

2010-2011 Special Projects

Osmond: Slow-Release Fertilizers

Nitrogen impacts important water resources, such as Tampa Bay, the Neuse Estuary and the Gulf of Mexico, causing hypoxia and fish kills. Nitrogen leaching and runoff losses due to crop production are a major source of nitrogen to streams, rivers and estuaries in the southeast. Typically, nitrogen use efficiency of cereal crops is around 50% (grain + stover). Slow release nitrogen fertilizers have potential to improve nitrogen use efficiency corn and other field crops, and thus release nitrogen losses to water resources. With this in mind, we are proposing regional slow-release fertilizer tests.

Shober: Low Cost Stormwater Treatment Structures Demonstration and Education

Land managers face increased pressure to reduce non-point source nutrient pollution originating from agricultural and urban land uses. Prevention of non-point source pollution in impaired watersheds in the Southern Region is needed to comply with increased regulations to protect water resources. For example, Florida land managers will soon be required to meet the EPA numeric nutrient criteria values of total nitrogen and phosphorus for lakes, streams, and water bodies. Agricultural and turf systems are known to be two major non-point sources of nutrients to surface waters. This project seeks to: 1) demonstrate innovative, low-cost options for reducing stormwater inputs of nutrients (mainly phosphorus) to surface water bodies from agricultural and urban land uses (at the urban-rural interface) and 2) educate watershed stakeholders (farmers and land managers) to reduce non-point source pollution using low-cost options.

Wilson: Southern Region Water Conference

The 2011 National Water Conference will be held in Washington D.C. and the goal is to showcase the best of the best water programs to facilitate future federal funding in water programs. Due to the objective of the 2011 National Water Conference, the attendance and presented programs will be very limited.

By far the strongest regional water program exists in the Southern Region. One of the keys to the regional success is our ability to collaborate, network, and learn from other programs around the region. The past Southern Region and National Water Conferences have always been a great facilitator for networking opportunities. Since these opportunities will be limited at the 2011 National Water Conference, we are proposing to hold a Southern Region Water Conference in Athens, GA in May 2011.

Stringam: Internet Evapotranspiration Tool to Help Water Users Estimate Water Requirements and Conserve Water for Use in Southern Region States

Past research has demonstrated that ET estimation, can help water users estimate crop water use so that the crop can be irrigated with the water that it needs. This helps conserve water, pumping costs are reduced and inputs are conserved.

Tracking ET requires data, time, and sometimes equipment that water users are not willing to expend. However, weather and remote sensed data can be collected, used to estimate ET, and posted on the internet. This ET data can be used to provide a tool to help farmers estimate ET and help them determine the required water for their crops with a minimum of effort. This internet site would have the necessary information that is required to approximate the crop ET for the farmer. All that would be required is that the farmer log into the internet site, input the type of crop, planting date, and the crop acreage. The internet site would estimate the ET for the crop and make recommendations for water quantity and timing of irrigation.

Bauske: A Tool for Water Conservation Education: Take the 40-gallon Challenge

This project is designed to encourage people to take “The 40 Gallon Challenge” by completing a home water audit. The audit is outlined on a “Challenge Card” (Appendix A). This card can be adjusted as needed. For example, it could be called “The 30 Gallon Challenge” and audit practiced can be adjusted for local conditions. The self-audit checklist on the Challenge card will provide an estimate of water savings resulting from implementation of water-saving practices, thus providing a total daily savings for the pledge cards.

This program will be utilized as a “teaching tool” in conjunction with educational seminars developed to address water issues. It will be as effective in rural areas as in the rural/urban interface. The pledge card is an effective complement to on-going educational programs and can be used in adult education programs and 4H programs. The pledge card can be effectively used by teachers, Master Gardener volunteers, and Extension educators. This program can be sustained by seeking additional door prize donations from local businesses in future years, and implementation of this program to a broader audience. Other government agencies, local water providers and others can easily adapt this program.

Saraswat & Tsegaye Watershed Assessment Tools for Extension and Research (WATER) Training Project

As populations increase throughout the Southern Region, the rural/urban interface becomes more critical as forest and farm give way to suburbs and malls. It is both a challenge and a priority to reach populations in the rural/urban interface with water conservation messages. It is critical to reach this expanding population struggling with finite water supplies. This project will support ongoing educational programs and addresses drinking water and rural/urban interface issues. It can be effectively used by educators in schools, government officials, landscape contractors, architects, developers and farmers. The project will result in multistate collaboration and generate information on water savings. It will provide landowners the knowledge needed to minimize water use and protect their water resources.

Brantley: Southeastern Tool for Resource Preservation Kit

Nonpoint source pollution is recognized as the leading contributor to water quality degradation in the United States. Additionally, the effectiveness of streamside vegetated buffers in reducing pollutant loads to streams is well known. This project will meet Southern Regional Water Program priorities to improve water quality and provide watershed education through the development of a Resource Protection Kit.

It is common for Extension agents and natural resource professionals to receive requests for assistance to correct severe stream erosion that has resulted from a variety of causes including removal of vegetation and an increase in impervious surfaces in the watershed. These concerns are communicated after the problem is so advanced that it is beyond the technical expertise of local Extension staff to provide assistance. The goal of this project is to provide Extension agents with tools to inform landowners on how they can address small stream instability issues before they become large, expensive problems that have already contributed to the degradation of local water quality.

McLaughlin: Improved Construction Site Practices using Hands-on Demonstrations for Erosion, Sediment, and Turbidity Control in the Southeast

A series of workshops throughout the Southeast is proposed to provide needed training to small local contractor businesses and municipal employees. Each workshop will reinforce the correct installation of many common construction site BMPs through hands-on practice and participants will be informed of the new regulations and of the new techniques and products needed to meet the standards. As residential

development has drastically slowed over the past few years, particularly in large parts of the Southeast, we feel that now is the perfect time to push for the education of contracting crews. When construction activity becomes more energized over the next few years, they will be better prepared to deal with the stricter regulatory environment. We feel it's particularly important to reach this specific audience as they have not been especially targeted for this type of training in the past, despite the fact that they're the individuals in the field who approve, inspect, or install the devices and perform the approved practices.

Shober: Changing Residential Landscape Practices for Water Quality and Conservation in the Southern Region

This project seeks to reduce non-point source pollution of water resources and increase water conservation in Southern landscapes. The project addresses the action item for the Watershed Education and Restoration Program Team as outlined on p. 16-17 of the Southern Region Water Resource Project Plan of Work. Our project proposes to develop and adapt materials from existing Extension-led programs such as Florida Friendly Landscaping, Carolina Yards and Neighborhoods, and Texas Earth Kind for regional application in local program development. Our initial goal is to provide training with a consistent message to agents and Master Gardener (MG) volunteers and provide materials for them to use in local program delivery. The overall goal of this project is to educate stakeholders (e.g., landowners, landscapers, land managers, etc.) to reduce non-point source pollution and conserve water use in residential landscapes.