Selected Outcome Program Summaries
No. Selected For Display: 1

1.

Outcome Program Plan Number: 06

County or Specialist Unit: HOCKLEY (02)

Issue/Problem Addressed: **Cochran and Hockley Counties have established many new acres of sub-surface drip irrigation (SDI) systems over the past couple of years. This type of irrigation requires a high level of management and understanding in order to maximize its potential and remain an effecient and sustainable irrigation and production tool.**

State Goal (per Plan): 2 Environmental Stewardship & Natural Resources

Special Program Identifier #1 (per Plan): 143 (water conservation)

Special Program Identifier #2 (per Plan): 024 (sustainable agriculture)

Special Program Identifier #3 (per Plan): (-not entered-)

Names of Extension personnel involved: Kerry **SIDERS**

Data collection methodology: Phone call interviews

Participation

No. of people participating in this program:	No. of participants contacted to evaluate this program:	No. responding with usable information:
12	10	10

Changes resulting from the program:	In the fall of 2003 the IPM Steering Committee for Hockley and Cochran Counties met to discuss year-end business as well as Outcome Program Plans for 2004. The committee recognized the impact that sub-surface drip irrigation (SDI) was having on our production system and that so many new systems were being installed. The committee determined that I would need to apply efforts to help cotton producers, the primary audience, manage these systems to be effecient as well as sustainable in an IPM/ICM system. On January 20, 2004 a pre-program evaluation was administered at the West Plains Cotton Conference in Levelland. Due to record rainfall in 2004 the committee and myself determined that it would be best to continue efforts in 2005. Efforts for 2004 were evaluated and summarized in the 2004 Outcome Program Summary. This summary is an excellent discussion of the producers knowledge of SDI at

that time and what they needed to better utilize these irrigation systems. A grower panel discussion was held at the January cotton conference as well as having Dana Porter discuss irrigation technologies including SDI. Two turnrow meetings were held during the growing season which were devoted entirely to SDI. These were held in both Hockley and Cochran counties. Specialist Randy Boman and researcher Jim Brodovsky participated. Five other cotton production turnrow meetings were held throughout the growing season which included information and discussion of SDI. The IPM Scouting program provided special monitoring of soil moisture in SDI and monitored these systems for plant growth regulators and other inputs which are more prevalent in SDI. The West Plains IPM Update newsletter was sent to producers including those with SDI. Management suggestions where made in the newsletter as well as discussion of monitoring plant growth for applying inputs such as plant growth regulators, irrigation and fertility. Other media such as internet, e-mail, radio, newspaper, and fax were all used to disseminate information in newsletters which contained information on SDI. The week of November 10, 2005 a retrospective post phone evaluation was completed. Of the 12 producers which participated 10 were evaluated. These 10 said that they had attended, on average, 3.5 (1-5 range, out of potential of

10) Extension events during the past two growing seasons which SDI was discussed. All respondents noted that their participation was helpful in managing SDI. Before programming efforts were applied only 3 (30%) were monitoring depth of moisture in their SDI fields. After programming twice as many or 60% said they would monitor depth of moisture. This is very important in that it will reduce the amount of irrigation water wasted to deep percolation. The producers stated that 80% of them utilize a paid consultant both before and after programming efforts. From professional experience I know that crop consultants provide excellent advice on irrigation scheduling, the impact it is having, and are mindful of input costs. Therefore, though some producers indicated that they would not be monitoring depth of moisture themselves, they know the importance; and with 80% employing a consultant they will be more aware. The producers were asked about how the manage insects any differently in SDI than conventional irrigation systems. Before programing 8 out of 10 said they used lower thresholds for insects in their SDI systems. In other words, they would spray an insecticide when fewer insects were present. After program efforts 2 fewer stated that they would spray with lower insect numbers. This is a desirable outcome on drip from the standpoint of cost, but also managing risk in development of

secondary insect problems. We are learning in the science of entomology that some of our historical thresholds may be too low anyway. When asked about their use of plant growth regulators the same number were using before as after the program. They all made comment that they felt like they were doing a better job at timing and amounts of applications. Although this does not reduce the use it does make what is being used more cost effective. In a similar light was there use of transgenic varieties in SDI. All were using a herbicide tolerant and/or insect management engineered variety. Comments to the effect that they felt more confident in knowing how to utilize these tools in SDI because of our Extension programming. One of the major risk management considerations in farming is having alternative plans in case of various adversities which are faced. When asked about the participants understanding of limitations of rotation, tillage, and pest management 70% said they did not have a very good understanding before programming efforts. Compare this to all 10 stating that have an understanding of the limitations of SDI afterwards. This will have a tremendous impact on their ability to plan and manage certain inherit risk associated with SDI. Sixty percent of these producers indicate that they will be installing more acres of SDI. The respondents to this evaluation did indicate some issues that they still have concern

about SDI: cost of installation, water quality, tillage limitations, farming same row every year, weed control, and rotation. The results of this program will be provided to the IPM Steering Committee at their January 2006 meeting. They will also consider the concerns shared above for future programming efforts. I will share these results with the Hockley and Cochran Counties' Extension Program Councils at their annual meetings this winter, County commissioners court appreciation meal, and key leaders through Levelland Chamber of Commerce.

Collaborators in program/evaluation: Collaborations were established with High Plains Underground Water Conservation District #1, the USDA-NRCS Levelland, TCE and TAEX Irrigation Specialist and Researchers, and commercial suppliers of SDI equipment.