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## EDUCATION

Ph.D., Horticulture and Crop Science, Ohio State University, 2007

M.S., Horticulture and Crop Science, Ohio State University, 2002

B.A., Botany and Political Science, Miami University, 1999

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## EMPLOYMENT

2018 – current Associate Professor, Department of Entomology, Plant Pathology and Weed Science, New Mexico State University, Las Cruces, NM

2011 – 2018 Assistant Professor, Department of Entomology, Plant Pathology and Weed Science, New Mexico State University, Las Cruces, NM

2007 – 2011 Post-doctoral Research Ecologist, USDA-ARS Global Change and Photosynthesis Research Unit, Urbana, IL

2007 Post-doctoral Research Associate, Ohio State University Weed Ecology Laboratory, Columbus, OH

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## JOURNAL ARTICLES \* graduate student, \*\* undergraduate student

Agarwal, P.\*, **B. J. Schutte**, O. J. Idowu, R. L. Steiner, E. A. Lehnhoff. 2022. Weed suppression versus water use: Efficacy of cover crops in water limited agroecosystems. *Weed Research* 62:24-37

**Schutte, B. J.**, A. Rashid, I. Marquez\*\*, E. A. Lehnhoff, L. L. Beck. 2021. Seaside petunia (*Calibrachoa parviflora*) susceptibility to herbicides used in dry bulb onion. *HortTechnology* 31:679-687

Nagila, A.\*, **B. J. Schutte**, S. Sanogo, O. J. Idowu. 2021. Chile pepper sensitivity to mustard seed meal applied after crop emergence. *HortScience* 56:254-260

**Schutte, B. J.**, A. D. Sanchez\*, L. L. Beck, O. J. Idowu. 2021. False seedbeds reduce labor requirements for weeding in chile pepper. *HortTechnology* 31:64-73

- Wood, J. B. \*, **B. J. Schutte**, I. Guzman, S. Sanogo. 2020. Water availability influences the inhibitory effects of mustard seed meal on Palmer Amaranth (*Amaranthus palmeri*) and *Verticillium dahliae*. *Weed Technology* 34:756-763
- Bagavathiannan, M., H. J. Beckie, G. R. Chantre, J. L. Gonzalez-Andujar, R. G. Leon, P. Neve, S. L. Poggio, **B. J. Schutte**, G. J. Somerville, R. Werle, R. Van Acker. 2020. Simulation models in weed ecology and management: structure, quantitative insights, and applications. *Agronomy* 10(10), 1611; <https://doi.org/10.3390/agronomy10101611>
- Kankarla, V., M. Shukla, G. Picchioni, D. VanLeeuwen, **B. J. Schutte**. 2020. Germination and emergence responses of alfalfa, triticale and quinoa irrigated with brackish groundwater and desalination concentrate. *Agronomy* 10(4), 549; <https://doi.org/10.3390/agronomy10040549>
- Ali, A. B., M. Shukla, **B. J. Schutte**, C. Gard. 2020. Irrigation with RO concentrate and brackish groundwater impacts on pecan tree growth and physiology. *Agricultural Water Management* 240:106328 <https://doi.org/10.1016/j.agwat.2020.106328>
- Schutte, B. J.**, A. Rashid, J. B. Wood\*, I. Marquez\*\*. 2020. Colorimetric assay for detecting mechanical damage to weed seeds. *Weed Technology* 34: 454-460
- Picchioni, G.A., T. N. Hooks\*, **B. J. Schutte**, M. K. Shukla, D. L. Daniel. 2020. Halophyte ion regulation traits support saline adaptation of *Lepidium latifolium*, *L. draba*, and *L. alyssoides*. *Plant Ecology* 221:295-308
- Antosh, E. \*, J. Idowu, **B. Schutte**, E. Lehnhoff. 2020. Winter cover crop effects on soil properties and sweet corn yield in semi-arid irrigated systems. *Agronomy Journal* 112:92-106
- Elias, E. H., R. Flynn, J. Idowu, J. Reyes, S. Sanogo, **B. J. Schutte**, R. Smith, C. Steele, C. Sutherland. 2019. Crop vulnerability to weather and climate risk: Analysis of interacting systems and adaptation efficacy for sustainable crop production. *Sustainability* 11(23) 6619; <https://doi.org/10.3390/su11236619>
- Kankarla, V. \*, M.K. Shukla, D. VanLeeuwen, **B. J. Schutte**, G.A. Picchioni. 2019. Growth, evapotranspiration, and ion uptake characteristics of alfalfa and triticale irrigated with brackish groundwater and desalination concentrate. *Agronomy* 9(12) 789; <https://doi.org/10.3390/agronomy9120789>
- Murray, L. \*, **B. J. Schutte**, C. Sutherland, L. Beck, A. Ganguli, E. A. Lehnhoff. 2019. Integrating conventional management methods with biological control for enhanced tamarix management. *Invasive Plant Science and Management* 12:176-185
- Murray, L. \*, **B. J. Schutte**, A. C. Ganguli, E. A. Lehnhoff. 2019. Impacts of *Tamarix* (L.) litter and mycorrhizal amendments on *Baccharis salicifolia* (Ruiz & Pav.) Pers. competitiveness and mycorrhizal colonization. *Agronomy* 9, 453. <https://www.mdpi.com/2073-4395/9/8/453>
- Schutte, B. J.**, E. A. Lehnhoff, L. L. Beck. 2019. Evaluation of POST-directed applications of flumioxazin in New Mexico chile pepper. *Weed Technology* 33:135-141

- Schroeder, J., M. Barrett, D. R. Shaw, A. R. Asmus, H. Coble, D. Ervin, R. A. Jussaume, M. D. K. Owen, I. Burke, C. F. Creech, A. S. Culpepper, W. S. Curran, D. M. Dodds, T. A. Gaines, J. L. Gunsolus, B. D. Hanson, P. Jha, A. E. Klodd, A. R. Kniss, R. G. Leon, S. McDonald, D. W. Morishita, **B. J. Schutte**, C. L. Sprague, P. W. Stahlman, L. E. Steckel, M. J. VanGessel. 2018. Managing wicked herbicide-resistance: lessons from the field. *Weed Technology* 32:475-488.
- Schroeder, J., M. Barrett, D. R. Shaw, A. R. Asmus, H. Coble, D. Ervin, R. A. Jussaume, M. D. K. Owen, I. Burke, C. F. Creech, A. S. Culpepper, W. S. Curran, D. M. Dodds, T. A. Gaines, J. L. Gunsolus, B. D. Hanson, P. Jha, A. E. Klodd, A. R. Kniss, R. G. Leon, S. McDonald, D. W. Morishita, **B. J. Schutte**, C. L. Sprague, P. W. Stahlman, L. E. Steckel, M. J. VanGessel. 2018. Managing herbicide-resistance: listening to the perspectives of practitioners. Procedures for conducting listening sessions and an evaluation of the process. *Weed Technology* 32:489-497.
- Hooks, T. N.\*, G. A. Picchioni, **B. J. Schutte**, M. K. Shukla, D. L. Daniel. 2018. Sodium chloride effects on seed germination, growth, and water use of *Lepidium alyssoides*, *L. draba*, and *L. latifolium*: traits of resistance and implications for invasiveness on saline soils. *Rangeland Ecology and Management* 71:433-442
- Hooks, T. N.\*, G. A. Picchioni, **B. J. Schutte**, M. K. Shukla, D. L. Daniel, J. Ashigh. 2018. Salinity an environmental “filter” selecting for plant invasiveness? Evidence from the indigenous *Lepidium alyssoides* on Chihuahuan desert shrublands. *Rangeland Ecology and Management* 71:106-114
- Gonzalez-Delgado, A., M. K. Shukla, **B. J. Schutte**. 2017. Effects of indaziflam application and soil manipulation on pecan evapotranspiration and gas exchange parameters. *HortScience* 52:910-915
- Klypina, N., M. Pinch, **B. J. Schutte**, J. Maruthavanan, T. M. Sterling. 2017. Water-deficit stress tolerance differs between two locoweed genera (*Astragalus* and *Oxytropis*) with fungal endophytes. *Weed Science* 65:626-638
- Landau, C. A.\*, **B. J. Schutte**, A. O. Mesbah, S. V. Angadi. 2017. Flixweed (*Descurainia sophia*) shade tolerance and possibilities for flixweed management using rapeseed seeding rate. *Weed Technology* 31:477-486
- Flores, A. M.\*, M. K. Shukla, **B. J. Schutte**, G. A. Picchioni, D. L. Daniel. 2017. Physiologic response of six plant species grown in two contrasting soils and irrigated brackish groundwater and RO concentrate. *Arid Land Research and Management* 31:182-203
- Schutte, B. J.** 2017. Measuring interference from mid-season tall morningglory to develop a model for teaching weed seedbank effects on chile pepper. *Weed Technology* 31:155-164
- Singla, S.\*, K. Grover, S. V. Angadi, **B. J. Schutte**, D. VanLeeuwen. 2016. Guar stand establishment, physiology, and yield responses to planting date in southern New Mexico. *Agronomy Journal* 108:2289-2300
- Davis, A. S., X. Fu, **B. J. Schutte**, M. A. Berhow, J. W. Dalling. 2016. Interspecific variation in persistence of buried weed seeds follows trade-offs among physiological, chemical and physical seed defences. *Journal of Applied Ecology* 6:6836-6845

- Schutte, B. J.**, N. Klypin, M. K. Shukla. 2016. Influence of irrigation timing on disturbance-induced reductions in soil seedbank density. *Weed Science* 64:613-623
- Flores, A. M.\*, M. K. Shukla, D. Daniel, A. L. Ulery, **B. J. Schutte**, G. A. Picchioni, S. Fernald. 2016. Evapotranspiration changes with irrigation using saline groundwater and RO concentrate. *Journal of Arid Environments* 131:35-45
- Regnier, E. E., S. K. Harrison, M. M. Loux, C. Holloman, R. Venkatesh, F. Diekman, R. Taylor, R. A. Ford, D. E. Stoltenberg, R. G. Hartzler, A. S. Davis, **B. J. Schutte**, J. Cardina, K. J. Mahoney, W. G. Johnson. 2016. Certified crop advisors' perceptions of giant ragweed (*Ambrosia trifida*) distribution, herbicide resistance and management in the Corn Belt. *Weed Science* 64:361-377
- Evans, J. A., P. J. Tranel, A. G. Hager, **B. J. Schutte**, C. Wu, L. A. Chatham, A. S. Davis. 2016. Managing the evolution of herbicide resistance. *Pest Management Science* 72:74-80
- Flores, A. M.\*, **B. J. Schutte**, M. K. Shukla, G. A. Picchioni, A. L. Ulery. 2015. Time-integrated measurements of seed germination for salt-tolerant plant species. *Seed Science and Technology* 43: 541-547
- Schutte B. J.**, A. E. Cunningham\*. 2015. Tall morningglory (*Ipomoea purpurea*) seedbank density effects on pendimethalin control outcomes. *Weed Technology* 29:844-853
- Davis, A. S., **B. J. Schutte**, A. G. Hager, B. G. Young. 2015. Palmer amaranth (*Amaranthus palmeri*) damage niche in Illinois soybean is seed-limited. *Weed Science* 63:658-668
- Schutte, B. J.**, L. Lauriault. 2015. Nutritive value of field bindweed (*Convolvulus arvensis*) roots as a potential livestock feed and the effect of *Aceria malherbae* on root components. *Weed Technology* 29:329-334
- Schutte, B. J.**, A. S. Davis, S. A. Peinado, J. Ashigh. 2014. Seed coat thickness data clarifies seed size-seedbank persistence trade-offs in *Abutilon theophrasti* (Malvaceae). *Seed Science Research* 24:119-131
- Schutte, B. J.**, A. S. Davis. 2014. Do common waterhemp (*Amaranthus rudis*) seedling emergence patterns meet criteria for herbicide resistance simulation modeling? *Weed Technology* 28:408-417
- Schutte, B. J.**, B. J. Tomasek, A. S. Davis, L. Andersson, D. L. Benoit, A. Cirujeda, J. Dekker, F. Forcella, J. L. Gonzalez-Andujar, F. Graziani, A. J. Murdoch, P. Neve, I. A. Rasmussen, B. Sera, J. Salonen, F. Tei, K. S. Torresen, J. M. Urbano. 2014. An investigation to enhance understanding of the stimulation of weed seedling emergence by soil disturbance. *Weed Research* 54:1-12
- Schutte, B. J.**, S.E. Wortman, J. L. Lindquist, A. S. Davis. 2013. Maternal environment effects on phenolic defenses in *Abutilon theophrasti* seeds. *American Journal of Plant Sciences* 4:1127-1133
- Wortman, S. E., A. S. Davis, **B. J. Schutte**, J. L. Lindquist, J. Cardina, J. Felix, C. Sprague, A. Dille, A., Ramirez, G. Reicks, S. A. Clay. 2012. Local conditions, not spatial gradients, drive demographic variation of *Ambrosia trifida* and *Helianthus annuus* across northern U.S. maize belt. *Weed Science* 60:440-450

- Matlaga, D. P., **B. J. Schutte**, A. S. Davis. 2012. Age-dependent vital rates of the bioenergy crop *Miscanthus x giganteus* in Illinois. *Invasive Plant Science & Management* 5:238-248
- Williams II, M. M., **B. J. Schutte**, Y. So. 2012. Maternal corn environment influences wild proso millet (*Panicum miliaceum*) seed characteristics. *Weed Science* 60:69-74
- Schutte, B. J.**, E. E. Regnier, S. K. Harrison. 2012. Seed dormancy and adaptive seedling emergence timing in giant ragweed (*Ambrosia trifida*). *Weed Science* 60:19-26
- Wortman, S. E., A. S. Davis, **B. J. Schutte**, J. L. Lindquist. 2011. Integrating management of soil nitrogen and weeds. *Weed Science* 59:162-170
- Dalling, J. W., A. S. Davis, **B. J. Schutte**, A. E. Arnold. 2011. A framework for a seed defence theory: integrating predation, dormancy and the soil microbial community. *Journal of Ecology* 99:89-95
- Davis, A. S., D. Daedlow, **B. J. Schutte**, P. R. Westerman. 2011. Temporal scaling of episodic point estimates of weed seed predation to long-term predation rates. *Methods in Ecology and Evolution* 2:682-690
- Schutte, B. J.**, A. G. Hager, A. S. Davis. 2010. Respray requests on custom-applied, glyphosate-resistant soybeans in Illinois: how many and why. *Weed Technology* 24:590-598
- Schutte, B. J.**, E. R. Haramoto, A. S. Davis. 2010. Methods for optimizing seed mortality experiments. *Weed Technology* 24:599-606
- Schutte, B. J.**, J. Liu, A. S. Davis, S. K. Harrison, E. E. Regnier. 2010. Environmental factors that influence the association of an earthworm (*Lumbricus terrestris* L.) and an annual weed (*Ambrosia trifida* L.) in no-till agricultural fields across the eastern U.S. Corn Belt. *Agriculture, Ecosystems and Environment* 138:197-205
- Schutte, B. J.**, A. S. Davis, K. A. Renner, J. Cardina. 2008. Maternal and burial environment effects on seed mortality of velvetleaf (*Abutilon theophrasti*) and giant foxtail (*Setaria faberi*). *Weed Science* 56:834-840
- Schutte, B. J.**, E. E. Regnier, S. K. Harrison. 2008. The association between seed size and seed longevity among maternal families in *Ambrosia trifida* L. populations. *Seed Science Research* 18:201-211
- Davis, A. S., **B. J. Schutte**, J. Iannuzzi, K. A. Renner. 2008. Chemical and physical defenses of weed seeds in relation to soil seedbank persistence. *Weed Science* 56:676-684
- Schutte, B. J.**, E. E. Regnier, S. K. Harrison, J. T. Schmoll, K. Spokas, F. Forcella. 2008. A hydrothermal seedling emergence model for giant ragweed (*Ambrosia trifida*). *Weed Science* 56:555-560
- Schutte, B.**, M. Knee. 2005. The effects of rudimentary embryos and elevated oxygen on seed dormancy of *Eryngium yuccifolium* Michx. (Apiaceae). *Seed Science and Technology* 33:53-62

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**JOURNAL ARTICLES UNDER REVIEW**

Pratt, R. C., **B. J. Schutte**, O. J. Idowu, M. Uchanski, L. Grant. Fall-sown small grain cover crops for weed suppression and soil moisture management in an irrigated organic agroecosystem. *Renewable Agriculture and Food Systems*

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**PEER-REVIEWED TECHNICAL PUBLICATIONS** \* graduate student

Nagila, A.\*, **B. J. Schutte**, S. Sanogo, O. J. Idowu. Mustard cover crops seeded several weeks before first frost produce enough biomass for green manuring in spring. *Under review*

**Schutte, B. J.**, A. Nagila\*, S. Sanogo, O. J. Idowu. Observations on technical challenges for overwintering and terminating mustard cover crops in southern New Mexico. *Under review*

Lauriault, L. M., D. C. Thompson, J. B. Pierce, A. B. Bennett, **B. J. Schutte**, L. L. Beck, C. Sutherland, D. Jimenez, W. V. Hamilton. 2018. Managing *Aceria malherbae* gall mites for control of field bindweed. New Mexico State University Cooperative Extension Service. Circular 600.

Landau, C. A.\*, **B. J. Schutte**, A. O. Mesbah, S. V. Angadi. 2017. Late-season weed management in conventional canola using sethoxydim and clopyralid. New Mexico State University, Agricultural Experiment Station Research Report. RR-791

Picchioni, G. A., T. N. Hooks, **B. J. Schutte**, D. L. Daniel. 2015. Drought, salinity, and invasive plants: a new model for sustainable water management. Technical Report 368. New Mexico Water Resources Research Institute, Las Cruces, NM.

Ashigh, J., L. Lauriault, M. Marsalis, **B. J. Schutte**, C. Hamilton. 2014. Integrated weed management in irrigated permanent grass pastures and hayfields in New Mexico. New Mexico State University Cooperative Extension Service. Guide A-340

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**ACTIVE FUNDING**

**Allelopathic cover crops for pest suppression in chile pepper in the Southwest.** USDA NIFA Crop Protection and Pest Management Program, September 2021-September 2024, \$191,173. B. Schutte (PI), E. Lehnhoff, S. Sanogo, R. Creamer, S. Bundy, R. Acharya

**Reducing costs and improving environmental safety of onion herbicide programs.** USDA Specialty Crop Block Grant, September 2021-September 2023. \$43,713. B. Schutte (PI), C. Cramer, S.W. Walker

**Exploring the benefits of brackish water and halophytes for human health.** USDA NIFA AFRI Foundational and Applied Science Program, January 2021-January 2023. \$190,000. G. Picchioni (PI), M. Shukla, B. Schutte, I. Guzman

**Assessing a new herbicide for yellow nutsedge (*Cyperus esculentus*) plant and tuber control in chile pepper.** New Mexico Chile Commission, April 2021-May 2022, \$4,430. B. Schutte (PI)

**Utilizing real-time precision weather stations to improve and evaluate mesquite herbicide treatments.** USDA Natural Resources Conservation Service, July 2019-May 2023, \$225,000. B. Schutte (PI), D. Thompson, A. Ganguli.

**Ensuring safe and sustainable use of a new soil-applied herbicide for chile pepper production.** USDA Specialty Crop Block Grant, September 2018-September 2023, \$36,177. B. Schutte (PI)

**Industry-supported field trials for new herbicides.** \$4,000 in 2021

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#### PREVIOUS FUNDING

**Cover crops in the southwest: obtaining ecosystem services while minimizing water use.** USDA NIFA, Agriculture and Food Research Initiative, Foundational Knowledge of Agricultural Production Systems, \$149,601. July 2018-January 2021. E. Lehnhoff (PI), O. Idowu, B. Schutte, J. Libbin, S. Sanogo, S. Thomas, N. Pietrasiak

**On-farm investigation of stale seedbeds with biofumigation for improved management of weeds and soil-borne disease.** USDA NIFA, Western SARE, April 2018-September 2021 \$131,459. B. Schutte (PI), S. Sanogo, O. Idowu

**Developing practical methods for reducing hand hoeing requirements in chile.** New Mexico Agricultural Experiment Station and the New Mexico Chile Association, July 2019-June 2022, \$61,390. B. Schutte (PI), E. Lehnhoff

**Evaluating a new herbicide for nutsedge control in New Mexico chile pepper.** New Mexico Chile Commission, April 2020-May 2021, \$3,950. B. Schutte (PI)

**Irrigation with brackish groundwater and desalination concentrate: effects on soil microbial properties, plant uptake, and ion decomposition in soil,** Water Resources Research Institute. May 2017-March 2021. \$73,164. M. Shukla (PI), G. Picchioni, B. Schutte, C. Gard

**On-farm evaluations of new herbicides for post-directed applications in chile.** New Mexico Chile Commission, April 2019-May 2020, \$6,411. B. Schutte (PI)

**Building a transdisciplinary research program for improved pest management in onion.** New Mexico Agricultural Experiment Station, July 2019-June 2020, \$28,367. B. Schutte (PI), C. Cramer, L. Beck, S. Walker, R. Acharya

**Evaluating new pre-emergent herbicides for chile produced with subsurface drip irrigation.** New Mexico Chile Commission, April 2018-March 2019, \$5,693. B. Schutte (PI)

**Integrating stale seedbeds with mustard seed meal to manage soil-borne pests in chile.** New Mexico Agricultural Experiment Station and the New Mexico Chile Association, July 2017-June 2019, \$60,366. B. Schutte (PI), S. Sanogo

**Evaluation of flumioxazin + pyroxasulfone for pre-emergence control of mid-season weeds in chile.** New Mexico Chile Commission, April 2017-April 2018, \$8,033. B. Schutte (PI), E. Lehnhoff, L. Beck

**Herbicide testing for agricultural weeds in New Mexico.** *Industry Support.* May 2016-May 2017, \$4,937; May 2017-May 2018, \$10,769. E. Lehnhoff, B. Schutte, E. Morris

**Integrating mechanical or chemical control with biological control for improved saltcedar management at southwestern reservoirs**

USDA Western IPM Center. March 2016-February 2017, \$29,984. E. Lehnhoff (PI), L. Beck, B. Schutte & C. Sutherland

**Improving herbicide programs for mid-to-late season weeds in chile pepper.** New Mexico Chile Commission, April 2016-April 2017, \$9,244. B. Schutte (PI), E. Lehnhoff, E. Morris

**Developing an IPM method for controlling weeds in chile pepper.** New Mexico Agricultural Experiment Station and the New Mexico Chile Association, July 2015-June 2017, \$56,896. B. Schutte (PI), O. Idowu, L. Beck

**Improving guidelines for controlling mid-to-late season weeds in chile.** New Mexico Chile Commission, June 2015-June 2016, \$8,000. B. Schutte (PI)

**Expanding herbicide options for chile pepper production in New Mexico.**

USDA Specialty Crop Block Grant, September 2014-September 2017, \$30,000. B. Schutte (PI)

**Chemical and cultural techniques for improved weed management in winter canola production in New Mexico.** New Mexico Agricultural Experiment Station at Clovis, May 2014-December 2017, \$13,748. B. Schutte (PI), S. Angadi; New Mexico State University Agricultural Experiment Station, Graduate Research Award, July 2014-December 2017; \$58,000. B. Schutte (PI), S. Angadi, A. Mesbah

**Development of a bioeconomic model for an IPM tactic for weeds in chile pepper.** USDA Western IPM Center, March 2014-September 2015, \$29,008. B. Schutte (PI), R. Acharya, J. Ashigh, B. McCloskey

**Clarifying causal factors for invasions of specific Brassicaceae plants on wastewater-treated rangelands in New Mexico.** New Mexico Agricultural Experiment Station, July 2012-June 2013, \$19,000. G. Picchioni (PI), B. Schutte, J. Ashigh, L. Lauriault.

Water Resources Research Institute, July 2014-June 2015, \$29,070. G. Picchioni (PI), B. Schutte

**Low-cost irrigation technologies for improved woody plant establishment in riparian environment restorations.** New Mexico Agricultural Experiment Station, July 2014-June 2015, \$22,000. A. Ganguli (PI), B. Schutte

**Functional plasticity of soil and plant endophytic microbial consortia: plant/microorganism co-evolutionary mechanisms relevant for weed seed viability and emergence potential.** International Arid Lands Consortium, January 2013-August 2013, \$7,500. A. Unc (PI), B. Schutte, Y. Steinberger

**Desalination concentrate management for sustainable agriculture: a preliminary study on transport behavior and plant viability at the Brackish Groundwater National Desalination Research Facility (BGNDRF) in Alamogordo, NM**

BGNDRF, July 2013-June 2014, \$49,875. M. Shukla (PI), G. Picchioni, A. Ulery, B. Schutte



**Impact of environmental conditions on the symbiotic relationship of a locoweed species and the swainsonine producing fungal endophyte.**

New Mexico Agricultural Experiment Station, July 2012-June 2013, \$9,000. B. Schutte (PI), N. Klypin & J. Ashigh

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**ABSTRACTS AND PROCEEDINGS** \* *graduate student*, \*\* *undergraduate student*

Bajagain, A.\*, **B. J. Schutte**, E. A. Lehnhoff, R. Steiner. 2021. Mustard cover crops for early season weed control in chile pepper. Proceedings of the Western Society of Weed Science virtual conference 127

Wood, J. B.\*, I. Guzman, C. S. Cramer, R. J. Heerema, **B. J. Schutte**, R. Steiner. 2020. Effects of deficit irrigation and iris yellow spot virus on onion photosynthesis. Proceedings of the American Society for Horticultural Science virtual conference

**Schutte, B. J.**, I. Joukhadar, J. Wood, K. Grover. 2020. Student responses to data on learning in previous classes. Proceedings of the North American Colleges and Teachers of Agriculture virtual conference

Nagila, A.\*, **B. J. Schutte**, S. Sanogo, O. J. Idowu. 2020. Evaluation of post-emergence applications of mustard seed meal for weed control in chile pepper. Proceedings of the joint annual meeting of the Weed Science Society of America and the Western Society of Weed Science 476

**Schutte, B. J.** 2020. On-farm evaluation of POST-directed flumioxazin in New Mexico chile pepper. Proceedings of the joint annual meeting of the Weed Science Society of America and the Western Society of Weed Science 105

Nagila, A.\*, **B. J. Schutte**, S. Sanogo, O. J. Idowu. 2019. Evaluation of post emergence applications of mustard seed meal for weed control in chile pepper. Proceedings of the ASA-CSSA-SSSA International Annual Meeting 1370

**Schutte, B. J.**, E. Morris. 2019. Seaside petunia (*Calibrachoa parviflora*) effects on onion yield and responses to POST herbicides registered for dry bulb onion in New Mexico. Proceedings of the 72<sup>nd</sup> Annual Meeting of the Western Society of Weed Science 72:17

Wood, J. B.\*, **B. J. Schutte**, S. Sanogo, I. Guzman. 2019. Mustard seed meal effects on Palmer Amaranth (*Amaranthus palmeri*) seedbanks. Proceedings of the 72<sup>nd</sup> Annual Meeting of the Western Society of Weed Science 72:26

Pratt, R. C., M. L. Jones, **B. J. Schutte**, E. E. Regnier. 2018. An integrated scientific writing course supports graduate student success in research publication. Proceedings of the Annual Meeting of the North American Colleges and Teachers of Agriculture 62:0237

Lehnhoff, E. A., L. M. Murray\*, **B. J. Schutte**. 2018. Integrating herbicide or mowing with biological control for improved tamarisk control. Proceedings of the 71<sup>st</sup> Annual Meeting of the Western Society of Weed Science 71:4

- Murray, L.M.\*, B. J. Schutte, C. A. Sutherland, A. C. Ganguli, E. A. Lehnhoff. 2018. Integrating *Tamarix* biocontrol management with conventional management in southwestern reservoirs. Proceedings of the 71<sup>st</sup> Annual Meeting of the Society of Range Management
- Sanchez, A.\*, **B. J. Schutte**, L. Beck, O. J. Idowu, J. Libbin. 2018. Stale seedbed for summer annual weeds in chile pepper. Proceedings of the 71<sup>st</sup> Annual Meeting of the Western Society of Weed Science 71:12
- Schutte, B. J.** 2018. Flumioxazin for postemergence-directed applications in chile pepper. Proceedings of the 71<sup>st</sup> Annual Meeting of the Western Society of Weed Science 71:137
- Murray, L. M.\*, E. A. Lehnhoff, **B. J. Schutte**, C. A. Sutherland. 2017. Integrating biological control with conventional methods for enhanced *Tamarix* management. Proceedings of the 57<sup>th</sup> Annual Meeting of the Weed Science Society of America 57:7
- Sanchez, A.\*, **B. J. Schutte**, L. Beck, O. J. Idowu. 2017. Stale seedbed for summer annual weeds in New Mexico chile. Proceedings of the 57<sup>th</sup> Annual Meeting of the Weed Science Society of America 57:9
- Schutte, B. J.**, E. Morris. 2017. Field assessments of flumioxazin for postemergence-directed applications in chile pepper. Proceedings of the 57<sup>th</sup> Annual Meeting of the Weed Science Society of America 57:70
- Wood J.\*\*, Marquez, I.\*\*, **B. J. Schutte**. 2017. A non-destructive assay for determining viability of weed seeds. Proceedings of the 57<sup>th</sup> Annual Meeting of the Weed Science Society of America 57:94
- Schutte, B. J.** 2016. Model-based software for teaching tall morningglory seedbank density effects on chile pepper production. Proceedings of the 69<sup>th</sup> Annual Meeting of the Western Society of Weed Science 69:55
- Landau, C. A.\*, **B. J. Schutte**, S. Angadi, A. Mesbah. 2016. Integrated weed management for conventional canola (*Brassica rapa*) in eastern New Mexico. Proceedings of the 69<sup>th</sup> Annual Meeting of the Western Society of Weed Science 69:51
- Mesman, T.\*\*, **B. J. Schutte**, E. Morris. 2016. Greenhouse evaluation of chemical control for mid-season weeds in chile peppers. Proceedings of the 69<sup>th</sup> Annual Meeting of the Western Society of Weed Science 69:49
- Schutte, B.J.**, E. Morris. 2016. Evaluating postemergence-directed applications of flumioxazin in chile pepper. Proceedings of the 69<sup>th</sup> Annual Meeting of the Western Society of Weed Science 69:28
- Schutte, B.J.** 2016. Seed production and interference from late-season tall morningglory in chile pepper. Proceedings of the 56<sup>th</sup> Annual Meeting of the Weed Science Society of America 56:152
- Schutte, B.J.**, N. Klypina. 2015. Influence of irrigation timing on disturbance-induced reductions in soil seedbank density. Proceedings of the 68<sup>th</sup> Annual Meeting of the Western Society of Weed Science 68:129

- Schutte, B. J.**, A. E. Cunningham\*. 2015. Quantifying weed seedbank density effects on pendimethalin control outcomes. Proceedings of the 55<sup>th</sup> Annual Meeting of the Weed Science Society of America 55:258
- Schutte, B. J.** 2015. Impacts of late-season tall morningglory infestations in chile pepper production. Proceedings of the 55<sup>th</sup> Annual Meeting of the Weed Science Society of America 55:36
- Ashigh, J, M. Mohseni-Moghadam\*, **B. J. Schutte**, A. Shrestha. 2014. Using an in vivo shikimate accumulation assay to determine glyphosate sequestration in glyphosate-resistant plants. Proceedings of the 67<sup>th</sup> Annual Meeting of the Western Society of Weed Science 67:122
- Schutte, B. J.**, N. Klypina. 2014. The effects of decreasing soil moisture on seed mortality of Palmer amaranth (*Amaranthus palmeri*), junglerice (*Echinochloa colona*) and yellow foxtail (*Setaria pumila*). Proceedings of the 67<sup>th</sup> Annual Meeting of the Western Society of Weed Science 67:47
- Schutte, B. J.**, N. Klypina, J. Ashigh. 2014. Endophyte effects on locoweed (*Astragalus mollissimus*) growth responses to increasing temperature and intraspecific competition. Proceedings of the 67<sup>th</sup> Annual Meeting of the Western Society of Weed Science 67:45
- Cunningham, A. E.\* , **B. J. Schutte**. 2014. Weed seedbank density effects on pendimethalin control outcomes. Proceedings of the 67<sup>th</sup> Annual Meeting of the Western Society of Weed Science 67:42
- Ashigh, J, M. Mohseni-Moghadam\*, **B. J. Schutte**, A. Shrestha. 2014. Determination of glyphosate sequestration as the basis of resistance in glyphosate-resistant plants using an *in vivo* shikimate accumulation assay. Proceedings of the 54<sup>th</sup> Annual Meeting of the Weed Science Society of America 54:92
- Schutte, B. J.**, N. Klypina, V. Zamora, A. Cunningham\*, J. Ashigh. 2014. The effects of delaying irrigation on disturbed soil seedbanks of Palmer amaranth (*Amaranthus palmeri*), yellow foxtail (*Setaria pumila*) and junglerice (*Echinochloa colona*). Proceedings of the 54<sup>th</sup> Annual Meeting of the Weed Science Society of America 54:67
- Schutte, B. J.**, N. Klypina, M. Shukla. 2013. Soil moisture effects on viability of physically dormant weed seeds. Proceedings of the 66<sup>th</sup> Annual Meeting of the Western Society of Weed Science 66:45
- Schutte, B. J.**, S.E. Wortman, J. L. Lindquist, A. S. Davis. 2013. Maternal environment effects on phenolic defenses in *Abutilon theophrasti* seeds. Proceedings of the 53<sup>rd</sup> Annual Meeting of the Weed Science of America 53:84
- Ashigh, J., N. Klypina, **B. J. Schutte**. 2012. Synergistic interaction of flumioxazin and emulsifiable concentrate formulations of pesticides. Proceedings of the 65<sup>th</sup> Annual Meeting of the Western Society of Weed Science 65:52

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#### INVITED PRESENTATIONS

- Schutte, B. J.** 2022. Weed Research Update. New Mexico Chile Conference

- Schutte, B. J.,** L. Beck. 2020. Herbicide Resistance in Weeds. New Mexico Sustainable Agriculture Fall Workshop Series
- Schutte, B. J.** 2020. Weed Identification and Management. Doña Ana County Master Gardner lecture series
- Schutte, B. J.** 2020. Updates on Tactics for Weed Management in Chile Pepper. New Mexico Chile Conference
- Schutte, B. J.** 2019. Ecological Traits of Weeds and Invasive Plants. Native Plant Society of New Mexico, Las Cruces Chapter
- Schutte, B. J.** 2018. Weed Seed Persistence and Management. Southwest Hay and Forage Conference
- Schutte, B. J.** 2017. Herbicide Resistance: What It Is and What Can Be Done About It. U.S. Bureau of Land Management IPM/Pesticide Applicator Certification Training, *also presented at* Southwest Noxious and Invasive Weed Short Course hosted by U.S. Bureau of Land Management *and* 25<sup>th</sup> Annual Conference of the New Mexico Vegetation Management Association
- Schutte, B. J.,** S. Sanogo, C. Sutherland. 2016. Pest Management and Climate Change in New Mexico. Presented at the New Mexico Sustainable Agriculture Conference hosted by New Mexico Western SARE (Sustainable Agriculture Research and Extension)
- Schutte, B. J.** 2016. Weed Research Updates for Chile Pepper. New Mexico Chile Conference
- Schutte, B. J.** 2016. Management of Mid-to-Late Season Weeds in Chile Pepper. Annual Conference of the New Mexico Crop Production Association
- Schutte, B. J.** 2015. Revealed! The Secret Life of Weeds. New Mexico Organic Farming Conference
- Schutte, B. J.** 2015. Integrated Approaches for Managing Problem Weeds. New Mexico Chile Conference
- Schutte, B. J.** 2015, 2014 & 2012. Ecological traits of invasive plants southwestern. Southwest Noxious and Invasive Weed Short Course hosted by U.S. Bureau of Land Management
- Schutte, B. J.** 2014. Ecology and Management of Agricultural Weed Seedbanks. Annual Conference of the New Mexico Crop Production Association
- Schutte, B. J.** 2013. Managing Seedbanks of Invasive Plants. Annual Conference of the New Mexico Vegetation Management Association
- Schutte, B. J.** 2012. Weed Seedbanks and What They Mean to You. Presented at the Sioux Falls Organic Agriculture Conference hosted by South Dakota Cooperative Extension Service, USDA Integrated Pest Management (IPM) Program, Sustainable Agriculture Research and Education (SARE) Program, South Dakota State University IPM Program, Sioux Falls, SD

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**TEACHING**

2017 – current	New Mexico State University, Co-Instructor, AGRO/HORT/EPWS/SOIL 525; AGRO/HORT/SOIL 625, <i>Scientific Writing</i>
2014 – current	New Mexico State University, Instructor, EPWS 311/511, <i>Introduction to Weed Science</i>
2013 – 2014	New Mexico State University, Instructor, EPWS 100L, <i>Introduction to Pest Management Laboratory</i>
2013	New Mexico State University, Instructor, EPWS 200, <i>Weeds and Society</i>
2012 – current	New Mexico State University, Instructor; BIOL/EPWS 314/514 <i>Plant Physiology</i>
2011 – 2013	NSF Faculty Institute for Reforming Science Teaching, Teaching Fellow
2011	University of Illinois, Co-Instructor, CPSC 418 <i>Crop Physiology</i>

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**GRADUATE STUDENT ADVISING AT NEW MEXICO STATE UNIVERSITY**

*Service as primary advisor (chair of graduate committee)*

2021 – current	Caroline Toth, PhD student in Plant and Environmental Sciences
2020 – current	Joshua Weinstein, MS student in Agricultural Biology
2020 – current	Akash Bajagain, MS student in Agricultural Biology
2018 – 2020	Asmita Nagila*, MS student in Agricultural Biology
2017 – 2019	Joseph Wood*, MS student in Agricultural Biology
2016 – 2018	Adriana Sanchez*, MS student in Agricultural Biology
2014 – 2016	Christopher Landau*, MS Student in Agricultural Biology
2012 – 2014	Ashley Cunningham*, MS Student in Agricultural Biology

\* published peer-reviewed article from thesis

*Service as member of graduate committee:* 10 PhD students, 30 MS students

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**AWARDS AND RECOGNITION**

2018	Western Society of Weed Science, Outstanding Weed Scientist - Early Career
2018	New Mexico State University Donald C. Roush Excellence in Teaching Award
2017	Teaching Award of Merit from the North American Colleges and Teachers of Agriculture (NACTA) and NMSU College of ACES.
2014	Weed Science Society of America Award of Excellence for co-authorship of an outstanding paper published in <i>Weed Science</i> during 2012

- 2011 Teaching Fellow, Faculty Institute for Reforming Science Teaching, National Science Foundation
- 2008 Outstanding Performance Award, USDA-ARS Midwest Area
- 2006 Outstanding Teaching Assistant in Plant Sciences, Ohio State University
- 2005 Gladys Wittmeyer Knox-Gene Wittmeyer Scholarship
- 2004 Best Student Paper in Weed Ecology and Biology, 59<sup>th</sup> Annual Meeting of the North Central Weed Science Society

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**PROFESSIONAL SOCIETY MEMBERSHIPS**

American Society for Horticultural Science  
North American Colleges and Teachers of Agriculture  
Western Society of Weed Science  
Weed Science Society of America

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**PROFESSIONAL SOCIETY SERVICE**

- 2021 – current Western Society of Weed Science, Nomination Committee
- 2020 – current Weed Science Society of America, Finance Committee member
- 2016 – current New Mexico advisory committee for Western Sustainable Agriculture Research and Extension
- 2014 – current Subject Editor for *Weed Research*
- 2008 – current Peer reviews for journals including, but not limited to: *Weed Science*, *Weed Technology* and *Invasive Plant Science and Management*
- 2017 – 2019 Western Society of Weed Science, Education and Regulatory Committee, Chair in 2018
- 2016 – 2017 Weed Science Society of America, co-coordinator for the Southwest Regional Herbicide Resistance Listening Session
- 2015 – 2017 Western Society of Weed Science, Local Arrangements Committee, Chair in 2016
- 2014 Western Society of Weed Science, Basic Biology and Ecology Chair
- 2013 – 2016 Weed Science Society of America, Research and Competitive Grants Committee

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**UNIVERSITY AND DEPARTMENTAL SERVICE**

- 2014 – current NMSU Department of EPPWS Curriculum Committee

2018 – 2020	NMSU College of Agricultural, Consumer and Environmental Sciences; PhD Program Development Committee
2018 – 2020	NMSU College of Agricultural, Consumer and Environmental Sciences; Student Awards Committee
2018 – 2019	NMSU College of Agricultural, Consumer and Environmental Sciences; Strategic Planning Committee
2018 – 2019	NMSU Department of EPPWS, Program Review Committee
2013 – 2016	NMSU Department of EPPWS Student Recruitment Committee
2013 – 2016	NMSU College of Agriculture, Consumer and Environmental Sciences Student Recruitment Committee
2015	Search Committee for Faculty Weed Scientist, NMSU Department of EPPWS
2014	Search Committee for Extension Weed Specialist, NMSU Department of Extension Plant Sciences

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#### AGRICULTURAL OUTREACH

2021	<i>Cultural and chemical strategies for controlling weeds in chile.</i> Field Day, New Mexico State University Agricultural Science Center at Los Lunas <b>and</b> Field Day, New Mexico State University Leyendecker Plant Science Research Center.
2020	<i>Onion pest control: seeking your input on new research for weed control in onion.</i> Website with survey developed and disseminated to onion producers in New Mexico. <a href="https://aces.nmsu.edu/onionpestcontrol/index.html">https://aces.nmsu.edu/onionpestcontrol/index.html</a>
2020	<i>Evaluation of post-emergence applications of mustard seed meal for weed control in chile pepper.</i> Poster presented at the New Mexico Chile Conference. Co-authored with Asmita Nagila (graduate student), Soum Sanogo and John Idowu. <u>Awarded best student poster at the 2020 New Mexico Chile Conference.</u>
2019	<i>Brassicaceae biofumigation for weeds and soil-borne diseases in chile pepper.</i> Sustainable Agriculture Field Day, New Mexico State University Fabian Garcia Science Center <b>and</b> Field Day, New Mexico State University Agricultural Science Center at Los Lunas. Co-authored with Asmita Nagila (graduate student)
2018	<i>Weed management research in chile.</i> Chile Pepper Field Day, New Mexico State University Agricultural Science Center at Los Lunas
2018	<i>Mustard seed meal for weed and pathogen control in chile pepper.</i> Sustainable Agriculture Field Day, New Mexico State University Leyendecker Plant Science Research Center. Co-authored with Joseph Wood (graduate student)

- 2017 *Improved weed management for chile peppers.* Field Day, New Mexico State University Agricultural Science Center at Los Lunas
- 2017 *Plant spacing management impact on mechanical harvest of green chile.* Poster presented at the New Mexico Chile Conference. Co-authored with Charles Havlik (graduate student), Stephanie Walker, Mark Marsalis, Paul Funk and James Degnan
- 2017 *Stale seedbed for summer annual weeds in New Mexico chile.* Poster presented at the New Mexico Chile Conference. Co-authored with Adriana Sanchez (graduate student), Leslie Beck and John Idowu
- 2017 *Field assessments of flumioxazin for postemergence-directed applications in chile pepper.* Poster presented at the New Mexico Chile Conference. Co-authored with Edward Morris
- 2016 *Herbicide trials – new options for New Mexico chile growers.* Chile Pepper Field Day, New Mexico State University Agricultural Science Center at Los Lunas
- 2016 *Improved weed control in wheat with canola in the rotation.* Canola Field Day, New Mexico State University Agricultural Science Center at Clovis.
- 2016 Developed and disseminated user-friendly, model-based software for understanding the practical implications of tactics that target weed seedbanks. The model is implemented in Microsoft Excel® and is available at <http://aces.nmsu.edu/faculty/schutte/index.html>
- 2016 New Mexico State University, Extension Plant Sciences “*News You Can Use*” article entitled “Registered Herbicides for Canola in New Mexico” <http://eps.nmsu.edu/news-you-can-use.html>. Co-authored with Christopher Landau (graduate student), Sangu Angadi and Abdel Mesbah.
- 2015 *Identification and management of mid-to-late season weeds in chile pepper.* Chile Pepper Field Day, New Mexico State University Leyendecker Plant Science Research Center
- 2015 *Weed management in canola.* Field Day, New Mexico State University Agricultural Science Center at Clovis. Co-authored with Christopher Landau (graduate student).
- 2015 *Managing mid-season weeds in chile pepper.* Field Day, New Mexico State University Agricultural Science Center at Los Lunas
- 2015 *Herbicide resistance technology and weed management in canola.* Canola and Winter Wheat Field Day, New Mexico State University Agricultural Science Center at Clovis.
- 2014 *Weed management research.* Chile Pepper Field Day, New Mexico State University Los Lunas Agricultural Science Center
- 2014 *Weed management in onion fields.* Onion Field Day, New Mexico State University Leyendecker Plant Science Research Center



- 2013 *Determining the potential for exotic plant invasions following land applications of partially treated wastewater.* Field Day, New Mexico State University Agricultural Science Center at Tucumcari
- 2013 *Impacts of weed seedbanks on chemical weed control.* Field Day, New Mexico State University Agricultural Science Center at Los Lunas
- 2012 New Mexico State University, Extension Plant Sciences “*News You Can Use*” article entitled “Application of Chateau Herbicide in Alfalfa”. Co-author, Jamshid Ashigh.
- 2012 *Weed science research at New Mexico State University.* New Mexico State University, Leyendecker Plant Science Center Centennial Celebration
- 2010 *A landscape-epidemiological study on the spread of glyphosate-resistant common waterhemp.* Monsanto, St. Louis, MO
- 2010 *Research of the USDA-ARS Global Change Photosynthesis Research Unit,* University of Illinois Department of Crop Sciences, Agronomy Day
- 2009 *Research of the USDA-ARS Invasive Weed Management Unit,* All Things Organic Industry Trade Show, Chicago, IL
- 2008 *Research of the USDA-ARS Invasive Weed Management Unit,* University of Illinois Department of Crop Sciences, Agronomy Day
- 2007 Giant ragweed (*Ambrosia trifida*) seedling emergence forecasts for 2007. Crop Observation and Recommendation Network, The Ohio State University Cooperative Extension Service
- 2006 Giant ragweed (*Ambrosia trifida*) seedling emergence forecasts for 2006. Crop Observation and Recommendation Network, Ohio State University Cooperative Extension Service
- 2006 Predicting giant ragweed seedling emergence to better manage postemergence glyphosate applications. Crop Observation and Recommendation Network, Ohio State University Cooperative Extension Service