**Area Integrated Pest Management Advisor, San Diego County**

**Position Title:** Area Integrated Pest Management (IPM) Advisor will address pest and pest management issues to production systems in Southern California as well as invasive species and landscape IPM programs. Based in San Diego County with coverage to address IPM priorities in Los Angeles, Orange, and San Diego Counties. The Area IPM Advisor will provide IPM support to assist CE Advisors in nearby counties. This position will be a member of the UC Statewide IPM Program.

**Position: (1)**The Area IPM Advisor will conduct research and extension programs to address pest and pest management issues relevant to food and ornamental crop production systems in Southern California. The Area IPM Advisor will also address invasive species and landscape IPM programs. Because the region is large with numerous crops and environmental issues, the Area IPM Advisor will focus on long-term IPM related issues such as development of IPM systems and reducing environmental impacts from pest management practices or changes in pest pressure as a result of climate change. The Area IPM Advisor will also identify and address high priority pest issues, working cooperatively with other CE Advisors, Specialists, affected clientele/commodity boards, and agencies as appropriate. The Area IPM Advisor will deliver training to licensed Pest Control Advisers (PCA), pesticide applicators (QAL/QAC/PA), growers, and landscapers. These trainings will frequently be done cooperatively with other local CE Advisors. This position will also work with policy makers and public agencies to serve as the technical expert to deliver science-based information on issues related to invasive species and pesticide use and mitigation. **(2)**A minimum of a Master’s Degree is required in a pest management discipline (plant pathology, entomology, weed science, nematology). Candidates with broad expertise in at least one of the above fields and experience in at least one of the others is desirable. Expertise in applied field research in multiple types of crops, including urban farms, is desirable. Qualified Applicator Certificate or License required before any pesticide is applied or supervised. Must be able to drive under challenging conditions. **(3)** The Area IPM Advisor will be a member of the UC IPM Program and housed in the CE San Diego County office. The Area IPM Advisor will be programmatically guided by UC IPM and administratively through the home county CE office as described in an MOU used for all the Area IPM Advisors. In addition to developing solutions through his/her applied research program, the Area IPM Advisor will support County CE Advisors throughout the region to address short-term problems such as pest identification and appropriate use of pesticides or other pest management methods. The Area IPM Advisor will develop research, training and extension programs with other local CE Advisors and CE Specialists, and will be able to use two RECs that are reasonably reachable: Desert REC and South Coast REC (118 and 78 miles, respectively, from CE San Diego). Research projects will also involve, when appropriate and mutually beneficial, volunteers such as UC Master Gardeners.

**Justification:** With the retirements of CE Advisors Jim Bethke and John Kabashima, there are no M.S. or Ph.D. level entomologists, and the projected retirement of Cheryl Wilen (weed science/other pest management) in late 2019 will leave this region that is both densely populated yet also highly agriculturally productive with no CE advisor focusing on plant pest management systems. Los Angeles, Orange and San Diego Counties are the three most populated counties in southern California and an agricultural production value of over $2 billion. The Area IPM Advisor will have a positive impact on the economic and environmental health of the region, especially in the areas of invasive species. There has also been an increase in small scale commercial food producers (Urban Agriculture) in the region and these growers need the connection to UC ANR for their pest management education in order to be profitable and contribute to the economic develop of the region. ***At the current time, the top 2-3 issues addressed include:*** 1) invasive insect pests entering through trade or transport or as a result of climate change such as South American palm weevil and the shot hole bore/pathogen complex and pests that are impacting movement of crops internal and external to the state such as gastropods, light brown apple moth, 2) pesticide use and reduction and/or mitigation to address runoff and pollution from watersheds into water bodies, and 3) developing and implementing IPM programs for small scale and specialty crops. ***The likelihood of significant outcomes and impact*** is quite good. Regulatory drivers for adopting IPM have allowed UC IPM to find a very receptive audience to the message and mission of the program. Additionally, local food movements, new farmers, urban farming, and non-traditional production systems of new and specialty crops in the region require more locally based expertise for these businesses to become economically viable therefore are a clientele group where appropriate use of IPM technology can have a big impact on their profitability. ***This position addresses the needs and priorities of external stakeholders*** by interacting directly with commodity boards for identifying needs and prioritization of research projects, working with state agencies to develop reports related to invasive species or pesticide use to assist in policy development, and with community organizations to provide unbiased, science-based information so they have the best information possible when making decisions.

**Extension:** The Area IPM Advisor will develop and conduct an impactful extension program with PCAs, commercial growers (of all types), and professional landscapers/arborists. This will be done through in field demonstrations and workshops, classroom style training, and online avenues including individual contacts and broader social media platforms. Interactive online training modules or apps will likely be developed as appropriate for the audience. Articles will be published in trade magazines for vegetable and fruit growers, nursery and greenhouse production, and CAPCA Adviser (for PCAs). Public service interactions will be done through community groups and through Master Gardeners for non-commercial gardening. Much of the outputs from the Area IPM Advisor will be used to develop extension materials distributed through the UC Statewide IPM Program and in some cases, the UC Master Gardener program as well as other statewide programs as appropriate, thereby expanding the reach and impact of locally conducted programs. The Area IPM Advisor will write, revise, and review UC IPM Pest Management Guidelines and Pest Notes. S/he will also serve as point of contact for local and statewide writers for publications such as Western Farm Press and AgAlert and UC ANR Communications.

**Research**: ***Specific key research areas or topics:*** This position is directly aligned with the Endemic and Invasive Pests and Diseases Strategic Initiative, addressing all three key priorities (Exclusion/Emerging and Re-emerging/ Integrated Management of pests and pathogens). It also supports water quality programs through mitigation of pesticides that may be water pollutants. ***Specific areas of inquiry will include*** development of best management practices for newly arrived invasive species, evaluation and development of pest management strategies, and mitigation of impacts pesticide use. ***Expected publication outlets****:* in addition to those listed above are California Agriculture and applied research journals such as Journal of Economic Entomology, Weed Technology, HortTechnology, Journal of Environmental Horticulture, Plant Disease, Plant Health Progress, and the Journal of IPM. The Area IPM Advisor will also participate in regional, national, and international pest management conferences.

**ANR Network:** Collectively, the 3 primary counties to be served by the position have 7 CE advisors working in plant systems including 3 environmental horticulture Advisors, 2 water quality/CD Advisors, 1 small farm Advisor, and 1 sustainable food systems but as noted in the justification section, the current and expected loss of county-based academics will leave this region that is both densely populated yet also highly agriculturally productive with no CE advisor focused on plant pest management systems and invasive pests. ***However, the current staffing in the LA, Orange and San Diego CE offices is ideal for collaborative projects and synergism of expertise if an Area IPM Advisor is in place.*** Proximity to UCR will provide linkages to members of the entomology (CE: Daugherty, Hoddle, AES: Redak, Paine, Perring, Millar, Mauck, Stouthamer), plant pathology (CE: Putman, Eskalen, Vidalakis, AES:Adaskaveg, Borneman), nematology (CE: Becker, Ploeg), botany and plant sciences (CE: Bean, Arpaia, Mauk, McGiffen, Merhaut), and environmental science (CE: Haghverdi, AES: Gan, Wu) departments.

**Network External to ANR:** Historically, this position worked closely with Cal. Dept. of Pesticide Regulation and Co. Ag Commissioners’ offices and local Indian tribes for extension programs (e.g. Pest Management Alliance, School IPM, pesticide safety) and with the Cal. Dept. of Food and Agriculture for technical advice on invasive pests. Additionally, this position networked with academics from other land-grant universities on multi-state programs and projects. There are numerous opportunities to network with trade and grower groups as well as public agencies such as water agencies, CalTrans, and state and local parks and non-profits organizations (e.g. California Invasive Plant Council, and CAPCA).

**Support:** The San Diego CE officehas vehicles available to check out, a conference room, an office with phone and high speed internet access. There is support staff to help with purchasing, meeting planning, copying, among others. UC IPM provides annual support funds (currently $10K but allocation dependent on ANR budget) generally used for the Area IPM Advisor to use for travel within and outside his/her home county and supplies and services to support IPM extension (often in cooperation with county CE Advisors and CE Specialists) that is consistent with the mission of UC IPM.

**Other support:** Research and extension support is expected to be obtained from competitive grants from UC ANR, CDFA, DPR, and commodity boards. Targeted contracts (non-competitive) may be provided by DPR, Counties, or non-profit organizations. If the Area IPM Advisor chooses, USDA IR-4 funding is available for biopesticide testing and conventional pesticide label expansion. The Area IPM Advisor can expect to obtain $10-100K/year in support.

**Location:** San Diego, while not central to the proposed area, has a good local network of CE Advisors and the office has space and resources to support the Area IPM Advisor. San Diego will also have an office in the north part of the county making it easier for the Advisor to address issues in the location where much of the ornamentals, avocados, and citrus are grown. San Diego is often ground zero for new pests entering from Mexico. Climate and crops in San Diego are similar to parts of LA and most of Orange County. Work done at one location can be extended to other counties and vice versa. While travel to Los Angeles and eastern Riverside is more challenging, we expect the Area IPM Advisor to develop a prioritization system to make the best use of his/her time.

**Developed and proposed by:** Jim Farrar, UC IPM Director and Laurent Ahiablame, San Diego County Director. The following stakeholders were involved in the development of this position: Growers Mike Mellano, Neil Nagata, Eric Larson; CE Advisors Cheryl Wilen, and County Directors Janet Hartin and Darren Haver.