

Dr. Kevin A. Lombard
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New Mexico State University
Agricultural Science Center at Farmington
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Education

Ph.D., 2007, Major: Plant and Environmental Sciences (formerly Agronomy); Minor: Public Health, New Mexico State University, Las Cruces, New Mexico

M.S., 2000, Horticulture, Texas Tech University, Lubbock, Texas

B.S., 1991, Horticulture, Texas Tech University, Lubbock, Texas

Employment History

Academic - Post-Secondary

Superintendent, New Mexico State University Agricultural Science Center at Farmington. (November 2015 - Present).

Associate Professor of Horticulture, New Mexico State University Agricultural Science Center at Farmington. (July 2014 - Present).

Assistant Professor of Horticulture, New Mexico State University Agricultural Science Center at Farmington. (November 2007 - June 2014).

Previous professional experience

2007 - 2007 Peace Corps Response, United States Peace Corps, Namibia

2001 - 2007 Teaching/Research Assistant, New Mexico State University
Department of Plant and Environmental Sciences, Las Cruces, NM

2003 - 2003 Horticulture Production Advisor, ACIDI/VOCA, Eritrea

1998 - 2001 Teaching Assistant, Texas Tech University, Lubbock, TX

1995 - 1998 Horticulturist I, Filoli, Woodside, CA

1994 - 1995 Lead Horticulturist, Rollins Blue Cypress Ranch, Okeechobee, FL

1991 - 1994 United States Peace Corps Volunteer, Tanzania

1989 - 1991 Horticultural Apprentice, James W. Kent Horticultural Services, Fort Worth,
TX

1990 - 1990 Intern, Planting Fields Arboretum, Oyster Bay, NY

1990 - 1990 Intern, George Elle You-Pick Apple Orchard, Lubbock, TX

1981 - 1990 Owner, Lombard Lawn Care, Fort Worth, TX

Licensures and Certifications

New Mexico Public Pesticide Applicator License, New Mexico Department of Agriculture. (February 2017 - Present).
Responsible Conduct of Research for Administrators, (CITI) Collaborative Institutional Training Initiative. (August 13, 2019 - August 12, 2022).
Social and Behavioral Responsible Conduct of Research, (CITI) Collaborative Institutional Training Initiative. (August 13, 2019 - August 12, 2022).

Professional Memberships

Soil Science Society of America. (2005 - Present).
American Society for Horticultural Sciences. (2000 - Present).

Book Chapters

O'Neill, M. K., Heyduck, R. F., Allen, S. C., Lombard, K. A., Smeal, D., Arnold, R. N. (2015). Hybrid Poplar for the Colorado Plateau: NMSU Poplar Research, Farmington, New Mexico. In LF Huenneke, C van Riper and KA Hays-Gilpin (Ed.), *The Colorado Plateau VI: Science and Management at the Landscape Scale* (pp. 81-94). Tucson, AZ: University of Arizona Press.

Refereed Journal Articles (last 10 years) *indicates student working with me

1. *Jha, G., A. Ulery, K. Lombard, D. VanLeeuwen, C. Brungard, B. Dari, and D. Sihi. (2021). Portable X-Ray Fluorescence (PXRF) Analysis of Total Metal(loid)s and Sequential Extraction of Bioavailable Arsenic in Agricultural Soils of Animas Watershed. *Water, Air, & Soil Pollution. WATE-D-21-00526R1* (In Press).
2. *Jha, G., Sihi, D., Dari, B., Kaur, H., Ulery, A., Lombard, K. A. (2021). Rapid and Inexpensive Assessment of Soil Total Iron Using Nix Pro Color Sensor. *Agricultural & Environmental Letters*. (In Press).
3. Ornelas, I., *K. Rudd, S. Bishop, D. Deschenie, K.A. Lombard, and S.A.A. Beresford. (2021). Yéego Gardening in Schools: Developing and Pilot Testing a School Based Intervention to Promote Healthy Eating and Gardening among Navajo Children. *Health Behavior and Policy Review*. (In Press).
4. Lombard, K. A., I. Ornelas, D. Deschenie, F. Nez, S. Bishop, *K. Osterbauer, E. Rillamus-Sun and S.A.A. Beresford. (2021). Can community gardens with workshops increase gardening behavior? A Navajo Wellness Collaboration. *Journal of Health Disparities Research and Practice*. 14(2), 64-77.
5. *Jha, G. S. Mukhopadhyay, A. Ulery, K.A. Lombard, S. Chakraborty, D. Weindorf, D. VanLeeuwen, and C. Brungard, C. (2021). Agricultural Soils of the Animas River Watershed after the Gold King Mine Spill: An Elemental Spatiotemporal Analysis via Portable X-ray Fluorescence Spectroscopy. *Journal of Environmental Quality*. 2021:1-14. Note: this article is featured on 50th anniversary, front cover.
6. *Rheay, H., K.A. Lombard, C.E. Brewer, and F.O. Holguin. (2020). Phytochemical Characterization of Native New Mexico Hops. *HortTechnology*, 30(6), 770-772.

7. Bamberg, J., K.A. Lombard, J. Palta, B.A. Workmaster, and A. Atucha. (2020). Survival of *Solanum jamesii* Tubers at Freezing Temperatures. *American Journal of Potato Research*, 97, 497-504.
8. *Matthews, A., S. Rogus, *G. Jha, A. Ulery, E. Delgado, and K.A. Lombard. (2020). Heavy metal content of produce grown in San Juan County (New Mexico, USA). *Journal of Environmental Science and Health, Part B: Toxic/Hazardous Substances and Environmental Engineering*, 55(10), 889-897.
9. Djaman, K., C. Higgins, S. Begay, K. Koudahe, S. Allen, K. Lombard, M. O'Neill. (2020). Seasonal occurrence of potato psyllid (*Bactericera cockerelli*) and risk of zebra chip pathogen (*Candidatus Liberibacter solanacearum*) in northwestern New Mexico. *Insects* 11(1), 3; <https://doi.org/10.3390/insects11010003>
10. Ornelas, I., Osterbauer, K.*, Woo, M. Y.*, Bishop, S., Deschenie, D., Beresford, S. A.A., Lombard, K. A. (2018). Gardening for Health: Patterns of Gardening and Fruit and Vegetable Consumption on the Navajo Nation. *Journal of Community Health*, 43(6), 1053-1060.
11. Djaman, K., O'Neill, M. K., Diop, L., Bodian, A., Allen, S., Lombard, K. A. (2018). Evaluation of the Penman-Monteith and other 34 Reference Evapotranspiration Equations under Limited Data in a Semiarid Dry Climate. *Theoretical and Applied Climatology*. 137 729-743. <https://link.springer.com/article/10.1007/s00704-018-2624-0>
12. Djaman K., M. O'Neill, C. Owen, D. Smeal, M. West, D. Begay, S. Allen, K. Koudahe, S. Irmak, K. Lombard. (2018). Long-term winter wheat seasonal irrigation amount, evapotranspiration, yield, and water productivity under semiarid climate. *Agronomy* 8(6), 96;
13. Ornelas, I., Deschenie, D., Bishop, S., Lombard, K. A., Beresford, S. A.A. (2017). Yéego Gardening!: A Community Garden Intervention to Promote Health on the Navajo Nation. *Progress for Community Health Partnerships*, 11(4), 417-425. <http://muse.jhu.edu/article/683612>
14. Idowu, O. J., Lombard, K. A., Hyder, D., Ulery, A. L. (2015). Soil Quality of a Semi-Arid Pasture Irrigated with Reverse Osmosis Wastewater-A Case Study from Northern New Mexico. *Journal of Water Resource and Protection*, 7(14), 1121-1130. www.scirp.org/journal/PaperDownload.aspx?paperID=59800
15. *Sutherin, S., Lombard, K. A., St Hilaire, R. (2015). Website? Video? Facebook? Mobile App? One Group's Experience Developing and Comparing Urban Landscape Water Conservation Digital Outreach Resources. *Journal of Extension*.
16. *Nelson, C., Unc, A., Lombard, K. A., Lucero, M., Perkins, S. (2014). Impact of seed exposure to plant material on plant growth and development on remediated arid lands. *Journal of the American Society of Mining and Reclamation*, 3(1), 41-69.
17. O'Neill, M. K., Allen, S. C., Heyduck, R. F., Lombard, K. A., Smeal, D., Arnold R. N. (2014). Hybrid poplar (*Populus* spp.) adaptation to a semi-arid region: results from Northwest New Mexico (2002–2011). *Agroforestry Systems*, 88(3), 387-396.
18. Lombard, K.A., S.A.A. Beresford, I. Ornelas, *C. Topaha, *T. Becenti, *D. Thomas, and *J.G. Vela. 2014. Healthy Gardens/Healthy Lives: Navajo perceptions of growing food locally to prevent diabetes and cancer. *Health Promotion Practice*. 15(2) 223-231. Online first 12 July 2013. DOI: 10.1177/1524839913492328.

19. Lombard, K.A., C. Martin, and J. Greenfield. 2014 Risk Management Education in Southwest Medicinal Herb Production and Marketing in New Mexico: Assessing grower and potential grower outcomes after a two-day workshop. *Journal of Herbs, Spices & Medicinal Plants*. 20:31–44. DOI:10.1080/10496475.2013.819477
20. Lombard, K.A. B. Maier, F.J. Thomas, M.K. O’Neill, S. Allen, and R. Heyduck. 2013. Wine Grape Cultivar Performance in the Four Corners Region of New Mexico: 2010-2012. *HortTechnology*. 23(5) 699-709.
21. *Sutherin, S., Lombard, K.A., and R. St. Hilaire. 2013. Southwest Plant Selector: A mobile application for iPhone and iPad. *HortTechnology*. 23(5) 602-609.
22. Lombard, K.A., S.C. Forster-Cox, K. Huttlinger, D. Smeal, S.A.A. Beresford and M. O’Neill. 2011. Gardens for Health: Development of a Model Diabetes Intervention Project among an Indigenous Tribe in Northwest New Mexico. *Acta Hort*. 911:311-316.
23. Lombard, K.A., M. O’Neill, A. Ulery, J. Mexal, B. Onken, S. Forster-Cox, and Ted Sammis, 2011. Fly ash and composted biosolids as a source of Fe for hybrid poplar – a greenhouse study. Special Issue: Biosolids Soil Application: Agronomic and Environmental Implications. *Applied and Environmental Soil Science* vol. 2011, Article ID 475185, 11 pages. doi:10.1155/2011/475185.
24. Smeal, Daniel, Kevin Lombard, Margaret West, Michael O’Neill, and Richard N. Arnold. 2011. Low-Pressure Drip Irrigation for Small Plots and Urban Landscapes. Research Report 771. Agricultural Experiment Station Research Report. New Mexico State University. Las Cruces, NM. http://aces.nmsu.edu/pubs/research/agmech_eng/rr773.pdf.
25. Lombard, K.A., Mick O’Neill, Robert Heyduck, Blake Onken, April Ulery, John Mexal, and Adrian Unc. 2010. Composted biosolids as a source of iron for hybrid poplars (*Populus* sp) grown in Northwest New Mexico. *Agroforestry Systems*. 81(1): 45-56. DOI: 10.1007/s10457-010-9334-7

Peer Reviewed NMSU Experiment Station and publications and Cooperative Extension Circulars

1. Giese, W. and Lombard, K. A. 2019. Grape varieties for North-central New Mexico (pp. 6). Las Cruces, NM: NMSU Cooperative Extension Service. Guide H-309. https://aces.nmsu.edu/pubs/_h/H309.pdf
2. Lombard, K. A., LaShell, B., Thomas, F., French, J., Bates, T. (2015). Hops virus testing: Significance and implications for establishing hop production in New Mexico and Southwest Colorado (NMSU RR 788). Las Cruces, NM: NMSU Agricultural Experiment Station. <http://aces.nmsu.edu/pubs/research/horticulture/RR788.pdf>
3. Arnold, R. N., O’Neill, M. K., Smeal, D., Lombard, K. A. (2014). Pest control in crops grown in northwestern New Mexico, 2013. ADR 100-2013. (pp. 13). Las Cruces, NM: NMSU Cooperative Extension. <https://aces.nmsu.edu/pubs/annualdatareports/docs/ADR100-2013.pdf>

Conference Proceedings

1. O'Neill, M. K., Allen, S. C., Heyduck, R. F., Lombard, K. A., Smeal, D., Arnold, R. N. (2015). *Hybrid poplar: a potential multipurpose tree for drip irrigation in semi-arid regions* (pp. 6). Durban, South Africa: United Nations Food and Agriculture Organization.
<http://foris.fao.org/wfc2015/api/file/55469d39e52d79267e89a464/contents/601eacf9-017f-4434-8000-a06b4ab2ee31.pdf>
2. O'Neill, M. K., Heyduck, R. F., Allen, S. C., Lombard, K. A., Smeal, D., Arnold, R. N. (in press). *Hybrid poplar for the Colorado Plateau: NMSU poplar research at Farmington, New Mexico*. Flagstaff, AZ: Proceedings of the 11th Biennial Conference of Research on the Colorado Plateau. Northern Arizona University.
3. Lombard, K. A., Forster-Cox, S., Huttlinger, K. W., Smeal, D., Beresford, S. A.A., O'Neill, M. K. (2011). *Gardens for health: Development of a model diabetes intervention project among an indigenous tribe in northwest New Mexico* (vol. 911, pp. 311-316). Acta Hort. www.actahort.org/books/911/911_35.htm

Other Text-based Contributions Related to Research since Last Promotion (2014 to present)

1. Pearson, B. J., Lombard, K. A., Colonna, A., Kjelgren, R. (2019). *7 Myths, Realities, Successes, and Challenges for Florida Hops*. Florida: Growing Produce.
<https://www.growingproduce.com/fruits/7-myths-realities-successes-and-challenges-for-florida-hops/>
2. Djaman, K., Lombard, K. A., Koudahe, S. Allen, and M.K. O'Neill (2018). Variability of the Ratio of Alfalfa to Grass Reference Evapotranspiration under Semiarid Climate. *Irrigation & Drainage Systems Engineering*. 7(1) DOI: 10.4172/2168-9768.1000204
3. Djaman, K., O'Neill, M. K., Owen, C., Koudahe, K., Lombard, K. A. (2018). Evapotranspiration, Grain Yield, and Water Productivity of Spring Oat (*Avena sativa* L.) under Semiarid Climate. *Agricultural Sciences*. 9(9) https://file.scirp.org/Html/8-3002173_87590.htm.
4. Djaman, K. K. Koudahe, M.K. O'Neill, and K.A. Lombard (2018). Sum of Hourly vs. Daily Penman-Monteith Grass-Reference Evapotranspiration under Semiarid and Arid Climate. *Irrigation & Drainage Systems Engineering*, 7(1) doi: 10.4172/2168-9768.1000202
5. Djaman K., C. Higgins, S. Allen, K. Koudahe, K. Lombard. (2019). Tuber yield, water productivity and post-harvest quality of sprinkler-irrigated chip potato (*Solanum tuberosum* L.) under a semiarid climate. *Journal of Agriculture and Horticulture Research* 2(2)
6. Lombard, K. A. (2019-present) NNR-19-333 Engaging Navajo Elementary Schools in Randomized Controlled Trial of Yéego! Healthy Eating and Gardening. Annual Report to the Navajo Nation Human Research Review Board. Window Rock, AZ.
7. Lombard, K. A. (2016 to present) NNR 16.257 Engaging Family and School in Navajo Gardening for Health: Annual Reports to the Navajo Nation Human Research Review Board. Window Rock, AZ.
8. Lombard, K. A. (2014 to present) NNR14.175 Where Health and Horticulture Intersect: A Navajo Wellness Collaboration Annual Reports to the Navajo Nation Human Research Review Board. Window Rock, AZ.

9. *Jha, G., Ulery, A. L., Lombard, K. A. (2020). Analysis of Effects of Contaminants in Animas and San Juan River Water on Attainment of Livestock Watering and Crop Irrigation Uses. New Mexico Environment Department.
10. *Fullen, S., *Jha, G., Francis, B., Lombard, K. A., Ulery, A. L., Hunter, B., *Winsor, H., Weindorf, D. (2017). What are the effects of the Gold King Mine spill on San Juan County, NM agricultural irrigation ditches and farms? New Mexico Water Resources Research Institute Annual Report for Fiscal Year 2016.
11. Lombard, K. A. (2014). NNR11.140 Gardens for Health: Development of a Behavioral Intervention among the Navajo Final Report to the Navajo Nation Human Research Review Board. Window Rock, AZ.

Testimonies/Depositions (Last 4 years)

Deponent: United States District Court for the District of New Mexico In Re: Gold King Mine Release in San Juan County (plaintiff) v. Colorado on August 5, 2015 (defendant). Subpoena to testify at a deposition in a civil action To: Kevin Lombard 11/24/2020, 9:00 am MDT via Remote video conference and stenographic transcription.

Awards and Honors

Faculty Fellowship in Israel, Jewish National Fund. (February 2018).

Elected Member Sigma Xi, Sigma Xi. (2012).

Papers and/or posters presented before professional societies since last promotion (2014 to present) *indicates student

1. Skidmore, A., K. A. Lombard, R.J. Creamer. 2020, "New Mexico Hemp Pests," Entomological Society of America Annual Meeting, Virtual. (November 17, 2020).
2. *Jha, G., A. Ulery, K.A. Lombard. 2020. "Monitoring the Contaminations in the Agricultural Systems across the Animas Watershed." Agronomy Society of America, Soil Science Society of America, Crop Science Society of America Annual Meeting, Virtual. (November 9, 2020).
3. Lombard, K. A., B.J. Francis. 2020. "Pivoting from Face-to-Face Outreach to Digital in the Face of COVID-19 to Disseminate Garden-Based Information on the Navajo Nation," Agronomy Society of America, Soil Science Society of America, Crop Science Society of America Annual Meetings. Virtual. (November 9, 2020).
4. *Whiting, M., *G. Jha, A. Ulery, K.A. Lombard. 2020. "Monitoring toxic metal uptake by corn grown in agricultural fields across Animas and San Juan Rivers," 65th Annual New Mexico Water Conference, New Mexico Water Resources Research Institute, Virtual. (October 28, 2020).
5. *Whiting, M., *G. Jha, K.A. Lombard, A. Ulery, A. 2020 "Monitoring Toxic Metal Uptake by Corn Grown in Agricultural Fields Across Animas and San Juan Rivers,". 5th Annual Animas River Water Conference, NM Water Resources Research Institute. Virtual. (June 18, 2020).

6. Lombard, K. A., F.J. Thomas, L. Haskie, F.O. Holguin, N.P. Goldberg. 2019. "Navajo Agricultural Products Industry-New Mexico State University Memorandum of Understanding – Hemp Pilot Project 2019 (Year 1)," American Society for Horticultural Sciences Annual Meeting, American Society for Horticultural Sciences, Virtual (originally in Orlando, FL). (August 9, 2020).
7. Lombard, K.A., A. Ulery, S. Allen 2020. "Revisiting composted biosolids as a fertilizer source: The case of iron deficiency in a hybrid poplar-based agroforestry system in northwest New Mexico". 5th Annual Conference on Environmental Conditions of the Animas and San Juan Watersheds Past, Present and Future. Water Resources Research Institute, Water Resources Research Institute, Farmington, NM. Virtual. (June 15, 2020).
8. Brewer, C.E., *H. Rheay, J. Usrey, S. Taylor, K.A. Lombard. 2019. "Characterization of New Hop Varieties and Beers in Support of New Mexico Craft Brewing Industry". AICHE Annual Meeting, American Institute of Chemical Engineers, Orlando, FL. (November 13, 2019).
9. *Jha, G., A. Ulery, K.A. Lombard. 2019. "Outreach through Visual and Spatial Representations of the Nature and Extent of Impact on Agricultural System in Navajo Nation after the 2015 Gold King Mine Spill," Agronomy Society of America, Soil Science Society of America, Crop Science Society of America Annual Meetings. San Antonio, TX. (November 13, 2019).
10. *Jha, G., A. Ulery, K.A. Lombard, D. Weindorf. 2019. "Geospatial Analysis and Bioavailability of Exceeded Metal(loid)s Contaminants in Agricultural Fields across Animas Watershed Exposed to Metal Contaminants from Abandoned Mine Sites". Agronomy Society of America, Soil Science Society of America, Crop Science Society of America Annual Meetings. San Antonio. (November 11, 2019).
11. Francis, B., K.A. Lombard, S.A.A. Beresford, I. Ornelas, S. Bishop, D. Deschenie. 2019. "Engaging School and Family in Navajo Gardening for Health". American Society for Horticultural Sciences Annual Meeting. Las Vegas, NV. (July 25, 2019).
12. *Rheay, H., K.A. Lombard, C.E. Brewer. 2019. "Phytochemical Characterization of Native Hops (*Humulus lupulus neomexicanus*)". American Society for Horticultural Sciences Annual Meeting. Las Vegas, NV. (July 25, 2019).
13. Lombard, K.A., J. Bamburg, A. Del Rio, C. Fernandez, L. Louderback, B. Pavlik, D. Kinder. 2019. "Field Evaluation of *Solanum jamesii*: a Native USA Wild Potato". American Society for Horticultural Sciences Annual Meeting. Las Vegas, NV. (July 25, 2019).
14. *Jha, G., A. Ulery, K.A. Lombard, D. Weindorf, B. Francis. 2019. "Sampling of Irrigation Ditch Sediment and Agricultural Crops to Characterize the Nature and Extent of Impact from the Gold King Mine Spill". 4th Annual Conference on Environmental Conditions of the Animas and San Juan Watersheds Past, Present and Future. Water Resources Research Institute. Farmington, NM. (June 20, 2019).
15. *Jha, G., A. Ulery, K.A. Lombard. 2018. "Spatial and Temporal Variability of Soil Metal Contaminants in the Animas and San Juan Watershed Downstream from Legacy Mining". Joint Annual Meeting of the International Society of Exposure Science and the International Society for Environmental Epidemiology (ISES-ISEE 2018). Ottawa, Canada. (August 27, 2018).

16. Djaman, K., M.K. O'Neill, L. Diop, A. Bodian, S. Allen, K. Koudahe, K.A. Lombard. 2018. "Evaluation of the Penman-Monteith and 34 other Reference Evapotranspiration Equations under Limited Data in a Semiarid Dry Climate". The 73rd Soil and Water Conservation Society International Annual Conference: Culture, Climate, and Conservation. Albuquerque, NM. (July 31, 2018).
17. *Fullen, S., *G. Jha, G. K.A. Lombard, A. Ulery, M.L. Stanford, D. VanLeeuwen. 2018. "Total Sediment Lead (Pb) and Arsenic (As) Concentrations in a Northwestern New Mexico Irrigation Ditch following the Gold King Mine Spill". The 73rd Soil and Water Conservation Society International Annual Conference: Culture, Climate, and Conservation. Albuquerque, NM. (July 30, 2018).
18. Giese, W.G., K.A. Lombard, C. Velasco-Cruz, M. Leonardelli. 2018. "Rootstock Influence on Scion Mortality, Performance and Berry Composition in the Four Corners Region of New Mexico." 69th Annual Meeting, American Society of Enology and Viticulture. Monterrey, CA. (June 2018).
19. *Jha, G., A. Ulery, K.A. Lombard, D. Weindorf, B. Francis. 2018. "Rapid and in-situ analysis of metal concentrations in agricultural fields in San Juan County using Portable X-ray fluorescence (PXRF)". 3rd Annual Conference on Environmental Conditions of the Animas and San Juan Watersheds Past, Present and Future. Water Resources Research Institute. Farmington, NM. (June 20, 2018).
20. Lombard, K.A., I. Ornelas, D. Deschenie, S. Bishop, S.A.A. Beresford. 2017. "Yéego Gardening!: Results from a Pilot Community Garden Intervention to Promote Health on the Navajo Nation". American Public Health Association Annual Meeting and Expo. Atlanta, GA. (November 7, 2017).
21. *Jha, G., A. Ulery, K.A. Lombard, D. Weindorf, *S. Fullen, B. Francis. 2017. "Metal Concentration in Agricultural Fields Downstream from the Gold King Mine Spill (2015)". Agronomy Society of America, Soil Science Society of America, Crop Science Society of America Annual Meeting. Tampa, FL. (October 23, 2017).
22. Lombard, K.A. and F.J. Thomas. 2017. "New Mexico State University Winter Malted Barley Trial" Master Brewers Association of the Americas, Rocky Mountain District Annual Meeting. Albuquerque, NM. (August 18, 2017).
23. O'Neill, M.K., M. West, D. Smeal, J. Joe, S. Allen, *K. Sarpong, K.A. Lombard. 2017. "Forty-eight Years of Meteorological Data (1969-2016): NMSU Agricultural Science Center –Farmington". 66th Annual New Mexico Water Conference. Water Resources Research Institute. Socorro, NM. (August 15, 2017).
24. *Fullen, S., K.A. Lombard, A. Ulery, B. Hunter, *G. Jha, B. Francis. 2017. "Lead and Arsenic Concentrations in the Lower Animas Irrigation Ditch Sediments". 2nd Annual Conference on Environmental Conditions of the Animas and San Juan Watersheds with Emphasis on Gold King Mine and Other Mine Waste Issues. Water Resources Research Institute. Farmington, NM. (June 20, 2017).
25. *Jha, G., A. Ulery, K.A. Lombard, B. Francis, B. Hunter, *H. Winsor. 2017. "Metal Concentrations in Soil and Sediments after Gold King Mine Spill". 2nd Annual Conference on Environmental Conditions of the Animas and San Juan Watersheds with Emphasis on Gold King Mine and Other Mine Waste Issues. Water Resources Research Institute. Farmington, NM. (June 20, 2017).

26. Lombard, K.A., *S. Fullen, A. Ulery, B. Hunter, D. VanLeeuwen, *G. Jha, B. Francis. 2017. "What are the effects of the Gold King Mine Spill on San Juan County, NM agricultural irrigation ditches and farms?". University Council on Water Resources/The National Institutes for Water Resources (UCOWR/NIWR) 2017 Annual Conference. Fort Collins, CO. (June 13, 2017).
27. Hyder, D., K.A. Lombard. 2016. From China to New Mexico: Assessing Goji Berry qualities for Southwestern medicinal herb production". Agronomy Society of America, Soil Science Society of America, Crop Science Society of America International Annual Meeting, Phoenix, AZ. (November 9, 2016).
28. *Fullen, S., K.A. Lombard, A. Ulery, B. Hunter. 2016. "Heavy metal contamination in New Mexico soils after 2015 Gold King Mine Spill". Agronomy Society of America, Soil Science Society of America, Crop Science Society of America International Annual Meeting, Phoenix, AZ. (November 8, 2016).
29. Bauer, M., K.A. Lombard, F. Nez, L. Garcia. 2016. "An Intervention to Promote Navajo Gardening, Nutrition, and Community Wellness". 12th Annual First Americans Land-grant Consortium (FALCON) National Conference, USDA/NIFA. Albuquerque, NM. (November 5, 2016).
30. Allen, S.C., M.K. O'Neill, K.A. Lombard, R.F. Heyduck. 2016. "Adaptability and Productivity of Hybrid Poplars in a Semi-arid Climate". Where Does All the Water Go? History, Hydrology and Management of New Mexico Scarce Waters. 61st Annual New Mexico Water Conference. Water Resources Research Institute. Silver City, NM. (October 5, 2016).
31. *McCarver, K., K.A. Lombard, M.L. Stanford, M.E. Uchanski. 2016. "Capacity Building of Female Farmers' Group through the Use of Bio-fertilizers in an Off-season Vegetable System in Shankapur, Nepal". American Society for Horticultural Sciences Annual Meeting. Atlanta, GA. (August 9, 2016).
32. Lombard, K. A., Ulery, A. L., Hunter, B., *Fullen, S., Environmental Conditions of the Animas and San Juan Watersheds with Emphasis on Gold King Mine and Other Mine Waste Issues, "What are the effects of the Gold King Mine spill on San Juan County, NM agricultural irrigation ditches and farms?," NMSU Water Resources Research Institute, San Juan College, Farmington, NM. (May 17, 2016).
33. Francis, B., K.A., D. Weindorf, A. Ulery, *B. Duda, *C. Millares. 2016. "Rapid assessment of soil metal concentrations along the Animas River, New Mexico". Poster. Environmental Conditions of the Animas and San Juan Watersheds with Emphasis on Gold King Mine and Other Mine Waste Issues, NM Water Resources Research Institute. San Juan College, Farmington, NM. (May 17, 2016).
34. *Fullen, S., K.A. Lombard, A. Ulery, B. Hunter. 2016. "What are the effects of the Gold King Mine spill on San Juan County, NM agricultural irrigation ditches and farms?" Poster. Environmental Conditions of the Animas and San Juan Watersheds with Emphasis on Gold King Mine and Other Mine Waste Issues, NM Water Resources Research Institute, San Juan College, Farmington, NM. (May 17, 2016).
35. Deschenie, D., K.A. Lombard, S.A.A. Beresford, I. Ornelas, M. Bauer. 2015. "Where Health and Horticulture Intersect: A Navajo Wellness Collaboration". Navajo Nation Human Research Review Board 2015 Conference. Window Rock, AZ. (October 21, 2015).

36. O'Neill, M.K., S. Allen, R.F. Heyduck, K.A. Lombard, D. Smeal, R.N. Arnold. 2015. "Hybrid Poplar: A Potential Drip-irrigated Plantation Tree for the American Southwest". 60th Annual New Mexico Water Conference, New Mexico Water Resources Research Institute, Taos, NM. (October 8, 2015).
37. Lombard, K.A., B. Barnett, R. Arnold. 2015. "Tiny houses for Northwest, NM: A collaboration between San Juan College and the New Mexico State University Agricultural Science Center at Farmington to demonstrate sustainable living". American Society for Horticultural Sciences Annual Meeting. New Orleans, LA. (August 4, 2015). (9th ed., vol. S 50, pp. S362). Alexander, VA: HortScience.
38. Lombard, K.A., D. Deschenie, S.A.A. Beresford, I. Ornelas, J. Jim, M. Bauer, F. Nez, F. 2015. "Where Health and Horticulture Intersect: A Navajo Wellness Collaboration". American Society for Horticultural Sciences Annual Meeting. New Orleans, LA. (August 4, 2015).
39. *Benally, P., *L. Harvey, D. Deschenie, *J. Zimmerman, K.A. Lombard, S.A.A. Beresford, I. Ornelas. 2014. "Where health and horticulture intersect: A Navajo wellness collaboration. Preliminary Shiprock, NM results". Society for Advancement of Chicanos and Native Americans in Science (SACNAS) Annual Meeting. Los Angeles, CA. (October 16, 2014).
40. Allen, S.C., M.K. O'Neill, R.F. Heyduck, K.A. Lombard, D. Smeal, and R.N. Arnold. 2014. "Hybrid poplar (*Populus* spp.) provenance trials in a high desert region of New Mexico (2002-2014)". National Convention, Society of American Foresters, Salt Lake City, UT. (October 5, 2014).
41. Lombard, K.A. *K. McCarver, F.J. Thomas, R. Acharya, T. Bates. 2014. "What's Hop'pening in Northwest New Mexico? Hops (*Humulus lupulus*) trials summary 2009 to 2014". American Society for Horticultural Sciences Annual Meeting. Orlando, FL. (July 28, 2014). (9th ed., vol. 49, pp. S318-319). HortScience.
42. Idowu, O.J., K.A. Lombard, A. Ulery. 2014. "Indicators of Soil Quality in a Wastewater-Amended Semi-Arid Soil". Innovation in Soil-Based Onsite Wastewater Treatment Conference, Agronomy Society of America, Soil Science Society of America, Crop Science Society of America. Albuquerque, New Mexico. (April 7, 2014).
43. Maier, B., and K.A. Lombard. 2014. "Vineyard irrigation: Planning and Layout,". The 33rd Southwest Wine and Vine Society Annual Meetings. Albuquerque, NM. (March 7, 2014).
44. Lombard, K.A., B. Maier, and F.J. Thomas. 2014. "Wine Grape Cultivar Performance in the Four Corners Region of New Mexico in 2010-2012". The 33rd Southwest Wine and Vine Society Annual Meetings. Albuquerque, NM. (March 7, 2014).
45. Idowu, O.J., K.A. Lombard, D. Hyder, A. Ulery. 2013. "Impact of Reverse Osmosis Waste Water on Soil Quality in a Semi-Arid Soil" Agronomy Society of America, Soil Science Society of America, Crop Science Society of America Annual Meeting. Tampa, FL. (November 5, 2013).
46. Bauer, M., K.A. Lombard, F. Nez. 2013. "Findings and recommendations from the Navajo Gardening, Nutrition, and Community Wellness survey project". 9th Annual FALCON (First Americans Land-Grant Consortium) Conference, USDA NIFA, Washington D.C. (November 2, 2013).

Speeches and talks, other than those listed above related to research activities since last promotion (2013 to present)

47. Francis, B., K.A. Lombard, S.A.A. Beresford, I. Ornelas, S. Bishop, D. Deschenie. 2020. "Engaging School and Family in Navajo Gardening for Health". NMSU Research and Creativity Week, New Mexico State University, Virtual. (November 10, 2020).
48. Djaman, K., M. West, S. Allen, K.A. Lombard, M.K. O'Neill. 2020. "Fifty-one Years of Meteorological Data (1969–2019): NMSU Agricultural Science Center at Farmington". Research and Creativity Week 2020, New Mexico State University, Las Cruces. (November 10, 2020).
49. Lombard, K. A. 2019. "Yéego Gardening!: Results from a Pilot Community Garden Intervention to Promote Health on the Navajo Nation". Diné Food Sovereignty Conference, Diné College, Tsaile. AZ. (March 27, 2019).
50. Lombard, K.A., S.A.A. Beresford, I. Ornelas, M. Bauer, G. Garrity, D. Deschenie, B. Francis, S. Bishop, *E. Brown, F. Nez, A. Etsitty, L. Garcia, E. Rillamas-Sun. 2019. "Engaging Navajo Elementary Schools in Randomized Controlled Trial of Yéego! Health Eating & Gardening: Three phases of development". Navajo Nation Human Research Review Board 2019 Conference, Window Rock, Navajo Nation. (October 16, 2019).
51. Lombard, K.A., D. Deschenie, I. Ornelas, S. Bishop, S.A.A. Beresford. 2017. "Yéego Gardening!: Results from a Pilot Community Garden Intervention to Promote Health on the Navajo Nation Where health and horticulture intersect: A Navajo Wellness Collaboration Pilot (Yéego Gardening!)". Navajo Nation Human Research Review Board 2017 Conference. Window Rock, Navajo Nation. (October 18, 2017).
52. Pratt, R., A. Nankar, L. Grant, K.A. Lombard, R. Montgomery, J. Chimimba. 2017. "Blue Corn". New Mexico Organic Farming Conference, NMDA, Albuquerque, NM. (February 18, 2017).
53. Lombard, K.A., F.J. Thomas. 2017. "Trellising". New Mexico Organic Farming Conference, NMDA, Albuquerque, NM. (February 17, 2017).
54. Lombard, K. A. (Presenter), Gold King Mine Citizens' Advisory Committee meeting, "Update on Gold King Mine Spill," New Mexico Environment Department, Nenahnezad Chapter House, Navajo Nation. (September 26, 2016).
55. Lombard, K. A. (Presenter), New Mexico Parks and Recreation Association (NMPRA) Annual Meeting, "Trees in Urban Settings," NMPRA, Farmington, NM. (September 14, 2016). Lombard, K.A. 2016. "Overview of Plant Propagation". Four Corners Specialty Crops Symposium, Colorado State University/New Mexico State University/Fort Lewis College, Farmington, NM. (March 10, 2016).
56. Lombard, K.A. 2015. "Specialty Berry Production (Goji and Aronia)". Four Corners Specialty Crops Symposium, Colorado State University/New Mexico State University/Fort Lewis College, Cortez, CO. (March 10, 2015).
57. Bauer, M., K.A. Lombard, F. Nez. 2015. "An Intervention to Promote Navajo Gardening, Nutrition and Community Wellness". Navajo Nation Human Research Review Board 2015 Conference. Window Rock, AZ. (October 21, 2015).
58. Lombard K.A., S.A.A. Beresford, I. Ornelas, *C. Topaha, *T. Becenti, *D. Thomas, J. Vela. 2013. Healthy gardens/healthy lives: Navajo perceptions of growing food locally to prevent diabetes and cancer. Navajo Nation Human Research Review Board 2013 Conference. Window Rock, AZ. (October 23, 2013).

59. Bauer, M., K.A. Lombard, F. Nez. 2013. "Findings and recommendations from the Navajo Gardening, Nutrition, and Community Wellness survey project". Navajo Nation Human Research Review Board 2013 Conference. Window Rock, AZ. (October 23, 2013).

Evidence of outreach since last promotion (2014 to present)

Technology transfer

1. Hops Harvester Program: Hops harvester has been moved to Los Ranchos Agrinature-Center and is available for Albuquerque-based growers to pick their crop. (Summer 2020-present).
2. Lombard, K.A., NM Organic Conference, "Hops and Hops Harvester Demonstration," New Mexico Department of Agriculture, Albuquerque, NM. (February 21, 2020).
3. Lombard, K.A., NM Organic Conference, "Hops and Hops Harvester Demonstration," New Mexico Department of Agriculture, Albuquerque, NM. (February 23, 2019).
4. Lombard, K.A., Agri-Brew Roundtable, "Hops and Hops Harvester Demonstration," New Mexico Hops Coalition, Albuquerque, NM. (February 22, 2019).
5. Lombard, K.A., Thomas, J. F., LaShell, B., Hops Harvester Demonstration at Steam Works Brewery, "Hops Harvester Demonstration," Steam Works and Carver's Brewery, Durango, CO. (August 27, 2018).
6. Lombard, K.A., Agri-Brew Roundtable, "Hops and Hops Harvester Demonstration," New Mexico Hops Coalition, Albuquerque, NM. (February 24, 2018).
7. Lombard, K.A., Thomas, F. J., 4th What's Hop'n-Winter Workshop, "Mobile Hops Harvester for 4-Corners," Fort Lewis College, Bayfield, CO. (March 25, 2017).
8. Lombard, K.A., S. Sutherin, R. St. Hilaire, and D. Smeal. 2011-present. *Xericenter*.
 - Southwest Plant Selector iOS app for iPhone and iPad (<https://itunes.apple.com/us/app/southwest-plant-selector/id526449181?mt=8>).
 - The Center for Landscape Water Conservation at <https://www.youtube.com/user/xericenter>

Presentations to stakeholders since last promotion (2014 to present)

9. Lombard, K. A., Francis, B., Crownpoint Chapter House June Meeting, "Where Health and Horticulture Intersect: A Navajo Wellness Collaboration (Yéego! I) Study results dissemination by NMSU-ASC Farmington/Fred Hutch Cancer Research Center," Virtual. (June 15, 2021).
10. Lombard, K. A., Francis, B., Shiprock Chapter House June Meeting, "Where Health and Horticulture Intersect: A Navajo Wellness Collaboration (Yéego! I) Study results dissemination by NMSU-ASC Farmington/Fred Hutch Cancer Research Center," Virtual. (June 10, 2021).
11. Lombard, K. A., Francis, B., Shiprock Area Food Access Coalition November Meeting, "Engaging Navajo Elementary Schools in Randomized Controlled Trial of Yéego! Health Eating & Gardening: Three phases of development," Shiprock Area Food Access Coalition, Virtual. (November 17, 2020).
12. Lombard, K. A., Rocky Mountain Public Broadcasting Service Water Week, "Hops Updates," Rocky Mountain Public Broadcasting Service, Durango, CO. (February 28, 2020).

13. Lombard, K. A., Agri-Brew Roundtable, "Hops Updates," New Mexico Hops Coalition, Albuquerque, NM. (February 20, 2020).
14. Lombard, K. A., Northwest New Mexico Local Food Summit, "Exhibit of the research at the NMSU Ag Science Center at Farmington," NMSU CES San Juan County, Farmington. (August 8, 2019).
15. Lombard, K. A., Nenahnezad Harvest Festival, "Soil Quality: Soil Chemistry and Testing," Nenahnezad Chapter House, Navajo Nation, (September 21, 2018).
16. Thompson, D., Lombard, K. A., Marsalis, M. A., Burney, O., Guldán, S. J. Small Farms & Ranch Task Force Retreat, "NMSU Science Center Research Programs Update," Laguna Pueblo, NM. (February 23, 2017).
17. Lombard, K. A. Gold King Mine Citizens' Advisory Committee meeting, "Update on Gold King Mine Spill," New Mexico Environment Department, Nenahnezad Chapter House, Navajo Nation. (September 26, 2016).
18. Lombard, K. A. New Mexico Parks and Recreation Association (NMPRA) Annual Meeting, "Trees in Urban Settings," NMPRA, Farmington, NM. (September 14, 2016).
19. Lombard, K. A. (Panelist), Gold King Mine Citizens' Advisory Committee meeting, "Update on Gold King Mine Spill," New Mexico Environment Department, Farmington, NM. (October 20, 2015).
20. Bauer, M., Lombard, K. A. "Navajo gardening, nutrition and community wellness survey report," Dine' College, Tse Daa K'aan (Hogback) Chapter House Meeting. (February 19, 2014).

Grower-group field days/workshops

(i) Field-days

21. Lombard, K. A., and others. 2020. NMSU-ASC COVID-19 Virtual Field Day was conducted via Facebook to showcase research to the community. Several hundred people reached.
22. Lombard, K. A., NAPI 2019 Customer Appreciation, "Exhibit of the research at the NMSU Ag Science Center at Farmington," NAPI, Farmington. (November 3, 2019).
23. Lombard, K. A., Hoptoberfest, "Hops Research at NMSU ASC Farmington," New Mexico Hops Coalition, Santa Fe, NM. (October 12, 2019).
24. Lombard, K. A., Museum EdVenture: Wine Making in the Four Corners, "NMSU ASC-Farmington Experimental Vineyard Tour and Demonstration," Farmington Museum, Area vineyards including the NMSU ASC-Farmington Experimental Vineyard. (August 24, 2019).
25. Djaman, K., Lombard, K. A., "Table and chip potato variety trial field day," NMSU, Farmington Ag. Science Center. (August 9, 2019).
26. Djaman, K., Lombard, K. A., NAPI 2018 Customer Appreciation, "Exhibit of the research at the NMSU Ag Science Center at Farmington," NAPI, Farmington. (November 3, 2018).
27. Lombard, K. A., Thomas, F. J., NMSU-Artesia Field Day, "Hops Harvester Demonstration," NMSU-ASC Artesia, Artesia, NM. (August 23, 2018).
28. Lombard, K. A., Thomas, F. J., "Hops Harvester Demonstration," NMSU-ASC Alcalde, Alcalde, NM. (August 10, 2018).
29. Lombard, K. A., Fort Lewis College Field Day, "Hops harvester demonstration and variety trial tour," Fort Lewis College, Hesperus, CO. (July 20, 2018).

30. Lombard, K. A., Thomas, F. J., NMSU College of Agricultural, Consumer, and Environmental Sciences Open House, "Hops Harvester Demonstration," NMSU ACES, Las Cruces. (April 14, 2018).
31. Lombard, K. A., and others. 2008-2018. NMSU ASC-Farmington Biennial Field Day is conducted every other year to showcase research to the community. Each field day attracts approximately 300 attendees. I cover all my activities in the field at this event and present posters.

(ii) Workshops

32. Lombard, K.A. and M. Thompson. Water Conservation: Home, Yard, Farm & Ranch Zoom Series, "Lush'n Lean Xeriscaping Gardens for Abundant Plant Diversity and Water Conservation". (May 20, 2021).
33. Lombard, K.A. L. Garvin and S. Moran. Water Conservation: Home, Yard, Farm & Ranch Zoom Series, "Irrigation and Water Harvesting Methods". (May 20, 2021).
34. Lombard, K. A., Nenahnezad Harvest Festival, "Alternative Gardening-Hoop Houses," Nenahnezad Chapter House, Navajo Nation (September 13, 2019).
35. Lombard, K. A., Twin Lakes Elementary (Twin Lakes Chapter House) hoop house construction project and workshops. Included elementary kids helping. (2018-2019).
36. Lombard, K. A., Responding to Drought and Water Shortage Workshop, "Drought Workshop," NMSU ASC-Farmington, NM. (May 15, 2018).
37. Lombard, K.A., Thomas, F. J., 4th What's Hop'n-Winter Workshop, "Mobile Hops Harvester for 4-Corners," Fort Lewis College, Bayfield, CO. (March 25, 2017).
38. Lombard, K. A., Thomas, F., 3rd What's Hop'n-Winter Workshop, "Equipment for Hops Production," Fort Lewis College, Durango, CO. (March 12, 2016).
39. Lombard, K. A., LaShell, B., Thomas, F., Beye, A., 2nd What's Hop'n-Winter Workshop, "Old Fort/NMSU Variety Trial Up-dates," Fort Lewis College, Durango, CO. (March 21, 2015).
40. Lombard, K. A., Maier, B., Thomas, F., Summer Grape Workshop, "Wine Grape Cultivar Performance in the Four Corners Region of New Mexico in 2010-2012," NMSU CES, Los Lunas, NM. (August 2, 2014).
41. Lombard, K. A., Thomas, F., 1st What's Hop'n-Winter Workshop, "Four Corners (hops) Production Realities," Fort Lewis College, Durango, CO. (March 22, 2014).
42. Lombard, K. A., Maier, B., Thomas, F., Winter Viticulture Workshop, "Wine Grape Cultivar Performance in the Four Corners Region of New Mexico in 2010-2012," NMSU CES/AES, Wines of the San Juan, Turley, NM. (December 13, 2013).
43. Lombard, K. A., Thomas, F., Hops Winter Workshop, "Soil sampling your hops yard," Fort Lewis College, Hesperus, CO. (October 11, 2013).

(iii) K-12

44. 2018-present. *Engaging Navajo Elementary Schools in Randomized Controlled Trial of Yéego! Health Eating & Gardening* project is working with 6 elementary schools on the Navajo Nation (3RD and 4TH graders).
45. 2014-2018: Dream Diné Charter School garden project (pilot testing *Engaging Navajo Elementary Schools in Randomized Controlled Trial of Yéego! Health Eating & Gardening* curriculum).

(iv) *Selected Hearings and Legislative Testimony since last promotion (2014 to present)*

46. Weindorf, D. (Leader), Lombard, K.A. (Panelist), "Testimony on Gold King Mine Spill impacts to Agricultural Lands," U.S. Senate Indian Affairs Committee, 114th United State Congress, Washington D.C. (September 16, 2015).
47. Lombard, K.A. "NMSU-ASC Farmington response to Gold King Mine Spill," 23rd Council of the Navajo Nation, Navajo Nation Council Chambers, Window Rock, Navajo Nation. (August 10, 2015).