CONSERVATION Showcase

Organic Farm Decides to Flood Less

Rio Grande Community Farm (RGCF), an agricultural collaborative at Los Poblanos Fields Open Space in Albuquerque, is in the process of installing subsurface drip irrigation (SDI) on 16 acres of their organic farm. With the use of both surface water and well water, RGCF hopes that drip irrigation will allow them to increase yield and volume of food crops and therefore establish an increased source of food for the Albuquerque Public Schools and customers like La Montanita Coop, Whole Foods, and various local restaurants.

The Rio Grande Community Farms, at the Los Poblanos Fields Open Space in Albuquerque, has a two-year contract with Albuquerque Public Schools to provide New Mexico grown produce under the Local and Fresh Food Initiative. This project is in response to seven priority bills related to healthy foods the New Mexico state legislature passed during its 2007 session. Some deliveries were made by the Rio Grande Community Farms to the Albuquerque Public Schools last year, and provision of fresh foods by the Rio Grande Community Farms to the schools will be effective during the 2009 season.

Utilizing the drip system along with their well, RGCF expects to be able to extend their growing season to better meet the demands of their clientele. It will also allow for an extended, and possibly year around, growing season for the community gardeners who use space at RGCF.

The NRCS is cost sharing the project based on acres, and hopes that RGCF will expand the drip system into other fields.

"Drip irrigation has a water-to-plant efficiency of about 90%, versus flood which only has 20-40% efficiency," said district conversationalist Josh Sherman.

This increased efficiency not only promotes water conservation, but also allows for plants to receive the right amount of water, where and when they need it.

Some of the main challenges facing RGCF concerning the use of SDI are the filtration and pressure systems.

Because the system is subsurface, the tape cannot easily be replaced when it becomes clogged. Water must be filtered through a fine mesh screen to prevent the drip irrigation emitters from becoming clogged by small sediment particles such as sand. In addition, RGCF operates under organic certificate, and therefore cannot use chemicals to clean out the system. Drip irrigation normally works under water pressure of 8-10 Pounds per Square Inch (PSI). To flush the system without chemicals, using only water pressure, 20-23 PSI is needed. The entire drip irrigation system needs to be designed and installed with these considerations in mind.

Minor Morgan, Treasurer of RGCF, explained that flood irrigation would continue to be used once or twice a year on the 16 acres, as a compliment to the drip system, to promote germination of the seeds.

Morgan and others at RGCF are hoping to be an example for both organic and small farms. Most subsurface drip systems are used on large farms because the initial start up cost is fairly high. RGCF hopes to demonstrate that SDI can be cost effective on smaller farms (10-50 acres) as well. Additionally, they hope to illustrate that SDI can successfully operate under organic certificate.

For more information about subsurface drip irrigation systems, contact your local NRCS field office or go to www.nm.nrcs.usda.gov

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