Assistant CE Specialist- Fruit Pathology at Kearney Agricultural Research and Extension Center Department of Plant Pathology

Position Description

The successful candidate will be expected to conduct original research in order to develop information that can be applied to management of diseases of fruit and nut crops in California, and to extend this information to grower clientele and other industry professionals. These research and extension activities will be closely coordinated with other disciplinary CE specialists at the Kearney Agricultural Research and Extension Center (KAC) and on the Davis campus, and with county-based extension personnel.

i. General disciplinary focus: The focus of this position will be on diseases affecting fruit and nut crops in California. Accordingly, applicants should have the professional background necessary to conduct original research on the biology of plant pathogenic microorganisms and their interaction with host plants.

ii. Educational and professional background requirements: A minimum requirement is a Ph.D. in Plant Pathology or a closely allied discipline. Post-doctoral training is desirable but is not required. The successful candidate must have a record that documents productivity in research as evidenced by publications in peer-reviewed journals.

iii. Supporting units: This position will be housed at the Kearney Agricultural Research and Extension Center and will be supported by staff at the KAC. An account manager in the Department of Plant Pathology at U.C. Davis would handle grant administration and personnel matters. Research and extension activities would be coordinated through ANR workgroups including WG99-097 (almond), WG99-005 (cling peach), WG00-204 (pistachio), WG99-003 (prune) and WG99-015 (walnut).

Justification

Filling this position would contribute to the ANR mission of helping California to prepare for a future that will include a growing population, diminished access to water and prime agricultural land due to urbanization, and a changing climate that will require agricultural practices to adjust to altered temperature regimes and rainfall patterns. All these changes can be expected to influence the incidence and severity of plant diseases. The proposed CE specialist would work closely with the fruit and nut tree industries to develop the information needed to anticipate, diagnose and manage new and existing disease problems. A major emphasis will be placed on development of disease management practices that do not degrade air or water quality and that minimize impacts on non-target organisms. In helping fruit and nut producers to meet the challenges posed by plant pathogens, the proposed CE specialist position would address the ANR initiative *for managing endemic and invasive pests and diseases*. A key to effective management of invasive pathogens is rapid detection, something that would be greatly facilitated by a CE specialist engaged with growers and PCAs, who are among the most likely first detectors. The research and extension activities of the person filling this position would also address the ANR initiatives *to enhance competitive, sustainable food systems*, *to enhance the health of Californians and the health of California's agricultural economy*, and *to ensure a safe and secure food supply*. The Pomology Extension Continuing Conference (PECC)

ranks a CE position in fruit tree pathology at KAC as one of their top priorities (Scott Johnson, personal communication).

Extension

The clientele groups for this position would include several large and well-organized fruit and nut tree industries that are centered in the San Joaquin and Sacramento Valleys. This includes a number of California's most valuable commodities (based on 2010 CDFA data), such as almonds (#3 @ $2.84 billion), pistachios (#9 @ $1.16 billion) and walnuts (#10 $1.06 billion). Other important commodities that would be served by this position include peaches, nectarines, plums, prunes, cherries, apricots, apples, pears, figs, olives, pomegranates and persimmons. The CE specialist would interact directly with growers, farm advisors, PCAs and other agricultural industry professionals and would also provide information to these individuals through publications and web-based resources.

Research

The candidate would be expected to engage in research that aims to reduce pesticide use through development of control strategies based on pathogen biology and disease epidemiology. Emphasis will be on environmentally sound, integrated approaches to disease management. Specific areas of research may include: reduction of fungicide use through forecasting based on disease epidemiology, management of fungicide resistant pathogens, use of biological controls and cultural practices for disease reduction, and development of disease control programs that contribute to sustainability of fruit and nut crops. Research findings would be reported in scholarly journals, extension publications and through presentations and web sites.

ANR continuum

The ANR mission is presently well-served by productive research programs addressing disease problems of tree fruit and nut crops, including particularly those of Drs. Jim Adaskaveg (UCR), Doug Gubler (UCD) and Themis Michailides (UCD). However, of these three only Dr. Michailides is located in the San Joaquin Valley, where most tree fruit and nut crops are grown, and only Dr. Gubler has a CE appointment. Furthermore, Dr. Gubler maintains a very large program on diseases of grapevines, which limits the time he can devote to extending information on diseases of fruit and nut trees. Numerous other campus-based scientists devote at least a portion of their research efforts to diseases of fruit and nut crops; e.g., UCD faculty members Bostock, Epstein, Falk, Golino, Kirkpatrick and Rowhani, USDA-ARS scientists Sudarshana, Kleupfel and Browne, UCB faculty member Lindow, and UCR faculty members Cooksey, Douhan, Eskalen, Roper and Vidalakis. At the other end of the continuum, ANR has a strong network of county-based advisors concerned with fruit and nut crops, including Craig Kallsen (Kern Co.), Elizabeth Fichtner and Kevin Day (Tulare Co.), Bob Beede (Kings Co.), Steve Vasquez (Fresno Co.), David Doll and Maxwell Norton (Merced Co.), Roger Duncan and Kathy Anderson (Stanislaus Co.), Joe Grant, Brent Holtz and Paul Verdegaal (San Joaquin Co.), Carolyn DeBuse (Solano and Yolo Cos.), Chuck Ingels (Sacramento Co.), Janine Hasey and Franz Niederholzer (Yuba/Sutter Cos.), Bill Krueger (Glenn Co.), Joe Connell (Butte Co.), Rick Buchner (Tehama Co.)

and Rachel Elkins (Lake Co.). A CE specialist at the KAC could help bridge the current gap between researchers and implementers.

Support

Clerical and other administrative support for day-to-day activities would be provided by staff at the KAC, where the specialist's office and laboratory facilities would be located. An account manager in the Department of Plant Pathology at U.C. Davis would handle grant administration and personnel matters. The candidate would receive departmental support for his or her program according to the same formula used for all other faculty members in the Department of Plant Pathology.

Other support

Numerous commodity groups can be expected to provide substantial monetary support for research and extension programs developed by a CE specialist working on diseases of fruit and nut tree crops. This would include but not be limited to the Almond Board of California, the California Pistachio Research Board, the California Cling Peach Board, the California Walnut Board, the California Grape and Tree Fruit League, the Olive Commission and the California Pear Advisory Board.

Location

We propose to locate the requested CE position at KAC, where the appointee would help to fill a void left by the retirement of CE Specialist, Dr. Beth Teviotdale in 2004. Dr. Teviotdale devoted a full time effort to the development of disease control measures and the extension of this information to her clientele. Dr. Michailides, who runs a very large research program at KAC, does not have a CE appointment and cannot address more than a small fraction of the demand for services formerly provided by Dr. Teviotdale. Thus, there remains a significant unmet need in the area of disease diagnosis and extension of information on disease control to industry clientele. At KAC a CE specialist in fruit and nut tree diseases would be co-located with Dr. Michailides, as well as plant scientists, entomologists and others concerned with management of fruit and nut crops in the Central Valley. This location also carries the advantage of being in close proximity to the major production areas for tree fruit and nut crops in California.