

CURRICULUM VITAE

RUPINDER KAUR SAINI

Research Assistant Professor of Weed Science
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Education

2012-2016: PhD: The University of Adelaide, SA, Australia.

Specialization: Weed Science

Dissertation: Clethodim resistance in *Lolium rigidum* Gaudin (annual ryegrass) and its management in broadleaf crops.

Supervisor: Dr. Gurjeet Gill

2007-2009: M.Sc. in Agronomy: Punjab Agricultural University, Ludhiana, PB, India.

Specialization: Weed Science

Thesis: Integrated weed management in transplanted celery (*Apium graveolens* Linn.)

Major Advisor: Dr. Baljinder Singh Gill

2003-2007: B.Sc. Agriculture (Hons.): Guru Nanak Dev University, Amritsar, PB, India

Research Experience

1. Research Assistant Professor: Nov 2017 - Present, Department of Plant and Soil Science Texas Tech University, Lubbock, TX.

- Developing integrated strategies for weed management.
- Conducting research on plant-herbicide interactions, strategic use of cultural practices and equipment to manage weeds, and potential influences of soil and climatic factors on weed growth and development.
- Assessing herbicide resistant weeds in the semi-arid west Texas region.
- Identifying alternative solutions to prevent/manage herbicide resistant weeds.

2. John Allwright Fellow: 2012-2016, The University of Adelaide, SA, Australia.

Project title: Clethodim resistance in *Lolium rigidum* Gaudin (annual ryegrass) and its management in broadleaf crops.

- Planned and conducted herbicide dose response experiments in greenhouse to quantify the level of herbicide resistance to ACCase-inhibiting herbicides.
- Conducted studies on inheritance of clethodim resistance by cross pollinating rigid ryegrass plants.
- Conducted plant DNA extraction, Polymerase Chain Reactions (PCR's), sequencing and analysis.
- Designed primers for the sequencing of ACCase-gene.

- Conducted pot studies to quantify fitness penalties associated with the ACCase mutant alleles.
 - Conducted pot studies to determine the effect of frost on the efficacy of clethodim in clethodim-resistant populations of rigid ryegrass.
 - Conducted field experiments to identify alternative herbicides for the control of herbicide-resistant rigid ryegrass in faba bean and canola crops.
 - Reviewed weed biology and ecology literature for 12 annual weed species and contributed in writing research grant proposal for “*Emerging weeds*” project submitted for funding to Grains Research and Development Corporation, Australia.
- 3. Research Associate:** 2010- 2011, Department of Agronomy, Punjab Agricultural University, Ludhiana, India.
- Project title:** Zero-tillage rice establishment and crop weed dynamics in rice and wheat cropping systems in India and Australia.
- Planned and conducted weed control field studies in different cropping systems.
 - Conducted field and lab studies on various crops such as rice, wheat, field pea, canola, cotton, corn, Japanese mint, soybean, chickpea and turmeric.
 - Collected and analyzed extensive crop–weed phenological and management data.
 - Conducted farmers meetings and training camps to create awareness of zero-tillage and direct seeded rice (DSR).
 - Compiled project reports and demonstrated laboratory techniques to undergraduate students.
 - Supervised and evaluated the work of laboratory technicians and daily paid workers.
- 4. Graduate Student:** 2007-2009, Department of Agronomy, Punjab Agricultural University, Ludhiana, PB, India.
- Project:** Integrated weed management in transplanted celery (*Apium graveolens* Linn.).
- Conducted field experiment to study the comparative efficiency and optimum dose of different herbicides to control weeds in transplanted celery.
 - Laboratory studies were conducted to determine the residue of different herbicides in celery seeds by using HPLC and GC/MS.
 - Collected, processed and analysed soil and plant samples.
 - Conducted statistical analysis and synthesis of data.

Technical Skills

- 1. Molecular Techniques:** DNA extraction, Polymerase chain reaction(s), designing of primers.
- 2. Plant Techniques:** Glasshouse work, pot trials, self and cross- pollination, surveying, field trial management, herbicide trails on crops like rice, wheat, field pea, celery, canola, cotton, corn, Japanese mint, soybean, chickpea and turmeric.
- 3. Interpersonal Skills:** Ability to work in collaborative environments independently and as part of a research team, experience in running tutorials and practical demonstrating for academic courses.

- 4. Computer Proficiency and Software Used:** GenStat®, SigmaPlot®, GraphPad Prism®, PriProbit, Vector NTI Advance®, ContigExpress®, Geneious®, Chromas®, SPSS®, Endnote®, Microsoft office.

Awards and Honors

1. Dean's Commendation for Doctoral Thesis Excellence (May 2016)

Awarded Dean's Commendation for Doctoral Thesis Excellence from The University of Adelaide, SA, Australia.

2. Conference Travel Grant (September 2014)

Graduate student travel grant by School of Agriculture, Food and Wine, The University of Adelaide, Australia to attend 19th Australasian weeds conference held during 1-4 September, 2014 at Hobart, Australia.

3. Graduate Student Award (February 2013)

At Global Herbicide Resistance Challenge conference, Perth, Australia held during 18-25 February, 2013 by Australian Herbicide Resistance Initiative (AHRI).

4. Conference Travel Grant (February 2013)

Ph.D. student travel grant by School of Agriculture, Food and Wine, The University of Adelaide, Australia to attend Global herbicide resistance challenge conference held during 18-22 February, 2013 at Perth, Australia.

5. Australian Award – John Allwright Fellowship (September 2011)

Awarded John Allwright fellowship from Australian Centre for International Agricultural Research (ACIAR), ACT, Australia for Doctorate degree in Weed Science at The University of Adelaide, SA, Australia.

Publications

In preparation

1. **Saini, R.**, Singh, A., Singh, S. (2023) Effect of different herbicides on industrial hemp phytotoxicity and biomass yield. *Weed Technology*.
2. **Saini, R.**, Slaughter, L., Singh, A. (2023) Effect of cotton herbicides on soil microbial properties. *Agronomy*.
3. Singh, A., Deb, S., Singh, S., Slaughter, L., Ritchie, G., Portillo Quintero, C., **Saini, R.**, Guo, W. (2023) Modeling root water patterns of cotton under deficit subsurface drip irrigation. *Agricultural Water Management*.

Published Peer-Reviewed Journal Papers

1. H. Meftahizadeh, Baath, G., **Saini, R.**, Falakian, M., Hatami, M. (2022) Melatonin-mediated alleviation of soil salinity stress by modulation of redox reactions and phytochemicals status in Guar (*Cyamopsis tetragonoloba* L.). *Journal of Plant Growth Regulation*. 1-19. doi.org/10.1007/s00344-022-10740-z.
2. Prakash, V., **Saini, R.**, Singh, M., Singh, S. (2021) Comparison of the Effects of Ammonium Nonanoate and an Essential Oil Herbicide on Weed Control Efficacy and Water Use Efficiency of Pumpkin. *Weed Technology*. 1-24. <https://doi.org/10.1017/wet.2021.89>
3. Singh, M., Singh, S., Singh, P., **Saini, R.**, Angadi, S. V. (2021) A global meta-analysis of yield and water productivity responses of vegetables to deficit irrigation. *Scientific Reports*. *Scientific Reports* 11, 22095. doi.org/10.1038/s41598-021-01433-

- [w.](#)
4. **Saini, R.**, A. Singh, S. Deb (2020) Effect of seed meals on weed control and soil physical properties in direct-seeded pumpkin. *Sustainability*, 12(14): 5811. doi.org/10.3390/su12145811.
 5. Baath, G. S., Shukla, M. K., Bosland, P. W., Walker, S. J., **Saini, R.**, Shaw, R. (2020) Water Use and Yield Responses of Chile Pepper Cultivars Irrigated with Brackish Groundwater and Reverse Osmosis Concentrate. *Horticulturae*, 6(2), 27. [doi:10.3390/horticulturae602002](https://doi.org/10.3390/horticulturae602002).
 6. Bishwoyog Bhattari, Sukhbir Singh, Sangamesh Angadi, Sultan Begna, Rupinder Saini, Dick Auld (2020) Spring safflower water use patterns in response to pre-season and in-season irrigation applications. *Agricultural Water Management*. 228: 2-11. doi.org/10.1016/j.agwat.2019.105876.
 7. Bishwoyog Bhattari, Sukhbir Singh, Chuck West, **Rupinder Saini** (2019) Forage potential of pearl millet and forage sorghum alternate to corn in water limiting condition of Texas High Plains - A Review. *Crop, Forage & Turfgrass Management*. 5: 190058. [doi:10.2134/cftm2019.08.0058](https://doi.org/10.2134/cftm2019.08.0058).
 8. Manpreet Singh, **Rupinder Saini**, Sukhbir Singh, Satpal Sharma (2019) Potential of integrating biochar and deficit irrigation strategies for sustaining vegetable production in water-limited regions: A review. *HortScience* 54 (11): 1872-1878. DOI: <https://doi.org/10.21273/HORTSCI14271-19>.
 9. **Rupinder K Saini**, Sukhbir Singh (2019) Use of natural products for weed management in high-value crops: An overview: *American Journal of Agricultural Research* 4 (25): 1-13. DOI: 10.28933/ajar-2018-11-2808. <https://escipub.com/ajar-2018-11-2808/>.
 10. **Rupinder K Saini**, Sukhbir Singh (2019) Contribution of cover crops and reduced tillage systems for weed management in organic vegetable production: *American Journal of Agricultural Research* 4 (24): 1-14. DOI: 10.28933/ajar-2018-11-2705. <https://escipub.com/ajar-2018-11-2705/>
 11. **Rupinder K Saini**, Jenna Malone, Christopher Preston, Gurjeet Gill (2017) Persistence of resistant alleles—1781, 2041 and 2078 in the absence of herbicide selection. *Agronomy Journal* 109 (5): 1806-1810. [doi:10.2134/agronj2016.06.0334](https://doi.org/10.2134/agronj2016.06.0334).
 12. **Rupinder K Saini**, Jenna Malone, Gurjeet Gill, Christopher Preston (2017) Inheritance of evolved clethodim resistance in rigid ryegrass (*Lolium rigidum*) populations from Australia. *Pest Management Science* 73 (8): 1604-1610. [doi:10.1002/ps.4493](https://doi.org/10.1002/ps.4493).
 13. **Rupinder K Saini**, Jenna Malone, Christopher Preston, Gurjeet Gill (2016) Frost reduces clethodim efficacy in clethodim-resistant rigid ryegrass (*Lolium rigidum*) populations. *Weed Science* 64 (2): 207-215. <http://dx.doi.org/10.1614/WS-D-15-00140.1>
 14. **Rupinder K Saini**, Samuel Kleemann, Christopher Preston, Gurjeet Gill (2016) Alternative herbicides for the control of clethodim-resistant rigid ryegrass (*Lolium rigidum* in Clearfield® Canola (*Brassica napus* L.) in southern Australia. *Weed Technology* 30 (2): 423-430. <http://dx.doi.org/10.1614/WT-D-15-00078.1>
 15. **Rupinder K Saini**, Jenna Malone, Christopher Preston, Gurjeet Gill (2015) Target enzyme-based resistance to clethodim in *Lolium rigidum* populations in Australia. *Weed Science* 63 (4): 946-953. <http://dx.doi.org/10.1614/WS-D-14-00176.1>

16. **Rupinder K Saini**, Samuel Kleemann, Christopher Preston, Gurjeet Gill (2015) Control of clethodim-resistant *Lolium rigidum* (rigid ryegrass) in triazine-tolerant canola (*Brassica napus* L.) in southern Australia. *Crop Protection* (78) 99-105. <http://dx.doi.org/10.1016/j.cropro.2015.08.023>
17. **Rupinder K Saini**, Samuel Kleemann, Christopher Preston, Gurjeet Gill (2015) Alternative herbicides for the management of clethodim resistant rigid ryegrass (*Lolium rigidum*) in faba bean (*Vicia faba* L.) in southern Australia. *Weed Technology* 29 (3): 578-586. <http://dx.doi.org/10.1614/WT-D-14-00143.1>
18. Tarundeep Kaur, Surjit Singh, M.S. Bhullar, Lovreet Singh Shergill and **Rupinder Kaur** (2013) Effect of planting methods and weed control on productivity of Japanese mint (*Mentha arvensis* L.). *Indian Journal of Agricultural Research* 47 (3): 243-247.
19. Tarundeep Kaur, U.S. Walia, M.S. Bhullar and **Rupinder Kaur** (2013). Effect of weed management on weeds, growth and yield of toria. *Indian Journal of Weed Science* 45 (4): 260-262.
20. M.S. Bhullar, Lovreet Singh Shergill, **Rupinder Kaur**, U.S. Walia and Tarundeep Kaur (2012) Bioefficacy of herbicides in relation to sowing methods in wheat. *Indian Journal of Weed Science* 44 (4): 214-217.
21. **Rupinder Kaur** and B.S. Gill (2012) Analysis of herbicides residue in celery seeds. *Indian Journal of Ecology* 39(2): 258-260.
22. **Rupinder Kaur** and B.S. Gill (2011) Effect of integrated weed management on productivity, quality and economics of celery (*Apium graveolens* Linn.). *Indian Perfumer* 55 (July-September): 36-40.
23. U. S. Walia, Tarundeep Kaur, Shelly Nayyar and **Rupinder Kaur** (2011) Performance of ready mix formulation of Fenoxaprop + Metribuzin for the control of grass and broadleaf weeds in wheat. *Indian Journal of Weed Science* 43 (1&2): 41-43.
24. **Rupinder Kaur** and B.S. Gill (2011) Efficacy of weed control practices in celery crop production. *Environment and Ecology* 29(2A): 896-899.
25. Surjit Singh, U.S. Walia, **Rupinder Kaur** and Lovreet Singh Shergill (2010) Chemical control of *Cyperus rotundus* in maize. *Indian Journal of Weed Science* 42(3 & 4): 189-192.

Conference Proceeding Papers

1. Christopher Preston, Peter Boutsalis, Samuel Kleemann, **Rupinder K Saini** and Gurjeet Gill (2015) Herbicides for control of clethodim-resistant annual ryegrass. Proceedings of Grain Research Updates held on 10th February 2015 at Adelaide (South Australia). Page 85-89.
2. **Rupinder K Saini**, Christopher Preston, Jenna Malone and Gurjeet Gill (2014) Molecular basis of resistance to clethodim in Australian ryegrass (*Lolium rigidum*) populations. Proceedings of Nineteenth Australasian Weeds Conference held on 1-4th September 2014 at Hobart, Tasmania, Australia. Page 11-14.
3. Christopher Preston, Peter Boutsalis, **Rupinder K Saini**, Sam Kleemann and Gurjeet Gill (2014) Maintaining flexibility and options with pre-emergents. Proceedings of Grain Research Updates held on 25-26th February 2014 at Adelaide (South Australia). Page 97-100.

4. Christopher Preston, Peter Boutsalis, Jenna Malone, Patricia Adu-Yeboah, Samuel Kleemann, **Rupinder K Saini** and Gurjeet Gill. Maintaining the best options with herbicides. Proceedings of Grain Research Updates held on 6-7th February 2013 at Adelaide (South Australia). Page 5.

Book Chapter

1. Tarundeep Kaur, U.S. Walia, M.S. Bhullar, **Rupinder Kaur**, L.S. Shergill (2014) Sustaining cotton productivity in semi-arid sub-tropical India. Pages 166-175 in Daggar JC, Arunachalam A, Singh AK, eds. Climate Change and Crop production. Jaipur, India: Aavishkar Publishers.

Published Abstracts

1. Saini, R., Singh, A., Singh, M., Singh, S. ASHS Annual Conference, Chicago, Effect of different herbicides on industrial hemp phytotoxicity and biomass yield, International, peer-reviewed/refereed, published in proceedings. (July 2022).
2. **Saini, R.**, Prakash, V., Singh, M., Singh, S. ASHS Annual Conference, Denver, Colorado, "Physiology, yield, and water use efficiency of pumpkin as affected by organic weed control," International, peer-reviewed/refereed, published in proceedings. (August 2021).
3. Prakash, V., **Saini, R.**, Singh, M., ASHS Annual Conference, Virtual Meeting, "Soil water depletion, water-use efficiency, and yield of pumpkin as affected by organic weed control treatments," International, peer-reviewed/refereed, published in proceedings. (August 2020).
4. Singh, A., **Saini, R.**, Singh, S., Deb, S., ASA, CSSA, and SSSA International Annual Meetings, San Antonio, TX, "Effect of mustard and sunflower seed meal on soil physical properties and yield in pumpkin," International, peer-reviewed/refereed, published in proceedings. (November 2019).
5. **Saini, R.**, Shaikh, A., Singh, A., Singh, S., ASHS Annual Conference, Las Vegas, NV, "Field evaluation of mustard and sunflower seed meal for weed management in pumpkin," International, peer-reviewed/refereed, published in proceedings. (July 2019).
6. Prakash, V., Singh, S., Singh, A., **Saini, R.**, Bhattarai, B., ASHS Annual Conference, Las Vegas, NV, "Effect of deficit irrigation and planting density on physiology, yield and water use of cucumber in semi-arid west-Texas," International, peer-reviewed/refereed, published in proceedings. (July 2019).
7. Singh, M., Sharma, S. P., Sarao, N. K., Singh, S., **Saini, R.**, ASHS Annual Conference, Las Vegas, NV, "Identification of SSR markers linked to nuclear male sterility gene ms-1 in muskmelon (*Cucumis melo* L.)," International, peer-reviewed/refereed, published in proceedings. (July 2019).
8. **Rupinder K Saini**, Christopher Preston, Jenna Malone and Gurjeet Gill. Clethodim resistance in *Lolium rigidum* (annual ryegrass). Proceedings of Postgraduate Symposium held on 24-25 September 2013 at School of Agriculture, Food & Wine, The University of Adelaide, Adelaide (South Australia). Page 42.

9. **Rupinder K Saini**, Gurjeet Gill, Christopher Preston and Jenna Malone. Resistance in *Lolium rigidum* (ryegrass) to clethodim and its management. Proceedings of Global Herbicide Resistance Challenge conference held on 18-22 February, 2013 at Perth, Western Australia. Page 51.
10. Tarundeep Kaur, M S Bhullar, **Rupinder Kaur** and Lovreet Singh Shergill. Sustaining Cotton Productivity in Semi-Arid Sub -Tropical India through Weed Management. Proceedings of Climate Change, Sustainable Agriculture and Public Leadership conference held on 7-9 February 2012, at New Delhi, India. Page 69.
11. M S Bhullar, U S Walia, S S Walia, Gurjeet Gill, Sudhir Yadav, G S Mangat, Simerjit Kaur, **Rupinder Kaur**, Lovreet Singh, Shelly Nayyar, Amandeep S Sidhu, Vinay Sindhu and Maninder Kaur. Successful introduction of dry seeded rice in Punjab state of India for resisting climate change. Proceedings of Climate Change, Sustainable Agriculture and Public Leadership conference held on 7-9 February, 2012 at New Delhi, India. Page 70.
12. **Rupinder Kaur** and B S Gill, 2010. Integrated weed management in transplanted celery (*Apium graveolens* Linn.). Proceedings of National Symposium on “Integrated Weed management in the era of climate change” held on 21-22 August, 2010 at New Delhi, India. Page: 63.
13. U S Walia, Tarundeep Kaur, **Rupinder Kaur** and Rosy Sumbria. Performance of new herbicide (AEF 04-6340-8 % + DIC 1468-14 % -22 % EC) for the control grassy and broadleaf weeds in wheat. Proceedings of National Symposium on “Integrated Weed management in the era of climate change” held on 21-22 August, 2010 at New Delhi, India. Page: 78.
14. U S Walia, Makhan Singh, Surjit Singh and **Rupinder Kaur**. Control of *Ipomoea nil* in spring planted sugarcane. National conference on Recent Advances in Agriculture held on 4-5 September, 2010 at Bathinda, India. Page: 79.

Extension Articles

1. Christopher Preston, Samuel Kleemann, **Rupinder K Saini** and Gurjeet Gill (2015) Managing clethodim-resistant ryegrass in canola. Research for the Riverine Plains 2015. Page 60.
2. Peter Boutsalis, Christopher Preston, Samuel Kleemann, **Rupinder K Saini** and Gurjeet Gill (2015) New herbicide challenges and solutions. GRDC Grain Research Updates held on 20th August 2015 at Cleve (South Australia). Page 13-17.
3. Surjit Singh, **Rupinder Kaur** and Lovreet Singh Shergill (2011) For safe and judicious use of herbicides follow these tips. Progressive farming 46 (6): 28-29.
4. Tarundeep Kaur, **Rupinder Kaur** and Lovreet Singh Shergill (2011) Jhone de wadh jharr lai nadeenan da suchaja parbandh. Changi khetai 47(5): 9-10.
5. Surjit Singh, **Rupinder Kaur** and Lovreet Singh Shergill (2011) Nadeen nashak jehran di surakhiat ate suchaji warton. Changi khetai 47(6): 6-7.
6. Tarundeep Kaur, **Rupinder Kaur** and Lovreet Singh Shergill (2011) Jhone de wadh jharr lai nadeenan da suchaja parbandh. Jag banni 24th May issue (Newspaper article).
7. BS Gill and **Rupinder Kaur** (2010) Grow celery – For higher returns. Indian Journal of Arecanut, Spices and Medicinal plants 3: 107-110.

Herbicide Recommendations for Farmers as a Co-Worker

1. Markgrip 20 WP- a new brand formulation of metsulfuron for the effective control of broadleaf weeds in wheat at 10 g/acre (2010) in *Package of Practices for the crops of Punjab: Rabi*. Ludhiana: Punjab Agricultural University.
2. 2,4-D amine salt applied as post emergence for control of *Cyperus rotundus* in maize at 400 ml/acre (2010) in *Package of Practices for the crops of Punjab: Kharif*. Ludhiana: Punjab Agricultural University.

Communications

1. **Saini, R.**, A. Singh, M. Singh, S. Singh (2022). Effect of different herbicides on industrial hemp phytotoxicity and biomass yield. ASHS Annual Conference, Chicago, IL. *Poster Presentation*.
2. Prakash, V., **Saini, R.**, Singh, M., Singh, S. (2021). Physiology, yield, and water use efficiency of pumpkin as affected by organic weed control. ASHS Annual Conference, Denver, Colorado. *Poster Presentation*.
3. Prakash, V., **Saini, R.**, Singh, M. (2020). Soil water depletion, water-use efficiency, and yield of pumpkin as affected by organic weed control treatments. Virtual ASHS Annual Conference. *ePoster Presentation*.
4. **Saini, R.**, Shaik, A., Singh, A., Singh, S (2019). Field evaluation of mustard and sunflower seed meals for weed management in pumpkin. American Society for Horticultural Science 2019 annual meeting, Las Vegas, Nevada. *Poster Presentation*.
5. Prakash, V., S. Singh, A, Singh, **R. Saini** and B. Bhattarai (2019). Effect of deficit irrigation and planting density on physiology, yield and water use of cucumber in semi-arid west-Texas. ASHS Annual Conference. July 21-25. Las Vegas, NV. *Poster Presentation*.
6. Singh, M., S. P. Sharma, N. K. Sarao, S. Singh and **R. Saini** (2019). Identification of SSR markers linked to nuclear male sterility gene ms-1 in muskmelon (*Cucumis melo* L.). ASHS Annual Conference. July 21-25. Las Vegas, NV. *Poster Presentation*.
7. Weed control in vegetable crops. Vegetable Production Series, South Plains Food Bank, Lubbock, Texas. October 22, 2018. *Speaker presentation*.
8. Inheritance patterns for resistance to clethodim in *Lolium rigidum* from Australia are variable. 7th International Weed Science Congress, Prague, Czech Republic. June 19 - 25, 2016. *Poster presentation*.
9. Molecular basis of resistance to clethodim in Australian ryegrass (*Lolium rigidum*) populations. 19th Australasian weeds conference, Hobart, Australia. Sept 1-4, 2014. *Speaker presentation*.
10. Clethodim resistance in *Lolium rigidum* (annual ryegrass). Postgraduate symposium, School of Agriculture, Food & Wine, The University of Adelaide, Adelaide (South Australia). Sept 25, 2013. *Speaker presentation*.
11. Resistance in *Lolium rigidum* (annual ryegrass) to clethodim and its management. Global herbicide resistance challenge, Perth, Australia. February 19, 2013. *Speaker presentation*.
12. Clethodim resistance in *Lolium rigidum* and its management in broadleaf crops. Australian Centre for International Agricultural Research (ACIAR), Canberra, Australia. September 28, 2012. *Speaker presentation*.
13. Integrated weed management in transplanted celery (*Apium graveolens* Linn.). Integrated Weed management in the era of climate change, New Delhi, Indian. August 21-22, 2010. *Poster presentation*.
14. Optimizing agronomic requirements for seed yield and quality of celery. Department of Agronomy, Punjab Agricultural University, Ludhiana, India. Nov 4, 2008. *Speaker*

presentation.

Conferences / Symposium

1. West Texas Agricultural Chemicals Institute Annual Meeting, Lubbock, TX, Sep 14, 2022.
2. American Society for Horticultural Science 2022 annual meeting, Chicago, IL, July 30 – Aug 3, 2022.
3. American Society for Horticultural Science 2021 annual meeting, Denver, Colorado August 5 – 9, 2021.
4. American Society for Horticultural Science 2019 annual meeting, Las Vegas, Nevada, July 22 – 25, 2019.
5. Enhancing productivity in a changing climate. 2018 ASA and CSSA meeting, Baltimore, MD, November 4 - 7, 2018.
6. 19th Australasian Weeds Conference, Hobart, Australia, September 1– 4, 2014.
7. Postgraduate symposium, School of Agriculture, Food & Wine, The University of Adelaide, Adelaide, SA, Australia. September 24–25, 2013.
8. Global Herbicide Resistance Challenge, Perth, Western Australia, February 18-22, 2013.
9. Preparing Agriculture for Climate Change conference, PAU, Ludhiana, India, February 6-8, 2011.
10. National Symposium on “Integrated Weed management in the era of climate change” at NASC, New Delhi. August 21-22, 2010.
11. National Workshop on “Scope & Problems of Direct Seeded Rice” at PAU, Ludhiana, India. Sept 16, 2009.
12. National Workshop on “Spices and Aromatic Plants” at PAU, Ludhiana, India. February 4-5, 2009.
13. Participated in various field day’s and training camps for farmers.

Research Grants & Contracts

Grants Received

1. **Saini, R.**, and L. Slaughter. 2022. Effect of different herbicides on soil health in cotton production systems. Texas State Support Committee-Cotton Incorporated. Principle Investigator. \$66,714. My share \$53,371.
2. Bratcher, C., **R. Saini** et al. 2021. OAP- precipitation and irrigation management to optimize profits from crop production - OAP 3rd phase with TTU. USDA-ARS-OAP. Co-Investigator. \$262,723. My share: \$17,515.
3. Laza, H.E., **R. Saini** et al. 2022. Assessing crop ecophysiology for sustainable agricultural production in the southern high plains. USDA Agricultural Research Service. Co-Investigator. \$150,000. My share: \$25,000.
4. Singh, S. and **R. Saini**. 2021. Evaluation of industrial hemp cultivars for commercial production in Texas. Texas Hemp Growers Association. Co-Investigator. \$30,000. My share: \$12,000.
5. Singh, S. and **R. Saini**. 2019. Agronomic evaluation of different specialty crops. Group NIRE Renewable Energy. Co-Investigator. \$142,107. My share: \$28,422.

Not Funded: Grants and Pre-proposals

1. **Saini, R.**, S. Singh, S. Deb and L. Slaughter. 2022. Can industrial hemp be used as a cover crop for vegetable production systems? USDA-NIFA Cooperative State Research Ed & Extension Service. Co-Investigator. \$722,682.
2. Singh, S., **Saini, R.**, Abidi, N., Shamshina, J. 2022. Optimizing Industrial Hemp Production System Efficiency in Texas High Plains. USDA-NIFA Cooperative State Research Ed & Extension Service. Co-Investigator. \$750,000.
3. **Saini, R.**, L. Slaughter, H. Singh, P. Devkota 2022. What is the effect of repeated, long-term herbicide usage on soil health in cotton production systems?. Southern SARE. Principal Investigator. – \$398,000.
4. **Saini, R.** 2022. Effect of limited irrigation on herbicide efficacy in cotton production system. Underground Water Conservation District No. 1. Principle Investigator. \$40,563.
5. **Saini, R.**, L. Slaughter. 2022. Impact of irrigation retirement on herbicide efficacy, soil health, and cotton productivity in the Texas high plains. USDA-ARS-OAP. Principle Investigator. \$81,773.
6. **Saini, R.**, S. Singh, S. Deb and L. Slaughter. 2021. Industrial Hemp: Novel cover crop for vegetable production systems in the Texas high plains. Principal Investigator. \$750,000.
7. Singh, S., **Saini, R.**, Abidi, N., Shamshina, J. 2021. Optimizing industrial hemp production system efficiency in Texas high plains. USDA-NIFA Cooperative State Research Ed & Extension Service. Co-Investigator. \$750,000.
8. **Saini, R.**, S. Deb and L. Slaughter. 2021. Industrial Hemp and Fenugreek: Novel Cover Crops for High Tunnels to Improve Weed Control, Soil Health and Crop Yield. Texas Department of Agriculture. Principal Investigator. \$89,327.
9. **Saini, R.** and S. Singh. 2021. Evaluating biochar-cotton burr compost mixtures as renewable substrates for soil-less tomato production. Principal Investigator. \$82,226.
10. **Saini, R.**, S. Singh, S. Deb and L. Slaughter. 2020. Aromatic plants as potential cover crops for sustainable vegetable production in the Texas High Plains. USDA-NIFA-AFRI. Principal Investigator. \$459,877.
11. Singh, S. and **R. Saini**. 2020. Evaluation of industrial hemp cultivars for commercial production in Texas. Texas Hemp Growers Association. Co-Investigator. \$202,570.
12. **Saini, R.**, L. Slaughter. 2020. Integrating Aromatic Cover Crops in High Tunnel Crop Production. Texas Department of Agriculture. Principal Investigator. \$86,355.
13. Xiang, Y., M.C. Cecilia, **R. Saini** 2020. Enhancing Data-Driven Agricultural Education. USDA-NIFA Cooperative State Research Ed & Extension Service. Co-Investigator. \$274,923.
14. Singh, S., **Saini, R.** 2020. Effect of planting time and planting density on water use efficiency of industrial hemp. USDA-ARS-OAP. Co-Investigator. \$68,460.
15. Singh, S., **R. Saini** 2019. Agronomic evaluation of different specialty crops. Group NIRE Renewable Energy. Co-Investigator. \$142,107.
16. Singh, S., S. Loneragan, S. Longing, **R. Saini**, L. Slaughter 2019. Advancing sustainable production practices and native pollinator conservation in Texas pumpkins. Southern SARE. Co-Investigator. - \$257,941.
17. **Saini, R.**, S. Singh, S. Deb, L. Slaughter and R. Wallace 2019. Aromatic plants as potential cover crops for sustainable vegetable production in the Texas high plains. Southern SARE. Principal Investigator. – \$279,601.

18. **Saini, R.**, S. Singh, K. Lewis 2019. Evaluation of aromatic cover crops in high tunnel vegetable production system. USDA-AMS-SCBGP. Principal Investigator. - \$67,103.
19. Singh, S., **R. Saini**, S. Deb 2019. Improving water use efficiency and soil resilience for sustainable vegetable production in Texas. USDA-AMS-SCBGP. Co-Investigator. - \$71,221.
20. **Saini, R.**, S. Singh 2019. Water saving and weed suppression by combination of deficit irrigation and commercially available organic products in watermelons. Underground Water Conservation District No. 1. Principal Investigator. - \$40,660.
21. Singh, S., **R. Saini** 2019. Combining biochar application with deficit irrigation to improve water productivity of vegetable production in Texas. Underground Water Conservation District No. 1. Co-Investigator. - \$52,290.
22. **Saini, R.**, S. Singh, S. Deb, L. Slaughter and R. Wallace 2018. Aromatic plants as potential cover crops for sustainable vegetable production in the Texas high plains. Southern SARE. Principal Investigator. – 260,347.
23. Moustaid-Moussa, N., **R. Saini**, A. Echeverry et al. 2018. GRow and EAT Leafy GREENS (GREAT GREENS): Sustainable Production of Leafy Greens for Health and Food Safety. USDA-NIFA-AFRI-SAS. Collaborator. \$10,000,000. My share: \$200,000.
24. **Saini, R.**, S. Singh 2018. Combined application of arbuscular mycorrhizal fungi and oxo-biodegradable mulching films to improve water-use efficiency and weed control in watermelon. Ogallala Aquifer Program. Principal Investigator. – \$98,000.
25. **Saini, R.**, S. Singh 2018. Maximizing water-use efficiency and weed control in pumpkin via different biodegradable mulches under drip irrigation. High Plains Underground Water Districts No. 1. Principal Investigator. - \$46,701.
26. **Saini, R.**, S. Singh and R. Wallace 2018. Integration of cover crops and conservation tillage systems for organic vegetable production in semi-arid West-Texas. USDA-AMS-SCBGP. Principal Investigator. - \$150,117.
27. Sharma L., A. Chaterjee, S. Bali, O. Walsh, **R. Saini**, S. Singh and N. Macnack 2018. Improve nitrogen use efficiency through soil and water management. USDA-NIFA-SCRI. Co-Investigator. - \$232,357.

Student Supervision

Graduate Students

In Progress:

Committee Chair

- Chair (Spring, 2023): Jasleen Makkar, M.S. student, Plant and Soil Science, Texas Tech University.

Committee Member

- Committee member (Spring, 2022-Present): Preetaman Bajwa, M.S. student, Plant and Soil Science, Texas Tech University.

Invited Reviewer for Journal Papers

- Pest Management Science
- Agriculture
- Crop Protection
- Molecules
- Agronomy
- Horticulturae

- Journal of Crop Improvement

Guest Lectures

- Weed control in horticultural crops. Lubbock Master Gardener Association, Lubbock, Texas, October 20, 2022.
- Weed control in vegetable crops. Vegetable Production Series organized by Texas A&M AgriLife, South Plains Food Bank, Lubbock, Texas, October 22, 2018.

Society Memberships

- Weed Science Society of America
- American Society of Agronomy
- Crop Science Society of America
- American Society of Horticultural Science