

**NRCS CONSERVATION INNOVATION GRANT
Final Progress Report**

Grantee Name: The Regents of New Mexico State University
Project Title: Subsurface Drip Irrigation and GIS/GPS Technology for Water Conservation in the Southern High Plains
Period Covered by Report: July 2009 through Dec 2009
Project End Date: December 2009

Summarize the work performed during the project period covered by this report:

This was the 3rd and final year of the project. Plans were made to acquire materials for 2009 plantings early in the year. Ground was prepared and fertilizers were applied prior to planting. All crops were planted in the spring at appropriate times for each of the species (i.e., corn, sorghum, and cotton). All crops were grown without any problems and were harvested on schedule. Appropriate data analyses are currently taking place to analyze all 3 years and to prepare final reports of demonstration documents. Several one-on-one and group demonstrations have taken place to show the functionality of the systems and to discuss system setup and efficiency.

Describe significant results, accomplishments, and lessons learned. Compare actual accomplishments to the project goals in your proposal:

The drip irrigation component has shown to be very efficient at applying water to the crops in the root zone with no evaporational losses from the surface. With the same amount of water applied, the drip irrigation corn and sorghum crops were healthier and yielded more than their center pivot counterparts. The systems appear to be fully functional and adequate for the parameters and goals presented for this project. Crop uniformity has been excellent for all 3 years. Efficiencies may have been so high in the drip system that cotton received potentially too much water in the first year (significant vegetative growth, with low fiber yield). Also, chemical drift from the surrounding area has contributed to poor cotton performance over the duration of the demonstration. Emergence and establishment have been easier than expected with the drip system. While we have not had any major problems with emergence due to water in the drip area, there are a few locations where emergence was not uniform in especially dry springs.

Describe the work that you anticipate completing in the next six-month period:

We will continue to obtain laboratory analyses and analyze data generated from the project to help explain further the benefits of the drip system over center pivot with respect to efficiency. A final report will be generated that will summarize the project and observations and data collections from the system. The whole project will once again be highlighted in August at the Clovis Agricultural Science Center Field Day and potentially for an Integrated Water and Soil Management school conducted by the local NRCS office.