

# David Brown

## Postdoctoral Associate

School of Integrative Plant Science, College of Agriculture and Life Sciences, Cornell University, Ithaca, NY

[db877@cornell.edu](mailto:db877@cornell.edu) | ORCID 0000-0003-2859-1618 | Google Scholar GWrO8vcAAAAJ | GitHub dbrownf

## Education

### Wageningen University & Research

The Netherlands

The C.T. de Wit Graduate School for Production Ecology and Resource Conservation (PE&RC)

PhD | Geo-information Science

2022

Thesis: *Data synthesis in crop variety evaluation: spatio-temporal characterization of environmental adaptation.* <https://doi.org/10.18174/579737>

### University of Salzburg

Austria

MSc | Geographical Information Science and Systems | UNIGIS Distance-learning program

2015

Thesis: *Spatial Data Analysis of Fusarium Wilt Incidence in the District of San Luis de Shuaro, Peru.*

### University of Costa Rica

Costa Rica

Bachelor's degree | Informatics

2006

## Research Experience

- Postdoctoral Associate, School of Integrative Plant Science, Cornell University (2023 - Present)
  - Synthesis of participatory on-farm cassava variety trials data
  - Developed Natural Language Processing workflows to understand crop variety trait preferences
- Research Fellow, Bioversity International (2018-2022)
  - Developed data synthesis approaches for crop variety evaluation considering environmental factors

## Professional Experience

- GIS Specialist, Bioversity International (2013-2017)
  - Participatory mapping of banana production zones in Latin America and the Caribbean
  - Spatial analysis for scientific publications in themes like climate change and plant disease distribution
- Information Technology Specialist, Bioversity International (2006-2012)
  - Developed a Java software for economic analysis of banana farms
  - Developed a Java software for the analysis of soil health in banana farms
  - Development and maintenance of a website
  - Data management to support agricultural research activities

## Peer-reviewed Publications

Underlined indicates corresponding author

- Nanyonjo, A. R., Angudubo, S., Iragaba, P., **Brown, D.**, Nuwamanya, E., Esuma, W., Ozimati, A., Wembabazi, E., Kanaabi, M., Muhumuza, N., Bayiyana, I., van Etten, J., de Sousa, K., Tufan, H., & Kawuki, R. S. (2024). On-farm evaluation of cassava clones using the triadic comparison of technology options approach. *Crop Science*. <https://doi.org/10.1002/csc2.21293>
- Occelli, M., Compaore, E., **Brown, D.**, Barry, F., Poda, L., Traore, F., Waongo, A., Rubin, D., & Tufan, H. (2024). Ex-ante priority setting in crop breeding: Towards inclusive innovation for impact. *Agricultural Systems*, 217, 103952. <https://doi.org/10.1016/j.agsy.2024.103952>
- de Sousa, K., **Brown, D.**, Steinke, J., & van Etten, J. (2023). gosset: An R package for analysis and synthesis of ranking data in agricultural experimentation. *SoftwareX*, 22, 101402. <https://doi.org/10.1016/j.softx.2023.101402>

4. **Brown, D.**, de Sousa, K., & van Etten, J. (2023). ag5Tools: An R package for downloading and extracting agrometeorological data from the AgERA5 database. *SoftwareX*, 21, 101267. <https://doi.org/10.1016/j.softx.2022.101267>
5. **Brown, D.**, de Bruin, S., de Sousa, K., Abadie, C., Carpentier, S., Machida, L., & van Etten, J. (2023). Rank-based data synthesis of heterogeneous trials to identify the effects of climatic factors on the reaction of Musa genotypes to black leaf streak disease. *Agronomy journal*, 115(6), 2990-3009. <https://doi.org/10.1002/agj2.21436>
6. **Brown, D.**, de Bruin, S., de Sousa, K., Aguilar, A., Barrios, M., Gómez, M., Hernandez, J. C., Chaves, N., Madriz, B., Machida, L., Mejía, P., Mercado, L., Pavón, M., Rosas, J. C., Steinke, J., Suchini, J. G., Zelaya, V., & van Etten, J. (2022). Rank-based data synthesis of common bean on-farm trials across four Central American countries. *Crop Science*. <https://doi.org/10.1002/csc2.20817>
7. **Brown, D.**, Van den Bergh, I., de Bruin, S., Machida, L., & van Etten, J. (2020). Data synthesis for crop variety evaluation. A review. *Agronomy for Sustainable Development*, 40(4), 25. <https://doi.org/10.1007/s13593-020-00630-7>
8. Ocimati, W., Bouwmeester, H., Groot, J. C. J., Tittone, P., **Brown, D.**, & Blomme, G. (2019). The risk posed by Xanthomonas wilt disease of banana: Mapping of disease hotspots, fronts and vulnerable landscapes. *PLoS ONE*, 14(4), e0213691. <https://doi.org/10.1371/journal.pone.0213691>
9. Calberto, G., Blake, D., Staver, C., Carvajal, M., & **Brown, D.** (2018). The frequency and effects of weather events on banana productivity - results of a global survey X International Symposium on Banana: ISHS - ProMusa Symposium on Agroecological Approaches to Promote Innovative Banana Production Systems, Montpellier, France. <https://doi.org/10.17660/ActaHortic.2018.1196.22>
10. Van den Bergh, I., Ramirez, J., Staver, C., Turner, D. W., Jarvis, A., & **Brown, D.** (2012). Climate change in the subtropics: The impacts of projected averages and variability on banana productivity. *Acta Hortic.* 928, 89-99 <https://doi.org/10.17660/ActaHortic.2012.928.9>

## Non-peer reviewed Publications

---

1. Van Etten, J., Abidin, E., Arnaud, E., **Brown, D.**, Carey, E., Laporte, M.-A., López Noriega, I., Madriz, B., Manners, R., Ortiz-Crespo, B., et al. (2020). The tricot citizen science approach applied to on-farm variety evaluation: Methodological progress and perspectives. RTB Working Paper. <https://doi.org/10.4160/23096586rtbwp20212>

## R-Packages

---

1. **Brown, D.**, de Sousa, K., & van Etten, J. (2022). Package “ag5Tools”. <https://cran.r-project.org/web/packages/ag5Tools/index.html>
2. de Sousa, K., van Etten, J., **Brown, D.**, & Steinke, J. (2022). Package “gosset”. <https://cran.r-project.org/web/packages/gosset/index.html>

## Conference Presentations

---

1. **Brown, D.**, & Tufan, H. A. (2024) Enabling Equitable Crop Variety Trait Prioritization Processes Using Artificial Intelligence. ASA, CSSA, SSSA International Annual Meeting, San Antonio, TX. <https://scisoc.confex.com/scisoc/2024am/meetingapp.cgi/Paper/161525>
2. **Brown, D.** (2024) Browsing Seeds: Towards Recommender Systems of Crop Varieties. ASA, CSSA, SSSA International Annual Meeting, San Antonio, TX. <https://scisoc.confex.com/scisoc/2024am/meetingapp.cgi/Paper/160226>
3. **Brown, D.** (2015) Spatial analysis and use of mobile devices: initiatives and research advances applied to Fusarium wilt of banana, III Latin America and the Caribbean Congress of bananas and plantains, Corupa, Brazil.
4. **Brown, D.** (2014) Geographic Targeting for Diagnostic of Banana Fusarium Wilt, Esri User Conference, San Diego, CA. [https://proceedings.esri.com/library/userconf/proc14/papers/1416\\_292.pdf](https://proceedings.esri.com/library/userconf/proc14/papers/1416_292.pdf)

## Conference Posters (Selected)

---

1. **Brown, D.**, Carpentier, S., Bruin, S. de, Sousa, K. de, Machida, L., & Etten, J. van. (2021). Combining legacy data from heterogeneous crop trials to identify genotype by environment interactions using model-based recursive partitioning. ASA/CSSA/SSSA International Annual Meeting.

2. **Brown, D.**, Aguilar, A., Barrios, M., Bruin, S. de, Sousa, K. de, Gallardo, O., Gómez, M., Hernández, J. C., Chaves, N. F., Machida, L., et al. (2021). Data synthesis of multiple on-farm trials to generate regional variety recommendations: The case of common bean in Central America. 2nd International Agrobiodiversity Congress.
3. **Brown, D.**, Jarvis, A., Ramirez, J., & Staver, C. (2013). Mapping Banana and Plantain Production Zones in Latin America and the Caribbean. VII International Symposium on Banana: ISHS-ProMusa Symposium on Bananas and Plantains: Towards Sustainable Global Production and Improved Use (2011).

## Invited Presentations

---

- Guest presenter, Rank-based data synthesis of common bean on-farm trials across four Central American countries, Bioversity International Science Seminar Series, May 30 2023.

## Professional Membership

---

- Cornell Center for Social Sciences, since 2024
- American Association of Geographers, since 2024
- Crop Science Society of America, since 2021
- American Society of Agronomy, since 2021

## Academic Service

---

- Ad hoc reviewer, Crop Science, 2021
- Ad hoc reviewer, Agronomy Journal, 2024
- Poster Session Judge, Precision Agriculture Systems, ASA, CSSA, SSSA International Annual Meeting, San Antonio, TX, 2024

## Supervision Experience

---

- Ad hoc special committee member for PhD student Chinedozi Amaefula, Plant Breeding, School of Integrative Plant Science, Cornell University, 2024.
- Internship co-supervisor, MSc student Juultje Blom, Bioversity International & Wageningen University, Fall 2019.

## Teaching Experience

---

- Webinar co-convener and presenter. The tricot approach, Quisqueya University, Haiti - International Lab for Crop Improvement, April 25 2024.
- Guest speaker, “Education in Costa Rica and my educational journey”, International and Comparative Education Class, Prof. Shuzhan Li, Ithaca College, April 17 2024.
- Workshop convener and presenter. Introduction to the tricot approach, International Lab for Crop Improvement Annual Meeting, San Jose, Costa Rica, March 1 2024.
- Instructor, Introduction to MS-Windows and MS-Office, Continuing Education Program, University of Costa Rica, Turrialba, December 2007.