

**Position Title:** Area Dairy Advisor

**Position: Briefly describe:** This position will provide programs across a spectrum of industry issues as they relate to dairy production systems. The programs will address production issues and sustainability in an integrated approach that will consider economic viability and conservation of natural resources including land use, air, water, and energy. A minimum of a Master's Degree is required in disciplines such as Dairy or Animal Science, or a closely related field. Demonstrated abilities in applied animal science research and extension experience are desirable. Skills to communicate effectively in both English and Spanish are desirable. The advisor will be based in Tulare County with cross county responsibilities in Kern.

**Justification:** Tulare County is the number one dairy county in the world, with an annual milk production valued at more than \$1.8 billion in 2020, accounting for 5% of milk produced nationally. Kern County is home to large scale dairies that produced milk valued at over \$661 million in 2020. The advisor would be responsible for addressing the ANR condition change *promoting economic prosperity in California* by working to improve animal management, productivity and efficiency. Furthermore, the advisor will play an important role in *protecting California's natural resources* by improving air and water quality and water use efficiency as they relate to dairy production.

Feed costs are the most significant input on California dairies and research and education programs are needed to address the challenges of growing feed forage with limited water, the impacts of the Sustainable Groundwater Management Act (SGMA) and quality alternative forages and byproducts. SGMA is top of mind for dairy producers in Tulare & Kern Counties and strategies to reduce water use and improve efficiency at both the dairy production center and on dairy forage crop fields are high priorities that are currently not adequately addressed. Alternative feedstuffs that don't sacrifice animal productivity, health or efficiency may be a partial solution to water supply concerns and is an area ripe for innovative research and on-farm evaluation. Environmental regulations like water and air quality remain high priorities for Tulare and Kern County dairy producers and UCCE's unique role in bringing science-based solutions to assist with regulatory compliance is sorely needed in these counties. Animal welfare research is a looming need with increasing consumer driven legislation, especially relative to animal housing. A currently funded project on this topic is being conducted in other counties, due to the lack of an advisor in Tulare and Kern Counties. Antibiotic resistance is both an animal health and a One Health concern that the advisor would be expected to address. The use of antibiotics in animal agriculture is evolving at a fast pace and is the topic of significant legislation requiring dairy producers to modify management practices. The unique scale of dairies in this region poses additional management challenges, which are difficult to adequately address on smaller farms in other areas of the state.

There are currently only four CE dairy advisors (3 FTE, considering county director responsibilities of two dairy advisors) in California, the number one dairy state in the nation. Lack of critical mass stifles efforts to address the priority needs of the industry, especially as dairy producers balance environmental sustainability needs with economies of scale. The absence of a dairy advisor in the single largest dairy production region in the world hinders the dairy team's statewide impact potential.

**Extension:** The advisor would pursue educational programs in any of the high priority issue areas of herd health, milk quality, reproduction, environmental issues, calf and heifer management, and nutrition and feeding, as identified in the 2018 UCCE dairy needs assessment. The key clientele groups are dairy producers, managers and employees. These clientele have indicated that they would like to receive information in workshops and on-farm trainings, neither of which are currently offered by UCCE in the region. Allied industries are important partners and clientele groups and include dairy nutritionists, veterinarians, environmental consultants, pharmaceutical distributors and dairy equipment specialists. UCCE dairy advisors and specialists have organized a dairy seminar series at the annual World Ag Expo in Tulare and this advisor would be the logical local contact for that activity. The biennial UCCE Golden State Dairy Management Conference is a standing extension event that the advisor would contribute to. Bilingual educational programs are an existing gap that could potentially be a focus area for the advisor.

**Research:** The focus of the applied research program will be based on an updated needs assessment, and will likely include development of a knowledge base in the areas of animal nutrition and feeding, milk quality, herd health and reproduction. Applied research to support economically viable management alternatives for dairy production with respect to land, air, water, and food resources is also critical to the resilience and sustainability of the industry. Production of local forage feed resources is a growing area of research need as the implementation of the Sustainable Groundwater Management Act poses challenges to crop production with limited water availability. Concerns about labor availability and quality provide opportunities to pursue research related to the implementation of robotic systems in large herds.

**ANR Network:** The UCCE Tulare County office is located in close proximity to UC Davis's Veterinary Medicine Teaching and Research Center, which provides a unique opportunity for collaboration throughout the network, especially relative to animal health activities. Additionally, UCCE Specialists and AES scientists at the UC Davis and UC Riverside campuses appreciate opportunities for collaboration in these counties. Several specialists in UCD Plant Sciences, WSREC and KARE regularly collaborate with Dairy Advisors on forage production, feed quality, and dairy-crop field linked environmental issues.

Current projects relative to automation of milking equipment, production of forages with limited water, animal health and judicious antibiotic use and use of byproducts in the dairy ration are all current opportunities that could be expanded to additional dairies in Tulare and Kern counties. A study of the effects of alternative feeds (sugar beets, safflower) for dairy cattle is an ongoing, interdisciplinary collaboration that would benefit from the involvement of the dairy advisor. Climate impact neutrality research linking forage production and dairy waste management practices is another interdisciplinary project that is ongoing in the region. Currently, the advisor working on forage production and dairy waste management practices relies on remote expertise from Dairy Advisors outside of Tulare to provide interdisciplinary advice. The advisor may also join an existing One Health effort to address judicious antibiotic use, and topic area of great importance to the animal agriculture industry and a focus area for CDFA. The Dairy Program Team will serve as a hub for collaboration and source of informal mentoring and onboarding. The Agronomy and Water Program Teams also host many likely collaborators for a Dairy Advisor in this respect as well which would include existing Advisors.

**Network External to ANR:** CDFA, the California Chapter of the American Registry of Professional Animal Scientists, and the California Dairy Quality Assurance Program are partners in dairy research and extension activities across the state and would be an important part of the advisor's network. The advisor will collaborate with public policy agencies, especially on the use and efficiency of groundwater on dairy operations in this critically overdrafted aquifer.

**Support:** Support for this position, including office space, travel, communication (telephone, internet) and clerical support is available from Tulare County. Start-up funds will be used to purchase a computer and additional funding will be made available for research and program support from the previous Advisor's various donor accounts.

**Other support:** The advisor will be able to leverage research and extension funds from traditional funding agencies including USDA, CDFA and the California Dairy Research Foundation. Local industry organizations have historically been supportive of dairy extension programs and collaborations.

**Headquarters and Coverage Area:** This position will be headquartered at our UCCE Tulare County office located at 4437 S Laspina St, Tulare, CA 93274. This position will also be serving Kern County.

**Developed and proposed by:** The position was developed jointly by the Dairy Health & Production Program Team and the County Directors of UC Cooperative Extension in Tulare and Kern Counties.