

Nakayama Professorship Supported Research

Please contact: Dr. Manoj K Shukla, Nakayama Professor, shuklamk@nmsu.edu for questions

Presentations in 2015-19:

1. Shukla, M. K. and H. Sharma. 2015. Water balance analysis and development of crop coefficient for drip irrigated chile. Soil Science Society America Annual Meeting, Long Beach, CA November.
2. Shukla, M. K. 2015. Improving irrigation strategies report from NM. W2188 Meeting, NIFA, Las Vegas, NV January.
3. Shukla M.K., A. Flores and G. Baath. 2015. A new model for reuse of unconventional waters for agriculture in semi-arid areas. Soil Science Society America Annual Meeting, Minneapolis, MN, Nov. 2015.
4. Baath G. and M.K. Shukla. 2015. Salinity induced alterations on chile-peppers at various growth stages. Soil Science Society America Annual Meeting, Minneapolis, MN, Nov. 2015.
5. Gonzalez A., M.K. Shukla and J. Ashigh. 2015. Movement and degradation of indaziflam in a Pecan orchard. American Geophysical Union Annual meeting. San Francisco, CA, Dec 14-18.
6. Shukla M.K. 2016. Managing our salt. Wells, Pumps, etc... Civil Engg. Department, March 11, 2017.
7. Shukla M.K. 2016. Improved irrigation strategies for arid areas. W3188 Multi State Project meeting Las Vegas, NV, 2-4, January.
8. Baath G. and M.K. Shukla. 2016. Water Use and Yield Responses of Chile pepper Cultivars Irrigated with Brackish Water and RO Concentrate. Soil Science Society America Annual Meeting, Phoenix, AZ, Nov. 6-9.
9. Gonzalez A., P. Jacinthe, and M. Shukla. 2016. Soil microbial diversity and N cycling processes in response to indaziflam application. Soil Science Society America Annual Meeting, Phoenix, AZ, Nov. 6-9.
10. Ozturk O. F., M. K. Shukla, B. Stringam and C. Gard. 2016. Irrigation water salinity effects germination, emergence and growth of halophytes. Soil Science Society America Annual Meeting, Phoenix, AZ, Nov. 6-9.
11. Baath G. and M.K. Shukla. 2016. Transpiration rate for chile peppers irrigated with brackish groundwater and RO concentrate. AGU, Dec. 12-16, San Francisco, CA.
12. Shukla M.K. 2017. Improved irrigation strategies for arid areas. W3188 Multi State Project meeting Las Vegas, NV, 2-4, January.
13. Fernandez J., M.K. and B. Stringam. 2017. Soil texture, nitrogen and irrigation water quality influence on Pecan kernel. SSSA Annual Meeting, Tampa, FL, Oct. 22-25.
14. Kankarla V., A. Ben-Ali, Shukla M.K. and B. Das. 2017. Managing Abiotic Stress to grow Glycophyte and Halophyte across Water Salinity Gradient for Food Security in Arid Areas. 82nd Annual Convention, ISSS, Dec. 11-14, Kolkata.
15. Kankarla V., M. K. Shukla, D. VanLeeuwen, B. J. Schutte, G. A. Picchioni. 2018. Irrigation Water Salinity Effects on Germination and Emergence of Alfalfa, Triticale and Quinoa Species. USCID, Phoenix, AZ, Oct. 16.
16. Benali A., M.K. Shukla, and B. Stringam. 2018. Impacts of Irrigation with Brackish and RO Concentrate Water on Soil Thermal Properties. USCID, Phoenix, AZ, Oct 16.

17. Shukla M.K. 2019. Use of brackish water and concentrate for agriculture in arid areas. 2nd annual WIN workshop, BGNDRF, Alamogordo, Oct. 28-29.
18. Shukla M.K. 2019. Salt tolerant crops. Two Nation One Water Conference, WRRI, Las Cruces.
19. Ben Ali, A. R., M. K. Shukla, B. J. Schutte, and C. Gard. 2019. Irrigation with RO concentrate, and brackish groundwater impacts on pecan trees growth and physiology. *Basin Water Management — Challenges in Water Management at the Basin Scale*. USCID's 12th International Conference Nov. 5-8, Reno.

International Invited Talks

20. Shukla, M.K. 2015. Water balance in the rootzone of soil under contrasting texture. International Conference on organic Farming. Torreon, Mexico, April 29-20.
21. Shukla M.K. 2015. Irrigation water management for water scarce semi-arid areas. China Agriculture University, Beijing, China, June 1-5.
22. Shukla M.K. 2015. Water resource management for semi-arid areas: status, problems and opportunities. 27th International Agronomy Week, Sept. 7-11, Durango, Mexico (Key-note Address).
23. Shukla M.K. 2016. Irrigation with saline groundwater and RO concentrate for food security. China Agriculture University, Beijing, China, June 1-3.
24. Shukla M.K. 2016. Agriculture water management. Summer school, China Agriculture University, Shiyange Experimental Station, Wuwei city, China, June 1-5.
25. Shukla M.K. 2017. Irrigation water management for water scarce New Mexico. Volcani Center, Israel, June 14.
26. Shukla M.K. 2016. Soil organic carbon under different land uses. Yangling International Agri-Science Forum, Northwest A&F University, Yangling, Nov. 5-7.
27. Shukla M.K. 2016. Irrigation water management for semi-arid areas: opportunities for augmenting water resources and improving water use efficiency. College of Natural Resources and Environment, Northwest A&F University, Yangling, Nov. 8.
28. Shukla M.K. 2018. Sustainable management of soil water. China Agriculture University, June 2018.
29. Shukla M.K. 2018. Sustainable management of soil salinity. China Agriculture University, June 2018.
30. Shukla M.K. 2019. Irrigation with Brackish groundwater and RO. CAU, China

Journal Publications 2015-19:

1. *Gonzalez A. M., J. Ashigh, M.K. Shukla, and R. Perkins. 2015. Mobility of indaziflam influenced by soil properties in a semi-arid area. Plos One. DOI:10.1371/journal.pone.0126100.
2. *Deb S., *P. Sharma, M.K. Shukla, and J. Simunek. 2015. Numerical Evaluation of Nitrate Distributions in the Onion Root Zone under Conventional Furrow Fertigation. Journal of Hydrologic Engineering ASCE. DOI: 10.1061/(ASCE)HE.1943-5584.0001304.
3. *Sharma P., M.K. Shukla, P. Bosland and R. Steiner. 2015. Physiological responses of greenhouse-grown drip irrigated Chile Pepper under partial root zone drying. Hort. Science. 50 (8): 1224-1229

4. *Gonzalez A. M., M.K. Shukla, B. Stringam and M. Parsheh. 2014. Evaluation of Soil Compaction and Sealant Application for Compacted Earthen Liners. *J. Agricultural Engineering*. 2(1): 19-29. (Invited)
5. *Flores A., B. Schutte, M.K. Shukla, G. Pichionni and A. Ulery. 2015. Time-Integrated Measurements of Seed Germination for Salt-Tolerant Plant Species. *Seed Science and Technology*. 43: 541-547.
6. *Gonzalez A., M.K. Shukla, D. Dubois, J. Margez, J. Hernandez and E Olivas. 2016. Microbial and size characterization of airborne particulate matter collected on sticky tapes along US-Mexico border. *J. Environmental Science*. (In Press).
7. *Flores A., M.K. Shukla, D. Daniel, A. Ulery, B. Schutte, G. Pichionni and S. Fernald. 2016. Evapotranspiration Changes with Irrigation Using Saline Groundwater and RO Concentrate. *J. Arid Environments*. 131:35-45.
8. *Baath G. S., M. K. Shukla, P. W. Bosland, R. L. Steiner, and S. J. Walker. 2016. Irrigation Water Salinity Influences at Various Growth Stages of *Capsicum annuum*. *Ag Water Management*. 179: 246-253.
9. *Gonzalez, A., M.K. Shukla, and B. Schutte. 2017. Effect of Indaziflam application and soil manipulations on Pecan evapotranspiration and gas exchange parameters. *Hort Science*. 52(6):910–915. 2017. doi: 10.21273/HORTSCI11905-17.
10. Gonzalez, A., M.K. Shukla, J. Ashigh, and R. Purkins. 2017. Effect of application rate and irrigation on the movement and dissipation of indaziflam. *J. Environmental Science*. <http://dx.doi.org/10.1016/j.jes.2016.09.002>. 51:111-119.
11. *Flores A., M.K. Shukla, B. Schutte, G. Picchioni, and D. Daniel. 2017. Physiologic response of six plant species grown in two contrasting soils and irrigated with brackish groundwater and RO concentrate. *Arid land Res. and Manag. Journal*. 31:182-203, <http://dx.doi.org/10.1080/15324982.2016.1275068>.
12. *Sharma P., M.K. Shukla, P. Bosland and R. Steiner. 2017. Soil moisture sensor calibration, actual evapotranspiration and crop coefficients for deficit irrigated greenhouse chile. *Ag Wat Manag*. 179: 81-91.
13. *O. Ozturk, M.K. Shukla, B. Stringam and C. Gard. 2018. Irrigation water salinity induced changes in the evaporation, growth and ion uptake of two halophytes. *J Ag. Water Manag*. 195: 142-153.
14. *Mokari E., *J. Fernandez, M.K. Shukla and J. Simunek. 2019. Modeling water and solute fluxes in a Pecan Orchard. *Soil Science Society of America*. doi:10.2136/sssaj2018.11.0442.

Current Research:

1. Desalination concentrate management for sustainable agriculture: Study on transport behavior, soil and microbial quality, and plant viability
2. Effects of water and salinity stresses and yield and quality of New Mexico specialty crops: Measurement and Modeling