JOSEFINA LACASA
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Appointments

Assistant Professor, Department of Statistics, Kansas State University, 2024-present

Education

- Ph.D. in Agronomy, Kansas State University, 2021-2023
  Advisor: Dr. I.A. Ciampitti (Professor, Farming Systems)
  Dissertation topic: Rethinking crop nutrition diagnosis models: methods, inference and practical applications in crop production and breeding
- M.Sc. in Statistics, Kansas State University, 2021-2023
  Advisor: Dr. T.J. Hefley (Professor, Statistics)
  Report topic: A Bayesian Approach for Estimating and Checking Block Designs in Agricultural Experiments
- B.Sc. in Agronomy, University of Buenos Aires, 2015-2020
  Advisor: Dr. M.E. Otegui (Professor, Crop Physiology)
  Thesis topic: Comparison of maize hybrids with contrasting relative maturity
  Study Abroad program at Kansas State University, 2019

Teaching Experience

- **Kansas State University**
  - Instructor (with Dr. Trevor Hefley and Francisco Palmero), Bayesian Modeling for Agricultural Data Workshop, 16th International Conference on Precision Agriculture, 2024.
  - Teaching assistant, Applied Bayesian Statistics and Prediction (STAT 768), Spring 2023.
  - Teaching assistant, Crop Science (AGRON 220), Fall 2021.
- **University of Buenos Aires**
  - Teaching assistant, Crop Production, Spring 2018, Fall 2020, Spring 2020.
  - Teaching assistant, Applied Biochemistry, Spring 2017, Fall 2018.

Publications

**__Bold & underlined__ indicates collaboration as a statistical consultant.*
By June 2024, Google Scholar showed an h-index of 6 and an i10-index of 6.

Accepted publications

1 Rodriguez, I.M., **Lacasa, J.**, Lemaire, G., Zhao, B., Tahir, S., Ata-Ul-Karim, and Ciampitti, I.A. (2024). Crop nitrogen status and yield formation: A cross-species comparison for maize, rice, and wheat field crops. Field Crops Research. https://doi.org/10.1016/j.fcr.2024.109515

2 Rodriguez, I. M., **Lacasa, J.**, van Versendaal, E., Lemaire, G., Belanger, G., Jégo, G., Sandaña, P. G., Soratto, R. P., Djalovic, I., Ata-Ul-Karim, S. T., Reussi Calvo, N. I., Giletto, C. M., Zhao, B., & Ciampitti, I. A. (2024). Revisiting the relationship between nitrogen nutrition index and yield across major species. European Journal of Agronomy, 154, 127079. https://doi.org/10.1016/j.eja.2023.127079

3 **Lacasa, J.**, Messina, C.D., Ciampitti, I.A. (2023). A probabilistic framework for forecasting maize crop yield response to agricultural inputs with sub-seasonal climate predictions. Environ. Res. Lett. https://doi.org/10.1088/1748-9326/acd8d1

4 **Lacasa, J.**, Makowski, D., Hefley, T., Fernandez, J., van Versendaal, E., Lemaire, G., & Ciampitti, I. (2023). Comparison of statistical methods to fit critical nitrogen dilution curves. European Journal of Agronomy, 145, 126770. https://doi.org/https://doi.org/10.1016/j.eja.2023.126770

5 Fernandez, J. A., van Versendaal, E., **Lacasa, J.**, Makowski, D., Lemaire, G., & Ciampitti, I. A. (2022). Dataset characteristics for the determination of critical nitrogen dilution curves: From past to new guidelines. European Journal of Agronomy, 139, 126568. https://doi.org/https://doi.org/10.1016/j.eja.2022.126568

6 Ciampitti, I., van Versendaal, E., Rybecky, J. F., **Lacasa, J.**, Fernandez, J., Makowski, D., & Lemaire, G. (2022). A global dataset to parametrize critical nitrogen dilution curves for major crop species. Scientific Data, 9(1), 277. https://doi.org/10.1038/s41597-022-01395-2

7 Ciampitti, I. A., Makowski, D., Fernandez, J., **Lacasa, J.**, & Lemaire, G. (2021). Does water availability affect the critical N dilution curves in crops? A case study for maize, wheat, and tall fescue crops. Field Crops Research, 273, 108301. https://doi.org/https://doi.org/10.1016/j.fcr.2021.108301

8 **Lacasa, J.**, Ciampitti, I. A., Amas, J. I., Curín, F., Luque, S. F., & Otegui, M. E. (2021). Breeding effects on canopy light attenuation in maize: a retrospective and prospective analysis. Journal of Experimental Botany, erab503. https://doi.org/10.1093/jxb/erab503

9 **Lacasa, J.**, Hefley, T. J., Otegui, M. E., & Ciampitti, I. A. (2021). A practical guide to estimating the light extinction coefficient with nonlinear models—a case study on maize. Plant Methods, 17(1), 60. https://doi.org/10.1186/s13007-021-00753-2

10 **Lacasa, J.**, Gaspar, A., Hinds, M., Jayasinghege Don, S., Berning, D., & Ciampitti, I. A. (2020). Bayesian approach for maize yield response to plant density from both agronomic and economic viewpoints in North America. Scientific Reports, 10(1), 15948. https://doi.org/10.1038/s41598-020-72693-1

Publications under review

1. **Lacasa, J.**, Le-Gouis, J., Lemaire, G., and Ciampitti, I.A. (2023). Revisionist analysis of relevant metrics for nitrogen phenotyping in wheat crop. Under review in Plant Breeding.

2.Volpato, N., Ciampitti, I.A., Carcedo, A.J.P., Tamagno, S., Durrett, T.P., **Lacasa, J.**, Retrospective Analysis of Corn Grain Composition: Starch, Protein, Oil, and Fatty Acid Profile. To be submitted to Journal of Cereal Science

Publications in process

1. Giordano, N., Hayes, D., **Lacasa, J.**, Beres, B., Hefley T.J., Lollato, R. (2023). Re-thinking wheat yield response to plant density: risk assessment of seed treatment and cleaning methods. To be submitted to Plant Methods.

2. **Lacasa, J.**, Ciampitti, I.A., Hefley, T.J. (2023). A Bayesian approach for estimating and checking block designs in agricultural experiments. To be submitted to Journal of Agricultural, Biological, and Environmental Statistics.

3. Correndo, A., **Lacasa, J.**, Whetten, A., Hefley, T.J., and Ciampitti, I.A. (2023). Does corn yield variance respond to nitrogen fertilizer rate and timing? To be submitted to Agronomy Journal.

Extension Publications and Activities

1 Adjust corn plant density for the coming 2022 season (2022). Kansas State Univeristy eUpdate. https://eupdate.agronomy.ksu.edu/article_new/adjust-corn-plant-density-for-the-coming-2022-season-490

2 Corn seeding rate using weather models (2022). K-State Research and Extension. https://www.ksre.k-state.edu/news/stories/2022/04/video-corn-seeding-rates-and-weather-forecasts.html

3 Understanding The Past To See The Future Of Corn Hybrid Plants (2021). K-State Research and Extension. https://www.ksre.k-state.edu/news/stories/2021/08/corn-hybrids-lessons-learned-help-develop-better-hybrids.html

4 Summary of 2019 Kansas Corn Yield Contest (2020). Kansas State University eUpdate. https://eupdate.agronomy.ksu.edu/eu_article_prep.php?article_id=2447

5 2019 Kansas Corn Schools - KS Corn Comission

Posters and Oral presentations (only showing first-authored presentations)

1 Lacasa, J., Ciampitti, I. A., & Hefley, T. (2024) A Bayesian Approach for Checking Blocks in Agricultural Experiments. Bayes Plurinacional, Salta, Argentina, 2024.

2 Lacasa, J., Ciampitti, I. A., & Hefley, T. (2023) A Bayesian Approach for Checking Blocks in Agricultural Experiments. ASA, CSSA, SSSA International Annual Meeting, Saint Louis, MO.

3 Lacasa, J., Palmero, F., Correndo, A.A., Hernandez, C.M., & Ciampitti, I. A. (2023) Making R Accessible to Next-Generation Plant Scientists. ASA, CSSA, SSSA International Annual Meeting, Saint Louis, MO.

4 Lacasa, J., Makowski, D., Hefley, T., & Ciampitti, I. A. (2023) Comparing statistical methods to fit critical nitrogen dilution curves for crop nutrition. Joint Statistical Meetings, Toronto, ON, Canada.

5 Lacasa, J., Makowski, D., Hefley, T., & Ciampitti, I. A. (2022) A Framework to Estimate Critical Nitrogen Dilution Curves [Abstract]. ASA, CSSA, SSSA International Annual Meeting, Baltimore, MD. https://scisoc.confex.com/scisoc/2022am/meetingapp.cgi/Paper/142444

6 Lacasa, J., Hernandez, C. M., Rybecky, J. F., & Ciampitti, I. A. (2022) A probabilistic assessment for future precipitation according to ENSO predictions [Abstract]. ASA, CSSA, SSSA International Annual Meeting, Baltimore, MD. https://scisoc.confex.com/scisoc/2022am/meetingapp.cgi/Paper/143188

7 Lacasa, J., Messina, C. D., & Ciampitti, I. A. (2021) A Probabilistic Decision Tool to Leverage Climate Predictions for Management Optimization: A Case Study for Corn and Plant Density [Abstract]. ASA, CSSA, SSSA International Annual Meeting, Salt Lake City, UT. https://scisoc.confex.com/scisoc/2021am/meetingapp.cgi/Paper/135713

8 Lacasa, J., Hefley, T., Otegui, M. E., & Ciampitti, I. A. (2021) A Practical Guide to Estimating the Light Extinction Coefficient with Nonlinear Models – a Case Study on Maize [Abstract]. ASA, CSSA, SSSA International Annual Meeting, Salt Lake City, UT. https://scisoc.confex.com/scisoc/2021am/meetingapp.cgi/Paper/135638

9 Lacasa, J., Messina, C. D., & Ciampitti, I. A. (2021) A probabilistic decision tool to leverage climate predictions for management optimization: A case study for corn and plant density [Abstract]. Research and the State, Kansas State University.

10Lacasa, J., Otegui, M. E., & Ciampitti, I. A. (2020) Changes in Canopy Light Attenuation Linked to Maize Genetic Improvement [Abstract]. ASA, CSSA, SSSA International Annual Online Meeting

11 Lacasa, J., Schwalbert, R., & Ciampitti, I. A. (2019) Corn Yield Responses to Plant Density: a Bayesian Approach [Abstract]. ASA, CSSA, SSSA International Annual Meeting, San Antonio, TX.

12Carla Zilli, Cecilia Pérez Pizá, Emilia Anselmo, Josefina Lacasa, Héctor Kelly, Leandro Prevosto and Karina Balestrasse. (2017) Non-thermal plasma enhances the quality of soybean plant. 53th Annual Meeting Argentine Society for Biochemistry and Molecular Biology.

Professional service

- Co-chair organizing interdisciplinary Symposium from Corteva Agriscience Symposia Series, October 2023
- Chair of the applied statistics and programming committee, Agronomy Graduate Students' Association, 2021-2022
- Student Member for the search committee for Precision Agriculture tenure-track professor position at Kansas State University, 2022.
- Member of the Agronomy Graduate Students' Association, since 2021.
- Volunteer at Statistics Without Borders, since 2022.
- Member of the Wheat State Agronomy Club, 2019.
- Volunteer overseeing School of Agriculture (University of Buenos Aires) student elections, 2018.

Referee experience:

- 2024: Annals of Applied Statistics; European Journal of Agronomy (2); Discover Agriculture; Open Agriculture; Field Crops Research.
- 2023: European Journal of Agronomy; Agronomy for Sustainable Development.

Professional development

Conferences

- Joint Statistical Meetings, 2023.
- StanCon, 2023.
- Conference on Applied Statistics in Agriculture and Natural Resources, since 2023.
- ASA, CSSA, SSSA International Annual Meeting, since 2019.

Workshops

- "A Practical Introduction to the Analysis of Incomplete Data", Ofer Harel. JSM, Toronto, ON, Canada, 2023.
- Workshop "Scalable Bayesian models and estimation methods for the analysis of big spatial and spatio-temporal data", A. Finley and J. Doser. Conference on Applied Statistics in Agriculture and Natural Resources, West Lafayette, IN, USA, 2023.
- Graduate Student Leadership Conference, 2022, ASA-CSSA-SSSA International Annual Meeting, Baltimore, MA, USA.
- Entrepreneurship bootcamp, Trama ITBA. Buenos Aires, Argentina, 2018.

Professional Society Memberships

- Societies of Agronomy (ASA), Crop (CSSA), and Soil (SSSA) sciences, since 2019.
- American Statistical Association, since 2023.
- Agronomy Graduate Students' Association, since 2021.
- Kansas Corn Growers Association, since 2023.
- Statistics Without Borders, since 2022.

Honors and Scholarships

- Nelson Yield-Limiting Factors Graduate Student Scholarship, American Society of Agronomy, 2023.
- Crop Science Graduate Student Scholarship, Crop Science Society of America, 2023
- Gerald O. Mott Award Recipient for meritorious students in Crop Science, CSSA, 2023
- Ray I. Throckmorton Scholarship, Kansas State University, 2023.
- 3rd place Research Oral competition, Conference on Applied Statistics in Agriculture and Natural Resources, West Lafayette, IN, 2023.
- StanCon 2023 Scholarship, 2023.
- K-State Dean and Director's Citation for Outstanding Undergraduate Teaching, 2023.
- Kansas Corn Next Generation Scholarship, 2023.
- Travel Award, Graduate Student Council, Kansas State University, 2021, 2022, 2023.
- Dr. Neal F. and Florence E. Morehouse Agronomy Research and Scholarship Program, 2021, 2022.
- 1st place Agroclimatology and Agronomic Modeling Student Poster Competition at 2022, ASA-CSSA-SSSA International Annual Meeting, Baltimore, MA, 2022.
- 2nd place AgDatathon, NUE workshop, Lincoln, NE, 2022.
- New Frontiers Scholar – Corteva Agriscience, 2021.
- 2nd place in Research Oral competition, National SASES Online Meeting, 2020.
- 2nd place in Research Poster competition, National SASES Meeting at San Antonio, TX, 2019.
- Premio Universidad de Buenos Aires, School of Agriculture, University of Buenos Aires, 2018, 2019.

Skills

- Languages: Spanish (fluent, native), English (fluent), German (fluent, C1 level).
- Programming: R, Stan, JAGS.

Leadership and other service activities

- Blood donor, American Red Cross, since 2019.
- Volunteer at El Ombu tutoring high school students in neglected neighbourhoods, 2018-2020.
- Volunteer overseeing Argentine National Elections for electoral transparency, Foro Cívico San Isidro, 2013-2017.
- Volunteer at Un Techo para mi País improving housing conditions in neglected neighbourhoods, 2017.
- Team captain, Volleyball (2006-2017), AAG, CCBA.