The NC State Precision Pest Ecology program is seeking Postdoctoral and PhD candidates for projects focused on the intersection of pest ecology and geospatial data analytics.

Postdoctoral Research Associate – ecology of corn wireworm in sweet potato: A Postdoctoral Research Scholar position is available to work on characterizing the phenology and spatial structure of corn wireworm (Melanotus communis) in sweet potato agroecosystems. The research focuses on documenting the interaction between *M. communis* and different crop patches using a novel pheromone. The incumbent will help to develop a research program that integrates farmer production practices (i.e., crop rotation) and landscape-level habitat composition. Research will investigate how varying spatiotemporal abundance of corn and other crops affects the probability of sweet potato damage from *M. communis*. This position will ask questions at the interface of geospatial sciences and ecosystem modeling to determine critical factors that affect population levels, management practices and IPM at local and regional levels. Project outcomes will provide a foundation to develop more effective IPM strategies that are interwoven with conventional pest management practices to improve the control of this pest while minimizing the environmental footprint of row crop agriculture.

This position will involve a combination of field ecology and computational approaches to understand patterns of pest abundance and crop associations. The successful candidate will be expected to design and implement sampling plans, analyze results, and summarize information. The position will include a combination of the following tasks: on-farm field work in fields across NC; data analysis and modeling; manuscript preparation; presentation of results at grower-oriented stakeholder and national scientific meetings.

Applicants should review the position vacancy listing: https://jobs.ncsu.edu/postings/140383

Ph.D. Assistantship – bollworm & row crop agroecosystems: A Ph.D. assistantship is available for a highly motivated student to study the ecology of bollworm (*Helicoverpa zea*) in relation to landscape composition and configuration. Funding is currently available to quantify population dynamics of corn earworm using an automated pheromone trap network deployed across the state of North Carolina. This project will connect the activity of the adult stage to damage observed in *Bt* maize and cotton.

The objectives of this project are to document the relationship between crop composition in different NC agroecosystems and the likelihood for crop injury. Broadly, this project will 1) characterize the role of crops and weedy habitats as reproductive resources within and across growing seasons, 2) define the role annual weeds within cultivated cropland may have driving early season increases of these pest populations, and 3) document patterns of fine-scale crop and habitat composition that relate to NC tarnished plant bug populations.

Applicants with a Master of Science degree with a strong background in field ecology will be preferred, but not required. Screening of applicants will begin immediately and continue until the position is filled. Target enrollment date will be the Autumn of 2021.

Applicants should contact Anders Huseth: ashuseth@ncsu.edu (919) 515-8346.

Location of these positions: Department of Entomology & Plant Pathology, North Carolina State University, Raleigh, NC

For additional information about the Department and program:

https://cals.ncsu.edu/entomology-and-plant-pathology/

https://husethlab.wordpress.ncsu.edu/