Sustainable Agriculture – Making more Money and Conserving our Natural Resources

When it comes to farming in the Southern High Plains, making money is often easier said than done, especially when farmers are faced with the threat of depleting water supplies they depend upon for irrigation.

“The underground Ogallala Aquifer, which is used for irrigation in this area, is being depleted at alarming rates. If the water in the Ogallala runs out, the economy of the Southern High Plains is at risk of collapsing,” Matt Baker, departmental chair of agriculture education and communications at Texas Tech, said.

Texas Tech researchers hope to reverse this bleak outlook of Southern High Plains farming, as they are currently investigating an alternative way of farming. This alternative way of farming involves a sustainable agriculture farming system—a rotation of wheat, cotton, cattle and bluestem grass which has proven to be a saver of our groundwater resources. “So far this sustainable system is saving water—about 21 percent when compared to a traditional cotton growing system” Vivien Allen, a Thornton Distinguished Professor at Texas Tech, said.

Allen said, “Water is saved because of the unique management of the integration of crops and livestock, fewer water intensive crops are not grown during the hot months of the year as more water is required during these times.”

As an added benefit, initial data indicates that the sustainable system may result in more income. “The diversification of commodities in the project adds a positive aspect to the project, essentially, instead of farmers having all of their eggs in one basket, the alternative project allows for several different streams of income,” Eduardo Segarra, a professor of agriculture and applied economics at Texas Tech University, said.

More work is being done with the project to fine tune the alternative system. Segarra said, “The alternative system has proven to be a little more profitable and a better user of water; however, in the future, we have to strive to find ways to make the alternative less risk adverse for the producer.”
Segarra is excited about the project and has identified several ideas that have the potential to improve the project. According to Segarra, so far the project has shown an increase in net revenues above variable costs up to 18% depending on the depth to water needed for irrigation.

This project has the potential to be a future prototype of the Southern High Plains farming systems and can be seen at www.orgs.ttu.edu/forageresearch/sarehome.htm.