Project Narrative

Name of the Project: Training and Demonstration Support for Irrigated Crops and Livestock Production
New Project or Continuation: Continuing Project
Geographic Area of the Project: Panhandle, TAEX District 1 (21 Counties)
Name of Principal Investigator(s): Bob Robinson and John Sweeten
County(s) and/or TAEX Department(s): TAES-Amarillo and TAEX District 1 (Panhandle)
Mailing Address: Texas A&M Agricultual Research and Extension Center, 6500 Amarillo Blvd West, Amarillo, TX 79106

Amount of Funding Requested: $10,000

Project Need, Description, and Expected Outcomes

Discuss the situation and need for the project, describe the proposed project and expected outcomes/benefits, and suggest how the proposed project will involve the use of innovation and new technology.

The need and purpose of this ongoing project is to provide professional staff support (O. R. Jones, Research Associate) to coordinate training of County Extension Agents, AgriPartner Farm Demonstration Technicians, and cooperating farmers on demonstration planning and on field and laboratory techniques for data collection, analysis and interpretation for irrigated crop production demonstrations- under the guidance of Extension Specialists. The particular focus of these demonstrations will be as follows: use and application of North Plains Evapotranspiration Network (NPET) results; precision agriculture, including variable rate application of crop-protection chemicals and irrigation water, and subsequent yield and crop quality monitoring; and integrated crop and livestock production on irrigated small grains. The Research Associate also coordinates planning and data collection for 50+ irrigated crop demonstrations with faculty, CEA's, and Demonstration Technicians; tabulates data; and assists agents and specialists with demonstration reporting. The expected outcome is that improved and new information will be delivered to producers that will enable them to produce their crops and grow their animals more efficiently, maximize water use efficiency, and have an improved bottom line. On-Farm demonstrations are an integral part of information delivery. This proposal assists that effort in a focused and economical way.

Specific Soil and Water Conservation Issues Address

Relative to the needs of current conservation projects (listed in Section III, or others), what concern is addressed by the project?

(a) Irrigation Efficiency and Water Management – The main focus of the 50 or more AgriPartner demonstration projects will be on irrigation efficiency in the irrigated region of the 21 counties, which contain 68% of the estimated 381 million acre feet of recoverable water in the Ogallala

Aquifer of the Texas High Plains (Year 2000 estimates). Supporting faculty includes Leon New, Steve Amosson, Brent Bean, Carl Patrick, and Brent Auvermann.

(b) Crop Water Requirements – The NPET Network has saved participating farmers 2 ac-in/ac/yr. Field data collected assists in refining crop and water use models and in developing models for additional crops. Data are also used to project water use requirements for implementation of the Panhandle Regional Water Plan. Supporting faculty includes Leon New, Steve Amosson and John Sweeten.

(c) Conservation Tillage and Tillage Practices – residue management strategies that retain all or part of the residue on the soil surface can conserve 0.5 to 2 ac-in/ac/yr of natural precipitation, which can reduce or eliminate pre-irrigation and insures adequate seed germination to take advantage of conserved water, seasonal rainfall and irrigation. Supporting faculty includes Brent Bean.

(d) Soil Management/Quality – In addition to residue management, precision agriculture/variable rate application of crop protection chemicals will contribute to improved soil quality with optimum chemical use. Supporting faculty includes Brent Bean and Carl Patrick.

Agency Collaboration

What agencies or additional TAEX Disciplines are included in this project? List all collaborators and their function in the project.

(a) TAEX Disciplines – Soil and crop sciences, agricultural engineering, agricultural economics, entomology, and animal science. Discipline Specialists assist in planning and designing demonstrations so information they need can be collected. Nearly all demonstrations are multidiscipline, eg, one demonstration can provide information on irrigation, soil, and precipitation water use; agronomic (crop growth, development and yield); entomological (insect traps or counts); pathology (diseases - corn smut, aflatoxin, rust, wheat viruses etc), weeds and weed control, for forage crops - grazing animal performance; and economics of farming practices.

(b) TAES Faculty Participation – Research faculty in agricultural engineering/water management, soil and crop sciences, plant pathology, and entomology contribute to training and demonstrations and conduct research at three TAES locations that are parallel and complementary to many of the result demonstrations. Extension faculty and CEA's also conduct demonstrations on TAES research farms (3) in the Panhandle with utilities and water furnished, together with training facilities and lecture rooms for CEA's and Demonstration Technicians. CEA's and AgriPartner Technicians regularly participate in Region-wide coordinated sampling of crops and fields at the request of TAEX Scientists to address specific problems, such as wheat viruses.

(c) USDA-ARS, Bushland – As a 37-year veteran ARS Soil and Crop Scientist, O. R. Jones, Research Associate, ties together the research outputs and facilities of ARS with the AgriPartner training effort.

(d) West Texas A&M University – Participating faculty in the WTAMU Division of Agriculture include IPM (Dr. Greta Schuster and Dr. Bonnie Pendleton) and Dryland Agriculture Institute (Dr. B. A. Stewart).

(e) North Plains and Panhandle Ground Water Conservation Districts - AgriPartners is participating with these water districts in locating cooperators, installing, and reading water meters on more than 150 irrigation wells with the purpose of actually measuring the amount of irrigation water applied to crops. These activities provide information for Senate Bill 1 planning and updates. Many of the

AgriPartner on-farm demonstrations are located on fields where water meters have been installed on irrigation wells or pivots.

Submitted by _____
(P.I. signature)

Approved for submission _____
(Unit Head signature)