Ph.D. Position in Applied Nematology


Location:
Applied Nematology Laboratory
Department of Entomology, Michigan State University, E. Lansing, Michigan

Contact:
Marisol Quintanilla, Ph.D.
Applied Nematologist
Department of Entomology
Michigan State University
288 Farm Lane, Room 51
East Lansing, MI 48824
Email: marisol@msu.edu
Office phone: 517-884-2058
Cell phone: 517-881-3740

Background: The Hop Cyst Nematode (HCN), *Heterodera humuli*, is a threat to United States hop production, which is currently the top producer of hops worldwide. Prior studies have found that the hop cyst nematode causes severe plant stress, nutritional deficiencies, and mechanical injury leaving the plant susceptible to secondary infections. Our team’s recent preliminary findings indicate that the hop cyst nematode is becoming or has become widespread throughout the nation’s top-producing regions and is posing a risk to yield. Currently, there are no known effective forms of management for hop growers with hop cyst nematode, so positive samples leave growers with limited options. The key for preventing this aggressive pest of hop production from hindering yield and corresponding economic loss is to determine distribution within key regions, develop effective avoidance/mitigation strategies, and ensure that this information is widely- and easily- accessible to American hop growers. A combination of greenhouse and field investigations, chemical and biologically based nematicides, as well as other alternative strategies, will be evaluated for their effects on hop cyst nematode populations, soil health, and crop yield. The successful applicant will be required to submit an application the Graduate School and be accepted into our graduate program.

Requirements: We are seeking a highly motivated Ph.D. student with a strong interest in investigating plant-parasitic nematode interactions in perennial systems. Applicants should possess a Master’s of Science in Nematology, Plant Pathology, Entomology, Horticulture, or a related discipline. Applicant should have demonstrable skills in several of the following areas:
- Experimental field research and design (e.g. pest management, production agriculture)
- Plant-parasitic and beneficial nematode identification
- Proficiency in Microsoft Excel, Word, Powerpoint
- Data analysis (e.g. SAS, R)
- Scientific reporting to agro-industry and/or peer-reviewed publications in English
- Communicating scientific data with an audience

Candidates must be capable of carrying 40 pounds, possess a valid driver’s license, and be comfortable driving truck to and from field sites and greenhouses (i.e. Ford F-150, F-350). Candidates should also be comfortable using an inverted microscope for several hours. A background in basic molecular work (e.g. conventional PCR) is encouraged, but not required.

The candidate is expected to work closely with Michigan State University Extension and grower-collaborators. This position will be located in the Department of Entomology at Michigan State University. GRE scores are not required. International students are required to fulfill MSU’s English language requirements (https://admissions.msu.edu/apply/international/language-requirements).

Salary and Conditions: The assistantship includes a competitive stipend, tuition waiver, and health coverage. Start date: Summer semester 2022. The planned duration of this project is three years. Michigan State University is an equal opportunity employer.

Applications: For further information and/or to apply, please send a cover letter, a short summary of research interests, a current C.V., transcripts, and a writing sample to Marisol Quintanilla at marisol@msu.edu. Applications will be accepted until February 1, 2022. The successful applicant will also be required to apply to Michigan State University’s Graduate School.