

STEVEN J. GULDAN

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EDUCATION

Ph.D., Agronomy, 1986, University of Minnesota

M.S., Agronomy, 1984, University of Minnesota

B.S., Geography, 1981, Mankato State University

EXPERIENCE

Professor, 2003-present, Associate Professor, 1998-2003, Assistant Professor, 1992-1998, Department of Plant and Environmental Sciences, and Superintendent, 1992-present, Alcalde Sustainable Agriculture Science Center, New Mexico State University. Research on various horticultural and agronomic crops. Cooperate with other researchers on additional projects: grazing systems, *acequia* (irrigation ditch) hydrology, turfgrasses.

Agronomist, Michael Fields Agricultural Institute, East Troy, Wisconsin. Cooperative project with, and located at, North Dakota State University's Carrington Research Extension Center, Carrington, North Dakota, 1988-1992. Headed project investigating, both on-farm and on-station, the potential for greater use of legumes in crop and crop-livestock systems in the Northern Great Plains.

Postdoctoral Fellow, International Maize and Wheat Improvement Center (CIMMYT). El Batan, Mexico, 1986-1988. Maize Training Program. Instructed in field and classroom several groups of maize trainees in on-farm and experiment station research procedures.

Research Assistant, University of Minnesota, St. Paul, MN, 1982-1986. Soybean Physiology Research Project.

Farmhand, Sleepy Eye, MN, childhood-1982.

PUBLICATIONS (Please see attached list)

SECOND LANGUAGE

Spanish

HONORS/AWARDS

Mobley Family Endowed Distinguished Research Award, 2016

Jose Fernandez Memorial Chair, 2016-2019

PUBLICATIONS

Journal Articles

- Yao, S., R. Heyduck, S. Guldán, and G. Sapkota. 2020. Early performance of jujube drying and multipurpose cultivars in the southwestern United States. *HortScience* 55:1804-1810. DOI: <https://doi.org/10.21273/HORTSCI15344-20>
- Heyduck, R.F., D.M. VanLeeuwen, and S.J. Guldán. 2020. Effect of harvest schedule on organic kale grown during the winter in high tunnels. *HortTechnology* 30:570-575. DOI: <https://doi.org/10.21273/HORTTECH04584-20>
- Uchanski, M.E., D.M. VanLeeuwen, S.J. Guldán, C.L. Falk, M. Shukla, and J. Enfield. 2020. Temperature and light characterization during winter production season in high tunnels in the southwestern United States. *HortTechnology* 30:259-267.
- Cormier, J., R. Heyduck, S. Guldán, S. Yao, D. VanLeeuwen, and I. Guzman. 2020. Intercropping winter greens between blackberry rows for year-round high tunnel production. *HortTechnology* 30:47-54.
- Omer, M.F., O.J. Idowu, A.L. Ulery, D. VanLeeuwen, S.J. Guldán, M.M. Marsalis, and R. Ghimire. 2020. Impacts of selected management practices on soil quality in an irrigated arid agroecosystem. *J. Soil and Water Conservation* 75(2):143-152.
- Cruz, J.J., A.G. Fernald, D.M. VanLeeuwen, S.J. Guldán, and C.G. Ochoa. 2019. River-ditch flow statistical relationships in a traditionally irrigated valley near Taos New Mexico. *J. Contemporary Water Research & Education* 168:49-65.
- Yao, S., R. Heyduck., and S. Guldán. 2019. Early performance of jujube fresh eating cultivars in the Southwestern United States. *HortScience* 54(11):1941-1946.
- Yao, S., S. Guldán, and R. Heyduck. 2019. High tunnel apricot production in frost-prone northern New Mexico. *HortTechnology* 29:457-460.
- Heyduck, R.F., S.J. Guldán, and I. Guzman. 2019. Effect of sowing date and harvest schedule on organic spinach grown during the winter in high tunnels. *HortTechnology* 29(3):320-329. doi:<https://doi.org/10.21273/HORTTECH04257-18>
- Lauriault, L.M., S.J. Guldán, F.G. Popiel-Powers, R.L. Steiner, C.A. Martin, R.F. Heyduck, C.L. Falk, M.K. Petersen, and T. May. 2018. Relay intercropping with cover crops improved autumn forage potential of sweet maize stover. *Agriculture* 8, 103; doi:10.3390/agriculture8070103
- Omer, M., O.J. Idowu, A.L. Ulery, D. VanLeeuwen, and S.J. Guldán. 2018. Seasonal changes of soil quality indicators in selected arid cropping systems. *Agriculture* 8, 124; doi:10.3390/agriculture8080124
- Cruz, J.J., D.M. VanLeeuwen, A.G. Fernald, S.J. Guldán, C.G. Ochoa. 2018. River-ditch hydrologic connections in a traditionally irrigated agricultural valley in New Mexico. *J. Irrigation and Drainage Eng.* 144(11).
- Lopez, S.C., A.F. Cibils, U.R. Smedly, S.J. Guldán, A.G. Fernald, C.G. Ochoa, K.G. Boykin, L. Cibils. 2018. Linkages between *acequia* farming and rangeland

- grazing in traditional agropastoral communities of the southwestern USA. *Sustainability* 10, 2021; doi:10.3390/su10062021
- Ochoa, C.G., P. Caruso, G. Ray, T. Deboodt, W.T. Jarvis, and S.J. Guldan. 2018. Ecohydrologic connections in semiarid watershed systems of Central Oregon USA. *Water* 10, 181; doi:[10.3390/w10020181](https://doi.org/10.3390/w10020181)
- Yao, S., S. Guldan, and R. Heyduck. 2018. Organic blackberry cultivar trials at high elevation and in high pH soil in the southwestern United States. *J. American Pomological Society* 72(3):202-209.
- Gutiérrez-Jurado, K.Y., A.G. Fernald, S.J. Guldan, and C.G. Ochoa. 2017. Surface water and groundwater interactions in traditionally irrigated fields in northern New Mexico, U.S.A. *Water* 9(2), 102; doi:[10.3390/w9020102](https://doi.org/10.3390/w9020102)
- Turner, B.L., V. Tidwell, A. Fernald, J.A. Rivera, S. Rodriguez, S. Guldan, C. Ochoa, B. Hurd, K. Boykin, and A. Cibils. 2016. Modeling acequia irrigation systems using system dynamics: model development, evaluation, and sensitivity analyses to investigate effects of socio-economic and biophysical feedbacks. *Sustainability* 8(10), 1019; doi:[10.3390/su8101019](https://doi.org/10.3390/su8101019)
- Raheem, N., S. Archambault, E. Arellano, M. Gonzales, D. Kopp, J. Rivera, S. Guldan, K. Boykin, C. Oldham, A. Valdez, S. Colt, E. Lamadrid, J. Wang, J. Price, J. Goldstein, P. Arnold, S. Martin, E. Dingwell. 2015. A framework for assessing ecosystem services in acequia irrigation communities of the Upper Río Grande watershed. *WIREs Water* 2(5):559–575. doi:10.1002/wat2.1091.
- Yao, S., S. Guldan, R. Flynn, and C. Ochoa. 2015. Challenges of strawberry production in high-pH soil at high elevation in the southwestern United States. *HortScience* 50(2):254-258.
- Fernald, A., S. Guldan, K. Boykin, A. Cibils, M. Gonzales, B. Hurd, S. Lopez, C. Ochoa, M. Ortiz, J. Rivera, S. Rodriguez, and C. Steele. 2015. Linked hydrologic and social systems that support resilience of traditional irrigation communities. *Hydrol. Earth Syst. Sci.* 19:293–307 (www.hydrol-earth-syst-sci.net/19/293/2015/doi:10.5194/hess-19-293-2015).
- Hecher, E.A., C.L. Falk, J. Enfield, S.J. Guldan, and M.E. Uchanski. 2014. The economics of low-cost high tunnels for winter vegetable production in the southwestern United States. *HortTechnology* 24:7-15.
- Guldan, S.J., A.G. Fernald, C.G. Ochoa, and V.C. Tidwell. 2013. Collaborative community hydrology research in northern New Mexico. *Journal of Contemporary Water Research & Education* 152:49-54.
- Ochoa, C.G., S.J. Guldan, A.F. Cibils, S.C. Lopez, K.G. Boykin, V.C. Tidwell, and A.G. Fernald. 2013. Hydrologic connectivity of head waters and floodplains in a semiarid watershed. *Journal of Contemporary Water Research & Education* 152:69-78.
- Ochoa, C.G., A.G. Fernald, S.J. Guldan, V.C. Tidwell, and M.K. Shukla. 2013. Shallow aquifer recharge from irrigation in a semiarid agricultural valley in New Mexico. *J. Hydrologic Engineering* 18:1219-1230.
- El-Sadek, A., M. Shukla, M. Bleiweiss, A. Fernald, and S. Guldan. 2012. Evaluating sensitivity analysis and auto-calibration of a semi-distributed hydrological model for two semiarid watersheds of New Mexico. *New Mexico J. Science* 46:65-88.
- Ochoa, C.G., A.G. Fernald, S.J. Guldan, M.K. Shukla, and V.C. Tidwell. 2012. Deep

- percolation and water table fluctuations in response to irrigation inputs: Field observations. *New Mexico J. Science* 46:89-104.
- Fernald, A., V. Tidwell, J. Rivera, S. Rodríguez, S. Guldan, C. Steele, C. Ochoa, B. Hurd, M. Ortiz, K. Boykin, and A. Cibils. 2012. Modeling sustainability of water, environment, livelihood, and culture in traditional irrigation communities and their linked watersheds. *Sustainability* 4:2998-3022; doi:10.3390/su4112998
- Mayagoitia, L., B. Hurd, J. Rivera, and S. Guldan. 2012. Rural community perspectives on preparedness and adaptation to climate-change and demographic pressure. *Journal of Contemporary Water Research & Education* 147:49-62.
- El-Sadek, A., M. Bleiweiss, M. Shukla, S. Guldan, A. Fernald. 2010. Alternative climate data sources for distributed hydrological modelling on a daily time step. *Hydrol. Processes* DOI: 10.1002/hyp.7917.
- Fernald, A.G., S.Y. Cevik, C.G. Ochoa, V.C. Tidwell, J.P. King, and S.J. Guldan. 2010. River hydrograph retransmission functions of irrigated valley surface water-groundwater interactions. *J. Irrigation and Drainage Eng.* 136:823-835.
- Lauriault, L.M., S.J. Guldan, C.A. Martin, and D.M. VanLeeuwen. 2009. Using forage brassicas under irrigation in mid-latitude, high-elevation steppe/desert biomes. Online. *Forage and Grazinglands* DOI: 10.1094/FG-2009-0508-01-RS.
- Ochoa, C.G., A.G. Fernald, S.J. Guldan, and M.K. Shukla. 2009. Water movement through a shallow vadose zone: A field irrigation experiment. *Vadose Zone Journal* 8:414-425.
- Kleitzi, K.M., M.M. Wall, C.L. Falk, C.A. Martin, M.D. Remmenga, and S.J. Guldan. 2008. Stand establishment and yield potential of organically grown seeded and transplanted medicinal herbs. *HortTechnology* 18(1):116-121.
- Ortiz, M., C. Brown, A. Fernald, T.T. Baker, B. Creel, and S. Guldan. 2007. Land use change impacts on *Acequia* water resources in northern New Mexico. *Journal of Contemporary Water Research & Education* 137:47-54.
- Ochoa, C.G., A.G. Fernald, S.J. Guldan, and M.K. Shukla. 2007. Deep percolation and its effects on shallow groundwater level rise following flood irrigation. *Transactions of the ASABE* 50(1):73-81.
- Fernald, A.G., T.T. Baker, and S.J. Guldan. 2007. Hydrologic, riparian, and agroecosystem functions of traditional *acequia* irrigation systems. *Journal of Sustainable Agriculture* 30(2):147-171.
- Fernald, A.G., and S.J. Guldan. 2006. Surface water-groundwater interactions between irrigation ditches, alluvial aquifers, and streams. *Reviews in Fisheries Science* 14:79-89.
- Lauriault, L.M., S.J. Guldan, C.A. Martin, and D.M. VanLeeuwen. 2006. Performance of irrigated tall fescue-legume communities under two grazing frequencies in the southern Rocky Mountains, USA. *Crop Science* 46:330-336.
- Lauriault, L.M., S.J. Guldan, and C.A. Martin. 2003. Irrigated tall fescue-legume communities in the southern Rocky Mountains: Years five to eight. *Agronomy Journal* 95:1497-1503.
- Kleitzi, K.M., M.M. Wall, C.L. Falk, C.A. Martin, M.D. Remmenga, and S.J. Guldan. 2003. Yield potential of selected medicinal herbs grown at three plant spacings in New Mexico. *HortTechnology* 13(4):631-636.

- Guldan, S.J., and C.A. Martin. 2003. Hairy vetch biomass yield as affected by fall planting date in the irrigated steppe of the southern Rocky Mountains. *J. Sustainable Agric.* 22(3):17-23.
- Cueto-Wong, J.A., S.J. Guldan, W.C. Lindemann, and M.D. Remmenga. 2001. Nitrogen recovery from ¹⁵N-labeled green manures: I. Recovery by forage sorghum and soil one season after green manure incorporation. *J. Sustainable Agric.* 17(4):27-42.
- Cueto-Wong, J.A., S.J. Guldan, W.C. Lindemann, and M.D. Remmenga. 2001. Nitrogen recovery from ¹⁵N-labeled green manures: II. Recovery by oat and soil two seasons after green manure incorporation. *J. Sustainable Agric.* 17(4):43-55.
- Falk, C.L., H. van Voorthuizen, M.M. Wall, S.J. Guldan, C.A. Martin, and K.M. Kleitz. 2000. An economic analysis of transplanting versus direct seeding of selected medicinal herbs in New Mexico. *Journal of Herbs, Spices & Medicinal Plants* 7(4):15-29.
- Guldan, S.J., L.M. Lauriault, and C.A. Martin. 2000. Evaluation of irrigated tall fescue-legume communities in the steppe of the southern Rocky Mountains. *Agron. J.* 92:1189-1195.
- Falk, C.L., H. Van Voorthuizen, M.M. Wall, S.J. Guldan, C.A. Martin, and K.M. Kleitz. 1999. Costs and returns of growing selected medicinal herbs in New Mexico indicate positive return to land and risk likely. *HortTechnology* 9(4):681-686.
- Guldan, S.J., and R.E. Gomez. 1999. Small farm and ranch sustainability. *New Mexico J. Science* 39:288-297.
- Guldan, S.J., C.A. Martin, and C.L. Falk. 1998. Interseeding snap pea into stands of chile pepper reduces yield of pea more than that of chile. *HortScience* 33:660-662.
- Guldan, S.J., C.A. Martin, and R.L. Steiner. 1998. Interseeding forage brassicas into chile: forage productivity and effect on chile yield. *J. Sustainable Agric.* 11(2/3):41-49.
- Guldan, S.J., C.A. Martin, and D.L. Daniel. 1998. Interseeding forage brassicas into sweet corn: forage productivity and effect on sweet corn yield. *J. Sustainable Agric.* 11(2/3):51-58.
- Martin, C.A., and S.J. Guldan. 1998. Sagebrush as a short-term arthropod repellent. *J. Sustainable Agric.* 11(4):77-85.
- Guldan, S.J., T. May, C.A. Martin, and R.L. Steiner. 1998. Yield and forage quality of interseeded legumes in a high-desert environment. *J. Sustainable Agric.* 12(2/3):85-97.
- Guldan, S.J., C.A. Martin, W.C. Lindemann, J. Cueto-Wong, and R.L. Steiner. 1997. Yield and green-manure benefits of interseeded legumes in a high-desert environment. *Agron. J.* 89:757-762.
- Guldan, S.J., C.A. Martin, W.C. Lindemann, J. Cueto-Wong, and R.L. Steiner. 1997. Interseeding legumes into chile: legume benefits to a following crop of forage sorghum. *HortTechnology* 7:146-149.
- Guldan, S.J., C.A. Martin, J. Cueto-Wong, and R.L. Steiner. 1996. Interseeding legumes into chile: legume productivity and effect on chile yield. *HortScience*

31:1126-1128.

- Guldan, S.J., C.A. Martin, J. Cueto-Wong, and R.L. Steiner. 1996. Dry-matter and nitrogen yields of legumes interseeded into sweet corn. *HortScience* 31:206-208.
- Carr, P.M., J.C. Gardner, B.G. Schatz, S.W. Zwinger, and S.J. Guldan. 1995. Grain yield and weed biomass of a wheat-lentil intercrop. *Agron. J.* 87:574-579.
- Guldan, S.J., and W.A. Brun. 1987. Effect of abscisic acid on amino acid uptake and efflux in developing soybean seeds. *Crop Sci.* 27:716-719.
- Guldan, S.J., and W.A. Brun. 1987. Relationship of tissue water relations to asparagine uptake in developing soybean seeds. *Crop Sci.* 27:720-725.
- Guldan, S.J., and W.A. Brun. 1985. Relationship of cotyledon cell number and seed respiration to soybean seed growth. *Crop Sci.* 25:815-819.

Book

- Rosenberg, A. (ed.), S. Guldan, A.G. Fernald, J. Rivera (assoc. eds.). 2020. Acequias of the Southwestern United States: Elements of Resilience in a Coupled Natural and Human System. Res. Rep. 796. New Mexico State Univ. Agric. Exp. Sta.
<https://aces.nmsu.edu/pubs/research/water/RR796/welcome.html>

Book Chapters

- Ochoa, C.G., S.J. Guldan, and A.G. (Sam) Fernald. 2020. Surface water and groundwater interactions in acequia systems of northern New Mexico. *In* A. Rosenberg (ed.), S. Guldan, A.G. Fernald, J. Rivera (assoc. eds.) *Acequias of the Southwestern United States: Elements of Resilience in a Coupled Natural and Human System*. Res. Rep. 796. New Mexico State Univ. Agric. Exp. Sta.
- López, S.C., A.F. Cibils, L. Cibils, U.R. Smedly, S.J. Guldan, A.G. (Sam) Fernald, C.G. Ochoa, and K.G. Boykin. 2020. The role of livestock in supporting acequia communities of northern New Mexico. *In* A. Rosenberg (ed.), S. Guldan, A.G. Fernald, J. Rivera (assoc. eds.) *Acequias of the Southwestern United States: Elements of Resilience in a Coupled Natural and Human System*. Res. Rep. 796. New Mexico State Univ. Agric. Exp. Sta.
- Fernald, A.G. (Sam), C.G. Ochoa, and S.J. Guldan. 2020. Coupled natural and human system clues to acequia resilience. *In* A. Rosenberg (ed.), S. Guldan, A.G. Fernald, J. Rivera (assoc. eds.) *Acequias of the Southwestern United States: Elements of Resilience in a Coupled Natural and Human System*. Res. Rep. 796. New Mexico State Univ. Agric. Exp. Sta.
- Ochoa, C.G., A.G. Fernald, and S.J. Guldan. 2011. Application of RZWQM for hydrological modeling in Alcalde Basin of Northern New Mexico. *In* M.K. Shukla (ed.) *Soil Hydrology, Land Use and Agriculture: Measurement and Modelling*. CABI, Wallingford, UK.

Extension and Outreach Publications

- Empoderando comunidades en zonas desérticas hechas para el cambio. 2019. Scientia https://www.scientia.global/wp-content/uploads/Acequias_Spanish.pdf
- Empowering high desert communities built for change. 2018. Scientia DOI: 10.26320/SCIENTIA264.
- Baker, B., S. Swezey, D. Granatstein, S. Guldán, and D. Chaney. 2005. Organic farming compliance handbook: A resource guide for Western Region agricultural professionals. Available on-line at: <http://www.sarep.ucdavis.edu/organic/complianceguide/>
- Cooperative Extension Service and Dept. of Agricultural Communications. 2005. Contributor (one of presenters) to DVD: "Optimizing Irrigation in New Mexico."
- Guldán, S.J., S.T. Ball, and C.A. Martin. 1999. Relay intercropping Brassicas into chile and sweet corn. New Mexico State Univ. Coop. Ext. Serv. Guide A-609.

Peer-reviewed Conference Proceedings

- Ochoa, C.G., A.G. Fernald, and S.J. Guldán. 2011. Caracterización del balance hídrico y la recarga por retorno de riego en un valle agrícola de una región semiárida de los Estados Unidos de América. Estudios en la Zona no Saturada del Suelo. Vol. 10.

Proceedings

- Guldán, S.J., A. Fernald, C.G. Ochoa. 2014. Documenting hydrological benefits of traditional acequia irrigation systems: collaborative research in New Mexico, USA. (pp. 13). Polytechnic Univ. of Valencia/Assut Fundacio/Univ. of Valencia. <http://tglick-irrigation-2014.org/wp-content/uploads/2013/06/Guldán-Fernald-Ochoa.pdf>
- Fernald, A., J. Rivera, S. Rodriguez, V. Tidwell, C. Ochoa, Q. Ortiz, S.J. Guldán. 2014. Connectivity of coupled hydrologic and human systems as the basis of resilience in traditional irrigation communities in New Mexico. (pp. 11). Polytechnic Univ. of Valencia/Assut Fundacio/Univ. of Valencia. <http://tglick-irrigation-2014.org/wp-content/uploads/2013/07/Fernald-et-al.pdf>
- Guldán, S.J., C.A. Martin, and R.H. Walser. 2003. Research for small farms and ranches in north-central New Mexico. p. 143. Proceedings of the Third National Small Farm Conference, September 17-20, 2002, Albuquerque, NM. USDA, Washington, D.C.
- Martin, C.A., and S.J. Guldán. 2003. *Anemopsis californica*, a potential new medicinal crop. p. 144. Proceedings of the Third National Small Farm Conference, September 17-20, 2002, Albuquerque, NM. USDA, Washington, D.C.
- Dickerson, G., S. Guldán, L.M. English, and P. Torres. 2003. Effects of woven, black plastic mulch and row cover on winter squash and pepper production. p. 63-67. Proceedings of the 31st National Agricultural Plastics Congress, August 16-19, 2003, Grand Rapids, MI. American Society for Plastics, State College, PA.
- Walser, R., and S.J. Guldán. 2003. Organic tree fruit research at New Mexico State University. p. 63. Proceedings of 2nd National Organic Tree Fruit Symposium, May 28-30, 2003, Grand Junction, CO.
- Guldán, S.J. 2002. Brassicas and other annual forages. p. 95-100. In J.E. Brummer and C.H. Pearson (ed.) Proceedings of the Intermountain Forage Symposium. Colorado State University Technical Bulletin LTB 02-1.
- Guldán, S., E. Herrera, and C. Martin. 1996. Apple variety trial at the Alcalde

- Sustainable Agriculture Science Center. p. 141. *In* New Mexico Apple Growers Conference Proceedings. Published by NMSU.
- Gardner, J.C., V.L. Anderson, B.G. Schatz, P.M. Carr, and S.J. Guldan. 1991. Overview of current sustainable agriculture research. p. 77-91. *In* B.J. Rice (ed.) Sustainable agriculture research and education in the field: a proceedings. Proc. Workshop USDA and NRC, Washington, D.C. April 3-4, 1990. National Academy Press, Washington, D.C.
- Gardner, J.C., P.M. Carr, B.G. Schatz, and S.J. Guldan. 1990. Multiple cropping in the Northern Great Plains. p. 31-35. *In* Conservation tillage--Great Plains Agricultural Council bulletin No. 131. Proc. Symposium Great Plains Agricultural Council, Bismarck, ND. August 21-23, 1990.

Published Abstracts

- Larsen, A.L., S.J. Guldan, and R. Heyduck. 2019. Compost as microbial inoculant. Soil Science Society of America International Soils Meeting, <https://scisoc.confex.com/scisoc/2019sssa/meetingapp.cgi/Paper/116041>.
- Fernald, A., S.J. Guldan, R. Sabie. 2018. Traditional hydro-cultural water management systems increase agricultural capacity and community resilience in drought prone New Mexico, USA. American Geophysical Union Fall Meeting, Abstract H11U-1757. December 10-14, Washington, D.C.
- Yao, S., S.J. Guldan, and R. Heyduck. 2018. High tunnel apricot production in frost prone northern New Mexico. HortScience 53(S), pp. 197.
- Cormier, J., R. Heyduck, S. Yao, S.J. Guldan, and I. Guzman. 2018. Intercropping winter greens between cane fruit rows for year-round high tunnel production. HortScience 53(S), pp. 40.
- Ochoa, C.G., S. Guldan, V. Tidwell, and T. Deboodt. 2016. Ecohydrological and socioeconomic relationships in disturbed woodland ecosystems of the western U.S. American Geophysical Union, Abstract H23G-1654.
- Ochoa, C.G., S. Guldan, T. Deboodt, A. Fernald, and G. Ray. 2015. Ecohydrologic relationships in two juniper woodlands with different precipitation regimes. American Geophysical Union Fall Meeting, Abstract H13B-1511. December 14-18, San Francisco, CA.
- Yao, S., R. Heyduck, and S.J. Guldan. 2015. Blackberry cultivar evaluation in high tunnel and field in northern New Mexico. HortScience 50:S250.
- Ochoa, C.G., S.J. Guldan, A.G. Fernald, and V.C. Tidwell. 2013. Hydrologic interactions in snow-melt runoff driven semiarid watersheds. American Geophysical Union Fall Meeting, Abstract H41F-1236. December 9-13, San Francisco, CA.
- Gutierrez, K., A.G. Fernald, C.G. Ochoa, and S.J. Guldan. 2013. Farm water budgets for semiarid irrigated floodplains of northern New Mexico: characterizing the surface water-groundwater interactions. American Geophysical Union Fall Meeting, Abstract H34A-1429. December 9-13, San Francisco, CA.
- Fernald, A., V.C. Tidwell, J. Rivera, S. Rodriguez, S.J. Guldan, C.M. Steele, C. Ochoa, B.H. Hurd, M. Ortiz, K.G. Boykin, and A.F. Cibils. 2012. Modeling water, ecosystems, economics and culture in traditional acequia irrigation communities of New Mexico and their linked watersheds. American Geophysical Union. Abstract H14F-03.
- Guldan, S.J., Fernald, A., V.C. Tidwell, J. Rivera, S. Rodriguez, C.M. Steele, C. Ochoa, B.H. Hurd, M. Ortiz, K.G. Boykin, and A.F. Cibils. 2012. Multiperspective

analysis of community resilience to changing water supplies for traditional irrigation systems in northern New Mexico. University Council on Water Resources Annual Conference, Abstract, Session #20.2.

<http://ucowr.org/conferences/past-conferences/item/6-2012-conference>

- Yao, S., and S.J. Guldan. 2012. Jujube- Chinese date, a potential fruit crop in New Mexico. *HortScience* 47:S130.
- Ochoa, C.G., K. Gutierrez, A. Fernald, S. Guldan, and S.Yao. 2012. Surface water and groundwater interactions in semiarid irrigated floodplains of northern New Mexico. 57th Annual New Mexico Water Conference: Hard choices, adapting policy and management to water scarcity. New Mexico Water Resources Research Institute. Abstract # 23.
- Flynn, R. P., J. Mexal, M.K. O'Neill, L.M. Lauriault, J.T. Harrington, S.J. Guldan, S. Angadi, T. Carrillo. 2011. Agricultural Science Centers In New Mexico: Challenges and Successes. *In Annual Meetings Abstracts*. ASA, CSSA, SSSA, Madison, WI. <http://a-c-s.confex.com/crops/2011am/webprogram/Paper67392.html>.
- Ochoa, C.G., A.G. Fernald, and S.J. Guldan. 2011. Caracterización del balance hídrico y la recarga por retorno de riego en un valle agrícola de una región semiárida de los Estados Unidos de América. *Jornadas de Investigación en la Zona no Saturada del Suelo*, Abstract # 10.
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