Utilizing Drip Irrigation for Small Niche Market Production Systems

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For many years the University of Florida/IFAS Extension Service has actively assisted farmers to grow quality Florida Fresh produce. In north Florida, these efforts are currently accomplished through the UF/IFAS Small Farms program, based at the North Florida Research and Education Center in Live Oak. The Small Farms team works with local County Extension personnel and other appropriate specialists to customize educational programming to meet the specific needs of local growers.

Two farms in Bradford County have recently adopted drip irrigation for niche market production. Both farms have relatively small production areas of less than one half acre and are good examples of how small niche market producers can utilize water and/or nutrient conserving practices to efficiently produce their crops. These farms will serve as demonstration farms for area producers on May 6th, 2008 so they can learn how to adopt these practices. The Small Farms team members working on these two demonstration farms include Bob Hochmuth (Multi County Vegetable Production Extension Agent), Mace Bauer (UF/IFAS Best Management Practices Implementation Team) and Jim DeValerio (Bradford County Extension Agent).

Many farms in Bradford County have soil with a shallow hard pan that prevents rapid water percolation. As a result, local farmers have had an advantage over those who farm on deep, sandy soils since they do not require as much irrigation. Despite having traditionally rich water availability last years drought proved a trying season for farmers who did not have drip irrigation.

This was the case on the 80 year old Franklin farm, located in Lawtey, Florida. For the majority of the farms history, only natural irrigation was utilized to produce strawberries and field crops. More recently, overhead irrigation has been used for frost protection and transplant establishment for strawberries. However, the strawberry crop in 2007 was severely impacted by drought. The overhead irrigation ran off the bedding plastic and into the row middles,
feeding the weeds or lost to evaporation. This circumstance provided the perfect opportunity to install a drip irrigation system and to teach water and fertilizer management via drip irrigation.

Mace Bauer helps install drip irrigation system on the Franklin Farm.

Franklin Farm drip irrigation and fertilizer injection system.
The Franklin’s planted their strawberry crop on November 4, 2007. To date, the drip irrigation system has been used to inject fertilizer when sap test results indicated it was necessary. Fertilizing using drip irrigation has been beneficial to the Franklins because the recent heavy rains would have washed away granular fertilizer had it been applied at planting time. Should drought conditions arise, the harvest will not suffer from a lack of water and the water usage will be the amount the crop needs when it needs it.

Franklin Farm strawberry production.

Cognito Farm, the second demonstration farm, is located just north of Starke and is owned and operated by Sandra (Sam) and Jerry Williams. Cognito Farm specializes in raising grass fed beef, free range chickens and “natural” fresh market produce. They produce specialty crops for the local farmers market and the community.

The Williams choose not to sell certified organic produce; however they do not use pesticides or chemical fertilizers in their production. During the off season they build up the organic component of the soil to increase the moisture holding capacity. They use raised beds for selected crops and take advantage of natural mulches to help retain soil moisture. If the crop needs additional water they can use drip irrigation.
Bob Hochmuth teaches Cognito Farm co-owner Sam Williams how to assemble her drip irrigation system.

Cognito Farm irrigation system.

An added benefit to drip irrigation on Cognito Farm is a decrease in disease pressure since foliage is not saturated. This is significant because they do not regularly use fungicides.
There are several reasons why small farms and niche market producers should use drip irrigation to irrigate and fertilize their crops. Current consumer trends indicate there are good markets for fresh market produce. Utilizing drip irrigation allows the grower to produce a quality crop because it gives them the ability to feed the crop the water and fertilizer it needs when it needs it. In the past, water was plentiful and fertilizer was inexpensive so the time it took to switch to drip irrigation was not justified. However, with today’s rising cost of fertilizer and fuel, producers need to hold costs to a minimum wherever possible.

The workshop scheduled for May 6th will be a walking tour of both the Franklin’s and the Cognito Farm. There will be several specialists on hand to answer questions and showcase teaching points. The workshop is open to the public. For more information call the Bradford County Extension Service 904-966-6299 or see the advertisement at: