production under Conventional and Strip Tillage Systems. *Proc. of the Western Crop Science Society Conference*.
- Walsh O.S., J. R. McClintick-Chess, and S.M. Blanscet. 2017. Rate and Application Time of Plant Available Silicon on Winter Wheat Yield and Quality. *Proc. of the Western Crop Science Society Conference*.
- Walsh O.S., J. Marshall, J. McClintick-Chess, S. Blanscet, C. Jackson. 2017. Precision Sensing for Improved Wheat Production. *Proc. Western Nutrient Management Conference*.
- Walsh O.S., J. McClintick-Chess, S. Blanscet. 2017. Plant Available Silicon Application in Winter Wheat. *Proc. Western Nutrient Management Conference*.
- Walsh O.S., J. Torrion, X. Liang, J. McClintick, S. Blanscet. 2017. Response of Spring Wheat to Varied Nitrogen and Water Applications. *Proc. Western Nutrient Management Conference*.

WALSH, Olga S.

- Walsh O. S., K. Belmont, J. McClintick-Chess. 2016. Sensor-Based Technologies for Improving Water and Nitrogen Use Efficiency. *Proc. International Conference on Precision Agriculture*.
- Walsh O. S., K. Belmont, J. McClintick-Chess, J. Marshall, C. Jackson, C. Thompson, and K. Swoboda. 2016. UAV-Based Crop Scouting for Precision Nutrient Management. *Proc. International Conference on Precision Agriculture*.
- Samborski S. M., D. Gozdowski, O. S. Walsh, D. W. Lamb, M. Stępień, E. S. Gacek, T. Drzazga. 2016. Winter Wheat Genotype Effect on Canopy Reflectance: Implications for Using NDVI for In-Season Nitrogen Topdressing Recommendations. *Proc. International Conference on Precision Agriculture*.
- Samborski S. M., D. Gozdowski, M. Stępień, O. S. Walsh, E. Leszczyńska. 2016. On-Farm Evaluation of an Active Optical Sensor Performance for Variable Nitrogen Application in Winter Wheat. *Proc. International Conference on Precision Agriculture*.
- Walsh O.S., J. Marshall, C. Jackson, J.R. McClintick, S.M. Blanscet, C. Thompson, and K. Swoboda. 2016. UAV - Based Scouting for Precision Nitrogen Management in Wheat. *Proc. of the Western Crop Science Society Conference*.
- Walsh O.S., K.M. Belmont, J.R. McClintick-Chess. 2016. Improving Water and Nitrogen Use Efficiency in Wheat. *Proc. Idaho Nutrient Management Conference*.
- Walsh O.S., A. Pandey, and R.J. Christiaens. 2015. Evaluation of Micro-Carbon Technology- Based P Fertilizer, Super Phos, in Spring Wheat. *Proc. Western Nutrient Management Conference*.
- Walsh O.S., A. Pandey, and R.J. Christiaens. 2015. Liquid Fertilizer Evaluation in Spring Wheat. *Proc. Western Nutrient Management Conference*.
- Walsh O.S., A. Pandey, and R.J. Christiaens. 2015. Sensor-Based Technologies for Nitrogen management in Spring Wheat. *Proc. Western Nutrient Management Conference*.
- Walsh O.S., A. Pandey, and R.J. Christiaens. 2015. Environmentally Smart Nitrogen Performance in Northwestern Great Plains' Spring Wheat Production Systems. *Proc. Western Nutrient Management Conference*.
- Walsh O.S., and R.J. Christiaens. 2014 Precision Sensors for Improved Nitrogen Recommendations in Wheat. *Proc. International Conference on Precision Agriculture*.
- Walsh O.S., and Christiaens R.J. 2014. Liquid Nitrogen Fertilization in Spring Wheat. *Proc. Western Crop Science Society Conference*.

WALSH, Olga S.

- Walsh O.S. and R.J. Christiaens. 2014. Evaluation of Sensor-Based Technologies in Montana Wheat Production. *Proc. Western Crop Science Society Conference*.
- Walsh O.S., and R.J. Christiaens. 2014. Urea, ESN and Urea-ESN Blends Performed Equally Well as N Source for Spring Wheat. *Proc. Western Crop Science Society Conference*.
- Walsh O.S., and R.J. Christiaens. 2014. Nitrogen Source, Rate and Application Time in Spring Wheat. *Proc. Western Crop Science Society Conference*.
- Walsh O.S., and R.J. Christiaens. 2014. Sensor-Based Nitrogen Algorithm for Montana Winter Wheat Varieties and Growing Conditions. *Proc. Great Plains Soil Fertility Conference*.
- Walsh O.S., and R.J. Christiaens. 2014. Evaluation of Sensor-Based Technologies in Montana Wheat Production Systems. *Proc. Great Plains Soil Fertility Conference*.
- Walsh O.S., R.J. Christiaens, and M. Knox. 2014. Foliar Applied Nitrogen Fertilizers in Spring Wheat. *Proc. Western Crop Science Society Conference*.
- Walsh O.S., R.J. Christiaens, and M. Knox. 2013. Evaluation of Sensor-Based Technologies and Nitrogen Sources for Improved Recommendations for Dryland and Irrigated Spring Wheat Production. *Proc. Western Crop Science Society Conference*.
- Walsh O.S., and R.J. Christiaens. 2013. Effect of Nitrogen Sources, Rates and Application Time on Spring Wheat Yield and Grain Protein. *Proc. Western Crop Science Society Conference*.

Thesis and Dissertations:

- Walsh O.S. 2009. I. Use of Real-Time Soil Moisture Data for Refined GreenseekerTM Sensor Based Nitrogen Recommendations in Winter Wheat. II. Effect of Foliar Phosphorus Fertilization on Corn Grain Yields and Phosphorus Use Efficiency. III. Identifying Soil Moisture Indices for Refined Yield Potential Prediction in Winter Wheat. IV. Effect of Nitrogen Fertilizer Rate and Application Time on Nitrogen Mineralization in a Continuous Winter Wheat Production. Ph.D. Dissertation. pp. 266.
- Walsh O.S. 2006. Effect of Delayed Nitrogen Fertilization on Corn Grain Yields. M.S. Thesis. pp. 53.

Popular Press:

- Walsh O.S. 2019. Conducting Research on Your Farm. Prairie Star. pp.4. OAE
- Walsh O.S. 2019. Using Unmanned Aerial Vehicles in Agriculture. Traders' Dispatch. pp.3. OAE
- Marshall J., K. Schroeder, and O.S. Walsh. 2019. 2018 Idaho Spring Wheat Variety Performance Tests and 2016-2018 Yield Summaries. Idaho Grain Magazine. Spring 2019. pp. 16-18. OAE
- Marshall J., K. Schroeder, and O.S. Walsh. 2019. 2018 Idaho Spring Wheat Variety Performance Tests and 2016-2018 Yield Summaries. Idaho Grain Magazine. Spring 2019. pp. 24-28. OAE
- Marshall J., K. Schroeder, and O.S. Walsh. 2018. 2017 Idaho Spring Barley Variety Performance Tests and 2015-2017 Yield Summaries. Idaho Grain Magazine. Spring 2018. pp. 23-26.
- Marshall J., K. Schroeder, and O.S. Walsh. 2018. 2017 Idaho Spring Wheat Variety Performance Tests and 2015-2017 Yield Summaries. Idaho Grain Magazine. Spring 2018. pp. 27-30.
- Rogers S.W., B. Dari, and O.S. Walsh. 2017. Managing Fertilizer Nitrogen Applications for Spring Barley and Wheat. Idaho Grain Magazine. Winter 2017. pp. 31-32.
- Ondoua R. N., O.S. Walsh, K. Desta, and S. Fransen. 2017. Grazing and Organic Amendments Enhance Growth and Development of Biennial Winter Canola. CSA News Magazine. pp. 116-121.
- Marshall J., K. Schroeder, and O.S. Walsh. 2017. 2016 Idaho Spring Wheat Variety Performance Tests and 2014-2016 Yield Summaries. Idaho Grain Magazine. Spring 2017. pp. 33-35.
- Marshall J., K. Schroeder, and O.S. Walsh. 2017. 2016 Idaho Spring Barley Variety Performance Tests and 2014-2016 Yield Summaries. Idaho Grain Magazine. Spring 2017. pp. 36-37.
- Marshall J., K. Schroeder, and O.S. Walsh. 2017. 2015-2016 Idaho Winter Wheat Variety Performance Tests and 2014-2016 Yield Summaries. Idaho Grain Magazine. Fall 2017. pp. 29-31.
- Walsh O.S., J. McClintick-Chess, and S. Blanscet. 2016. Idaho Researchers Aim to Improve Water Use Efficiency in Beans. Traders' Dispatch. pp.4.

WALSH, Olga S.

- Walsh O.S., J. McClintick-Chess, and S. Blanscet. 2016. Expanding Corn Research in Idaho. Traders' Dispatch. pp.4.
- Walsh O.S. 2016. Crop Sensors: Potential and Limitations. Traders' Dispatch. pp.3.
- Moore A., O.S. Walsh, J. Marshall, and X. Liang. 2016. Idaho Grain Magazine. Spring 2016. pp.4.
- Daigh A., and O.S. Walsh. 2015. Early Career Members Committee - A Year in Review and Future Opportunities. CSA News Magazine. 61 (1). pp.1.
- Walsh O.S. 2015. Research Support Team – the Difference between Make It and Break It. CSA News Magazine. pp. 4.
- Walsh O.S. 2015. How to Publish a Manuscript in ASA, CSSA and SSSA Journals. CSA News Magazine. 60(5). pp. 2.
- Walsh O.S. 2015. Crops and Soils Program at Parma R&E Center. Western Canyon Chronicle. pp. 2.
- Walsh O.S. 2015. Water Limitations Impact on Agriculture. Trader's Dispatch. pp. 5.
- Walsh O.S. 2015. Precision Nitrogen Management. Idaho Grain Magazine. Summer 2015. pp. 4.
- Walsh O.S. 2014. Soil Nutrient Management is expanding at WTARC. Traders' Dispatch. pp. 3.
- Reddy V.P. Gadi and Walsh O.S. 2013. Western Triangle Ag Research Center Acquires Modern Crop Harvest Combine. Independent Observer. pp.1.
- Walsh O.S. 2013. Soil Fertility Studies at WTARC. Traders' Dispatch. pp. 3.

In review/preparation:

- Walsh O.S., S. Shafian, J. Marshall, C. Jackson, J.R. McClintick-Chess, and S. Blanscet, C. Thompson, and K. Swoboda. 2019. A Comparison of Machine Learning Techniques Applied to UAV Data for Nitrogen Content Estimation. (1, 2, 3, 4, 5, 6, 7)
- Walsh O.S., J.A. Torrion, X. Liang, J.R. McClintick-Chess, S. Shafian, R. Yang, S.M. Blanscet, and K.M. Belmont. 2019. Response of Spring Wheat Grain Yield and Quality to Varied Nitrogen and Water Applications. (1, 2, 3, 4, 5, 6, 7)

WALSH, Olga S.

Walsh O.S., S. Shafian, J.A. Torrion, X. Liang, J.R. McClintick-Chess, and S.M. Blanscet. 2019. Spring Wheat Root Growth and Development as Affected by Varied Nitrogen and Water Applications. (1, 2, 3, 4, 5, 6, 7)

Walsh O.S., D.W. Morishita, H. Neibling, A. Woolf-Weibye, J.R. McClintick-Chess, S.M. Blanscet, S. Arthur, and K. LeQuia. 2019. Irrigation Level and Water Delivery Methods Effect on Production of Snap Beans Grown Under Conventional and Strip Tillage Systems. (1, 2, 3, 4, 5, 6, 7)

Teboh, M.T., and O.S. Walsh. 2019. Evaluation of Spring Wheat Yield Response to Nitrogen-Based Enhanced Efficiency Fertilizers. (1, 2, 3, 4, 5, 6, 7)

LeQuia K., D. Morishita, and O.S. Walsh. 2019. Effect of Seeding Rate and Herbicides on Weed Control in Pinto Bean (*Phaseolus vulgaris* L.) in Narrow Rows. (6)

Peer Reviewed/Evaluated (in press or submitted):

Marshall, J.M., Rogers, C.W., Rashed, A., Liang, X., Walsh, O.S., and D. Morishita. 2020 Southern Idaho Irrigated Hard Spring Wheat Quick Facts. BUL. University of Idaho. (Accepted) OAE

Marshall, J.M., Rogers, C.W., Walsh, O.S., Rashed, A., Liang, X., and D. Morishita. 2020 Southern Idaho Irrigated Hard Winter Wheat Quick Facts. BUL. University of Idaho. (Accepted) OAE

Marshall, J.M., Rogers, C.W., Rashed, A., Walsh, O.S., Liang, X., and D. Morishita. 2020 S. Idaho Soft White Spring Wheat Quick Fact. BUL. University of Idaho. (Accepted) OAE

Marshall, J.M., Rogers, C.W., Rashed, A., Walsh, O.S., Liang, X., and D. Morishita. 2020 S. Idaho Soft White Winter Wheat Quick Facts. BUL. University of Idaho. (Accepted) OAE

Rogers, C.W., B. Dari, and O.S. Walsh. Fertility in Southern Idaho Soils for Crop Production: Soil Testing Procedures. BUL. University of Idaho. (Accepted) OAE

Walsh, O.S., Morishita D., Wenninger, E., Woodhall, J., and S. Shafian. Quick Facts – Idaho Beans. CIS. University of Idaho. 2 pp. (Accepted)

Walsh, O.S. and S. Shafian. Know the Demographic Trends: The Findings of a Three-Year Survey on Nitrogen Management and Precision Agriculture Adoption in Southern Idaho. BUL. University of Idaho. (Accepted)

Yang, R., X. Liang, O.S. Walsh, J. A. Torrion, K. O'Brien, and S. Shafian. Irrigation and N Fertilization Affect End-Use Quality of Spring Wheat of Three Market Classes. BUL. University of Idaho. (In Print)

Moore, A., A. Leytem, C.W. Rogers, J.M. Marshall, O.S. Walsh. Managing Dairy Manure for Yield and Quality in Spring Wheat Production in Southern Idaho. BUL. University of Idaho. (Submitted)

Scholarly Presentations and Other Creative Activities:

International:

Improving Nutrient Management for Wheat through Comprehensive Soil and Crop Survey. O. S. Walsh, C. W. Rogers, S. Shafian, J. McClintick-Chess, and J. Marshall. ASA/CSSA/SSSA International Annual Conference, San Antonio, TX, November 10-13, 2019. DI

Nitrogen Response, Uptake and Use Efficiency of Spring Wheat Cultivars. O. S. Walsh, S. Shafian, J. Marshall, and K. O'Brien. ASA/CSSA/SSSA International Annual Conference, San Antonio, TX, November 10-13, 2019. DI

UAV-Based in-Season Assessment of Fruit Trees. O. S. Walsh, S. Shafian, and E. Fallahi. ASA/CSSA/SSSA International Annual Conference, San Antonio, TX, November 10-13, 2019. DI

Nitrogen and Water Management for Optimized Sugar Beet Yield and Sugar Content. O. S. Walsh, S. Shafian, and J. McClintick-Chess. ASA/CSSA/SSSA International Annual Conference, San Antonio, TX, November 10-13, 2019. DI

Nitrogen Management Aid Application in Winter Wheat and Barley. O. S. Walsh and J. McClintick-Chess. ASA/CSSA/SSSA International Annual Conference, San Antonio, TX, November 10-13, 2019. DI

Survey of C/N Ratios of Barley and Wheat Cultivars in Idaho. G. Thurgood, C.W. Rogers, B. Dari, J. Marshall, Olga S. Walsh, and K.L. Schroeder. ASA/CSSA/SSSA International Annual Conference, San Antonio, TX, November 10-13, 2019. DI

UAV-Based Assessment of Nitrogen Response, Uptake, and Use Efficiency of Spring Wheat Cultivars. Walsh O.S., S. Shafian, J. Marshall, C. Jackson, J.R. McClintick-Chess. ASA/CSSA/SSSA International Annual Conference, Baltimore, MD, November 4-8, 2018

Assessment of Red Edge Based Vegetation Indices Derived from Unmanned Aerial Vehicle for Plant Nitrogen Content Estimation. Walsh O.S., S. Shafian, J. Marshall, C. Jackson, J.R. McClintick-Chess. 2018. Proc. International Conference on Precision Agriculture, Montreal, Canada, June 24-28, 2018

WALSH, Olga S.

A Comparison of Machine Learning Techniques Applied to UAV Data for Nitrogen Content Estimation. Walsh O.S., S. Shafian, J.R. McClintick-Chess, and S. Blanscet. ASA/CSSA/SSSA International Annual Conference, Tampa, FL, October 22-25, 2017

Rate and Application Time of Plant Available Silicon on Winter Wheat Yield and Quality. Walsh O.S., J. R. McClintick-Chess, and S.M. Blanscet. ASA/CSSA/SSSA International Annual Conference, Tampa, FL, October 22-25, 2017

Irrigation Water Amount and Delivery Method Effect on Garden Bean Production under Conventional and Strip Tillage Systems. Walsh O.S., D. Morishita, A. Woolf-Weibey, J. R. McClintick-Chess, and S.M. Blanscet. ASA/CSSA/SSSA International Annual Conference, Tampa, FL, October 22-25, 2017

Improving Optical Sensor Calibration for Winter Wheat Nitrogen Management in on-Farm Conditions. Samborski S.M., Gozdowski D., Walsh O.S., Stępień M., and E. Bodecka. ASA/CSSA/SSSA International Annual Conference, Tampa, FL, October 22-25, 2017

Deficit Irrigation Affects Wheat Yield and End-Use Quality. Liang Xi, Walsh O.S., O'Brien K., and J. Torrion. ASA/CSSA/SSSA International Annual Conference, Tampa, FL, October 22-25, 2017

Humic Products: Uses in Crop Production and Soil Improvement. Abi-Ghanem R., Bryla D., Walsh O.S., and L. Celi. ASA/CSSA/SSSA International Annual Conference, Tampa, FL, October 22-25, 2017

Rate and Application Time of Plant Available Silicon on Winter Wheat Yield and Quality. Walsh O.S., J. R. McClintick-Chess, and S.M. Blanscet. 7th International Conference on Silicon in Agriculture, Bengaluru, India, October 24-28, 2017

Irrigation Water Amount and Delivery Method Effect on Garden Bean Production under Conventional and Strip Tillage Systems. Walsh O.S., D. Morishita, A. Woolf-Weibey, J. R. McClintick-Chess, and S.M. Blanscet. International Conference on Agrophysics Trends, St. Petersburg, Russia, September 27-29, 2017

Response of Spring Wheat to Varied Nitrogen and Water Applications. Walsh O.S., Jessica A. Torrion, Xi Liang, Jordan R. McClintick-Chess, Steven M. Blanscet. International Conference on Agrophysics Trends, St. Petersburg, Russia, September 27-29, 2017

Precision sensing for improved wheat production. Walsh O.S., J. Marshall, C. Jackson, J.R. McClintick-Chess, S.M. Blanscet, C. Thompson, and K. Swoboda. International Conference on Agrophysics Trends, St. Petersburg, Russia, September 27-29, 2017

WALSH, Olga S.

- Assessing Grower Adoption of Crop Sensors. Walsh O.S., S. Shafian, J.R. McClintick-Chess, and S. Blanscet. 15th International Nitrogen Use Efficiency Conference, Baton Rouge, LA, August 8-10, 2017
- Evaluation of NZone Max Nitrogen Aid in Corn. Walsh O.S., J. R. McClintick-Chess, and S.M. Blanscet. ASA/CSSA/SSSA International Annual Conference, Phoenix, AZ, November 6-10, 2016
- UAV - Based Scouting for Precision Nitrogen Management in Wheat. Walsh O.S., J. Marshall, C. Jackson, J.R. McClintick, S.M. Blanscet, C. Thompson, and K. Swoboda. ASA/CSSA/SSSA International Annual Conference, Phoenix, AZ, November 6-10, 2016
- Sensor-Based Technologies for Improving Water and Nitrogen Use Efficiency. Walsh O.S., J.A. Torrión, X. Liang, J. R. McClintick-Chess, and S.M. Blanscet. ASA/CSSA/SSSA International Annual Conference, Phoenix, AZ, November 6-10, 2016
- Evaluation of Micro Carbon Technology® -Based P Fertilizer, Super Phos® in Spring Wheat. Walsh O.S., J. R. McClintick-Chess, and S.M. Blanscet. ASA/CSSA/SSSA International Annual Conference, Phoenix, AZ, November 6-10, 2016
- Potential of Silicon Amendment for Improved Wheat Production. Walsh O.S., J. R. McClintick-Chess, and S.M. Blanscet. ASA/CSSA/SSSA International Annual Conference, Phoenix, AZ, November 6-10, 2016
- Foliar Application of Agxplore Prevent Phosphorus Aid in Winter Wheat. Walsh O.S., J. R. McClintick-Chess, and S.M. Blanscet. ASA/CSSA/SSSA International Annual Conference, Phoenix, AZ, November 6-10, 2016
- Evaluation of Seed Coating Treatments in Soft White Winter Wheat. Walsh O.S., J. R. McClintick-Chess, and S.M. Blanscet. ASA/CSSA/SSSA International Annual Conference, Phoenix, AZ, November 6-10, 2016
- Developing Efficient Deficit Irrigation and Nutrient Management Strategies for Spring Wheat Grown in Southeastern Idaho, USA. Liang X., O.S. Walsh, J.A. Torrión, H. Sadeghi and H. Neibling. ASA/CSSA/SSSA International Annual Conference, Phoenix, AZ, November 6-10, 2016
- Overview of Precision Ag Research in Idaho. Walsh O.S., S. Blanscet, and J. McClintick-Chess. 14th Annual Nitrogen Use Efficiency Conference, Boise, ID, August 8-10, 2016.

WALSH, Olga S.

- Sensor-Based Technologies for Improving Water and Nitrogen Use Efficiency. Walsh O. S., K. Belmont, J. McClintick-Chess. International Conference on Precision Agriculture. St Louis, MO, July 31-August 3, 2016
- UAV-Based Crop Scouting for Precision Nutrient Management. Walsh O. S., K. Belmont, J. McClintick-Chess, J. Marshall, C. Jackson, C. Thompson, and K. Swoboda. International Conference on Precision Agriculture. St Louis, MO, July 31-August 3, 2016
- Winter Wheat Genotype Effect on Canopy Reflectance: Implications for Using NDVI for In-Season Nitrogen Topdressing Recommendations. Samborski S. M., D. Gozdowski, O. S. Walsh, D. W. Lamb, M. Stępień, E. S. Gacek, T. Drzazga. International Conference on Precision Agriculture. St Louis, MO, July 31-August 3, 2016
- On-Farm Evaluation of an Active Optical Sensor Performance for Variable Nitrogen Application in Winter Wheat. Samborski S. M., D. Gozdowski, M. Stępień, O. S. Walsh, E. Leszczyńska. International Conference on Precision Agriculture. St Louis, MO, July 31-August 3, 2016
- Precision Sensing for Improved Wheat Production. Walsh O.S. Marshall, J. and Pandey A. ASA/CSSA/SSSA International Annual Conference, Minneapolis, MN, November 15-18, 2015
- Identifying and Distinguishing Between Nitrogen and Water Stress. Walsh O.S. and Pandey A. ASA/CSSA/SSSA International Annual Conference, Minneapolis, MN, November 15-18, 2015
- Evaluation of Seed Coating Treatments in Soft White Winter Wheat. Walsh O.S. and Pandey A. ASA/CSSA/SSSA International Annual Conference, Minneapolis, MN, November 15-18, 2015
- Light-Activated Sensor Controlled Sprayer (Weed Seeker®) for Cost-Effective Weed Control in Post-Harvest Wheat Stubble. Walsh O.S., P. Jha, A. Varanasi, V. Kumar, and S. Leland. ASA/CSSA/SSSA International Annual Conference, Minneapolis, MN, November 15-18, 2015
- Potassium Management for Improved Dryland Spring Wheat Grain Yield and Quality. Walsh O.S., R.J. Christiaens, and A. Pandey. ASA/CSSA/SSSA International Annual Conference, Minneapolis, MN, November 15-18, 2015
- Evaluation of Urea- Potassium Chloride Blend and Residue Management in Spring Wheat. Walsh O.S., R.J. Christiaens, and A. Pandey. ASA/CSSA/SSSA International Annual Conference, Minneapolis, MN, November 15-18, 2015

WALSH, Olga S.

- Evaluation of Micro Carbon Technology – Based Phosphorus Fertilizer, Super Phos, in Spring Wheat. Walsh O.S., R.J. Christiaens, and A. Pandey. ASA/CSSA/SSSA International Annual Conference, Minneapolis, MN, November 15-18, 2015
- Liquid Nitrogen Fertilizers in Spring Wheat. Walsh O.S., R.J. Christiaens, and A. Pandey. ASA/CSSA/SSSA International Annual Conference, Long Beach, CA, November 2-5, 2014
- Urea, Urea-ESN Blends and ESN as N Sources for Wheat. Walsh O.S., R.J. Christiaens, and A. Pandey. ASA/CSSA/SSSA International Annual Conference, Long Beach, CA, November 2-5, 2014
- Evaluation of Precision Sensors and Nitrogen Algorithms in Wheat. Walsh O.S., R.J. Christiaens, and A. Pandey. ASA/CSSA/SSSA International Annual Conference, Long Beach, CA, November 2-5, 2014
- Effect of Nitrogen Sources, Rates and Application Time on Spring Wheat Yield and Grain Protein. Walsh O.S., R.J. Christiaens, and A. Pandey. ASA/CSSA/SSSA International Annual Conference, Long Beach, CA, November 2-5, 2014
- Precision Sensors for Improved Nitrogen Recommendations in Wheat. Walsh O.S. and Christiaens R.J. International Conference on Precision Agriculture. Sacramento, CA, July 20-23, 2014
- Precision Sensing – Potential and Challenges. Walsh O.S. InfoAg Conference. Springfield, IL. July 16-18, 2013
- Evaluation of Sensor-Based Technologies for Improved Nitrogen Recommendation for Winter and Spring Wheat. Pandey A., Walsh O.S. and Christiaens R.J. Annual Nitrogen Use Efficiency Conference, Des Moines, IA, August 5-7, 2013
- Evaluation of Sensor-Based Technologies in Montana Wheat Production Systems. Walsh O.S., Pandey A. and Christiaens R.J. SSSA Nitrogen Use Efficiency Conference, Kansas City, MO, August 13-15, 2013
- Evaluation of Sensor-Based Technologies for Improved Nitrogen Recommendation for Winter and Spring Wheat. Pandey A., Walsh O.S. and Christiaens R.J. SSSA Nitrogen Use Efficiency Conference, Kansas City, MO, August 13-15, 2013
- Effect of Nitrogen Sources, Rates and Application Time on Spring Wheat Yield and Grain Protein. Walsh O.S. ASA/CSSA/SSSA International Annual Conference, Cincinnati, OH, October 21-24, 2012

WALSH, Olga S.

- Evaluation of Sensor-Based Technologies and Nitrogen Sources for Improved Recommendations for Dryland and Irrigated Spring Wheat Production in Montana. Walsh O.S., Westcott M.P. ASA/CSSA/SSSA International Annual Conference, Cincinnati, OH, October 21-24, 2012
- Foliar Applied Nitrogen Fertilizers in Spring Wheat. Walsh O.S. and Westcott M.P. ASA/CSSA/SSSA International Annual Conference, Cincinnati, OH, October 21-24, 2012
- Crop Canopy Sensors: Potential and Challenges. Walsh O.S. Annual Nitrogen Use Efficiency Conference, North Dakota State University, Fargo, ND, August 6-8, 2012
- Effect of Nitrogen Sources, Rates and Application Time on Spring Wheat Yield and Grain Protein. Walsh O.S. ASA/CSSA/SSSA International Annual Conference, San-Antonio, TX, October 16-19, 2011
- Evaluation of Sensor-Based Technologies and Nitrogen Sources for Improved Recommendations for Dryland and Irrigated Spring Wheat Production in Montana. Walsh O.S and Westcott M.P. ASA/CSSA/SSSA International Annual Conference, San-Antonio, TX, October 16- 19, 2011
- Use of Soil Moisture Data to Refine GreenSeeker Sensor Based on Recommendations in Winter Wheat. Walsh O.S., Raun W.R., Solie J.B., Klatt A., Godsey C., Arnall B., Edmonds D., England, B., Daft, C and Kanke Y. San Antonio, ASA/CSSA/SSSA International Annual Conference, TX, October 5-9, 2008
- Real-Time Use of Mesonet Weather Data for Refined Greenseeker Sensor Based N Recommendations in Winter Wheat. Walsh O.S., Raun W.R., Solie J.B., Elliot, R., Sutherland, A., Girma K and Arnall D.B. ASA/CSSA/SSSA International Annual Conference, New Orleans, LA, November 4-8, 2007
- Changes in Response Indices as a Function of Time in Winter Wheat. Chung B.K., Arnall D.B., Tubaña B.S., Girma K., Holtz S.L., Turner, P.L., Walsh O.S., Dotson, C.R., Solie J.B and Raun W.R. ASA/CSSA/SSSA International Annual Conference, New Orleans, LA, November 4-8, 2007
- Extension and Analysis of the Ramp Calibration Strip Fertilization Strategy. Edmonds D.E., Arnall D.B., Chung B., Daft, M.C., Girma K., Dotson, C.R., England, B.B., Holtz S.L., Mack C.J., Raun W.R., Solie J.B., Taylor, R.K., Tubaña B.S., Turner, P.L., Walsh O.S. and Zavodny, D.L. ASA/CSSA/SSSA International Annual Conference, New Orleans, LA, November 4-8, 2007

Weather, Fertilizer, Previous Year Grain Yield and Fertilizer Response Levels Affect Ensuing Year Grain Yield and Fertilizer Response of Winter Wheat. Girma K., Arnall D.B., Holtz S.L., Raun W.R., Chung B., Tubaña B.S., Walsh O.S., Turner, P.L., Dotson, C.R., England, B.B., Edmonds D.E., Daft, M.C. and Zavodny, D. ASA/CSSA/SSSA International Annual Conference, New Orleans, LA, November 4-8, 2007

Response of Corn (*Zea mays* L.) Grain Yields to Variable Row Nitrogen Fertilization. Holtz S.L., Tubaña B.S., Arnall D.B., Freeman K.W., Teal R.K., Chung B., Walsh O.S., Turner, P.L., Lawles K.D., Mack C.J., Edmonds D.E., Girma K. and Raun W.R. ASA/CSSA/SSSA International Annual Conference, New Orleans, LA, November 4-8, 2007

Corn (*Zea mays* L.) Grain Yield Response to By-Plant Nitrogen Fertilization. Tubaña B.S., Arnall D.B., Freeman K.W., Teal R.K., Chung B., Walsh O.S., Edmonds D.E., Holtz S., Turner, P., Dotson C.R., England, B., Daft M.C., Mack C.J., Lawles K., Girma K and Raun W.R. ASA/CSSA/SSSA International Annual Conference, New Orleans, LA, November 4-8, 2007

Optimum Spatial Scale and Management Resolution for Corn (*Zea mays* L.). Chung B., Tubaña B.S., Arnall B., Holtz S., Walsh O.S., Martin K., Desta, K. and Raun W.R. ASA/CSSA/SSSA International Annual Conference, Indianapolis, IN, November 12-16, 2006

Aboveground Nitrogen Accumulation as a Function of Time in Corn and Winter Wheat. Holtz S., Desta, K., Arnall B., Tubaña B., Teal R., Lawles K., Mack C., Chung B., Walsh O.S. and Raun W.R. ASA/CSSA/SSSA International Annual Conference, Indianapolis, IN, November 12-16, 2006

Effect of Delayed Emergence on Corn (*Zea mays* L.) Grain Yields. Lawles K., Freeman K., Teal R., Arnall B., Tubaña B., Walsh O.S., Chung B., Holtz S. and Raun W.R. ASA/CSSA/SSSA International Annual Conference, Indianapolis, IN, November 12-16, 2006

Adjusting Mid-Season Nitrogen Using a Sensor-Based Optimization Algorithm to Increase Use Efficiency in Corn (*Zea mays* L.). Tubaña B., Teal R.K., Arnall B., Freeman K., Chung B., Walsh O.S., Lawles K., Mack C. and Raun W.R. ASA/CSSA/SSSA International Annual Conference, Indianapolis, IN, November 12-16, 2006

Refining Response Index in Winter Wheat with the Use of CV's. Arnall D.B., Freeman K.W., Martin K.L., Girma K., Teal R.K., Mack C.J., Raun W.R., Tubaña B., Walsh O.S. and Chung B. ASA/CSSA/SSSA International Annual Conference, November 6-10, 2005

WALSH, Olga S.

Long-Term Municipal Biosolids and Ammonium Nitrate Fertilizer Effects on Grain Yield and Nitrogen uptake and Concentration of Selected Metals in Dry Land Winter Wheat (*Triticum aestivum* L.). Girma K., Freeman K.W., Martin K.L., Teal R.K., Arnall D.B., Mack C.J., Mosali, J., Tubaña B., Chung B., Walsh O.S., Raun W.R., Zhang H. and Moges S. ASA/CSSA/SSSA International Annual Conference, November 6-10, 2005, Salt Lake City, UT

National:

Precision Water Management for Agronomic, Economic, and Environmental Sustainability of Idaho Hops. Hop Research Council Conference, Boise, ID, July 16, 2019. OAE

Regional:

Remote Sensing and Unmanned Aerial Vehicles in Horticultural Crops. Idaho State Horticultural Society Annual Convention, Nampa, ID, November 7, 2019 OAE

Efficient Nutrient and Water Management for Sustainable Crop Production. Far West Agribusiness Association, PNW Regional Conference, ID, August 5, 2019. OAE

Improving Nutrient Management for Wheat through Comprehensive Soil and Crop Survey. O. S. Walsh, C. W. Rogers, S. Shafian, J. McClintick-Chess, and J. Marshall. Western Crop Science Society Conference. Tri-Cities, WA, June 25-26, 2019 OAE

Nitrogen Response, Uptake and Use Efficiency of Spring Wheat Cultivars. O. S. Walsh, S. Shafian, J. Marshall, and K. O'Brien. Tri-Cities, WA, June 25-26, 2019 OAE

UAV-Based in-Season Assessment of Fruit Trees. O. S. Walsh, S. Shafian, and E. Fallahi. Tri-Cities, WA, June 25-26, 2019 OAE

Nitrogen and Water Management for Optimized Sugar Beet Yield and Sugar Content. O. S. Walsh, S. Shafian, and J. McClintick-Chess. Tri-Cities, WA, June 25-26, 2019 OAE

Nitrogen Management Aid Application in Winter Wheat and Barley. O. S. Walsh and J. McClintick-Chess. Tri-Cities, WA, June 25-26, 2019 OAE

Is Dual-Purpose Canola Feasible in the PNW? S. C. Fransen, D. Llewellyn, D. L. Boss, and O. S. Walsh. Tri-Cities, WA, June 25-26, 2019 OAE

WALSH, Olga S.

- Assessment of Red Edge Based Vegetation Indices Derived from Unmanned Aerial Vehicle for Plant Nitrogen Content Estimation. Walsh O.S., S. Shafian, J. Marshall, C. Jackson, J.R. McClintick-Chess. Western Crop Science Society Conference. Laramie, WY, June 19-20, 2018.
- Irrigation Water Amount and Delivery Method Effect on Garden Bean Production under Conventional and Strip Tillage Systems. Walsh O.S., D. Morishita, A. Woolf-Weibey, J. R. McClintick-Chess, and S.M. Blanscet. Western Crop Science Society Conference. Parma, ID, June 6-7, 2017
- Rate and Application Time of Plant Available Silicon on Winter Wheat Yield and Quality. Walsh O.S., J. R. McClintick-Chess, and S.M. Blanscet. Western Crop Science Society Conference. Parma, ID, June 6-7, 2017
- Response of Spring Wheat to Varied Nitrogen and Water Applications. Walsh O.S., J. A. Torrión, Xi Liang, J.R. McClintick, S.M. Blanscet. Western Nutrient Management Conference. Reno, NV. March 2-3, 2017.
- Precision Sensing for Improved Wheat Production. Walsh O.S., J. Marshall, J.R. McClintick-Chess, S.M. Blanscet, C. Jackson. Western Nutrient Management Conference. Reno, NV. March 2-3, 2017.
- Plant Available Silicon Application in Winter Wheat. Walsh O.S., J.R. McClintick, S.M. Blanscet. Western Nutrient Management Conference. Reno, NV. March 2-3, 2017.
- UAV - Based Scouting for Precision Nitrogen Management in Wheat. Walsh O.S., J. Marshall, C. Jackson, J.R. McClintick, S.M. Blanscet, C. Thompson, and K. Swoboda. Western Crop Science Society Conference, Albuquerque, AZ, June 11-13, 2016.
- Improving Water and Nitrogen Use Efficiency in Wheat. Walsh O.S., K.M. Belmont, J.R. McClintick-Chess. Western Crop Science Society Conference, Albuquerque, AZ, June 11-13, 2016.
- On-Farm Precision Ag Research for Improving Nitrogen and Water Use Efficiency. Walsh O.S. ASA-SSSA Education Webinar, Precision Ag Updates, December 9, 2015.
- Identifying and Distinguishing Between Nitrogen and Water Stress. Walsh O.S. and Pandey A. Western Crop Science Society Conference, Logan, UT, June 16-17, 2015.
- Evaluation of Seed Coating Treatments in Soft White Winter Wheat. Walsh O.S. and Pandey A. Western Crop Science Society Conference, Logan, UT, June 16-17, 2015.
- Liquid Nitrogen Fertilization in Spring Wheat. Walsh O.S. and Christiaens R.J. Western Crop Science Society Conference, Bozeman, MT. July 8-9, 2014.

WALSH, Olga S.

Evaluation of Sensor-Based Technologies in Montana Wheat Production. Walsh O.S. and Christiaens R.J. Western Crop Science Society Conference, Bozeman, MT. July 8-9, 2014.

Urea, ESN and Urea-ESN Blends Performed Equally Well as N Source for Spring Wheat. Walsh O.S. and Christiaens R.J. Western Crop Science Society Conference, Bozeman, MT. July 8-9, 2014.

Nitrogen Source, Rate and Application Time in Spring Wheat. Walsh O.S. and Christiaens R.J. Western Crop Science Society Conference, Bozeman, MT. July 8-9, 2014.

Sensor-Based Nitrogen Algorithm for Montana Winter Wheat Varieties and Growing Conditions. Walsh O.S. and Christiaens R.J. Great Plains Soil Fertility Conference, Denver, CO. March 3-5, 2014.

Evaluation of Sensor-Based Technologies in Montana Wheat Production Systems. Walsh O.S. and Christiaens R.J. Great Plains Soil Fertility Conference, Denver, CO. March 3-5, 2014.

Nitrogen Fertilizers in Wheat Production. Walsh O.S. Western Nutrient Management Conference. Reno, NV. March 5-8, 2013.

Foliar Applied Nitrogen Fertilizers in Spring Wheat. Walsh O.S. Western Nutrient Management Conference. Reno, NV. March 5-8, 2013.

Foliar Applied Nitrogen Fertilizers in Spring Wheat. Walsh O.S., Christiaens R.J. and Knox M. Western Crop Science Society Conference, Pendleton, OR. June 10-13, 2013.

Evaluation of Sensor-Based Technologies and Nitrogen Sources for Improved Recommendations for Dryland and Irrigated Spring Wheat Production. Walsh O.S., Christiaens R.J. and Knox M. Western Crop Science Society Conference, Pendleton, OR. June 10-13, 2013.

Effect of Nitrogen Sources, Rates and Application Time on Spring Wheat Yield and Grain Protein. Walsh O.S. and Christiaens R.J. Western Crop Science Society Conference, Pendleton, OR. June 10-13, 2013.

Comparison of Nitrogen Sources for Spring Wheat Production. 2013. Walsh O.S., Christiaens R.J. and Knox M. Western Crop Science Society Conference, Pendleton, OR. June 10-13, 2013.

Foliar Nitrogen Fertilizers in Wheat Production. Walsh O.S. Western Nutrient Management Conference. Reno, NV. March 5-8, 2013.

WALSH, Olga S.

Foliar Applied Nitrogen Fertilizers in Spring Wheat. Walsh O.S. Western Nutrient Management Conference. Reno, NV. March 5-8, 2013.

Effect of Nitrogen Sources, Rates and Application Time on Spring Wheat Yield. Walsh O.S. Western Crop Science Society Conference, Pullman, WA. July 11-13, 2012.

Evaluation of Sensor-Based Technologies and Nitrogen Sources for Improved Spring Wheat Production in Montana. Walsh O.S. and Westcott M.P. Western Crop Science Society Conference, Pullman, WA. July 11-13, 2012.

Sensor-Based Nutrient Management in Montana's Golden Triangle. Walsh O.S. and Westcott M.P. Great Plains Soil Fertility Conference, Denver, CO. March 6-7, 2012.

Impact of Nutrient Limitations on Wheat Stem Sawfly Injury in Spring Wheat. Weaver D., Lamb P., Miller J., Walsh O.S., Delaney K. and Jones C. Great Plains Soil Fertility Conference, Denver, CO. March 6-7, 2012.

Local:

Varietal Differences in Nitrogen Uptake of Spring Wheat. Crops, Soils & Technology Field Day, Parma, ID, June 7, 2019. OAE

Winter cereal nursery. Crops, Soils & Technology Field Day, Parma, ID, June 7, 2019. OAE

Unmanned Aerial Systems for Precision Ag. Crops, Soils & Technology Field Day, Parma, ID, June 7, 2019. OAE

Nitrogen and Water Management in Sugar Beets. Crops, Soils & Technology Field Day, Parma, ID, June 7, 2019. OAE

Spring Wheat Response to Nitrogen and Phosphorus. Crops, Soils & Technology Field Day, Parma, ID, June 7, 2019. OAE

The Importance of Emergence Uniformity. Precision Planting Clinic, Caldwell, ID, February 7, 2019. OAE

UAV-Based Scouting for Precision Nutrient Management. Southern Idaho Cereal School, Pocatello, ID, February 6, 2019. OAE

UAV-Based Assessment of Nitrogen Response, Uptake, and Use Efficiency of Spring Wheat Cultivars. Southern Idaho Cereal School, Pocatello, ID, February 6, 2019. OAE

UAV-Based Scouting for Precision Nutrient Management. Southern Idaho Cereal School, Burley, ID, February 5, 2019. OAE

WALSH, Olga S.

- UAV-Based Assessment of Nitrogen Response, Uptake, and Use Efficiency of Spring Wheat Cultivars. Southern Idaho Cereal School, Burley, ID, February 5, 2019. OAE
- Precision Water and Nutrient Management in Idaho Cropping Systems. Western Idaho Ag Show, Caldwell, ID, January 29 and 30, 2019. OAE
- Unmanned Aerial Vehicles for In-Season Crop Monitoring. Idaho Horticulture Expo, January 17, 2019. OAE
- Technologies for Improved Nutrient and Water Management. Far West Agribusiness Association, Winter Conference, Twin Falls, ID, January 9, 2019. OAE
- Utilizing UAVs for In-Season Data Collection in Nursery Operations, Craigmont, ID, September 13, 2018
- UAV Demo, Parma Pomology field day, Parma, ID, September 7, 2018
- Conducting On-Farm Research. Southern Idaho Cropping School, Caldwell, ID, February 9, 2018.
- Soil Sampling for Fertilizer Management. Southern Idaho Cropping School, Caldwell, ID, February 9, 2018.
- Cereals Varieties Performance, Southwest Idaho. Western Idaho Ag Show, Caldwell, ID, January 23, 2018.
- Precision Nitrogen Fertilizer and Water Application in Cereal Crops. Far West Agribusiness Association, Winter Conference, Twin Falls, ID, December 12, 2017.
- Precision Agriculture Tools and Methodologies. Hailey High School, Human Food and Agriculture Systems Class tour, September 7, 2017
- Nitrogen, Sulfur, and Zinc Fertilization in Corn. UI Parma mini-tour, August 22, 2017
- Nitrogen and Water Management in Wheat. UI Parma R&R Field Day, June 21, 2017
- Garden Bean Irrigation under Various Tillage. UI Parma R&R Field Day, June 21, 2017
- Precision Sensing in Wheat Production Systems. Idaho Wheat Commission Research Review, February 21, 2017.
- Precision Fertilizer Management. Southern Idaho Cropping School, Caldwell, ID, February 10, 2017.
- Tillage and Water in Garden Beans. Treasure Valley Bean School, Nampa, ID, January 25, 2017.

WALSH, Olga S.

Soil Testing and Proper Amendments. Treasure Valley Bean School, Nampa, ID, January 25, 2017.

Tillage and Water in Garden Beans. Magic Valley Bean School, Twin Falls, ID, January 24, 2017.

Soil Testing and Proper Amendments. Magic Valley Bean School, Twin Falls, ID, January 24, 2017.

Cropping Systems Agronomy Update. Parma Lions Club, Parma, ID, January 24, 2017.

UAV Utilization for Agricultural Research. Northern Idaho Legislature Tour, Moscow, ID, November 15, 2016.

Cropping Systems Agronomy Research Update. Parma Cropping Systems field day, Parma, ID, June 20, 2016.

Sustainable Cropping Practices. SARE Fellows Tour. Parma, ID, May 11, 2016.

Remote Sensing technologies in Crop Production, Intermountain AgTech Conference, University of Idaho research panel, Pocatello, ID, March 8, 2016.

Farming in Water-Limiting Environment. Southern Idaho Cropping School, Caldwell, ID, February 9, 2016.

Precision Agriculture Tools. Southern Idaho Cropping School, Caldwell, ID, February 9, 2016.

Early Plant Growth – Agronomy. Planter Clinic, Nampa, ID, February 2, 2016.

Best Management Practices for Sustainable Crop Production. Western Idaho Ag Show, Caldwell, ID, January 26, 2016.

Best Management Practices for Sustainable Crop Production. Western Idaho Ag Show, Caldwell, ID, January 27, 2016.

Precision Nitrogen Fertilizer and Water Application in Cereal Crops Far West Agribusiness Association, Winter Conference, Twin Falls, ID, January 14, 2016.

Utilization Unmanned Aerial Vehicles (UAV) for Improved Crop Production West Agribusiness Association, Winter Conference, Twin Falls, ID, January 13, 2016.

Evaluation of Unmanned Aerial Vehicles for Crop Scouting and Sample Collection University of Idaho – LimaGrain Field Day, Aberdeen, ID. July 15, 2015.

WALSH, Olga S.

Extension Nursery Trial Implementation. Oregon State University-University of Idaho Cereal Field Day, Parma, ID, June 25, 2015.

Identifying and Distinguishing Between Nitrogen and Water Stress. Oregon State University-University of Idaho Cereal Field Day, Parma, ID, June 25, 2015.

Soil Moisture, Nutrients and Weeds in No-Till Cropping Systems. Invited Presentation. Direct-Seed Workshop, Idaho Falls, ID. March 11, 2015.

Reference Strips and Precision Sensors for Nutrient Management. Precision Agriculture Seminar, Boise, ID. February 24, 2015.

Conducting Your Own On-Farm Research. Precision Agriculture Seminar, Boise, ID. February 24, 2015.

Soil Nutrient Management Research. Prairie View Elementary School, 4th grade students' field day, Conrad, MT. March 15, 2014.

Soil Fertility and Precision Nutrient Management Research Annual WTARC Advisory Committee Meetings, WTARC, MSU, Conrad, MT. Host/Speaker. 2014, 2013, 2012, 2011, 2010.

Precision Sensing – Potential and Challenges. InfoAg Conference. Invited Presentation. Springfield, IL. July 16-18, 2013.

Soil Nutrient Management in Montana's Golden Triangle Farming Smarter Canada producer tour. July 11, 2013. Invited Presentation.

Soils 101 Relative to Montana Crop Production. Invited Presentation. MSU, Northern Agricultural Research Center, Agricultural Agents Update, Havre, MT. June 27, 2013.

Sensor-Based Nitrogen Algorithm for Winter Wheat Varieties MSU, Northern Agricultural Research Center, Field Day, Havre, MT. June 26, 2013.

Advances in Developing Sensor-Based Nitrogen Optimization Algorithm for Spring and Winter Wheat Varieties in Montana Choteau County Crop Tour, Knees, MT, June 19, 2013. Invited Presentation.

Soil Fertility and Precision Nutrient Management Research Progress. Western Agricultural Research Center's Advisory Committee Meeting, Corvallis, MT. Invited Presentation. May 20, 2013.

Agricultural Research/Outreach Panel. Dutton High School, Career Day, Dutton, MT, April 25, 2013.

WALSH, Olga S.

Soil Nutrient Management Research Workshop. Prairie View Elementary School, 4th grade students' field day, Conrad, MT. March 15, 2013.

Nutrient Management Program at WTARC. MSU Extension Minute with Pondera County Agent Dan Picard. Invited Presentation. 2013, 2011, Two radio segments, K96FM, Shelby, MT, February 27, 2013, and April 21, 2011.

Detecting Crop Stress and Estimating Yield Potential Using Sensor-Based Technologies. Glacier County Conservation District tour, Cut Bank, MT. 2012. Invited Presentation.

Precision Nutrient Management Research in Montana. Western Agricultural Research Center's Field Day. MSU, WARC, June 28, 2012. Invited Presentation.

Sensor-Based Technology Research at MSU. Nutrient Management Conference. Invited Presentation. Chester, MT. February 14, 2012.

Invited Presentation. Precision Sensing Technologies in Soil Nutrient Management Research at MSU. Montana Agricultural Business Association Convention. Great Falls, MT, January 27, 2012.

Improved Nutrient Management: Products and Technologies. Golden Triangle Cropping Seminar, MSU Extension. Invited Presentation. Fort Benton, Denton, Shelby, Chester, Cut Bank, Conrad, Choteau and Great Falls, MT. January 16-19, 2012.

Evaluation of Sensor-Based Technologies and Nitrogen Sources for Improved Recommendations for Dryland and Irrigated Spring Wheat Production in Montana. MSU Ag. Appreciation Fair, Bozeman, MT. October 28, 2011.

Sensor-Based Technologies for Improved Fertilizer Recommendations in Small Grains. Choteau County Crop Tour, Knees, MT, July 13, 2011. Invited Presentation.

Precision Nutrient Management. Central Agricultural Research Center, Moccasin, MT, June 22, 2011.

Grants and Contracts Awarded (Total/spending authority: \$3,004,321/\$1,546,616)

2019 (Total/spending authority - \$957,154/\$386,145)

Precision Water Management for Agronomic, Economic, and Environmental Sustainability of Idaho Hop Production. Walsh O.S., Neibling H., and P. Hatzenbuelher. \$105,040 (spending authority - \$74,286) – 2-year project. ISDA, Idaho Specialty Crop Block Grant Program.

Effective Water Management and Soil Conservation for Sustainable Bean Production. Walsh O.S., Neibling H., and X. Liang. \$99,925 (spending authority - \$56,370) – 2-year project. ISDA, Idaho Specialty Crop Block Grant Program.

WALSH, Olga S.

Stacking and Intersecting Nutrient and Irrigation 4R's. Yost M., Hansen N., Cardon G., Hopkins B., Walsh O.S., Black B., Williams J., and H. Neibling. \$506,693 (spending authority - \$131,506) – 5-year project. The International Plant Nutrition Institute. The 4R Research Fund.

Nitrogen Response, Uptake and Use Efficiency of Spring Wheat Cultivars. Walsh O.S., Shafian S., and McClintick-Chess J. \$36,976 (spending authority - \$24,983) – single year - Idaho Wheat Commission.

Improving Nutrient Management for Wheat through Comprehensive Soil and Crop Survey. Walsh O.S., Marshall J., and J. McClintick-Chess. \$21,317 (spending authority: \$21,317) – single year. Idaho Wheat Commission.

UAV-Based In-Season Assessment of Fruit Trees. Walsh O.S., S. Shafian, and F. Fallahi. \$20,972 (spending authority: \$20,972) – single year. Idaho State Department of Agriculture, Nursery Advisory and Florists Advisory Committee.

Effect of Micronutrient Application on Winter Wheat Grain Yield, Quality and Nitrogen Use efficiency. Shafian S., and O.S. Walsh. \$17,655 (spending authority - \$12,655) – single year. Idaho Wheat Commission.

Nitrogen and Water Management for Optimized Sugar Beet Yield and Sugar Content. Walsh O.S. and S. Shafian. \$15,370 (spending authority - \$10,370) – single year. Snake River Sugarbeet Research and Seed Alliance.

Thornton M., Woodhall J., Walsh O.S., Shafian S., and J. Ryu. Management of Pink Root in Onions. \$10,796 (spending authority - \$2,500) – single year. Idaho-Eastern Oregon Committee.

Extension Wheat Nurseries. Marshall J., Schroeder K., and Walsh O.S. \$35,046 (spending authority: \$2,616) – single year. Idaho Wheat Commission.

Assessing Residue Source and Management Practices for Improving Fertilizer Recommendations in Wheat-Based Cropping Systems. Rogers C., Walsh O.S., Dari B., and Shafian S. \$23,384 (spending authority - \$2,992) – single year – Idaho Wheat Commission.

Assessing Residue Source and Management Practices for Improving Fertilizer Recommendations in Barley-Based Cropping Systems. Rogers C., Walsh O.S., Dari B., and Shafian S. \$23,384 (spending authority - \$2,178) – single year – Idaho Barley Commission.

Varietal Response to Seeding Rates. Marshall J., and O.S. Walsh. \$27,750 (spending authority: \$2,400) – single year. The Monsanto Company.

WALSH, Olga S.

N-Zone Max Evaluation in Winter Wheat. Walsh O.S. \$7,500 (spending authority \$7,500) – single year – The AgXplore.

N-Zone Max and Contain Evaluation in Winter Barley. Walsh O.S. \$7,500 (spending authority \$7,500) – single year – The AgXplore.

Evaluation of Micronutrients in Winter Wheat. Walsh O.S. \$6,000 (spending authority - \$6,000) – single year – The Mosaic Company.

2018 (Total/spending authority - \$217,039/\$122,845)

Improving Nutrient Management for Wheat through Comprehensive Soil and Crop Survey. Walsh O.S., Rogers C., Shafian S., Dari B., and J. McClintick-Chess. \$25,012 (spending authority: \$15,458) – single year. Idaho Wheat Commission.

Precision Crop Sensing & UAV Extension Outreach. Walsh O.S. and S. Shafian. \$15,000 (spending authority: \$15,000) – single year. Idaho State Department of Agriculture, Nursery Advisory and Florists Advisory Committee.

Education for Idaho Barley Production. Marshall J., Schroeder K., and Walsh O.S. \$14,774 (spending authority: \$860) – single year. Idaho Wheat Commission.

Extension Cereal Nurseries. Marshall J., Schroeder K., and Walsh O.S. \$35,046 (spending authority: \$2,616) – single year. Idaho Wheat Commission.

Assessing Residue Source and Management Practices for Improving Fertilizer Recommendations in Wheat-Based Cropping Systems. Rogers C., Walsh O.S., Dari B., and Shafian S. \$23,384 (spending authority - \$2,992) – single year – Idaho Wheat Commission.

Assessing Residue Source and Management Practices for Improving Fertilizer Recommendations in Barley-Based Cropping Systems. Rogers C., Walsh O.S., Dari B., and Shafian S. \$15,230 (spending authority - \$2,178) – single year – Idaho Barley Commission.

Nitrogen Response, Uptake and Use Efficiency of Spring Wheat Cultivars. Shafian S., Walsh O.S., and McClintick-Chess J. \$37,593 (spending authority - \$32,741) – single year - Idaho Wheat Commission.

Evaluation of Micronutrients in Winter Wheat. Walsh O.S. \$6,000 (spending authority - \$6,000) – single year – The Mosaic Company.

N-Zone Max Evaluation in Winer Wheat. Walsh O.S. \$7,500 (spending authority \$7,500) – single year – The AgXplore.

WALSH, Olga S.

N-Zone Max and Contain Evaluation in Winter Barley. Walsh O.S. \$7,500 (spending authority \$7,500) – single year – The AgXplore.

Foliar Fertilizers Evaluation in Corn. Walsh O.S. \$7,500 (spending authority \$7,500) – single year – The AgXplore.

Foliar Fertilizers Evaluation in Beans. Walsh O.S. \$7,500 (spending authority \$7,500) – single year – The AgXplore.

Foliar Fertilizers Evaluation in Peas. Walsh O.S. \$7,500 (spending authority \$7,500) – single year – The AgXplore.

Evaluation of OneUP Foliar Fertilizer in Spring Wheat. Walsh O.S. \$7,500 (spending authority \$7,500) – single year – The J.R. Simplot.

2017 (Total/spending authority - \$129,462/\$77,850)

ASA, Innovative Applications of Crop Sensors for Improved Nutrient Management, Symposium. \$700 (spending authority: \$700) – single year. ASA. Walsh O.S and Brenda Tubana.

Graduate student Assistantship funding. \$28,000 (spending authority: \$28,000) – 2 years. Idaho Agricultural Experiment Station. Walsh O.S.

Precision Sensing for Improved Wheat Production. Walsh O.S., and Marshall J. \$14,841 (spending authority: \$10,932) – single year. Idaho Wheat Commission.

Evaluation of Cover Crops for Improved Soil Health in Silage Corn Cropping System in Idaho. Walsh O.S., McClintick-Chess, J., and Blanscet S. \$7,480 (spending authority: \$7,480) – single year. The Simplot Company.

Evaluation of MicroEssentials®SZ™ for Enhanced N, P and K Uptake in spring Wheat. Walsh O.S., McClintick-Chess, J., and Blanscet S. \$6,000 (spending authority: \$6,000) – single year. The Mosaic Company.

Evaluation of NZoneMax in Corn. Walsh O.S., McClintick-Chess, J., and Blanscet S. \$7,500 (spending authority: \$7,500) – single year. The AgXplore.

Evaluation of Prevent-Profound for Enhanced P Nutrition in Winter Wheat. Walsh O.S., McClintick-Chess, J., and Blanscet S. \$8,000 (spending authority: \$8,000) – single year. The AgXplore.

Evaluation of NZoneMax in Winter Wheat. Walsh O.S., McClintick-Chess, J., and Blanscet S. \$7,500 (spending authority: \$7,500) – single year. The AgXplore.

Extension Wheat Nurseries. Marshall J., Schroeder K., and Walsh O.S. \$34,769 (spending authority - \$1,308) – single year. Idaho Wheat Commission.

WALSH, Olga S.

Education for Barley Producers. Marshall, J., Schroeder, K., and O.S. Walsh. \$14,672 (spending authority - \$430) – single year. Idaho Barley Commission.

2016 (Total/spending authority - \$ 39,940 /\$ 36,767)

Precision Sensing for Improved Wheat Production. Walsh O.S., and Marshall J. \$13,460 (spending authority: \$10,287) – single year. Idaho Wheat Commission.

Evaluation of Cover Crops for Improved Soil Health in Silage Corn Cropping System in Idaho. Walsh O.S., McClintick-Chess, J., and Blanscet S. \$7,480 (spending authority: \$7,480) – single year. The Simplot Company.

Evaluation of MicroEssentials®SZ™ for Enhanced N, P and K Uptake in Spring Wheat. Walsh O.S., McClintick-Chess, J., and Blanscet S. \$6,000 (spending authority: \$6,000) – single year. The Mosaic Company.

Evaluation of NZoneMax in Corn. Walsh O.S., McClintick-Chess, J., and Blanscet S. \$7,000 (spending authority: \$7,000) – single year. The AgXplore.

Evaluation of Prevent-Profound for Enhanced P Nutrition in Winter Wheat. Walsh O.S., McClintick-Chess, J., and Blanscet S. \$6,000 (spending authority: \$6,000) – single year. The AgXplore.

2015 (Total/spending authority - \$ 406,537/\$221,865)

Evaluation of Cover Crops for Improved Soil Health in Silage Corn Cropping System in Idaho. Walsh O.S., Belmont K.M., and McClintick-Chess, J. \$7,480 (spending authority: \$7,480) – single year. The Simplot Company.

Precision Sensing for Improved Wheat Production. Walsh O.S., and Marshall J. \$15,227 (spending authority: \$12,290) – single year. Idaho Wheat Commission.

Extension Wheat Nurseries. Marshall J., Schroeder K., and Walsh O.S. \$31,437 (spending authority: \$4,571) – single year. Idaho Wheat Commission.

Long-Term Impacts of Manure Application on Production of Wheat and Other Crops. Moore A., Marshall J., Walsh O.S., and Liang, X. \$18,000 (spending authority: \$791) – single year. Idaho Wheat Commission.

Education for Barley Production. Marshall J, Schroeder K., and Walsh O.S. \$14,672 (spending authority: \$1,957) – single year. Idaho Barley Commission.

Optimizing Water and Nitrogen Use for Sustainable Wheat Production. Walsh O.S., Liang X, Torrion J., and Neufeld J. \$249,938 (spending authority: \$87,020) - FY2017 – 2018. USDA-NIFA-WSARE.

Improving Nitrogen and Water Use Efficiency in Wheat Production. Walsh O.S. \$2,158 (spending authority: \$2,158) – single year. Hatch Project. USDA-NIFA.

WALSH, Olga S.

Water and Soil Conservation and Effective Weed Management for Sustainable Dry Bean Production. Walsh O.S., Morishita D., Wolf-Weibye A., and Neufeld J. \$162,451.74 (spending authority: \$116,936) – FY2016-2017. ISDA-ISCBGP.

Precision Sensing for Improved Wheat Production. Walsh O.S., and Marshall J. \$15,227 (spending authority: \$12,290) – single year. Idaho Wheat Commission.

Reference Strips and Precision Sensors for Increased Nitrogen Use Efficiency in Wheat Production. Walsh O.S. \$1,961 (spending authority: \$1,961; transferred from MSU; total amount: \$49,907 – spending authority: \$49,907) – single year. USDA-NIFA-WSARE.

Evaluation of Seed Coating Treatments in Soft White Winter Wheat. Walsh O.S. and Belmont K. \$6,850 (spending authority - \$6,850) – single year. The Simplot Company.

Evaluation of MicroEssentials®SZ™ for Enhanced N, P and K Uptake in Winter Wheat. Walsh O.S., and Belmont K. \$6,000 (spending authority: \$6,000) – single year. The Mosaic Company.

Evaluation of MicroEssentials®SZ™ for Enhanced N, P and K Uptake in Spring Wheat. Walsh O.S., and Belmont K. \$6,000 (spending authority: \$6,000) – single year. The Mosaic Company.

Evaluation of Granubor and Aspire for Improved P and B Nutrition in Alfalfa. Walsh O.S., and Belmont K. \$6,000 (spending authority: \$6,000) – single year. The Mosaic Company.

Evaluation of Prevent for Enhanced P Nutrition in Winter Wheat. Walsh O.S., and Belmont K. \$6,000 (spending authority: \$6,000) – single year. The AgXplore.

Evaluation of NZoneMax in Corn. Walsh O.S., and Belmont K. \$7,000 (spending authority: \$7,000) – single year. The AgXplore.

Extension Wheat Nurseries. Marshall J., Schroeder K., and Walsh O.S. \$31,437 (spending authority: \$4,571) – single year. Idaho Wheat Commission.

Education for Barley Production. Marshall J., Schroeder K., and Walsh O.S. \$14,672 (spending authority: \$1,022) – single year. Idaho Barley Commission.

Potassium Management for Improved Dryland Spring Wheat Grain Yield and Quality. Desta K., Torrior J., and Walsh O.S. \$24,252 (spending authority: \$8,084) – single year. Montana Fertilizer Tax Advisory Committee.

WALSH, Olga S.

Evaluation of Urea-Potassium Chloride Blend and Residue Management in Spring Wheat. Desta K., Torrion J., and Walsh O.S. \$29,712 (spending authority: \$9,904) – single year. Montana Fertilizer Tax Advisory Committee.

2014 (Total/spending authority - \$528,255/\$247,397)

Sustainable Cropping Systems for Dual-Purpose Biennial Canola. Desta K., Walsh O.S., Wysocki D., Llewellyn D., Pan W., Collins H., Brady M., and K. Weerts. \$256,397 (spending authority: \$13,199) – FY2015-2016. USDA- NIFA-WSARE.

Evaluation of Seed Coating Treatments in Soft White Winter Wheat. Walsh O.S. \$6,850 (spending authority: \$6,850) – single year. The Simplot Company.

Sensor-Based Nitrogen Fertilization Algorithm for Winter Wheat Varieties. Walsh O.S., Wichman D., McVay K., Lamb P., Eckhoff J., and Knox M. \$10,000 (spending authority: \$3,500) – single year. Montana Wheat and Barley Committee.

Varietal Nitrogen Use Efficiency and Water Use Efficiency Differences in Two Montana Cropping Environments. Walsh O.S., and Christiaens R. \$25,500 (spending authority: \$25,500) – single year. Montana Wheat and Barley Committee.

Light-Activated Sensor Controlled (LASC) Sprayer Technology for Reduced Herbicide Use in No-Till Fallow Systems. Jha P., and Walsh O.S. \$14,000 (spending authority: \$7,000) – single year. Montana Wheat and Barley Committee.

Effect of N Source, Rate and Application Time on Spring Wheat Grain Yield and Protein Content. Walsh O.S., Christiaens R., and Pandey A. \$11,267 (spending authority: \$11,267) – single year. Fluid Fertilizer Foundation.

Evaluation of Wheat Yield Response to Nitrogen-Based Enhanced Efficiency Fertilizers (EEFs) in North Dakota and Montana. Walsh O.S. \$13,835 (spending authority: \$13,835) – single year. Koch Agronomic Services, LLC.

Evaluation of Urea-Potassium Chloride Blend and Residue Management in Spring Wheat. Walsh O.S. \$25,914 (spending authority: \$25,914) – single year. Montana Fertilizer Tax Advisory Committee.

Plant Population and N Application Time for Improved Spring Wheat Production. Walsh O.S. \$25,490 (spending authority: \$25,490) – single year. Montana Fertilizer Tax Advisory Committee.

Potassium Management for Improved Dryland Spring Wheat Grain Yield and Quality. Walsh O.S. \$30,114 (spending authority: \$30,114) – single year. Montana Fertilizer Tax Advisory Committee.

WALSH, Olga S.

Unmanned Aerial Systems for Precision Crop Sensing. Walsh O.S. \$23,728 (spending authority: \$23,728) – single year. Montana Fertilizer Tax Advisory Committee.

Influence of Nitrogen on Wheat Stem Sawfly Parasitoid Numbers in Hollow and Solid Stem Spring Wheat. Weaver D., Lamb P., Miller J., Hofland M., Buteler M., Walsh O.S., Reddy G., and Jones C. \$24,160 (spending authority: \$0) – single year. Montana Fertilizer Tax Advisory Committee.

Evaluation of Nachurs HKW 18 Nutrient Product for Improved Alfalfa Hay Efficiency, Yield and Quality. Walsh O.S. \$5,000 (spending authority: \$5,000) – single year. Nachurs.

Evaluation of Nachurs HKW 18 Nutrient Product for Improved Yellow Spring Pea Efficiency, Yield and Quality. Walsh O.S. \$4,000 (spending authority: \$4,000) – single year. Nachurs.

Evaluation of MicroEssentials®SZ™ for Enhanced N, P and K Uptake in Winter Wheat. Walsh O.S. \$6,000 (spending authority: \$6,000) – single year. The Mosaic Company.

Evaluation of MicroEssentials®SZ™ for Enhanced N, P and K Uptake in Alfalfa. Walsh O.S. \$6,000 (spending authority: \$6,000) – single year. The Mosaic Company.

Evaluation of Novel Fertilizer Products in Alfalfa. Walsh O.S. \$6,000 (spending authority: \$6,000) – single year. The Mosaic Company.

Evaluation of MicroEssentials®SZ™ for Enhanced N, P and K Uptake in Spring Wheat. Walsh O.S. \$6,000 (spending authority: \$6,000) – single year. The Mosaic Company.

Evaluation of MicroEssentials®SZ™ for Enhanced N, P and K Uptake in Winter Wheat. Walsh O.S. \$6,000 (spending authority: \$6,000) – single year. The Mosaic Company.

Assessing the Efficacy of Micro Carbon Technology® – Based Foliar P Fertilizer for Improved Grain Yield and Quality of Spring Wheat. Walsh O.S. \$6,000 (spending authority: \$6,000) – single year. Bio Huma Netics.

Developing Grower Recommendations for Utilization of NZone N Stabilizer for Improved Efficiency of Spring Wheat Production. Walsh O.S. \$5,000 (spending authority: \$5,000) – single year. AgExplore.

Developing Grower Recommendations for Utilization of Prevent Phosphate Management Aid for Improved Phosphorus Efficiency and Plant Uptake in Winter Wheat Production. Walsh O.S. \$5,000 (spending authority: \$5,000) – single year. AgExplore.

WALSH, Olga S.

Effect of Dry Seed+, Crop+, Horti-Crop and BioNutrient NPK+ on Wheat Production Under Dryland Conditions. Walsh O.S. \$3,000(spending authority: \$3,000) – single year. Cytozyme.

Comparison Various Liquid and Granular Fertilizers Efficacy for Improved Spring Wheat Production. Walsh O.S. \$4,500 (spending authority: \$4,500) – single year. Agro-Culture Liquid Fertilizers.

Comparison Various Liquid and Granular Fertilizers Efficacy for Improved Winter Wheat Production. Walsh O.S. \$4,500 (spending authority: \$4,500) – single year. Agro-Culture Liquid Fertilizers.

2013 (Total/spending authority - \$282,680/\$237,270)

Sensor-Based Nitrogen Fertilization Algorithm for Winter Wheat Varieties. Walsh O.S., Wichman D., McVay K., Lamb P., Eckhoff J., and Knox M. \$28,500 (spending authority: \$14,250) – single year. Montana Wheat and Barley Committee.

Reference Strips and Precision Sensors for Increased Nitrogen Use Efficiency in Wheat Production. Walsh O.S. \$49,907 (spending authority: \$49,907) – FY 2014-2015. USDA-NIFA-WSARE.

Comparison of Foliar Applied Nitrogen Fertilizers in Spring Wheat. Walsh O.S. \$32,238 (spending authority: \$32,238) – single year. Montana Fertilizer Tax Advisory Committee.

Evaluation of Sensor-Based Technologies and Nitrogen Sources for Improved Recommendations for Dryland and Irrigated Spring Wheat Production in Montana. Walsh O.S. \$30,823 (spending authority: \$30,823) – single year. Montana Fertilizer Tax Advisory Committee.

Effect of Nitrogen Sources, Rates and Application Time on Spring Wheat Yield and Grain Protein. Walsh O.S. \$23,268 (spending authority: \$23,268) – single year. Montana Fertilizer Tax Advisory Committee.

A Comparison of Nitrogen Sources for Spring Wheat Production. Walsh O.S. \$28,438 (spending authority: \$28,438) – single year. Montana Fertilizer Tax Advisory Committee.

Light-Activated Sensor Controlled (LASC) Sprayer Technology for Reduced Herbicide Use in No-Till Fallow Systems. Jha P., and Walsh O.S. \$14,000 (spending authority: \$7,000) – single year. Montana Wheat and Barley Committee.

WALSH, Olga S.

Evaluation of Wheat Yield Response to Nitrogen-Based Enhanced Efficiency Fertilizers (EEFs) in North Dakota and Montana. Teboh J., and Walsh O.S. \$14,970 (spending authority: \$14,970) – single year. Koch Agronomic Services, LLC.

Influence of Nitrogen on Wheat Stem Sawfly Parasitoid Numbers in Hollow and Solid Stem Spring Wheat. Weaver D., Lamb P., Miller J., Hofland M., Buteler M., Walsh O.S., Reddy G., and Jones C. \$24,160 (spending authority: \$0) – single year. Montana Fertilizer Tax Advisory Committee.

Developing Guidelines for Utilization of Environmentally Smart Nitrogen (ESN) for Increased Efficiency of Wheat Production. Walsh O.S. \$7,876 (spending authority: \$7,876) – single year. Agrium Advanced Technologies.

Evaluation of Microbial Amendments for Increased Efficiency of N, P, and K Fertilizers in Winter Wheat. Walsh O.S. \$6,000 (spending authority: \$6,000) – single year. Pathway Biologic.

Evaluation of MicroEssentials®SZ™ for Enhanced N, P and K Uptake in Spring Wheat. Walsh O.S. \$6,000 (spending authority: \$6,000) – single year. The Mosaic Company.

Assessing the Efficacy of Micro Carbon Technology® – Based Foliar P Fertilizer for Improved Grain Yield and Quality of Spring Wheat. Walsh O.S. \$6,000 (spending authority: \$6,000) – single year. Bio Huma Netics.

Developing Grower Recommendations for Utilization of NZone N Stabilizer for Improved Efficiency of Spring Wheat Production. Walsh O.S. \$6,000 (spending authority: \$6,000) – single year. AgExplore.

Comparison Various Liquid and Granular Fertilizers Efficacy for Improved Spring Wheat Production. Walsh O.S. \$4,500 (spending authority: \$4,500) – single year. Agro-Culture Liquid Fertilizers.

2012 (Total/spending authority - \$224,364/\$130,960)

Nutrient Management Strategies for Improved Small Grain Production. Walsh O.S. \$32,195 (spending authority: \$32,195) – FY 2013-2014. USDA-NIFA-WSARE.

Sensor-Based Nitrogen Fertilization Algorithm for Winter Wheat Varieties. Walsh O.S. \$28,500 (spending authority: \$28,500) – single year. Montana Wheat and Barley Committee.

Improving Nitrogen Use Efficiency in Winter Wheat Using Sensor-Based Technologies and Split Nitrogen Application. Walsh O.S., Westcott M.P., and Chen C. \$20,944 (spending authority: \$6,982) – single year. Montana Fertilizer Tax Advisory Committee.

WALSH, Olga S.

Comparison of Foliar Applied Nitrogen Fertilizers in Spring Wheat. Walsh O.S. and Westcott M.P. \$27,838 (spending authority: \$13,919) – single year. Montana Fertilizer Tax Advisory Committee.

Evaluation of Sensor-Based Technologies and Nitrogen Sources for Improved Recommendations for Dryland and Irrigated Spring Wheat Production in Montana. Walsh O.S., and Westcott M.P. \$19,623 (spending authority: \$9,801) – single year. Montana Fertilizer Tax Advisory Committee.

Effect of Nitrogen Sources, Rates and Application Time on Spring Wheat Yield and Grain Protein. Walsh O.S. \$13,268 (spending authority: \$13,268) – single year. Montana Fertilizer Tax Advisory Committee.

A Comparison of Nitrogen Sources for Spring Wheat Production. Walsh O.S., and Westcott M.P. \$14,838 (spending authority: \$7,419) – single year. Montana Fertilizer Tax Advisory Committee.

An Examination of Hard Red Spring Wheat Response to Wheat Stem Sawfly Herbivory Under Phosphorus and Nitrogen Supplemented Conditions. Weaver D., Walsh O.S., Lamb P., Carlson G., and Jones C. \$24,342 (spending authority: \$0) – single year. Montana Fertilizer Tax Advisory Committee.

Spatial Optimization of Nitrogen Application for Dryland Wheat Yield and Protein. Maxwell L., Jones C., Walsh O.S., Merja C., Barroso J., and Lawrence P. \$23,940 (spending authority: \$0) – single year. Montana Fertilizer Tax Advisory Committee.

Evaluation of Fungal-Based Amendments for Improved P Availability and Uptake in Winter Wheat. Walsh O.S. \$5,000 (spending authority: \$5,000) – single year. Brett Young.

Evaluation of MicroEssentials®SZ™ for Enhanced N, P and K Uptake in Winter Wheat. Walsh O.S. \$6,000 (spending authority: \$6,000) – single year. The Mosaic Company.

Develop Guidelines for Utilization of Environmentally Smart Nitrogen (ESN) for Increased Efficiency of Wheat Production. Walsh O.S. \$7,876 (spending authority: \$7,876) – single year. Agrium Advanced Technologies.

2011 (Total/spending authority - \$157,468/\$85,517)

Sensor-Based Nitrogen Fertilization Algorithm for Winter Wheat Varieties. Walsh O.S. \$17,600 (spending authority: \$17,600) – single year. Montana Wheat and Barley Committee.

WALSH, Olga S.

Effect of Nitrogen Sources, Rates and Application Time on Spring Wheat Yield and Grain Protein. Walsh O.S. \$15,268 (spending authority: \$15,268) – single year. Montana Fertilizer Tax Advisory Committee.

Evaluation of Sensor-Based Technologies and Nitrogen Sources for Improved Recommendations for Dryland and Irrigated Spring Wheat Production in Montana. Walsh O.S., and Westcott M.P. \$19,623 (spending authority: \$9,811) – single year. Montana Fertilizer Tax Advisory Committee.

Improving Nitrogen Use Efficiency in Winter Wheat Using Sensor-Based Technologies and Split Nitrogen Application. Walsh O.S., Whitmus J., Westcott M.P., and Chengci C. \$20,944 (spending authority: \$6,981) – single year. Montana Fertilizer Tax Advisory Committee.

Nitrogen Fertilizer Comparisons in Montana's Winter Wheat Cropping Systems: The Effect of Rate and Timing of Broadcast ESN and Urea on Winter Wheat Yield and Protein. Mason H., Walsh O.S., and Wichman D. \$20,913 (spending authority: \$6,971) – single year. Agrium Advanced Technologies.

A Comparison of Nitrogen Sources for Spring Wheat Production. Mason H., Walsh O.S., and Westcott M.P. \$14,838 (spending authority: \$4,946) – single year. Montana Fertilizer Tax Advisory Committee.

An Examination of Hard Red Spring Wheat Response to Wheat Stem Sawfly Herbivory Under Phosphorus and Nitrogen Supplemented Conditions. Weaver D., Walsh O.S., Lamb P., Carlson G., and Jones C. \$24,342 (spending authority: \$0) – single year. Montana Fertilizer Tax Advisory Committee.

Spatial Optimization of Nitrogen Application for Dryland Wheat Yield and Protein. Maxwell L., Jones C., Walsh O.S., Merja C., Barroso J., and Lawrence P. \$23,940 (spending authority: \$0) – single year. Montana Fertilizer Tax Advisory Committee.

2007 (Total/spending authority - \$61,422/\$0)

Real-Time Use of the Mesonet Weather Data for Refined GreenSeeker Sensor Based on Recommendations in Winter Wheat. Raun W.R., Sutherland A., Elliott R., Solie J., Stiegler J., Arnall D.B., Brown G., Girma K., Holtz S., Taylor R., Walsh O.S., and Zhang H. \$61,422 (spending authority: \$0) – FY2008-2009. OAES and OCES TIP.

Submitted but not funded:

Precision Nitrogen Management of Irrigated Potatoes in the Pacific Northwest. Walsh O.S., Shafian S., Thornton M., Qin R., Hatzenbuehler P., Heckendorn P., Hiles, C., and W. Buhrig. \$277,562. 4R Research Fund, IPNI.

WALSH, Olga S.

Sensor-Based Methodology for Agronomically, Economically, and Environmentally Sustainable Nutrient management for Crops Using Irrigated Potatoes as a Case-Study. Walsh O.S., Shafian S., Thornton M., Qin R., Hatzenbuehler P., Heckendorn R., Hiles C., Glascock D., and W. Buhrig. \$250,000. USDA-WSARE.

Precision Water Management for Agronomic, Economic, and Environmental Sustainability of Idaho Hop Production. Walsh O.S., Neibling H., and P. Hatzenbuehler. \$250,000. USDA-WSARE.

Remote Sensing Methodologies for Nitrogen Management and Yield and Quality Prediction in Potatoes. Shafian S., Thornton M., Walsh O.S., and R Qin. \$100,000. Potato Research Consortium.

Improving nitrogen application in hard spring wheat with considerations of subsoil residual N and varietal differences. Liang X., and O.S. Walsh. \$27,634. Idaho Wheat Commission.

Intensify and Diversify Wheat Productions Systems in the Plains for Invigorated Resilience and Profitability in Rural Communities. Rupp, J., M. Bruce, E. De Wolf, L. Haag, R. Lollato, J. Janzen, T. Todd, L. Mehra, H. Budak, M. Bourgault, M. Burrows, P. Bruckner, P. Carr, F. Crutcher, A. Dyer, J. Eberly, K. Binzen Fuller, K. McPhee, K. McVay, P. Miller, L. Talbert, J. Torrion, D. Weaver, C. Creech, R. Harveson, N. Mueller, J. Marshall, O.S. Walsh, J. Pasch. FY 2019 – 2021. \$10,000,000. USDA-NIFA.

Onions Management – A 21st Century Focus. Leskovar D., Malla S., Joshi V.J., Hoepting C., Dutta B., Turini T., Wilson R., Gugino B.K., Bartolo M., Drost D., Cramer C., Waters T.D., Hanu P., Havey M., Reitz S., du Toit J. J., Walsh O.S., and S. Shafian. \$50,000. USDA, SCRI.

Sensor-Based Methodology for Agronomically, Economically, and Environmentally Sustainable Nutrient Management for Crops Using Irrigated Potatoes as A Case-Study. Shafian S., Thornton M., and O.S. Walsh. \$38,371 UI ORED

Water Response and Water Use Efficiency of Spring Wheat Cultivars. Shafian S., Walsh O.S., Liang X., and P. Hatzenbuehler. \$42,400. Idaho Wheat Commission.

IM 9500 Grain Analyzer. Walsh O.S. \$23,000. Capital Outlay. Idaho Wheat Commission.

Improving Nitrogen Use Efficiency through Soil and Water Management. Sharma L., Walsh O.S., MacNack N., Chatterjee A., Singh S., and Saini S. \$2,551,026 – FY 2018 – 2020. USDA-NIFA.

WALSH, Olga S.

- Best Management Practices and UAV-Based Precision Sensing for Lavender. Walsh O.S., Shafian S., Agenbroad A., Young M., Woodhall J., Barbour J., Neibling H. \$250,023 – FY2018 - 2020. USDA-NIFA-WSARE.
- Precision Sensing for Improved High-Biomass Sorghum Production. Walsh O.S., Felix J., Young M., and Shafian S. \$249,676 – FY2018 - 2020. USDA-NIFA-WSARE.
- Improving Nutrient Management for Barley through Comprehensive Soil and Crop Survey. Walsh O.S., Rogers C., Shafian S., Dari B., and J. McClintick-Chess. \$26,325 – single year. Idaho Barley Commission.
- State General Fund SFY2018: Treatment of Ag-Drainage Tailwater as a BMP to Reduce Sediment and P loading in the Lower Boise River. Strawn D., Moller G., and Walsh O.S. \$101,246 – single year. Idaho DEQ.
- Advancing Sustainable Production and Marketability of Lavender, a Multi-Purpose Perennial Herbaceous Crop. Walsh O.S., Woodhall J., Barbour J., Neibling H., Agenbroad A., Young M., Southerland B., and Southerland W. 2018. \$189,795. ISDA, Idaho Specialty Crop Block Grant Program.
- Developing Nitrogen Guidelines for Idaho Garden Bean Production. Walsh O.S., and Wolf-Weibey A. 2017. \$126,921. ISDA, Idaho Specialty Crop Block Grant Program.
- Toward Advancing Idaho Agriculture Using UAS. Ryu J., Hirnyck R., Nuefeld J., Walsh O.S., and Barbour J. \$187,743. Idaho Department of Commerce.
- RII Track-2 FEC: Nexus of Food Energy and Water in Hydroculture. Watson P., Smith B., Walsh O.S., and Ryu J. \$1,645,424. NSF.
- Evaluation of IgniteS2 and FoliarBlend Products for Improved Bean Yield and Quality. Walsh O.S., Liang X., Vorotnikova E., and Schroeder B. \$19,620. Idaho Bean Commission.
- Systems for Improving Water and Nitrogen Use Efficiency in Spring Wheat. Walsh O.S., Liang X., Marshall J., Rogers C., and Chen J. \$32,786. Idaho Wheat Commission.
- Adaptive Strategies for Sustainable and Synergistic Agricultural Water Use with Increased Supply Uncertainty and Competition. Shewmaker G., Walsh O.S., Allen R., and Niebling H. \$3,543,507. USDA-NIFA.
- Improving Precision Agriculture through Leading-Edge Remote Sensing Techniques. Delparte D., Dandurand M-L., and Walsh O.S. \$90,000. Northwest Potato Research Consortium.

WALSH, Olga S.

Development of a Small Farm-Scale Aquaponics System in the Rural-Urban Interface for Economic Viability. Ryu K., Watson P., Fornshell G., and Walsh O.S. \$499,989. USDA-NIFA.

Toward Advancing Idaho Agriculture Using UAS. Ryu J., Hirnyck R., Nuefeld J., Walsh O.S., and Barbour, J. \$356,466. Idaho Department of Commerce – IGEM.

Reducing Fumigation by Selecting the Right Rotational Wheat Varieties. Torell J., and Walsh O.S. \$250,000. NIFA-WSARE.

Honors and Awards:

2017, Outstanding Associate Editor Award, Agronomy Journal

2008, Outstanding Ph.D. Student Award, Dept. of Plant and Soil Sciences, Oklahoma State University, Stillwater, Oklahoma

2007-2009, Sitlington Enriched Graduate Scholarship, Dept. of Plant and Soil Sciences, Oklahoma State University, Stillwater, Oklahoma, \$12,000

2007-2008, Dale Weibel Memorial Scholarship, Dept. of Plant and Soil Sciences, Oklahoma State University, Stillwater, Oklahoma, \$1,000

2007-2008, H.F. "Pat" Murphy Memorial Scholarship, Dept. of Plant and Soil Sciences, Oklahoma State University, Stillwater, Oklahoma, \$1,000

2006-2007, Jerry Grant Memorial Agriculture Scholarship, Dept. of Plant and Soil Sciences, Oklahoma State University, Stillwater, Oklahoma, \$500

2006-2007, George Christie Memorial Graduate Scholarship, Dept. of Plant and Soil Sciences, Oklahoma State University, Stillwater, Oklahoma, \$1,000

Web

Pages/Media:

Cropping Systems blog - "Idaho Crops & Soils". Establishment and maintenance. January 2015-present

Cropping Systems Twitter account. Establishment and maintenance. January 2015-present

Stripe Rust in Wheat near Parma. Pacific Northwest Pest Alert. May 10, 2016

Barley Yellow Dwarf Virus in the Treasure Valley. Pacific Northwest Pest Alert. April 8, 2016

Cereal Leaf Beetle near Parma. Pacific Northwest Pest Alert. April 8, 2016

Parma Cereal Field Day - June 25. Pacific Northwest Pest Alert. May 13, 2015

Cereal Leaf Beetle in Winter Wheat, Parma. Pacific Northwest Pest Alert. April 29, 2015

WALSH, Olga S.

Soil Nutrient Management blog – “Precision Agriculture, MSU” 2013-2014
Western Triangle Agricultural Center website, Montana State University 2011-2014
Western Triangle Agricultural Center Facebook account, Montana State University 2011-2014

Judging:

Soil Science Society of America, National Student Speech Contest, oral competition judge, November 11, 2019.
American Society of Agronomy, Sensor-Based Nutrient Management Community, graduate student oral competition, judge, ASA/CSSA/SSSA International Annual Conference, Baltimore, MD, November 4-8, 2018
International Conference on Nitrogen Use Efficiency, Graduate student poster contest, judge, Boise, ID, August 8-10, 2016
American Society of Agronomy, Educational Materials Awards Program, Publications under 16 pages category, judge. ASA/CSSA/SSSA International Annual Conference, Minneapolis, MN, November 15-18, 2015
Western Nutrient Management Conference, Reno, NV, March 4-6, 2015, Graduate student poster presentation judge
Western Crop Science Society of America Annual meeting, Pullman, WA, July 11-13, 2013, graduate student oral presentation judge
Division C-03 (Crop Ecology, Management & Quality) Graduate Student Poster Contest. Judge. 2012 ASA-CSSA-SSSA Annual Meeting in Cincinnati, Ohio

Review Activities:

2013 – Guest Editor, Western Nutrient Digest
2011 – Present, Reviewer, Soil Science
2011 – Present, Reviewer, Journal of the Science of Food and Agriculture
2011 – Present, Reviewer, Western Nutrient Digest
2011 – Present, Reviewer, Journal of Biomass and Energy
2011 – Present, Reviewer, Journal of Soil Science and Plant Nutrition
2011 – Present, Reviewer, Journal of Soil Science Society of America
2009 – Present, Reviewer, Agronomy Journal

SERVICE:

Major Committee Assignments:

International:

January 1, 2019 - December 31, 2019, National Student Speech Contest Committee, Chair, Soil Science Society of America
January 2018 - December 2020, Agronomy Journal Editorial Board, Technical Editor – Soils & Crops
January 2018 – December 2018 - Golden Opportunity Scholars Institute – Scholar and Mentor Selection, Chair
November 2016 – October 2018, ASA/CSSA/SSSA, Early Career Member Committee, Past Chair

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November 2017 – October 2018, American Society of Agronomy, Sensor-Based Nutrient Management Community, Past Chair
January 2013 - December 2017, Agronomy Journal Editorial Board. ASA Associate Editor – Precision Ag
April 2017 – September 2017, International Program Committee, Agrophysics Trends Conference, St. Petersburg, Russia
November 2016 – October 2017, American Society of Agronomy, Sensor-Based Nutrient Management Community, Chair
October 2017 - ASA, Innovative Applications of Crop Sensors for Improved Nutrient Management, Symposium, Organizer and Moderator
January 2017-December 2018, Crop Science Society of America Student Speech Contest Committee, Member
November 2016 - ASA/CSSA/SSSA, Tips from the Experts on the Job Application and Interview Process, Continued Education, Session Organizer
November 2016 - ASA/CSSA/SSSA, Building Active Teaching- and Extension-Based Program, Continued Education, Session Organizer
November 2016 - ASA/CSSA/SSSA, Career Opportunities for Students, Post-Docs, and Early Career Members, Continued Education, Session Organizer
November 2016 - ASA/CSSA/SSSA, Use of Aerial Imagery for Nutrient Management, Symposium, Organizer and Moderator
August 2016 – Nitrogen Use Efficiency Annual Conference, Organizer, Host, Graduate Student Poster Contest Judge
January 2016-December 2017, American Society of Agronomy, Sensor-Based Nutrient Management Community, Vice-Chair
January 2015-December 2016, American Society of Agronomy Representative, ASA/CSSA/SSSA National Student Advisory Committee, member
December 2015 – December 2016, ASA/CSSA/SSSA Early Career Member Committee, Chair
January 2015-December 2017, American Society of Agronomy Representative, ASA/CSSA/SSSA Golden Opportunity Scholars Institute - Mentor Activities Committee
December 2015 – Present, Golden Opportunity Scholars Institute– Undergraduate Student Mentor
2015 ASA/CSSA/SSSA - Student Speech Contest Committee, member
January 2015-December 2016, Crop Science Society of America Representative, ASA/CSSA/SSSA Early Career Members, Chair-Elect
January 2014-December 2016, Crop Science Society of America Representative, ASA/CSSA/SSSA Early Career Members Committee
January 2014-December 2016. ASA/CSSA/SSSA Student Speech Contest Committee

Regional:

Western Crop Science Society of America, President, 2019 – 2021
WERA-103 Nutrient Management and Water Quality multi-state project, Chair, 2019
Western Crop Science Society of America, President-Elect, 2017 – 2018

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WERA-103 Nutrient Management and Water Quality multi-state project, Vice-Chair, 2017-2018
WERA-103 Nutrient Management and Water Quality multi-state project, Idaho state representative, 2017-2018
Western Crop Science Society of America, Annual Meeting, Host/Organizer, 2017
Western Crop Science Society of America, Secretary/Treasurer, 2013 - 2016
Western Crop Science Society of America Annual meeting, Albuquerque, NM, June 12-13, 2016, oral session moderator
Conservation Technology Information Center, 2016, Conservation in Action Tour, Organizing Committee, member
Western Nutrient Management Conference, 2014 – 2015, Graduate Student Poster Presentation Competition, coordinator
Western Crop Science Society of America Annual meeting, Pendleton, OR, June 11-13, 2013, oral session moderator
2013-2014, WERA103 (Western Education/Extension Regional Activities Nutrient Management): Nutrient Management and Water Quality Multi-State Project. Committee Member/Representative for Montana.

State:

Snake River Sugar Beet Conference, Organizing Committee, Member, 2019
Idaho Nutrient Management Conference, Organizing Committee, Chair, 2018
Idaho Nutrient Management Conference, Organizing Committee, Vice-Chair, 2016

University:

University of Idaho, Program Prioritization Committee, PSES representative, 2017
University of Idaho Extension, Strategic Planning Committee, Member, 2017

College:

3-Year Review Committee, Dr. Kasia Duelman, Committee Member, 2019
University of Idaho, SWS Departmental faculty search – Precision Agriculture, Moscow, ID. Committee Member, 2017.
University of Idaho, College of Agricultural and Life Sciences, CALS Awards Committee, Member. 2014
Montana State University, MAES Project Review - Rick Engel, Department of Land Resources and Environmental Sciences, MSU, Member. 2012

Department:

Tenure and Promotion Committee, Dr. Xi Liang, Committee Member, 2019
3-Year Review Committee, Dr. James Woodhall, Committee Member, 2019
University of Idaho, PS faculty search – Idaho Barley Commission Endowed Professorship in Agronomy, Aberdeen Research and Extension Center, Aberdeen, ID. Committee Member, 2019
University of Idaho, PSES Departmental staff search –Agricultural Technician (Cropping Systems), Parma Research and Extension Center, Parma, ID. Committee Chair, 2018

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University of Idaho, PS Department Head search – Moscow, ID. Committee Member, 2017

University of Idaho, 3-Year Review Committee, Dr. Xi Liang, Committee Member, 2017.

University of Idaho, PSES Departmental staff search –Postdoctoral Fellow (Cropping Systems), Parma Research and Extension Center, Parma, ID. Committee Chair, 2017

University of Idaho, PSES Departmental staff search – Research Technician (Cropping Systems), Parma Research and Extension Center, Parma, ID. Committee Chair, 2017

University of Idaho, Station-wide field day planning committee, Parma Research and Extension Center, Parma, ID. Committee Chair, 2017

University of Idaho, Field allocation committee - Parma Research and Extension Center, Parma, ID. Committee member, Since 2015

University of Idaho, Risk & Safety committee - Parma Research and Extension Center, Parma, ID. Committee member, Since 2015

University of Idaho, PSES Departmental staff search –Agricultural Technician (Cropping Systems), Parma Research and Extension Center, Parma, ID. Committee Chair, 2016

University of Idaho, PSES Departmental staff search – Research Technician (Cropping Systems), Parma Research and Extension Center, Parma, ID. Committee Chair, 2016

University of Idaho, PSES Departmental staff search – Farm Operations Manager, Parma Research and Extension Center, Parma, ID. Committee Member, 2016

University of Idaho, PSES Departmental staff search –Agricultural Technician (Cropping Systems), Parma Research and Extension Center, Parma, ID. Committee Chair, 2015

University of Idaho, PSES Departmental staff search – Research Technician (Cropping Systems), Parma Research and Extension Center, Parma, ID. Committee Chair, 2015

University of Idaho, PSES Departmental faculty search – Plant Pathologist, Parma Research and Extension Center, Parma, ID. Committee Member, 2015.

Montana State University, MAES Departmental faculty search – Associate Professor of Horticulture and Extension Specialist, Superintended, Western Agricultural Research Center, Corvallis, MT. Committee Member, 2013

Montana State University, MAES Departmental faculty search – Associate Professor of Entomology and Ecology, Superintended, Western Triangle Agricultural Research Center, Conrad, MT. Committee Member, 2012

Montana State University, MAES Departmental staff search – Research Assistant III, Western Triangle Agricultural Research Center, Conrad, MT. Committee Member, 2012

Professional and Scholarly Organizations:

2005 – Present, American Society of Agronomy

2005 – Present, Crop Science Society of America

2005 – Present, Soil Science Society of America

2012 – Present, Western Crop Science Society of America

2012 – Present, International Society of Precision Agriculture

2014 – Present, Association for International Agriculture and Rural Development

2014 – Present, American Association for Agricultural Education

Outreach Service:

- 2013, Nutrient Management Scientific Panel. Golden Triangle Cropping Seminar, MSU Extension. Conrad, MT. January 16, 2013. Invited
- 2011, Montana State University Research Panel. Montana Grain Growers Association (MGGA) Convention, Great Falls, MT, November 30, 2011. Invited

PROFESSIONAL DEVELOPMENT:

Teaching:

- Supervisory Excellence Program, Training, Coaching and Mentoring for Success, Supervisory Excellence Program, University of Idaho, Professional Development and Learning, May 28, 2015
- New Wireless Classroom. Faculty Assisting Students in Distress. Faculty Development and Office of Sponsored Programs, MSU. Webinar. October 1, 2012
- An Overview of Teaching and Learning Technology Resources at MSU. Faculty Development and Office of Sponsored Programs, MSU. Webinar. September 18, 2012
- Tips & Tools for Effective and Efficient Faculty Advising. Faculty Development and Office of Sponsored Programs, MSU. Webinar. March 20, 2012
- Professional Presentation Creative Software Tutorial. Prezi.com, October 31, 2011
- Copyright and Fair Use in the Classroom, Online and in Publishing. Faculty Development and Office of Sponsored Programs, MSU. Webinar. October 13, 2011

Scholarship:

- Remote Pilot Certification, Small Unmanned Aerial Systems, 2019-2020
- Far West Agribusiness Association Conference, December 2017
- Treasure Valley Irrigation Conference, Caldwell, ID, December 15, 2016
- Snake River Sugar Beet Conference, Caldwell, ID, December 14, 2016
- Western Education/Extension Regional Activities Nutrient Management: Nutrient Management and Water Quality (WERA-103) Multi-state annual meeting, Fort Collins, CO, April 11 - 14, 2016
- Drones for the Earth Sciences: Applications and Implications, United States Geological Survey, Webinar, June 22, 2015
- Precision Agriculture Summit. Red River Research Corridor. Jamestown, ND, January 20-21, 2014
- Western Education/Extension Regional Activities Nutrient Management: Nutrient Management and Water Quality (WERA-103) Multi-state annual meeting, Kahului, Hawaii, March 17-20, 2014
- Golden Triangle Cropping Seminar, MSU Extension. Fort Benton, Denton, Shelby, Chester, Cut Bank, Conrad, Choteau and Great Falls, MT. January 13-16, 2014
- Annual American Society of Agronomy/Crop Science Society of America/ Meeting/Soil Science Society of America International Meetings – annually since 2005
- Understanding and Navigating the U.S. Department of Education Grants System. Faculty Development and Office of Sponsored Programs, MSU. Webinar. February 11, 2014

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Western Crop Science Society of America annual meeting - annually since 2012
International Conference on Precision Agriculture - biannually since 2012
InfoAg Conference - annually since 2013
Great Plains Soil Fertility Conference - biannually since 2012
Montana Agricultural Business Association Convention - 2010 – 2012
Montana Grain Growers Association Convention - 2010 – 2013
Grant Writing Advice from the Experts. Faculty Development and Office of Sponsored Programs, MSU. Webinar. August 1, 2013
Peer Review of Grant Applications at the National Institute of Health (NIH) and Various Mechanisms for Funding. Faculty Development and Office of Sponsored Programs, MSU. Webinar. April 4, 2013
Opportunities for Enhancing Research Capacity: Learn What INBRE/EPSCoR/ADVANCE Can Offer You! Faculty Development and Office of Sponsored Programs, MSU. Webinar. March 26, 2013
Strategic Grant Writing Workshop. Institute for Strategic Funding Development. University of Montana. Missoula, MT, October 29-30, 2012
Grant Writing Workshop for Early Career Members. Annual ASA-CSSA-SSSA meeting, Cincinnati, Ohio. October 24, 2012
Orange Wheat Blossom Midge Update Seminar. MSU, WTARC, March 21, 2012
Tips for Writing NSF Grants. Faculty Development and Office of Sponsored Programs, MSU. Webinar. March 2, 2012.
How to Apply for a Growth through Agriculture (GTA) Program Workshop. Webinar. December 21, 2011
International Nitrogen Use Efficiency Conference – annually since 2005

Outreach:

UI Extension Ag Outlook, Caldwell, ID, December 2017
UI Annual Extension Conference, Boise, ID, March 30 – April 2, 2015
Extension Faculty Orientation, University of Idaho, Moscow, October 14-16, 2014