

Curriculum Vitae

PRANAY KUMAR KADARI

University of Missouri
College of Agriculture, Food & Natural resources
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EDUCATION

MS in Plant, Insect and Microbial Sciences

2023-25

University of Missouri, Columbia, MO - CGPA-3.8/4

Thesis title: Topographic Positions Affects Corn Yields and Productivity under Varied Nitrogen Rates and Application Timings.

Thesis committee: Dr. Gurbir Singh, Dr. Kelly A. Nelson, Dr. Morgan Davis, and Dr. Gurpreet Kaur

Graduate Geographic Information Science Certificate

2023-25

University of Missouri, Columbia, MO

BS (Hons) in Agricultural sciences

2018-22

Professor Jayashankar Telangana State Agricultural University - CGPA: 8.83/10

PROFESSIONAL EXPERIENCE

Research Technician

2025-Present

National Center for Soybean Biotechnology, University of Missouri, Columbia, MO, USA

Responsibilities:

- Led end-to-end data acquisition, image processing, statistical analysis, and reporting for high-throughput root system architecture (RSA) studies assessing soybean responses to abiotic stress.
- Assisting research scientists, post-doctoral fellows in equipment maintenance, logistics planning, data analysis and manuscript writing.
- Developing protocols and pipelines for optimizing data collection, processing and analysis.

Graduate Research Assistant

2023-25

University of Missouri, Columbia, MO, USA

1. Nitrification Inhibitors Affect Nitrogen Requirement, Corn Grain Yields and Quality, and use Efficiencies Across Topographic Positions
2. Nitrogen Dynamics in Soil Plant Water and Gaseous Pathways as Affected by Topographic Positions and Application Timing

Responsibilities:

- Data collection of crop growth parameters, soil sampling, data analysis, report writing, peer review article writing, extension talks at field days, presentations at the ASA-CSSA-SSSA conference.
- Mentoring and assisting other graduate students in-ongoing research projects

Research Intern, RS Paroda Gene Bank

2022-23

International Crops Research Institute for Semi-Arid Tropics (ICRISAT), India

1. Legume germplasm descriptor characterization

- Phenotypic characterization, primary and trait specific evaluation in Pigeon pea, chickpea and groundnut global diversity accessions.

2. Evaluation of sesame germplasm core set

- Phenotypic characterization, primary and trait specific evaluation of 3140 sesame diversity accessions.

Research Assistant, Department of Genetics & Plant breeding

2022-22

Agricultural Research Station (ARS), India

- Development of novel genotypes of green manure varieties for sustainable agriculture.
- Recording biometrical observations & soil sample analysis of experimental plots.
- Development of package of practice for seed production in sunhemp and sesbania.

Student Intern

2021-22

Agricultural Research Station, Mudhole, Nirmal

- Transfer of technology and bridging the Agronomic, Technological & Extension gaps identified in farmer's fields by conducting Participatory Rural Appraisal (PRA), expert meetings, awareness campaigns, field visits, T&V, brainstorming sessions, Village adoption and Agricultural exhibitions.
- Documentation of Indigenous Technical Knowledge (ITKs), Success and failure stories in Farming.

Professor Jayashankar Telangana State Agricultural University

All India Coordinated Research Project on Rice.

2016-17

- Hybridization in paddy and maintenance of germplasm lines.
- Yield and BPH screening trails on varieties suitable for Northern Telangana Zone.

All India Coordinated Research Project on Sesame.

2016-17

- Screening for susceptibility of sesame varieties to *Cercospora* and *Phyllody*.
- Evaluation of high yielding sesame varieties for yield and disease resistance.

AICRP on Long Term Fertilizer Experiments on Rice

2015-16

- Sampling and analysis of soil samples from the experimental plots.

TEACHING AND MENTORING EXPERIENCE

Graduate Research Assistant

2023 -25

University of Missouri, Columbia, MO

- Mentored graduate and undergraduate students in proposal writing, data collection and personal development.
- Assisted other graduate students with ongoing research projects by providing technical support and research guidance.

Teaching Assistant

Department of Agricultural Entomology, Agricultural College, India

2022-23

- Conducted practical sessions for ENTO 332: *Management of Beneficial Insects* for the Undergraduate 2019-2020 batch.
- Prepared laboratory exercises and supported students in mastering course content.

Primary School Teacher

2019-20

Little Flower Upper Primary School, Jagtial, India

- Taught Biology and English subjects to Classes V-VIII.

- Developed and graded assignments, maintained classroom discipline, and facilitated learning activities.

PUBLICATIONS

Peer review articles

1. **Kadari, P. K.**, Singh, G., Nelson, K. A., Kaur, G., & Rocha Junior, A., Nitrapyrin Application at Different Topographic Positions Affects Corn Productivity and Economic Returns. *Agronomy Journal* (Under review)
2. Aslam, M. M., **Kadari, P. K.**, Singh, G., Nelson, K. A., Kaur, G., Single and Mixed Species Cover-Crops Affects Cotton Yield, Quality, and Economic Outcomes. *Agrosystems, Geosciences & Environment* (Under review)
3. **Kadari, P. K.**, Singh, G., Nelson, K. A., Davis, M.P., Kaur, G., Nitrification Inhibitors Affect Nitrogen Requirement, Corn Grain Yields and Quality, and use Efficiencies Across Topographic Positions (Internal review)
4. **Kadari, P. K.**, Singh, G., Nelson, K. A., Davis, M.P., Kaur, G., Nitrogen Dynamics in Soil Plant Water and Gaseous Pathways as Affected by Topographic Positions and Application Timing (Internal review).
5. **Kadari, P. K.**, Singh, G., Kaur, G., & Nelson, K. A., Predictive Modeling of Soybean Yield Loss Due to Early-Season Waterlogging Using UAV-Based Vegetation Indices and Machine Learning (In preparation)

Extension articles

1. **Kadari, P. K.**, Singh, G., Nelson, K. A., Davis, M.P., Kaur, G., Landscape Positions and Nitrification Inhibitors Affect Corn Productivity on Claypan Soils (MoFCB annual project report-2025)
2. **Kadari, P. K.**, Singh, G., Nelson, K. A., Davis, M.P., Kaur, G., Landscape Positions and Nitrification Inhibitors Effects on Nitrogen Requirement on Claypan Soils, University of Missouri Greenley Memorial Center 47th Annual field day, 2024 (*Publication No. SR606*). Available online at: <https://extension.missouri.edu/media/wysiwyg/Extensiondata/Pub/pdf/specialb/sr0605.pdf>
3. **Kadari, P. K.**, Singh, G., Nelson, K. A., Davis, M.P., Kaur, G., Landscape Positions and Nitrogen Timing Affects Corn Yields and Grain Nitrogen Uptake and Quality, University of Missouri Greenley Memorial Center 47th Annual field day, 2024 (*Publication No. SR606*). Available online at: <https://extension.missouri.edu/media/wysiwyg/Extensiondata/Pub/pdf/specialb/sr0605.pdf>

CONFERENCE & PRESENTATIONS

Proceedings & Abstracts

1. **Kadari, P. K.**, Singh, G., Nelson, K. A., Davis, M. P., & Kaur, G. (2024) Landscape Positions and Nitrogen Application Timing Effects on Leaching Loss from Claypan Terraces [Abstract]. ASA, CSSA, SSSA International Annual Meeting, San Antonio, TX. <https://scisoc.confex.com/scisoc/2024am/meetingapp.cgi/Paper/159872>
2. **Kadari, P. K.**, Singh, G., Nelson, K. A., Davis, M. P., & Kaur, G. (2024) Landscape Positions and Nitrogen Application Timings Affects N₂O Emissions on Claypan Terrace [Abstract]. ASA, CSSA,

SSSA International Annual Meeting, San Antonio, TX.
<https://scisoc.confex.com/scisoc/2024am/meetingapp.cgi/Paper/159804>

3. **Kadari, P. K.**, Singh, G., Nelson, K. A., & Kaur, G. (2024) Landscape Positions and Nitrification Inhibitors Affect Corn Productivity and Grain Quality on Claypan Soils [Abstract]. North Central Extension-Industry Soil Fertility Conference, Des Moines, IA, 2014. Available online: https://northcentralfertility.com/Conference_History/54_NFSFC
4. **Kadari, P. K.**, Singh, G., Nelson, & Kaur, G. (2024) Landscape Positions and Nitrification Inhibitors Affect Corn Productivity and Grain Quality on Claypan Soils [Abstract]– UCOWR, St. Louis, MO, 2024.
5. **Kadari, P. K.**, Singh, G., Nelson, K. A., Davis, M. P., & Kaur, G. (2024) Landscape Positions and Nitrification Inhibitors Affect Corn Productivity and Grain Quality on Claypan Soils [Proceedings]. North Central Extension-Industry Soil Fertility Conference, Des Moines, IA, 2014. Available online: https://northcentralfertility.com/Conference_History/54_NFSFC

Conferences & Symposia

1. **Kadari, P. K.**, Singh, G., Nelson, K. A., Davis, M. P., & Kaur, G. (2024) Landscape Positions and Nitrogen Application Timing Effects on Leaching Loss from Claypan Terraces [Oral talk]. ASA, CSSA, SSSA International Annual Meeting, San Antonio, TX.
<https://scisoc.confex.com/scisoc/2024am/meetingapp.cgi/Paper/159872>
2. **Kadari, P. K.**, Singh, G., Nelson, K. A., Davis, M. P., & Kaur, G. (2024) Landscape Positions and Nitrification Inhibitors Affect Corn Productivity and Grain Quality on Claypan Soils [Rapid talk & Poster]. North Central Extension-Industry Soil Fertility Conference, Des Moines, IA, 2014. Available online: https://northcentralfertility.com/Conference_History/54_NFSFC.
3. **Kadari, P. K.**, Singh, G., Nelson, K. A., Davis, M. P., & Kaur, G. (2024) Landscape Positions and Nitrification Inhibitors Affect Corn Productivity and Grain Quality on Claypan Soils [Poster]– UCOWR, St. Louis, MO, 2024.
4. **Kadari, P. K.**, Singh, G., Nelson, K. A., & Kaur, G. (2024), Can NDVI and ReNDVI₇₅₀ be a Reliable Predictor of Grain Yield for Corn Grown on Landscape Positions with Split Nitrogen Application Timings? [Poster]– University of Missouri-Digital Ag symposium-2024. Available at: <https://darec.missouri.edu/darec-symposium-2024/>.
5. **Kadari, P. K.**, Singh, G., Nelson, K. A., & Kaur, G. (2024), Influence of Topographic Positions on denitrification losses from a claypan terrace under corn and soybean rotation. [Poster]-University of Missouri- Soybean symposium-2024.
6. **Kadari, P. K.**, Singh, G., Nelson, K. A., & Kaur, G. (2024), Topographic Positions-based N Management with Nitrapyrin Enhances Corn Productivity and Profitability in Missouri (University of Missouri-Digital Ag symposium-2025. Available at: <https://darec.missouri.edu/darec-symposium-2025/>.

Extension talks

1. Updating Nitrogen Rate Recommendations for Missouri (Field Day-2024)
2. Augmented Reality for understanding topography (HS Field Day, 2024, Bradford Farm)
3. Understanding the influence of Topography on N management on claypan soils (SFWG-2025)

PROFESSIONAL SKILLS

Softwares- DSSSAT, ArcGIS Pro, ERDAS, Agisoft, R Studio, SAS, MS Office, Origin Pro, Sigma Plot, Winrhizo, Rootpainter, Rhizovision.

Instrumental techniques- Gasmet Terra 500, Gallery Enzyme Master, Ion Chromatograph, XL500 bench top meter, SPAD, Picketa, Apparent EC (Geonics), Field scout TDR, Picketa Scanner, GPS

WORKSHOPS

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| 1. Utility drones for Agricultural Operations at Greenley Research Center | 09/2024 |
| 2. DST Funded ICRISAT Workshop on Regenerative Agriculture, India | 09/2022 |
| 3. Workshop on climate change, Agri clinics and Agri business centers by NABARD at RARS, Jagtial. | 12/2021 |
| 4. NABARD at RARS, Jagtial. | |

AWARDS & HONORS

1. 54th NCSFC Outstanding Graduate Student Award, Des Moines, IA, 2024
2. 1st Place - ASA Nutrients and Environmental Quality Community Student Competition. American Society of Agronomy (ASA), 2024 Annual Meeting, San Antonio, TX.
3. 3rd Place - Essay and Elocution Competitions. Inter-Collegiate Sports, Games, Cultural, and Literary Competitions for Undergraduate, Hyderabad-2022

PROFESSIONAL MEMBERSHIPS

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| 1. American Society of Agronomy | 2024-present |
| 2. Soil Science Society of America | 2024-present |
| 3. Crop Science Society of America | 2024-present |
| 4. The Universities Council on Water Resources | 2024-present |

REFERENCES

Dr. Gurbir Singh (MSc Supervisor)
Assistant Professor
Division of Plant Science and Technology
University of Missouri, Columbia, MO
Email: Singhgu@missouri.edu

Dr. Kelly A. Nelson
Professor
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Indian Council for Agricultural Research, New Delhi, India
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