

- Current
- Proposed

**California Department of Food and Agriculture
Plant Pest Diagnostics Branch
Associate Seed Botanist
Duty Statement**

I. Program/Position Identification

The Plant Pest Diagnostics Branch (PPDB) of the California Department of Food and Agriculture (CDFA) serves as an official scientific resource, conducting scientific research investigations, providing timely and accurate plant pest diagnostics services, quality control services, and professional expertise to county agricultural commissioners, other state agencies, agri-business, and environmental clients within California, nationally and internationally. The PPDB provides a broad range of valuable services to support CDFA's mandate of protecting agriculture and the environment. The laboratory provides diagnostic support to CDFA's pest exclusion and eradication programs in their tasks of identifying and combating invasive plants, and plant pests and diseases that threaten California agriculture and the environment. The laboratory also provides diagnostic support to the United States Forest Service and other federal agencies in the detection and monitoring of invasive and destructive plants, and plant diseases and pests.

Under direction of Environmental Program Manager I, the Associate Seed Botanist has the primary responsibility for germination, viability, purity, and vigor testing of seed samples, providing scientific consultation, keeping abreast of scientific advancements and their application to seed quality testing, and performing research.

Classification:	Associate Seed Botanist
Working Title:	Associate Seed Botanist
License or Other Requirement:	None
Position Number:	014-625-0493-003
Division/Branch/DAA:	PHPPS/PPDB
Location:	3294 Meadowview Rd., Sacramento, CA
Date Prepared:	May 2024
Work Hours/Shift:	40 hours/week, Monday - Friday

II. Essential and Non-Essential Job Functions

A. Essential Functions:

Function #1: Seed Quality Assessment- Purity Analysis - 40%

- Direct the preparation of seed samples for purity and physiological analyses, phytosanitary diagnostics, quarantine examinations and feed mill certification by technical staff.
- Perform seed quality testing (including but not limited to purity analyses, noxious weed seed examination, cultivar verification, phytosanitary diagnostic testing, etc.) of seed for planting in accordance with the California Seed Law, the Federal Seed Act Regulations, international phytosanitary requirements, and other national and international regulatory requirements.
- Aid Senior Seed Botanists in performing quarantine seed sample diagnostics, including the identification of all plant propagules in quarantine samples, and specifically propagules from species considered prohibited or regulated (i.e., rated plant pests) by the California Department of Food and Agriculture and the federal government.
- Aid Senior Seed Botanists in identifying seeds, fruits and other plant propagules submitted by various government agencies, seed companies, universities, and private concerns.
- Maintain records for samples submitted for seed testing by updating the seed sample database.

Function #2: Seed Quality Assessment- Germination and Laboratory Diagnostics- 35%

- Evaluate quality of agricultural, vegetable, and other seed by examination of seedling development and morphology in laboratory germination tests for labelling, regulatory and investigative requirements.
- Aid Senior Seed Botanists in diagnosing seed germination and seedling development problems using other methodology, including, but not limited to, seed vigor assessment and examination of the internal anatomy and morphology of the seed/fruit and seed embryo.
- Assess seed/seedling performance in response to variables such as temperature, moisture, light, plant hormones, and chemical agents, and paired laboratory/greenhouse or plant growth chamber grow-outs.

Function #3: Research - 15%

- Propose novel/alternate seed testing protocols in seed quality testing by designing and conducting experiments, collecting data to describe and solve problems, performing statistical analyses of experimental data, interpreting, and presenting findings orally, or publishing findings in recognized scientific publications.
- Continually develop professional expertise by reading and analyzing published research reports, participating in professional meetings, professional continuing

education workshops and seminars as approved, collaborating with seed scientists worldwide.

Function #4: Training/Professional Organizations - 5%

- Aid Senior Seed Botanists in providing training in workshops and on individual basis to counties, state and university facilities on topics related to seed physiology and seed quality testing, as requested by the Seed Laboratory training director.
- Represent the Department on committees of professional associations involved in standardizing procedures for measuring seed quality.

B. Non-Essential Functions:

Function #1: Miscellaneous duties - 5%

- Perform other job-related duties as requested by supervisor.

III. Work Environment

The Plant Pest Diagnostics Center is comprised of five independent laboratories at the CDFA Meadowview complex in Sacramento. The incumbent works in the Seed Laboratory, which consists of 7 common rooms, storage and cold rooms and individual office/laboratories for the professional staff. The laboratory houses the California State Seed Herbarium collection and a seed and botany library. The labs are equipped with standard processing facilities and specialized equipment. The standard equipment and materials used in seed quality testing and research include seed dividers, electronic balances, microscopes, digital magnification/photographic systems, chemicals, glassware, fume hoods, free-standing and walk-in germination chambers, herbarium cabinets, refrigerators, freezers, thermogradient table, growth chamber, moisture ovens, vacuum, gas and compressed air fixtures, vacuum counting heads, x-ray machine, cold storage room, etc. Individual office/laboratory spaces are each equipped with one built-in standing-height counter with a sink with eyewash, wall-mounted bookshelves, assorted tables, shelves, file cabinets, and desks to accommodate microscopes, fiber optic lights, digital photography systems, computers, printers, scanners, books and other literature, and various equipment and supplies. Safety features include emergency showers, eyewashes, fire extinguishers, and first aid kits in every room. PPDC also houses a multi-room DNA laboratory, an electron microscopy suite (SEM and TEM), a macrophotography station, and a literature reference library.

IV. Employee's Statement

(Initial applicable statement)

_____ I have read and understand the duties and essential functions of the position. I understand Reasonable Accommodation¹ and how it applies to essential functions. I can perform the duties of this job without Reasonable Accommodation.

OR

_____ I have read and understand the duties and essential functions of the position. I understand Reasonable Accommodation¹ and how it applies to essential functions. I will need Reasonable Accommodation to perform one or more of the essential functions described in this duty statement.

Employee Signature² Date

Supervisor Signature Date

Print Name

Print Name

**CC: Employee
Official Personnel File
Supervisor's Drop File**

¹ A reasonable accommodation is an adjustment or modification to a job or workplace that allows qualified employees or prospective employees to perform the essential functions of the job successfully.

² Duties of this position are subject to change and may be revised as needed or required. If/when duties change you will be provided with a revised duty statement to sign.