

Postdoctoral researcher in cropping systems diversity:

We seek a postdoctoral scholar for a three-year position to conduct statistical modeling to assess how diversified cropping systems affect ecosystem services. In particular, this postdoc will utilize a database of long-term cropping system experiments (drives-network.org) to analyze outcomes of diversified cropping systems. Depending on the interests and background of the postdoc, research topics may include: 1) resilience to stressful weather and climate change, 2) economic stability for producers, 3) nutritional outcomes. The postdoc will also help curate data pertaining to their research topic. This position would be ideal for a candidate with a PhD in agronomy, nutrition, ecology, economics, statistics, or data science with strong statistical skills and interest in agricultural and environmental applications.

This position will join an ongoing, collaborative project synthesizing historical data from long-term agricultural experiments, called Diverse Rotations Improve Valuable Ecosystem Services DRIVES Project (<https://drives-network.org>). This project addresses research questions about benefits of diverse crop rotations, including profits, nutrition, and resilience to climate change. The DRIVES Network consists of over two dozen scientists who manage and collect primary data from long-term experiments and a core team who organize the network, curate network data, and synthesize cross-network findings. As of 2024, the DRIVES Project database contains 495 site-years of crop yields, daily weather, and management information for 21 sites, with more in progress.

The postdoc will be affiliated with the Sustainable Agricultural Systems Laboratory at the USDA-ARS and mentored by the core DRIVES team of ARS and university scientists. This is a full-time appointment with a strong preference for being based locally at North Carolina State University in beautiful Raleigh, NC. Remote work will be considered for exceptional circumstances. Applications will be reviewed on a rolling basis beginning on November 15th. The anticipated start date would be early 2025.

Qualifications and materials for application

- **Applicants must be US citizens, permanent residents**, or US national who owes allegiance to the United States (e.g., a person born in American Samoa).
- A letter of interest describing how your skills and interests make you a suitable candidate for this position
- An updated CV
- A one paragraph statement describing your values, experiences, and contributions to diversity, equity, and inclusion (DEI).
- Contact information and position details of two or three recommenders whom we will reach out to directly for understanding of your past research experiences.

For full consideration, please send all application materials by **Nov. 15th** to drives_project@ncsu.edu. In your email, please convey your status as a US citizen or permanent resident.

Responsibilities

- Develop statistical models linking cropping system diversification (crop rotation and cover cropping) with outcomes pertaining to crop yields during stressful weather, economic stability, and/or nutritional outputs.
- Curate data from long-term cropping systems experiments.
- Collaborate with a multidisciplinary team (e.g. agroecologists, soil scientists, and statisticians) and coordinate network activities.
- Lead publication of academic papers and present results at national and international conferences.

Necessary qualifications

- Proficiency in analyzing and visualizing tabular data.
- Proficiency in R statistical software
- Ability to use and understand complex regression models
- Ability to work independently and with a team
- Responsive communicator
- Strong organizational skills
- Able to create and document workflows

Preferred qualifications

- Experience with Bayesian statistical analysis.
- Evidence of strong writing skills
- Knowledge of any of the following:
 - Agroecology
 - Agricultural economics
 - Crop physiology
 - Climate and weather
 - Global change models
 - Process-based models such as DSSAT