# Jonathan Binder

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## EDUCATION

**Royal Holloway, University of London** — Egham, Surrey, UK
PhD, Biological Sciences — 2022 - 2026 (expected)

*Participating in the London Interdisciplinary Biosciences Consortium Doctoral Training Partnership. Researching microbiological effects on the longevity of blackgrass (*Alopecurus myosuroides*) seeds in the soil seedbank. Funding provided by BBSRC and Syngenta AG as industry partner.*

Supervisors:

- Kazumi Nakabayashi, PhD - *Research Assistant in Molecular Seed Biology*
- Gerhard Leubner, PhD - *Professor in Plant Biochemistry*

**The Pennsylvania State University** — State College, PA, USA
MSc, Agronomy — 2016 - 2019

*Field-based research examined the effects of cover cropping vs. double cropping cereal rye, broadcasting vs. injecting dairy manure, and timing of fall manure application on rye nutrient uptake, subsequent corn yields, and total forage production. Additional research on field-scale lysimeters explored the effects of cover cropping vs. double cropping on surface and subsurface nitrogen and phosphorus transport.*

Supervisors:

- Heather Karsten, PhD - *Associate Professor of Crop Production/Ecology*
- Douglas Beegle, PhD - *Distinguished Professor of Agronomy*

**Kyung Hee University** — Suwon, Gyeonggi-do, South Korea
Korean Language Program — 2014 - 2015

*Awarded a post-graduate fellowship from Vassar College to study Korean. Took classes 20 hours per week for one academic year.*

**Vassar College** — Poughkeepsie, NY, USA
BA, Environmental studies — 2010 - 2014

*Concentrated in biology and geography. Coursework included plant biology, genetics, and an experimental course on the American Grasslands. Participated in a learning and living community on the topic of food and farming.*

## PUBLICATIONS

### Journal articles

**Binder, J. M.**, Karsten, H. D., Beegle, D. B., and Dell, C. J. Winter annual management to increase nutrient recovery and forage production on dairies. *Agrosystems, Geosciences & Environment*, 4:e20157, 2021. https://doi.org/10.1002/agg2.20157.

**Binder, J. M.**, Karsten, H. D., Beegle, D. B., and Dell, C. J. Manure injection and rye double cropping increased nutrient recovery and forage production. *Agronomy Journal*, 112, 2968–2977, 2020. https://doi.org/10.1002/agj2.20181.

## COMMUNICATION

### Presentations

Northeast Cover Crop Council Annual Meeting, State College, PA, 2018.
ASA, CSSA, SSSA Annual Meeting, Baltimore, MD, 2018.
Pennsylvania Double-Cropping Winter Farmer Workshop, State College, PA, 2018.

## Posters

International Seed Science Society Annual Meeting, Paris, France, 2023.
British Crop Protection Council Weeds Review, Cambridge, UK, 2022.
Northeastern Plant Pest and Soils Conference, Washington, DC, 2018.
Northeast Cover Crop Council Annual Meeting, Ithaca, NY, 2017.

## EXPERIENCE

**NIAB East Malling** July 2021-June 2022
*Research technician* Chatham Maritime, Kent, UK

*Collected and analyzed various kinds of data related to precision agriculture and novel sensors to verify and develop technologies in concert with startup companies. Duties included tractor-mounted LiDAR scans of apple orchards, lab-based soil assays, and plant leaf and fruit imaging.*

**NRI, University of Greenwich** Sept 2020-July 2021
*Research technician* East Malling, Kent, UK

*Assisted senior researchers and PhD students with projects in entomology and agronomy departments at the Natural Resources Institute. Responsibilities included maintaining insect colonies, plants, greenhouses, and research facilities.*

**Phospholutions** Mar 2019-May 2020
*Research associate* State College, PA, USA

*Developed and expanded understanding of novel phosphorus fertilizers and phosphorus capture and recycle systems. Responsibilities included literature review, in-house adsorption and desorption studies, creation of protocols, data analysis, and communication with industry and academic researchers.*

**The Pennsylvania State University** Sept 2016-Mar 2019
*Graduate research assistant* State College, PA, USA

*Conducted original research for my master's thesis on the topic of cereal rye and manure management for dairies in the Northeast U.S. Collected and analyzed soil and crop data, scouted for pests, and presented research findings in academic and industry settings as part of a larger long-term, sustainable dairy cropping system project.*

**Hudson Valley Research Laboratory** Sept 2015-Aug 2016
*Research technician* Highland, NY, USA

*Assisted with research at an entomology lab primarily focused on apple pests. Tasks included fruit damage assessments, microscope work, scouting, and insect rearing as well as upkeep of the research orchard and facility. Pruned, mowed, managed weeds, and ran tractors and a skid steer. Completed light construction, plumbing, and tractor maintenance.*

## SKILLS

**Computer** - R, SAS, Microsoft Office, Git
**Soft** - Problem-solving, flexibility, critical thinking
**Dexterous** - Woodworking, plumbing, electrical
**Qualifications** - Safe Handling & Application of Pesticides (PA1), Hand Held Applicators on Land & Near Water (PA6AW)