



Iron County Water Stewards

Recognizing USU Extension & SUU Farm

The Southern Utah University Farm is involved in an exciting and extensive research project to help determine the most water-efficient ways to use agricultural land in Utah.

Southern Utah University is partnering with the Utah State University Extension on the project, and the Cedar Valley location is one of three in the state. The project began locally this year, and is in its second year in Vernal and its third year in Logan.

Matt Yost, USU Assistant Professor and Sustainable Communities Extension Specialist, said they selected three parts of the state for the study, all with different climates, different soils and different water availability.

“Whenever we’re doing agricultural research it’s really important to replicate things over time and over environments,” Yost said.

The major objective is to “identify which combinations of pivot irrigation and crop management practices result in optimized use of limited water supplies, reduced consumptive use, and the best yield and profit outcomes for producers,” he said.

The trials use linear irrigation sprinklers and other evaluation equipment and will include research on more than 25 different water optimization practices, including irrigation technologies such as mobile drip irrigation, low-elevation precision application, and low-elevation spray application. They will also evaluate how the best available drought-tolerant crop genetics, cover crops, tillage practices, and alternative crops influence water optimization.

These side-by-side evaluations are the first of their kind. Boyd Kitchen, USU Extension Agriculture and Natural Resources Director for Uintah County, said there are separate studies about optimizing water use, water management, crop management, and soil management, but this study is unique because it brings all those aspects together and is designed to be a long-term study.

They are trying “to see what kind of combinations will give us the best use of the water that we have,” he said.

The water optimization trials will continue for several more years and will serve as the basis for some of the first long-term irrigation trials in Utah and the nation, where ideal suites of many conservation practices can be studied, demonstrated, and reported on. The information gathered should be especially useful in guiding water conservation planning at the farm level, which would in turn have large impacts on planning efforts at watershed and basin levels.

It will also help irrigators prepare to effectively participate in water demand programs, should they be developed and necessary.

SUU Farm Manager Morgan Christensen said they are glad to be partnering with USU on the project. USU has provided the “linear” for the irrigation, and it waters about 26 acres under the USU study. It also waters about 76 acres of SUU’s own fertilizer and crop studies. He said USU has provided the research equipment and SUU is providing the land and water, paying for seed, and will own the crops.

The university’s staff and students are doing the farming as well, with help from Iron County USU Extension Agent Randall Violet. Christensen said his team includes SUU Assistant Farm Manager Andy Heaton and students Brady Perry and Jacob Paul, with support from Associate Professor Dean Winward, SUU College of Health Sciences Interim Dean Camille Thomas, Agriculture and Nutrition Science Department Head Lee Wood, and Agriculture Associate Professor Chad Gasser.

Student Dakota Boren was working at the SUU Farm for about 18 months, and has now gone on to work on this research project as part of his Master’s Degree Program with Matt Yost at USU, so that has been exciting, Christensen said.

“It’s a really positive thing for the farm and for SUU,” he said of the project.

The most exciting thing about the project though, said Christensen, is the fact that the linear has replaced five wheel lines that were previously on that field, and it uses less than half the water they were using, so it’s been much better for their well and for water conservation.

“That’s a huge savings,” he said. “That’s my favorite part of the project.”

Christensen said the linear is “quite labor intensive,” and keeps himself and other staff members working all hours of the day and night, so he wouldn’t recommend it for general farming, but it is very user-friendly for research studies.

“It makes it a lot easier to do good research,” he said.

He is also looking forward to the ways the results will be able to help local agriculture producers.

One technology the study includes is low elevation precision application, or LEPA, nozzles. The SUU Farm already has LEPA nozzles on its two pivots, and it grows crops on about 280 acres. It also has an 800-acre block that is used for pasture and facilities.

The farm is an asset to students and the community. Christensen said agriculture students get an opportunity to work with the crops, and they do soil labs and livestock work at the farm. It is a great opportunity for hands-on learning. Local elementary students take field trips to the farm as well.

USU and SUU are partnering with the irrigation industry, Water Conservancy Districts, soil and water conservation districts, Utah water agencies, and several other federal and state organizations on the project.



Central Iron County Water Conservancy District General Manager Paul Monroe serves on the state's Agricultural Water Optimization Task Force, which was created by the Utah Legislature in 2018. He said the group has been working to identify the critical issues facing the state's long-term water supply, particularly in regard to optimizing agricultural water supply, use, and future needs, in light of expected population growth.

The Task Force is looking forward to the results of this study and its potential to help agricultural water users and statewide water supplies.

To learn more about the project, a video is available at <https://www.usu.edu/today/story/water-wise-usu-agricultural-researchers-studying-how-to-optimize-utahs-ag-water-use>

The purpose of the Iron County Water Stewards program is to recognize community members for contributing to the effort to optimize every drop of water in Iron County. The Central Iron County Water Conservancy District (CICWCD) is actively engaged in education, conservation, reuse and import projects to meet the growing demands on local water supply.

For every effort you make to conserve, we consider you a water steward, too. To Get to Know Your H2O, visit <https://cicwcd.org/>.

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