A new grant ensures continuation in an integrated crop and livestock research project involving researchers from Texas Tech and partners from various agricultural sectors.

The project, located at Tech's agricultural research facility near New Deal, was begun in 1997 with a U.S. Department of Agriculture grant.

Vivien Gore Allen, Thornton distinguished chair in the Department of Plant and Soil Sciences at Tech and head of the project, said this second grant was for just over $250,000, the largest grant given by USDA at the time.

Allen said the research team has learned a lot in four years.

"We have learned that we can reduce water use, we can reduce energy inputs, we certainly did improve the profitability," she said. "It has also identified where some of the challenges are, where further improvements might be made.

"That's exactly what good research should do."

She said scientific journals soon will publish specific data from the research.

Allen said the new grant, awarded through USDA's
Sustainable Agriculture Research and Education program, was given specifically to expand current research, and four new systems will be added.

She said John Abernathy, dean of the College of Agricultural Sciences and Natural Resources at Tech, made 100 more acres of land available for the research. The new systems would include a dryland cotton component and three other grazing systems for cattle, with both irrigated and dryland systems.

"One of the things we’ve learned in the current projects is that the annuals, the wheat and rye that is in the rotation in the alternative system, are some of the most costly things we do," she said.

"These are very expensive and they are not being justified by animal performance and other things they might accomplish."

Allen said the wheat and rye would be replaced with a three-part system based entirely on warm-season perennial grasses.

"The largest part will be the B. Dahl grass we use currently, and the two complimentary pastures will be Bermuda grass and Eastern gamma grass," she said.

"This will be irrigated, but we're going to take irrigation down to the lowest level we can to be consistent with the economic level of production, and see just how far down we can get that water," she said.

Allen said research found warm-season perennials provide about twice the amount of grazing days per unit of water.

She said the last system would be a single paddock system based on the old world bluestem grass, B. Dahl.

"We're going to stockpile it for winter grazing," she said. "We will supplement the cattle on that pasture, if they require it, with gin trash.

"The idea in there is we're using a co-product from an industry that's already invested the water for its primary product, so we're feeding something that doesn't require additional water."

Allen said the grant falls about $200,000 short of the cost to begin the new research, but shows the South Plains is one of the most important agricultural areas in the world.

"We know what's been in place out here cannot continue," she said. "It will change because we're losing primarily the water resources that helped build the systems we have in place."

Knowing those systems have to change, she said, the new challenge is to find ways to make the change.

"What we're trying to do and what we now have the..."
opportunity to do is find some of the ways we can make that change and stay in agriculture and maintain a level of profitability that allows us to stay in agriculture, and at the same time, do a better job of rationing those very, very critical resources: water, soil, the other things that make it possible to stay in business,” she said.

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