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NEW SUSTAINABLE AGRICULTURE RESEARCH BENEFITS SOUTHERN HIGH PLAINS FARMERS

LUBBOCK -- What happens to farming when the water runs out? What happens when irrigation wells must be drilled deeper and deeper every year? What happens when irrigation water becomes too salty for use on traditional crops? These are all questions that Texas Tech University researchers are answering through grants from the USDA-Sustainable Agriculture Research and Education Southern Region Program.

Researchers, in the Texas Tech College of Agricultural Sciences and Natural Resources, have identified several positive attributes of sustainable agriculture to West Texas. During the past four years of research in the Sustainable Agriculture Research and Education program, researchers have not only identified ways to improve conservation of resources and improve profitability, but the research also has identified ways to make further improvements, according to Mark Marsalis, a graduate student in the Department of Plant and Soil Science.

Researchers are continuing to utilize integrated crop/livestock sustainable agriculture systems to answer these questions that are crucial to the future of West Texas agriculture, he said. "With past integrated crop/livestock system research, this team developed farming systems that have lowered water usage by 21 percent, lowered nitrogen fertilizer applications by 40 percent, and increased revenues by 13 percent," Marsalis said.

Even with these positive results, researchers still want to improve the system. The new research will involve experiments of integrated crop/livestock systems using native grasses, which will allow researchers to use rangeland grass species already native to the Southern High Plains region, said Marsalis.

Researchers also will do experiments with integrated systems using Bermuda grass, which is fairly tolerant to drought and relatively salty conditions. "It is essential to test salt and drought tolerant forages that could be incorporated into future potentially challenging situations," said Marsalis.

"We are nearing a time when significant changes in resources will affect greatly the present agricultural practices and productivity of this region of the United States. As human populations increase rapidly and water quality and quantity continue to diminish, the importance of sustainable cropping systems weighs heavier on producers than ever before."