

Title: Subtropical Crops Pathology Specialist

Description: The Specialist will conduct extension and research on diseases of subtropical crops including avocado and citrus in California. Areas of focus include etiology, diagnosis, ecology, epidemiology, and management of diseases of subtropical crops. The individual must have a Ph.D. in Plant Pathology or a closely related discipline and postdoctoral experience. Experience with subtropical crops, applied management of plant diseases, detection of plant pathogens using modern molecular techniques, and/or crop production is strongly preferred. The Specialist will be located in and report to the Department of Microbiology and Plant Pathology at UC Riverside, will support Advisors working with subtropical crops, and will interact with Specialists and other UC personnel working with these crops.

Justification: Subtropical crops such as citrus and avocado are critical industries to Central and Southern California, and California comprises a significant percentage of production and consumption of these crops in the U.S. These commodities are currently at a crossroads. The very existence of citrus is threatened by huanglongbing disease (HLB or citrus greening), and avocado is at risk from the invasive pathogen *Raffaelea lauricola*, the causal agent of laurel wilt. Growers also experience losses from a range of endemic fruit, foliar, branch, and root pathogens. In addition, the invasive Fusarium dieback-shot hole borer disease-pest complex is rapidly destroying trees in urban and native ecosystems in Southern California. Following the upcoming departure from UC Riverside and change in program focus of Dr. Akif Eskalen, there will be no Specialist conducting extension and research on management of these and other diseases of subtropical crops.

This Specialist is at the core of the UC ANR Strategic Vision 2025 Initiative to “Manage Endemic and Invasive Pests and Diseases,” as well as “Enhance Competitive, Sustainable Food Systems.” This Specialist supports the UC Riverside AES mission and is aligned with the “From Genomics to Harvest” goal in the UC Riverside 2020 Strategic Plan.

Extension: The Specialist will provide leadership for statewide extension activities on diseases of subtropical crops that include diagnosis of suspected disease samples, developing and holding workshops and other training for stakeholders, and conveying information on best management practices through written, oral, or other means. The primary stakeholders for the Specialist are growers, pest control advisors, shippers, commodity organizations, and other industry entities. The Specialist will engage in two-way communications with these stakeholders to identify and be responsive to their needs, and to coordinate extension and research activities.

Research: The Specialist will conduct research on diseases of subtropical crops and related diseases affecting urban or natural ecosystems. Areas of research include identification and characterization of new diseases, improved methods of pathogen detection or disease diagnosis, understanding the influence of microbial communities on pathogens, mitigating the spread of invasive pathogens, and developing new or improved integrated practices to manage disease. Possible outlets for publication of research include *Applied and Environmental*

Microbiology, Fungal Genetics and Biology, Phytopathology, Phytobiomes, Plant Disease, California Agriculture.

ANR Network: The Specialist will support and interact with any area-wide and county-based Farm Advisors who work with subtropical crops. As the only Specialist in Plant Pathology working with subtropical crops, the Specialist will serve as an important hub linking breeders and germplasm custodians (Mary Lu Arpaia, Tracy Kahn, Patricia Manosalva, Mikeal Roose, Georgios Vidalakis), AES plant pathologists (Jim Adaskaveg, Wenbo Ma, Caroline Roper), entomologists (Mark Hoddle, Elizabeth Grafton-Cardwell), and horticulturalists (Peggy Mauk, Milt McGiffen, Philippe Rolshausen). Program Teams (PT) and Workgroups (WG) that would benefit from this position include Plant Pathology, Nematology, and Integrated Management of Soilborne Pests WGs (Pest Management PT).

Network External to ANR: The Specialist will interact with USDA-ARS at both the San Joaquin Valley Agricultural Sciences Center in Parlier and the U.S. Salinity Laboratory and the National Clonal Germplasm Repository for Citrus & Dates in Riverside, by collaborating on disease management projects and extending research to stakeholders. The Specialist will interact with CDFA, USDA-APHIS, and county agricultural commissioners on regulatory matters and on methods of disease diagnosis and pathogen detection. The Specialist will also interact with USDA-Forest Service Pacific Southwest Research Station in Riverside and local and regional agencies on urban and natural landscape matters.

Support: The Department of Microbiology and Plant Pathology at UC Riverside will supply office, laboratory and greenhouse space, significant equipment, and administrative support. The College of Natural and Agricultural Sciences at UC Riverside will supply a portion of the start-up funds and money for travel.

Other support: This position has a long history of funding from agricultural commodities (citrus, avocado, etc.), as well as statewide (CDFA), regional, and national funding (USDA).

Location: This Specialist will be stationed in the Department of Microbiology and Plant Pathology at UC Riverside, which is centrally located to reach production areas for both citrus and avocado, as well as other subtropical crops.

Developed and proposed by: The faculty of the Department of Microbiology and Plant Pathology at UC Riverside developed and voted to approve this position, with support from industry and other stakeholders.