

Position Title: Area Irrigation & Soils Advisor

Position: (1) General disciplinary focuses are soil/plant/water interaction, irrigation and nutrient management and soil health. (2) Master's degree or above in soils, agronomy, water science or closely related field is preferred. The candidate should be able to develop and integrate all aspects of crop production to promote sustainability, profitability, food safety, and environmental stewardship. (3) Reports to Stanislaus County Director, with input from cross-county Directors in San Joaquin and Merced Counties.

Justification: This position primarily addresses the high priority initiatives to Improve Water Quality, Quantity, and Security; Enhance Competitive, Sustainable Food Systems and Enhance the Health of Californians and California's Agricultural Economy. Agricultural production in Stanislaus County exceeds \$3.4 billion annually, and nearly \$10 billion annually in the program area. There are many and diverse technological and regulatory needs emerging for growers in this region, including: (1) Development, integration and grower adoption of new irrigation scheduling and management technologies; (2) Implementation of the Sustainable Groundwater Management Act, CV-Salts; (3) Promoting grower awareness and involvement in agricultural sustainability incentive programs such as Healthy Soils, SWEEP, EQIP, CDFA Conservation Ag Plans, and others. The advisor will assist growers to build resilience in the face of greater weather and water availability variability associated with climate change. Practical and effective multi-cropping systems that increase biodiversity and improved water resiliency with on-farm practices such as water recharge and use of recycled water are imperative to the continued success of agricultural operations in the Northern San Joaquin Valley (NSJV).

There are over 725,000 tree and vine crop acres on more than 7,000 farms in the NSJV, but no advisors tasked with focusing on irrigation management of permanent crops in the region. Although the NSJV is one of the most important tree crop regions in California, many growers farm part time and fewer than 40 acres. Over the past twenty years, most orchardists have converted from flood/basin irrigation to micro-sprinklers or drip but lack the comprehensive understanding on how to best use these systems.

Extension: The position is responsible for creating and implementing an innovative extension program using traditional and modern tools to support the development of new practices and evaluation of existing practices for increasing water use efficiency and improving soil quality. Faced with declining irrigation water quantity and quality as well as upcoming regulatory challenges (e.g. SGMA), growers in this area need help understanding basic irrigation strategies as well as learning how to use advanced monitoring techniques. The advisor would be expected to conduct a research and extension program related to improving irrigation efficiency, making farming decisions with low water allocation, farming with low-quality water (high Na/Cl/B), and increasing understanding of irrigation technology options to improve irrigation decisions. The position requires interaction with farmers, landowners, water managers, commodity boards, federal and state agency managers and partners, and other client groups and managers from the public and/or private sector.

Research: Water quality and availability are critical issues which impact crop production and soil health. Continued planting of permanent crops in areas that have not previously had fruit and nut

crops because of soil or water salinity issues necessitates additional research to address these issues. There is strong support from the local industry that will allow the new advisor to address high profile policy issues (e.g. Flood-MAR, Climate Smart Ag) such as irrigation management, water quantity and quality, and fertilizer management concerns that are facing additional regulation in coming years but are key to advancing profitability.

ANR Network: The Irrigation and Soils Advisor is expected to work collaboratively with specialists, AES researchers and farm advisors through various workgroups. UCCE Stanislaus County has the needs and resources to maximize the productivity of such an advisor for statewide as well as local benefit, including commodity-based advisors that would lend well to local collaboration in research and extension.

Network External to ANR: We expect that the Irrigation and Soils Advisor will develop strong connections with statewide programs/initiatives, from the state and federal programs (e.g. Healthy Soils, SWEEP, etc.) and relevant commodity boards (e.g. California Almond Board, Walnut Board, Pistachio Board etc.).

Support: Office space, administrative support and a vehicle will be supplied by Stanislaus County. A project is underway to build a third laboratory space within the UCCE Stanislaus facility to accommodate an increased academic footprint. County Directors in the proposed area will address transportation costs associated with programmatic travel outside of Stanislaus County.

Other support: Funding for research and extension programming will be sought from commodity boards and CDFA. Various pomology boards (see below) have expressed a need for an irrigation advisor in the NSJV and have historically supported UCCE research and extension programs.

Headquarters and Coverage Area: The Advisor serves under the administrative guidance of the University of California Cooperative Extension Stanislaus County Director, with input from Directors in San Joaquin and Merced Counties (additional counties covered). Stanislaus County is central to the proposed coverage area, with easy access to the other counties. Housing the position in the center of the coverage area ensures that all counties will benefit from having an advisor serving clientele. Engagement and presence throughout the coverage area is imperative to building a successful research and extension program with agricultural clientele.

Developed and proposed by: This proposal is a joint submission, collaboratively developed by the Water Program Team, led by Safeeq Khan and Ellen Bruno, and the Stanislaus County Director, Jennifer Heguy.

The position also has strong support from the Pomology Program Team and affiliated County Directors, Brent Holtz (SJ) and Scott Stoddard (Merced). External stakeholders that have voiced strong support for the position include: Almond Board of California, California Pistachio Research Board, California Prune Board and California Walnut Board.