

ANR CE Specialist in Dairy Health Economics

Position Description:

A 1.0 CE FTE focused on sustaining the dairy industry in California. This position will be responsible for researching and communicating the economic outcomes associated with health, productivity, and well-being of dairy cattle. This individual will be actively engaged in providing knowledge for UCCE Advisors, veterinarians, herd owners and managers, and other dairy decision makers in areas that include economic analysis and financial management that affect capital budgeting decisions as well as management choices related to short-term investment for dairy cattle health and production. This specialist will contribute information for support of decision-making ranging from the individual animal to the herd level. This information will also be applied on a scale which is unique to the California dairy industry. As knowledge is gained in these areas, solutions can be developed that will promote economically sustainable dairy cattle health and production practices that will also be sensitive to environmental health and well-being concerns for dairy cattle. This position can play an important role by making significant contributions to decision processes affecting the future of the dairy industry in California and the development of public policy which will meet objectives of enhancing cattle health and sustainability of dairy herds while being sensitive to the demands and expectations of consumers related to milk production and considering both positive and negative externalities.

An advanced degree related to animal health economics (e.g., MPVM, MBA, MS, or PhD) is required; a DVM or equivalent degree is preferred.

Justification:

A number of complimentary UC economists currently exist who are involved with agriculture, with one individual focusing specifically on milk marketing and pricing; however, none of these individuals focuses on the economics associated with producing high quality milk from healthy cows in a system that is environmentally friendly. This position's focus on the economics of health and well-being of dairy cattle in conjunction with a One Health perspective which considers the inextricable linkage among human, animal, and environmental health could help to ensure sustainable production of milk in California by discovering new knowledge in this vital area and extending that information to stakeholders and the supporting units.

California became the largest dairy producing state in 1993 and currently produces approximately 40 billion pounds of milk annually. To continue its leadership in dairy production, California must advance knowledge and apply technologies that will achieve preferred outcomes in three dimensions: economic, environmental, and social. ANR has significant resources invested in the environmental area but no one is looking at specific dairy cattle health maintenance and disease prevention activities (e.g., non-antimicrobial approaches to udder health and mastitis control, vaccination strategies for preventing disease and reducing risks to herd health, cow comfort and cow welfare strategies including evaluation of new technologies for cattle housing systems that improve comfort and reduce energy requirements, etc.) and their economic impact on the producer. Ultimately, the producer needs to make a return on his or her investment to remain in business, and health strategies need to pay for their costs and improve the health of cattle to be widely adopted. Contributions made by this position will have a significant impact on increasing the knowledge about the economics of sustainability for

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dairy cattle production, a critical element if California is to maintain its leadership position in this commodity area.

Extension:

This position will provide outreach education activities and resources using both conventional and technology-based delivery methods. Key clientele groups will be diverse and will include UCCE Advisors, dairy producers in addition to consumers, creameries and public policy makers. Practicing veterinarians are a unique extender for a position like this and will play a major role in transferring the knowledge to producers. This person will focus on answering economic cost and benefit questions in addition to considering the economic implications for improving animal and environmental health and the impact on dairy sustainability.

Research:

The key research areas will be related to dairy cattle health and production issues and their economic implications. Specific areas of importance at this time include cost and returns of dairy cattle housing systems including housing systems for young calves and mature cattle and methods for mitigating heat stress challenges found in California. Milk quality and mastitis control programs and their related economic efficiencies take on added significance with the recent adoption of lowered bulk tank milk somatic cell count requirements to meet international trading conditions. This position will collaborate with diagnostic pathologists and the clinical diagnostic epidemiology specialist at the California Animal Health and Food Safety Laboratory System (CAHFS) to better understand the returns from investments at the state level for dairy cattle disease control and surveillance. This position will also serve in a consultative role with campus groups, state agencies, veterinarians, and producers for collaboration in identifying other important applied research needs. Publication outlets would likely include Cooperative Extension Newsletters, *California Agriculture*, 4-H publications, *Journal of Dairy Science*, *Journal of Animal Science*, American Veterinary Medical Association journals, American Association of Bovine Practitioners' publications, a variety of dairy producer publications, and various social media outlets.

ANR Continuum:

This position has been a key missing link in our overall dairy research and outreach programs. This position would be a key resource for providing support for the UCCE Dairy Advisors and would work closely with the UCCE Specialist in Dairy Herd Health, Production Medicine and Food Safety, as well as with dairy-focused specialists in UCD CAES and at UCR (veterinary entomologists). AES and other Specialists are available for collaborations from the School, CAES, UCB and UCR. This position would be strategic for enhancing the overall contributions and for filling a huge gap in meeting needs of the California dairy industry related to the economics of dairy cattle health and production.

Support:

The candidate will be housed at the Veterinary Medicine Teaching and Research Center (VMTRC) located in Tulare. This location can provide full access to information technologies (IT), research collaborations, and other infrastructure support services.

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Support for Veterinary Medicine Extension specialist positions comes from the SVM Department of Population Health & Reproduction.

Other support:

The School's Center for Food Animal Health has a modest competitive grants program for this kind of research. The dairy industry, allied industry and USDA have competitive programs which can support this program.

Location:

We propose to place this position at the School's Veterinary Medicine Teaching and Research Center in Tulare, providing access to an abundant number of large commercial livestock operations featuring large herd sizes as well as milk and beef processing facilities. The VMTRC's Dairy Production Medicine Program delivers clinical services to core herds including 17 dairy farms and one calf ranch. These ongoing relationships provide significant opportunities for in-depth research with these clients as cooperators. Applied dairy health economics research conducted with these and other potential cooperators in the state is important for providing relevant solutions and new knowledge to meet the needs of California as the leading dairy-producing state.