

USU Scientists Among Funding Recipients To Study Wise Use of Fertilizers

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The Fertilizer Institute (TFI) recently announced that the Foundation for Agronomic Research has awarded nearly \$2.7 million in grants to universities, including Utah State University, to conduct field research and demonstration projects that evaluate and promote the economic, social and environmental outcomes of using the 4R Nutrient Stewardship concept that promotes using the right source of fertilizer, at the right rate, at the right time and in the right place.

“The 4R principles are rooted in science, which has shown us the positive outcomes they can have on grower profitability and environment impact,” said Chris Jahn, TFI president and CEO. “Through continued support of the 4R Research Fund, the fertilizer industry proactively demonstrates its commitment to ensuring its products are applied in proven methods that lead to the long-term sustainability of the industry and U.S. agriculture.”

The 4R Research Fund is supported by the fertilizer industry and other stakeholders. The fund is a science-based research initiative aimed at improving agricultural sustainability by expanding knowledge related to the 4Rs.

In this second round of funded projects, the 4R Research Fund is studying 4R practices in additional regions and cropping systems and exploring issues related to agriculture outside of major commodity crops. An industry and academic technical advisory group selected the projects to fund.

USU scientists Matt Yost, Grant Cardon and Brent Black in the Department of Plants, Soils and Climate will team up with scientists from the University of Idaho and Brigham Young University’s Provo and Idaho campuses to investigate nutrient and irrigation 4Rs for major grain, forage, vegetable and fruit crops. The team will investigate new irrigation technologies and management, crop genetics and cultural practices, including precision mobile drip irrigation and crops with enhanced drought tolerance. The work will help growers in the west adjust to more variable and less total snowpack because changing water management directly affects fertilizer use. The USU-led team will receive \$612,805 for its 4R-related work and additional support comes from the Foundation for Food and Agriculture, USDA Sustainable Agriculture Research and Education, irrigation industry members and several local and state agencies.

The other projects funded are:



- Virginia Tech, \$874,980 – An integrated approach for nitrogen management in upland cotton across the U.S. Cotton Belt. Additional support for this project is provided by Koch Agronomic Services LLC, the Virginia Cotton Board and the U.S. Department of Agriculture Natural Resources Conservation Service.
- University of California, Davis, \$503,426 – Investigating improved nitrogen fertilization practices for micro-irrigated almond orchards, specifically addressing the uncertainties around the “right place.” Additional support for this project is provided by the California Department of Food and Agriculture and the California Almond Board.
- University of Arizona, \$341,873 – A study of spatial and temporal nitrogen management for irrigated vegetable production systems. Individual California and Arizona growers are providing project support through access to their farmed acres for research.
- University of Arkansas, \$292,017 – Research to determine the benefits of 4R nutrient management on water quality and use efficiency. Additional support for this project is provided by the Arkansas Discovery Farm.

The 4R Research Fund was created by the fertilizer industry in 2013 to establish sustainability indicators and assess the environmental impact of 4R Nutrient Stewardship practices across North America. The fund was initiated by members of TFI, Fertilizer Canada and the International Plant Nutrition Institute, with additional support from other agribusinesses and stakeholder organizations. Descriptions of these projects, completed and ongoing, are available at <http://info.ipni.net/4R-RESEARCHFUND>.

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