**2026 UC ANR Cooperative Extension Position Proposal**

**Vegetable Entomology Extension Specialist**

**Developed and proposed by:** Kerry Mauck, Dept. Entomology, UC Riverside and Christiane Weirauch, Dept. Chair of Entomology, UC Riverside. The position was reviewed by the Vegetable Crops Program Team and the Program Team Leader submitted the position to the Padlet Idea Board. The position is now ranked as the Program Team's #1 priority and we received strong statements of support from directors of the Desert REC, Westside REC, and South Coast REC (the main RECs supporting vegetable crop research), as well as support and input from Dr. Jim Farrar, Statewide IPM Director. The Department matched with the position, and it was subsequently selected as one of the Specialist positions submitted by UCR.

**Position Title:** Vegetable Entomology Extension Specialist

**Headquarter location and coverage area:** The position would be located at UC Riverside in Riverside, CA. Location at the UCR main campus is advantageous because it is located near currently underserved vegetable production areas in California (Low Desert valleys and the Southern Coast) and has on-site agricultural blocks in which research can be conducted as well as potential cooperators on nearby commercial farms. We expect the position to have statewide responsibility and there may be limited space to support a small satellite lab at the Kearney Agricultural Research and Extension Center (KARE).

**Position: Briefly describe**: 1) general discipline: Entomology/pest management, 2) educational and professional background: Ph.D. in Entomology or related discipline. 3) supporting units: the successful candidate will be a CE Specialist in the Department of Entomology at UC Riverside, will be housed at the Department of Entomology at the UC Riverside Main Campus and will have statewide responsibilities with a focus on the currently underserved Southern California vegetable crop producing regions. The candidate will develop a basic and applied research program focused on reducing the impact of pests on vegetables and related crops and provide outreach to appropriate clientele to facilitate adoption of new science-based knowledge for management of these pests.

**Justification: a) Needs.** This position would address several challenges:

Economic impact. California produces over one-third of all U.S. vegetables, with a farmgate value exceeding $10.5 billion. Arthropod pests routinely destroy 20-40% of crop yield annually, with the potential for total crop loss if left unmanaged. The myriad arthropod pest issues affecting vegetable crops threatens the UCANR "Agriculture and Food Systems" challenge of maintaining productivity and profitability.

Climate change and new emerging threats. Weather variability, including drought stress and milder winters, is preserving pest populations and allowing new invasive species to establish within existing complexes. A position focused on these specific issues for the unique and diverse vegetable crop systems in our state aligns with the UC ANR priority to build climate change resilience by developing strategies to mitigate the impact of endemic and invasive pests exacerbated by extreme weather.

Gaps in expertise and underserved geographic areas. Currently, only one CE Specialist (at UC Davis) partially covers vegetable entomology, while also managing field crops like rice and cotton. This leaves Southern California's coastal, urban, and desert production areas significantly underserved. Furthermore, impending Advisor retirements threaten to leave the state without necessary expertise in arthropod management in vegetables and many crops produced with similar practices (e.g., strawberries, melons).

Stakeholder needs. Consumers demand vegetable crops that have good flavor and are free of cosmetic insect damage. For this reason, insect pests and vector-borne diseases rank highly on vegetable crop commodity board research priorities and are routinely cited as major concerns on quarterly Specialty Crops Technical Council meetings. External stakeholders, including growers, crop consultants, and state agencies (DPR, CDFA), require science-based IPM approaches that balance arthropod pest control with pollinator health and environmental protection. For example, DPR's Sustainable Pest Management Roadmap and goal to reduce "priority pesticides" will strongly affect vegetable crop producers unless other sustainable pest management options are developed. Many vegetable crops and crops grown similarly also rely on pollination, which further limits pesticide options. Amidst these constraints, new pests and insect-transmitted pathogens are regularly entering the state and establishing, creating a strong need for research dedicated to vegetable crop pest issues.

**b) Outcomes/Impact.** The specialist will drive research and extension programs that contribute directly to UC ANR's Public Value Framework. We anticipate the following condition changes:

- Increased ecological sustainability through development of IPM approaches that involve enhanced adoption of biological control and other sustainable strategies in combination with precision uses of insecticides to achieve control. This will reduce impacts of pest management on non-target organisms (e.g., pollinators, food webs), water quality, and soil health.

- Increased agriculture and food system resilience to extreme weather through approaches that provide information about pest risks and damage proactively, enabling management that is responsive to actual threats.

- Reductions in annual yield losses due to arthropod pests, leading to increased stability of production and consumer access to affordable vegetable products.

- Preserving continued production of nutrient-dense crops that contribute substantially to the California agricultural economy and the nation's food supply.

**c) Alignment with UC ANR's Strategic Vision 2040.** This position is a direct investment in the goal of "Strengthening Agriculture and Food Systems" and fulfills several desired outcomes:

- Managing endemic and invasive pests to preserve food security/crop resiliency.

- Developing and promoting sustainable agricultural practices that protect the environment while maintaining productivity.

- Driving/harnessing innovation by developing and extending novel IPM tools/technologies.

- Informing regulations, policy documents, and compliance standards by providing science-based input to help stakeholders navigate complex regulatory statutes on pest management.

**Extension:** Extension activities to be fulfilled by this position will include development and implementation of educational programs on pest identification, sampling, biology and management in vegetable crops. These efforts may include a variety of approaches including extension publications, newsletters, web pages, blogging, field days, participation in farm advisor meetings, organization of specific educational conferences, and contributing to UC ANR Workgroups and Program Teams as well as UC ANR Pest Management Guidelines. Information generated by the successful candidate's research and the research efforts of other scientists will be extended to a variety of clientele including UC Cooperative Extension Advisors, pest control advisors, regulatory personnel, industry representatives, and growers. Publication outlets will include peer-reviewed entomology, pest management, and ecology journals, review articles, book chapters as well as stakeholder-oriented literature such as California Agriculture, UC ANR Pest Management Guidelines, and commodity-oriented magazines.

**Research**: Areas of research include, but are not limited to, studying the biology and ecology of pest and beneficial arthropods in vegetable crops; design of robust sampling plans for pest and beneficial arthropods; evaluation of the impacts of pesticides and application methods on vegetable crop pests and their natural enemies; resistance management; and developing novel and traditional IPM tactics, including strategies suitable for contained agriculture, urban and small farm agriculture, and organic production systems. Opportunities for coordinating research projects with UC Advisors and other extension clientele are numerous, and are encouraged to facilitate evaluation and adoption of novel pest management methods.

**UC ANR Network:** This position is a top priority for the Vegetable Crops Program Team and fills a critical gap in the UC ANR network, where currently only one UCCE Specialist (at UC Davis) partially covers vegetable entomology alongside field crops. By being based at UC Riverside, this role provides a geographic presence to serve the underserved coastal, desert, and urban agriculture regions of Southern California. The Specialist will significantly augment the ANR network capacity by shifting from the reactive guidance toward a proactive, sustained research program that develops integrated methods for emerging arthropod issues. This position is designed for collaboration across the "tripartite mission," working with UCCE Farm Advisors, AES faculty at UC Riverside and UC Davis, USDA researchers, and state agencies (DPR/CDFA) to ensure science-to-policy translation. We expect this role to secure the long-term expertise needed to navigate impending retirements and maintain the stability of California's $10.5 billion vegetable industry.

**Network External to UC ANR:** As this position will be the only one dedicated exclusively to vegetable crop entomology within the state, the candidate is expected to network with scientists with CDFA, DPR, and USDA as well as with commodity boards and pest managers associated with vegetable crop producers. The nature of these collaborations will be to identify problematic issues related to key pests affecting high-value vegetable crops in the context of diverse production practices ranging from large scale to small urban farms. Ultimately, these collaborations will result in the development of management solutions and extension of these solutions to stakeholders. As this is a new and critical position, bringing much needed expertise into the state, the impact of these collaborations will be significant and immediate.

**Support:** Two offices (together ca. 200 ft2) and one laboratory (ca. 565 ft2) is available on the UCR campus (Chapman Hall). Administrative support, office supplies, computing, internet access, and telephone access will be provided by the Department of Entomology, UC Riverside. The location is centrally located for research projects at Hansen, South Coast, and Desert RECs. While the successful candidate is expected to support their research and extension program primarily with competitive extramural funding (e.g., USDA-NIFA, USDA-AFRI, WSARE, WIPMC, CDFA, DPR, various commodities), additional funding may be provided via funds offered within the College of Natural and Agriculture Sciences at UCR and within ANR.

**Other support:** Extramural funding may be procured via a variety of sources at the state (CDFA, DPR) and federal levels as well as through numerous commodity boards that support research on vegetable crops, and crops managed similarly (e.g., strawberries, melons) (California Melon Research Board, California Pepper Commission, Watermelon Board, California Leafy Greens Research Program, California Tomato Research Institute, California Celery Research Advisory Board, California Garlic & Onion Research Advisory Board, California Strawberry Commission, etc.).