

CURRICULUM VITAE

MATT A. YOST

ACADEMIC RANK

Associate Professor and Graduate Faculty in Plants, Soils, and Climate Department

EDUCATION

<u>Degree</u>	<u>Major</u>	<u>Minor</u>	<u>Year</u>	<u>Institution</u>
Ph.D.	Agronomy	Geographic Info. Sci.	2013	University of Minnesota
M.S.	Agronomy	Soil Science	2011	University of Minnesota
B.S.	Agribusiness, Science, and Technology		2009	Brigham Young University-Idaho

POSITIONS HELD

2024-present	Interim Assoc. Dean for Research, College of Agric. and Applied Sci., Logan, UT
2022-present	Associate Department Head / Plants, Soils, and Climate Dept., Logan, UT
2022-present	Associate Professor / Agroclimate Specialist, Utah State University, Logan, UT
2017-2022	Assistant Professor / Agroclimate Specialist, Utah State University, Logan, UT
2014-2017	Research Soil Scientist, USDA-Agricultural Research Service, Columbia, MO
2013-2014	Postdoctoral Research Associate, University of Minnesota, St. Paul, MN
2011-2013	Ph.D. Research Assistant, University of Minnesota, St. Paul, MN
2010-2011	M.S. Research Assistant, University of Minnesota, St. Paul, MN
2008-2010	B.S. Research Assistant, Brigham Young University-Idaho, Rexburg, ID

PROFESSIONAL AFFILIATIONS

National Alfalfa and Forage Alliance, 2023-present
Western Cover Crop Council, 2018-present
Utah Soil Health Partnership, 2018-present
International Society of Precision Agriculture, 2016-present
Soil Health Partnership, 2016-present
Missouri Soil Health Consortium, 2015-2017
USDA-ARS Long-Term Agroecology Research (LTAR), 2015-2017
Missouri Soil Fertility Working Group, 2015-2017
Midwest Forage Association, 2010-2014
Sigma Xi, initiated 2010
International Plant Nutrition Institute, 2008-2018
American Society of Agronomy, 2007-present
Crop Science Society of America, 2007-present
Soil Science Society of America, 2007-present

LEADERSHIP POSITIONS HELD

2024-present: Board Member, American Society of Agronomy
2024: Chair, Agronomic Production Systems Section, ASA
2023-present: Board Member, National Alfalfa Forage Alliance
2022-present: Board Member, Western Cover Crop Council

2022-present: Chair, Mountain Range Committee, Western Cover Crop Council
2022-present: Member, Executive Team, Fertilizer Recommendation Support Tool
2021-present: Director, USU crops, Utah State University Extension
2022: Chair, Soil and Water Conservation Division, SSSA
2019-present: Associate Editor, Agronomy Journal
2019-2020: Leader, Precision Agriculture Community, ASA
2019-2020: Chair, National Club Poster Presentation Content Committee, ASA, CSSA, SSSA

HONORS AND AWARDS

Date Description

2024 2024-25 Researcher of the Year Award, USU College of Agric. & Applied Sciences
ASA Extension Education and Outreach Award, **Megan Baker**

2023 Advisor to 4th place winner, Western Nutrient Management Conference, **Megan Baker**
Advisor to 1st place winner, Western Crop Sci. Soc. Conf. Poster Comp., **Tina Sullivan**
Advisor to 1st place winner, Western Crop Sci. Soc. Conf. Oral Comp., **Tina Sullivan**

2022 Communication Award: Publication, National Assoc. of County Agr. Agents
Specialist of the Year, USU Extension Agricultural Agents Assoc.
Advisor to Outstanding Graduate Student Award, International Society of Precision
Agriculture, **Elisa Flint**
Advisor to Encompass Fellow, ASA-CSSA-SSSA, **Tina Sullivan**
Advisor to Golden Opportunity Scholar, **Megan Baker**
Advisor to 1st place winner, Graduate Student Oral Competition, CSSA, **Tina Sullivan**

2021 Graduate Research Mentor of the Year award, USU College of Agric. & Applied Sciences
Agronomy Journal Outstanding Associate Editor, Agronomy Journal
Team Leader Award, USU Extension Specialist Association

2020 Advisor to 3rd place winner, Graduate Student Poster Competition, SSSA, **Tina Sullivan**
New Specialist Award, USU Extension Specialist Association

2019 Soil and Water Management and Conservation Young Scientist Award, SSSA
Early Career Award, American Society of Agronomy
Advisor to 2nd place winner, USU Spring Runoff Conference, **Collin Pound**
Advisor to 3rd place winner, IPNI Western Nut. Mgt. Conference, **Collin Pound**
Advisor to 3rd place winner, Graduate Student Poster Competition, SSSA, **Collin Pound**

2017 USDA-Agricultural Research Service Certificate of Appreciation.

2016 USDA-Agricultural Research Service Exceeds Performance Rating Award

2015 USDA-Agricultural Research Service Outstanding Performance Rating Award

2014 Nitrogen Use Efficiency Conference, 3rd place in poster competition

2013 Soils and Environmental Quality Division Graduate Student Award
Charles and Dorothy Andrew Bird Award, Sigma Xi
University of Minnesota Gordon and Lynette Marten Fellowship
University of Minnesota Hueg-Harrison Fellowship

2012 International Plant Nutrition Institute Scholar Award
North Central Extension-Industry Soil Fertility Conference, 2nd place in poster competition

2011 University of Minnesota Gordon and Lynette Marten Fellowship
University of Minnesota Hueg-Harrison Fellowship
North Central Extension-Industry Soil Fertility Conference Graduate Student Award

RESEARCH PUBLICATIONS

(Graduate Student, Undergraduate Student, County Extension Agent)

Refereed Journal Articles

1. **Sullivan, T., M. Yost, D. Boren**, and J. Schad. 2025. Lessons learned from the rise and fall of floral hemp production in Utah. *Agrosystems, Geosciences, and Environment*. In Press.
2. **Sullivan, T., M. Yost, D. Boren**, E. Creech, G. Cardon, and B. Bugbee. 2025. Response of floral hemp to fertilizer nitrogen and phosphorus rates. *Agrosystems, Geosciences, and Environment*. In Press.
3. **Crookston, B., D. Boren, M. Yost, T. Sullivan, C. Reid**, E. Creech, and B. Barker. 2025. Irrigation technology, irrigation dose, and crop genetic impacts on alfalfa yield and quality. *Agricultural Water Management*. In Press.
4. **Sullivan, T., M. Yost, D. Boren**, B. Barker, E. Creech, and B. Bugbee. 2025. Impacts of irrigation rate, irrigation system, and cultivar on floral hemp production in semi-arid Intermountain West. *Agrosystems, Geosciences, and Environment*. In Press.
5. **Sullivan, T., M. Yost, D. Boren**, E. Creech, and B. Bugbee. 2025. Floral hemp cultivars suited for semiarid outdoor production. *Agrosystems, Geosciences, and Environment*. In Press.
6. **Sullivan, T., M. Yost**, and E. Creech. 2025. Potential of near-infrared reflectance spectroscopy for determining industrial hemp cannabinoid concentrations. *Agrosystems, Geosciences, and Environment*. In Press.
7. Petrazelka, P., J.D. Ulrich-Schad, and **M.A. Yost**. 2025. Utah producers and soil health: Digging deeper. *Agriculture and Human Values*. <https://doi.org/10.1007/s10460-024-10697-7>.
8. Idowu, A., S. Cappellazzi, E. Creech, **M. Yost**, A. Jacobson, and J. Reeve. 2024. Soil health benefits of compost persist two decades after one-time application to dryland organic winter wheat (*Triticum aestivum*, L.). *Agronomy Journal*. <https://acsess.onlinelibrary.wiley.com/doi/full/10.1002/agj2.21716>.
9. **Boren, D., M. Yost, T. Sullivan, B. Crookston**, G. Cardon, and E. Creech. 2024. Impacts of irrigation technology, irrigation rate, and drought-tolerant genetics on phosphorus and potassium efficiencies of alfalfa. *Agronomy Journal*. <https://acsess.onlinelibrary.wiley.com/doi/full/10.1002/agj2.21692>.
10. **Hashemi, M.**, R.C. Peralta, M. Yost, and H.M. Zadeh. 2024. Balancing results from AI-based geostatistics versus fuzzy inference by game theory bargaining to improve a groundwater monitoring network. *Machine Learning and Knowledge Extraction*. <https://www.mdpi.com/2504-4990/6/3/92>.
11. Petrzalka, P., J. Schad, and **M. Yost**. 2024. Crop advisor perspectives on soil health in the Intermountain West. *Agricultural and Environmental Letters*. <https://acsess.onlinelibrary.wiley.com/doi/10.1002/acl2.20142>.
12. Slaton, N., A. Pearce, L. Gatiboni, D. Osmond, C. Bolster, J., Clark, J. Dhillon, B. Farmaha, D. Kaiser, S. Lyons, A. Margenot, F. Miguez, A. Moore, D. Ruiz Diaz, D. Sotomayor, J. Spackman, J. Spargo, and **M. Yost**. 2024. Models and sufficiency interpretation for estimating critical soil test values for the Fertilizer Recommendation Support Tool. *Soil Science Society of America Journal*. <http://doi.org/10.1002/saj2.20704>.
13. **Yost, M.**, R. Cartee, **B. Davis**, G. Cardon, E. Creech, and P. Rasmussen. 2024. Long-term 4R nitrogen management in dryland wheat. *Soil Science Society of America Journal*. <https://acsess.onlinelibrary.wiley.com/doi/10.1002/saj2.20675>.

14. **Mufute, N., M. Yost**, D. Larsen, B. Barker, and T. Peters and M. Zamora. 2024. Pivot maintenance trends in the western United States. *Irrigation and Drainage Engineering*. 150(3):1-7. <https://doi.org/10.1061/JIDEDH.IRENG-10209>.
15. **Holt, J., M. Yost**, E. Creech, D. Winward, and B. Barker. 2024. On-farm assessments of overhead sprinkler packages at full and reduced rates. *Soil Science Society of America Journal*. 88:152-165. <http://doi.org/10.1002/saj2.20611>.
16. **Holt, J., M. Yost**, E. Creech, and B. Barker. 2023. Sprinkler modifications and polyacrylamide on wheel tracks influence track depth and crop production. *Irrigation and Drainage Engineering*. 149(12):1-9 <https://ascelibrary.org/doi/epdf/10.1061/JIDEDH.IRENG-10188>.
17. Barns, C., D. Wickwara, **M. Yost**, E. Creech, and R. Ramirez. 2023. The effects of water-stress, temperature, and plant traits on outbreaks of spider mites (Acari: Tetranychidae). *Journal of Applied Entomology*. <http://doi.org/10.1111/jen.13204>.
18. **Hadfield, J., M. Pace, C. Zesiger, J. Gale, K. Taylor**, E. Creech, and **M. Yost**. 2023. Identification of effective planting times of cover crops interseeded into corn in Utah. *Journal of the NACAA*. 16:1-8. <https://www.nacaa.com/file.ashx?id=101be64b-6b81-44e4-9448-8c71db0967a2>.
19. **Scalici M.**, L. McCabe, D. Alston, S. Peterson, **M. Yost**, and T. Pitts-Singer. 2023. Blue orchard bee (*Hymenoptera: Megachilidae*) origin and orchard growing region affect female retention at artificial nest sites. *Environ. Entomol.* <https://doi.org/10.1093/ee/nvad057>.
20. Petrzalka, P., J. Schad, and **M. Yost**. 2023. "We're very late to the party": Motivations and challenges with improving soil health in Utah. *Agriculture and Human Values*. <https://link.springer.com/article/10.1007/s10460-023-10467-x>.
21. Hammond, K., R. Kerry, R. Jensen, R. Spackman, A. Hulet, B. Hopkins, **M. Yost**, A. Hopkins, and N. Hansen. 2023. Assessing within-field variation of alfalfa leaf area index with UAV visible vegetation indices. *Agronomy*. <https://www.mdpi.com/2073-4395/13/5/1289>.
22. **Sullivan, T., M. Yost, D. Boren**, E. Creech, **B. Kitchen, R. Violett**, and B. Barker. 2023. Effects of irrigation technology, irrigation rate, and drought-tolerant genetics on silage corn production. *Agronomy*. <https://www.mdpi.com/2073-4395/13/5/1194>.
23. **Flint, E.A.**, J.D. Svedin, **M.A. Yost**, R. Kerry, M. Heaton, C. Campbell, N.C. Hansen, and B.G. Hopkins. 2023. Zone delineation and variable rate irrigation of winter wheat based on crop water productivity. *Agronomy*. <https://www.mdpi.com/2073-4395/13/4/1125>.
24. **Schumacher, B.**, E. Burchfield, B. Bean, and **M. Yost**. 2023. Leveraging important covariate groups for corn yield prediction. *Agriculture*. <https://www.mdpi.com/2077-0472/13/3/618>.
25. **Loveland, C.**, S. Orloff, **M. Yost**, M. Bohle, G. Galdi, T. Getts, D. Putnam, C. Ransom, D. Samac, R. Wilson, and E. Creech. 2023. Glyphosate-resistant alfalfa can exhibit injury after glyphosate application in the Intermountain West. *Agronomy Journal*. <https://acsess.onlinelibrary.wiley.com/doi/10.1002/agj2.21352>.
26. **Crookston, B., M. Yost**, M. Bowman, K. Veum, and J. Stevens. 2023. Microbial respiration gives early indication of soil health improvement following cover crops. *Journal of Soil and Water Conservation*. Mar 2023, 00015. <https://www.jswnonline.org/content/early/2023/03/10/jswn.2023.00015>.
27. **Roberts, C., M. Yost**, C. Ransom, and E. Creech. 2022. Oat companion seeding rate, herbicide, and irrigation effects on alfalfa establishment. *Agronomy Journal*. <https://doi.org/10.1002/agj2.21227>.

28. **Zesiger C., J. Hadfield, M. Pace, M. Yost, E. Creech, and M. Palmer.** 2022. Evaluation of cover crop productivity for integrated crop-livestock systems in the Intermountain West. *Journal of the NACAA*. 15:1-10. <https://www.nacaa.com/journal/72d1fe75-4e48-4dd2-b336-5bf065986159>.
29. **Holt, J., M. Yost, E. Creech, N. Allen, D. McAvoy, and D. Winward.** 2022. Biochar had minor impacts on yield, quality, and water availability of alfalfa, corn, and wheat. *Agronomy Journal* 114:1717-1730. <https://doi.org/10.1002/agj2.21040>.
30. **Schumacher, B., M. Yost, E. Burchfield, and N. Allen.** 2022. Water in the West: trends, production efficiency, and a call for open data. *Journal of Environmental Management*. 306:114330. <https://doi.org/10.1016/j.jenvman.2021.114330>.
31. **Crookston, B., M. Yost, M. Bowman, and K. Veum.** 2022. Relationships among soil health interpretive frameworks, soil texture, and crop yield in the midwestern United States. *Soil Science Society of America Journal*. 86:91-105. <https://acsess.onlinelibrary.wiley.com/doi/epdf/10.1002/saj2.20355>.
32. **Stewart, S., N. Kitchen, L. Conway, and M. Yost.** 2021. Planting depth and within-field soil variability effects on corn stand establishment and yield. *Agrosystems, Geosciences, and Environment*. 3: online. <https://doi.org/10.1002/agg2.20186>.
33. **M. Yost, C. Pound, J.E. Creech, G.E., Cardon, M. Pace, B. Kitchen, M. Nelson, and K. Russell.** 2021. Nitrogen requirements of first-year small grains after alfalfa. *Soil Science Society of America Journal*. 85:1689-1709. <https://doi.org/10.1002/saj2.20269>.
34. **Crookston, B., M. Yost, M. Bowman, K. Veum, G. Cardon, and J. Norton.** 2021. Soil health indicator temporal and spatial variation dynamically influence soil security in midwestern United States. *Soil Security*. <https://doi.org/10.1016/j.soisec.2021.100005>
35. Clark, J.D., **M.A. Yost**, T. Griggs, G.E. Cardon, C.V. Ransom, and J.E. Creech. 2021. Glyphosate-resistant alfalfa termination method and timing, and nitrogen rate affect corn silage yield, quality, and economic return. *Agronomy Journal*. 113:1712-1723. <https://doi.org/10.1002/agj2.20583>.
36. **Pound, C., M. Yost, J.E. Creech, G.E., Cardon, J. Gale, K. Heaton, S. Price, B. Kitchen, T. Wilde, and M. Pace.** 2021. Nitrogen fertilizer needs of first-year small grain forages following alfalfa. *Agronomy Journal*. 113:2006-2017. <https://doi.org/10.1002/agj2.20561>.
37. **Yost, M., N. Allen, W. Peterson, and J. Gale.** 2020. Water conservation through applied irrigation research. 75 Year of Conservation Special Edition. *Journal of Soil Water Conservation*. https://www.swcs.org/static/media/cms/75th_Book_online_small_EB8351774A8B2.pdf.
38. Clark, J.D., J.E. Creech, G. Cardon, T. Griggs, and **M.A. Yost.** 2020. Alfalfa termination method and timing affect soil properties and corn production. *Agronomy Journal*. 113:321-334. doi.org/10.1002/agj2.20478.
39. **Conway, L.S., M.A. Yost, N.R. Kitchen, K.A. Sudduth, R.E. Massey, and E.J. Sadler.** 2020. Cropping system and landscape characteristics influence long-term grain crop profitability on claypan soil. *Agrosystems, Geosciences, and Environment*. 3:e20099. [doi/full/10.1002/agg2.20099](https://doi.org/10.1002/agg2.20099).
40. Chikamoto, Y., S.-Y. Wang, **M. Yost**, L. Yocom, and R. Gilles. 2020. Multi-year predictability of Colorado River water supply linked with long-term ocean memory. *Communications Earth and Environment*. 1:26. [nature.com/articles/s43247-020-00027-0](https://www.nature.com/articles/s43247-020-00027-0). [Blog post that accompanied the article](#).
41. Bean, G.M., N.R. Kitchen, K.S. Veum, J.J. Camberato, R.B. Ferguson, F.G. Fernandez, D.W. Franzen, C.A.M. Laboski, E.D. Nafziger, J.E. Sawyer, and **M.A. Yost.** 2020.

- Relating four-day soil respiration to corn nitrogen fertilizer needs across 49 US midwest fields. *Soil Science Society of America Journal*. 84:1195-1208. [doi/abs/10.1002/saj2.20091](https://doi.org/10.1002/saj2.20091).
42. **Yost, M.A.**, N.R. Kitchen, K.A. Sudduth, R.E. Massey, E.J. Sadler, S.T. Drummond, and M.R. Volkmann. 2019. A long-term precision agriculture system sustains grain profitability. *Precision Agriculture Journal*. doi.org/10.1007/s11119-019-09649-7.
43. **Yost, M.A.**, K.A. Sudduth, C.L. Walthall, and N.R. Kitchen. 2018. International review of collaborative public-private precision agriculture research, education, and development opportunities. *Precision Agriculture Journal*. doi.org/10.1007/s11119-018-9583-4.
44. Maughan, T., B.L. Black, L.A. Rupp, and **M.A. Yost**. 2018. Propagation techniques for *Sambucus cerulea* (blue elderberry). *Native Plants*. 19(2):81-88. npj.uwpress.org/content/19/2/80.refs.
45. **Yost, M.A.**, K.S. Veum, N.R. Kitchen, J.E. Sawyer, J.J. Camberato, P.R. Carter, R.B. Ferguson, F.G. Fernández, D.W. Franzen, C.A. Laboski, and E.D. Nafziger. 2018. Evaluation of the soil health nutrient tool for corn nitrogen recommendations across eight midwest states. *Journal of Soil and Water Conservation*. 73(5)587-592. [doi:10.2489/jswc.73.5.587](https://doi.org/10.2489/jswc.73.5.587).
46. **Yost, M.A.**, N.R. Kitchen, K.A. Sudduth, and E. Allphin. 2018. *Miscanthus* × *giganteus* growth and nutrition on 22 producer fields. *Bioenergy Research*. 11(2)426-439. [doi:10.1007/s12155-018-9907-2](https://doi.org/10.1007/s12155-018-9907-2).
47. Spiegel, S., B. Bestelmeyer, D. Archer, D.J. Augustine, E.H. Boughton, R.K. Boughton, P.E. Clark, J.D. Derner, E. Duncan, S. Hamilton, C. Hapeman, D. Harmel, P. Heilman, M. Holly, D. R. Huggins, K. King, P. Kleinman, M.A. Liebig, M. Locke, G. McCarty, N. Millar, S. Mirsky, T.B. Moorman, F. Pierson, J.R. Rigby, P. Robertson, J. L. Steiner, T.C. Strickland, H. Swain, B. Wienhold, J.D. Wulffhorst, M. **Yost**, and C. Walthall. 2018. Evaluating strategies for sustainable intensification of U.S. agriculture through the Long-Term Agroecosystem Research network. *Environmental Research Letters*. 13(3) online. [doi:10.1088/1748-9326/aaa779/meta](https://doi.org/10.1088/1748-9326/aaa779/meta).
48. **Conway, L.S.**, **M.A. Yost**, N.R. Kitchen, K.A. Sudduth, K.S. Veum. 2018. Cropping system, landscape position, and topsoil depth affects soil fertility and nutrient buffering. *Soil Science Society of America Journal*. 82:382-391. [doi:10.2136/sssaj2017.08.0288](https://doi.org/10.2136/sssaj2017.08.0288).
49. **Conway, L.S.**, **M.A. Yost**, N.R. Kitchen, and K.A. Sudduth. 2017. Using topsoil thickness to improve site-specific phosphorus and potassium management on claypan soils. *Agronomy Journal*. 109:2291-2301. [doi:10.2134/agronj2017.01.0038](https://doi.org/10.2134/agronj2017.01.0038). Highlighted in several news outlets.
50. Grabber, J.H., **M.A. Yost**, J.A. Coulter, and M.L. Sullivan. 2017. Nitrogen and tillage responses of sorghum-sudangrass following short-term legume and non-legume forages. *Agronomy Journal*. 109:2050-2062. [doi:10.2134/agronj2016.09.0550](https://doi.org/10.2134/agronj2016.09.0550).
51. Bobryk, C., **M.A. Yost**, and N.R. Kitchen. 2017. Quantifying field variability and vulnerability for supporting precision agriculture opportunity. *Precision Agriculture Journal*. 19(4)589-605. doi.org/10.1007/s11119-017-9541-6.
52. **Walker, Z.T.**, J.A. Coulter, M.P. Russelle, R.T. Venterea, A.P. Mallarino, J.G. Lauer, and **M.A. Yost**. 2017. Do soil tests help forecast nitrogen response in first-year corn following alfalfa on fine-textured soils? *Soil Science Society of America Journal*. 81:1640-1651. [doi:10.2136/sssaj2017.06.0183](https://doi.org/10.2136/sssaj2017.06.0183).
53. **Yost, M.A.**, N.R. Kitchen, K.A. Sudduth, A.L. Thompson, and E. Allphin. 2017. Topsoil thickness influences nitrogen management of switchgrass. *Bioenergy Research*. 10:465-477. [doi:10.1007/s12155-016-9811-6](https://doi.org/10.1007/s12155-016-9811-6).

54. **Conway, L.S., M.A. Yost**, N.R. Kitchen, K.A. Sudduth, A.L. Thompson, and R.E. Massey. 2017. Topsoil thickness effects on corn, soybean, and switchgrass production on claypan soils. *Agronomy Journal*. 109:782-794. [doi:10.2134/agronj2016.06.0365](https://doi.org/10.2134/agronj2016.06.0365)
55. **Yost, M.A.**, N.R. Kitchen, K.A. Sudduth, A.L. Thompson, and E. Allphin. 2017. Topsoil thickness and harvest management influence the productivity and profitability of switchgrass. *Agronomy Journal*. 109:985-994. [doi:10.2134/agronj2016.09.0561](https://doi.org/10.2134/agronj2016.09.0561)
56. **Yost, M.A., B.K. Randall**, N.R. Kitchen, and E.A. Heaton. 2017. Yield potential and nitrogen requirements of *Miscanthus* × *giganteus* on eroded soils. *Agronomy Journal*. 109:684-695. [doi:10.2134/agronj2016.10.0582](https://doi.org/10.2134/agronj2016.10.0582).
57. Karlen, D.L., N. Goesser, K.S. Veum, and **M.A. Yost**. 2017. On-farm soil health evaluations: Challenges and opportunities. *Journal of Soil and Water Conservation*. 72:26A-31A. <https://www.jsowonline.org/content/72/2/26A>.
58. **Yost, M.A.**, N.K. Kitchen, K.A. Sudduth, E.J. Sadler, C. Baffaut, M.R. Volkmann, and S.T. Drummond. 2016. Long-term impacts of cropping systems and landscape positions on claypan-soil grain crop production. *Agronomy Journal*. 118:713-725. [doi:10.2134/agronj2015.0413](https://doi.org/10.2134/agronj2015.0413).
59. **Randall, B.K., M.A. Yost**, N.R. Kitchen, E.A. Heaton, H.E. Stelzer, and A.L. Thompson. 2016. Impact of rhizome quality on *Miscanthus* × *giganteus* establishment in claypan soil landscapes. *Industrial Crops and Products*. 85:331-340. [doi:10.1016/j.indcrop.2015.12.040](https://doi.org/10.1016/j.indcrop.2015.12.040).
60. **Yost, M.A.**, N.R. Kitchen, K.A. Sudduth, E.J. Sadler, S.T. Drummond, and M.R. Volkmann. 2016. Long-term impact of a precision agriculture system on grain crop production. *Precision Agriculture Journal*. [doi:10.1007/s11119-016-9490-5](https://doi.org/10.1007/s11119-016-9490-5).
61. **Yost, M.A.**, M.P. Russelle, J.A. Coulter, M.A. Schmitt, C.C. Sheaffer, and G.W. Randall. 2015. Stand age affects fertilizer nitrogen response in first-year corn following alfalfa. *Agronomy Journal*. 107:486-494. [doi:10.2134/agronj14.0493](https://doi.org/10.2134/agronj14.0493).
62. **Yost, M.A.**, J.A. Coulter, M.P. Russelle, and M.A. Davenport. 2014. Opportunities exist to improve alfalfa and manure nitrogen crediting in corn following alfalfa. *Agronomy Journal*. 106:2098-2106. [doi:10.2134/agronj14.0212](https://doi.org/10.2134/agronj14.0212).
63. **Yost, M.A.**, M.P. Russelle, and J.A. Coulter. 2014. Field-specific fertilizer nitrogen requirements for first-year corn following alfalfa. *Agronomy Journal*. 106:645-658. [doi:10.2134/agronj2013.0416](https://doi.org/10.2134/agronj2013.0416).
64. **Yost, M.A.**, T.F. Morris, M.P. Russelle, and J.A. Coulter. 2014. Second-year corn after alfalfa often requires no fertilizer nitrogen. *Agronomy Journal*. 106:659-669. [doi:10.2134/agronj2013.0362](https://doi.org/10.2134/agronj2013.0362).
65. **Yost, M.A.**, M.P. Russelle, J.A. Coulter, and P.V. Bolstad. 2014. Alfalfa stand length and subsequent crop patterns in the upper midwestern United States. *Agronomy Journal*. 106:1697-1708. [doi:10.2134/agronj14.0014](https://doi.org/10.2134/agronj14.0014).
66. **Yost, M.A.**, J.A. Coulter, and M.P. Russelle. 2013. First-year corn after alfalfa showed no response to fertilizer nitrogen under no-tillage. *Agronomy Journal*. 105:208-214. doi.org/10.2134/agronj2012.0334.
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In Review

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5. **Baker, M., M. Yost**, G. Cardon, E. Creech, **J. Gale, S. Price, M. Pace, R. Wytsalucy, M. Nelson**, and **C. Zesiger**. 2024. Comparison of fertilizer recommendations for field crops from private and public soil testing labs I: Crop productivity and quality. *Soil Science Society of America Journal*.
6. **Baker, M., M. Yost**, G. Cardon, E. Creech, **J. Gale, S. Price, M. Pace, R. Wytsalucy, M. Nelson**, and **C. Zesiger**. 2024. Comparison of fertilizer recommendations for field crops from private and public soil testing labs II: Soil test changes. *Soil Science Society of America Journal*.
7. Odemba, M., E. Creech, C. Ransom, **M. Yost**, and R. Ramirez. 2024. Competitive ability of drought tolerant corn hybrids in the presence of redroot pigweed (*Amaranthus retroflexus*) under varied irrigation levels. *Weed Science*.
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10. **Flint, E.A., M.A. Yost**, and B.G. Hopkins. 2024. Variable rate nitrogen in potato cropping system. *Precision Agriculture*.
11. **Hashemi, M.**, S. Esmacili, and **M.A. Yost**. (2025). Integrating image processing and machine learning for analyzing irrigation and vermicompost interactions in cover plants. *Computers and Electronics in Agriculture*.
12. Carr, P., M. Volkmann, S. Fordyce, B. Crookston, **M. Yost**, and J. Reeve. (2025). Composted manure impacts on organic wheat production in the northern great plains. *Canadian Journal of Plant Science*.
13. **Flint, E.A.**, J.D. Svedin, A.P. Hopkins, R. Kerry, R. Jensen, N.C. Hansen, **M.A. Yost**, and B.G. Hopkins. (2024). Sensitivity analysis of modeled soil water dynamics within variable rate irrigation zones for winter wheat. *Agricultural Water Management*.
14. Odemba, M., E. Creech, C. Ransom, **M. Yost**, and R. Ramirez. 2025. Critical period of weed control in drought-tolerant corn under varied irrigation levels. *Weed Control*.

15. Hammond, K., R. Kerry, R. Spackman, A. Hulet, B.G. Hopkins, M.A. Yost, and N.C. Hansen. (2025). Crop water productivity: Within-field spatial variation in irrigated alfalfa (Medicago sativa L.). *Agriengineering*.

CONTRACTS AND GRANTS

(**Graduate Student**, **Undergraduate Student**, **County Extension Agent**)

Funding Summary

Competitive Funding	Total Funding	Total to USU	Total Spending Authority
External competitive - Lead PI	\$9,175,924	\$7,919,309	\$7,919,309
External competitive - Co-PI	\$56,385,267	\$6,521,301	\$2,223,703
External non-competitive	\$1,667,105	\$1,667,105	\$1,511,978
Internal competitive	\$1,223,174	\$1,223,174	\$752,564
Category Total	\$68,451,470	\$17,330,889	\$12,407,554

Funded External Research Proposals

Title	Source	Authors	Amount	Year
Competitive - Lead PI				
Sabbatical to advance long-term agriculture water optimization research, training, and outreach in Great Salt Lake and Colorado River Basins	USDA-NIFA	Yost	\$36,550	2024
Variable rate nitrogen management in Southeast Idaho irrigated winter and spring wheat: Phase II	Idaho Wheat Commission	Yost, Flint, Hopkins	\$10,774	2023-2024
Ag Efficiency Demonstration Program	Central Utah Water Conservancy District and Colorado River Authority	Yost, Barker, Reid, Barsnick, Price, Hadfield, Palmer, Gale	\$5,000,000	2023-2028
Evaluating strategies to address water cuts in Beryl-Enterprise groundwater area	Utah Water Optimization Task Force	Yost	\$62,459	2022-2024
Variable rate nitrogen management in Southeast Idaho irrigated winter and spring wheat	Idaho Wheat Commission	Yost, Flint, Hopkins	\$33,374	2022-2023

Utah Soil Health Network	NRCS-CIG On-farm	Davis, Richards, Yost (PI for USU) , Creech, Schad, Larsen, Murray	\$2,000,000 (\$758,179 to USU)	2022-2026
Identifying stacked conservation practices that optimize water use in agriculture: Phase II	USDA-WSARE	Yost , Hansen, Creech, Hopkins	\$350,000	2022-2025
Five irrigation approaches for improving alfalfa yield and quality	National Alfalfa and Forage Alliance	Yost , Creech, Allen, Gale , Nelson , Wilde	\$97,993	2020-2021
Stacking and Intersecting Nutrient and Irrigation 4R’s	IPNI / The Fertilizer Institute	Yost , Hansen, Hopkins, Walsh, Williams, Cardon, Neibling, Black	\$620,000	2019-2023
Identifying stacked conservation practices that optimize water use in agriculture	USDA-WSARE	Yost , Hansen, Neibling, Spackman, Creech, Allen, Hopkins, Heaton	\$350,000	2019-2022
Optimizing water use in agriculture by stacking conservation practices	Foundation for Food and Agriculture Young Innovator Award	Yost , Creech, Allen, Reid , Kitchen	\$600,000	2018-2021
Improving nitrogen credit predictions to reduce soil residual nitrate	Minnesota Agricultural Water Resource Center	Yost , Russelle, Coulter	\$4,855	2011
Reducing manure and nitrogen fertilizer inputs in alfalfa-corn rotations	USDA-NIFA North-Central Region SARE Graduate Student Grant Program	Yost , Russelle, Coulter	\$9,919	2010
Sub-total competitive as lead PI			\$9,175,924 (spending authority = \$7,919,309)	
Competitive - Co-PI				
Developing resilient organic wheat cropping Systems in the face of climate change related crop failure	USDA – OREI	Reeve, Creech, Norton, Jacobsen, Yost , Curtis, Kim, Larsen, Quinn, Murphy, Moore	\$2,857,283 (\$1,280,057 to USU)	2024-2029

Management and technical consulting for agricultural resiliency and demand management	Colorado River Authority of Utah	Morrison, Harding, Yost , Barker, Lewis, et al.	\$500,000 (\$147,000 to USU)	2024-2027
Developing, testing, and implementing improved alfalfa varieties for a water-challenged future	USDA-NIFA Alfalfa and Forage Program	Brummer, Putnam, Montazar, Yost	\$945,000 (\$310,000 to Yost)	2023-2026
Western Cover Crop Council outreach and education	NRCS	Andrews, Yost , Light, et al.	\$125,000 (\$25,000 to Yost)	2022-2023
Improving profitability of small and medium sized farms through economic optimization of wheel-line irrigation	USDA-NIFA	Barker, Larsen, Yost	\$646,565	2023-2026
Enhanced soil carbon farming as a climate solution	FFAR	Lal, Franzluebbbers, Snapp, Reeve, et. al., Yost	\$13,000,000 (\$737,062 to USU)	2022-2027
Expanding the STAR program across Colorado and the West	USDA Climate Smart Commodities	Silver, Ippolito, Yost , Idowu, Zhu, Maas, Rakkar, Kayler, MachMuller	\$25,000,000 (\$513,000 to Yost)	2023-2028
Securing a climate resilient water future for agriculture and ecosystems through innovation in measurement, management, and markets	USDA-Sustainable Agriculture Systems	Viers et al., Null, Rosenberg, Torres, Yost	\$10,000,000 (\$203,051 to Yost)	2021-2026
Agroecological endeavor in contexts: Complexity In agroecological education, research, and Application	USDA-AFRI Education and Workforce Development Postdoc Fellowship	Crookston , Yost , Reeve	\$216,075	2021-2023
Improving the economic and environmental sustainability of tart cherry production through precision management	USDA-Specialty Crop Research Initiative	Black, Yost , Torres, Murray, Einhorn, Basso, Rothwell, Woods	\$1,969,318	2021-2026
Improving nitrogen management in dryland wheat	Idaho Wheat Commission	Creech, Yost , Cardon	\$72,360	2021-2024

Growth regulators for mustard	Idaho Oilseed Commission	Creech, Pace , Yost , Ransom, Hadfield	\$16,000	2020-2021
Management options for safflower	Idaho Oilseed Commission	Creech, Pace , Yost , Ransom, Hadfield	\$16,000	2020-2021
NIRS analyzer	Idaho Oilseed Commission	Creech, Pace , Yost , Ransom, Hadfield	\$16,000	2020-2021
Innovative technologies for water conservation in flood irrigation systems	USDA-NRCS CIG	Taghvaeian, Ghoslen, Yost , Bali, Ritchie, Warren, Krutz, Allen, Zaccaria	\$860,714 (\$200,337 to Yost)	2020-2022
From compost carryover to compost legacy: Intercropping and compost effects on yield, quality, and soil health in organic dryland wheat	USDA – OREI	Reeve, Creech, Burke, Fortenbery, Norton, Norton, Jacobsen, Yost , Curtis, Kim, Larsen, Carr	\$1,919,855 (\$1,343,899 to USU)	2019-2023
Irrigation strategies demonstration project	Water Conservation Field Services Program – Bureau of Reclamation	Merkley, Yost , Kitchen	\$50,000	2019-2021
Developing the Western Cover Crop Council and promoting the regenerative agriculture movement through cover crops and human health	USDA-Western Sustainable Agriculture Research and Education (SARE) Professional Development Program	Golden, Sullivan, Collins, Newman, Young-Mathews, O'Dea, Yost , Murray, Zimmerman, Hubbard, Mitchell, Collier, et al.	\$100,000 (\$0 to USU)	2019-2021
Expanding findings from water conservation practices research	Utah AG Water Optimization Task Force	Allen, Torres-Rua, Yost , and Creech	\$178,883	2019-2020
Consumptive water use on drip irrigated onions	Utah AG Water Optimization Task Force	Allen, Yost , Drost	\$64,993	2019-2020

Integrated arthropod and weed management in a water-stressed agro-ecosystem	USDA-AFRI	Ramirez, Young, Yost , Creech	\$470,000	2018-2023
Management options for safflower and flax	Idaho Oilseed Commission Research Grants	Creech, Pace, Israelsen, Ransom, Yost	\$15,020	2018-2019
Improving predictability and adoption of alfalfa N credits for corn: Part II	Minnesota Agricultural Fertilizer Research and Education Council	Coulter, Yost , Russelle, Bolstad, Davenport	\$20,706	2013-2014
Improving predictability and adoption of alfalfa N credits for corn	Minnesota Agricultural Fertilizer Research and Education Council	Coulter, Yost , Russelle, Bolstad, Davenport	\$52,935	2012-2013
Predicting on-farm nitrogen credits from alfalfa to second-year corn	Minnesota Corn Research and Promotion Council	Coulter, Yost , Russelle,	\$129,843	2011-2013
Sub-total competitive as Co-PI			\$56,385,267 (spending authority = \$2,223,703)	
Non-competitive				
Great Salt Lake Basin Integrated Plan (GSLBIP): Opportunities and costs for agricultural water optimization and leasing	Utah Division of Water Resources	Yost , Barker, Morrison, Mitchell	\$373,971	2024-2025
Great Salt Lake water budgeting and planning	Great Salt Lake Commission	Tarboton, Neilson, Endter-Wada, Null, Yost	\$50,000 (\$12,000 to Yost)	2024-2025
Agricultural evapotranspiration validation gap analysis and interagency method documentation	Utah Division of Water Rights	Barker, Yost	\$143,263	2024-2025
Improving irrigation management with sensors and comparing water balance methods	Meter Group, Inc. USA	Yost , Barker	\$116,973	2023-2026

Agricultural optimization depletion quantification framework and report	Utah Division of Water Rights	Barker, Yost	\$24,032	2023-2024
Improving nutrient stewardship in Utah through fertilizer recommendation refinement and precision nutrient management	Utah Department of Food and Agriculture Fertilizer Checkoff Program	Yost, Baker, Creech, Cardon, Gale, Zesiger, Taylor, Briggs, etc.	\$110,584	2023-2026
Automated surge irrigation impacts on water quality	Northern Utah Conservation District	Yost, Mufute	\$20,000	2024-2025
Integrated cropland and rangeland drought preparation for enhanced climate resiliency in Utah	USDA-ARS Southwest Climate Hub	Yost, Thacker	\$50,000	2023-2024
Monitoring production and water use of automated surge irrigation	SAE Engineering Inc.	Yost, Mufute	\$25,000	2023-2024
Impacts of soil biostimulants on alfalfa production and water use	Bactelife	Yost, Creech	\$48,888	2022-2023
Summit county ranchers for measurable soil health	Park City Climate Fund Program	Yost, Creech, Cohen	\$75,767	2022-2025
Evaluating the use of full inversion tillage to manage nitrous oxide emissions from a heavily manured corn-triticale cropping system in south-central Idaho	DairyWest BUILD program	Yost, Dungan, Leytem, Creech	\$78,226	2022-2024
BioFiltro Castings	Idaho Dairy Association	Creech, Yost	\$33,500	2021-2022
Potassium and phosphorus rate trials	Fertilizer Recommendation Support Tool (FRST)	Yost, Baker	\$20,000	2021-2023
Determining potassium, zinc, boron, iron, and sulfur fertilizer requirements of alfalfa and corn in Utah	Utah Department of Food and Agriculture Fertilizer Checkoff Program	Yost, Creech, Cardon, Gale, Hadfield, Violett, Zesiger, and Taylor	\$99,128	2021-2023
Soil moisture sensing in water optimization research	Utah Ag Water Optimization Fund	Yost	\$41,180	2020

Which irrigation and crop management strategies can optimize agriculture water use in Utah?	Utah NRCS Equipment Grant	Yost , Creech, Allen	\$70,000	2020-2021
Strategies for stretching water	Utah Soil and Water Conservation Districts	Yost, Gale, Nelson, Wilde, Despain	\$30,000	2019-2020
Optimizing water use with advanced irrigation and crop management	Utah Division of Water Rights	Yost , Allen, Creech	\$30,000	2019
Soil health partnership database exploration	Soil Health Partnership	Yost	\$85,500	2018-2021
Nitrogen needs of small grains following alfalfa	UDAF Fertilizer Program	Yost , Creech, Cardon, Allen, Larsen, Gale	\$36,093	2018-2021
Refining corn seeding depths to account for soil texture, cropping system, and landscape position.	DuPont-Pioneer Crop Management Research Grant	Yost , Kitchen, Carter, Conway, Stewart	\$105,000	2017-2020
Sub-total non-competitive			\$1,667,105 (spending authority = \$1,511,978)	

Funded Internal Competitive Research Proposals

Title	Source	Authors	Amount	Year
Innovative agricultural irrigation system studies	USU Extension Water Initiative	Barker, Yost , Torres, Larsen, Roudbari, Dhakal, Tamang, Mufute	\$37,746	2024-2026
Developing camera gauge stations to monitor water levels in agricultural irrigation canals	USU Extension Water Initiative	Hashemi , Yost , Young, Barker	\$74,969	2024-2026
Irrigation performance connection to water quality in Big Creek	USU-ILWA Bear Lake Grant Program	Barker, Briggs , Yost	\$19,792	2023-2024
Spatial distribution of irrigation technology and water savings	USU Extension Water Initiative	Hirschfeld, Cook , Yost , Powell	\$75,000	2023-2025
Decision-making tools for crop and rangeland production using improved soil moisture algorithms	USU Extension Water Initiative	Jones, Creech, Yost , Ghorbani, Pace , Meyer, Zhang,	\$75,000	2023-2025

		Sadeghi, Sutcliffe		
Evapotranspiration comparisons of agriculture water optimization options	USU Extension Water Initiative	Yost, Hashemi, Sullivan, Barker, Torres	\$71,351	2023-2025
Agriculture water optimization and policy advancements for the Great Salt Lake and Lake Urmia	USU JQ-ILWA mini grant program	Yost, Hashemi, Barker, Torres	\$15,000	2023-2024
Dryland alfalfa variety performance trials	USU Extension Grant	Pace, Hadfield, Clawson, Taylor, Yost, Creech	\$26,799	2023-2024
Predicting snowpack and snowmelt to optimize water resource management in Utah	USU Extension Water Initiative	Zhang, Chikamoto, Wang, Yost, Karimi	\$75,000	2022-2024
Modeling the climate-water-food nexus in the Intermountain West: A drought perspective	Utah Agricultural Experiment Station Seed Grant Program	Zhang, Chikamoto, Wang, Yost	\$40,000	2021-2023
Expanding and extending ongoing agricultural water optimization research	USU Extension Water Initiative	Yost, Allen, Larsen, Schad, Peters, Hansen, Sullivan, Woolley, and Crookston	\$75,000	2021-2023
Effects of soil wetting agents on Utah agricultural water use	USU Extension Water Initiative	Yost, Sullivan, Creech, Gale, Violett, and Kitchen	\$74,036	2021-2023
Identification of effective planting times of cover crops interseeded into corn	Extension Grant	Hadfield, Pace, Zesiger, Taylor, Gale, Palmer, Yost, Creech, and Larsen	\$29,680	2021-2022
Water needs of three hemp varieties	USU Extension Water Initiative	Yost, Creech, Bugbee, Westmoreland, Sullivan	\$75,000	2020-2021
Water use in intermountain west & western agriculture: trends, resilience & efficiency in production	USU Ecology Center	Schumacher, Yost, Burchfield	\$2,000	2020

Re-evaluating spider mite management within water-efficient crop technologies	USU Extension Water Initiative	Ramirez, Yost , Creech, Allen	\$75,000	2019-2020
Utah cover crop research and demonstration	Extension Research Grant	Palmer, Pace, Yost , Creech, Despain, Gale	\$29,976	2019-2020
Optimizing water use with advanced irrigation and crop management	USU Extension Water Initiative	Yost , Allen, Creech	\$30,000	2019
Testing irrigation strategies to stretch limited water supplies	USU Extension Water Initiative	Yost , Creech, Allen, Gale, Despain, Nelson, Wilde	\$75,000	2018-2020
Resilience of agricultural systems to climate stress	UAES seed grant	Burchfield, Yost	\$48,726	2018-2020
Novel solutions for conserving water in Utah agriculture	USU Extension Water Initiative	Yost , Creech, Reid , McAvoy, Allen	\$70,824	2018-2019
Agriculture water conservation training	USU Extension Water Initiative	Yost	\$17,420	2018
Managing small grains after alfalfa for water savings	USU Extension Water Initiative	Yost , Creech, Cardon, Allen, Larsen, Gale , Nelson, Pace , Kitchen, Palmer, Price	\$45,592	2018-2020
Drilling into irrigation surveys to understand local water conservation research and education needs	Extension Research Grant	Yost , Creech, Allen, Burchfield, Flint	\$15,041	2018-2019
Precision irrigation for high value fruit production	USU Extension Water Initiative	Yost , Black, Cardon, Allen	\$39,222	2018-2019
USU agronomy extension website development	Extension Research Grant	Creech, Yost , Ransom, Cardon, Ramirez, Larsen	\$10,000	2018-2019
Total Internal			\$1,223,174 (spending authority = \$752,564)	

Conference Proceedings

1. **Wedegaertner, K.**, B. Black, A. Safre, G. Cardon, and **M. Yost**. 2024. Comparing methods for varying fertilizer rate in tart cherry orchard management. International

- Symposium on Plant Nutrition of Fruit Crops for publication in *Acta Horticulturae*. 24-27 June 2024. Wenatchee, WA.
2. **Hadfield, J., M. Pace, C. Zesiger, J. Gale, K. Taylor, M. Yost**, and E. Creech. 2023. Identification of effective planting times of cover crops interseeded into corn in Utah. NACAA Western Region Professional Improvement Conference. 11-13 Oct. Tuscon, AZ.
 3. Hansen, N. C., **Flint, E. A.**, Hopkins, A. P., Larsen, I., Kerry, R., Hopkins, B. G., **Yost, M. A.**, Jensen, R., Heaton, M. 2023. On-farm evaluation of variable rate irrigation for winter wheat in semi-arid western U.S.A. 14th European Conference on Precision Agriculture. Bologna, Italy. 2-6 Jul. 2023.
 4. **Flint, E.**, B. Hopkins, and **M. Yost**. 2023. Variable rate nitrogen in a potato-wheat-wheat cropping system. 14th European Conference on Precision Agriculture. Bologna, Italy. 2-6 Jul. 2023.
 1. **Flint, E. A.**, Hopkins, B. G., **Yost, M. A.** 2023. Impact of variable-rate nitrogen on potato yield, nitrogen use efficiency, and profit. Western Nut. Mgt. Conf. Reno, NV. 8-10 Mar. 2023.
 2. **Yost, M.**, **M. Baker**, E. Creech, G. Cardon, **J. Gale, C. Zesiger, M. Pace, R. Wytsalucy, S. Price, M. Nelson**, and **R. Violett**. 2023. Performance of public and private fertilizer recommendations for corn, alfalfa, and small grains. Western Nut. Mgt. Conf. Reno, NV. 8-10 Mar. 2023.
 3. Stapley, S. H., Hansen, N. C., **Yost, M. A.**, **Woolley, E. A.**, Hopkins, B. G. 2022. Stacking nutrient 4Rs on potato and wheat. Great Plains Annual Conference Session 2022. 08-11 Jun. 2022. Great Plains United Methodists, Topeka, KS.
 4. Liu, L, S. Wood, **B. Crookston, M. Yost**, & M. Bowman. 2021. Soil Health Partnership White Paper. Measuring soil health on working farms: A soil health partnership approach. <http://www.soilhealthpartnership.org/wp-content/uploads/2021/05/SHP-GEMS-White-Paper-2021.pdf>
 5. **Flint, E.A.**, B.G Hopkins, and **M. Yost**. 2021. On-farm evaluations of pre- and in-season variable rate nitrogen for potato. Int. Soc. Prec. Ag. Conf., Minneapolis, MN. 26-29 Jun. 2021.
 6. **Yost, M.A.**, **J. Holt, J. Gale, M. Nelson, T. Wilde**, E. Creech, and N. Allen. 2021. Optimizing overhead irrigation systems. In: Proceedings, 2021 Western Alfalfa and Forage Symposium, Reno, NV, Nov 16-18. UC Cooperative Extension, Plant Sciences Department, University of California, Davis, CA 95616.
 7. **Yost, M.A.**, N.R. Kitchen, K.A. Sudduth, S.T. Drummond, and R.E. Massey. 2018. A long-term precision agriculture system maintains profitability. Int. Soc. Prec. Ag. Conf., Montreal, CAN. 24-27 Jun. 2018.
 8. Kitchen, N.R., **M.A. Yost**, C.J. Ransom, G. Bean, J. Camberato, P. Carter, R. Ferguson, F. Fernandez, D. Franzen, C. Laboski, E. Nafziger, and J. Sawyer. 2018. Utilizing weather, soil, and plant condition for predicting corn yield and nitrogen fertilizer response. Int. Soc. Prec. Ag. Conf., Montreal, CAN. 24-27 Jun. 2018.
 9. **Stewart, S.**, N. Kitchen, **M. Yost**, and L. Conway. 2018. Optimizing corn seeding depth by soil texture to achieve uniform stand. Int. Soc. Prec. Ag. Conf., Montreal, CAN. 24-27 Jun. 2018.
 10. **Skouby, D.M.**, L. Schumacher, **M.A. Yost**, and N.R. Kitchen. 2016. A content review of precision agriculture courses in the United States and Canada. In: Proc. 13th Int. Conf. on Prec. Agric., St. Louis, MO. 31 July - 4 Aug. 2016.

11. **Yost, M.A.**, N.R. Kitchen, K.A. Sudduth, S.T. Drummond, and E.J. Sadler. 2016. A decade of precision agriculture impacts on grain yield and yield variation. In: Proc. 13th Int. Conf. on Prec. Agric., St. Louis, MO. 31 July - 4 Aug. 2016.
12. **Conway, L.S.**, **M.A. Yost**, N.R. Kitchen, K.A. Sudduth, and D.B. Myers. 2016. Claypan depth effect on soil phosphorus and potassium dynamics. In: Proc. 13th Int. Conf. on Prec. Agric., St. Louis, MO. 31 July - 4 Aug. 2016.
13. Bobryk, C.W., **M.A. Yost**, and N.R., Kitchen. 2016. Field potential soil variability index to identify precision agriculture opportunity. In: Proc. 13th Int. Conf. on Prec. Agric., St. Louis, MO. 31 July - 4 Aug. 2016.
14. Kitchen, N.R., K.A. Sudduth, G.M. Bean, S.T. Drummond, and **M.A. Yost**. 2016. Will algorithms modified with soil and weather information improve in-field reflectance-sensing corn nitrogen applications? In: Proc. 13th Int. Conf. on Prec. Agric., St. Louis, MO. 31 July - 4 Aug. 2016.
15. **Yost, M.A.**, N.R. Kitchen, K.A. Sudduth, and A.L. Thompson. 2015. Topsoil depth influences switchgrass nitrogen management on claypan soils. In: Proc. 45th North Central Ext.-Industry Soil Fert. Conf., Des Moines, IA. 3-4 Nov. 2015. International Plant Nutrition Institute, Brookings, SD. p.216.
16. **Conway, L.**, N.R. Kitchen, **M.A. Yost**, K.A. Sudduth, and A.L. Thompson. 2015. Determining cropping system and topsoil depth effects on phosphorus and potassium nutrient dynamics. In: Proc. 45th North Central Ext.-Industry Soil Fert. Conf., Des Moines, IA. 3-4 Nov. 2015. International Plant Nutrition Institute, Brookings, SD. p.217.
17. **Yost, M.A.**, M.P. Russelle, J.A. Coulter, M.A. Schmitt, C.C. Sheaffer, and G.W. Randall. 2014. Stand age affects fertilizer nitrogen response in first-year corn following alfalfa. In: Proc. 44th North Central Ext.-Industry Soil Fert. Conf., Des Moines, IA. 19-20 Nov. 2014. International Plant Nutrition Institute, Brookings, SD. p.20.
18. **Walker, Z.T.**, **Yost, M.A.**, J.A. Coulter, and M.P. Russelle. 2014. Accuracy of credits and soil indices for predicting nitrogen response in corn following alfalfa. In: Proc. 44th North Central Ext.-Industry Soil Fert. Conf., Des Moines, IA. 19-20 Nov. 2014. International Plant Nutrition Institute, Brookings, SD. p.206.
19. **Yost, M.A.**, M.P. Russelle, J.A. Coulter, and P.V. Bolstad. 2013. Geographic trends in alfalfa stand age and crops that follow alfalfa. In: Proc. 43rd North Central Ext.-Industry Soil Fert. Conf., Des Moines, IA. 20-21 Nov. 2013. International Plant Nutrition Institute, Brookings, SD. p. 129-136.
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20. **Yost, M.A.**, M.P. Russelle, J.A. Coulter. 2012. Predicting fertilizer nitrogen response in first-year corn following alfalfa. In: Proc. 42nd North Central Ext.-Industry Soil Fert. Conf., Des Moines, IA. 14-15 Nov. 2012. International Plant Nutrition Institute, Brookings, SD. p. 167.
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Published Abstracts

1. **Okorie, B.**, **M. Yost**, **K. Deep**, and H. Neibling. 2025. 4R Nitrogen management effects on silage corn production. Western Nutrient Mgt. Conf. Reno, NV. 5-6 Mar. 2025.

2. **Deep, K., M. Yost**, J. Williams, B. Hopkins, G. Cardon, and B. Black. 2025. Effect of 4R nitrogen management on soil health. Western Nutrient Mgt. Conf. Reno, NV. 5-6 Mar. 2025.
3. Tarboton, D., P. Brooks, B. Neilson, W. Anderegg, W. Johnson, S. Null, K. Perry, and **M. Yost**. 2024. Collaboration between university and state agency researchers and policy experts in evaluating options for restoring Great Salt Lake. American Geophysics Union. 9 – 13 Dec. 2024. Washington D.C.
4. Reeve, J., B. Crookston, I. Atoloye, and **M. Yost**. 2024. Soil carbon response to farm management and soil type on working farms in Cache Valley, Utah. American Geophysics Union. 9 – 13 Dec. 2024. Washington D.C.
5. Slaton, N., D. Osmond, J. Spargo, G. Buol, **M. Yost**, D. Kaiser, and L. Gatiboni. 2024. Identifying knowledge gaps and improving crop potassium fertilization recommendations, using the FRST national database. ASA-CSSA-SSSA annual meeting. 10 – 13 Nov. 2024. San Antonio, TX.
6. Janssen, C., E. Brummer, D. Putnam, **M. Yost**, and A. Montazar. 2024. Sustaining alfalfa production with limited water supply. ASA-CSSA-SSSA annual meeting. 10 – 13 Nov. 2024. San Antonio, TX.
7. **Mufute, N., M. Yost**. 2024. Evaluating the potential of automated surge irrigation in helping growers save nutrients and water. ASA-CSSA-SSSA annual meeting. 10 – 13 Nov. 2024. San Antonio, TX.
8. **Flint, E., S. Ekadu, M. Yost**, and B. Barker. 2024. Approach and impacts of AG-DRIP, the agriculture water demonstration, research, and implement program in the Colorado River Basin. ASA-CSSA-SSSA annual meeting. 10 – 13 Nov. 2024. San Antonio, TX.
9. **Flint, E., N. Hansen, M. Yost**, and B. Hopkins. 2024. Variable-rate irrigation in potato. ASA-CSSA-SSSA annual meeting. 10 – 13 Nov. 2024. San Antonio, TX.
10. **Mufute, N., M. Yost**, and B. Barker. 2024. Evaluating the potential of automated surge irrigation in helping growers save nutrients and water. ASA-CSSA-SSSA annual meeting. 10 – 13 Nov. 2024. San Antonio, TX.
11. **Sullivan, T., M. Yost**, E. Creech, and B. Barker. 2024. Effects of soil biological amendments on forage yield and quality in Utah. ASA-CSSA-SSSA annual meeting. 10 – 13 Nov. 2024. San Antonio, TX.
12. **Sullivan, T., M. Yost**, J.D. Ulrich-Schad, and E. Creech. 2024. Successes and challenges: Lessons learned from a Utah hemp grower survey. ASA-CSSA-SSSA annual meeting. 10 – 13 Nov. 2024. San Antonio, TX.
13. **Deep, K., M. Yost**, J. Williams, B. Hopkins, G. Cardon, and B. Black. 2024. Effect of 4R nitrogen management on residual soil nitrate and soil health. ASA-CSSA-SSSA annual meeting. 10 – 13 Nov. 2024. San Antonio, TX.
14. **Singh, T., M. Hashemi, M. Yost, T. Sullivan**, A. Torres, and B. Barker. 2024. Water optimization practices and their impact on evapotranspiration using the SMET model. ASA-CSSA-SSSA annual meeting. 10 – 13 Nov. 2024. San Antonio, TX.
15. **Singh, T., M. Baker, M. Yost**, G. Cardon, **J. Gale, R. Briggs, K. Taylor**. 2024. Soil sodicity amendments had no short-term (1 or 2 years) impacts on field saturated hydraulic conductivity soil adsorption ratio. ASA-CSSA-SSSA annual meeting. 10 – 13 Nov. 2024. San Antonio, TX.
16. **Kunzler, M., M. Yost, J. Holt**, and E. Creech. 2024. Long-term impacts of biochar on soil properties in the Intermountain West. ASA-CSSA-SSSA annual meeting. 10 – 13 Nov. 2024. San Antonio, TX.

17. **Reid, R., M. Yost, J. Holt,** and E. Creech. 2024. Can elevation and soil electrical conductivity effectively guide variable-rate plant populations for silage corn? ASA-CSSA-SSSA annual meeting. 10 – 13 Nov. 2024. San Antonio, TX.
18. **Baker, M., M. Yost,** E. Creech, G. Cardon. 2024. Soil sodicity amendment impacts on yield and forage quality in field crops. ASA-CSSA-SSSA annual meeting. 10 – 13 Nov. 2024. San Antonio, TX.
19. **Baker, M., M. Yost,** E. Creech, G. Cardon. 2024. Evaluating sulfur fertilizer response in field crops. ASA-CSSA-SSSA annual meeting. 10 – 13 Nov. 2024. San Antonio, TX.
20. **Baker, M., M. Yost, J. Gale,** E. Creech, G. Cardon, **S. Price, C. Zesiger, M. Nelson,** and **M. Pace.** 2024. Evaluating sulfur response in field crops. Western Crop Sci. Soc. Am. Monterrey Bay, CA.
21. **Hashemi, M., M. Yost,** and J. Endter-Wada. 2024. Navigating agricultural strategies and water governance in sister lakes: Lake Urmia and Great Salt Lake perspectives. 6th Workshop on Water Resources in Developing Countries: Hydroclimate Modeling, Information Tools and Simulation Techniques. 20-31 May 2024. Trieste, Italy.
22. **Yost, M.,** Barker, B., Etienne, A., Pate, M., and Young, S. 2024. One is the loneliest number: Intercollegiate and departmental collaboration for creating precision agriculture certificates. American Society for Agricultural and Biological Engineers Annual International Meeting. 28-31 July 2024. Anaheim, CA.
23. Reeve, J., I. Atoloye, A. Jacobson, **M. Yost,** and E. Creech. 2024. Long-term effects of compost on soil health and yield of winter wheat in semi-arid environments. International Union of Soil Science Conference. 19-24 May 2024. Florence, Italy.
24. **Hashemi, M.,** and **M. Yost.** 2024. Improving the efficiency of water application in field-scale irrigation systems. USU Spring Runoff Conference. 25-26 Mar. 2024. Logan, UT.
25. Slaton, S., D. Osmond, J. Spargo, **M. Yost,** D. Kaiser, L. Gatiboni, G. Buol. 2024. Modernizing fertilizer recommendations: The fertilizer recommendation support tool (FRST) project. 79th SWCS International Annual Conference. 21-24 Jul. 2024. Mrytle Beach, SC.
26. Ekadu, S., B. Barker, **M. Yost,** E. Flint. 2024. Participatory on-farm irrigation water optimization for water conservation and increased resilience to drought in the Colorado River Basin: AG-DRIP. ASABE Annual Conference. 28-31 Jul. 2024. Anaheim, CA.
27. Osmond, D., N. Slaton, J. Spargo, **M. Yost,** D. Kaiser, P. Kleinman, and G. Buol. 2023. United States (U.S.) efforts to align soil test P and K recommendations: The Fertilizer Recommendation Support Tool (FRST). International Union of Soil Sciences (IUSS). 19-21 May 2023. Florence, Italy.
28. Waring, E., L. Bernacchi, M. Safeeq, M. Eriksson, S. Naumes, **M. Yost,** N. Santos, R. Heerema, and J. Viers. 2023. User perspectives on climate change and the role of digital tools in sustainable water management for the water scarce western United States. AGU Annual Conference. 11-15 Dec. 2023. San Francisco, CA.
29. **Baker, M., M. Yost,** E. Creech, G. Cardon, **J. Gale, C. Zesiger, M. Pace, S. Price,** and **M. Nelson.** 2023. Evaluating zinc requirements of forages. Western Alfalfa and Forage Symposium. 12-14 Dec. Reno, NV.
30. Odemba, M., E. Creech, C. Ransom, **M. Yost,** and R. Ramirez. 2023. Critical period of weed control for drought-tolerant corn exposed to varied irrigation levels. ASA-CSSA-SSSA annual meeting. 29 Oct – 1 Nov. 2023. St. Louis, MO.
31. **Davis, B.,** E. Creech, and **M. Yost.** 2023. Row spacing effects on dryland winter wheat yield and weed suppression in the Intermountain West. ASA-CSSA-SSSA annual meeting. 29 Oct – 1 Nov. 2023. St. Louis, MO.

32. Hansen, N., **E. Flint**, B. Hopkins, C. Campbell, A. Hopkins, R. Kerry, K. Hammond, **M. Yost**, and A Ben-Gal. 2023. On-farm evaluation of variable rate irrigation in semi-arid western U.S.A. ASA-CSSA-SSSA annual meeting. 29 Oct – 1 Nov. 2023. St. Louis, MO.
33. **Sullivan, T.**, **M. Yost**, E. Creech, G. E. Cardon, B. Barker, and B. Bugbee. 2023. Soil wetting agents and biologicals as drought defense options for alfalfa and corn production. 2023. ASA-CSSA-SSSA annual meeting. 29 Oct – 1 Nov. 2023. St. Louis, MO.
34. **Sullivan, T.**, **M. Yost**, E. Creech, G. Cardon, B. Barker, and B. Bugbee. 2023. Alfalfa and silage corn production with soil wetting agents for water conservation. ASA-CSSA-SSSA annual meeting. 29 Oct – 1 Nov. 2023. St. Louis, MO.
35. **Sullivan, T.**, **M. Yost**, **D. Boren**, E. Creech, and B. Bugbee. 2023. Floral hemp cultivar trials for semi-arid Intermountain West production. ASA-CSSA-SSSA annual meeting. 29 Oct – 1 Nov. 2023. St. Louis, MO.
36. Stapley, S., N. Hansen, J. Williams, **E. Flint**, **M. Yost**, and B. Hopkins. 2023. Stacking and intersecting nutrient 4Rs on potato. ASA-CSSA-SSSA annual meeting. 29 Oct – 1 Nov. 2023. St. Louis, MO.
37. **Yost, M.**, **J. Holt**, B. Barker, and C. Carter. 2023. Automated surge irrigation as water optimization tool to help save the Great Salt Lake. ASA-CSSA-SSSA annual meeting. 29 Oct – 1 Nov. 2023. St. Louis, MO.
38. **Crookston, B.**, **M. Yost**, J. Reeve. 2023. From disciplinary silos to interdisciplinary insights: Unpacking complex system characteristics in agroecology. ASA-CSSA-SSSA annual meeting. 29 Oct – 1 Nov. 2023. St. Louis, MO.
39. **Yost, M.**, A. Blaylock, C. Rogers, and D. Tarkalson. 2023. What's happening in the west: Fertilizer recommendation trends and opportunities. ASA-CSSA-SSSA annual meeting. 29 Oct – 1 Nov. 2023. St. Louis, MO.
40. Slaton, N., L. Gatiboni, A. Pearce, D. Osmond, C. Bolster, J. Clark, et al., **M. Yost**. 2023. The journey to defining the critical soil test value for FRST. ASA-CSSA-SSSA annual meeting. 29 Oct – 1 Nov. 2023. St. Louis, MO.
41. Osmond, D., N. Slaton, J. Spargo, **M. Yost**, D. Kaiser, P. Kleinman, and G. Buol. 2023. The Fertilizer Recommendation Support Tool (FRST) overview. ASA-CSSA-SSSA annual meeting. 29 Oct – 1 Nov. 2023. St. Louis, MO.
42. Buol, G., S. Lyons, D. Osmond, N. Slaton, J. Spargo, P. Kleinman, **M. Yost**, and D. Kaiser. 2023. The Fertilizer Recommendation Support Tool (FRST) database and web application. ASA-CSSA-SSSA annual meeting. 29 Oct – 1 Nov. 2023. St. Louis, MO.
43. **Heaton, M.**, and **M. Yost**. 2023. Using poultry litter as fertilizer in cool season pasture plantings. Chad Reid NACAA Western Region Professional Improvement Conference. 11-13 Oct. 2023. St. George, UT.
44. **Gale, J.**, **M. Yost**, **M. Baker**, G. Cardon, E. Creech, T. Evans. 2023. Irrigation water is a source of sulfur as a crop nutrient. Chad Reid NACAA Western Region Professional Improvement Conference. 11-13 Oct. 2023. St. George, UT.
45. **Gale, J.**, **M. Yost**, and **M. Baker**. 2023. Laboratory soil fertility recommendations and cost comparison in Sevier County, Utah. Chad Reid NACAA Western Region Professional Improvement Conference. 11-13 Oct. 2023. St. George, UT.
46. **Zesiger, C.**, **J. Hadfield**, **M. Pace**, **K. Taylor**, **J. Gale**, **J. Clawson**, E. Creech, **M. Yost**, and A. Hudman. 2023. Fate of interseeded cover crops following corn silage harvest. Chad Reid NACAA Western Region Professional Improvement Conference. 11-13 Oct. 2023. St. George, UT.
47. **Hadfield, J.**, **M. Pace**, **K. Taylor**, **J. Gale**, **J. Clawson**, E. Creech, and **M. Yost**. 2023. The effect of lowering corn populations on interseeded cover crop yield and quality. Chad

- Reid NACAA Western Region Professional Improvement Conference. 11-13 Oct. 2023. St. George, UT.
48. **Hashemi, M., M. Yost**, and A. Asgari. 2023. A deep learning-based method for detecting pot marigold flowers with complex backgrounds. CODATA-RDA Advanced Workshop for Research Data Science. 10-12 Aug. 2023. Trieste, Italy.
 49. **Yost, M., O. Hargreaves, M. Hashemi**, A. Torres, and **T. Sullivan**. 2023. Closed loop alfalfa monitoring to improve irrigation efficiency. American Water Resources Association Annual Meeting. 16-19 Jul. 2023. Denver, CO.
 50. Creech, E., **R. Nelson**, C. Ransom, and **M. Yost**. 2023. Weed management options in dormant-seeded safflower. Western Society of Crop Science Annual Meeting. 26-28 Jun. Honolulu, Hawaii.
 51. **Sullivan, T., M. Yost**, E. Creech, G. E. Cardon, B. Barker, and B. Bugbee. 2023. Soil wetting agents and biologicals as drought defense options for alfalfa production. 2023. Western Society of Crop Science Annual Meeting. 26-28 Jun. Honolulu, Hawaii.
 52. **Sullivan, T., M. Yost, D. Boren**, E. Creech, and B. Bugbee. 2023. Nutrient management for semi-arid cannabis production. Western Society of Crop Science Annual Meeting. 26-28 Jun. Honolulu, Hawaii.
 53. **Flint, E.**, B. Hopkins, and **M. Yost**. 2023. Impact of variable-rate nitrogen on potato yield, nitrogen use efficiency, and profit. Western Nutrient Mgt. Conf. Reno, NV. 9-10 Mar. 2023.
 54. **Boren D., T. Sullivan, M. Yost**, and E. Creech. 2023. Impacts of irrigation management and drought-tolerant genetics on alfalfa nutrient uptake. Western Nutrient Mgt. Conf. Reno, NV. 9-10 Mar. 2023.
 55. **Sullivan, T., D. Boren, M. Yost**, E. Creech, and B. Bugbee. 2023. Nutrient management for semi-arid cannabis production. Western Nutrient Mgt. Conf. Reno, NV. 9-10 Mar. 2023.
 56. **Baker, M., M. Yost**, E. Creech, G. Cardon, **J. Gale, C. Zesiger, M. Pace, S. Price, and M. Nelson**. 2023. Evaluating zinc requirements of corn, small grains, and alfalfa. Western Nut. Mgt. Conf. Reno, NV. 8-10 Mar. 2023.
 57. **Hadfield, J.A., Zesiger, C., Taylor, K., Pace, M., Gale, J., Palmer, M., Yost, M.**, Creech, J.E., Larsen, R. 2023. The effect of lowering corn populations on interseeded cover crop yield and quality. National Association of County Agricultural Agents Annual Meeting and Professional Improvement Conference, Des Moines, IA.
 58. **Gale, J., M. Yost**, and **M. Baker**. 2022. Soil fertility recommendation and cost comparison in Sevier County, Utah. Chad Reid NACAA Western Region Professional Improvement Conference. 11-13 Oct. Tuscon, AZ.
 59. **Hadfield, J.A., Taylor, K., Zesiger, C., Pace, M., Gale, J., Palmer, M., Yost, M.**, Creech, J.E., Larsen, R. 2022. Interseeding cover crops in corn. National Association of County Agricultural Agents Annual Meeting and Professional Improvement Conference, West Palm Beach, FL.
 60. **Baker, M., M. Yost**, E. Creech, and G. Cardon. 2022. Comparison of private and public lab fertilizer recommendations in field crops. ASA-CSSA-SSSA annual meeting. Baltimore, MD. 6-9 Nov. 2022.
 61. Odemba, M., E. Creech, C. Ransom, **M. Yost**, and R. Ramirez. 2022. Why can't we be friends: Weed host interactions with spider mites in Intermountain West corn production. Entomological Society of America annual meeting. 14 Nov. 2022. Vancouver, WA.

62. E. Creech, J. Reeve, **M. Yost**, E. Creech, A. Jacobsen, **B. Davis**, and I. Atoloye. 2022. Compost carryover and cover crops in dryland organic wheat in Utah. ASA-CSSA-SSSA annual meeting. Baltimore, MD. 6-9 Nov. 2022.
63. **Sullivan, T.**, **M. Yost**, and E. Creech. 2022. Irrigation management and variety selection for the semi-arid intermountain west cannabis production. ASA-CSSA-SSSA annual meeting. Baltimore, MD. 6-9 Nov. 2022.
64. **Davis, B.**, **M. Yost**, G. Cardon, J. Reeve., M. Krause, and E. Creech. 2022. Reevaluating nitrogen recommendations for dryland winter wheat in the intermountain west. ASA-CSSA-SSSA annual meeting. Baltimore, MD. 6-9 Nov. 2022.
65. **Hammond, K.**, R. Jensen, A. Hulet, S. Shumate, B. Hopkins, R. Spackman, **M. Yost**, and N. Hansen. 2022. Spatiotemporal variation of crop water productivity in an irrigated alfalfa field. ASA-CSSA-SSSA annual meeting. Baltimore, MD. 6-9 Nov. 2022.
66. **Flint, E.**, R. Kerry, N. Hansen, B. Hopkins, and **M. Yost**. 2022. Temporal stability of soil moisture and static variables to determine optimal sensor placements within variable rate irrigation systems. ASA-CSSA-SSSA annual meeting. Baltimore, MD. 6-9 Nov. 2022.
67. **Sullivan, T.**, **M. Yost**, and E. Creech. 2022. The use of soil wetting agents in silage corn production. ASA-CSSA-SSSA annual meeting. Baltimore, MD. 6-9 Nov. 2022.
68. **Flint, E.**, R. Kerry, N. Hansen, B. Hopkins, and **M. Yost**. 2022. Variable rate nitrogen approach in a potato-wheat-wheat cropping system. ASA-CSSA-SSSA annual meeting. Baltimore, MD. 6-9 Nov. 2022.
69. **Yost, M.** 2022. Prioritizing water optimization in western cropping systems. ASA-CSSA-SSSA annual meeting. Baltimore, MD. 6-9 Nov. 2022. *Invited*.
70. **Hammond, K.**, R. Jensen, A. Hulet, S. Shumate, B. Hopkins, R. Spackman, **M. Yost**, and N. Hansen. 2022. Spatiotemporal variation of crop water productivity in an irrigated alfalfa field. BYU Plant and Wildlife Science Research Conclave. Provo, UT. 17 Oct. 2022.
71. **Sullivan, T.**, **M.A. Yost**, **D. Boren**, E. Creech, and N. Allen. 2021. Effects of management factors on silage corn production. Western Alfalfa and Forage Symposium. Reno, NV. 16-18 Nov. 2021.
72. **Holt, J.**, **M. Yost**, N. Allen, E. Creech, G. Cardon, and A. Torres. 2021. Reducing pivot ruts with simple sprinkler changes. Western Alfalfa and Forage Symposium. Reno, NV. 16-18 Nov. 2021.
73. **Baker, M.**, **M.A. Yost**, **J. Gale**, E. Creech, G. Cardon, **S. Price**, **C. Zesiger**, **R. Wytsalucy**, **R. Violet**, **M. Nelson**, and **M. Pace**. 2021. Evaluation of private and public lab fertilizer recommendations for field crops. Western Alfalfa and Forage Symposium. Reno, NV. 16-18 Nov. 2021.
74. **Boren D.**, **M. Yost**, **T. Sullivan**, and E. Creech. 2021. Irrigation rates and sprinkler technologies influence on teff grass. Western Alfalfa and Forage Symposium. Reno, NV. 16-18 Nov. 2021.
75. **Yost, M.** 2021. Hybrid vigor in remote and in-person extension programming. ASA-CSSA-SSSA annual meeting. Salt Lake City, UT. 7-10 Nov. 2021. *Invited*.
76. **Yost, M.**, **M. Baker**, E. Creech, G. Cardon, **C. Zesiger**, **J. Gale**, **M. Pace**, and **M. Nelson**. 2021. State-level FRST soil test correlation and calibration trials; View from Utah. ASA-CSSA-SSSA annual meeting. Salt Lake City, UT. 7-10 Nov. 2021. *Invited*.
77. **Schumacher, B.**, **M. Yost**, E. Burchfield & N. Allen. 2021. First county-level view of irrigation trends in the western United States. ASA-CSSA-SSSA annual meeting. Salt Lake City, UT. 7-10 Nov. 2021.

78. Ransom, C., B. Geary, T. Munns, K. Veum, **M. Yost**, and N. Kitchen. 2021. Exploring seasonal soil microbiome under corn production as influenced by soil order and nitrogen fertilization. ASA-CSSA-SSSA annual meeting. Salt Lake City, UT. 7-10 Nov. 2021.
79. **Davis, B., M.A. Yost**, J. Reeve, A. Jacobson, and E. Creech. 2021. The response of organic dryland wheat to compost and cover crops in semi-arid conditions. ASA-CSSA-SSSA annual meeting. Salt Lake City, UT. 7-10 Nov. 2021.
80. **Nelson, R., M.A. Yost**, C. Ransom, M. Pace, J. Hadfield, and E. Creech. 2021. Seeding rates for dormant seeded safflower. ASA-CSSA-SSSA annual meeting. Salt Lake City, UT. 7-10 Nov. 2021.
81. **Stapley, S.**, N. Hansen, **M. Yost**, E. Woolley, and B. Hopkins. 2021. Scope of 4R nitrogen and irrigation adoption in Utah and Idaho. ASA-CSSA-SSSA annual meeting. Salt Lake City, UT. 7-10 Nov. 2021.
82. **Sullivan, T., M.A. Yost**, E. Creech, N. Hansen, R. Spackman, H. Niebling, O. Walsh, and J. Ulrich. 2021. Scope of 4R nitrogen and irrigation adoption in Utah and Idaho. ASA-CSSA-SSSA annual meeting. Salt Lake City, UT. 7-10 Nov. 2021.
83. **Woolley, E.A., M.A. Yost**, N. Hansen, and B. Hopkins. 2021. Optimal number of sensors and sensor placement for sensor-based irrigation scheduling for a variable-rate irrigation system. ASA-CSSA-SSSA annual meeting. Salt Lake City, UT. 7-10 Nov. 2021.
84. **Boren D., M. Yost, T. Sullivan**, and E. Creech. 2021. Irrigation and genetic effects on yield and quality of alfalfa. ASA-CSSA-SSSA annual meeting. Salt Lake City, UT. 7-10 Nov. 2021.
85. **Housley, A., M.A. Yost, C. Loveland**, C. Ransom, D. Putnam, D. Samac, and E. Creech. 2021. Glyphosate injury in glyphosate-resistant alfalfa when applied in periods of low temperatures. ASA-CSSA-SSSA annual meeting. Salt Lake City, UT. 7-10 Nov. 2021.
86. **Sullivan, T., M.A. Yost, D. Boren**, E. Creech, and N. Allen. 2021. Effects of management factors on silage corn production. ASA-CSSA-SSSA annual meeting. Salt Lake City, UT. 7-10 Nov. 2021.
87. **Baker, M., M.A. Yost**, E. Creech, and G. Cardon. 2021. Evaluation of private and public lab fertilizer recommendations for field crops. ASA-CSSA-SSSA annual meeting. Salt Lake City, UT. 7-10 Nov. 2021.
88. Coulter, J.A., **M.A. Yost**, M.P. Russelle, A.P. Mallarino, and J.G. Lauer, and T.F. Morris. 2021. Advancing predictability of fertilizer nitrogen requirements for second-year maize following alfalfa. ASA-CSSA-SSSA annual meeting. Salt Lake City, UT. 7-10 Nov. 2021.
89. **Sullivan, T., M. Yost**, E. Creech, N. Allen, and **B. Kitchen**. 2020. How a management stacking environment affects yield of silage corn. Virtual ASA, CSSA, SSSA annual meeting. 9 Nov. 2020.
90. **Yost, M.**, J. Williams, B. Hopkins, O. Walsh, H. Neibling, G. Cardon, B. Black, N. Hansen, and **T. Sullivan**. 2020. Trends and opportunities in 4R nitrogen management of field and fruit crops in the Intermountain West. Virtual ASA, CSSA, SSSA annual meeting. 9 Nov. 2020. *Invited*.
91. **Stapley, S.**, B. Hopkins, N. Hansen, and **M. Yost**. 2020. Stacking and intersecting nutrient 4R's and using in-season canopy health and petiole nitrate analysis on russet burbank potatoes. Virtual ASA, CSSA, SSSA annual meeting. 9 Nov. 2020.
92. **Egbert, K., M. Yost, J. Gale, M. Nelson, T. Wilde**, E. Creech, and N. Allen. 2020. Effects of sprinkler maintenance and DATA-based water management decisions on alfalfa production. Virtual ASA, CSSA, SSSA annual meeting. 9 Nov. 2020.

93. **Crookston, B., M. Yost**, M. Bowman, J. Cornell, K. Veum, and G. Cardon. 2020. Soil health indicator temporal and spatial variation. Virtual ASA, CSSA, SSSA annual meeting. 9 Nov. 2020.
94. **Holt, J., M. Yost**, E. Creech, N. Allen, and D. Winward. 2020. Agricultural water optimization with advanced sprinkler packages for pivots. Virtual ASA, CSSA, SSSA annual meeting. 9 Nov. 2020.
95. **Schumacher, B., M. Yost**, E. Burchfield, and N. Allen. 2020. Water use in western agriculture: Trends, resilience and efficiency in production. Virtual ASA, CSSA, SSSA annual meeting. 9 Nov. 2020.
96. **Yost, M., T. Sullivan, M. Westmoreland**, B. Bugbee, and E. Creech. 2020. Impacts of irrigation, cultivar, and nutrient management on hemp yield and quality. Virtual ASA, CSSA, SSSA annual meeting. 9 Nov. 2020.
97. **Sullivan, T., M. Yost**, E. Creech, N. Allen, and **B. Kitchen**. 2020. The effects of stacking water management factors on forage quality. Virtual ASA, CSSA, SSSA annual meeting. 9 Nov. 2020.
98. **Roberts, C., M. Yost**, C. Ransom, and E. Creech. 2020. The impacts of irrigation, herbicide, and oat companion crop on spring-seed alfalfa. Virtual ASA, CSSA, SSSA annual meeting. 9 Nov. 2020.
99. **Palmer, M.D., M. Pace, M. Yost**, E. Creech, **C. Zesiger**, and **J. Hadfield**. 2020. Utah cover crops research and demonstration. NACAA Annual Virtual Conference. 28 Sept. 2020.
100. **Loveland, C.**, E. Creech, J. Reeve, **M. Yost**, and K. Buckland. 2019. Agronomic Strategies to Improve Seed Set in Organic Quinoa. ASA, CSSA, SSSA 2019 International Annual Meetings. 1315. San Antonio, TX.
101. **Loveland, C., M. Yost**, C. Ransom, R. Wilson, D. Putnam, G. Carneiro-Galdi, T. Getts, D. Samac, and E. Creech. 2019. Potential for Glyphosate Injury to Glyphosate-Resistant Alfalfa in Frost-Prone Environments. ASA, CSSA, SSSA 2019 International Annual Meetings. 1646. San Antonio, TX.
102. **Loveland, C., M. Yost**, C. Ransom, R. Wilson, D. Putnam, G. Carneiro Galdi, T. Getts, D. Samac, and E. Creech. 2019. Potential for glyphosate injury to glyphosate-resistant alfalfa in frost-prone environments. West. Soc. of Crop Sci. Pasco, WA.
103. **Roberts, C., M. Yost**, C. Ransom, M. Peel, K. Jensen, and E. Creech. 2019. Seeding rates, herbicide, and drought effects on oat-alfalfa companion crops. West. Soc. of Crop Sci. Pasco, WA.
104. **Loveland, C.**, E. Creech, **M. Yost**, S. Orloff, D. Putnam, G. Galdi, T. Getts, and R. Wilson. 2019. Potential for glyphosate injury to glyphosate-resistant alfalfa in frost-prone environments. Proceedings, 2019 Western Alfalfa & Forage Symposium, Nov. 19 – 21 Nov. Reno, NV. p. 191.
105. **Roberts, C.**, E. Creech, **M. Yost**, K. Jensen, M. Peel, and R. Whitesides. 2019. Seeding rates, herbicide, and drought effects on oat-alfalfa companion crops. Proceedings, 2019 Western Alfalfa & Forage Symposium, Reno, NV, Nov. 19 – 21, 2019. p. 193.
106. **Sullivan, T., M. Yost, M. Harper**, E. Creech, and N. Allen. 2019. Crop, soil, and water management impacts of corn silage yield. Proceedings of Western Alfalfa and Forage Symposium. 19-20 Nov. Reno, NV.
107. **Holt, J., M. Yost**, E. Creech, **C. Reid**, D. Winward, and N. Allen. 2019. Pivot irrigation innovations can maintain yield with less water. Proceedings of Western Alfalfa and Forage Symposium. 19-20 Nov. Reno, NV.

108. **Pound, C., M. Yost**, E. Creech, G. Cardon, **J. Gale**, and **M. Pace**. Small grain forage after alfalfa rarely requires nitrogen. 2019. Proceedings of Western Alfalfa and Forage Symposium. 19-20 Nov. Reno, NV.
109. **Egbert, K., M. Yost**, N. Allen, E. Creech, **J. Gale**, **M. Nelson**, and **T. Wilde**. Irrigation equipment maintenance and scheduling impacts on alfalfa production. 2019. Proceedings of Western Alfalfa and Forage Symposium. 19-20 Nov. Reno, NV.
110. **Yost, M.**, N. Allen, E. Creech, **C. Reid**, **B. Kitchen**, **J. Gale**, **M. Nelson**, **T. Wilde**. 2019. Advancing Use of Agriculture Water Optimization Innovations on Utah Farms. American Water Resources Association Annual Conference. 6 Nov. Salt Lake City, UT.
111. **M. Yost**, **M. Harper**, E. Creech, N. Allen, **C. Reid**, and **B. Kitchen**. 2019. Combinations of soil and water management for water optimization. ASA, CSSA, SSSA Annual Meeting, San Antonio, TX. 10-13 Nov. 2019.
112. **Pound, C., M. Yost**, E. Creech, G. Cardon, K. Russell, **D. Despain**, **J. Gale**, **K. Heaton**, **B. Kitchen**, **M. Pace**, **S. Price**, **C. Reid**, **M. Palmer**, and **M. Nelson**. 2019. Nitrogen response in small grains after alfalfa. ASA, CSSA, SSSA Annual Meeting, San Antonio, TX. 10-13 Nov. 2019.
113. **Crookston, B., M. Yost**. Modeling relationships among indicators, management, environment and yield for soil health planning. 2019. ASA, CSSA, SSSA Annual Meeting, San Antonio, TX. 10-13 Nov. 2019.
114. **Holt, J., M. Yost**, N. Allen, E. Creech, **C. Reid**, D. Winward, and D. McAvoy. 2019. New irrigation technologies are maintaining yield with less water. ASA, CSSA, SSSA Annual Meeting, San Antonio, TX. 10-13 Nov. 2019.
115. **Egbert, K., M. Yost**, N. Allen, E. Creech, **J. Gale**, **M. Nelson**, and **T. Wilde**. 2019. Irrigation equipment maintenance and scheduling impacts on alfalfa production. ASA, CSSA, SSSA Annual Meeting, San Antonio, TX. 10-13 Nov. 2019.
116. **Harding, C., M. Yost**, B. Black, G. Cardon, and N. Allen. 2019. Quantifying variation in tart cherry orchards for precision irrigation applications. ASA, CSSA, SSSA Annual Meeting, San Antonio, TX. 10-13 Nov. 2019.
117. **Crookston, B., M. Yost**, M. Bowman, J. Cornell, K. Veum, and S. Mehta. 2019. The Soil Health Partnership database: Preliminary results and future prospects in soil health management. Soil Health Institute Annual Meeting, Sacramento, CA. 16-18 Jul. 2019.
118. **Pound, C., M. Yost**, E. Creech, G. Cardon, K. Russell, **D. Despain**, **J. Gale**, **K. Heaton**, **B. Kitchen**, **M. Pace**, **S. Price**, **C. Reid**, **M. Palmer**, and **M. Nelson**. 2019. Nitrogen management in small grains after alfalfa. Western Nutrient Mgt. Conf., Reno, NV. 7-8 Mar. 2019.
119. Black, B., **C. Harding**, B. Shaffer, G. Cardon, and **M. Yost**. 2019. Methods for mapping variability in soil properties, canopy density and yield in tart cherry, and applications for precision orchard management. Int. Sym. Prec. Mgt. of Orchards and Vineyards, Palermo, Italy 11 Oct. 2019.
120. **Yost, M.** 2019. Testing Pivot Irrigation Innovations on Utah Farms. Universities Council on Water Resources Annual Water Resources Conference. Snowbird, UT. 11-13 June. 2019.
121. **Holt, J., M. Yost**, N. Allen, E. Creech, **C. Reid**, D. Winward, and D. McAvoy. 2019. Innovative water management using advanced irrigation systems and biochar. Soil Sci. Soc. Am. Annual Meeting, San Diego, CA. 6-9 Jan. 2019.
122. **Yost, M.** and **J. Holt**. Refining mobile drip irrigation rates for alfalfa. Soil Sci. Soc. Am. Annual Meeting, San Diego, CA. 6-9 Jan. 2019. (45 people).

123. **Crookston, B., M. Yost**, J. Cornell, K. Veum, D. Karlen, M. Bowman, and S. Mehta. 2019. The Soil Health Partnership database: Preliminary results and future prospects in soil health management. Soil Sci. Soc. Am. Annual Meeting, San Diego, CA. 6-9 Jan. 2019.
124. **Pound, C., M. Yost**, E. Creech, G. Cardon, and K. Russell. 2019. Nitrogen fertilizer needs of small grains after alfalfa. Soil Sci. Soc. Am. Annual Meeting, San Diego, CA. 6-9 Jan. 2019.
125. **Harding, C., M. Yost**, B. Black, G. Cardon, and N. Allen. 2019. Quantifying soil and tree canopy variation in tart cherries for precision irrigation applications. Soil Sci. Soc. Am. Annual Meeting, San Diego, CA. 6-9 Jan. 2019.
126. **Holt, J., M. Yost**, N. Allen, E. Creech, **C. Reid**, D. Winward, and D. McAvoy. 2018. Innovative water management for alfalfa using precision mobile drip irrigation and biochar. ASA-CSSA Annual Meetings, Baltimore, MD. 4-7 Nov. 2018.
127. Kitchen, N.R., C. Ransom, **M.A. Yost**, J.E. Sawyer, B. Myers, J. Qin, C.A.M. Laboski, D.W. Franzen, E. Nafziger, F.G. Fernandez, J.J. Camberato, R.B. Ferguson. 2018. Steps to improve fickle corn economic optimal nitrogen rate calculations. ASA-CSSA Annual Meetings, Baltimore, MD. 4-7 Nov. 2018.
128. **Stewart, S.A.**, N.R. Kitchen, **M.A. Yost**, and L.S. Conway. 2018. Impact of corn seeding depth in different soil textures and landscape positions on emergence variability. ASA-CSSA Annual Meetings, Baltimore, MD. 4-7 Nov. 2018.
129. Coulter, J.A., **Z.T. Walker**, M.P. Russelle, R.T. Venterea, A.P. Mallarino, J.G. Lauer, **M.A. Yost**. 2018. Soil testing improves prediction of nitrogen response in first-year corn following alfalfa. ASA-CSSA Annual Meetings, Baltimore, MD. 4-7 Nov. 2018.
130. **Yost, M.A.**, E. Creech, and G. Cardon. 2018. Long-term nitrogen needs of dryland wheat. ASA-CSSA Annual Meetings, Baltimore, MD. 4-7 Nov. 2018.
131. **Crookston, B., M. Yost**, J. Cornell, K. Veum, D. Karlen and N. Goesser. 2018. The Soil Health Partnership Database: Goals and Prospects. Soil Health Institute Annual Meetings, Albuquerque, NM. 1-3 Aug. 2018.
132. **Yost, M.A.**, N.R. Kitchen, and K.A. Sudduth. 2017. Miscanthus productivity and nutrient export on 22 producer fields. ASA-CSSA-SSSA Annual Meetings, Tampa, FL. 22-25 Oct. 2017. <https://scisoc.confex.com/scisoc/2017am/webprogram/Paper106621.html>.
133. Kitchen, N.R., **M.A. Yost**, C. Walthall, and K.A. Sudduth. 2017. Overcoming gaps and bottlenecks to advance precision agriculture. ASA-CSSA-SSSA Annual Meetings, Tampa, FL. 22-25 Oct. 2017. <https://scisoc.confex.com/scisoc/2017am/webprogram/Paper106655.html>.
134. **Yost, M.A.** 2017. Evaluation of the soil health nutrient tool for corn nitrogen recommendations across the Midwest. ASA-CSSA-SSSA Annual Meetings, Tampa, FL. 22-25 Oct. 2017. <https://scisoc.confex.com/scisoc/2017am/webprogram/Paper106598.html>.
135. Baffaut, C., R.N. Lerch, F. Ghidey, N.R. Kitchen, K.A. Sudduth, **M.A. Yost**, and E.J. Sadler. 2016. Effects of grain cropping systems on crop yields, runoff, and water quality on a claypan soil. ASABE Annual Int. Conf., 17-20 Jul. 2016. Orlando, FL.
136. **Yost, M.A.**, C.H. Bobryk, and N.R. Kitchen. 2016. Which fields need precision nitrogen management the most? In: Proc. 14th Nitrogen Use Eff. Conf., Boise, ID. 8-10 Aug. 2016. Oklahoma State Univ., Stillwater, OK.
137. **Conway, L.S., M.A. Yost**, N.R. Kitchen, K.A. Sudduth, and D.L. Boardman. 2016. Topsoil depth effects on corn yield and nitrogen uptake efficiency. In: Proc. 14th Nitrogen Use Eff. Conf., Boise, ID. 8-10 Aug. 2016. Oklahoma State Univ., Stillwater, OK.
138. **Yost, M.A.**, N.R. Kitchen, K.A. Sudduth, E.J. Sadler, and S. Drummond. 2016. Long-term impact of precision agriculture on a farmer's field. ASA-CSSA-SSSA Annual Meetings,

- Phoenix, AZ. 6-10 Nov. 2016.
<https://scisoc.confex.com/scisoc/2016am/webprogram/Paper101450.html>.
139. **Yost, M.A.**, N.R. Kitchen, K.A. Sudduth, E.J. Sadler, and S. Drummond. 2016. Nitrogen management of switchgrass and miscanthus on marginal soils. ASA-CSSA-SSSA Annual Meetings, Phoenix, AZ. 6-10 Nov. 2016.
<https://scisoc.confex.com/scisoc/2016am/webprogram/Paper101910.html>.
140. Sadler, E.J., C. Baffaut, K.A. Sudduth, R.N. Lerch, N.R. Kitchen, E.D. Vories, K.S. Veum, and **M.A. Yost**. 2016. Central Mississippi River Basin LTAR site overview. 5th Interagency Conference on Research in the Watersheds, 2-5 Mar. 2015, Charleston, SC. p. 61-67.
141. **Conway, L.**, N.R. Kitchen, **M.A. Yost**, K.A. Sudduth, and D.B. Meyers. 2015. Evaluating topsoil depth effects on phosphorus and potassium nutrient dynamics of grain and switchgrass productions systems. ASA-CSSA-SSSA Annual Meetings, Minneapolis, MN. 15-18 Nov. 2015. <https://scisoc.confex.com/scisoc/2015am/webprogram/Paper92941.html>.
142. **Yost, M.A.**, N.R. Kitchen, K.A. Sudduth, E.J. Sadler, C. Baffaut, M.R. Volkmann, and S.T. Drummond. 2015. Long-term impacts of cropping system and landscape position on grain crop production on claypan soils. ASA-CSSA-SSSA Annual Meetings, Minneapolis, MN. 15-18 Nov. 2015.
<https://scisoc.confex.com/scisoc/2015am/webprogram/Paper92516.html>.
143. **Yost, M.A.**, J.A. Coulter, M.P. Russelle, T.F. Morris, J.G. Lauer, and A.P. Mallarino. 2015. Field-specific fertilizer nitrogen requirements for second-year corn following alfalfa. ASA-CSSA-SSSA Annual Meetings, Minneapolis, MN. 15-18 Nov. 2015.
<https://scisoc.confex.com/scisoc/2015am/webprogram/Paper92340.html>.
144. **Walker, Z.T.**, **M.A. Yost**, M.P. Russelle, R.T. Venterea, J.A. Coulter, A.P. Mallarino, and J.G. Lauer. 2015. How soil nitrogen tests relate to nitrogen mineralization in first-year corn following alfalfa. ASA-CSSA-SSSA Annual Meetings, Minneapolis, MN. 15-18 Nov. 2015. <https://scisoc.confex.com/scisoc/2015am/webprogram/Paper92514.html>.
145. Sudduth, K.A., N.K. Kitchen, E.J. Sadler, S.T. Drummond, and **M.A. Yost**. 2015. Engineering and agronomy aspects of a long-term precision agriculture field experiment. Joint Int. Conf. Intelligent Agric., Beijing, China. Sep. 27-30 2015.
146. **Yost, M.A.**, N.R. Kitchen, E. Allphin, and K.A. Sudduth. 2015. Switchgrass canopy reflectance as nitrogen management tool on variable claypan soils. In: Proc. 13th Nitrogen Use Eff. Conf., Auburn, AL. 4-5 Aug. 2015. Oklahoma State Univ., Stillwater, OK.
147. **Yost, M.A.**, M.P. Russelle, J.A. Coulter, and P.V. Bolstad. 2014. Combining cropland data layers to identify alfalfa-annual crop rotation patterns and opportunities. ASA-CSSA-SSSA Annual Meetings, Long Beach, CA. 2-6 Nov. 2014.
<https://scisoc.confex.com/scisoc/2014am/webprogram/Paper87467.html>.
148. Coulter, J.A., **Yost, M.A.**, M.P. Russelle, and M.A. Davenport. 2014. Opportunities exist to improve alfalfa and manure nitrogen crediting in corn following alfalfa. ASA-CSSA-SSSA Annual Meetings, Long Beach, CA. 2-6 Nov. 2014.
<https://scisoc.confex.com/scisoc/2014am/webprogram/Paper87670.html>.
149. **Walker, Z.T.**, **Yost, M.A.**, J.A. Coulter, and M.P. Russelle. 2014. Soil- and plant-based indexes of nitrogen availability to first- and second-year corn following alfalfa. ASA-CSSA-SSSA Annual Meetings, Long Beach, CA. 2-6 Nov. 2014.
<https://scisoc.confex.com/scisoc/2014am/webprogram/Paper87742.html>.
150. **Yost, M.**, J. Coulter, and M. Russelle. 2014. Using remote-sensing and grower surveys to identify opportunities for improved nitrogen management. In: Proc. 12th Nitrogen Use Eff.

- Conf., Sioux Falls, SD. 5-6 Aug. 2014. Oklahoma State Univ., Stillwater, OK.
http://nue.okstate.edu/Nitrogen_Conference2014/MattYost_SD_NUE_Poster_8-4-14.pdf.
151. Coulter, J.A., **M.A. Yost**, and M.P. Russelle. 2014. Opportunities exist for improving alfalfa and manure nitrogen crediting in alfalfa-corn rotations. Growmark, Inc. Soil Fertility Conference. Marcell, MN. 3 June 2014.
 152. Russelle, M., **M. Yost**, and J. Coulter. 2014. The alfalfa N credit: New recommendations may be coming. Tour de Forage. Central MN Forage and Grassland Council and Midwest Forage Assoc., Royalton, MN. 5 Feb. 2014.
 153. **Yost, M.A.**, M.P. Russelle, and J.A. Coulter. 2013. Simple, effective predictors of nitrogen need for corn following alfalfa. ASA-CSSA-SSSA Annual Meetings, Tampa, FL. 2-6 Nov. 2013. <https://scisoc.confex.com/scisoc/2013am/webprogram/Paper81323.html>.
 154. **Yost, M.**, M. Russelle, J. Coulter, and M. Davenport. 2013. Nitrogen management for corn following alfalfa in Minnesota. In: Proc. Nutrient Efficiency Management Conf., Fergus Falls, MN. 19 Feb. 2013. Minnesota Dep. of Agric., St. Paul.
 155. **Ferraz Renier, R.**, **M. Yost**, M. Russelle, and J. Coulter. 2012. Evaluating the accuracy of the presidedress soil nitrogen test when manure is applied during the rotation from alfalfa to corn. In: Proc. 30th Brazilian Soil Fert. Plant Nutrition Conf., Maceio, Alagoas, Brazil. 17-21 Sept. 2012.
 156. **Ferraz Renier, R.**, **M. Yost**, M. Russelle, and J. Coulter. 2012. Using the presidedress soil nitrogen test to predict nitrogen requirement of no-tillage corn following alfalfa In: Proc. 30th Brazilian Soil Fert. Plant Nutrition Conf., Maceio, Alagoas, Brazil. 17-21 Sept. 2012.
 157. Coulter, J., **M. Yost**, and M. Russelle. 2012. Predicting on-farm nitrogen credits from alfalfa to second- year corn. Minnesota Corn Growers Assoc., Shakopee, MN.
<http://www.mncorn.org/research/soil-fertility-tillage/predicting-farm-nitrogen-credits-alfalfa-second-year-corn>.
 158. **Yost, M.A.**, M.P. Russelle, and J.A. Coulter. 2012. Identifying N-responsive fields of first-year corn after alfalfa. ASA-CSSA-SSSA Annual Meetings, Cincinnati, OH. 21-24 Oct. 2012. <http://scisoc.confex.com/scisoc/2012am/webprogram/Paper72275.html>.
 159. Coulter, J.A., **M.A. Yost**, M.P. Russelle, M.A. Davenport, and P.M. Porter. 2012. Nitrogen management for corn after alfalfa: Current practices and opportunities. ASA-CSSA-SSSA Annual Meetings, Cincinnati, OH. 21-24 Oct. 2012. Paper 72877.
<http://scisoc.confex.com/scisoc/2012am/webprogram/Paper72877.html>.
 160. **Yost, M.A.**, J.A. Coulter, and M.P. Russelle. 2012. Alfalfa N credit to first-year corn: No-tillage and manure effects. ASA-CSSA-SSSA Annual Meetings, Cincinnati, OH. 21-24 Oct. 2012. <http://scisoc.confex.com/scisoc/2012am/webprogram/Paper72291.html>.
 161. **Yost, M.**, M. Russelle, and J. Coulter. 2012. Improving alfalfa nitrogen credit guidelines to reduce residual nitrate. In: Proc. Nutrient Efficiency Management Conf., Morton, MN. 15 Feb. 2012. Minnesota Dep. of Agric., St. Paul. p. 15-21.
<http://www.ctic.org/media/pdf/gmp/2011%20Nutrient%20Efficiency%20Grant%20Report.pdf>.
 162. Coulter, J.A., **M.A. Yost**, and M.P. Russelle. 2012. Nitrogen management for second-year corn after alfalfa. Minnesota Corn and Soybean Growers Assoc. Ag Expo, Mankato, MN. 23 Jan. 2012.
 163. **Yost, M.**, M. Russelle, J. Coulter, C. Sheaffer, and D. Kaiser. 2011. Timing and quantity of potash needed for last-year alfalfa and first-year corn. In: Proc. Nutrient Efficiency and Management Conference, Rochester, MN. 15 Feb. 2011. Conservation Technology Information Center, West Lafayette, IN.

164. Coulter, J.A., **M.A. Yost**, M.P. Russelle, C.C. Sheaffer, and D.E. Kaiser. 2011. Nitrogen management for first-year corn after alfalfa. In: Proc. Nutrient Efficiency and Management Conference, Rochester, MN. 15 Feb. 2011. Conservation Technology Information Center, West Lafayette, IN.
165. Coulter, J., **M. Yost**, M. Russelle, C. Sheaffer, and D. Kaiser. 2011. Nitrogen management during the rotation from alfalfa to corn. In: Proc. Univ. of MN Extension Fall Program Conf., St. Paul, MN. 3-5 Oct. 2011. Univ. of MN, St. Paul. p. 13.
166. Russelle, M.P., **M.A. Yost**, and J.A. Coulter. 2011. How reliable are N credits from alfalfa to corn? ASA- CSSA-SSSA Annual Meetings, San Antonio, TX. 16-19 Oct. 2011. Paper 363-15. <http://scisoc.confex.com/scisoc/2011am/webprogram/Paper65934.html>.
167. **Yost, M.A.**, M.P. Russelle, J.A. Coulter, C.C. Sheaffer, and D.E. Kaiser. 2011. Does K affect N response of corn after alfalfa? ASA-CSSA-SSSA Annual Meetings, San Antonio, TX. 16-19 Oct. 2011. Paper 124-4. <http://scisoc.confex.com/scisoc/2011am/webprogram/Paper66693.html>.
168. Coulter, J.A., **M.A. Yost**, M.P. Russelle, C.C. Sheaffer, and D.E. Kaiser. 2011. Corn response to nitrogen after alfalfa as affected by tillage and regrowth. ASA-CSSA-SSSA Annual Meetings, San Antonio, TX. 16-19 Oct. 2011. Paper 181-15. <http://scisoc.confex.com/scisoc/2011am/webprogram/Paper65019.html>.
169. **Yost, M.A.**, M.P. Russelle, J.A. Coulter, C.C. Sheaffer, and D.E. Kaiser. 2010. Validating topdressed K fertilizer recommendations in an alfalfa-corn rotation. In: Proc. Nutrients in Our Environment Conf., Mankato, MN. 18 Feb. 2010. Conservation Technology Information Center, West Lafayette, IN. p. 2. http://www.ctic.org/media/pdf/Poster_Booth_Abstracts.pdf.
170. Coulter, J., M. Russelle, **M. Yost**, D. Kaiser, J. DeJong-Hughes, J. Tesmer, N. Winter, L. Stahl, J. Sackett, J. Paulson, and D. Nicolai. 2010. Agronomic management of alfalfa-corn rotations: An opportunity for Extension education. In: Proc. Univ. of MN Extension Fall Program Conf., St. Paul, MN. 4-6 Oct. 2010. Univ. of MN, St. Paul. p. 8-9.
171. Russelle, M., **M. Yost**, J. Coulter, C. Sheaffer, and D. Kaiser. 2010. Is fertilizer nitrogen required for first- year corn after alfalfa? In: Proc. Minnesota Forage Res. Symp., St. Cloud, MN. 17-18 Nov. 2010. Midwest Forage Assoc., St. Paul, MN. p. 22.
172. **Yost, M.**, M. Russelle, J.A. Coulter, C. Sheaffer, and D. Kaiser. 2010. Reductions in potash for last-year alfalfa production. In: Proc. Minnesota Forage Res. Symp., St. Cloud, MN. 17-18 Nov. 2010. Midwest Forage Assoc., St. Paul, MN. p.12.
173. **Yost, M.A.**, M.P. Russelle, J.A. Coulter, C.C. Sheaffer, and D.E. Kaiser. 2010. Yield and quality response of last-year alfalfa to topdressed K fertilizer. ASA-CSSA-SSSA Annual Meetings, Long Beach, CA. 30 Oct. to 2 Nov. 2010. <http://scisoc.confex.com/scisoc/2010am/webprogram/Paper59766.html>.
174. **Yost, M.A.**, and J.D. Williams. 2009. Spatially variable composted nitrogen and phosphorus mineralization rates in southeast Idaho irrigated alfalfa. ASA-CSSA-SSSA Annual Meetings, Pittsburgh, PA. 1-5 Nov. 2009. Paper 54436. <http://scisoc.confex.com/scisoc/2009am/webprogram/Paper54436.html>.
175. Williams J.D., **M.A. Yost** and G.E. Woodward. 2009. Effect of composting rates on nitrogen and phosphorus availability in spring wheat. ASA-CSSA-SSSA Annual Meetings, Pittsburgh, PA. 1-5 Nov. 2009. Paper 54439. <http://scisoc.confex.com/scisoc/2009am/webprogram/Paper54439.html>.

RESEARCH PRESENTATIONS

Scholarly Presentations

1. Williams, J., H. Suy, **M. Yost**, B. Hopkins, and **S. Stapley**. 2024. Stacking 4R nutrient management for wheat in Idaho. Fluid Fertilizer Forum. 18-20 Mar. 2024. Fort Worth, TX.
2. Hopkins, B., **S. Stapley**, N. Hansen, J. Williams, and **M. Yost**. 2024. Stacking and intersecting nutrient 4Rs on potato. Fluid Fertilizer Forum. 18-20 Mar. 2024. Fort Worth, TX.
3. Hopkins, B., N. Hansen, R. Christensen, **E. Flint**, and **M. Yost**. 2024. Increased profits, yields, and quality: Water conservation and nutrient management innovations". 56th Annual Idaho Potato Conference & Trade Show. 17-18 Jan. 2024. Pocatello, ID (90).
4. Osmond, D., N. Slaton, J. Spargo, **M. Yost**, D. Kaiser, P. Kleinman, and G. Buol. 2023. Harmonizing soil test recommendations: The Fertilizer Recommendation Tool. Alabama Crop Management Association Certified Crop Advisor Training. 12 Dec. 2023. Auburn, AL.
5. **Sullivan, T.**, **M. Yost**, **D. Boren**, E. Creech, and B. Bugbee. 2023. Nutrient management for semi-arid cannabis production. USU Student Research Symposium. 12 Apr. 2023. Logan, UT.
6. **Sullivan, T.** and **M. Yost**. 2023. Minor impacts of soil wetting agents on silage corn production. USU Spring Runoff Conference. 15 Mar. 2023. Logan, UT (30).
7. **Sadat, M.**, and **M. Yost**. 2023. Economic footprint analysis of the Great Salt Lake watershed based on agricultural production. USU Spring Runoff Conference. 15 Mar. 2023. Logan, UT (30).
8. **M. Yost**. 2023. Impacts of the USU water initiative on water optimization in Utah agriculture. USU Spring Runoff Conference. 15 Mar. 2023. Logan, UT (50). *Invited*.
9. **Sullivan, T.**, **M. Yost**, E. Creech, and **M. Westmoreland**. 2023. Nutrient management for semi-arid cannabis production. USU Student Research Symposium. 11 Apr. 2023. Logan, UT.
10. **Yost, M.** 2022. Optimizing fertilizer management during and after alfalfa stands. World Dairy Expo. Madison, WI (50). *Invited*.
11. **Yost, M.** 2022. Prioritizing water optimization to save Utah farms and beat drought. USU Research Landscapes presentation. Logan, UT (80). *Invited*.
<https://research.usu.edu/landscapes/events/water-optimization-on-utah-farms>
12. **Yost, M.** 2022. Water optimization approaches to beat drought. USU Spring Runoff Conference. Logan, UT (80). *Invited*. <https://www.youtube.com/watch?v=04yNKIKMFSE>
13. **Crookston, B.**, **M. Yost**, T. Peters, and B. Barker. 2022. Trade-offs in irrigation technology efficiency, water loss and recovery. USU Spring Runoff Conference. 29 Mar. 2022. Logan, UT (50).
14. **Flint, E.**, **M. Yost**, Kerry, R., Hansen, N. C., Hopkins, B. G. 2022. Optimal sensor placement for sensor-based irrigation scheduling in a variable rate irrigation system. USU Spring Runoff Conference. 29 Mar. 2022. Logan, UT (50).
15. **Sullivan, T.**, **M. Yost**, **D. Boren**, **B. Kitchen**, E. Creech, B., **R. Violett**, and B. Barker. 2022. Irrigation and crop management combination influences on silage corn production. USU Spring Runoff Conference. 29 Mar. 2022. Logan, UT (50).
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EXTENSION PUBLICATIONS

(**Graduate Student**, **Undergraduate Student**, **County Extension Agent**)

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2. Petzelka, P., J. Ulrich-Schad, **M. Yost**, **J. Dean**, T. Richards, and K. Davis. 2024. Utah producers and soil health: Results from a statewide survey. Utah State Univ. Ext. Fact Sheet. https://digitalcommons.usu.edu/extension_curall/2480.
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Non-Refereed Articles

1. Bourns, M., G. Buol, L. Gatiboni, J. Spargo, **M. Yost**, N. Slaton, & D. Osmond. (2025). The FRST decision aid for soil test P and K interpretation. FRST fact sheet series #9.
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Trade Journals

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9. **Yost, M.** and **M. Baker**. 2021. Closing the gap in fertilizer recommendations. Progressive Forage. 1 Dec. 2021. <https://www.progressiveforage.com/forage-production/fertilizing/closing-the-gap-in-fertilizer-recommendations>.
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11. **Yost, M.** 2020. Utah-Idaho survey reveals nitrogen and irrigation trends. AgProud Magazine. pp. 25-27. <https://www.agproud.com/digital-edition/2020/12/viewer/desktop/#page/30>.
12. **Yost, M.** 2020. Save on nitrogen for small-grain forages after alfalfa. Progressive Forage. 1 Dec. 2020. <https://www.progressiveforage.com/forage-types/alfalfa/save-on-nitrogen-for-small-grain-forages-after-alfalfa>.
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14. **M. Yost**, E. Creech, and N. Allen. 2020. Irrigation strategies that make sense. Progressive Forage. 30 Apr. 2020. <https://www.progressiveforage.com/forage-production/irrigation/irrigation-strategies-that-make-ense>.

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16. MacAdam, J., and **M. Yost.** 2020. Mountain hay. *Progressive Forage*. 31 Jan. 2020. <https://www.progressiveforage.com/forage-types/alfalfa/mountain-hay>.
17. **Yost, M.** and **J. Holt.** 2020. Soil moisture sensing for forage irrigation. *Hay and Forage Grower*. 6 Apr. 2020. Penton Media, Inc., New York, NY. <https://hayandforage.com/article-2954-soil-moisture-sensing-for-forage-irrigation.html>.
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19. Coulter, J.A., **Z. Walker, M. Yost,** and M. Russelle. 2015. Sidedressing and soil testing for enhanced nitrogen fertilizer management in corn following alfalfa on fine-textured soils. In: *Forage Focus*. August issue, Midwest Forage Assoc., St. Paul, MN. p. 20.
20. **Yost, M.,** M. Russelle, J. Coulter, and P. Bolstad. 2014. Satellite images reveal patterns in crop rotations with alfalfa. In: *Forage Focus*. May issue, Midwest Forage Assoc., St. Paul, MN. p. 4-5.
21. **Yost, M.,** M. Russelle, J. Coulter, and M. Davenport. 2014. Challenges, opportunities for improved N management in corn following alfalfa. In: *Clippings*. June issue, Midwest Forage Assoc., St. Paul, MN.
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24. **Yost, M.,** J. Coulter, and M. Russelle. 2013. Improved predictability of fertilizer nitrogen need for corn following alfalfa. In: *Forage Focus*, May issue. Midwest Forage Assoc., St. Paul, MN. p. 18.
25. Russelle, M., **M. Yost,** T. Morris, and J. Coulter. 2013. Alfalfa N credits to second-year corn larger than expected. In: *Forage Focus*. December issue, Midwest Forage Assoc., St. Paul, MN. p. 4-5.
26. **Yost, M.,** J. Coulter, and M. Russelle. 2013. Nitrogen for corn following alfalfa: When and how much? In: *Dairy Star*. 15(1):29. Dairy Star LLC, Sauk Centre, MN. <http://issuu.com/dairystar/docs/2-23-13-zone1?e=1210578/1561426>.
27. Coulter, J., **M. Yost,** and M. Russelle. 2012. Yield and nitrogen benefits for corn following alfalfa. In: *Hay Silage Pasture Forage*. 13(9):32-33. *Progressive Forage Grower*, Jerome, ID. http://www.progressiveforage.com/digital_edition/2012/09/#?page=34.
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EXTENSION MULTIMEDIA

Websites Developed

Yost, M., E. Creech, C. Ransom, N. Allen, R. Larson, R. Ramirez, G. Cardon, C. Nischwitz. 2019. USU Extension Crops Website. extension.usu.edu/crops/. *Pageviews: 73,000; Users: 48,021.*

Online Tools

1. Buol, G., D. Osmond, N. Slaton, J. Spargo, S. Lyons, A. Pearce, Q. Uthman, **M. Yost**, and D. Kaiser. 2024. Fertilizer Recommendation Support Tool (FRST). V 1.0. 0.0. <https://frst.scinet.usda.gov/Tool>.
2. **Yost, M.**, T. Peters, and B. Barker. 2024. Depletion Differences for Irrigation System Changes (DISC). Utah State Univ. Ext. <https://extension.usu.edu/crops/tools/conversion-calculator>.
3. **Parsons, M.**, **E. Burgess**, **R. Weinstock**, **P. Kelly**, **J. Colby**, and **M. Yost**. 2023. Alternative crops for Cache Valley, Utah. Utah State Univ. Ext. <https://extension.usu.edu/crops/tools/alternative-crops-for-cache-valley>.
4. **M. Yost** and E. Creech. 2023. Pasture yield estimator tool. Utah State Univ. Ext. <https://extension.usu.edu/crops/tools/pasture-yield-estimator>
5. **Yost, M.**, T. Peters, B. Barker. 2022. Irrigation investment tool (IIT). Utah State Univ. Ext. <https://extension.usu.edu/crops/tools/irrigation-technology-cost-benefit-calculator>.
6. **Yost, M.**, T. Peters. 2022. Soil moisture content sensor setup guide (SSSG). Utah State Univ. Ext. <https://extension.usu.edu/crops/tools/soil-sensor-setup>.

Digital and Blog Posts

22. **Crookston, B.**, and **M. Yost**. 2021. [The Soil Health Partnership is helping secure soils on midwestern farms](#). Soil Health Partnership Blog.
23. Leege, R., **M. Yost**. 2019. [Water management grows farm profits](#). ASA-CSSA-SSSA Science News. *News story was shared on 54 other news outlets.*
24. **Crookston, B.**, and **M. Yost**. 2019. Research Collaborations: SHP Supports Student. “Digging In” Blog. Soil Health Partnership. 29 Oct. 2019.
25. **Yost, M.**, N. Allen, **K. Egbert**, and D. Hilt. 2019. Is your water damaging your pivot? Lindsay Corporation Blog.
26. **Yost, M.A.** 2018. What fertilizers and pesticides commonly go on ag fields and why? Sustainable, Secure Food Blog. American Society of Agronomy. 22 May 2018.
27. **Yost, M.A.** 2018. What are cover crops? Sustainable, Secure Food Blog. American Society of Agronomy. December 2018.

Videos and Webcasts

1. **M. Yost**. 2023. How to fertilize pastures when prices are high? <https://youtu.be/8GX8eabsjpg?si=Idj84KWI2nUUO5mz>.
2. Creech, E. and **M. Yost**. 2022. How to get the most from legume nitrogen? https://youtu.be/qmQ9ekS4tKw?si=k5rDbnH72Jh-L_HU.
3. **M. Yost**. 2022. How to get the most from manure nutrients. <https://youtu.be/Es3yoptl-qk?si=jwnaQY7IedTZgXMr>.
4. **M. Yost**. 2021. Soil health sampling. <https://www.youtube.com/watch?v=5gSYIuTlvDs&t=5s>.

5. **M. Yost, T. Sullivan, M. Westmoreland,** and E. Creech. 2021. Hemp field research. <https://youtu.be/5OZzBJctB2E>.
6. **M. Yost,** and **T. Sullivan.** 2021. Corn water optimization studies. <https://youtu.be/gVMQKBy9gCc>.
7. **M. Yost, J. Holt,** and **T. Sullivan.** 2021. Alfalfa irrigation updates. <https://youtu.be/j7bOsRaa1tM>.
8. T. Richards and **M. Yost.** 2020. How to setup a no-till drill. <https://youtu.be/uj4HzxA2MaA>.
9. **Yost, M.** 2020. How does hemp establish under pivot irrigation? <https://youtu.be/I2ledRto7v0>.
10. **Yost, M.** 2020. 4R nitrogen research in Idaho and Utah. https://youtu.be/5zL_j1R7M6M.
11. **Pound, C.** and **M. Yost.** 2020. Small Grain Nitrogen Research. <https://youtu.be/aykGH4hZlkk>.
12. **Yost, M.** 2020. Irrigation Survey Results. https://youtu.be/lx_JJeBUQZA.
13. **Holt, J.** and **M. Yost.** 2020. What is surge irrigation? <https://youtu.be/YdnaIeu58qE>.
14. **Holt, J.** and **M. Yost.** 2020. Flood irrigation research. <https://youtu.be/45PsxPNC-Yk>.
15. **Sullivan, T.** and **M. Yost.** 2020. Stacking conservation practices <https://youtu.be/uJEGUnBUXw0>.
16. **Yost, M.** 2020. Irrigation Scheduling Research. <https://youtu.be/6Q0Tv2l4m1E>.
17. **Crookston, B.** and **M. Yost.** 2020. What are the basics of soil health testing? <https://youtu.be/11f08Yq5XwY>.
18. **Yost, M.A.** 2019. Agroclimate Extension Specialist Introduction. www.youtube.com/watch?v=n_V-c8A2NMo.
19. **Yost, M.A.** and G. Cardon. 2019. What is soil health? www.youtube.com/watch?v=6rsrucQkTNw.
20. **Yost, M.A.** and G. Cardon. 2019. How to build soil health. www.youtube.com/watch?v=BRB7xxfl67w.
21. **Yost, M.A.,** and M.P. Russelle. 2013. Food, fuel, feed, and fiber. Farm Connections Show. Season 6 Episode 605. www.youtube.com/watch?v=IjvuIDocqDo.
22. Coulter, J., **M. Yost,** and M. Russelle. 2012. Nitrogen management for first-year corn after alfalfa. Plant Management Network Focus on Corn Webcast Series, St. Paul, MN. Apr. 2012. www.plantmanagementnetwork.org/edcenter/seminars/corn/NitrogenManagement/.

Social Media

Facebook

Yost, M., E. Creech, C. Ransom, N. Allen, R. Larson, R. Ramirez, G. Cardon, and C. Nischwitz. 2019. USU Extension Crops Facebook Page. facebook.com/USUCrop/. Mar. 2019.

Instagram

Yost, M., E. Creech, C. Ransom, N. Allen, R. Larson, R. Ramirez, G. Cardon, and C. Nischwitz. 2019. USU Extension Crops Instagram. instagram.com/USUcrops. Mar. 2019.

X (formerly Twitter)

Yost, M., E. Creech, C. Ransom, N. Allen, R. Larson, R. Ramirez, G. Cardon, and C. Nischwitz. 2019. USU Extension Crops Twitter. [//twitter.com/USUcrops](https://twitter.com/USUcrops). Mar. 2019.

E-articles

Yost, M., E. Creech, C. Ransom, N. Allen, R. Larson, R. Ramirez, G. Cardon, and C. Nischwitz. 2019-2024. [From The Field](#). *Articles: 45; Subscribers: 1,887; Opens: 30,000+ Clicks: 2,000+*.

EXTENSION PRESENTATIONS

Meetings, field days, and workshops organized (attendees)

2025

1. Barker, B. and **M. Yost**. 2025. Water Manager Workshop with USU Extension. Utah Water Users Workshop. 18 Mar. 2025. St. George, UT (40).
2. **Yost, M.**, B. Barker, E. Flint, and S. Ekadu. 2024. AG-DRIP workshops. February 2025. Payson, Price, and Vernal, UT (40).
3. Creech, J., **M. Yost**, C. Ransom, G. Cardon, B. Barker, R. Larsen, **J. Gale**, **M. Nelson**, **J. Hadfield**, **M. Pace**, **K. Taylor**. 2025. Utah Hay Symposium. 5-6 Feb. 2025. St. George, UT (250).
4. **Yost, M.** 2025. Farm Bureau and Extension roundtable. 6 Feb. 2025. St. George, UT (45).
5. **Yost, M.**, E. Creech, C. Ransom, and B. Barker. 2025. Industry and Extension crop advisor workshop. 5 Feb. 2025. St. George, UT (45).
6. **Yost, M.**, B. Barker, **J. Gale**, **K. Taylor**, and E. Creech. 2025. USU Virtual Crop School. 7 Jan. 2025. Virtual (75).

2024

1. **Yost, M.**, B. Barker, **T. Singh**, **K. Deep**, and **C. Reid**. 2024. Vernal water optimization field day. 28 Aug. 2024. Vernal, UT (50).
2. **Yost, M.**, B. Barker, **E. Flint**, **S. Ekadu**, and **C. Reid**. 2024. Pelican Lake AG-DRIP and SDI field day. 28 Aug. 2024. Pelican Lake, UT (50).
3. **Yost, M.**, **R. Reid**, **N. Mufute**, and **R. Esplin**. 2024. Holt Dairy field day. 30 Jul. 2024. New Castle, UT (60).
4. **Yost, M.**, **T. Singh**, **K. Deep**, and **R. Esplin**. 2024. Cedar City water optimization field day. 29 Jul. 2024. Cedar City, UT (50).
5. **Yost, M.**, B. Barker, E. Flint, **S. Price**, and S. Ekadu. 2024. AG-DRIP Farm Field Day. 9 Jul. 2024. Price, UT (55).
6. Davis, K., T. Richards, **M. Yost**, and **J. Dean**. 2024. Soil Health Field Days. June-October 2023. Blanding, Delta, Ogden, UT (75).
7. Barker, B. and **M. Yost**. 2024. Water Manager Workshop with USU Extension. Utah Water Users Workshop. 20 Mar. 2024. St. George, UT (40).

2023

8. **Yost, M.**, D. Putnam, S. Franzen, and S. Norberg. 2023. Soil Fertility Workshop. Western Alfalfa and Forage Symposium, 12 Dec. Reno, NV. (100).
9. Putnam, D., and **M. Yost**. 2023. Western Alfalfa and Forage Symposium, 12-14 Dec. Reno, NV. (300).

10. Davis, K., T. Richards, **M. Yost**, and **J. Dean**. 2023. Soil Health Field Days. June-October 2023. Boulder, Lewiston, Circleville, Cedar City, UT (80).
11. **Yost, M.**, B. Barker, and **B. Schumacher**. 2023. Water Manager Rapid Roundtable with USU Extension. Utah Water Users Workshop. 21 Mar. 2023. St. George, UT (50).
12. **Yost, M.** and **M. Pace**. 2023. USU Blue Creek Research Farm Roundtable and Advisory Team. 17 Mar. 2023. Elwood, UT (20).
13. Creech, J., **M. Yost**, C. Ransom, G. Cardon, B. Barker, R. Larsen, **J. Gale**, **M. Nelson**, **J. Hadfield**, **M. Pace**, **K. Taylor**. 2023. Utah Hay Symposium. 25-26 Jan. 2023. St. George, UT (350).
14. Creech, J., **M. Yost**, C. Ransom, G. Cardon, B. Barker, R. Larsen, **J. Gale**, **M. Nelson**, **J. Hadfield**, **M. Pace**, **K. Taylor**. 2023. Utah Hay Symposium Pre-Conference Workshop. 25 Jan. 2023. St. George, UT (100).
15. **Yost, M.**, E. Creech, **J. Gale**, **S. Price**, and B. Barker. 2023. Productive, profitable, and palatable pastures. USU Virtual Crop School. 12 Jan. 2023. Virtual (135).

2022

16. **M. Yost**. 2022. Water Optimization and Soil Health Field Day for Utah Soil Health Partnership. 18 Oct. 2022. Vernal, UT (25).
17. **M. Yost**, **D. Boren**, and **T. Sullivan**. 2022. Utah Water Optimization Task Force Tour. 11 Sep. 2022. Wellsville, UT (25).
18. **Pace, M.**, **M. Yost**, M. Getz. 2022. Sorghum and Cover Crop Field Day. 13 Sep. 2022. Bothwell, UT (25).
19. Barker, B., **K. Taylor**, and **M. Yost**. Delta Water Workshop. 11 Aug. 2022. St. George, UT (50).
20. **Heaton, M.**, **M. Yost**, and E. Creech. "Measuring and building soil health". Soil Health Field Day. 6 Jun. 2022. Panguitch, UT (40).
21. Richards, T., K. Davis, and **M. Yost**. Soil Health in the West Conference. 16-17 Feb. 2022. St. George, UT (250).
22. **Yost, M.**, E. Creech, R. Larsen, **J. Gale**, **C. Zesiger**, **R. Violett**. Virtual crop school: Trimming the fertilizer fat. 11 Jan. 2022. Virtual. (200).

2021

23. **Yost, M.**, **D. Boren**, **T. Sullivan**, and **R. Violett**. Utah Division of Water Rights Field Day. 31 Aug. 2021. Cedar City, UT (15 attendees).
24. **Yost, M.**, **T. Sullivan**, **D. Boren**, and **J. Hadfield**. Water Optimization Field Day. 11 Aug. 2021. Wellsville, UT (30).
25. **Yost, M.**, **M. Baker**, **J. Holt**, **T. Sullivan**, and **M. Pace**. Box Elder County Field Day. 4 Aug. 2021. Tremonton, UT (15).
26. **Yost, M.**, **J. Holt**, **M. Baker**, and **J. Gale**. Sevier Field Day. 21 Jul. 2021. Richfield, UT (35).
27. **Yost, M.**, **T. Sullivan**, **D. Boren**, and **B. Kitchen**. Uintah Field Day. 14 Jul. 2021. Vernal, UT (40).
28. **Yost, M.**, **J. Holt**, and **K. Taylor**. Delta Field Day. 24 Jun. 2021. Delta, UT (60).
29. **Yost, M.**, **D. Boren**, **T. Sullivan**, and **R. Violett**. Cedar City Field Day for Water Conservancy District. 14 Jul. 2021. Cedar City, UT (30).
30. **Yost, M.**, **J. Holt**, **M. Baker**, and **M. Nelson**. Beaver Field Day. 16 Jun. 2021. Beaver, UT (30).

31. Smith, J., B. Bugbee, **M. Yost**, M. Murray, **M. Westmoreland**, **J. Gale**, **C. Zesiger**. 2021. Virtual Utah Hemp Seminar. 11-12 Mar. 2021. (285).
32. **Yost, M.**, E. Creech, **J. Hadfield**, **K. Heaton**, et. al (all other USU crops faculty). 2021. USU Crops Virtual *Pasture* Crop School. 9 Feb 2021. (190).
<https://extension.usu.edu/crops/crop-schools>.
33. **Yost, M.**, E. Creech, **R. Violett**, **M. Palmer**, et al (all other USU crops faculty). 2021. USU Crops Virtual *Alternative Crops* Crop School. 2 Feb 2021. (180).
<https://extension.usu.edu/crops/crop-schools>.
34. **Yost, M.**, E. Creech, **R. Wytsalucy**, **M. Pace**, **J. Hadfield**, et al (all other USU crops faculty). 2021. USU Crops Virtual *Small Grains* Crop School. 26 Jan 2021. (190).
<https://extension.usu.edu/crops/crop-schools>.
35. **Yost, M.**, E. Creech, **K. Taylor**, **B. Kitchen**, N. Allen, et al (all other USU crops faculty). 2021. USU Crops Virtual *Corn* Crop School. 19 Jan 2021. (200).
<https://extension.usu.edu/crops/crop-schools>.
36. **Yost, M.**, E. Creech, **C. Zesiger**, **M. Nelson**, et al (all other USU crops faculty). 2021. USU Crops Virtual *Alfalfa* Crop School. 12 Jan 2021. (300).
<https://extension.usu.edu/crops/crop-schools>.
- 2020
37. **Yost, M.**, E. Creech, C. Ransom, G. Cardon, N. Allen, R. Ramirez, C. Nischwitz, R. Miller, and R. Larsen. 2020. USU Crops Virtual Field Day. 28-29 Jul 2020. Logan, UT (260 attendees). <https://extension.usu.edu/crops/events>.
38. Smith, J., B. Bugbee, **M. Yost**, **J. Gale**, and **C. Zesiger**. 2020. Utah Hemp Seminar. 4 Feb 2020. Salt Lake City, UT. (285).
39. **Yost, M.**, E. Creech, C. Ransom, N. Allen, R. Larson, R. Ramirez, G. Cardon, and C. Nischwitz. 2020. Utah Crop Advisors Roundtable. 28 Jan. 2020. Kaysville, UT (60).
40. **Yost, M.**, **J. Gale**, **K. Egbert**, **M. Nelson**, **T. Wilde**, E. Creech, and N. Allen. 2020. Irrigation Cooperator Workshop. 10 Jan 2020. Logan, UT (30).
- 2019
41. **J. Gale**, **Yost, M.**, and **K. Egbert**. 2019. Utah Politician Field Day. 5 Aug 2019. Richfield, UT (10 attendees).
42. **Yost, M.**, **J. Holt**, and E. Creech. 2019. Agriculture Water Conservation Field Day. 25 Jul 2019. Elberta, UT (25).
43. **Yost, M.**, **J. Holt**, **C. Reid**, and D. Winward. 2019. Agriculture Water Conservation Field Day. 12 Jul 2019. Cedar City, UT (40).
44. Jakus, P., S. Jones, N. Allen, S. Brothers, T. Rittenour, B. Neilson, J. Horsburgh, D. Rosenberg, and **M. Yost**. 2019. Spring Runoff Conference. 26 Mar. 2019. Logan, UT (70).
45. **Yost, M.**, N. Allen, G. Cardon, and K. Wagner. 2019. Water issues track of Urban and Small Farms Conference. 20-21 Feb. West Jordan, UT (140).
46. Creech, J., **M. Yost**, C. Ransom, G. Cardon, N. Allen, **C. Reid**, **J. Gale**, **M. Nelson**, **C. Israelsen**, **M. Pace**, **B. Kitchen**. 2018. Utah Hay Symposium. 6-7 Feb. 2019. St. George, UT (300).
47. Creech, J., **C. Reid**, C. Ransom, **M. Yost**, N. Allen, and G. Cardon. 2019. Utah Hay Symposium pre-conference workshop. 5 Feb. 2019. Logandale, NV (92).
- 2018
48. **Yost, M.**, **C. Reid**, E. Creech, N. Allen, D. McAvoy, D. Winward, and **J. Holt**. 2018. Agriculture Water Conservation Field Day. 22 Jun 2018. Cedar City, UT (40).
49. **Yost, M.**, **D. Despain**, and **J. Holt**. 2018. Mobile Drip Irrigation Field Day. 13 Aug 2018. Holden, UT (10)

2014 - 2010

50. J. Coulter, **Yost, M.**, and M. Russelle. 2014. Nitrogen credits for corn after alfalfa. Univ. of MN Southern Research and Outreach Center Winter Crops Day, Caledonia, MN. 15 Jan. 2014.
51. **Yost, M.**, J. Coulter, and M. Russelle. 2013. Reliability of nitrogen credits from alfalfa to corn – strategies to optimize yields and maximize profitability. Univ. of MN extension workshop. March 2013. Two locations (Melrose and Little Falls, MN).
52. **Yost, M.**, J. Coulter, and M. Russelle. 2012. How reliable are nitrogen credits from alfalfa to corn? Univ. of MN Ext. Field Day on Nutrient Management for Alfalfa-Corn Rotations. July 2012. Two locations (Lanesboro and Russell, MN).
53. J. Coulter, **Yost, M.**, and M. Russelle. 2011. Potassium management during the rotation from alfalfa to corn. Univ. of MN Ext. Field Day on Nutrient Management for Alfalfa-Corn Rotations. July 2011. Three locations (Albany, Owatonna, and Red Wing, MN).
54. J. Coulter, Yost, M., and M. Russelle. 2010. Potassium management for alfalfa. Univ. of MN Ext. Field Day on Nutrient Management for Alfalfa-Corn Rotations. June- July 2010. <http://www.midwestforage.org/pdf/891.pdf>. Four locations (Chatfield, Lakefield, Montevideo, and Norwood, MN)

Training of Extension and Agriculture Industry Professionals

1. B. Barker, **M. Yost**, **S. Ekadu**, **E. Flint**, and **C. Reid**. 2024. Ashley Highline irrigation company water manager training. 28 Aug. 2024. Vernal, UT (25).
2. B. Barker, **M. Yost**, **E. Flint**, **S. Price**, **R. Zwahlen**, and **S. Ekadu**. 2024. Ferron Reservoir and Canal Company water manager training. 8 Jul. 2024. Ferron, UT (25).
3. **Kunzler, M.**, and **M. Yost**. 2024. Climate change and impacts in Utah. USDA Southwest Climate Hub Workshop. 18 Jan. 2024. Virtual. (20).
4. **Yost, M.**, and B. Barker. 2023. Bear River Canal Company Water Manager Training. 27 October. Corinne, UT (85).
5. **Yost, M.**, D. Larson, and B. Barker. 2023. Training for irrigation dealers and NRCS. 22-23 Aug. 2023. Wellsville, UT (110).
6. **Yost, M.**, and T. Peters. 2022. Irrigation Workshop for World Alfalfa Congress. San Diego, CA (75).
28. Putnam, D., and **M. Yost**. 2022. World Alfalfa Congress. San Diego, CA (300).
29. **Yost, M.**, D. Larson, **E. Woolley**, **J. Holt**, and E. Creech. 2021. Training for irrigation dealers and crop advisors. 26-27 Aug. 2021. Grace, ID (90 attendees).
30. **Yost, M.**, **J. Gale**, G. Cardon, R. Miller, N. Allen, and J. Reeve. 2021. What you need to know about soil, plant, and water sampling. Virtual Workshop at USU Extension Annual Conference. 17 Mar. 2021 (50).
31. **Yost, M.** 2020. USU Crops: Ideas for new programming. USU Extension Annual Conference Ag Specialists and Agents Meeting. 26 Feb. 2020. Logan, UT (50).
32. **Yost, M.**, T. Richards, and **J. Holt**. 2020. Soil and water conservation training. 19-20 Feb 2020. Brigham City, UT (65).
33. **Yost, M.**, E. Creech, **J. Gale**, **M. Nelson**, **M. Pace**, and C. Ransom. Extension event planning training. 12 Dec. 2019. Logan, UT (27).
34. **Yost, M.**, D. Larson, **K. Egbert**, **J. Holt**, **M. Harper**, E. Creech, and N. Allen. 2019. Irrigation training for Extension and irrigation dealers. 15-16 Aug. 2019. Wellsville, UT (50).
35. **Yost, M.**, E. Creech, and N. Allen. 2018. Stretching water supplies research planning. 22 Jan 2019. Richfield, UT (30).

36. **Yost, M.**, E. Creech, N. Allen, and D. McAvoy. 2018. Elberta water research field day. 14 Jun 2018. Elberta, UT (40).
37. **Yost, M.**, E. Creech, N. Allen, **C. Reid**, **J. Gale**, **B. Kitchen**, and **A. Sulser**. 2018. Utah State University Extension faculty summer irrigation/water conservation training. 12-13 Jun 2018. Heber City, UT (50).
38. **Yost, M.** 2018. Agricultural water conservation kickoff dinner. USU Extension Annual Conference. 26 Feb. 2018. Thanksgiving Point, UT (25).
39. **Yost, M.** 2017. Impact of cover crops on fertilizer recommendations. Midwest Farmers Association Employee Training Workshop. 5 Jan. 2017. Booneville, MO (100).
40. **Yost, M.** 2016. Impacts of cover crops, no-tillage, and diversified crop rotations on production and soil quality over decades. Univ. of MO Certified Crop Advisor Conference. 10 Jan. 2016. St. Joseph, MO (75).
41. **Yost, M.A.**, M.P. Russelle, J.A. Coulter, C.C. Sheaffer, and D.E. Kaiser. 2010. Validating topdressed potassium fertilizer recommendations in an alfalfa-corn rotation. MN Crop Prod. Retailers Trade Show. 7 Dec. 2010. Minneapolis, MN (100).

Presentations – State and Local

2025

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| Feb | AG-DRIP workshops. Price, Vernal, Payson, UT (30). |
| Feb 28 | “Precision irrigation: Assessing irrigation sprinkler packages for enhanced water optimization in agriculture”. Southern Utah University - 2025 Utah Conference for Undergraduate Research (UCUR). Anderson . |
| Feb 6 | “10 tips for biostimulants”. Utah Hay Symposium. St. George, UT (150). |
| Feb 5 | “Irrigation and soil research updates”. Crop advisor workshop. St. George, UT (45). |
| Jan 21-22 | “Sprinkler technology research”. Mountainland Irrigation Agstravaganza. Roosevelt and Richfield, UT. (100). |
| Jan – Feb | “Fertilizer, irrigation, soil amendment, & cover crop research”. Sevier, Wayne, Kane, Millard, Beaver, Uintah County Crop Schools. (50, 30, 15, 30, 40, 40 attendees). |
| Jan 7 | “Soil health and soil fertility research updates and tips”. USU virtual crop school. Online. (78). |

2024

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| Oct 2 | “Discussion on roots so deep”. Conservative Climate Summit. Orem, UT (30). |
| Sept 23 | “Water optimization tools and AG-DRIP”. Utah Farm Bureau Water Academy. Sandy, UT (30). |
| July 30 | “LEPA/water accounting research updates”. Holt Dairy Field Day. New Castle, UT (60). Mufute |
| July 29 | “Water optimization results 21-23”. Water Optimization Field Day. Cedar City, UT (50). |
| July 9 | “AG-DRIP program components”. AG-DRIP Field Day. Price, UT (50). |
| May 8 | “Great Salt Lake data and insights summary”. Great Salt Lake Policy Forum. Salt Lake City, UT (70). |
| Mar 14 | “How do I get my work-life balance back?”. USU Staff Elevated Conference. Logan, UT (50). <i>Invited. Delivered twice.</i> |
| Mar 7 | “Water optimization and AG-DRIP”. USU Ext. Annual Conf. Logan, UT (40). |
| Mar 5 | “LEPA testing results 2018-2023”. Moyle Irrigation Grower Workshop. Cedar City, UT (100). |
| Feb 14 | “AG-DRIP program updates”. Carbon County Crop School. Price, UT (40). Flint |

- Jan 23 “Water optimization research updates”. Iron County Crop School. Cedar City, UT (50). **Sullivan**
- Jan – Feb “Fertilizer and soil amendment research updates”. Beaver, Millard, Iron, Juab, Weber, Carbon, Box Elder, Uintah, Sevier County Crop Schools. (50, 30, 50, 30, 30, 40, 60, 40, 80 attendees). **Baker**

2023

- Nov 16 “Agriculture water optimization research”. Utah House Water Policy Symposium Panel. Utah Valley Univ. Orem, UT (60).
- Oct 18 “Understanding water optimization”. UDAF Water Optimization Program. Taylorsville, UT (10).
- Sep 29 “AG-DRIP program highlights”. Utah Agriculture Water Optimization Task Force. Taylorsville, UT (25).
- Sep 8 “Preserving our future: How soil preservation can guide Utah toward long range water conservation”. Conservative Climate Summit. Orem, UT (50).
- Aug 22 “Sprinkler technology research”. USU-WISH Irrigation Training. Wellsville, UT (120).
- “Sprinkler maintenance research”. USU-WISH Irrigation Training. Wellsville, UT (120).
- Jul 15 “Agriculture’s role in GSL solutions”. Great Salt Lake Peoples Summit Panel Discussion. Sandy, UT (60).
- “Agriculture water optimization in GSL Basin”. Great Salt Lake Peoples Summit. Sandy, UT (200).
- May 17 “Future of water panel”. Wilkes Climate Summit. University of Utah. Salt Lake City, UT (30).
- May 9 “Climate change and environmental health”. Park City Climate Series Panel. Park City, UT (50).
- Mar 20 “Utah water use trends”. Utah Water Users Conference. St. George, UT (75).
- Jan 26 “Priced out of the fertilizer market: How to cut costs”. Utah Hay Symposium. St. George, UT (350).
- Jan 25 “Diagnosing crop issues”. Utah Hay Symposium. St. George, UT (110).
- Jan 12 “Fertilizing pastures during drought”. USU Virtual Crop School. (135).
- Jan - Feb “Fertilizer recommendation research”. Beaver, Millard, Juab, Weber, Cache, Box Elder, Uintah, Sevier, Kane, and Rich County Crop Schools. (70, 30, 30, 30, 60, 60, 80, 30, 30 attendees).

2022

- Dec 2 “Agriculture water optimization panel discussion”. Janet Quinney-Lawson Institute Land, Water, and Air 2022 Report to Governor. Salt Lake City, UT (50).
- Nov 3 “Producing More with Less to Address Utah’s Water, People, and Food Crisis”. Utah One Health Symposium. West Jordan, UT (125).
- Nov 2 “Prioritizing water optimization on Utah Farms”. Utah Association of Conservation Districts annual convention. St. George, UT (80).
- Oct 27 “Solving Utah’s water crisis”. Utah Valley Earth Forum Panel. Virtual (50).
- Oct 19 “Water use efficiency in the West”. NRCS Blue Ribbon Panel on Irrigation Tools and Water Use Efficiency. Virtual (25).
- Oct 18 “Water optimization and soil health”. Soil Health Partnership Field Day. Vernal, UT (25).

Sep 13	“Western cover crop council and cover crop research”. Sorghum and Cover Crop Field Day. Bothwell, UT (25).
Sep 11	“Water Optimization Studies”. Water Optimization Task Force Field Day. Wellsville, UT (20).
Aug 19	“Surge irrigation research updates”. Great Salt Lake Tour. Corinne, UT (25).
Aug 10	“Water optimization in surface irrigation systems”. Delta Water Workshop. Delta, UT (50).
Jul 18	“Automated surge irrigation”. Water optimization field day. Corinne, UT (25).
Jun 8	“Soil science and sampling basics for pastures”. USU Sustainable Grazing Institute. Kaysville, UT (50).
Jun 6	“Measuring and building soil health”. UDAF and USU Soil Health Field Day. Panguitch, UT (40). <i>Invited</i> .
May 24	“Progress and views on Utah water optimization”. Utah Water Conservation Spring Forum Conference. South Jordan, UT (40). <i>Invited</i> .
May 19	“Measuring water optimization in agriculture”. Great Salt Lake Issue Forum. Salt Lake City, UT (80). <i>Invited</i> .
May 13	“Water optimization research updates”. Annual Utah National Association of County Extension Agents Meeting. Cedar City, UT (25). <i>Invited</i> .
Mar 30	“Vernal water optimization research”. Zone 6 Conservation District meeting. Vernal, UT (50).
Mar 22	“Pivot research to address groundwater cuts in Beryl” Beryl-Enterprise water users meeting, St. George, UT (20).
Mar 22	“Agriculture water optimization research” Utah Water Users Conf., St. George, UT (60).
Mar 3	“Hemp water use compared to corn and alfalfa”. USU Extension Annual Conf., Thanksgiving Point, UT (20).
Mar 3	“Strategies to stretch limited water supplies” USU Extension Annual Conf., Thanksgiving Point, UT (20).
Feb 22	“Agriculture water optimization research & tools” Rural Water Association of Utah. Orem, UT (30).
Feb 10	“Deficit irrigation strategies” Box Elder Crop School. Tremonton, UT (60)
Feb 9	“Manure tips and fertilizer recommendations” Weber Crop School. Ogden, UT (20)
Feb 2	“No-till management” Carbon Crop School. Price, UT (50)
Jan - Feb	“Fertilizer recommendation trials” Cache, San Juan, Beaver, Iron, Wayne, Sevier, Kane, Millard Crop Schools. Various locations, UT (80, 48, 24, 33, 40, 30, 10, 60 attendees)
Jan 26, Feb 2	“Irrigation scheduling tools” Sanpete, Duchesne Crop Schools. Ephraim and Roosevelt, UT (23, 28)
Jan 25	“Water optimization research updates” Iron Crop School. Cedar City, UT (40)
Jan 11, 20	“Utilizing legume nitrogen credits” Sevier and USU virtual Crop School. Richfield, UT and virtual (60, 255)
Jan 11	“5 tips for manure management” USU virtual crop school. (255)
<u>2021</u>	
Dec 8	“Water optimization”. Intermountain Farmer Assoc Crop College. Payson, UT (25).
Aug 31	“Cedar City water optimization”. Water Rights Field Day. Cedar City, UT (15)
Aug 27	“Soil sensor demonstration”. Irrigation/Crop Training. Grace, ID (60) Holt
	“Irrigation scheduling research”. Irrigation/Crop Training. Grace, ID (60)

Aug 26	“Pivot track research”. Irrigation/Crop Training. Grace, ID (60) Holt
Aug 26	“Precision irrigation results”. Irrigation/Crop Training. Grace, ID (60) Woolley
Aug 11	“Wellsville water optimization trial results”. Cache Field Day. Wellsville, UT (30)
Jul-Aug	“Irrigation systems and crop genetics”. USU Field Days. Wellsville, Vernal, UT (30, 40). Boren
	“Soil wetting agents”. USU Field Days. Wellsville, Vernal, UT (30, 40). Sullivan
	“Pivot track management research”. USU Field Days. Wellsville, Vernal, UT (30, 40). Holt
Jul 14	“Vernal water optimization trial results”. Uintah Field Day. Vernal, UT (40)
Jun - Jul	“Irrigation scheduling research results”. USU Field Day. Beaver, Delta, Richfield, Tremonton, UT (30, 60, 35, 30). Holt
	“Irrigation scheduling strategies”. USU Field Days. Beaver, Delta, Richfield, Tremonton, UT (30, 60, 35, 30). Holt
	“Fertilizer recommendation trials”. USU Field Days. Beaver, Richfield, Tremonton, UT (30, 35, 30). Baker
May 19	“Testing irrigation strategies to stretch limited water supplies”. Water Users Conference. St. George, UT (50).
May 4	“Deficit irrigation strategies”. Virtual Drought Mitigation Workshop. USU Extension. (30).
Apr 15	“Cover crop water use”. San Juan Soil Conservation District. Blanding, UT. (50)
Mar 17	“Soil health sampling. Soil, plant, water, and waste workshop”. Logan, UT. (50)
Feb 17	“Water optimization research results”. Crop and Livestock School. Vernal, UT. (35)
Feb 2	“Hemp Research Updates” Virtual USU Alternative Crops School. (180)
Jan 19	“Water Optimization Research” Virtual USU Corn Crop School. (190)
Jan 12	“Alfalfa Irrigation Research” Virtual USU Alfalfa Crop School. (300)
<u>2020</u>	
Dec 8	“Hemp Research Updates” Utah Department of Food and Agriculture. (5) Sullivan
Jul 29	“Hemp Agronomy Research” USU Crops Virtual Field Day (125).
	“4R Nitrogen Study and Survey” USU Crops Virtual Field Day (125).
	“Small Grain Nitrogen Research” USU Crops Virtual Field Day (125). Pound
Jul 28	“Irrigation Survey Results” USU Crops Virtual Field Day (118).
	“Water Conservation in Flood Irrigation” USU Crops Virtual Field Day (118). Holt
	“Stacking Conservation - Vernal” USU Crops Virtual Field Day (118). Sullivan
	“Stacking Conservation - Wellsville” USU Crops Virtual Field Day (118). Sullivan
	“Irrigation Scheduling Research” USU Crops Virtual Field Day (118).
	“Irrigation Scheduling Demos” USU Crops Virtual Field Day (118). Egbert
	“Soil Health Test Basics” USU Crops Virtual Field Day (118). Crookston
Feb 19	“On-farm trials of soil health”. Soil & Water Training. Brigham City, UT (65).
	“Soil health testing”. Soil & Water Training. Brigham City, UT (65). Crookston.
	“On-farm trials to build soil health”. Soil and Water Conservation Training. Brigham City, UT (65).
Feb 11	“The last hoorah: utilizing nitrogen from terminated alfalfa”. Great Plains Journal Alfalfa University. St. George, UT. (60).
Jan 5-Feb 12	“Small grain nitrogen research”. Kane, San Pete, Carbon, San Juan County Crop Schools. Various cities, UT (50, 25, 80, 25).
Feb 6	“Ten tips for alfalfa irrigation”. United Soil Science Meeting. Delta, UT (50).
Jan 28	“Applied on-farm statistics”. Utah Crop Advisors workshop. Kaysville, UT (60).

- “Intro. to Agroclimate” Utah Crop Advisors workshop. Kaysville, UT (60).
- Jan 22 “Intro to USU”. Introduction to Crops. Southern Utah Univ. Cedar City, UT (25).
- Jan 10-23 “Irrigation scheduling research”. Juab, Millard, Cache, Beaver, Iron, Wayne, Sevier County Crop Schools. Various cities, UT (30, 50, 75, 50, 50, 30, 80).
- 2019
- Dec 12 “Event planning – During the event”. Training seminar for USU Extension ag/hort/natural resources faculty. Logan, UT (27).
- Dec 6 “Water and biochar research updates”. Elberta Valley Ag Leadership Team. Elberta, UT (7).
- Sept 13 “Water Conservation Priorities for Utah”. Utah Governor’s Office of Management and Budget (6).
- Sep 12 “5 ways to optimize water use in agriculture”. Business H2O: Water Innovation Summit. Snowbird, UT (70).
- Sep 11 “Agroclimate Research in Utah”. USU Climate Adaptation Science Program Interdisciplinary Research Forum. Logan, UT (15)
- Aug 15 “Soil sensors/ET models” USU Irrigation Training. Wellsville, UT (50).
“Irrigation maintenance” USU Irrigation Training. Wellsville, UT (50). **Egbert**
“LEPA, LESA, and MDI trials” USU Irrigation Training. Wellsville, UT (50). **Holt**
“Irrigation scheduling” USU Irrigation Training. Wellsville, UT (50). **Egbert**
- Aug 14 “Soil Health Research in Utah” Utah NRCS meeting. Salt Lake City, UT (3).
- Jul 25 “Updates on smart firmer research” USU Field Day. Elberta, UT (25).
“Irrigation scheduling” USU Field Day. Elberta, UT (25). **Egbert**
“Irrigation results and field demo” USU Field Day. Elberta, UT (25). **Holt**
- Jul 12 “Intro. to irrigation research” USU Field Day. Cedar City, UT (40).
“Irrigation results and field demo” USU Field Day. Cedar City, UT (40). **Holt**
“Irrigation research updates” USU Field Day. Cedar City, UT (40). **Egbert**
- Mar 19 “USU Extension – Agricultural Water Conservation” Utah Water Users Workshop. St. George, UT (50).
- Mar 15 “Water optimization research updates” Utah Soil and Water Conservation Zone 4 meeting. Richfield, UT (20).
- Feb 28 “Agroclimate, Agronomy, and Weeds Applied Research and Outreach Programs”. USU Extension Annual Conference. Logan, UT (40).
- Feb 12 “Seeking profitability with adjustments to fertility and irrigation practices”. Cache County Crop School. Logan, UT (110).
- Jan 23 “Irrigation research collaboration next step”. Elberta Valley Ag. Santaquin, UT (5).
- Jan 23 “Irrigation research updates”. Millard County Crop School. Delta, UT (50).
- Jan 22 “Water conservation strategies for pivots in Central Utah”. Southcentral Utah Growers. Richfield, UT (30).
- Jan 22 “Testing Irrigation Strategies”. Beaver County Crop School. Minersville, UT (50).
- Jan 17-18 “Nitrogen management in small grains following alfalfa” Wayne, Sevier County Crop Schools. Various cities, UT (25, 65).
- Jan 17 “Irrigation and weather – deficit irrigation results 2018-19”. Sevier County Crop School. Richfield, UT (65).
- 2018
- Nov 2 “Experimenting with new irrigation systems and practices”. Utah Conservation Commission Annual Meeting. St. George, UT (40).

- Aug 13 “Holden Irrigation Research”. Utah State Univ. Ext. Field Day. Holden, UT (10).
“Mobile Drip Irrigation Initial Results”. Utah State Univ. Ext. Field Day. Holden, UT (10). **Holt**
- July 10 “Nitrogen Needs of Dryland Wheat”. Utah State Univ. Ext. Field Day. Bluecreek, UT (40).
- June 22 “Mobile Drip Irrigation Rates in Utah”. Utah State Univ. Ext. Field Day. Cedar City, UT (40).
- June 20 “Precision Irrigation for Tart Cherries”. Utah State University Field Day. Kaysville, UT (25).
- June 14 “Initial Observations in Irrigation and biochar trials”. Utah State University Field Day. Elberta, UT (40).
- June 7 “Stacking Water Conservation Practices to Identify Potential”. North Cache Soil and Water Conservation District. Logan, UT (5).
- Mar 20 “Review of Strategies to Obtain More Crop Per Drop for Utah Agriculture”. Utah Water Users Conference. St. George, UT (100).
- Mar 19 “Stacking Water Conservation Practices to Identify Potential”. Utah Conservation Commission. St. George, UT (35).
- Feb 26 “USU Extension Water Initiative project updates”. USU Extension Annual Conference. Thanksgiving Point, UT (25).
- Feb 26 “Priorities of the USU Extension Water Initiative”. USU Extension Annual Conference. Thanksgiving Point, UT (25).
- Feb 20, 22 “10 to 20-Year Impacts of Conservation Systems on Crop Production and Soil Health”. NRCS – Soil Health Workshop. Richfield and Tremonton, UT (80, 70).
- Feb 13 “Seeking Profitability with Extremes in Weather Variability”. Cache County Crop School. Logan, UT (60).
- Feb 8 “Long-Term Wheat Nitrogen Trials and N Credits from Alfalfa”. San Juan County Crop School. Monticello, UT (30).
- Feb 7 “Alfalfa Irrigation and Management”. Carbon County Crop School. Price, UT (50).
- Feb 6 “New Research in Irrigation Efficiency and Biochar”. Iron County Crop School. Cedar City, UT (50).
- Feb 6 “Nitrogen Studies in Corn”. Iron County Crop School. Cedar City, UT (50).
- Jan 25 “Soil Nutrition and Irrigation Conservation”. Beaver County Crop School. Minersville, UT (50).
- Jan 24 “Farming in Variable and Extreme Weather Conditions”. Millard County Crop School. Delta, UT (55).
- Jan 23 “Soil Health Practices and Agroclimate Research”. Weber County Crop School. Ogden, UT (20).
- Jan 19 “Initial Agronomy and Climate Efforts in Utah”. Wayne County Crop School. Bicknell, UT (25).
- Jan 18 “Alfalfa Corn Rotation Nitrogen Soil Fertility Research – National Results”. Sevier County Crop School. Richfield, UT (70).
- 2017
- Oct 25 “Agroclimate Research and Extension.” Southern Region Extension Meeting. Nephi, UT (25).

2016-2010 (previous to USU)

- Jul 2015 “Cover crops and nitrogen credits.” Univ. of MO Crop Injury Clinic, Columbia, MO (100). Delivered three times.
- Mar 2013 “Reliability of nitrogen credits from alfalfa to corn – strategies to optimize yields and maximize profitability.” Univ. of MN extension workshop. Two locations (Little Falls and Melrose, MN)
- Jul 2012 “How reliable are nitrogen credits from alfalfa to corn?” Univ. of MN Ext. Field Day on Nutrient Management for Alfalfa-Corn Rotations. Two locations (Lanesboro and Russell, MN)
- Jul 2011 “Potassium management during the rotation from alfalfa to corn.” Univ. of MN Ext. Field Day on Nutrient Management for Alfalfa-Corn Rotations. Three locations (Albany, Owatonna, and Red Wing, MN)
- Jan 2011 “Nitrogen management for corn after alfalfa.” Univ. of MN Southern Research and Outreach Center Winter Crops Day, Kasson and Waseca, MN. Two locations (Kasson and Waseca, MN)
- Jun 2010 “Potassium management for alfalfa.” Univ. of MN Ext. Field Day on Nutrient Management for Alfalfa-Corn Rotations. Four locations (Chatfield, Lakefield, Montevideo, and Norwood, MN)

Presentations – Regional and National

2025

- Mar 5 “FRST updates”. Western Nutrient Mgt. Conf. Reno, NV. 5-6 Mar. 2025 (80).
- Mat 4 “Utah nutrient mgt. updates”. WERA-103 Annual Meeting, Reno, NV (12).
- Feb 12 “Irrigation and water related research”. Idaho Water Workshop. Boise, ID (40).
- Jan 9 “On-farm precision irrigation and fertilization trials in the Intermountain West”. NC-1210 Annual Meeting. Tampa, FL (40). *Invited.*

2024

- Dec 18 “Tools and Techniques for Managing Risks Associated with Drought.” 2024 Far West Agribusiness Assoc. Conf. Boise, ID (50). *Invited.*
- Dec 10 Troubleshooting Irrigation Systems.” Advances in Irrigation and Water Management Workshop. California Alfalfa and Forage Symposium. Reno, NV (50). *Invited.*
- Dec 4 Making informed fertilizer decisions: Strategies for corn and other forages.” University of Oregon 51st Hermiston Farm Fair Seminar. Hermiston, OR (50). *Invited.* **Baker.**
- Oct 1 “Role of water optimization in sustaining western agriculture”. Cultivating Agricultural Partnerships for Sust. Ag. Conf. W-SARE. Salt Lake City, UT (30). “Co-production of cover crop selection tool for western areas”. Cultivating Agricultural Partnerships for Sustainable Agriculture Conference. W-SARE. Salt Lake City, UT (30). Akin, Light, Norton, **Yost.**
- July 8 “Stacking water conservation practices: need, science, impacts, and next steps.” Western SARE Administrative Council meeting. Boise, ID (25). *Invited.*
- Jun 25 “Five irrigation approaches to stretch limited water supplies.” North American Alfalfa Improvement Conference. Pasco, WA (75). *Invited.*
- Jun 3 “Sulfur committee updates for national FRST database.” NRSP11 national working group annual meeting. Minneapolis, MN (30).

- May 5 “Biologicals and more for forage crops.” Alfalfa and Forage Workshop. University of Arizona. Virtual. (25). *Invited*.
- Apr 8 “Precision water and soil management to help address western water woes.” University of Georgia. Athens, GA (20).
- Apr 4 “Where is the potential to optimize water consumption in irrigated agriculture?” University of Georgia. Tifton, GA (30).
- Apr 3 “Water optimization to help address western water woes.” University of Florida. Gainesville, FL (25).
- Feb 14 “Opportunities for water optimization”. New Mexico State University. Las Cruces, NM (15).
- Feb 12 “Irrigation management in drought conditions to maximize crop yield” Alfalfa Seed Association. Tucson, AZ (50). *Invited*.
- Feb 6 “Lessons learned in agroclimate research”. USDA-ARS. Tucson, AZ (15).
- Jan 26 “Irrigation system efficiencies and management”. New Mexico Hay Association Conference. Ruidoso, NM (100). *Invited*.
- “Performance of soil wetting agents and soil biologicals”. New Mexico Hay Association Conference. Ruidoso, NM (100). *Invited*.

2023

- Dec 13 “Impacts of wetting agents and biologicals on forage production”. Western Alfalfa and Forage Symposium. Reno, NV (250).
- Dec 12 “Soil sampling whole fields and site-specific management”. Western Alfalfa and Forage Symposium. Reno, NV (100).
- “Sodic and saline soil management”. Western Alfalfa and Forage Symposium. Reno, NV (100).
- “Alfalfa fertilizer problem challenge (medium season)”. Western Alfalfa and Forage Symposium. Reno, NV (100).
- “Performance of public and private fertilizer recommendations”. Western Alfalfa and Forage Symposium. Reno, NV (100). **Baker**.
- Mar 9 “Comparison of public and private fertilizer recommendations for alfalfa, corn, and small grains”. Western Nutrient Management Conference. Reno, NV (50). *Invited*.
- Mar 3 “Precision irrigation considerations”. Franklin County Crop School. University of Idaho. Preston, ID (25). *Invited*.
- Feb 8 “Drought management of field crops”. 30th Annual Rocky Mountain Agronomics Conference. Salt Lake City, UT (40). *Invited*.
- Jan 24 “Economics of fertilizer for native hay”. University of Wyoming Ag Day. Evanston, WY (25). *Invited*.

2022

- Dec 2 “Curbing fertilizer costs for corn production” Oregon State University 49th annual Hermiston Virtual Farm Fair. Virtual (250). *Invited*.
- Nov 18 “Tools for optimizing water use” Valley Agronomics Crop Advisor Training Meeting. Jackpot, NV (50). *Invited*.
- Nov 16 “When you just don’t have enough: Producing irrigated alfalfa under deficit conditions” World Alfalfa Congress. San Diego, CA (300). *Invited*.
- Nov 14 “Troubleshooting irrigation systems” Irrigation Workshop. World Alfalfa Congress. San Diego, CA (75). *Invited*.

- “Advances in sprinkler irrigation for alfalfa” Irrigation Workshop. World Alfalfa Congress. San Diego, CA (75). *Invited*.
- Mar 10 “Manure nutrient crediting” Idaho Dairymen Association Nutrient Planners Meeting. Twin Falls, ID (25). *Invited*.
- Mar 8 “Utah fertilizer trial updates” Fertilizer Recommendation Support Tool Meeting. Virtual (30). *Invited*.

2021

- Dec 9 “Dairy sustainability research and education priorities” Dairy West Sustainability Workshop. Boise, ID (30 attendees). *Invited*.
- Mar 2 “Becoming a more efficient extension educator” Virtual Western Society of Weed Science. Logan, UT (20). *Invited*.
- Feb 17 “Alfalfa: When and where to irrigate” Virtual Midwest Forage Association Annual Meeting. Madison, WI (30). *Invited*.

2020

- Dec 10 “Mountain Region Committee of the Western Cover Crop Council” Promoting regenerative agriculture through cover crops: A virtual workshop. (120). *Invited*.
- Dec 10 “Considerations for cover crop water use” Promoting regenerative agriculture through cover crops: A virtual workshop series for agriculture producers in the Intermountain West and Northern Rockies. WSARE, University of Idaho & Oregon State University. (120). *Invited*.
- Nov. 12 Ten tips for grants. Grant Application Navigation and Resources for Expanding Early Career Opportunities Panel Discussion. Early Career Member Committee. American Society of Agronomy Annual Meetings. (75). *Invited*.

2019

- Nov 18 “Irrigation Innovations for Pivots and Laterals: LEPA, LESA, LENA, & MDI” Irrigation Workshop. Western Forage and Hay Conference. Reno, NV. (200).
- Nov 18 “Soil moisture monitoring-what goes on belowground?” Irrigation Workshop. Western Forage and Hay Conference. Reno, NV. (200).
- Jun 6 “Irrigation/water optimization research”. Groundwater management districts association summer meeting. Salt Lake City, UT. (40).
- Mar 8 “Nitrogen management in small grains after alfalfa”. Western Nutrient Management Conference. Reno, NV. (100). **Pound**
- Feb 19 “Evaluation of the Haney Test as a Corn Nitrogen Management Tool” Nutrient mgt. St. Cloud, MN. (100).
- Jan 16 “Soil Health Partnership Analysis Updates” Scientific Advisory Council of Soil Health Partnership, St. Louis, MO. (30) *Advised graduate student who presented*.

Interviews and Podcasts

2024

- Dec 12 Climate-smart agriculture in Colorado River Basin: Opportunities for Heritage Grains. *The Climate Source*. Interviewer: Maggie Greenberg, Rooted Data Design.
- Dec 12 Mentor video. *Climate Solutions Hackathon on Water Resources*. Wilkes Center for Climate Science & Policy. University of Utah. Interviewer: Ross Chambless
- Oct 9 A Reflective Narrative on a Conversation with Dr. Matt Yost. *USU ASTE 6370 Assignment and Report*. Interviewer: Utsav Bhandari
- Sept 27 [Wildfire impacts on alfalfa and crop production in Utah](#). *Fox 13*. Interviewer: Dan Evans.
- Aug 8 Soil moisture and weather sensors to help agriculture adapt to climate change. *Meter Group We Measure the World Podcast*. Interviewer: Brad Newbold.
- Aug 1 Great Salt Lake workshop opportunities. BYU Ballard Center's Great Salt Lake social impact team. *Brigham Young University*. Interviewer: Shelby Moss.
- Jul 25 Sustainable Agriculture Investing Challenge – GSL Solutions. *University of Utah*. Interviewer: Cody Clifford.
- Mar 5 Great Salt Lake policy options for agriculture water optimization. *University of Utah Research Study*. Interviewer: Malcom Araos.
- Jan 29 Water optimization research and outreach. *Western SARE Special Report on Climate Change*. Interviewer: Steve Elliot. <https://western.sare.org/news/using-less-water-by-stacking-conservation-practices/>

2023

- Nov 21 Water Optimization for Great Salt Lake. *KSL-TV*. Interviewer: Jeffrey Dahdah. <https://www.sltrib.com/news/environment/2023/11/24/how-great-salt-lake-utah-farms-can/>
- Nov 7 Regenerative Agriculture. *John Hopkins University Science Writing Report*. Interviewer: Kara West.
- Nov 6 Utah agriculture water optimization program efforts. *Utah Public Radio*. Interviewer: Sherri Quin.
- Oct 9 The truth about alfalfa. *Ag Talk Podcast*. Utah Department of Agriculture and Food. Interviewer: Bailee Woolstenhulme. <https://agtalk.libsyn.com/site>
- Sep 13 Soil fertility research and data. *Hay Kings Podcast*. Interviewer: Jon Paul Driver. 87,000 total downloads on podcast.
- Sep 20 2023 Western Alfalfa & Forage Symposium. *Hay Kings Podcast*. Interviewer: Jon Paul Driver. 87,000 total downloads on podcast.
- May 9 Agriculture water optimization. *Salt Lake City Weekly*. Interviewer: Jared Blackley.
- Apr 25 Great Salt Lake Summit development. *Friends of the Great Salt Lake*. Interviewer: Patty Becnel.
- Apr 10 Impacts of late spring and high snowpack on Utah farms. *Salt Lake Tribune*. Interviewer: Leia Larsen.
- Mar 30 Sprinkler system research. *Progressive Farmer Magazine*. Interviewer: Dan Crummett
- Mar 29 Mar 15 Utah water optimization audit. *Utah Legislative Auditor General*
- Jan 2 How can lake-friendly policies benefit agriculture. *Great Salt Lake Collaborative*. Interviewer: Emma Penrod.

2022

- Nov 21 Janet Quinney-Lawson Institute Land, Water, and Air 2022 Report to Governor.

- Oct 20 Irrigation system change impacts on Great Salt Lake water levels. *KUER 90.1 Radio NPR Utah*. Salt Lake City, UT.
- Oct 4 Soil carbon sequestration research updates. *KVNU Radio News*. Logan, UT.
- Aug 8 Research Landscapes presentation introduction. *Utah Public Radio*. USU.
- Mar 25 Resiliency of corn production to climate change. *USU Center for Anticipatory Intelligence student project*. Emma Watts.
- Feb 10 [Ag Water Optimization Task Force 2.0](#). *Ripple Effect Podcast*. Salt Lake City, UT.

2021

- Nov 22 Farmers tackle drought amid a changing climate. *Salt Lake Tribune*. Salt Lake City, UT. <http://sltrib.pressreader.com/article/281758452550833>
- Oct 28 Drought and Utah Agriculture. *KUER 90.1 Radio NPR Utah*. Salt Lake City, UT.
- Sept 30 Water optimization research in Cedar City. *KVNU Radio News*. Logan, UT.
- Sept 20 [In Focus Discussion: Climate Change Discussion](#). *abc4 News*. Salt Lake City, UT.
- Sept 7 [USU Researchers hope irrigation study in Cedar City will help farmers water more efficiently](#). *Cedar City News*. Cedar City, UT.
- Aug 9 [Agricultural water optimization in Utah](#). *Ripple Effect Podcast*. Salt Lake City, UT.
- Apr 19 [How to deal with impacts of weather variations and climate change](#). *Yara's Crop Nutrition podcast*. YARA International. Tampa, FL.

2020

- Nov 18 Colorado River Prediction Tools. *KVNU Talk*. Logan, UT.
- Oct 14 New drought prediction tools. *KVNU Radio News*. Salt Lake City, UT.
- Oct 13 Water flow/supply on the Colorado River. *Deseret News*. Salt Lake City, UT.
- Oct 13 Cover crops influence on regenerative dairy production. *Cultivated Audio*. Regenerative Agriculture Conversations. <https://cultivatedaudio.com/about/>
- Oct 9 [USU researchers say they can forecast droughts years in advance](#). *KSL News*. Salt Lake City, UT.
- Sept 20 [Predicting the Flow: USU Researchers find how to forecast the Colorado River's water supply](#). *USU Today*. Logan, UT.
- Aug 13 [Water wise: USU Agricultural researchers studying how to optimize Utah's ag water use](#). *USU Today*. Logan, UT.
- Aug 1 [USU water optimization research surprising, but inconclusive](#). *Herald Journal*. Logan, UT.
- July 30 ["Cannabis smokescreens: USU researchers debunk myths to find optimal hemp growth"](#). *Herald Journal*. Logan, UT.

2019

- Oct 21 Agroclimate research and extension program in Utah. *USU - CAAS Marketing*.
- Aug 17 Current condition of drought in Utah. *Utah Public Radio*.
- May 17 Utah's agricultural industry is optimistic about this year's water levels. *Utah Public Radio*. upr.org/post/utahs-agricultural-industry-optimistic-about-years-water-levels.

Guest Lectures

1. Forage irrigation and water optimization. PSC 4320 Forage Prod. & Pasture Mgt. **2022, 2023, 2024.**
2. Agroclimate Program. PSC 1050 Orientation. **2017, 2018, 2019, 2022, 2023, 2024.** Logan, UT (150 total).
3. Climate Adaptation Science Academy – Experiential Learning Expedition (CASA ELE). Agroclimate Research and Mentoring. 22 May 2023. Logan, UT (20).
4. USU LAEP department design charette cohort. Water optimization in Great Salt Lake Basin. 2023 (15).
5. Agriculture climate adaptation research and extension. USU CAS Colloquium. **2021, 2022, 2023.** Logan, UT (60 total).
6. Soil Moisture Monitoring. PSC 4700 Irrigated Soils Course. 8 Mar. 2019. Logan, UT (10).
7. Midwest Crops II. PSC 4280 World Field Crops Course. 31 Jan. 2019. Logan, UT (25).
8. Midwest Crops I. PSC 4280 World Field Crops Course. 29 Jan. 2019. Logan, UT (25).

COURSES TAUGHT / CERTIFICATES DEVELOPED

1. **Yost, M.,** B. Barker, S. Young, P. Johnson, M. Pate, A. Entionne, E. Creech, R. Larsen, A. Torres, and B. Black. 2023. Precision Agriculture Technology graduate and undergraduate certificate programs.
2. **Yost, M.** Fall 2022. PSC 7900. Special Problems: Certified Crop Advisor Preparation. Plants, Soils, and Climate. Utah State University.
3. **Yost, M.** and E. Creech. Spring 2021. PSC 7900. Special Problems: Advanced Agronomy. Plants, Soils, and Climate. Utah State University.

GRADUATE STUDENT ADVISING

Current Major Professor or Co-Major Professor:

Shikha Sharma (MS in Plant Science, USU) 2024 – present
Benedict Okorie (PhD in Soil Science, USU) 2024 – present
Madelyn Kunzler (PhD in Ecology, USU) 2024 – present
Roy Reid (MS in Plant Science, USU) 2024 – present
Megan Baker (PhD in Soil Science, USU) 2024 – present
Tejinder Singh (PhD in Soil Science, USU) 2023 – present
Kamal Deep (MS in Plant Science, USU) 2023 – present
Ngonidzashe Mufute (PhD in Plant Science, USU) 2023 – present
Jenae Dean (MS in Plant Science, USU) 2023 – present
Masoumeh Hashemi (PhD in Soil Science, USU) 2023 – present
Britta Schumacher (PhD in Ecology, USU) 2022 – present
Brad Davis (PhD in Plant Science, USU) 2021 – present
Cole Harding (MS in Soil Science, USU) 2018 – present

Completed Major Professor or Co-Major Professor:

Tina Sullivan (PhD in Plant Science, USU) 2022 – 2024
Megan Baker (MS in Plant Science, USU) 2022 – 2023
Elisa Woolley (PhD in Plant Science, USU) 2021 – 2023
Dakota Boren (MS in Plant Sciences, USU) 2021 – 2023
Jonathan Holt (PhD in Plant Science, USU) 2021 – 2023

Chance Connelly (MS in Plant Science, USU) 2022
Bradley Crookston (PhD in Soil Science, USU) 2018 – 2021
Tina Sullivan (MS in Plant Science, USU) 2019 – 2021
Kyle Egbert (MS in Plant Science, USU) 2019 – 2020
Jonathan Holt (MS in Plant Science, USU) 2018 – 2020
Britta Schumacher (MS in Ecology, USU) 2019 – 2020
Collin Pound (MS in Soil Science, USU) 2018 – 2020

Current Committee member:

Katie Lewis (MS in ASTE, USU) 2024 – present
Garland Ledbetter (MS in LAEP, USU) 2023 – present
Maziyar Vaez Roudbari (PhD in Civil Engineering) 2023 – present
Madigan Eckels (PhD in Plant Science, USU) 2023 – present
Saddy Pineda (PhD in Watershed Sciences, USU) 2023 – present
Sena Bildim (MS in Irrigation Engineering, USU) 2023 – present
Kyle Forsyth (MS in Plant Science, USU) 2022 – present
Forest Cook (PhD in LAEP, USU) 2023 – present
Gabriela Sancho Juarez (PhD in Watershed Sciences, USU) 2022 – present
Kurt Wedegaertner (PhD in Plant Science, USU) 2022 – present
Katherine Osorio Diaz (PhD in Civil Engineering, USU) 2022 - present
Preston Christensen (MS in Soil Science, USU) 2021 – present

Completed Students Committee Member:

Phearan Miller (PhD in Soil Science, USU) 2019 – 2023
Carolin Chang (MS in Soil Science, USU) 2023 – 2024
Mitch Westmoreland (PhD in Plant Science, USU) 2020 – 2024
Owusu Ansah Emmanuella (MS in Agronomy, UOI) 2021– 2023
Kaitlin Dabbs (MS in Soil Science, USU) 2020 – 2023
Rodney Nelson (MS in Plant Science, USU) 2020 – 2023
Oliver Hargreaves (MS in Civil & Environ. Eng., USU) 2020 - 2022
Morgan Dunn (MS in Biology, USU) 2017 – 2022
Carson Roberts (MS in Plant Science, USU) 2020 – 2021
Kaitlyn Spangler (PhD in Ecology, USU) 2019 – 2021
Ihsan Buğra Buğdaycı (MS in Irrigation Engineering, USU) 2019 – 2020
Shana Anderson (MS in Applied Economics, USU) 2017 – 2019
Chet Loveland (MS in Plant Science, USU) 2018 – 2020
Stirling Stewart (MS in Plant Science, Univ. of MO) 2017 – 2020
Lance Conway (MS in Plant Science, Univ. of MO) 2015 – 2016
Zane Walker (MS in Applied Plant Sciences, Univ. of MN) 2013 – 2015

Visiting Scholars:

Ngonidzashe Mufute, Fullbright Scholar, University of Zimbabwe, Feb 2022 – July 2022.

UNIVERSITY, COLLEGE, AND DEPARTMENT SERVICE

Collegiate Service and Intercollegiate Service

2023: Member, QL-ILWA Science Policy Capitol Hill Visit, Washington, D.C.
2023: Member, CAAS Research Advisory Group, CAAS
2023: Member, Search Committee, Precision Agriculture Faculty, ASTE Department
2023, 2020: Member, Search Committee, Iron County Extension Agent
2022: Member, Tenure Advisory Committee for Scott Hotaling, QNR
2022-Present: Member, Great Salt Lake STRIKE Task Force, *Invited*
2022: Member, Tenure Advisory Committee for Cheyenne Reid, Extension
2022: Member, Tenure Advisory Committee for Melanie Heaton, Extension
2022: Member, Internal Steering Committee, USU JQL-Institute of Land, Water, and Air, *Invited*
2022, 2021: Chair, USU Extension Grant Panel
2022: Member, Search Committee, Uintah County Extension Agent
2021: Member, Search Committee, Irrigation Extension Specialist
2021-2023: Member, Institute for Land, Water, and Air Annual Report to Government Committee
2020: Temporary Agent, USU Millard County Extension
2019, 2020: Session Chair, Small Farms and Urban Agriculture Conference
2019-2022: USU Extension Hemp Team Member
2019-Present: USU Crops Team Director
2019: Juror, Graduate student poster competition, USU spring runoff conference
2019: Moderator, Plenary session, USU spring runoff conference
2018-Present: Reviewer, UAES proposal reviews (2)
2018: Member, Spring Runoff Conference Planning Committee
2018: Member, Planning committee of the Utah Hay Symposium
2017: Member, Search Committee, Summit County Extension Agent
2017: Member, Search Committee, Juab County Extension Agent

Department and Unit Service

2024-present: Chair, undergraduate student curriculum committee
2024: Organizer and Presenter, Juab County FFA student tours of PSC
2019-2023: Chair, Graduate Student Exploration Day
2023: Organizer and Presenter, Graduate Student Orientation
2022: Chair, PSC Graduate Student Seminar
2019: Chair, Graduate Student Professional Development Series
2019: Member, Graduate Studies and Scholarship Committee.
2018: Member, PSC Showcase Event Planning Committee
2018: Member, Search Committee, USUAL director
2018: Recruiter, American Society of Agronomy Annual Meetings, Baltimore, MD
2017-Present: Member, USU Analytical Laboratory (USUAL) Oversight Committee
2017-Present: Member, Extension Committee
2017: Recruiter, American Society of Agronomy Annual Meetings, Tampa, FL

PROFESSIONAL AND PUBLIC SERVICE

Current Professional Service

2024-Present: Committee member, Steering Committee, Utah STAR program
2024-Present: External Reviewer, Promotion and Tenure application, University of Idaho
2023-Present: Secretary, Soil Fertility Conferences Committee, WERA-103
2023-Present: Board Member, Multistate Res. Coordination National Committee
2023-Present: Vice chair, WERA-103: Multistate Res. Coordination Committee & Info. Exchange
2023-Present: Member, Utah Division of Water Rights Advisory Group
2023-Present: Co-editor, Soil Health in the West, SSSA Book Series
2023-Present: Co-chair, Western Alfalfa and Hay Symposium
2023-Present: Member, Bear River Watershed Council Advisory Team
2023-Present: Member, Utah Water Users Conference Planning Committee
2022-Present: Reviewer, Utah Water Optimization Grant Program, reviewed 400 proposals
2022-Present: Member, Utah Agricultural Water Optimization Task Force
2021-Present: Member, Soil Fertility Trial Team, Fertilizer Recommendation Support Tool
2015-Present: Mentor, Golden Opportunity Scholar Program of ASA, CSSA, SSSA

Previous Professional Service

2024: Moderator, Feed the Soil Panel. Conservative Climate Summit. Orem, UT (40).
2024: External Reviewer, Associate Professor Promotion and Tenure Package, Univ. of Georgia
2024: External Reviewer, Associate Professor Promotion and Tenure Package, Univ. of Idaho
2024: Reviewer, USDA-Sustainable Agriculture Systems Grant Panel
2024: Reviewer, Foundation for Food and Agricultural Research (FFAR) Grant Panel
2023: Reviewer, USDA-ARS CRIS Project Grant Panel
2023: Member, Postdoctoral Research Associate Search Committee, FRST
2023: Reviewer, USDA-Western Sustainable Agriculture Research and Education Grant Panel
2023: Reviewer, USDA-Foundation for Food and Agriculture Research Seeding Solutions Grant
2023: Reviewer, USDA-Foundation for Food and Agriculture Research New Innovator Grant
2023: Reviewer, USDA-NIFA Multistate Coordinating Committee Proposal Grant Panel
2023: Moderator, Western Nutrient Management Conference
2023: Juror, graduate student competition, Western Nutrient Management Conference
2022-2024: Member, Soil Test Correlation Team, Fertilizer Recommendation Support Tool
2022-2023: Reviewer, Ag Resiliency Plan, Center Utah Water Conservancy District
2022: Secretary, WERA-103: Multistate Res. Coordination Committee & Info. Exchange
2021-2022: Chair, Undergraduate student speech contest committee, ASA-SASES
2020: Juror, Undergraduate student speech contest committee, ASA-SASES
2020: Juror, Inaugural society-wide graduate student competition, SSSA
2020: Chair, Early Career Member Committee, ASA, CSSA, SSSA
2019: Reviewer, USDA-NIFA Grant Panel
2019: Consultant, Environmental Defense Fund/Soil Health Partnership workshop.
2019: Juror, Precision Agriculture Community student oral competition, ASA
2019: Juror, Inaugural society-wide graduate student competition, SSSA
2019: Moderator, Soil and Water Conservation Rapid Oral Session, SSSA
2019: Juror, Inaugural society-wide graduate student competition, SSSA
2018-2020: Member, Undergraduate student speech contest committee, ASA-SASES
2018-2020: Member, Early Career Member Committee, ASA, CSSA, SSSA
2018: Juror, National Club Poster Presentation Contest, ASA and CSSA

2018: Moderator, Precision Agriculture Community, Student Competition
2018: Moderator, Precision Agriculture Community, Oral Session
2018: Moderator, Agronomic Production Systems Division Oral Session
2018: Member, Precision Agriculture International Roundtable, ISPA
2018: Moderator, Precision agriculture education session, ISPA
2017-2018: Member, National Club Poster Presentation Contest Committee of ASA, CSSA, SSSA
2017: Vice leader, Precision Agriculture Community
2017: Organizer and moderator, Long-Term Agroecology Research Symposium
2017: Juror, National Club Poster Presentation Contest, ASA, CSSA, SSSA
2017: Moderator, Spatial relationships, data analysis, and bioenergy crops oral session, SSSA
2017-2016: Member, Missouri Soil Health Consortium, Columbia, MO
2017-2016: Member, Soil and Biology Working Groups of USDA-ARS LTAR
2017-2016: Member, Missouri Soil Fertility Working Group
2016: Juror, Graduate student poster competition of Soil Fertility Division of SSSA
2016: Juror, Graduate student poster competition of NUE conference in Parma, ID
2015: Juror, Graduate student poster competition of Extension-Industry Soil Fertility Conf.
2015: Member, Planning committee for NCR Extension-Industry Soil Fertility Conf.
2014: Juror, Graduate student oral competition of Soil Fertility Division, SSSA
2012-2014: Member, Core Constituent Scientist Team, ASA
2011-2012: Member, Membership and Society Identity sub-committee, ASA

Manuscript Reviews

2024: total reviews 4
2023: total reviews 6
2022: total reviews 7
2021: total reviews 6
2020: total reviews 6
2019: total reviews 8
2018: total reviews 7
2017: total reviews 10
2016-2012: total reviews 8

Public Service

2023-Present: Reviewer, Utah Soil Health Partnership Equipment Grant Program
2019-Present: Member, Utah Soil Health Partnership Advisory Board. Salt Lake City, UT
2019-Present: Member, Soil Health Partnership Science Advisory Committee
2018-2019: Chair, Outreach Team, Western Cover Crop Council
2018-Present: Member, Outreach Team, Western Cover Crops Council
2017-Present: Member, Data Analytics Team of Soil Health Partnership, St. Louis, MO
2018: Presenter, Soil basics. Sunrise Elementary School 1st grade class, Smithfield, UT
2017-16: Presenter, Soil basics. Fairview Elementary School 1st grade class, Columbia, MO

PROFESSIONAL DEVELOPMENT

2023-2024

Jun - Dec LEAD 21 program. *Three-week training course for leaders at universities.*

2022

Apr 7 Mindset of a leader. Introduction to Leading at Utah State University Course. *Virtual 2-hr training.*

2020

Oct 15 Grant Writing Workshop. Utah State University. *Virtual 1-day training.*

2019

Dec 5 USU Extension Online Course Development Course. 1 ½ day training.

Nov 11 Media 101: Communications Course. ASA. ½ day training.

Aug 2 Cannabis production workshop for USU Extension Faculty. ½ day training.

2018

Nov 13 Collaborative Institutional Training Institute (CITI) Human Research: Social and Behavioral research modules. ½ day IRB training.

Nov 4 Statistical graphing is SAS workshop. American Society of Agronomy. *2-hr hands-on workshop.*

Oct 15 Grant Writing Workshop. Utah State University. *1-day grant writing workshop.*

Feb 27 Accounting Training. Extension Annual Conference. *A 1-hr interactive presentation on financial management.*