

Position Title: Area Agronomy and Weed Science Advisor (Shasta, Tehama, Glenn Counties)

Position: Briefly describe: This is an agronomy position covering primarily annual cropping systems and includes (but is not limited to) alfalfa, forage crops, small grains, cover crops, and vegetable crops. The position will assist local growers in the primary area of weed science. Secondly crop production, soil health, IPM, disease resistance, technology, agroecology, irrigation, and plant nutrition can be covered. The position will also assist the Master Gardener Program, though the extent of FTE is dependent on the outcomes of other position proposals and will be limited to its program area. The coverage area includes Tehama, Shasta, and Glenn Counties. The position will be housed in Tehama and report to the Tehama County Director.

Justification: The advisor would address the ANR Condition Changes *Promoting economic prosperity in California* by improving agricultural efficiency and productivity, and *Protecting California's natural resources* by improving the management and use of land and increasing ecological sustainability of agriculture. The position fills a regional void in agronomic weed control that is reflected statewide. The Agronomy PT recently undertook a statewide needs assessment, which included a broad-scale survey of growers, consultants and other industry partners. One of the most important needs for research and extension identified by agronomic crop growers in the state was weed management, and it was also identified as an area where UC Cooperative Extension is underperforming. In addition, a UC ANR Agronomy Advisor does not exist in the Northern Sacramento Valley, leaving this important role unserved. Weeds depress yields and quality of agronomic crops, reducing economic viability. They also host plant pests and diseases, compete with desirable vegetation and decrease the efficiency of land management. New weed control tools, identifying and controlling new pests, and managing herbicide resistance in weeds are all critical research topics that warrant ANR investment. The addition of an agronomy Advisor allows ANR to target a clientele group that we currently do not serve in the Northern Sacramento Valley. Likewise, the position offers expertise that would be valuable for a Master Gardener Program. Furthermore, because agronomic crops have low relative value within the broader California cropping system, private industry is not financially motivated to develop solutions to growing weed problems in these systems, despite the broad acres they occupy in rotation with higher-value crops. As such, developing solutions for weed management in agronomic crops presents an opportunity for public science to fill a void and improve the viability and sustainability of California agroecosystems.

Extension: The advisor will serve clientele in both weed control and crop production. Both are an eager clientele group that can be targeted individually or in combination. Target methods include grower meetings, farm calls, Department of Pesticide Regulation and CA Association of Pest Control Advisers continuing education seminars, workshops, UC Master Gardener Trainings, and emerging remote communication methods such as webinars, video hosting websites, and social media platforms. The agronomist will work at the individual farm level to solve weed and crop production issues that can be scaled to the region. This is a critical tool for crop producers that ANR is not serving in this area. In addition to local clientele, research results will be presented at professional society meetings such as the Western Society of Weed Science and the CA Chapter of the American Society of Agronomy to fellow colleagues. Collaboration with work groups, program teams, and statewide programs will assist in newsletter development and research collaboration.

Research: The Advisor's primary role will be in weed science in agronomic crops. Emerging issues include weed herbicide resistance, testing new chemistries, invasive species detection, integrated pest management, and judicious stewardship of pesticides. Secondly, research will focus on all aspects of agronomy based on local needs and local crops. Topics include irrigation, variety selection, plant nutrition, agroecology, disease resistance, and profitability. This agronomic and weed control research is not currently happening in the Northern Sacramento Valley. Research publication avenues include Invasive Plant Science, California Agriculture, ANR 8000 series, Journal of Agronomy, and Crop Science.

ANR Network: This position would enhance the ANR footprint in the Northern Sacramento Valley, as a UC Agronomy Advisor is currently absent and Master Gardener training opportunities are limited. Statewide, ANR

has limited Advisor resources devoted to weed science. This provides opportunity to directly implant the ANR thematic cluster of the Food System Resilience Network to the Northern Sacramento Valley. The agronomy program has a strong augmentation through its close coordination with UC Specialists and faculty in the UC Davis Agronomy and Plant Science Department, as well as connections through the Statewide Master Gardener Program. These include faculty and specialists with programs in plant breeding, soils, weed control, vegetable crops, irrigation and water management, alfalfa, small grains, plant pathology, and agronomy. Many of these specialists are already working with advisors throughout California. It is safe to assume that a new Advisor would engage this programming ensuring the success in early career. Program team and affiliated work group activities provide ample opportunities for the new Advisor to make these connections.

Network External to ANR: The Advisor can leverage sources such as USDA ARS, industry scientists, Resource Conservation Districts, and the Natural Resources Conservation Service. Valuable opportunities in these collaborations include securing funding (Industry), research collaboration (Industry, ARS), and impact of research results (NRCS program implementation guidelines, industry). Industry includes Pest Control Advisers and associations, Certified Crop Advisers, crop protection companies, input suppliers, commodity boards, and grower associations. There is excellent potential for partnerships both within and outside of ANR.

Support: Tehama County has support in the form of clerical, a private office, computers, transportation, and all office supplies necessary. Currently an F-150 pickup is available to be devoted specifically for this position. The county budget remains strong with adequate funding for fuel, vehicle maintenance, office space, and clerical support.

Other support: Commodity boards, such as the CA Alfalfa and Forage Association and the CA Wheat Commission have funding available for research that the Advisor could obtain. WSARE and USDA NIFA provide sources for funding large projects at the production and land management level. Additionally, industry has been a major funding source for the weed control area. Agronomy Advisors have traditionally been very successful at obtaining funding.

Headquarters and Coverage Area: The position would be headquartered Tehama County UCCE office, serving Tehama, Glenn, and Shasta Counties.

Developed and proposed by: The proposal was developed and proposed by the Directors of Tehama, Glenn, and Shasta Counties, with input and support from the Agronomy Program Team.