

**WVSU Research and Development Corporation
Gus R. Douglass Land-Grant Institute**

Position Description

- Position Title:** Plant Biotechnology Research Technician
- Department:** West Virginia State University (WVSU), Agricultural and Environmental Research Station (AERS).
- Physical Location** West Virginia Regional Technology Park (WVRTP), South Charleston, West Virginia and WVSU, Institute, West Virginia
- Reports To:** Dr. Liedl, Associate Professor, WVSU AERS and Department of Biology

Position Summary

The primary function of the position is to provide specialized laboratory and greenhouse research assistance to promote the mission of the research program breeding fresh market tomatoes for protected culture production at the WVSU AERS. The incumbent will be required to proficiently handle standard laboratory and greenhouse procedures and maintain a safe work environment. The position requires the ability and willingness to assist the scientist and other personnel with their projects and conduct independent research. The incumbent will assist in the supervision of undergraduate students, graduate students and others. The individual in this position must be an energetic and highly motivated person.

Major Duties

- Laboratory operation and maintenance (70%)
- Managing laboratory activities (20%)
- Additional participation in research activities (10%)

Laboratory operation and maintenance (70%)

The primary responsibilities of the incumbent are to conduct research under the direction of the supervisor and to assist in daily laboratory operation and maintenance (70%). The technician will be required to proficiently handle standard laboratory procedures, including extraction of DNA and RNA, DNA quantification, assays for SNPs, CAPs, RAPDs, SSRs, AFLPs, and other markers systems, gel electrophoresis, protein purification, centrifugation, enzyme assays, isolation of DNA from agarose and acrylamide gels, isolation and purification of plasmid DNA, ligation and transformation of *E. coli* with DNA constructs, the maintenance of insect and pathogen collections, perform detailed observation of plant, insect and/or pathogen growth in growth chamber, as well as collecting, processing and analyzing data. The position requires knowledge of and experience with basic molecular biology methods, including DNA sequence and fragment analysis. Because methods and technologies in science change rapidly, the technician also must be receptive to, and adept at, evaluating and learning new technologies involving both biological and chemical methods. Successful candidate must

be able to correctly operate and maintain specialized equipment such as thermal cyclers, spectrophotometers, water purification systems, and electrophoresis equipment. The incumbent will also keep detailed computer and laboratory records and generates reports using a variety of software and statistical packages. The technician will also employ, develop and validate protocols and procedures used in research.

Managing laboratory activities (20%)

The incumbent will manage and oversee safe and efficient laboratory upkeep and activities and assist in the supervision and training of undergraduate and graduate student researchers, and other temporary employees as directed. The successful candidate will be a key person in the laboratory who helps to maintain the continuity of research projects from one student/scientist to another. Therefore, an important goal for the incumbent should be the overall success of the laboratory, including its personnel and research projects. Laboratory maintenance responsibilities include, but are not limited to, maintaining a chemical, equipment and supply inventories, maintaining insect colonies, pathogen, tissue collections and plasmid cultures, preparing solutions and reagents for laboratory use according to established methods, safely disposing of waste material (both chemical and biological) and maintaining a clean, safe work environment. This person will also oversee equipment and supply purchases, communications with company representative on purchases and quotations, scheduling and overseeing equipment installation and maintenance as well as troubleshooting protocol and equipment problems. The successful candidate will carry out supervisory responsibilities in accordance with the organization's policies and applicable laws. Responsibilities include training employees; planning, assigning, directing work and resolving problems.

Additional participation in research activities (10%)

The incumbent will participate in supervisor's research and outreach activities and assume responsibilities and assignments as they arise to assure successful and timely completion of the laboratory goals. This will involve routine and recurring greenhouse and/or field duties such as care and maintenance of plants, sowing seeds, transplanting, collecting fruit/seed, evaluating organoleptic traits, maintaining plants in culture and pathogens in growth chambers, and/or . Other duties may include operating and maintaining specialized equipment such pH meter, EC meters, and fertilizer injectors. Responsibilities may also include occasional checking on laboratory, greenhouse and field experiments occasionally on weekends or holidays.

Qualifications

For successful performance, the incumbent must be able to perform each major duty satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

The ideal candidate will be detail oriented, well organized, self-motivated, and able to appreciate goal-based research and development. Demonstrated success in working as part of a team and initiating collaborative partnerships is sought. The incumbent must be willing to work flexible hours with a minimum of supervision.

Education

Required:

- Master's degree in Biology, Biotechnology, Genetics, Biochemistry, Plant Science or other related field from a regionally accredited institution of higher education.

Preferred:

- Preferred education in molecular marker technologies, sequencing, fragment analysis and/or primer design,

Experience

Required:

- A minimum of two (2) years of experience as a technician in a molecular biology laboratory or equivalent.
- Perform basic molecular biology/biotechnology protocols including but not limited to isolation, quantification and separation of DNA, RNA and/or protein,
- Conduct basic laboratory protocols: pH, culture of plants, insects and/or pathogens, microscopy and centrifugation.
- Analyze, report, and present datasets using Microsoft Excel, Word, and Power Point.

Preferred:

- Independently operate, maintain, and troubleshoot molecular biology equipment - one or more of the following: thermal cyclers, fragment analyzers, sequencers, spectrophotometers/plate readers.
- Initiate, conduct and complete lab, greenhouse, and field research experiments
- Supervisory and management experience
- Ability to organize, maintain and analyze complex datasets using computer software such as Geneious, SAS, JMP, SigmaPlot, etc.

Communication Skills

- Ability to read, analyze and interpret technical procedures, professional journals, or governmental regulations.
- Ability to write reports, protocols and procedure manuals.
- Effective oral and written ability to effectively present information, numerical data and findings.

Analytical Skills/Reasoning Ability

- Ability to solve practical problems and deal with a variety of concrete variables in situations where only limited standardization exists.
- Ability to interpret a variety of instructions furnished in written, oral, diagram, or schedule form.
- Able to use initiative and judgment to plan experiments and interpret results; collects, analyses and interprets data

- Designs work flows and procedures.

Computer Skills

- Knowledge of how to operate personal computer
- Ability to use document processing software such as Microsoft Word, Excel, and Power Point.
- Skill to configure and operate molecular biology equipment including but not limited to: thermal cyclers, sequencers, spectrophotometers, etc.
- Knowledge or ability to learn specialty software to control laboratory equipment, maintain supplies and collections and data analysis.
- Ability to analyze complex datasets using computer software such as Microsoft Excel, SAS, JMP, SigmaPlot, etc.
- Knowledge of how to use browsers and search internet
- Knowledge of reference database software such as EndNote to create, retrieve and maintain reference databases.

Other Qualifications

- Must have or be able to obtain and maintain a valid WV driver's license
- Must be able to travel both in and out of state

Work Environment

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is often exposed strong reagents where caution and adherence to protocol handling is essential. The employee will need to wear safety protection, and to follow safety procedures. The noise level in the work environment is usually moderate.

The incumbent in this position will mostly work out of office and laboratory space at the West Virginia Regional Technology Park in South Charleston, WV. Work will also occur at the AERS station in Institute, WV.

Physical Demands

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is regularly required to sit; reach with hands and arms; climb or balance and stoop, kneel, crouch, or crawl and is occasionally required to stand, walk and reach with hands and arms. The employee is frequently required to stand, walk and work outside or in a greenhouse. The employee may frequently lift and/or move 10-25 pounds frequently and up to 50 pounds

occasionally. Specific vision requirements for this job include close vision, distance vision, color vision, peripheral vision, depth perception and ability to adjust focus.

Competencies

To perform the job successfully, an individual should demonstrate the following competencies:

Problem Solving - Identifies and resolves problems in a timely manner; gathers and analyzes information skillfully; develops alternative solutions; works well in group problem solving situations; uses reason even when dealing with emotional topics.

Technical Skills - Assesses own strengths and weaknesses; Pursues training and development opportunities; Strives to continuously build knowledge and skills; Shares expertise with others.

Oral and Written Communication - Speaks clearly and persuasively in positive or negative situations; listens and gets clarification; responds well to questions; demonstrates group presentation skills; participates in meetings; writes clearly and informatively; edits work for spelling and grammar; varies writing style to meet needs; presents numerical data effectively; able to read and interpret written information.

Project Management - Develops project plans; Coordinates projects; Communicates changes and progress; Completes projects on time and budget; Manages project team activities.

Interpersonal Skills - Focuses on solving conflict, not blaming; maintains confidentiality; listens to others without interrupting; keeps emotions under control; remains open to others' ideas and tries new things.

Teamwork - Balances team and individual responsibilities; exhibits objectivity and openness to others' views; gives and welcomes feedback; contributes to building a positive team spirit; puts success of team above own interests; able to build morale and group commitments to goals and objectives; supports everyone's efforts to succeed. Inspires respect and trust

Delegation - Delegates work assignments; matches the responsibility to the person; gives authority to work independently; sets expectations and monitors delegated activities; provides recognition for results.

Leadership - Exhibits confidence in self and others; inspires and motivates others to perform well; effectively influences actions and opinions of others; accepts feedback from others; gives appropriate recognition to others.

Managing People - Includes staff in planning, decision-making, facilitating and process improvement; takes responsibility for subordinates' activities; makes self available to staff; provides regular performance feedback; develops subordinates' skills and

encourages growth; solicits and applies customer feedback (internal and external); fosters quality focus in others; improves processes, products and services.; continually works to improve supervisory skills.

Diversity - Demonstrates knowledge of EEO policy; shows respect and sensitivity for cultural differences; educates others on the value of diversity; promotes a harassment-free environment; builds a diverse workforce.

Ethics - Treats people with respect; keeps commitments; inspires the trust of others; works with integrity and ethically; upholds organizational values.

Professionalism - Approaches others in a tactful manner; reacts well under pressure; treats others with respect and consideration regardless of their status or position; accepts responsibility for own actions; follows through on commitments.

Quality and Quantity - Demonstrates accuracy and thoroughness; looks for ways to improve and promote quality; applies feedback to improve performance; monitors own work to ensure quality; meets productivity standards; completes work in timely manner; strives to increase productivity; works quickly.

Adaptability - Adapts to changes in the work environment; manages competing demands; changes approach or method to best fit the situation; able to deal with frequent change, delays, or unexpected events.

Dependability - Follows instructions, responds to management direction; takes responsibility for own actions; keeps commitments; commits to long hours of work when necessary to reach goals; completes tasks on time or notifies appropriate person with an alternate plan.

Initiative - Volunteers readily; undertakes self-development activities; seeks increased responsibilities; takes independent actions and calculated risks; looks for and takes advantage of opportunities; asks for and offers help when needed.

Please send cover letter, resume, unofficial transcript, and recent letters of recommendation from three professional references with contact information to:

Brunetta Gamble-Dillard, Director of Business and Finance,
West Virginia State University Research and Development Corporation,
POB 1000, 204 ACEOP Administration Building,
Institute, WV 25112.

PREFERRED: Information accepted as e-mailed in Word or PDF format to rdemployment@wvstateu.edu Position is open until filled.

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