Job Title: Postdoctoral Research Associate

Agency: Texas A&M Agrilife Research

Department: Weslaco

Proposed Minimum Salary: Commensurate

Job Location: Weslaco, Texas

Job Type: Staff

Job Description:

The Texas A&M AgriLife Research Vegetable Breeding program at Weslaco (www.agrilife.org/avilalab) is recruiting for a highly motivated postdoc to work on a project to develop molecular tools for spinach breeding for disease resistance. The project is part of a larger spinach project with collaborators in other states (www.spinachdb.org), funded by the new USDA Specialty Crop Research Initiative project 2023-51181-41321, which builds on the previous SCRI project to develop spinach germplasm resources and molecular breeding tools to combat endemic and emerging diseases affecting spinach production in the USA.

The goal of the Texas A&M vegetable program is to develop spinach cultivars adapted to Texas with improved quality and resistance to biotic and/or abiotic stresses using conventional, molecular breeding, and novel high-throughput phenotyping approaches (e.g. unmanned aerial systems).

Duties & Responsibilities:

Lead existing and new projects focused on selecting methods and implementing molecular breeding tools for spinach breeding. The appointee will use Next-Generation Sequencing (NGS) Technology to conduct genetic association and linkage studies using breeding lines and worldwide germplasm collections to develop association panels and mapping populations. The research activities will include trait phenotyping, GWAS, QTL, genomic selection and candidate gene identification, evaluation and selection of promising lines, and application of novel technologies to variety improvement. This position entails laboratory, greenhouse, and field work. The appointee will write progress reports and publications in a timely manner.

Responsibilities:

- Design, establishment, maintenance of field, greenhouse, and laboratory. screening/trials/experiments for the introgression of insect/disease resistance traits.
- Develop and validate molecular breeding tool to improve gain in selection for resistance to diseases in spinach.
- Write reports and publish findings in peer-review journals.
- Train personnel including graduate students.
- Support other breeding activities as required.
- Perform other job-related duties as required.

Education & Experience:

REQUIRED:

- PhD in plant genetics, plant genomics, plant breeding, or related area.

PREFERRED:

- PhD in Plant Breeding and Genetics, relevant field with strong background in trait mapping and quantitative genetics.

Knowledge, Skills and Abilities:

REQUIRED:

- Extensive training and have hands-on experience in applied and basic research, experimental design and implementation, laboratory experiments and field trials, data collection and statistical analysis, QTL mapping, GWAS, genomic selection and predicting breeding values of quantitative traits (calculating GEBVs).
- Strong publication records in plant genomics or plant improvement
- Ability to design statistically valid research trials, and proficiency in analyzing and interpreting data effectively using relevant statistical methods and software, including R.
- Knowledge of molecular biology techniques (DNA extraction, PCR, RT-qPCR, primer design, sequencing, etc.)
- Work independently and in a collaborative multidisciplinary environment.
- Excellent communication and writing skills, since this position involves preparing research progress reports and assisting the PI in publications and grant writing activities.

PREFERRED:

- Demonstrated experience in plant pathology, including inoculation of plant pathogens, plant disease phenotyping, plant pathogen isolation and identification methods, etc.

Other Factors:

- Initial appointment is for one year, beginning in March 2024 or shortly after.
- Renewal for additional 3 year(s) is possible upon successful progress.

Documents associated with this posting:

- Cover Letter – required.
- Resume – required.
- Reference- contact information for 3 references.
- Academic Transcripts (Unofficial transcripts accepted).

All positions are security-sensitive. Applicants are subject to a criminal history investigation, and employment is contingent upon the institution's verification of credentials and/or other information required by the institution's procedures, including the completion of the criminal history check.

Equal Opportunity/Affirmative Action/Veterans/Disability Employer.