

Class Concept

Nematology

This is skilled laboratory work for the extraction and identification of numerous genera and species of microscopic plant parasitic nematodes. This work includes the estimation of their populations for research and regulatory samples. Positions maintain the North Carolina nematode specimen collection and may assist with molecular diagnostic testing by using a polymerase chain reaction (PCR) technique to amplify DNA fragments. Gel electrophoresis is used to analyze PCR results. Positions perform work under the supervision of the Agricultural Program Technician II or the laboratory supervisor. Work may include other duties as assigned.

Seed Analysis

This is skilled work in determining that seed purity germination and variety conform to statutory labeling requirements for seeds offered for sale in North Carolina. Positions identify weed and seed species based on physiological characteristics (morphology, seed structures, and light reaction) and separate the sample components between weed, crop kind, and variety. Weed and seed identification is the state's first line of defense in preventing the spread of noxious, invasive weeds. Positions must also perform germination tests to determine the percent of seeds capable of growing and to determine the presence of seedborne diseases. Positions perform tetrazolium chloride tests to estimate seed viability as a supplement to germination testing. Some employees obtain a Registered Seed Technician Certification offered by the Association of Official Seed Analyst (AOSA). Positions perform work under the supervision of the Agricultural Program Technician II or the laboratory supervisor. Work may include other duties as assigned.

Recruitment Standards

Knowledge, Skills, and Abilities

Nematology

- Thorough knowledge of nematode taxonomy and morphology
- Intermediate knowledge of principles, procedures, and techniques of nematode extraction
- Skill in the operation of microscopes, centrifuges, balances, and other laboratory equipment
- Ability to understand and follow instructions which relate to the identification of nematodes and other laboratory processes, including extraction methods
- Ability to keep written records of analysis performed and the results obtained
- Ability to visually identify and count plant parasitic nematodes under microscopic examination which requires good vision, a high degree of manual dexterity, and hand-eye coordination
- Ability to work in a seated stationary position for extended periods of time

Seed Analysis

- Thorough knowledge of the techniques, terminology, and standards used in determining the purity and germination characteristics of a variety of seeds used in the state
- Intermediate knowledge of the state and federal seed laws, rules, and regulations
- Thorough knowledge of a wide variety of grasses, agricultural, and weed seeds
- Skill in calibrating and operating seed testing equipment such as dividers, blowers, analytical balances, calculators, germinators, and mechanized purity boards
- Ability to keep written records of analysis performed and the results obtained
- Ability to visually identify and manually separate inert matter from seed samples which requires good vision, a high degree of manual dexterity, and hand-eye coordination
- Ability to understand and follow oral and written instructions which relate to testing methods and quality standards
- Ability to work in a seated stationary position for extended periods of time

Minimum Education and Experience

Nematology

Associate degree in a biological science, horticulture, or a closely related curriculum from an appropriately accredited institution and one year of general laboratory experience; or an equivalent combination of education and experience.

Note: This is a generalized representation of positions in this class and is not intended to identify essential functions per ADA.

Seed Analysis

Associate degree in horticulture, horticulture technology, or a closely related curriculum from an appropriately accredited institution and one year of experience in the analysis of seeds; or an equivalent combination of education and experience.