

Annual Progress Report

For the

Texas Water Development Board - Agricultural Water Conservation Demonstration Initiative Grant

Maximization of On-Farm Surface Water Use Efficiency by Integration
of On-Farm Application and District Delivery Systems

Economic Evaluation of Demonstrated Technologies, FARM
Assistance Program

FARM  Assistance

Helping Agriculture Make Informed Decisions

Submitted by:
Texas Cooperative Extension, FARM Assistance
Dr. Steven Klose
And
Mac Young

February 15th, 2007

AGRICULTURAL DEMONSTRATION INITIATIVE

Texas Cooperative Extension, FARM Assistance Sub-Contract with Harlingen Irrigation
TCE Account # 422460 - Harlingen Irrigation District

Annual Contract Report for the period ending Feb 15, 2007

Scope of Work Task B.5

Economic Evaluation of Demonstrated Technologies, FARM Assistance Program

Activities and continual progress regarding the FARM Assistance task of the ADI project of the Harlingen Irrigation District revolves around two primary objectives. The first is collaborating with project management team and coordinating the FARM Assistance program into the project concepts, including participation in management team meetings, planning sessions, producer meetings, and contributions to project promotional materials. TCE faculty also supported the overall project effort of recruiting project demonstrators. The second objective is the completion of the economic analysis for project demonstrations. Economic analyses for individual demonstrators range from conducting an evaluation of the site demonstration to providing the complete FARM Assistance strategic analysis service for the demonstration participant. Analyses of the 2006 site demonstrations are included. A summary of the contact, status, and analysis conducted for 2006 demonstrators and potential 2007 demonstrators follows:

2005 Demonstrations

- Site 41A-B (cotton, surge irrigation)
Completed volumetric irrigation cost Analysis—*Impact of Volumetric Water Pricing for Cotton Comparing Furrow vs. Surge Irrigation in the Lower Rio Grande Valley*. Farm Assistance Focus Series 2006-3, Texas Cooperative Extension, Texas A&M University System.
<http://farmassistance.tamu.edu>.
- Site 46A-B (sugarcane, surge irrigation)
Completed volumetric irrigation cost Analysis—*Impact of Volumetric Water Pricing for Sugarcane Comparing Furrow vs. Surge Irrigation in the Lower Rio Grande Valley*. Farm Assistance Focus Series 2006-4, Texas Cooperative Extension, Texas A&M University System.
<http://farmassistance.tamu.edu>.
- *Water Conservation and Water Pricing in the Lower Rio Grande Valley*. Poster presented at the Southern Agricultural Economics Association 2007 Annual Meeting, Mobile, Alabama, February 4-6, 2007.

2006 Demonstrations

- Sites 1A-E (1A: Rio Red grapefruit, narrow border flood; 1B: Valencia oranges; narrow border flood; 1C: Rio Red grapefruit, narrow border flood; 1E: onions, 1-line drip)
Conducted initial data collection, and developed preliminary analysis
Conducted verification/validation meeting
Completed and delivered FARM Assistance Strategic Analysis
Completed demonstration site evaluation (included)

- Sites 28A-D (28A: Valencia Oranges, micro-jet spray; 28C: Rio Red grapefruit, micro-jet spray; 28D: early oranges, 2-line drip)
 - Conducted initial data collection, and developed preliminary analysis
 - Conducted verification/validation meeting
 - Completed and delivered FARM Assistance Strategic Analysis
 - Completed demonstration site evaluation (included)
- Site 41A-B (cotton, surge irrigation)
 - Conducted initial data collection, and developed preliminary analysis
 - Conducted verification/validation meeting
 - Completed and delivered FARM Assistance Strategic Analysis
 - Completed demonstration site evaluation (included)
- Site 42A-B (42A: grain sorghum, surge; 42B: cotton, surge irrigation)
 - Conducted initial data collection, and developed preliminary analysis
 - Conducted verification/validation meeting
 - Completed and delivered FARM Assistance Strategic Analysis
 - Completed demonstration site evaluation (included)
- Site 43A-B (43A: cotton, drip; 43B: cotton, furrow irrigation)
 - Conducted initial data collection, and developed preliminary analysis
 - Conducted verification/validation meeting
 - Completed and delivered FARM Assistance Strategic Analysis
 - Completed demonstration site evaluation (included)
- Site 44A (cotton, surge irrigation)
 - Conducted initial data collection, and developed preliminary analysis
 - Conducted verification/validation meeting
 - Completed and delivered FARM Assistance Strategic Analysis
 - Completed demonstration site evaluation (included)
- Site 45A (sugar cane, furrow irrigation)
 - Conducted initial data collection, and developed preliminary analysis
 - Conducted verification/validation meeting
 - Completed and delivered FARM Assistance Strategic Analysis
 - Completed demonstration site evaluation (included)
- Oscar Alvarez (Tifton grass, LEP center pivot)
 - Conducted initial data collection, and developed preliminary analysis
 - Conducted verification/validation meeting
 - Completed and delivered FARM Assistance Strategic Analysis
 - Completed demonstration site evaluation (not included)
- Bruce Gamble (corn & vegetables, drip)
 - Conducted initial data collection, and developed preliminary analysis
 - Conducted verification/validation meeting
 - Completed and delivered FARM Assistance Strategic Analysis
 - Completed demonstration site evaluation (not included)

2006 Potential Demonstrators

- Fernando Vieto, Sharyland Orchards
Held introductory meeting with cooperator and provided information requirements
Several attempts to conduct initial data collection have been cancelled by client.
- Levi Burns
Held introductory meeting with cooperator and provided information requirements
Several attempts to conduct initial data collection have been cancelled by client.
- Don & Tom Wetegrove
Held introductory meeting with cooperator and provided information requirements
Attempts to conduct initial data collection have not been successful.
- Mark Fryer
Held introductory meeting with cooperator and provided information requirements
Attempts in 2006 to conduct initial data collection were not successful.
- Richard Treadaway, Duda
Held introductory meeting with cooperator and provided information requirements
Attempts to conduct initial data collection have not been successful.
- Juan Ramirez
Attempts to conduct initial data collection have not been successful.

2007 Potential Demonstrators

- Bruce Gamble
Initial data collection meeting scheduled for early March
- Mark Fryer
Initial data collection meeting scheduled for late February
- Jim Hoffmann
Initial data collection meeting scheduled for late February
- Jim Pawlik
Initial data collection meeting scheduled for early March
- Sam Morrow
Initial data collection meeting scheduled for March
- B S Farms
Initial data collection meeting scheduled for March
- Sharyland Orchards
Initial data collection meeting scheduled for February or March
- Leonard Simmons
Initial data collection meeting scheduled for April

- Tom McLemore
Initial data collection meeting scheduled for September
- Chris Allen
Initial data collection meeting scheduled for September

Water Conservation and Water Pricing in the Lower Rio Grande Valley

Melissa Jupe, Mac Young, Steven Klose, Greg Kaase & Jason Morris
Department of Agricultural Economics, Texas A&M University

Abstract:

The recent droughts in Texas have exacerbated the need for investigating water conservation methods to be used in the Lower Rio Grande Valley. This analysis illustrates the financial incentives to conserve water that may exist under volumetric water pricing. The Harlingen Irrigation District along with the Texas Water Development Board have recently implemented a project demonstrating water conserving practices. Initial demonstrations, for two 38-acre water sites, suggest the possibility of conserving water through the use of surge irrigation instead of traditional flood. However, the current abundance of surface water from the Rio Grande and existing pricing structures create no incentives for producers to invest in water conservation.

Introduction:

Surface water in the Texas Lower Rio Grande Valley is managed by the local irrigation districts. Historically, water usage in this area is paid for by access rather than volume. This pricing structure works well at times, but provides no financial incentive for the individual producer to conserve water. Existing state laws indicate that water is to be sold by volume. However, lack of metering equipment, tradition and the current availability of water makes these laws unenforceable. The potential of volumetric pricing structure is critical to financial viability and adoption of water conserving practices and systems.

Data:

Two specific 38-acre site demonstrations were linked to the Harlingen Irrigation District and the Texas Water Development Board demonstration projects in the Lower Rio Grande Valley. The 38-acre sites compare the use of surge irrigation to traditional flood in the production of cotton and sugarcane.

Methodology:

10 year financial simulation of returns for a specific enterprise using stochastic commodity prices and yields. Scenarios compare the financial performance of the enterprise under the existing water price structure and two volumetric pricing structures.

Results:

The implementation of surge irrigation appears to save water, but requires an initial investment of new equipment. With current water pricing the purchase of a surge irrigation valve is a losing proposition. However, if the current availability of low cost and plentiful irrigation water changes or if water districts switch to volumetric pricing, the profitability of both cotton and sugarcane production could be affected and the economic incentives to switch to surge irrigation systems will increase.

Cotton

Sugarcane

Table 1: Irrigation Application and Cost Information for 38 acre Cotton site, Volumetric Pricing

Irrigation Method	Acre Inches Applied	Cost Per Acre Inch	Water Cost Per Acre	Polypipe & Irrigation Labor Per Acre	Irrigation Cost per Acre	Surge Valve
Furrow-1	19.53	\$1	\$19.53	\$18.00	\$37.53	
Surge-2	13.48	\$1	\$13.48	\$18.00	\$31.48	\$1,800
Furrow-3	19.53	\$5	\$97.65	\$18.00	\$115.65	
Surge-4	13.48	\$5	\$67.40	\$18.00	\$85.40	\$1,800

Table 2: 10-year Average Financial Indicators for 38 acre Cotton site, Volumetric Pricing

Irrigation Method	Net Cash Farm Income (\$1,000)	Prob Net Cash Income < 0 (%)	Avg Annual Operating Expense/Receipts
Furrow-1	8.28	1.00	0.74
Surge-2	8.35	1.00	0.74
Furrow-3	5.09	8.30	0.85
Surge-4	6.15	3.90	0.81

Table 3: Irrigation Application and Cost Information for 38-acre Sugarcane site, Volumetric Pricing

Irrigation Method	Acre Inches Applied	Cost Per Acre Inch	Water Cost Per Acre	Polypipe & Irrigation Labor Per Acre	Irrigation Cost per Acre	Surge Valve
Furrow-1	30.68	\$1	\$30.68	\$26.00	\$56.68	
Surge-2	14.64	\$1	\$14.64	\$26.00	\$40.64	\$1,800
Furrow-3	30.68	\$5	\$153.40	\$26.00	\$179.40	
Surge-4	14.64	\$5	\$73.20	\$26.00	\$99.20	\$1,800

Table 4: 10-year Average Financial Indicators for 38-acre Sugarcane site, Volumetric Pricing

Irrigation Method	Net Cash Farm Income (\$1,000)	Prob Net Cash Income < 0 (%)	Avg Annual Operating Expense/Receipts
Furrow-1	4.99	23.60	0.67
Surge-2	5.36	22.40	0.65
Furrow-3	0.70	46.30	0.84
Surge-4	3.33	30.90	0.73

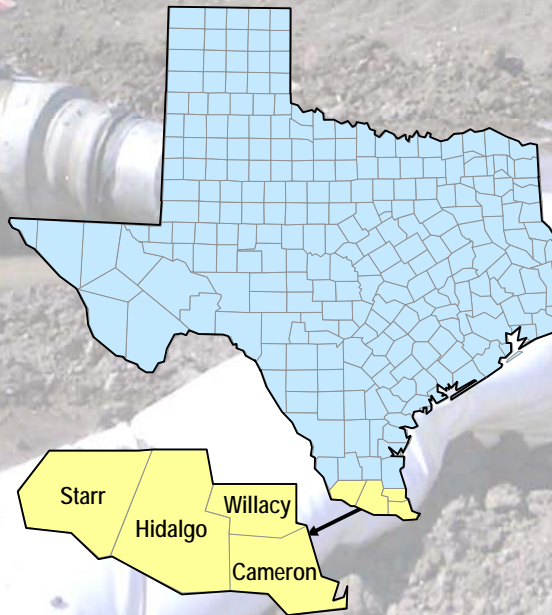
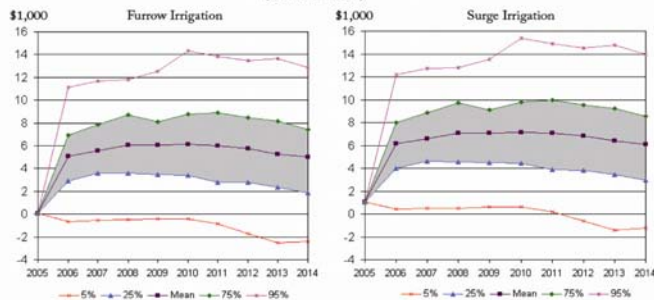
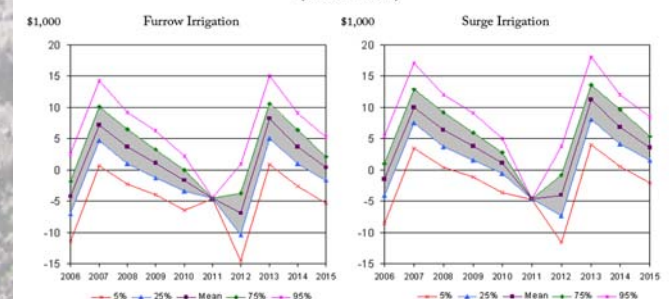


Figure 1: Projected Variability in Net Cash Farm Income for Cotton (\$/acre inch)



Note: Percentages indicate the probability that Net Cash Farm Income is below the indicated level. The shaded area contains 50% of the projected outcomes.

Figure 2: Projected Variability in Net Cash Farm Income for Sugarcane (\$/acre inch)



Note: Percentages indicate the probability that Net Cash Farm Income is below the indicated level. The shaded area contains 50% of the projected outcomes.

Conducted in Partnership with:
Agricultural Water Conservation
Demonstration Initiative (ADI)
Harlingen Irrigation District
Texas Water Development Board

Demonstration Site 1A: Rio Red Grapefruit, Narrow Border Flood Irrigation

The basic costs of production assumptions for the Rio Red grapefruit demonstration are given in Table 1A-1. For the purpose of presenting economic viability and outlook for the 73-acre site, production costs and overhead charges are producer estimated rates and may not reflect all producers but should be reasonable for the region. The first year of the financial projection is 2006. The assumptions and projections are intended to make the illustration relevant to a wide range of producers in the Lower Rio Grande Valley area.

The analysis consists of a 10-year financial outlook for the 73 acres of narrow border flood irrigation Rio Red grapefruit production. The orchard was assumed to have mature trees. The Rio Red grapefruit price is held constant at \$200/ton. Other commodity price trends and cost inflation estimates are provided by the Food and Agricultural Policy Research Institute (FAPRI, at the University of Missouri).

A detail of the income and expense projection for the narrow border flood irrigation is provided in Table 1A-2-A, followed by a cash flow summary (Table 1A-2-B). These income and cash flow statements result from the simplistic (no risk) forecast assuming average prices and yields. A more comprehensive projection, including price and yield risk, is illustrated in Table 1A-3 and Figure 1A-1. Table 1A-3 presents the average outcomes for selected financial projections, while the graphical presentation illustrates the full range of possibilities for Net Cash Farm Income (NCFI).

Total cash receipts average \$263,210 over the 10-year period and cash costs average \$92,010.

NCFI averages \$171,200 due largely to the price being held at a constant \$200/ton (Table 1A-3).

The risk associated with prices and yields suggests a minimal chance of negative NCFI. In a normal production year, NCFI could range as much as \$20,000 to \$354,000 for the site (Figure 1A-1). Cash reserves are expected to grow throughout the 10-year projection period and reach \$1.84 million by 2015 (Table 1A-3). The average cash flow balances (Table 1A-3) are intended to illustrate the cash requirements or flows generated using the narrow border flood irrigation method.

Table 1A-1. Rio Red Grapefruit, Narrow Border Flood Irrigation Demonstration
SUMMARY OF CROP ACREAGE, YIELD, AND VARIABLE COSTS IN 2006.

	Narrow Border Flood
PLANTED ACRES	73
BASE ACRES	0
YIELD UNITS	ton
BUDGETING YIELD	18
FARM PROG YLD DIR	0
FARM PROG YLD CCP	0
PRICES/YIELD UNIT	200
VARIABLE PRODUCTION COSTS (\$/ACRE)	
SEED	0
FERTILIZER	0
HERBICIDES	0
INSECTICIDES	425
FUNGICIDES	0
CUSTOM APPLICATION	470
SCOUTING / OTHER	0
IRRIGATION FUEL	100
TILLAGE/HARVST FUEL	0
HARVESTING, HAULING, DRYING & CHECKOFF: \$/YIELD UNIT	0
HARVEST COST/ACRE	0
BOLL WEEVIL COST/ACRE	0
LABOR COST /ACRE	0
CROP INSURANCE	
YIELD ELECTION (FRACTION)	0.5
YIELD COVERAGE GUARANTEE	0
PRICE ELECTION (FRACTION)	1
PRICE GUARANTEE	210
PREMIUM RATE (\$/ACRE)	93.1
PREMIUM COSTS	6796.2998

Table 1A - 2 - A. Rio Red Grapefruit, Narrow Border Flood Irrigation Demonstrator
INCOME STATEMENT FOR YEARS 2006 - 2015

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
CASH INCOME (NET OF SHARE LEASE)										
CASH RECEIPTS FOR CROPS	262,800	262,800	262,800	262,800	262,800	262,800	262,800	262,800	262,800	262,800
DECOUPLED DIRECT PAYMENTS	0	0	0	0	0	0	0	0	0	0
DECOUPLED CCPs	0	0	0	0	0	0	0	0	0	0
MARKETING LOAN PAYMENTS	0	0	0	0	0	0	0	0	0	0
MPCI CROP INSURANCE INDEMNITY	0	0	0	0	0	0	0	0	0	0
TOTAL CASH RECEIPTS	262,800	262,800	262,800	262,800	262,800	262,800	262,800	262,800	262,800	262,800
CASH FARM EXPENSE (NET OF SHARE LEASE)										
CROP PROD & HARVEST COSTS										
SEED COSTS	0	0	0	0	0	0	0	0	0	0
FERTILIZER COSTS	0	0	0	0	0	0	0	0	0	0
HERBICIDE COSTS	0	0	0	0	0	0	0	0	0	0
INSECTICIDE COSTS	31,025	30,584	29,835	30,265	30,791	31,290	31,769	32,220	32,529	32,695
FUNGICIDE COSTS	0	0	0	0	0	0	0	0	0	0
CUSTOM APPLICATION	34,310	33,840	31,881	30,841	29,996	29,354	29,034	29,380	29,850	30,295
SCOUTING & OTHER	0	0	0	0	0	0	0	0	0	0
IRRIGATION FUEL COSTS	7,300	7,200	6,783	6,562	6,382	6,246	6,178	6,251	6,351	6,446
FUEL & LUBE COSTS	0	0	0	0	0	0	0	0	0	0
HARVESTING COSTS	0	0	0	0	0	0	0	0	0	0
CROP INSURANCE PREMIUMS	6,796	6,796	6,796	7,377	7,377	7,377	7,377	7,377	7,377	7,377
BOLL WEEVIL COSTS	0	0	0	0	0	0	0	0	0	0
HIRED LABOR COSTS	0	0	0	0	0	0	0	0	0	0
SUB-TOTAL OF PROD COSTS	79,431	78,421	75,295	75,045	74,546	74,267	74,357	75,228	76,107	76,812
CASH RENT FOR CROPLAND	16,060	16,060	16,060	16,060	16,060	16,060	16,060	16,060	16,060	16,060
RENT PASTURE	0	0	0	0	0	0	0	0	0	0
MANAGEMENT COSTS	0	0	0	0	0	0	0	0	0	0
MANAGEMENT BONUS	0	0	0	0	0	0	0	0	0	0
ADDITIONAL MGMT. COSTS	0	0	0	0	0	0	0	0	0	0
HIRED LABOR COSTS	0	0	0	0	0	0	0	0	0	0
PROPERTY TAXES	0	0	0	0	0	0	0	0	0	0
PERSONAL PROPERTY TAXES	0	0	0	0	0	0	0	0	0	0
SALES TAXES FOR INPUTS	0	0	0	0	0	0	0	0	0	0
OTHER TAXES	0	0	0	0	0	0	0	0	0	0
ACCOUNTANT & LEGAL FEES	0	0	0	0	0	0	0	0	0	0
UNALLOCATED MAINTENANCE	0	0	0	0	0	0	0	0	0	0
UTILITIES	0	0	0	0	0	0	0	0	0	0
OTHER FUEL & LUBE	0	0	0	0	0	0	0	0	0	0
LIABILITY INSURANCE	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS COSTS	0	0	0	0	0	0	0	0	0	0
LESS EXPENSES PREVIOUSLY PAID	0	0	0	0	0	0	0	0	0	0
PLUS PREPAID EXPENSES	0	0	0	0	0	0	0	0	0	0
SUB-TOTAL OF CASH COSTS	95,491	94,481	91,355	91,105	90,606	90,327	90,417	91,288	92,167	92,872
INTEREST ON LONG-TERM DEBT	0	0	0	0	0	0	0	0	0	0
INTEREST ON INTERMED. DEBT	0	0	0	0	0	0	0	0	0	0
INTEREST ON OPERATING DEBT	0	0	0	0	0	0	0	0	0	0
INTEREST ON CARRYOVER DEBT	0	0	0	0	0	0	0	0	0	0
TOTAL CASH EXPENSES	95,491	94,481	91,355	91,105	90,606	90,327	90,417	91,288	92,167	92,872
NET CASH FARM INCOME	167,309	168,319	171,445	171,695	172,194	172,473	172,383	171,512	170,633	169,928
ACCRUAL ADJUSTMENTS AND DEPRECIATION										
+/- CHANGE IN CROP INVENTORY	0	0	0	0	0	0	0	0	0	0
+/- CHANGE IN DEFERRED RECVBLS	0	0	0	0	0	0	0	0	0	0
+/- CHANGE IN LVSTK INVENTORY	0	0	0	0	0	0	0	0	0	0
+/- CHANGE IN PREPAID EXPENSES	0	0	0	0	0	0	0	0	0	0
+/- CHNG BASE VALU RAISED LVST	0	0	0	0	0	0	0	0	0	0
- BASIS BREEDING LVSTK SOLD	0	0	0	0	0	0	0	0	0	0
+ PURCHASED BREEDING LVSTK	0	0	0	0	0	0	0	0	0	0
- DEPRECIATION	0	0	0	0	0	0	0	0	0	0
NET FARM INCOME	167,309	168,319	171,445	171,695	172,194	172,473	172,383	171,512	170,633	169,928
SUMMARY OF RECEIPTS & COSTS PER CROP ACRE										
CASH RECEIPTS (\$/ACRE)	3,600	3,600	3,600	3,600	3,600	3,600	3,600	3,600	3,600	3,600
CASH EXPENSES (\$/ACRE)	1,308	1,294	1,251	1,248	1,241	1,237	1,239	1,251	1,263	1,272
NET CASH INCOME (\$/ACRE)	2,292	2,306	2,349	2,352	2,359	2,363	2,361	2,349	2,337	2,328

Table 1A - 2 - B. Rio Red Grapefruit, Narrow Border Flood Irrigation Demonstration
CASHFLOW STATEMENT FOR YEARS 2006 - 2015

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
BEGINNING CASH	0	167,309	338,188	514,672	694,242	877,057	1,063,124	1,252,304	1,444,104	1,638,709
PLUS:										
NET CASH FARM INCOME	167,309	168,319	171,445	171,695	172,194	172,473	172,383	171,512	170,633	169,928
OFF-FARM SALARY FARMER	0	0	0	0	0	0	0	0	0	0
OFF-FARM SALARY SPOUSE	0	0	0	0	0	0	0	0	0	0
NON-TAXABLE INCOME	0	0	0	0	0	0	0	0	0	0
INTEREST ON CASH RESERVES	0	2,560	5,039	7,874	10,622	13,594	16,797	20,287	23,972	27,858
INVESTMENT EARNINGS/DIVIDENDS	0	0	0	0	0	0	0	0	0	0
NEW CAPITAL INVESTED IN FARM	0	0	0	0	0	0	0	0	0	0
CORPORATE DIVIDENDS EARNED	0	0	0	0	0	0	0	0	0	0
PARTNERSHIP CASH DRAWS	0	0	0	0	0	0	0	0	0	0
CASH INVESTED FROM OWNERS	0	0	0	0	0	0	0	0	0	0
SELL MACH./LIVESTOCK/CROPS	0	0	0	0	0	0	0	0	0	0
PROCEEDS FROM ASSETS SOLD	0	0	0	0	0	0	0	0	0	0
TOTAL CASH AVAILABLE	167,309	338,188	514,672	694,242	877,057	1,063,124	1,252,304	1,444,104	1,638,709	1,836,495
MINUS:										
DOWN PYMT NON-MACH PURCHASE	0	0	0	0	0	0	0	0	0	0
CASH DIFFERENCE MACH REPLACED	0	0	0	0	0	0	0	0	0	0
PAYOFF MACHINERY BOUGHT	0	0	0	0	0	0	0	0	0	0
REG. PRINCIPAL PAY. LONG-TERM	0	0	0	0	0	0	0	0	0	0
ACC. PRINCIPAL PAY. LONG-TERM	0	0	0	0	0	0	0	0	0	0
REG. PRINCIPAL PAY. INTR-TERM	0	0	0	0	0	0	0	0	0	0
ACC. PRINCIPAL PAY. INTR-TERM	0	0	0	0	0	0	0	0	0	0
PAY OPERATING LOAN CARRYOVER	0	0	0	0	0	0	0	0	0	0
FIXED INVESTMENT CONTRIBUTION	0	0	0	0	0	0	0	0	0	0
ADDITIONAL INVESTMENTS	0	0	0	0	0	0	0	0	0	0
CASH PAID TO PRTNSHIP/CORPS	0	0	0	0	0	0	0	0	0	0
PARTNERSHIP CASH WITHDRAWAL	0	0	0	0	0	0	0	0	0	0
FEDERAL INCOME TAX PAYMENTS	0	0	0	0	0	0	0	0	0	0
STATE INCOME TAX PAYMENTS	0	0	0	0	0	0	0	0	0	0
SELF-EMPLOYMENT+SOC SEC TAXES	0	0	0	0	0	0	0	0	0	0
TOTAL CASH OUTFLOWS	0	0	0	0	0	0	0	0	0	0
SURPLUS OR DEFICIT CASH	167,309	338,188	514,672	694,242	877,057	1,063,124	1,252,304	1,444,104	1,638,709	1,836,495
ENDING YEAR CASH RESERVE	167,309	338,188	514,672	694,242	877,057	1,063,124	1,252,304	1,444,104	1,638,709	1,836,495

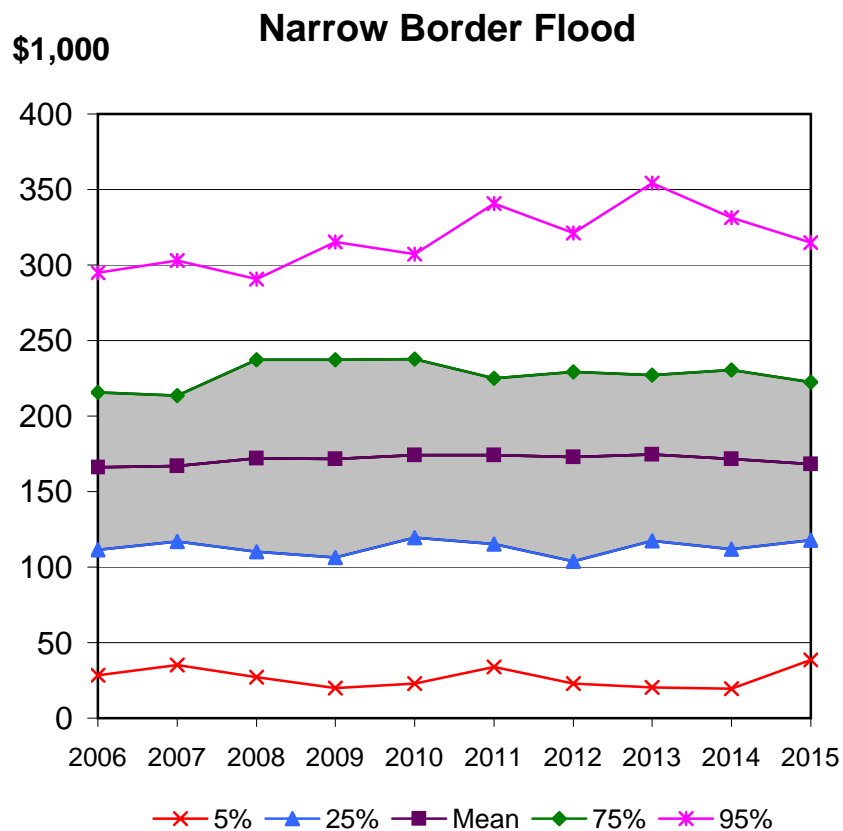
Table 1A-3. Rio Red Grapefruit, Narrow Border Flood Irrigation Demonstration

Narrow Border Flood	
Total Cash Receipts (\$1000)	
2006	261.49
2007	261.65
2008	263.27
2009	262.52
2010	264.74
2011	264.30
2012	263.41
2013	265.74
2014	263.86
2015	261.15
2006-2015 Average	263.21
Total Cash Costs (\$1000)	
2006	95.49
2007	94.49
2008	91.36
2009	91.10
2010	90.61
2011	90.33
2012	90.42
2013	91.29
2014	92.17
2015	92.87
2006-2015 Average	92.01
Net Cash Farm Income (\$1000)	
2006	166.00
2007	167.16
2008	171.91
2009	171.42
2010	174.13
2011	173.97
2012	172.99
2013	174.45
2014	171.69
2015	168.28
2006-2015 Average	171.20
Prob. Net Cash Income < Zero (%)	
2006	1.00
2007	1.00
2008	2.00
2009	1.00
2010	1.00
2011	1.00
2012	1.00
2013	2.00
2014	1.00
2015	1.00
Prob. of Average Net Cash Farm Income < Zero, 2006-2015 (%)	1.00

Table 1A-3. Rio Red Grapefruit, Narrow Border Flood Irrigation Demonstration

Narrow Border Flood	
Ending Cash Reserves (\$1000)	
2006	166.00
2007	335.70
2008	512.61
2009	691.87
2010	876.59
2011	1,064.14
2012	1,253.95
2013	1,448.71
2014	1,644.45
2015	1,840.69
2006-2015 Average	983.47
Prob. of Ending Cash Reserves < Zero (%)	
2006	1.00
2007	1.00
2008	1.00
2009	1.00
2010	1.00
2011	1.00
2012	1.00
2013	1.00
2014	1.00
2015	1.00
Prob. of Ending Cash Reserves < Zero 2006-2015 (%)	1.00
Average Annual Operating Expense/Receipts	
2006	0.41
2007	0.40
2008	0.40
2009	0.39
2010	0.39
2011	0.39
2012	0.39
2013	0.40
2014	0.40
2015	0.40
2006-2015 Average	0.40

Figure 1A-1. Projected Variability in Net Cash Farm Income for Rio Red Grapefruit, Narrow Border Flood Irrigation.



Note: Percentages indicate the probability that Net Cash Farm Income is below the indicated level. The shaded area contains 50% of the projected outcomes.

Demonstration Site 1B: Valencia Oranges, Narrow Border Flood Irrigation

The basic costs of production assumptions for the Valencia oranges demonstration are given in Table 1B-1. For the purpose of presenting economic viability and outlook for the 15-acre site, production costs and overhead charges are producer estimated rates and may not reflect all producers but should be reasonable for the region. The first year of the financial projection is 2006. The assumptions and projections are intended to make the illustration relevant to a wide range of producers in the Lower Rio Grande Valley area.

The analysis consists of a 10-year financial outlook for the 15 acres of narrow border flood irrigation Valencia oranges production. The orchard was assumed to be five years old. The Valencia orange price is held constant at \$150/ton. Other commodity price trends and cost inflation estimates are provided by the Food and Agricultural Policy Research Institute (FAPRI, at the University of Missouri).

A detail of the income and expense projection for the narrow border flood irrigation is provided in Table 1B-2-A, followed by a cash flow summary (Table 1B-2-B). These income and cash flow statements result from the simplistic (no risk) forecast assuming average prices and yields. A more comprehensive projection, including price and yield risk, is illustrated in Table 1B-3 and Figures 1B-1 and 1B-2. Table 1B-3 presents the average outcomes for selected financial projections, while the graphical presentation illustrates the full range of possibilities for Net Cash Farm Income (NCFI).

Total cash receipts average \$31,540 over the 10-year period and cash costs average \$17,980. NCFI averages \$13,560 due largely to the price being held at a constant \$150/ton and increasing yields as trees mature (Table 1B-3). The risk associated with prices and yields suggests a 17.3% chance of negative NCFI. In a normal production year, NCFI could range as much as -\$11,000 to \$45,000 for the site (Figure 1B-1). Cash reserves are expected to grow throughout the 10-year projection period and reach \$144,460 by 2015 (Table 1B-3). The average cash flow balances (Table 1B-3) are intended to illustrate the cash requirements or flows generated using the narrow border flood irrigation method. Figure 1B-2 depicts the growth in cash reserves, and the risk associated with the ending cash balance by reflecting the probability of carryover debt over the 10-year projection. The probability of carryover is 41% in 2006 and then declines to 2% or less by 2013.

Table 1B-1. Valencia Oranges, Narrow Border Flood Irrigation Demonstration
SUMMARY OF CROP ACREAGE, YIELD, AND VARIABLE COSTS IN 2006.

	Yr5	Yr6	Yr7
PLANTED ACRES	15	15	15
BASE ACRES	0	0	0
YIELD UNITS	ton	ton	ton
BUDGETING YIELD	8	12	15
FARM PROG YLD DIR	0	0	0
FARM PROG YLD CCP	0	0	0
PRICES/YIELD UNIT	150	150	150
VARIABLE PRODUCTION COSTS (\$/ACRE)			
SEED	0	0	0
FERTILIZER	0	0	0
HERBICIDES	0	0	0
INSECTICIDES	350	375	375
FUNGICIDES	0	0	0
CUSTOM APPLICATION	370	470	470
SCOUTING / OTHER	0	0	0
IRRIGATION FUEL	100	100	100
TILLAGE/HARVST FUEL	0	0	0
HARVESTING, HAULING, DRYING & CHECKOFF: \$/YIELD UNIT	0	0	0
HARVEST COST/ACRE	0	0	0
BOLL WEEVIL COST/ACRE	0	0	0
LABOR COST /ACRE	0	0	0
CROP INSURANCE			
YIELD ELECTION (FRACTION)	0.5	0.5	0.5
YIELD COVERAGE GUARANTEE	0	0	0
PRICE ELECTION (FRACTION)	1	1	1
PRICE GUARANTEE	210	0	0
PREMIUM RATE (\$/ACRE)	61.71	80.33	93.1
PREMIUM COSTS	925.65	0	0

Table 1B - 2 - A. Valencia Oranges, Narrow Border Flood Irrigation Demonstration
INCOME STATEMENT FOR YEARS 2006 - 2015

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
CASH INCOME (NET OF SHARE LEASE)										
CASH RECEIPTS FOR CROPS	18,000	27,000	33,750	33,750	33,750	33,750	33,750	33,750	33,750	33,750
DECOUPLED DIRECT PAYMENTS	0	0	0	0	0	0	0	0	0	0
DECOUPLED CCPs	0	0	0	0	0	0	0	0	0	0
MARKETING LOAN PAYMENTS	0	0	0	0	0	0	0	0	0	0
MPCI CROP INSURANCE INDEMNITY	0	0	0	0	0	0	0	0	0	0
TOTAL CASH RECEIPTS	18,000	27,000	33,750	33,750	33,750	33,750	33,750	33,750	33,750	33,750
CASH FARM EXPENSE (NET OF SHARE LEASE)										
CROP PROD & HARVEST COSTS										
SEED COSTS	0	0	0	0	0	0	0	0	0	0
FERTILIZER COSTS	0	0	0	0	0	0	0	0	0	0
HERBICIDE COSTS	0	0	0	0	0	0	0	0	0	0
INSECTICIDE COSTS	5,250	5,545	5,409	5,487	5,583	5,673	5,760	5,842	5,898	5,928
FUNGICIDE COSTS	0	0	0	0	0	0	0	0	0	0
CUSTOM APPLICATION	5,550	6,953	6,551	6,337	6,164	6,032	5,966	6,037	6,134	6,225
SCOUTING & OTHER	0	0	0	0	0	0	0	0	0	0
IRRIGATION FUEL COSTS	1,500	1,479	1,394	1,348	1,311	1,283	1,269	1,284	1,305	1,324
FUEL & LUBE COSTS	0	0	0	0	0	0	0	0	0	0
HARVESTING COSTS	0	0	0	0	0	0	0	0	0	0
CROP INSURANCE PREMIUMS	926	1,205	1,396	1,516	1,516	1,516	1,516	1,516	1,516	1,516
BOLL WEEVIL COSTS	0	0	0	0	0	0	0	0	0	0
HIRED LABOR COSTS	0	0	0	0	0	0	0	0	0	0
SUB-TOTAL OF PROD COSTS	13,226	15,183	14,750	14,689	14,573	14,504	14,511	14,679	14,852	14,993
CASH RENT FOR CROPLAND	3,300	3,300	3,300	3,300	3,300	3,300	3,300	3,300	3,300	3,300
RENT PASTURE	0	0	0	0	0	0	0	0	0	0
MANAGEMENT COSTS	0	0	0	0	0	0	0	0	0	0
MANAGEMENT BONUS	0	0	0	0	0	0	0	0	0	0
ADDITIONAL MGMT. COSTS	0	0	0	0	0	0	0	0	0	0
HIRED LABOR COSTS	0	0	0	0	0	0	0	0	0	0
PROPERTY TAXES	0	0	0	0	0	0	0	0	0	0
PERSONAL PROPERTY TAXES	0	0	0	0	0	0	0	0	0	0
SALES TAXES FOR INPUTS	0	0	0	0	0	0	0	0	0	0
OTHER TAXES	0	0	0	0	0	0	0	0	0	0
ACCOUNTANT & LEGAL FEES	0	0	0	0	0	0	0	0	0	0
UNALLOCATED MAINTENANCE	0	0	0	0	0	0	0	0	0	0
UTILITIES	0	0	0	0	0	0	0	0	0	0
OTHER FUEL & LUBE	0	0	0	0	0	0	0	0	0	0
LIABILITY INSURANCE	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS COSTS	0	0	0	0	0	0	0	0	0	0
LESS EXPENSES PREVIOUSLY PAID	0	0	0	0	0	0	0	0	0	0
PLUS PREPAID EXPENSES	0	0	0	0	0	0	0	0	0	0
SUB-TOTAL OF CASH COSTS	16,526	18,483	18,050	17,989	17,873	17,804	17,811	17,979	18,152	18,293
INTEREST ON LONG-TERM DEBT	0	0	0	0	0	0	0	0	0	0
INTEREST ON INTERMED. DEBT	0	0	0	0	0	0	0	0	0	0
INTEREST ON OPERATING DEBT	0	0	0	0	0	0	0	0	0	0
INTEREST ON CARRYOVER DEBT	0	0	0	0	0	0	0	0	0	0
TOTAL CASH EXPENSES	16,526	18,483	18,050	17,989	17,873	17,804	17,811	17,979	18,152	18,293
NET CASH FARM INCOME	1,474	8,517	15,700	15,761	15,877	15,946	15,939	15,771	15,598	15,457
ACCRUAL ADJUSTMENTS AND DEPRECIATION										
+/- CHANGE IN CROP INVENTORY	0	0	0	0	0	0	0	0	0	0
+/- CHANGE IN DEFERRED RECVBLS	0	0	0	0	0	0	0	0	0	0
+/- CHANGE IN LVSTK INVENTORY	0	0	0	0	0	0	0	0	0	0
+/- CHANGE IN PREPAID EXPENSES	0	0	0	0	0	0	0	0	0	0
+/- CHNG BASE VALU RAISED LVST	0	0	0	0	0	0	0	0	0	0
- BASIS BREEDING LVSTK SOLD	0	0	0	0	0	0	0	0	0	0
+ PURCHASED BREEDING LVSTK	0	0	0	0	0	0	0	0	0	0
- DEPRECIATION	0	0	0	0	0	0	0	0	0	0
NET FARM INCOME	1,474	8,517	15,700	15,761	15,877	15,946	15,939	15,771	15,598	15,457
SUMMARY OF RECEIPTS & COSTS PER CROP ACRE										
CASH RECEIPTS (\$/ACRE)	1,200	1,800	2,250	2,250	2,250	2,250	2,250	2,250	2,250	2,250
CASH EXPENSES (\$/ACRE)	1,102	1,232	1,203	1,199	1,192	1,187	1,187	1,199	1,210	1,220
NET CASH INCOME (\$/ACRE)	98	568	1,047	1,051	1,058	1,063	1,063	1,051	1,040	1,030

Table 1B - 2 - B. Valencia Oranges, Narrow Border Flood Irrigation Demonstration
CASHFLOW STATEMENT FOR YEARS 2006 - 2015

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
BEGINNING CASH	0	1,474	10,014	25,863	42,020	58,539	75,393	92,523	109,793	127,214
PLUS:										
NET CASH FARM INCOME	1,474	8,517	15,700	15,761	15,877	15,946	15,939	15,771	15,598	15,457
OFF-FARM SALARY FARMER	0	0	0	0	0	0	0	0	0	0
OFF-FARM SALARY SPOUSE	0	0	0	0	0	0	0	0	0	0
NON-TAXABLE INCOME	0	0	0	0	0	0	0	0	0	0
INTEREST ON CASH RESERVES	0	23	149	396	643	907	1,191	1,499	1,823	2,163
INVESTMENT EARNINGS/DIVIDENDS	0	0	0	0	0	0	0	0	0	0
NEW CAPITAL INVESTED IN FARM	0	0	0	0	0	0	0	0	0	0
CORPORATE DIVIDENDS EARNED	0	0	0	0	0	0	0	0	0	0
PARTNERSHIP CASH DRAWS	0	0	0	0	0	0	0	0	0	0
CASH INVESTED FROM OWNERS	0	0	0	0	0	0	0	0	0	0
SELL MACH./LIVESTOCK/CROPS	0	0	0	0	0	0	0	0	0	0
PROCEEDS FROM ASSETS SOLD	0	0	0	0	0	0	0	0	0	0
TOTAL CASH AVAILABLE	1,474	10,014	25,863	42,020	58,539	75,393	92,523	109,793	127,214	144,833
MINUS:										
DOWN PYMT NON-MACH PURCHASE	0	0	0	0	0	0	0	0	0	0
CASH DIFFERENCE MACH REPLACED	0	0	0	0	0	0	0	0	0	0
PAYOFF MACHINERY BOUGHT	0	0	0	0	0	0	0	0	0	0
REG. PRINCIPAL PAY. LONG-TERM	0	0	0	0	0	0	0	0	0	0
ACC. PRINCIPAL PAY. LONG-TERM	0	0	0	0	0	0	0	0	0	0
REG. PRINCIPAL PAY. INTR-TERM	0	0	0	0	0	0	0	0	0	0
ACC. PRINCIPAL PAY. INTR-TERM	0	0	0	0	0	0	0	0	0	0
PAY OPERATING LOAN CARRYOVER	0	0	0	0	0	0	0	0	0	0
FIXED INVESTMENT CONTRIBUTION	0	0	0	0	0	0	0	0	0	0
ADDITIONAL INVESTMENTS	0	0	0	0	0	0	0	0	0	0
CASH PAID TO PRTNSHIP/CORPS	0	0	0	0	0	0	0	0	0	0
PARTNERSHIP CASH WITHDRAWAL	0	0	0	0	0	0	0	0	0	0
FEDERAL INCOME TAX PAYMENTS	0	0	0	0	0	0	0	0	0	0
STATE INCOME TAX PAYMENTS	0	0	0	0	0	0	0	0	0	0
SELF-EMPLOYMENT+SOC SEC TAXES	0	0	0	0	0	0	0	0	0	0
TOTAL CASH OUTFLOWS	0	0	0	0	0	0	0	0	0	0
SURPLUS OR DEFICIT CASH	1,474	10,014	25,863	42,020	58,539	75,393	92,523	109,793	127,214	144,833
ENDING YEAR CASH RESERVE	1,474	10,014	25,863	42,020	58,539	75,393	92,523	109,793	127,214	144,833

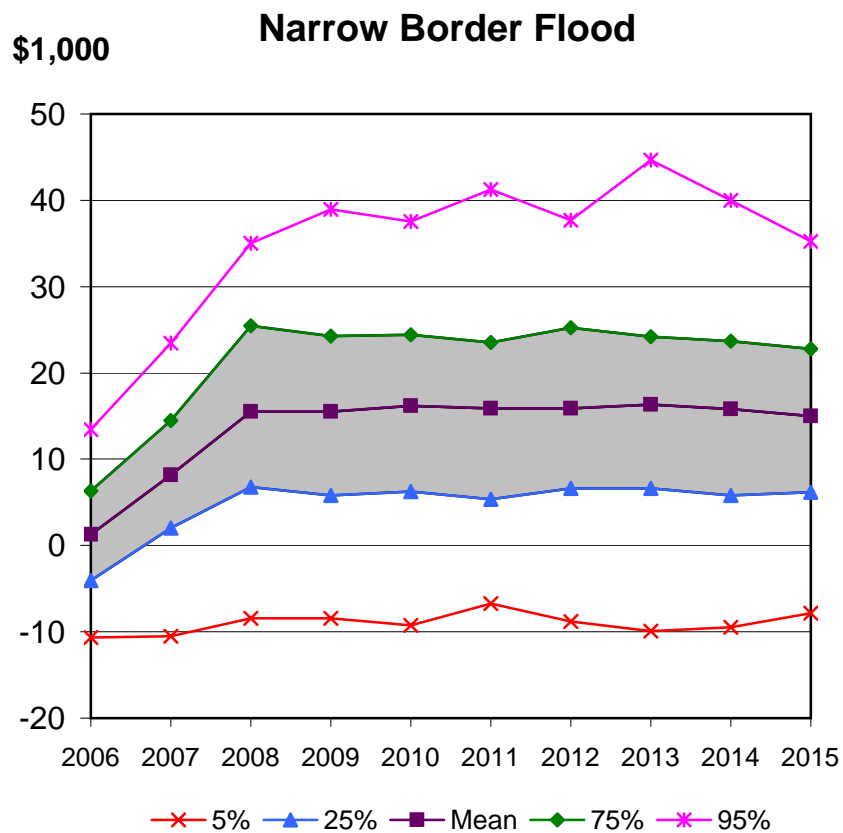
Table 1B-3. Valencia Oranges, Narrow Borde Flood Irrigation Demonstration

Narrow Border Flood	
Total Cash Receipts (\$1000)	
2006	17.82
2007	26.84
2008	33.68
2009	33.62
2010	34.15
2011	33.75
2012	33.77
2013	34.42
2014	34.02
2015	33.36
2006-2015 Average	31.54
Total Cash Costs (\$1000)	
2006	16.53
2007	18.68
2008	18.18
2009	18.09
2010	17.94
2011	17.87
2012	17.88
2013	18.05
2014	18.24
2015	18.39
2006-2015 Average	17.98
Net Cash Farm Income (\$1000)	
2006	1.29
2007	8.16
2008	15.49
2009	15.53
2010	16.21
2011	15.87
2012	15.89
2013	16.37
2014	15.78
2015	14.98
2006-2015 Average	13.56
Prob. Net Cash Income < Zero (%)	
2006	41.00
2007	19.00
2008	14.00
2009	12.00
2010	15.00
2011	14.00
2012	14.00
2013	14.00
2014	14.00
2015	16.00
Prob. of Average Net Cash Farm Income < Zero, 2006-2015 (%)	17.30

Table 1B-3. Valencia Oranges, Narrow Border Flood Irrigation Demonstration

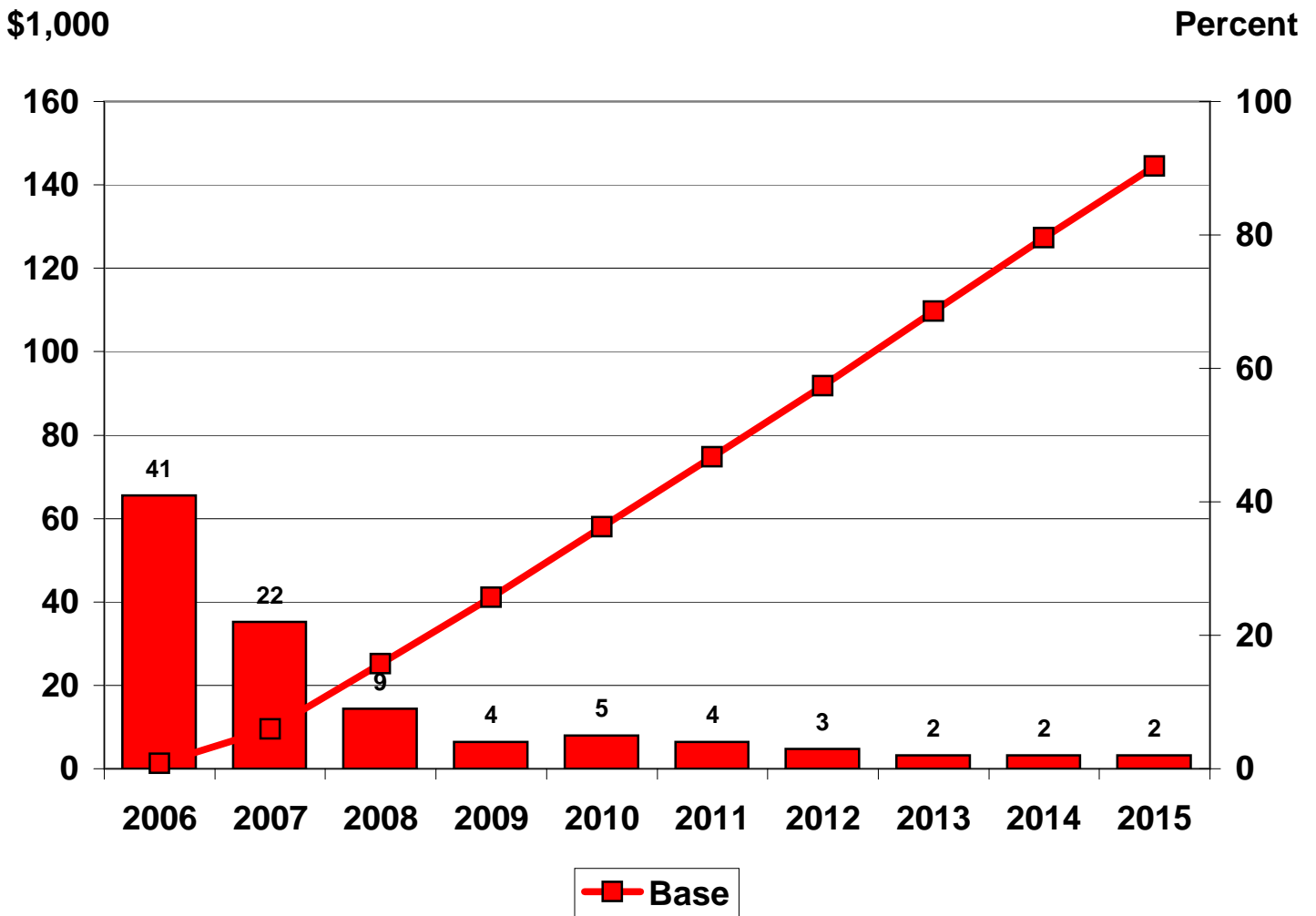
Narrow Border Flood	
Ending Cash Reserves (\$1000)	
2006	1.29
2007	9.51
2008	25.16
2009	41.10
2010	57.95
2011	74.73
2012	91.81
2013	109.68
2014	127.30
2015	144.46
2006-2015 Average	68.30
Prob. of Ending Cash Reserves < Zero (%)	
2006	41.00
2007	22.00
2008	9.00
2009	4.00
2010	5.00
2011	4.00
2012	3.00
2013	2.00
2014	2.00
2015	2.00
Prob. of Ending Cash Reserves < Zero 2006-2015 (%)	9.40
Average Annual Operating Expense/Receipts	
2006	1.18
2007	0.86
2008	0.69
2009	0.68
2010	0.69
2011	0.67
2012	0.68
2013	0.69
2014	0.70
2015	0.69
2006-2015 Average	0.75

Figure 1B-1. Projected Variability in Net Cash Farm Income for Valencia Oranges, Narrow Border Flood Irrigation Demonstration.



Note: Percentages indicate the probability that Net Cash Farm Income is below the indicated level.
The shaded area contains 50% of the projected outcomes.

Figure 1B-2. Ending Cash Reserves and Probability of Having to Refinance Operating Note for Valencia Oranges, Narrow Borde Flood Irrigation Demonstration.



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Demonstration Site 1C: Rio Red Grapefruit, Narrow Border Flood Irrigation

The basic costs of production assumptions for the Rio Red grapefruit demonstration are given in Table 1C-1. For the purpose of presenting economic viability and outlook for the 85-acre site, production costs and overhead charges are producer estimated rates and may not reflect all producers but should be reasonable for the region. The first year of the financial projection is 2006. The assumptions and projections are intended to make the illustration relevant to a wide range of producers in the Lower Rio Grande Valley area.

The analysis consists of a 10-year financial outlook for the 85 acres of narrow border flood irrigation Rio Red grapefruit production. The orchard was assumed to be 5 years old. The Rio Red grapefruit price is held constant at \$200/ton. Other commodity price trends and cost inflation estimates are provided by the Food and Agricultural Policy Research Institute (FAPRI, at the University of Missouri).

A detail of the income and expense projection for the narrow border flood irrigation is provided in Table 1C-2-A, followed by a cash flow summary (Table 1C-2-B). These income and cash flow statements result from the simplistic (no risk) forecast assuming average prices and yields. A more comprehensive projection, including price and yield risk, is illustrated in Table 1C-3 and Figure 1C-1. Table 1C-3 presents the average outcomes for selected financial projections, while the graphical presentation illustrates the full range of possibilities for Net Cash Farm Income (NCFI).

Total cash receipts average \$376,220 over the 10-year period and cash costs average \$102,350.

NCFI averages \$273,870 due largely to the price being held at a constant \$200/ton and increasing

yields for maturing trees (Table 1C-3). The risk associated with prices and yields suggests a minimal chance of negative NCFI. In a normal production year, NCFI could range as much as \$33,000 to \$561,000 for the site (Figure 1C-1). Cash reserves are expected to grow throughout the 10-year projection period and reach \$2.9 million by 2015 (Table 1C-3). The average cash flow balances (Table 1C-3) are intended to illustrate the cash requirements or flows generated using the narrow border flood spray irrigation method.

Table 1C-1. Rio Red Grapefruit, Narrow Border Flood Irrigation Demonstration
SUMMARY OF CROP ACREAGE, YIELD, AND VARIABLE COSTS IN 2006.

	Yr5	Yr6	Yr7
PLANTED ACRES	85	85	85
BASE ACRES	0	0	0
YIELD UNITS	ton	ton	ton
BUDGETING YIELD	17	20	23
FARM PROG YLD DIR	0	0	0
FARM PROG YLD CCP	0	0	0
PRICES/YIELD UNIT	200	200	200
VARIABLE PRODUCTION COSTS (\$/ACRE)			
SEED	0	0	0
FERTILIZER	0	0	0
HERBICIDES	0	0	0
INSECTICIDES	350	375	375
FUNGICIDES	0	0	0
CUSTOM APPLICATION	470	470	470
SCOUTING / OTHER	0	0	0
IRRIGATION FUEL	100	100	100
TILLAGE/HARVST FUEL	0	0	0
HARVESTING, HAULING, DRYING & CHECKOFF: \$/YIELD UNIT	0	0	0
HARVEST COST/ACRE	0	0	0
BOLL WEEVIL COST/ACRE	0	0	0
LABOR COST /ACRE	0	0	0
CROP INSURANCE			
YIELD ELECTION (FRACTION)	0.5	0.5	0.5
YIELD COVERAGE GUARANTEE	0	0	0
PRICE ELECTION (FRACTION)	1	1	1
PRICE GUARANTEE	210	0	0
PREMIUM RATE (\$/ACRE)	71.7	80.83	93.1
PREMIUM COSTS	6094.4995	0	0

Table 1C - 2 - A. Rio Red Grapefruit, Narrow Border Flood Irrigation Demonstrator
INCOME STATEMENT FOR YEARS 2006 - 2015

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
CASH INCOME (NET OF SHARE LEASE)										
CASH RECEIPTS FOR CROPS	289,000	340,000	391,000	391,000	391,000	391,000	391,000	391,000	391,000	391,000
DECOUPLED DIRECT PAYMENTS	0	0	0	0	0	0	0	0	0	0
DECOUPLED CCPs	0	0	0	0	0	0	0	0	0	0
MARKETING LOAN PAYMENTS	0	0	0	0	0	0	0	0	0	0
MPCI CROP INSURANCE INDEMNITY	0	0	0	0	0	0	0	0	0	0
TOTAL CASH RECEIPTS	289,000	340,000	391,000	391,000	391,000	391,000	391,000	391,000	391,000	391,000
CASH FARM EXPENSE (NET OF SHARE LEASE)										
CROP PROD & HARVEST COSTS										
SEED COSTS	0	0	0	0	0	0	0	0	0	0
FERTILIZER COSTS	0	0	0	0	0	0	0	0	0	0
HERBICIDE COSTS	0	0	0	0	0	0	0	0	0	0
INSECTICIDE COSTS	29,750	31,422	30,653	31,094	31,635	32,147	32,639	33,103	33,421	33,591
FUNGICIDE COSTS	0	0	0	0	0	0	0	0	0	0
CUSTOM APPLICATION	39,950	39,403	37,121	35,911	34,927	34,180	33,807	34,209	34,757	35,275
SCOUTING & OTHER	0	0	0	0	0	0	0	0	0	0
IRRIGATION FUEL COSTS	8,500	8,384	7,898	7,641	7,431	7,272	7,193	7,279	7,395	7,505
FUEL & LUBE COSTS	0	0	0	0	0	0	0	0	0	0
HARVESTING COSTS	0	0	0	0	0	0	0	0	0	0
CROP INSURANCE PREMIUMS	6,094	6,871	7,914	8,589	8,589	8,589	8,589	8,589	8,589	8,589
BOLL WEEVIL COSTS	0	0	0	0	0	0	0	0	0	0
HIRED LABOR COSTS	0	0	0	0	0	0	0	0	0	0
SUB-TOTAL OF PROD COSTS	84,294	86,079	83,585	83,235	82,583	82,189	82,229	83,180	84,162	84,960
CASH RENT FOR CROPLAND	18,700	18,700	18,700	18,700	18,700	18,700	18,700	18,700	18,700	18,700
RENT PASTURE	0	0	0	0	0	0	0	0	0	0
MANAGEMENT COSTS	0	0	0	0	0	0	0	0	0	0
MANAGEMENT BONUS	0	0	0	0	0	0	0	0	0	0
ADDITIONAL MGMT. COSTS	0	0	0	0	0	0	0	0	0	0
HIRED LABOR COSTS	0	0	0	0	0	0	0	0	0	0
PROPERTY TAXES	0	0	0	0	0	0	0	0	0	0
PERSONAL PROPERTY TAXES	0	0	0	0	0	0	0	0	0	0
SALES TAXES FOR INPUTS	0	0	0	0	0	0	0	0	0	0
OTHER TAXES	0	0	0	0	0	0	0	0	0	0
ACCOUNTANT & LEGAL FEES	0	0	0	0	0	0	0	0	0	0
UNALLOCATED MAINTENANCE	0	0	0	0	0	0	0	0	0	0
UTILITIES	0	0	0	0	0	0	0	0	0	0
OTHER FUEL & LUBE	0	0	0	0	0	0	0	0	0	0
LIABILITY INSURANCE	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS COSTS	0	0	0	0	0	0	0	0	0	0
LESS EXPENSES PREVIOUSLY PAID	0	0	0	0	0	0	0	0	0	0
PLUS PREPAID EXPENSES	0	0	0	0	0	0	0	0	0	0
SUB-TOTAL OF CASH COSTS	102,994	104,779	102,285	101,935	101,283	100,889	100,929	101,880	102,862	103,660
INTEREST ON LONG-TERM DEBT	0	0	0	0	0	0	0	0	0	0
INTEREST ON INTERMED. DEBT	0	0	0	0	0	0	0	0	0	0
INTEREST ON OPERATING DEBT	0	0	0	0	0	0	0	0	0	0
INTEREST ON CARRYOVER DEBT	0	0	0	0	0	0	0	0	0	0
TOTAL CASH EXPENSES	102,994	104,779	102,285	101,935	101,283	100,889	100,929	101,880	102,862	103,660
NET CASH FARM INCOME	186,006	235,221	288,715	289,065	289,717	290,111	290,071	289,120	288,138	287,340
ACCRUAL ADJUSTMENTS AND DEPRECIATION										
+/- CHANGE IN CROP INVENTORY	0	0	0	0	0	0	0	0	0	0
+/- CHANGE IN DEFERRED RECVBLS	0	0	0	0	0	0	0	0	0	0
+/- CHANGE IN LVSTK INVENTORY	0	0	0	0	0	0	0	0	0	0
+/- CHANGE IN PREPAID EXPENSES	0	0	0	0	0	0	0	0	0	0
+/- CHNG BASE VALU RAISED LVST	0	0	0	0	0	0	0	0	0	0
- BASIS BREEDING LVSTK SOLD	0	0	0	0	0	0	0	0	0	0
+ PURCHASED BREEDING LVSTK	0	0	0	0	0	0	0	0	0	0
- DEPRECIATION	0	0	0	0	0	0	0	0	0	0
NET FARM INCOME	186,006	235,221	288,715	289,065	289,717	290,111	290,071	289,120	288,138	287,340
SUMMARY OF RECEIPTS & COSTS PER CROP ACRE										
CASH RECEIPTS (\$/ACRE)	3,400	4,000	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600
CASH EXPENSES (\$/ACRE)	1,212	1,233	1,203	1,199	1,192	1,187	1,187	1,199	1,210	1,220
NET CASH INCOME (\$/ACRE)	2,188	2,767	3,397	3,401	3,408	3,413	3,413	3,401	3,390	3,380

Table 1C - 2 - B. Rio Red Crapefruit, Narrow Border Flood Irrigation Demonstration
CASHFLOW STATEMENT FOR YEARS 2006 - 2015

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
BEGINNING CASH	0	186,006	424,072	719,105	1,019,173	1,324,484	1,635,124	1,951,030	2,271,757	2,597,606
PLUS:										
NET CASH FARM INCOME	186,006	235,221	288,715	289,065	289,717	290,111	290,071	289,120	288,138	287,340
OFF-FARM SALARY FARMER	0	0	0	0	0	0	0	0	0	0
OFF-FARM SALARY SPOUSE	0	0	0	0	0	0	0	0	0	0
NON-TAXABLE INCOME	0	0	0	0	0	0	0	0	0	0
INTEREST ON CASH RESERVES	0	2,846	6,319	11,002	15,593	20,529	25,835	31,607	37,711	44,159
INVESTMENT EARNINGS/DIVIDENDS	0	0	0	0	0	0	0	0	0	0
NEW CAPITAL INVESTED IN FARM	0	0	0	0	0	0	0	0	0	0
CORPORATE DIVIDENDS EARNED	0	0	0	0	0	0	0	0	0	0
PARTNERSHIP CASH DRAWS	0	0	0	0	0	0	0	0	0	0
CASH INVESTED FROM OWNERS	0	0	0	0	0	0	0	0	0	0
SELL MACH./LIVESTOCK/CROPS	0	0	0	0	0	0	0	0	0	0
PROCEEDS FROM ASSETS SOLD	0	0	0	0	0	0	0	0	0	0
TOTAL CASH AVAILABLE	186,006	424,072	719,105	1,019,173	1,324,484	1,635,124	1,951,030	2,271,757	2,597,606	2,929,106
MINUS:										
DOWN PYMT NON-MACH PURCHASE	0	0	0	0	0	0	0	0	0	0
CASH DIFFERENCE MACH REPLACED	0	0	0	0	0	0	0	0	0	0
PAYOFF MACHINERY BOUGHT	0	0	0	0	0	0	0	0	0	0
REG. PRINCIPAL PAY. LONG-TERM	0	0	0	0	0	0	0	0	0	0
ACC. PRINCIPAL PAY. LONG-TERM	0	0	0	0	0	0	0	0	0	0
REG. PRINCIPAL PAY. INTR-TERM	0	0	0	0	0	0	0	0	0	0
ACC. PRINCIPAL PAY. INTR-TERM	0	0	0	0	0	0	0	0	0	0
PAY OPERATING LOAN CARRYOVER	0	0	0	0	0	0	0	0	0	0
FIXED INVESTMENT CONTRIBUTION	0	0	0	0	0	0	0	0	0	0
ADDITIONAL INVESTMENTS	0	0	0	0	0	0	0	0	0	0
CASH PAID TO PRTNSHIP/CORPS	0	0	0	0	0	0	0	0	0	0
PARTNERSHIP CASH WITHDRAWAL	0	0	0	0	0	0	0	0	0	0
FEDERAL INCOME TAX PAYMENTS	0	0	0	0	0	0	0	0	0	0
STATE INCOME TAX PAYMENTS	0	0	0	0	0	0	0	0	0	0
SELF-EMPLOYMENT+SOC SEC TAXES	0	0	0	0	0	0	0	0	0	0
TOTAL CASH OUTFLOWS	0	0	0	0	0	0	0	0	0	0
SURPLUS OR DEFICIT CASH	186,006	424,072	719,105	1,019,173	1,324,484	1,635,124	1,951,030	2,271,757	2,597,606	2,929,106
ENDING YEAR CASH RESERVE	186,006	424,072	719,105	1,019,173	1,324,484	1,635,124	1,951,030	2,271,757	2,597,606	2,929,106

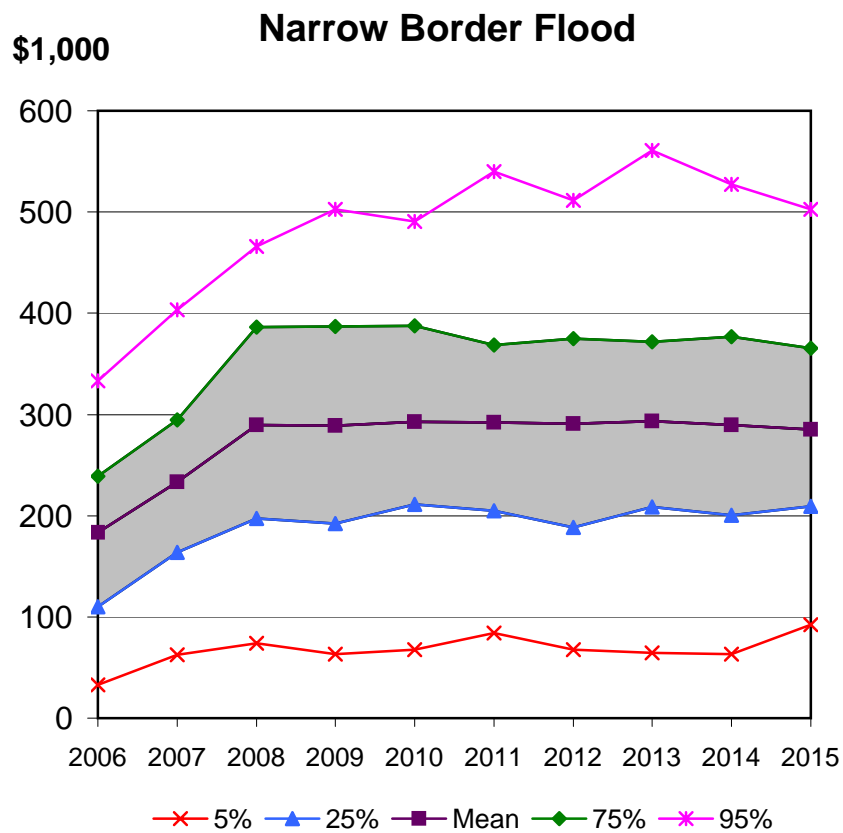
Table 1C-3. Rio Red Grapefruit, Narrow Border Flood Irrigation Demonstration

Narrow Border Flood	
Total Cash Receipts (\$1000)	
2006	286.31
2007	338.14
2008	391.69
2009	390.59
2010	393.88
2011	393.23
2012	391.90
2013	395.37
2014	392.58
2015	388.54
2006-2015 Average	376.22
Total Cash Costs (\$1000)	
2006	102.99
2007	104.79
2008	102.29
2009	101.93
2010	101.28
2011	100.89
2012	100.93
2013	101.88
2014	102.86
2015	103.66
2006-2015 Average	102.35
Net Cash Farm Income (\$1000)	
2006	183.32
2007	233.35
2008	289.41
2009	288.65
2010	292.60
2011	292.34
2012	290.98
2013	293.49
2014	289.72
2015	284.88
2006-2015 Average	273.87
Prob. Net Cash Income < Zero (%)	
2006	1.00
2007	1.00
2008	1.00
2009	1.00
2010	1.00
2011	1.00
2012	1.00
2013	1.00
2014	1.00
2015	1.00
Prob. of Average Net Cash Farm Income < Zero, 2006-2015 (%)	1.00

Table 1C-3. Rio Red Grapefruit, Narrow Border Flood Irrigation Demonstration

Narrow Border Flood	
Ending Cash Reserves (\$1000)	
2006	183.32
2007	419.47
2008	715.13
2009	1,014.73
2010	1,322.85
2011	1,635.69
2012	1,952.51
2013	2,277.63
2014	2,605.16
2015	2,934.33
2006-2015 Average	1,506.08
Prob. of Ending Cash Reserves < Zero (%)	
2006	1.00
2007	1.00
2008	1.00
2009	1.00
2010	1.00
2011	1.00
2012	1.00
2013	1.00
2014	1.00
2015	1.00
Prob. of Ending Cash Reserves < Zero 2006-2015 (%)	1.00
Average Annual Operating Expense/Receipts	
2006	0.40
2007	0.35
2008	0.30
2009	0.30
2010	0.30
2011	0.29
2012	0.29
2013	0.30
2014	0.30
2015	0.30
2006-2015 Average	0.31

Figure 1C-1. Projected Variability in Net Cash Farm Income for Rio Red Grapefruit, Narrow Border Flood Irrigation Demonstration.



Note: Percentages indicate the probability that Net Cash Farm Income is below the indicated level. The shaded area contains 50% of the projected outcomes.

Demonstration Site 1E: Yellow Onions, 1-Line Drip Irrigation

The basic costs of production assumptions for the yellow onions demonstration are given in Table 1E-1. For the purpose of presenting economic viability and outlook for the 52-acre site, production costs and overhead charges are producer estimated rates and may not reflect all producers but should be reasonable for the region. The first year of the financial projection is 2006. The assumptions and projections are intended to make the illustration relevant to a wide range of producers in the Lower Rio Grande Valley area.

The analysis consists of a 10-year financial outlook for the 52 acres of 1-line drip irrigation yellow onions production. The onions were planted on 80-inch beds. The yellow onions cash receipts were calculated on a \$1,150/acre basis and held constant during the 10-year projection. Other commodity price trends and cost inflation estimates are provided by the Food and Agricultural Policy Research Institute (FAPRI, at the University of Missouri).

The analysis also includes the purchase and use of a 1-line drip irrigation system at a cost of \$1,550 per acre, including projected drip tape replacement. The 1-line drip system expense is evenly distributed (\$155/acre/year) over the 10-year period with the assumption of no financing costs.

A detail of the income and expense projection for the 1-line irrigation is provided in Table 1E-2-A, followed by a cash flow summary (Table 1E-2-B). These income and cash flow statements result from the simplistic (no risk) forecast assuming average prices and yields. A more comprehensive projection, including price and yield risk, is illustrated in Table 1E-3 and Figure 1E-1. Table 1E-3

presents the average outcomes for selected financial projections, while the graphical presentation illustrates the full range of possibilities for Net Cash Farm Income (NCFI).

Total cash receipts average \$60,040 over the 10-year period and cash costs average \$54,420. NCFI averages \$5,620 due largely to gross receipts per acre being held at a constant \$1,150 per acre (Table 1E-3). The risk associated with prices and yields suggests a 29.1% chance of negative NCFI. In a normal production year, NCFI could range as much as -\$20,000 to \$27,000 for the site (Figure 1E-1). Cash reserves are expected to grow throughout the 10-year projection period and reach \$59,260 by 2015 (Table 1E-3). The average cash flow balances (Table 1E-3) are intended to illustrate the cash requirements or flows generated using the 1-line drip irrigation method.

Table 1E-1. Yellow Onions, 1-Line Drip Irrigation Demonstration
SUMMARY OF CROP ACREAGE, YIELD, AND VARIABLE COSTS IN 2006.

	Onion
PLANTED ACRES	52
BASE ACRES	0
YIELD UNITS	\$\$\$
BUDGETING YIELD	1150
FARM PROG YLD DIR	0
FARM PROG YLD CCP	0
PRICES/YIELD UNIT	1
VARIABLE PRODUCTION COSTS (\$/ACRE)	
SEED	150
FERTILIZER	100.5
HERBICIDES	0
INSECTICIDES	167.55
FUNGICIDES	0
CUSTOM APPLICATION	41
SCOUTING / OTHER	0
IRRIGATION FUEL	90
TILLAGE/HARVST FUEL	39.75
HARVESTING, HAULING, DRYING & CHECKOFF: \$/YIELD UNIT	0
HARVEST COST/ACRE	0
BOLL WEEVIL COST/ACRE	0
LABOR COST /ACRE	120
CROP INSURANCE	
YIELD ELECTION (FRACTION)	0.5
YIELD COVERAGE GUARANTEE	0
PRICE ELECTION (FRACTION)	1
PRICE GUARANTEE	0
PREMIUM RATE (\$/ACRE)	70
PREMIUM COSTS	3640

Table 1E - 2 - A. Yellow Onions, 1-Line Drip Irrigation Demonstrator
INCOME STATEMENT FOR YEARS 2006 - 2015

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
CASH INCOME (NET OF SHARE LEASE)										
CASH RECEIPTS FOR CROPS	59,800	59,800	59,800	59,800	59,800	59,800	59,800	59,800	59,800	59,800
DECOUPLED DIRECT PAYMENTS	0	0	0	0	0	0	0	0	0	0
DECOUPLED CCPs	0	0	0	0	0	0	0	0	0	0
MARKETING LOAN PAYMENTS	0	0	0	0	0	0	0	0	0	0
MPCI CROP INSURANCE INDEMNITY	0	0	0	0	0	0	0	0	0	0
TOTAL CASH RECEIPTS	59,800	59,800	59,800	59,800	59,800	59,800	59,800	59,800	59,800	59,800
CASH FARM EXPENSE (NET OF SHARE LEASE)										
CROP PROD & HARVEST COSTS										
SEED COSTS	7,800	7,914	7,811	7,887	8,000	8,132	8,206	8,302	8,385	8,452
FERTILIZER COSTS	5,226	5,256	5,198	5,138	5,208	5,254	5,287	5,377	5,459	5,515
HERBICIDE COSTS	0	0	0	0	0	0	0	0	0	0
INSECTICIDE COSTS	8,713	8,589	8,378	8,499	8,647	8,787	8,922	9,048	9,135	9,182
FUNGICIDE COSTS	0	0	0	0	0	0	0	0	0	0
CUSTOM APPLICATION	2,132	2,103	1,981	1,916	1,864	1,824	1,804	1,826	1,855	1,882
SCOUTING & OTHER	0	0	0	0	0	0	0	0	0	0
IRRIGATION FUEL COSTS	4,680	4,616	4,349	4,207	4,092	4,004	3,960	4,008	4,072	4,132
FUEL & LUBE COSTS	2,067	2,039	1,921	1,858	1,807	1,768	1,749	1,770	1,798	1,825
HARVESTING COSTS	0	0	0	0	0	0	0	0	0	0
CROP INSURANCE PREMIUMS	3,640	3,640	3,640	3,640	3,640	3,640	3,640	3,640	3,640	3,640
BOLL WEEVIL COSTS	0	0	0	0	0	0	0	0	0	0
HIRED LABOR COSTS	6,240	6,430	6,638	6,823	6,988	7,171	7,356	7,527	7,707	7,885
SUB-TOTAL OF PROD COSTS	40,498	40,586	39,916	39,967	40,246	40,581	40,924	41,498	42,050	42,514
CASH RENT FOR CROPLAND	3,900	3,900	3,900	3,900	3,900	3,900	3,900	3,900	3,900	3,900
RENT PASTURE	0	0	0	0	0	0	0	0	0	0
MANAGEMENT COSTS	0	0	0	0	0	0	0	0	0	0
MANAGEMENT BONUS	0	0	0	0	0	0	0	0	0	0
ADDITIONAL MGMT. COSTS	0	0	0	0	0	0	0	0	0	0
HIRED LABOR COSTS	0	0	0	0	0	0	0	0	0	0
PROPERTY TAXES	0	0	0	0	0	0	0	0	0	0
PERSONAL PROPERTY TAXES	0	0	0	0	0	0	0	0	0	0
SALES TAXES FOR INPUTS	0	0	0	0	0	0	0	0	0	0
OTHER TAXES	0	0	0	0	0	0	0	0	0	0
ACCOUNTANT & LEGAL FEES	0	0	0	0	0	0	0	0	0	0
UNALLOCATED MAINTENANCE	0	0	0	0	0	0	0	0	0	0
UTILITIES	0	0	0	0	0	0	0	0	0	0
OTHER FUEL & LUBE	0	0	0	0	0	0	0	0	0	0
LIABILITY INSURANCE	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS COSTS	0	0	0	0	0	0	0	0	0	0
Drip Sys	8,060	8,060	8,060	8,060	8,060	8,060	8,060	8,060	8,060	8,060
LESS EXPENSES PREVIOUSLY PAID	0	0	0	0	0	0	0	0	0	0
PLUS PREPAID EXPENSES	0	0	0	0	0	0	0	0	0	0
SUB-TOTAL OF CASH COSTS	52,458	52,546	51,876	51,927	52,206	52,541	52,884	53,458	54,010	54,474
INTEREST ON LONG-TERM DEBT	0	0	0	0	0	0	0	0	0	0
INTEREST ON INTERMED. DEBT	0	0	0	0	0	0	0	0	0	0
INTEREST ON OPERATING DEBT	2,229	2,040	1,760	1,517	1,251	994	734	483	235	0
INTEREST ON CARRYOVER DEBT	0	0	0	0	0	0	0	0	0	0
TOTAL CASH EXPENSES	54,687	54,585	53,636	53,444	53,456	53,535	53,618	53,940	54,245	54,474
NET CASH FARM INCOME	5,113	5,215	6,164	6,356	6,344	6,265	6,182	5,860	5,555	5,326
ACCRUAL ADJUSTMENTS AND DEPRECIATION										
+/- CHANGE IN CROP INVENTORY	0	0	0	0	0	0	0	0	0	0
+/- CHANGE IN DEFERRED RECVBLS	0	0	0	0	0	0	0	0	0	0
+/- CHANGE IN LVSTK INVENTORY	0	0	0	0	0	0	0	0	0	0
+/- CHANGE IN PREPAID EXPENSES	0	0	0	0	0	0	0	0	0	0
+/- CHNG BASE VALU RAISED LVST	0	0	0	0	0	0	0	0	0	0
- BASIS BREEDING LVSTK SOLD	0	0	0	0	0	0	0	0	0	0
+ PURCHASED BREEDING LVSTK	0	0	0	0	0	0	0	0	0	0
- DEPRECIATION	0	0	0	0	0	0	0	0	0	0
NET FARM INCOME	5,113	5,215	6,164	6,356	6,344	6,265	6,182	5,860	5,555	5,326
SUMMARY OF RECEIPTS & COSTS PER CROP ACRE										
CASH RECEIPTS (\$/ACRE)	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150
CASH EXPENSES (\$/ACRE)	1,052	1,050	1,031	1,028	1,028	1,030	1,031	1,037	1,043	1,048
NET CASH INCOME (\$/ACRE)	98	100	119	122	122	120	119	113	107	102

Table 1E - 2 - B. Yellow Onions, 1-Line Drip Irrigation Demonstration
CASHFLOW STATEMENT FOR YEARS 2006 - 2015

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
BEGINNING CASH	0	5,113	10,367	16,608	23,090	29,611	36,105	42,573	48,777	54,737
PLUS:										
NET CASH FARM INCOME	5,113	5,215	6,164	6,356	6,344	6,265	6,182	5,860	5,555	5,326
OFF-FARM SALARY FARMER	0	0	0	0	0	0	0	0	0	0
OFF-FARM SALARY SPOUSE	0	0	0	0	0	0	0	0	0	0
NON-TAXABLE INCOME	0	0	0	0	0	0	0	0	0	0
INTEREST ON CASH RESERVES	0	39	77	127	177	229	285	345	405	468
INVESTMENT EARNINGS/DIVIDENDS	0	0	0	0	0	0	0	0	0	0
NEW CAPITAL INVESTED IN FARM	0	0	0	0	0	0	0	0	0	0
CORPORATE DIVIDENDS EARNED	0	0	0	0	0	0	0	0	0	0
PARTNERSHIP CASH DRAWS	0	0	0	0	0	0	0	0	0	0
CASH INVESTED FROM OWNERS	0	0	0	0	0	0	0	0	0	0
SELL MACH./LIVESTOCK/CROPS	0	0	0	0	0	0	0	0	0	0
PROCEEDS FROM ASSETS SOLD	0	0	0	0	0	0	0	0	0	0
TOTAL CASH AVAILABLE	5,113	10,367	16,608	23,090	29,611	36,105	42,573	48,777	54,737	60,531
MINUS:										
DOWN PYMT NON-MACH PURCHASE	0	0	0	0	0	0	0	0	0	0
CASH DIFFERENCE MACH REPLACED	0	0	0	0	0	0	0	0	0	0
PAYOFF MACHINERY BOUGHT	0	0	0	0	0	0	0	0	0	0
REG. PRINCIPAL PAY. LONG-TERM	0	0	0	0	0	0	0	0	0	0
ACC. PRINCIPAL PAY. LONG-TERM	0	0	0	0	0	0	0	0	0	0
REG. PRINCIPAL PAY. INTR-TERM	0	0	0	0	0	0	0	0	0	0
ACC. PRINCIPAL PAY. INTR-TERM	0	0	0	0	0	0	0	0	0	0
PAY OPERATING LOAN CARRYOVER	0	0	0	0	0	0	0	0	0	0
FIXED INVESTMENT CONTRIBUTION	0	0	0	0	0	0	0	0	0	0
ADDITIONAL INVESTMENTS	0	0	0	0	0	0	0	0	0	0
CASH PAID TO PRTNSHIP/CORPS	0	0	0	0	0	0	0	0	0	0
PARTNERSHIP CASH WITHDRAWAL	0	0	0	0	0	0	0	0	0	0
FEDERAL INCOME TAX PAYMENTS	0	0	0	0	0	0	0	0	0	0
STATE INCOME TAX PAYMENTS	0	0	0	0	0	0	0	0	0	0
SELF-EMPLOYMENT+SOC SEC TAXES	0	0	0	0	0	0	0	0	0	0
TOTAL CASH OUTFLOWS	0	0	0	0	0	0	0	0	0	0
SURPLUS OR DEFICIT CASH	5,113	10,367	16,608	23,090	29,611	36,105	42,573	48,777	54,737	60,531
ENDING YEAR CASH RESERVE	5,113	10,367	16,608	23,090	29,611	36,105	42,573	48,777	54,737	60,531

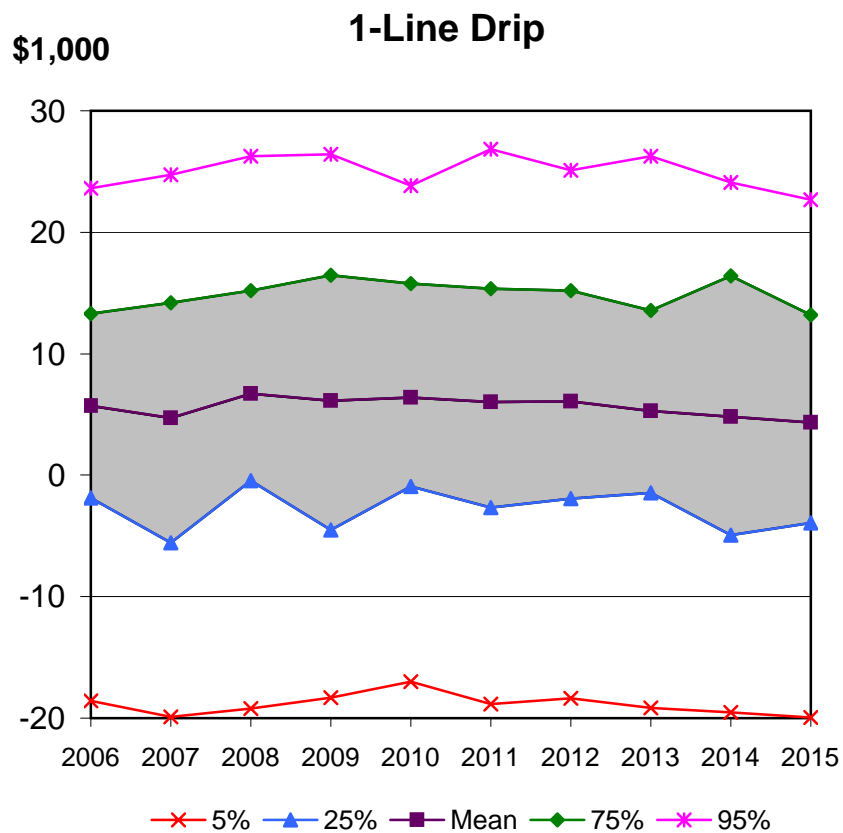
Table 1E-3. Yellow Onions, 1-Line Drip Irrigation Demonstration

1-Line Drip	
Total Cash Receipts (\$1000)	
2006	60.41
2007	59.38
2008	60.52
2009	59.75
2010	60.16
2011	59.96
2012	60.28
2013	59.93
2014	60.00
2015	60.04
2006-2015 Average	60.04
Total Cash Costs (\$1000)	
2006	54.69
2007	54.68
2008	53.80
2009	53.64
2010	53.75
2011	53.94
2012	54.21
2013	54.66
2014	55.18
2015	55.69
2006-2015 Average	54.42
Net Cash Farm Income (\$1000)	
2006	5.72
2007	4.71
2008	6.72
2009	6.11
2010	6.42
2011	6.02
2012	6.07
2013	5.28
2014	4.82
2015	4.35
2006-2015 Average	5.62
Prob. Net Cash Income < Zero (%)	
2006	31.00
2007	32.00
2008	28.00
2009	28.00
2010	26.00
2011	27.00
2012	28.00
2013	31.00
2014	32.00
2015	28.00
Prob. of Average Net Cash Farm Income < Zero, 2006-2015 (%)	29.10

Table 1E-3. Yellow Onions, 1-Line Drip Irrigation Demonstration

1-Line Drip	
Ending Cash Reserves (\$1000)	
2006	5.72
2007	10.49
2008	17.32
2009	23.61
2010	30.26
2011	36.59
2012	43.06
2013	48.82
2014	54.22
2015	59.26
2006-2015 Average	32.94
Prob. of Ending Cash Reserves < Zero (%)	
2006	31.00
2007	27.00
2008	24.00
2009	22.00
2010	21.00
2011	18.00
2012	18.00
2013	17.00
2014	15.00
2015	17.00
Prob. of Ending Cash Reserves < Zero 2006-2015 (%)	21.00
Average Annual Operating Expense/Receipts	
2006	0.91
2007	0.94
2008	0.91
2009	0.93
2010	0.92
2011	0.93
2012	0.93
2013	0.94
2014	0.96
2015	0.96
2006-2015 Average	0.93

Figure 1E-1. Projected Variability in Net Cash Farm Income for the Yellow Onions, 1-Line Drip Irrigation Demonstration.



Note: Percentages indicate the probability that Net Cash Farm Income is below the indicated level.
 The shaded area contains 50% of the projected outcomes.

Demonstration Site 28A: Valencia Oranges, Microjet Spray Irrigation

The basic costs of production assumptions for the Valencia orange microjet spray demonstration are given in Table 28A-1. For the purpose of presenting economic viability and outlook for the 8-acre site, production costs and overhead charges are producer estimated rates and may not reflect all producers but should be reasonable for the region. The first year of the financial projection is 2006. The assumptions and projections are intended to make the illustration relevant to a wide range of producers in the Lower Rio Grande Valley area.

The analysis consists of a 10-year financial outlook for the 8 acres of microjet spray irrigation Valencia orange production. The orchard trees were assumed to be 3 years old. The Valencia orange price is held constant at \$140/ton. Other commodity price trends and cost inflation estimates are provided by the Food and Agricultural Policy Research Institute (FAPRI, at the University of Missouri).

The analysis also includes the purchase and use of a microjet spray system at a cost of \$1,000 per acre. The microjet spray system expense is evenly distributed (\$100/acre/year) over the 10-year period with the assumption of no financing costs.

A detail of the income and expense projection for the microjet spray irrigation is provided in Table 28A-2-A, followed by a cash flow summary (Table 28A-2-B). These income and cash flow statements result from the simplistic (no risk) forecast assuming average prices and yields. A more comprehensive projection, including price and yield risk, is illustrated in Table 28A-3 and Figures 28A-1 and 28A-2. Table 28A-3 presents the average outcomes for selected financial projections,

while the graphical presentation illustrates the full range of possibilities for Net Cash Farm Income (NCFI).

Total cash receipts average \$15,480 over the 10-year period and cash costs average just under \$8,000. NCFI is negative in 2006-2008 reflecting lower levels of production from immature trees. It then increases from \$2,880 in 2009 to about \$16,000 in 2015 (Table 28A-3). The risk associated with prices and yields suggests a minimal chance of negative NCFI after 2011 when the trees reach maturity. In a normal production year and mature trees (2011-2015), NCFI could range as much as \$3,500 to \$34,000 for the site (Figure 28A-1). Cash reserves are expected to be negative in 2006-2009 and then grow throughout the remaining years of the projection period and reach \$78,060 by 2015 (Table 28A-3). The average cash flow balances (Table 28A-3) are intended to illustrate the cash requirements or flows generated using the microjet spray irrigation method in a maturing orchard. Figure 28A-2 depicts the growth in cash reserves, and the risk associated with the ending cash balance by reflecting the probability of carryover operating debt in the early years of the projection. The probability of carryover debt is 99% or greater during 2006-2008 and then declines to 1% or less in 2013 as the trees reach maturity and annual production increases.

Table 28A-1. Valencia Oranges, Microjet Spray Irrigation Demonstration
SUMMARY OF CROP ACREAGE, YIELD, AND VARIABLE COSTS IN 2006.

	Valencia YR4	Valencia YR5	Valencia YR6	Valencia Yr7	Valencia YR8
PLANTED ACRES	8	0	0	0	0
BASE ACRES	0	0	0	0	0
YIELD UNITS	ton	ton	ton	ton	ton
BUDGETING YIELD	0.5	3	5	10	15
FARM PROG YLD DIR	0	0	0	0	0
FARM PROG YLD CCP	0	0	0	0	0
PRICES/YIELD UNIT	140	140	140	140	140
VARIABLE PRODUCTION COSTS (\$/ACRE)					
SEED	0	0	0	0	0
FERTILIZER	25	35	45	55	85
HERBICIDES	50	63	75	88	100
INSECTICIDES	75	126	148	179	210
FUNGICIDES	0	0	40	40	40
CUSTOM APPLICATION	42.5	46	49	52	55
SCOUTING / OTHER	0	0	0	0	0
IRRIGATION FUEL	55	69	83	96	110
TILLAGE/HARVST FUEL	0	0	0	0	0
HARVESTING, HAULING, DRYING & CHECKOFF: \$/YIELD UNIT	0	0	0	0	0
HARVEST COST/ACRE	0	0	0	0	0
BOLL WEEVIL COST/ACRE	0	0	0	0	0
LABOR COST /ACRE	94	94	94	94	94
CROP INSURANCE					
YIELD ELECTION (FRACTION)	0.5	0.5	0.5	0.5	0.5
YIELD COVERAGE GUARANTEE	0	0	0	0	0
PRICE ELECTION (FRACTION)	1	1	1	1	1
PRICE GUARANTEE	150	0	0	0	0
PREMIUM RATE (\$/ACRE)	35	95	95	105	110
PREMIUM COSTS	280	0	0	0	0

Table 28A - 2 - A. Valencia Oranges, Microjet Spray Irrigation Demonstrator
INCOME STATEMENT FOR YEARS 2006 - 2015

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
CASH INCOME (NET OF SHARE LEASE)										
CASH RECEIPTS FOR CROPS	560	3,360	5,600	11,200	16,800	20,160	23,520	24,640	24,640	24,640
DECOUPLED DIRECT PAYMENTS	0	0	0	0	0	0	0	0	0	0
DECOUPLED CCPs	0	0	0	0	0	0	0	0	0	0
MARKETING LOAN PAYMENTS	0	0	0	0	0	0	0	0	0	0
MPCI CROP INSURANCE INDEMNITY	0	0	0	0	0	0	0	0	0	0
TOTAL CASH RECEIPTS	560	3,360	5,600	11,200	16,800	20,160	23,520	24,640	24,640	24,640
CASH FARM EXPENSE (NET OF SHARE LEASE)										
CROP PROD & HARVEST COSTS										
SEED COSTS	0	0	0	0	0	0	0	0	0	0
FERTILIZER COSTS	200	282	358	433	678	684	688	700	710	718
HERBICIDE COSTS	400	502	591	700	803	811	819	830	838	844
INSECTICIDE COSTS	600	994	1,139	1,397	1,667	1,694	1,720	1,745	1,761	1,770
FUNGICIDE COSTS	0	0	324	329	333	337	341	345	349	352
CUSTOM APPLICATION	340	363	364	374	385	376	372	377	383	389
SCOUTING & OTHER	0	0	0	0	0	0	0	0	0	0
IRRIGATION FUEL COSTS	440	544	617	690	769	753	745	754	766	777
FUEL & LUBE COSTS	0	0	0	0	0	0	0	0	0	0
HARVESTING COSTS	0	0	0	0	0	0	0	0	0	0
CROP INSURANCE PREMIUMS	280	760	760	840	880	880	880	880	880	880
BOLL WEEVIL COSTS	0	0	0	0	0	0	0	0	0	0
HIRED LABOR COSTS	752	775	800	822	842	864	886	907	929	950
SUB-TOTAL OF PROD COSTS	3,012	4,220	4,953	5,585	6,357	6,400	6,452	6,537	6,616	6,680
CASH RENT FOR CROPLAND	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200
RENT PASTURE	0	0	0	0	0	0	0	0	0	0
MANAGEMENT COSTS	0	0	0	0	0	0	0	0	0	0
MANAGEMENT BONUS	0	0	0	0	0	0	0	0	0	0
ADDITIONAL MGMT. COSTS	0	0	0	0	0	0	0	0	0	0
HIRED LABOR COSTS	0	0	0	0	0	0	0	0	0	0
PROPERTY TAXES	0	0	0	0	0	0	0	0	0	0
PERSONAL PROPERTY TAXES	0	0	0	0	0	0	0	0	0	0
SALES TAXES FOR INPUTS	0	0	0	0	0	0	0	0	0	0
OTHER TAXES	0	0	0	0	0	0	0	0	0	0
ACCOUNTANT & LEGAL FEES	0	0	0	0	0	0	0	0	0	0
UNALLOCATED MAINTENANCE	0	0	0	0	0	0	0	0	0	0
UTILITIES	0	0	0	0	0	0	0	0	0	0
OTHER FUEL & LUBE	0	0	0	0	0	0	0	0	0	0
LIABILITY INSURANCE	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS COSTS	0	0	0	0	0	0	0	0	0	0
Microjet Sys	800	800	800	800	800	800	800	800	800	800
LESS EXPENSES PREVIOUSLY PAID	0	0	0	0	0	0	0	0	0	0
PLUS PREPAID EXPENSES	0	0	0	0	0	0	0	0	0	0
SUB-TOTAL OF CASH COSTS	5,012	6,220	6,953	7,585	8,357	8,400	8,452	8,537	8,616	8,680
INTEREST ON LONG-TERM DEBT	0	0	0	0	0	0	0	0	0	0
INTEREST ON INTERMED. DEBT	0	0	0	0	0	0	0	0	0	0
INTEREST ON OPERATING DEBT	0	0	0	0	0	0	0	0	0	0
INTEREST ON CARRYOVER DEBT	0	343	580	737	516	0	0	0	0	0
TOTAL CASH EXPENSES	5,012	6,563	7,533	8,322	8,873	8,400	8,452	8,537	8,616	8,680
NET CASH FARM INCOME	-4,452	-3,203	-1,933	2,878	7,927	11,760	15,068	16,103	16,024	15,960
ACCRUAL ADJUSTMENTS AND DEPRECIATION										
+/- CHANGE IN CROP INVENTORY	0	0	0	0	0	0	0	0	0	0
+/- CHANGE IN DEFERRED RECVBLS	0	0	0	0	0	0	0	0	0	0
+/- CHANGE IN LVSTK INVENTORY	0	0	0	0	0	0	0	0	0	0
+/- CHANGE IN PREPAID EXPENSES	0	0	0	0	0	0	0	0	0	0
+/- CHNG BASE VALU RAISED LVST	0	0	0	0	0	0	0	0	0	0
- BASIS BREEDING LVSTK SOLD	0	0	0	0	0	0	0	0	0	0
+ PURCHASED BREEDING LVSTK	0	0	0	0	0	0	0	0	0	0
- DEPRECIATION	0	0	0	0	0	0	0	0	0	-1
NET FARM INCOME	-4,452	-3,203	-1,933	2,878	7,927	11,760	15,068	16,103	16,024	15,960
SUMMARY OF RECEIPTS & COSTS PER CROP ACRE										
CASH RECEIPTS (\$/ACRE)	70	420	700	1,400	2,100	2,520	2,940	3,080	3,080	3,080
CASH EXPENSES (\$/ACRE)	626	820	942	1,040	1,109	1,050	1,056	1,067	1,077	1,085
NET CASH INCOME (\$/ACRE)	-557	-400	-242	360	991	1,470	1,884	2,013	2,003	1,995

Table 28A - 2 - B. Valencia Oranges, Microjet Spray Irrigation Demonstration
CASHFLOW STATEMENT FOR YEARS 2006 - 2015

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
BEGINNING CASH	0	0	0	0	0	1,217	12,996	28,270	44,831	61,600
PLUS:										
NET CASH FARM INCOME	-4,452	-3,203	-1,933	2,878	7,927	11,760	15,068	16,103	16,024	15,960
OFF-FARM SALARY FARMER	0	0	0	0	0	0	0	0	0	0
OFF-FARM SALARY SPOUSE	0	0	0	0	0	0	0	0	0	0
NON-TAXABLE INCOME	0	0	0	0	0	0	0	0	0	0
INTEREST ON CASH RESERVES	0	0	0	0	0	19	205	458	744	1,047
INVESTMENT EARNINGS/DIVIDENDS	0	0	0	0	0	0	0	0	0	0
NEW CAPITAL INVESTED IN FARM	0	0	0	0	0	0	0	0	0	0
CORPORATE DIVIDENDS EARNED	0	0	0	0	0	0	0	0	0	0
PARTNERSHIP CASH DRAWS	0	0	0	0	0	0	0	0	0	0
CASH INVESTED FROM OWNERS	0	0	0	0	0	0	0	0	0	0
SELL MACH./LIVESTOCK/CROPS	0	0	0	0	0	0	0	0	0	0
PROCEEDS FROM ASSETS SOLD	0	0	0	0	0	0	0	0	0	0
TOTAL CASH AVAILABLE	-4,452	-3,203	-1,933	2,878	7,927	12,996	28,270	44,831	61,600	78,607
MINUS:										
DOWN PYMT NON-MACH PURCHASE	0	0	0	0	0	0	0	0	0	0
CASH DIFFERENCE MACH REPLACED	0	0	0	0	0	0	0	0	0	0
PAYOFF MACHINERY BOUGHT	0	0	0	0	0	0	0	0	0	0
REG. PRINCIPAL PAY. LONG-TERM	0	0	0	0	0	0	0	0	0	0
ACC. PRINCIPAL PAY. LONG-TERM	0	0	0	0	0	0	0	0	0	0
REG. PRINCIPAL PAY. INTR-TERM	0	0	0	0	0	0	0	0	0	0
ACC. PRINCIPAL PAY. INTR-TERM	0	0	0	0	0	0	0	0	0	0
PAY OPERATING LOAN CARRYOVER	0	4,452	7,655	9,588	6,710	0	0	0	0	0
FIXED INVESTMENT CONTRIBUTION	0	0	0	0	0	0	0	0	0	0
ADDITIONAL INVESTMENTS	0	0	0	0	0	0	0	0	0	0
CASH PAID TO PRTNSHIP/CORPS	0	0	0	0	0	0	0	0	0	0
PARTNERSHIP CASH WITHDRAWAL	0	0	0	0	0	0	0	0	0	0
FEDERAL INCOME TAX PAYMENTS	0	0	0	0	0	0	0	0	0	0
STATE INCOME TAX PAYMENTS	0	0	0	0	0	0	0	0	0	0
SELF-EMPLOYMENT+SOC SEC TAXES	0	0	0	0	0	0	0	0	0	0
TOTAL CASH OUTFLOWS	0	4,452	7,655	9,588	6,710	0	0	0	0	0
SURPLUS OR DEFICIT CASH	-4,452	-7,655	-9,588	-6,710	1,217	12,996	28,270	44,831	61,600	78,607
ENDING YEAR CASH RESERVE	0	0	0	0	1,217	12,996	28,270	44,831	61,600	78,607

Table 28A-3. Valencia Oranges, Microjet Spray Irrigation Demonstration

Microjet Spray	
<hr/>	
Total Cash Receipts (\$1000)	
2006	0.56
2007	3.34
2008	5.60
2009	11.20
2010	16.79
2011	20.05
2012	23.31
2013	24.56
2014	24.74
2015	24.67
2006-2015 Average	15.48
Total Cash Costs (\$1000)	
2006	5.01
2007	6.56
2008	7.53
2009	8.32
2010	8.90
2011	8.61
2012	8.48
2013	8.54
2014	8.62
2015	8.68
2006-2015 Average	7.93
Net Cash Farm Income (\$1000)	
2006	-4.45
2007	-3.22
2008	-1.93
2009	2.88
2010	7.90
2011	11.44
2012	14.83
2013	16.02
2014	16.13
2015	15.99
2006-2015 Average	7.56
Prob. Net Cash Income < Zero (%)	
2006	99.00
2007	98.00
2008	84.00
2009	30.00
2010	1.00
2011	1.00
2012	1.00
2013	1.00
2014	1.00
2015	1.00
Prob. of Average Net Cash Farm Income < Zero, 2006-2015 (%)	31.20

Table 28A-3. Valencia Oranges, Microjet Spray Irrigation Demonstration

Microjet Spray

Ending Cash Reserves (\$1000)

2006	-4.45
2007	-7.68
2008	-9.61
2009	-6.73
2010	1.17
2011	12.67
2012	27.71
2013	44.17
2014	61.03
2015	78.06

2006-2015 Average 19.63

Prob. of Ending Cash Reserves < Zero (%)

2006	99.00
2007	99.00
2008	99.00
2009	91.00
2010	48.00
2011	10.00
2012	2.00
2013	1.00
2014	1.00
2015	1.00

Prob. of Ending Cash Reserves < Zero

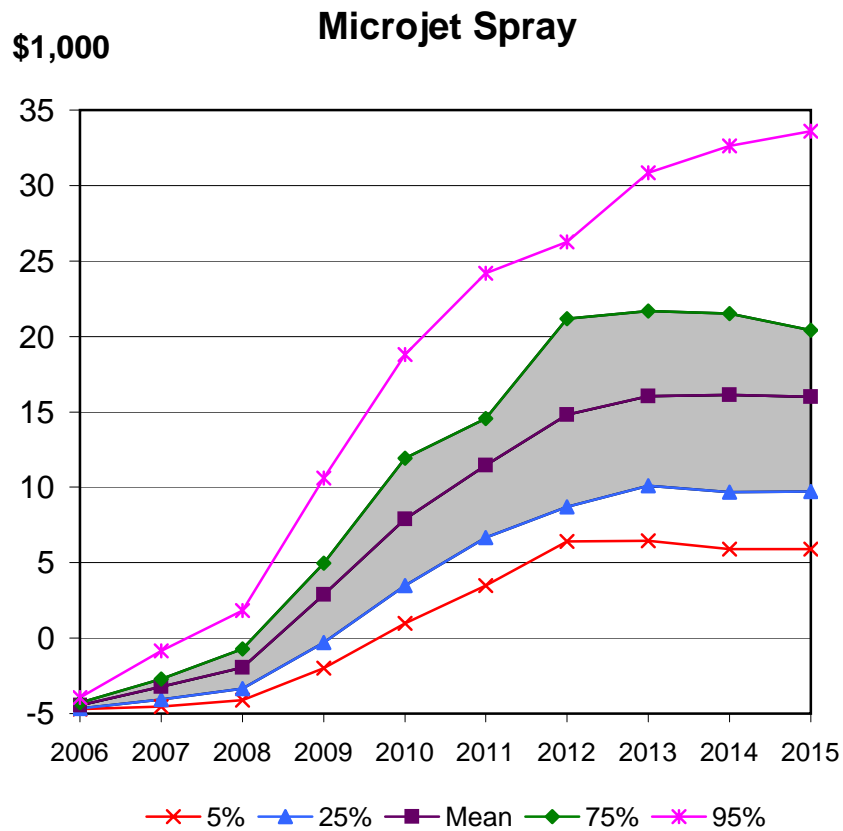
2006-2015 (%) 45.10

Average Annual Operating Expense/Receipts

2006	10.29
2007	2.05
2008	1.37
2009	0.76
2010	0.55
2011	0.46
2012	0.39
2013	0.38
2014	0.39
2015	0.39

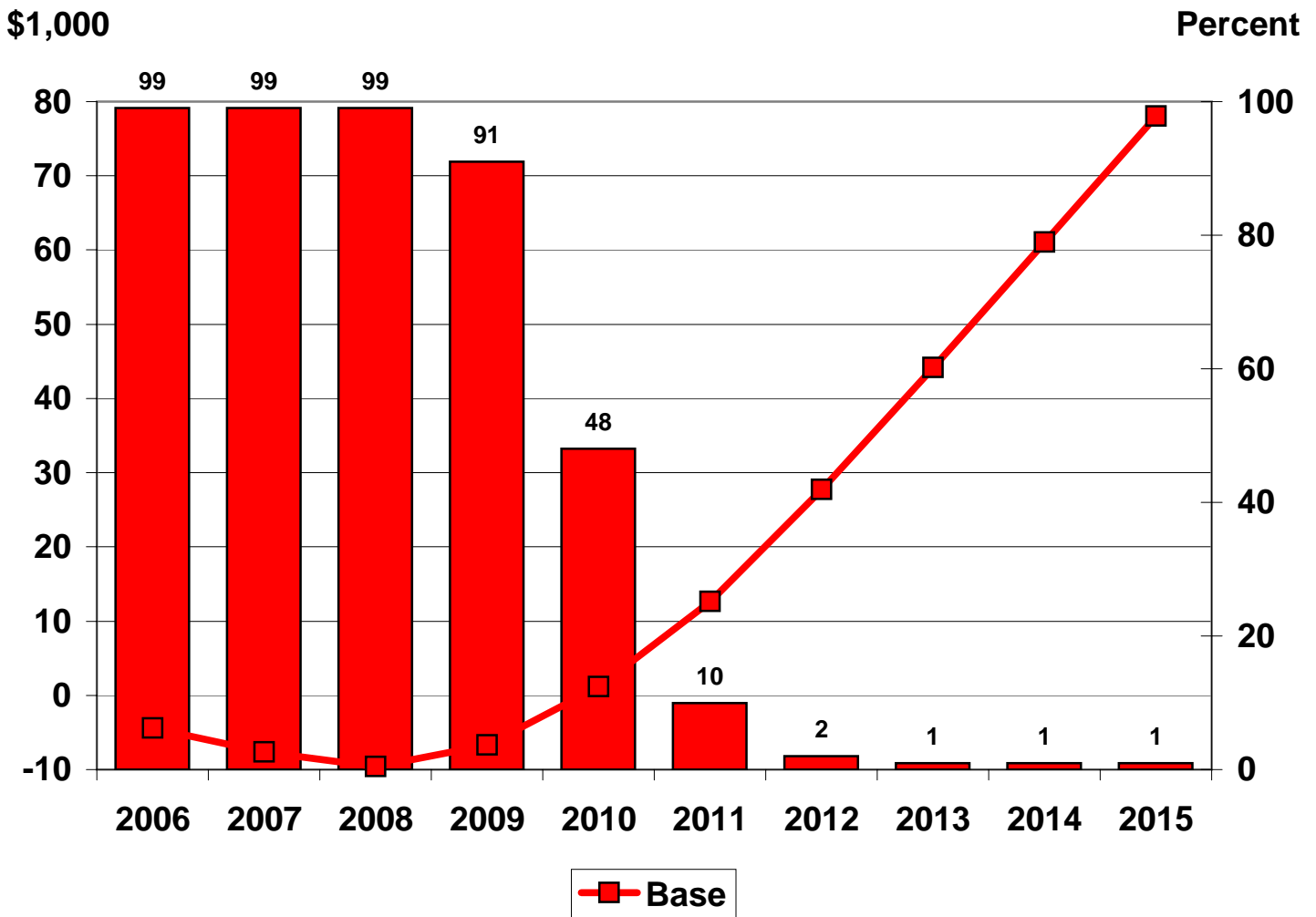
2006-2015 Average 1.70

Figure 28A-1. Projected Variability in Net Cash Farm Income for Valencia Oranges, Microjet Spray Irrigation Demonstration.



Note: Percentages indicate the probability that Net Cash Farm Income is below the indicated level.
 The shaded area contains 50% of the projected outcomes.

Figure 28A-2. Ending Cash Reserves and Probability of Having to Refinance Operating Note for Valencia Oranges, Microjet Spray Irrigation Demonstration.



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Demonstration Site 28C: Rio Red Grapefruit, Microjet Spray Irrigation

The basic costs of production assumptions for the Rio Red grapefruit demonstration are given in Table 28C-1. For the purpose of presenting economic viability and outlook for the 8-acre site, production costs and overhead charges are producer estimated rates and may not reflect all producers but should be reasonable for the region. The first year of the financial projection is 2006. The assumptions and projections are intended to make the illustration relevant to a wide range of producers in the Lower Rio Grande Valley area.

The analysis consists of a 10-year financial outlook for the 8 acres of microjet spray irrigation Rio Red grapefruit production. The orchard was assumed to have mature trees. The Rio Red grapefruit price is held constant at \$150/ton. Other commodity price trends and cost inflation estimates are provided by the Food and Agricultural Policy Research Institute (FAPRI, at the University of Missouri).

The analysis also includes the purchase and use of a microjet spray system at a cost of \$1,000 per acre. The microjet spray system expense is evenly distributed (\$100/acre/year) over the 10-year period with the assumption of no financing costs.

A detail of the income and expense projection for the microjet spray irrigation is provided in Table 28C-2-A, followed by a cash flow summary (Table 28C-2-B). These income and cash flow statements result from the simplistic (no risk) forecast assuming average prices and yields. A more comprehensive projection, including price and yield risk, is illustrated in Table 28C-3 and Figure

28C-1. Table 28C-3 presents the average outcomes for selected financial projections, while the graphical presentation illustrates the full range of possibilities for Net Cash Farm Income (NCFI).

Total cash receipts average \$26,370 over the 10-year period and cash costs average \$9,380. NCFI averages \$17,000 due largely to the price being held at a constant \$150/ton (Table 28C-3). The risk associated with prices and yields suggests a minimal chance of negative NCFI. In a normal production year, NCFI could range as much as \$6,000 to \$35,000 for the site (Figure 28C-1). Cash reserves are expected to grow throughout the 10-year projection period and reach \$182,860 by 2015 (Table 28C-3). The average cash flow balances (Table 28C-3) are intended to illustrate the cash requirements or flows generated using the microjet spray irrigation method.

Table 28C-1. Rio Red Grapefruit, Microjet Spray Irrigation Demonstration
SUMMARY OF CROP ACREAGE, YIELD, AND VARIABLE COSTS IN 2006.

	Rio Red Grapefruit
PLANTED ACRES	8
BASE ACRES	0
YIELD UNITS	ton
BUDGETING YIELD	22
FARM PROG YLD DIR	0
FARM PROG YLD CCP	0
PRICES/YIELD UNIT	150
VARIABLE PRODUCTION COSTS (\$/ACRE)	
SEED	0
FERTILIZER	85
HERBICIDES	100
INSECTICIDES	310
FUNGICIDES	40
CUSTOM APPLICATION	90
SCOUTING / OTHER	0
IRRIGATION FUEL	110
TILLAGE/HARVST FUEL	0
HARVESTING, HAULING, DRYING & CHECKOFF: \$/YIELD UNIT	0
HARVEST COST/ACRE	0
BOLL WEEVIL COST/ACRE	0
LABOR COST /ACRE	79
CROP INSURANCE	
YIELD ELECTION (FRACTION)	0.5
YIELD COVERAGE GUARANTEE	0
PRICE ELECTION (FRACTION)	1
PRICE GUARANTEE	150
PREMIUM RATE (\$/ACRE)	110
PREMIUM COSTS	880

Table 28C - 2 - A. Rio Red Grapefruit, Microjet Spray Irrigation Demonstrator
INCOME STATEMENT FOR YEARS 2006 - 2015

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
CASH INCOME (NET OF SHARE LEASE)										
CASH RECEIPTS FOR CROPS	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400
DECOUPLED DIRECT PAYMENTS	0	0	0	0	0	0	0	0	0	0
DECOUPLED CCPs	0	0	0	0	0	0	0	0	0	0
MARKETING LOAN PAYMENTS	0	0	0	0	0	0	0	0	0	0
MPCI CROP INSURANCE INDEMNITY	0	0	0	0	0	0	0	0	0	0
TOTAL CASH RECEIPTS	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400
CASH FARM EXPENSE (NET OF SHARE LEASE)										
CROP PROD & HARVEST COSTS										
SEED COSTS	0	0	0	0	0	0	0	0	0	0
FERTILIZER COSTS	680	684	676	669	678	684	688	700	710	718
HERBICIDE COSTS	800	798	788	795	803	811	819	830	838	844
INSECTICIDE COSTS	2,480	2,445	2,385	2,419	2,461	2,501	2,539	2,576	2,600	2,614
FUNGICIDE COSTS	320	324	324	329	333	337	341	345	349	352
CUSTOM APPLICATION	720	710	669	647	629	616	609	617	626	636
SCOUTING & OTHER	0	0	0	0	0	0	0	0	0	0
IRRIGATION FUEL COSTS	880	868	818	791	769	753	745	754	766	777
FUEL & LUBE COSTS	0	0	0	0	0	0	0	0	0	0
HARVESTING COSTS	0	0	0	0	0	0	0	0	0	0
CROP INSURANCE PREMIUMS	880	880	880	880	880	880	880	880	880	880
BOLL WEEVIL COSTS	0	0	0	0	0	0	0	0	0	0
HIRED LABOR COSTS	632	651	672	691	708	726	745	762	781	799
SUB-TOTAL OF PROD COSTS	7,392	7,360	7,213	7,221	7,262	7,308	7,366	7,462	7,550	7,619
CASH RENT FOR CROPLAND	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200
RENT PASTURE	0	0	0	0	0	0	0	0	0	0
MANAGEMENT COSTS	0	0	0	0	0	0	0	0	0	0
MANAGEMENT BONUS	0	0	0	0	0	0	0	0	0	0
ADDITIONAL MGMT. COSTS	0	0	0	0	0	0	0	0	0	0
HIRED LABOR COSTS	0	0	0	0	0	0	0	0	0	0
PROPERTY TAXES	0	0	0	0	0	0	0	0	0	0
PERSONAL PROPERTY TAXES	0	0	0	0	0	0	0	0	0	0
SALES TAXES FOR INPUTS	0	0	0	0	0	0	0	0	0	0
OTHER TAXES	0	0	0	0	0	0	0	0	0	0
ACCOUNTANT & LEGAL FEES	0	0	0	0	0	0	0	0	0	0
UNALLOCATED MAINTENANCE	0	0	0	0	0	0	0	0	0	0
UTILITIES	0	0	0	0	0	0	0	0	0	0
OTHER FUEL & LUBE	0	0	0	0	0	0	0	0	0	0
LIABILITY INSURANCE	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS COSTS	0	0	0	0	0	0	0	0	0	0
Microjet Sys	800	800	800	800	800	800	800	800	800	800
LESS EXPENSES PREVIOUSLY PAID	0	0	0	0	0	0	0	0	0	0
PLUS PREPAID EXPENSES	0	0	0	0	0	0	0	0	0	0
SUB-TOTAL OF CASH COSTS	9,392	9,360	9,213	9,221	9,262	9,308	9,366	9,462	9,550	9,619
INTEREST ON LONG-TERM DEBT	0	0	0	0	0	0	0	0	0	0
INTEREST ON INTERMED. DEBT	0	0	0	0	0	0	0	0	0	0
INTEREST ON OPERATING DEBT	0	0	0	0	0	0	0	0	0	0
INTEREST ON CARRYOVER DEBT	0	0	0	0	0	0	0	0	0	0
TOTAL CASH EXPENSES	9,392	9,360	9,213	9,221	9,262	9,308	9,366	9,462	9,550	9,619
NET CASH FARM INCOME	17,008	17,040	17,187	17,179	17,138	17,092	17,034	16,938	16,850	16,781
ACCRUAL ADJUSTMENTS AND DEPRECIATION										
+/- CHANGE IN CROP INVENTORY	0	0	0	0	0	0	0	0	0	0
+/- CHANGE IN DEFERRED RECVBLS	0	0	0	0	0	0	0	0	0	0
+/- CHANGE IN LVSTK INVENTORY	0	0	0	0	0	0	0	0	0	0
+/- CHANGE IN PREPAID EXPENSES	0	0	0	0	0	0	0	0	0	0
+/- CHNG BASE VALU RAISED LVST	0	0	0	0	0	0	0	0	0	0
- BASIS BREEDING LVSTK SOLD	0	0	0	0	0	0	0	0	0	0
+ PURCHASED BREEDING LVSTK	0	0	0	0	0	0	0	0	0	0
- DEPRECIATION	0	0	0	0	0	0	0	0	0	-1
NET FARM INCOME	17,008	17,040	17,187	17,179	17,138	17,092	17,034	16,938	16,850	16,781
SUMMARY OF RECEIPTS & COSTS PER CROP ACRE										
CASH RECEIPTS (\$/ACRE)	3,300	3,300	3,300	3,300	3,300	3,300	3,300	3,300	3,300	3,300
CASH EXPENSES (\$/ACRE)	1,174	1,170	1,152	1,153	1,158	1,164	1,171	1,183	1,194	1,202
NET CASH INCOME (\$/ACRE)	2,126	2,130	2,148	2,147	2,142	2,136	2,129	2,117	2,106	2,098

Table 28C - 2 - B. Rio Red Grapefruit, Microjet Spray Irrigation Demonstration
CASHFLOW STATEMENT FOR YEARS 2006 - 2015

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
BEGINNING CASH	0	17,008	34,308	52,007	69,982	88,191	106,650	125,368	144,337	163,583
PLUS:										
NET CASH FARM INCOME	17,008	17,040	17,187	17,179	17,138	17,092	17,034	16,938	16,850	16,781
OFF-FARM SALARY FARMER	0	0	0	0	0	0	0	0	0	0
OFF-FARM SALARY SPOUSE	0	0	0	0	0	0	0	0	0	0
NON-TAXABLE INCOME	0	0	0	0	0	0	0	0	0	0
INTEREST ON CASH RESERVES	0	260	511	796	1,071	1,367	1,685	2,031	2,396	2,781
INVESTMENT EARNINGS/DIVIDENDS	0	0	0	0	0	0	0	0	0	0
NEW CAPITAL INVESTED IN FARM	0	0	0	0	0	0	0	0	0	0
CORPORATE DIVIDENDS EARNED	0	0	0	0	0	0	0	0	0	0
PARTNERSHIP CASH DRAWS	0	0	0	0	0	0	0	0	0	0
CASH INVESTED FROM OWNERS	0	0	0	0	0	0	0	0	0	0
SELL MACH./LIVESTOCK/CROPS	0	0	0	0	0	0	0	0	0	0
PROCEEDS FROM ASSETS SOLD	0	0	0	0	0	0	0	0	0	0
TOTAL CASH AVAILABLE	17,008	34,308	52,007	69,982	88,191	106,650	125,368	144,337	163,583	183,145
MINUS:										
DOWN PYMT NON-MACH PURCHASE	0	0	0	0	0	0	0	0	0	0
CASH DIFFERENCE MACH REPLACED	0	0	0	0	0	0	0	0	0	0
PAYOFF MACHINERY BOUGHT	0	0	0	0	0	0	0	0	0	0
REG. PRINCIPAL PAY. LONG-TERM	0	0	0	0	0	0	0	0	0	0
ACC. PRINCIPAL PAY. LONG-TERM	0	0	0	0	0	0	0	0	0	0
REG. PRINCIPAL PAY. INTR-TERM	0	0	0	0	0	0	0	0	0	0
ACC. PRINCIPAL PAY. INTR-TERM	0	0	0	0	0	0	0	0	0	0
PAY OPERATING LOAN CARRYOVER	0	0	0	0	0	0	0	0	0	0
FIXED INVESTMENT CONTRIBUTION	0	0	0	0	0	0	0	0	0	0
ADDITIONAL INVESTMENTS	0	0	0	0	0	0	0	0	0	0
CASH PAID TO PRTNSHIP/CORPS	0	0	0	0	0	0	0	0	0	0
PARTNERSHIP CASH WITHDRAWAL	0	0	0	0	0	0	0	0	0	0
FEDERAL INCOME TAX PAYMENTS	0	0	0	0	0	0	0	0	0	0
STATE INCOME TAX PAYMENTS	0	0	0	0	0	0	0	0	0	0
SELF-EMPLOYMENT+SOC SEC TAXES	0	0	0	0	0	0	0	0	0	0
TOTAL CASH OUTFLOWS	0	0	0	0	0	0	0	0	0	0
SURPLUS OR DEFICIT CASH	17,008	34,308	52,007	69,982	88,191	106,650	125,368	144,337	163,583	183,145
ENDING YEAR CASH RESERVE	17,008	34,308	52,007	69,982	88,191	106,650	125,368	144,337	163,583	183,145

Table 28C-3. Rio Red Grapefruit, Microjet Spray Irrigation Demonstration

Microjet Spray	
Total Cash Receipts (\$1000)	
2006	26.43
2007	26.31
2008	26.41
2009	26.39
2010	26.40
2011	26.30
2012	26.26
2013	26.34
2014	26.47
2015	26.42
2006-2015 Average	26.37
Total Cash Costs (\$1000)	
2006	9.39
2007	9.36
2008	9.21
2009	9.22
2010	9.26
2011	9.31
2012	9.37
2013	9.46
2014	9.55
2015	9.62
2006-2015 Average	9.38
Net Cash Farm Income (\$1000)	
2006	17.04
2007	16.95
2008	17.20
2009	17.17
2010	17.13
2011	16.99
2012	16.89
2013	16.88
2014	16.92
2015	16.80
2006-2015 Average	17.00
Prob. Net Cash Income < Zero (%)	
2006	1.00
2007	1.00
2008	1.00
2009	1.00
2010	1.00
2011	1.00
2012	1.00
2013	1.00
2014	1.00
2015	1.00
Prob. of Average Net Cash Farm Income < Zero, 2006-2015 (%)	1.00

Table 28C-3. Rio Red Grapefruit, Microjet Spray Irrigation Demonstration

Microjet Spray

Ending Cash Reserves (\$1000)

2006	17.04
2007	34.25
2008	51.96
2009	69.92
2010	88.12
2011	106.48
2012	125.05
2013	143.96
2014	163.28
2015	182.86

2006-2015 Average 98.29

Prob. of Ending Cash Reserves < Zero (%)

2006	1.00
2007	1.00
2008	1.00
2009	1.00
2010	1.00
2011	1.00
2012	1.00
2013	1.00
2014	1.00
2015	1.00

Prob. of Ending Cash Reserves < Zero

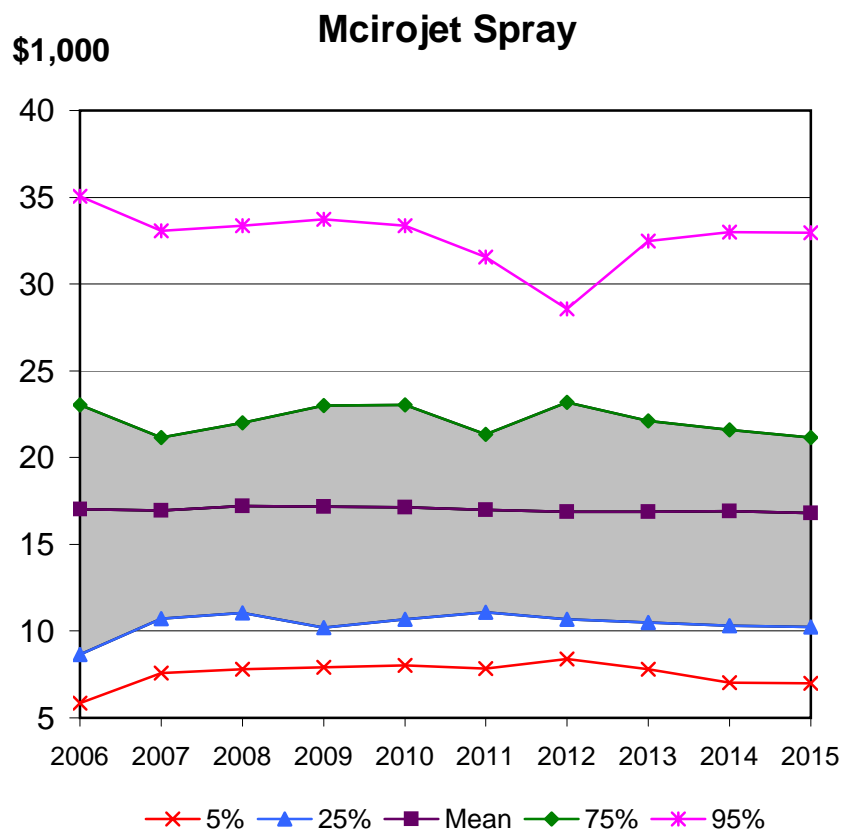
2006-2015 (%) 1.00

Average Annual Operating Expense/Receipts

2006	0.40
2007	0.38
2008	0.38
2009	0.38
2010	0.38
2011	0.38
2012	0.38
2013	0.39
2014	0.39
2015	0.40

2006-2015 Average 0.39

Figure 28C-1. Projected Variability in Net Cash Farm Income for Rio Red Grapefruit, Microjet Spray Irrigation Demonstration.



Note: Percentages indicate the probability that Net Cash Farm Income is below the indicated level. The shaded area contains 50% of the projected outcomes.

Demonstration Site 28D: Early Oranges (Marrs & Navel), 2-Line Drip Irrigation

The basic costs of production assumptions for the early orange (Marrs & Navel) 2-line drip demonstration are given in Table 28D-1. For the purpose of presenting economic viability and outlook for the 7-acre site (3.5 acres of Marrs & 3.5 acres Navel), production costs and overhead charges are producer estimated rates and may not reflect all producers but should be reasonable for the region. The first year of the financial projection is 2006. The assumptions and projections are intended to make the illustration relevant to a wide range of producers in the Lower Rio Grande Valley area.

The analysis consists of a 10-year financial outlook for the 7 acres of 2-line drip irrigation early orange production. The orchard was assumed to have mature trees. The early orange price is held constant at \$115/ton. Other commodity price trends and cost inflation estimates are provided by the Food and Agricultural Policy Research Institute (FAPRI, at the University of Missouri).

The analysis also includes the purchase and use of a 2-line drip system at a cost of \$1,000 per acre. The 2-line drip system expense is evenly distributed (\$100/acre/year) over the 10-year period with the assumption of no financing costs.

A detail of the income and expense projection for the 2-line drip irrigation is provided in Table 28D-2-A, followed by a cash flow summary (Table 28D-2-B). These income and cash flow statements result from the simplistic (no risk) forecast assuming average prices and yields. A more comprehensive projection, including price and yield risk, is illustrated in Table 28D-3 and Figure

28D-1. Table 28D-3 presents the average outcomes for selected financial projections, while the graphical presentation illustrates the full range of possibilities for Net Cash Farm Income (NCFI).

Total cash receipts average \$12,850 over the 10-year period and cash costs average \$6,460. NCFI averages \$6,390 due largely to the price being held at a constant \$115/ton (Table 28D-3). The risk associated with prices and yields suggests a small chance of negative NCFI. In a normal production year, NCFI could range as much as -\$1,000 to \$18,000 for the site (Figure 28D-1). Cash reserves are expected to grow throughout the 10-year projection period and reach \$68,770 by 2015 (Table 28D-3). The average cash flow balances (Table 28D-3) are intended to illustrate the cash requirements or flows generated using the 2-line drip irrigation method.

Table 28D-1. Early Season Oranges (Marrs & Navel), 2-Line Drip Irrigation Demonstration
SUMMARY OF CROP ACREAGE, YIELD, AND VARIABLE COSTS IN 2006.

	Early Orange
PLANTED ACRES	7
BASE ACRES	0
YIELD UNITS	ton
BUDGETING YIELD	16
FARM PROG YLD DIR	0
FARM PROG YLD CCP	0
PRICES/YIELD UNIT	115
VARIABLE PRODUCTION COSTS (\$/ACRE)	
SEED	0
FERTILIZER	85
HERBICIDES	100
INSECTICIDES	210
FUNGICIDES	40
CUSTOM APPLICATION	25
SCOUTING / OTHER	0
IRRIGATION FUEL	110
TILLAGE/HARVST FUEL	0
HARVESTING, HAULING, DRYING & CHECKOFF: \$/YIELD UNIT	0
HARVEST COST/ACRE	0
BOLL WEEVIL COST/ACRE	0
LABOR COST /ACRE	0
CROP INSURANCE	
YIELD ELECTION (FRACTION)	0.5
YIELD COVERAGE GUARANTEE	0
PRICE ELECTION (FRACTION)	1
PRICE GUARANTEE	150
PREMIUM RATE (\$/ACRE)	110
PREMIUM COSTS	770

Table 28D - 2 - A. Early Oranges (Marrs & Navel), 2-Line Drip Irrigation Demonstration
INCOME STATEMENT FOR YEARS 2006 - 2015

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
CASH INCOME (NET OF SHARE LEASE)										
CASH RECEIPTS FOR CROPS	12,880	12,880	12,880	12,880	12,880	12,880	12,880	12,880	12,880	12,880
DECOUPLED DIRECT PAYMENTS	0	0	0	0	0	0	0	0	0	0
DECOUPLED CCPs	0	0	0	0	0	0	0	0	0	0
MARKETING LOAN PAYMENTS	0	0	0	0	0	0	0	0	0	0
MPCI CROP INSURANCE INDEMNITY	0	0	0	0	0	0	0	0	0	0
TOTAL CASH RECEIPTS	12,880	12,880	12,880	12,880	12,880	12,880	12,880	12,880	12,880	12,880
CASH FARM EXPENSE (NET OF SHARE LEASE)										
CROP PROD & HARVEST COSTS										
SEED COSTS	0	0	0	0	0	0	0	0	0	0
FERTILIZER COSTS	595	598	592	585	593	598	602	612	621	628
HERBICIDE COSTS	700	698	690	696	702	710	717	726	733	739
INSECTICIDE COSTS	1,470	1,449	1,414	1,434	1,459	1,483	1,505	1,527	1,541	1,549
FUNGICIDE COSTS	280	284	284	288	292	295	298	302	305	308
CUSTOM APPLICATION	175	173	163	157	153	150	148	150	152	155
SCOUTING & OTHER	0	0	0	0	0	0	0	0	0	0
IRRIGATION FUEL COSTS	770	759	715	692	673	659	652	659	670	680
FUEL & LUBE COSTS	0	0	0	0	0	0	0	0	0	0
HARVESTING COSTS	0	0	0	0	0	0	0	0	0	0
CROP INSURANCE PREMIUMS	770	770	770	770	770	770	770	770	770	770
BOLL WEEVIL COSTS	0	0	0	0	0	0	0	0	0	0
HIRED LABOR COSTS	0	0	0	0	0	0	0	0	0	0
SUB-TOTAL OF PROD COSTS	4,760	4,731	4,627	4,622	4,642	4,664	4,692	4,746	4,793	4,828
CASH RENT FOR CROPLAND	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050
RENT PASTURE	0	0	0	0	0	0	0	0	0	0
MANAGEMENT COSTS	0	0	0	0	0	0	0	0	0	0
MANAGEMENT BONUS	0	0	0	0	0	0	0	0	0	0
ADDITIONAL MGMT. COSTS	0	0	0	0	0	0	0	0	0	0
HIRED LABOR COSTS	0	0	0	0	0	0	0	0	0	0
PROPERTY TAXES	0	0	0	0	0	0	0	0	0	0
PERSONAL PROPERTY TAXES	0	0	0	0	0	0	0	0	0	0
SALES TAXES FOR INPUTS	0	0	0	0	0	0	0	0	0	0
OTHER TAXES	0	0	0	0	0	0	0	0	0	0
ACCOUNTANT & LEGAL FEES	0	0	0	0	0	0	0	0	0	0
UNALLOCATED MAINTENANCE	0	0	0	0	0	0	0	0	0	0
UTILITIES	0	0	0	0	0	0	0	0	0	0
OTHER FUEL & LUBE	0	0	0	0	0	0	0	0	0	0
LIABILITY INSURANCE	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS COSTS	0	0	0	0	0	0	0	0	0	0
Drip 2 lines	700	700	700	700	700	700	700	700	700	700
LESS EXPENSES PREVIOUSLY PAID	0	0	0	0	0	0	0	0	0	0
PLUS PREPAID EXPENSES	0	0	0	0	0	0	0	0	0	0
SUB-TOTAL OF CASH COSTS	6,510	6,481	6,377	6,372	6,392	6,414	6,442	6,496	6,543	6,578
INTEREST ON LONG-TERM DEBT	0	0	0	0	0	0	0	0	0	0
INTEREST ON INTERMED. DEBT	0	0	0	0	0	0	0	0	0	0
INTEREST ON OPERATING DEBT	0	0	0	0	0	0	0	0	0	0
INTEREST ON CARRYOVER DEBT	0	0	0	0	0	0	0	0	0	0
TOTAL CASH EXPENSES	6,510	6,481	6,377	6,372	6,392	6,414	6,442	6,496	6,543	6,578
NET CASH FARM INCOME	6,370	6,399	6,503	6,508	6,488	6,466	6,438	6,384	6,337	6,302
ACCRUAL ADJUSTMENTS AND DEPRECIATION										
+/- CHANGE IN CROP INVENTORY	0	0	0	0	0	0	0	0	0	0
+/- CHANGE IN DEFERRED RECVBLS	0	0	0	0	0	0	0	0	0	0
+/- CHANGE IN LVSTK INVENTORY	0	0	0	0	0	0	0	0	0	0
+/- CHANGE IN PREPAID EXPENSES	0	0	0	0	0	0	0	0	0	0
+/- CHNG BASE VALU RAISED LVST	0	0	0	0	0	0	0	0	0	0
- BASIS BREEDING LVSTK SOLD	0	0	0	0	0	0	0	0	0	0
+ PURCHASED BREEDING LVSTK	0	0	0	0	0	0	0	0	0	0
- DEPRECIATION	0	0	0	0	0	0	0	0	0	-1
NET FARM INCOME	6,370	6,399	6,503	6,508	6,488	6,466	6,438	6,384	6,337	6,301
SUMMARY OF RECEIPTS & COSTS PER CROP ACRE										
CASH RECEIPTS (\$/ACRE)	1,840	1,840	1,840	1,840	1,840	1,840	1,840	1,840	1,840	1,840
CASH EXPENSES (\$/ACRE)	930	926	911	910	913	916	920	928	935	940
NET CASH INCOME (\$/ACRE)	910	914	929	930	927	924	920	912	905	900

Table 28D - 2 - B. Early Oranges (Marrs & Navel), 2-Line Drip Irrigation Demonstration
CASHFLOW STATEMENT FOR YEARS 2006 - 2015

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
BEGINNING CASH	0	6,370	12,866	19,561	26,368	33,260	40,241	47,316	54,466	61,707
PLUS:										
NET CASH FARM INCOME	6,370	6,399	6,503	6,508	6,488	6,466	6,438	6,384	6,337	6,302
OFF-FARM SALARY FARMER	0	0	0	0	0	0	0	0	0	0
OFF-FARM SALARY SPOUSE	0	0	0	0	0	0	0	0	0	0
NON-TAXABLE INCOME	0	0	0	0	0	0	0	0	0	0
INTEREST ON CASH RESERVES	0	97	192	299	403	516	636	767	904	1,049
INVESTMENT EARNINGS/DIVIDENDS	0	0	0	0	0	0	0	0	0	0
NEW CAPITAL INVESTED IN FARM	0	0	0	0	0	0	0	0	0	0
CORPORATE DIVIDENDS EARNED	0	0	0	0	0	0	0	0	0	0
PARTNERSHIP CASH DRAWS	0	0	0	0	0	0	0	0	0	0
CASH INVESTED FROM OWNERS	0	0	0	0	0	0	0	0	0	0
SELL MACH./LIVESTOCK/CROPS	0	0	0	0	0	0	0	0	0	0
PROCEEDS FROM ASSETS SOLD	0	0	0	0	0	0	0	0	0	0
TOTAL CASH AVAILABLE	6,370	12,866	19,561	26,368	33,260	40,241	47,316	54,466	61,707	69,058
MINUS:										
DOWN PYMT NON-MACH PURCHASE	0	0	0	0	0	0	0	0	0	0
CASH DIFFERENCE MACH REPLACED	0	0	0	0	0	0	0	0	0	0
PAYOFF MACHINERY BOUGHT	0	0	0	0	0	0	0	0	0	0
REG. PRINCIPAL PAY. LONG-TERM	0	0	0	0	0	0	0	0	0	0
ACC. PRINCIPAL PAY. LONG-TERM	0	0	0	0	0	0	0	0	0	0
REG. PRINCIPAL PAY. INTR-TERM	0	0	0	0	0	0	0	0	0	0
ACC. PRINCIPAL PAY. INTR-TERM	0	0	0	0	0	0	0	0	0	0
PAY OPERATING LOAN CARRYOVER	0	0	0	0	0	0	0	0	0	0
FIXED INVESTMENT CONTRIBUTION	0	0	0	0	0	0	0	0	0	0
ADDITIONAL INVESTMENTS	0	0	0	0	0	0	0	0	0	0
CASH PAID TO PRTNSHIP/CORPS	0	0	0	0	0	0	0	0	0	0
PARTNERSHIP CASH WITHDRAWAL	0	0	0	0	0	0	0	0	0	0
FEDERAL INCOME TAX PAYMENTS	0	0	0	0	0	0	0	0	0	0
STATE INCOME TAX PAYMENTS	0	0	0	0	0	0	0	0	0	0
SELF-EMPLOYMENT+SOC SEC TAXES	0	0	0	0	0	0	0	0	0	0
TOTAL CASH OUTFLOWS	0	0	0	0	0	0	0	0	0	0
SURPLUS OR DEFICIT CASH	6,370	12,866	19,561	26,368	33,260	40,241	47,316	54,466	61,707	69,058
ENDING YEAR CASH RESERVE	6,370	12,866	19,561	26,368	33,260	40,241	47,316	54,466	61,707	69,058

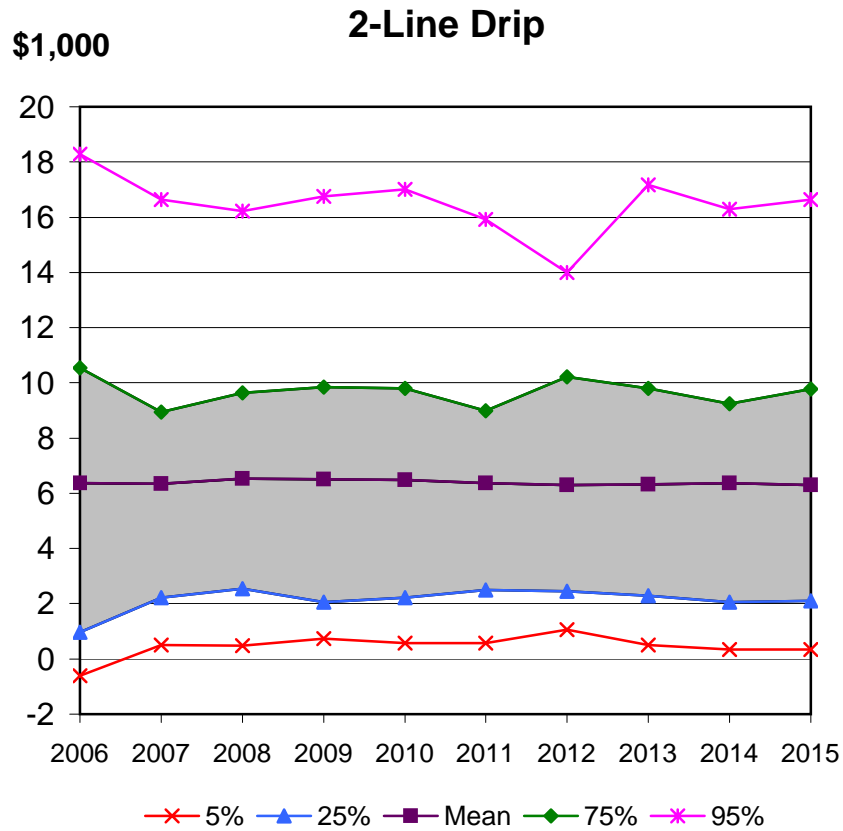
Table 28D-3. Early Season Oranges (Marrs & Navel), 2-Line Drip Irrigation Demonstration

2-Line Drip	
Total Cash Receipts (\$1000)	
2006	12.89
2007	12.83
2008	12.90
2009	12.87
2010	12.88
2011	12.79
2012	12.74
2013	12.83
2014	12.92
2015	12.88
2006-2015 Average	12.85
Total Cash Costs (\$1000)	
2006	6.51
2007	6.49
2008	6.38
2009	6.37
2010	6.39
2011	6.41
2012	6.44
2013	6.50
2014	6.54
2015	6.58
2006-2015 Average	6.46
Net Cash Farm Income (\$1000)	
2006	6.38
2007	6.35
2008	6.52
2009	6.50
2010	6.49
2011	6.38
2012	6.30
2013	6.33
2014	6.38
2015	6.31
2006-2015 Average	6.39
Prob. Net Cash Income < Zero (%)	
2006	15.00
2007	1.00
2008	1.00
2009	1.00
2010	1.00
2011	1.00
2012	1.00
2013	2.00
2014	4.00
2015	1.00
Prob. of Average Net Cash Farm Income < Zero, 2006-2015 (%)	2.60

Table 28D-3. Early Season Oranges (Marrs & Navel), 2-Line Drip Irrigation Demonstration

2-Line Drip	
Ending Cash Reserves (\$1000)	
2006	6.38
2007	12.83
2008	19.54
2009	26.34
2010	33.23
2011	40.12
2012	47.05
2013	54.15
2014	61.42
2015	68.77
2006-2015 Average	36.98
Prob. of Ending Cash Reserves < Zero (%)	
2006	15.00
2007	1.00
2008	1.00
2009	1.00
2010	1.00
2011	1.00
2012	1.00
2013	1.00
2014	1.00
2015	1.00
Prob. of Ending Cash Reserves < Zero 2006-2015 (%)	1.60
Average Annual Operating Expense/Receipts	
2006	0.63
2007	0.58
2008	0.57
2009	0.57
2010	0.57
2011	0.57
2012	0.57
2013	0.58
2014	0.59
2015	0.59
2006-2015 Average	0.58

Figure 28D-1. Projected Variability in Net Cash Farm Income for Early Season Oranges (Marrs & Navel), 2-Line Drip Irrigation Demonstration.



Note: Percentages indicate the probability that Net Cash Farm Income is below the indicated level.
 The shaded area contains 50% of the projected outcomes.

Demonstration Site 41: Cotton, Surge Irrigation

The basic costs of production assumptions for the cotton surge demonstration are given in Table 41-

1. For the purpose of presenting economic viability and outlook for the 38.5-acre site, production costs and overhead charges are producer estimated rates and may not reflect all producers but should be reasonable for the region. The first year of the financial projection is 2006. The assumptions and projections are intended to make the illustration relevant to a wide range of producers in the Lower Rio Grande Valley area.

The analysis consists of a 10-year financial outlook for the 38.5 acres of surge irrigation cotton production. It is not assumed the cotton acreage is rotated annually with another crop. The initial cotton price is \$.59/lb., including marketing loan deficiency payments. Other commodity price trends and cost inflation estimates are provided by the Food and Agricultural Policy Research Institute (FAPRI, at the University of Missouri).

The analysis also includes the purchase and use of a surge valve at a cost of \$1,800. The surge valve expense is evenly distributed over the 10-year period with the assumption of no financing costs.

A detail of the income and expense projection for the surge irrigation is provided in Table 41-2-A, followed by a cash flow summary (Table 41-2-B). These income and cash flow statements result from the simplistic (no risk) forecast assuming average prices and yields. A more comprehensive projection, including price and yield risk, is illustrated in Table 41-3 and Figure 41-1. Table 41-3

presents the average outcomes for selected financial projections, while the graphical presentation illustrates the full range of possibilities for Net Cash Farm Income (NCFI).

Total cash receipts average \$33,800 over the 10-year period and cash costs average just under \$22,000. In addition to market receipts, total receipts include direct and counter-cyclical payments paid to base acres. NCFI increases throughout the 10-year period from \$8,790 in 2006 to over \$14,000 in 2015 (Table 41-3). The risk associated with prices and yields suggests a minimal chance of negative NCFI. In a normal production year, NCFI (Figure 41-1) could range as much as \$8,000 plus or minus the average expected NCFI for the site. Cash reserves are expected to grow throughout the 10-year projection period and reach \$121,650 by 2015 (Table 41-3). The average cash flow balances (Table 41-3) are intended to illustrate the cash requirements or flows generated using the surge irrigation method.

Table 41-1. Cotton, Surge Irrigation Demonstration
SUMMARY OF CROP ACREAGE, YIELD, AND VARIABLE COSTS IN 2006.

	Cotton Irr	Cotton Sdlrr
PLANTED ACRES	38.5	38.5
BASE ACRES	35	0
YIELD UNITS	lb	ton
BUDGETING YIELD	1047	0.79
FARM PROG YLD DIR	650	0
FARM PROG YLD CCP	650	0
PRICES/YIELD UNIT	0.51	95.81
VARIABLE PRODUCTION COSTS (\$/ACRE)		
SEED	18	0
FERTILIZER	26	0
HERBICIDES	15	0
INSECTICIDES	65	0
FUNGICIDES	0	0
CUSTOM APPLICATION	3.5	0
SCOUTING / OTHER	0	0
IRRIGATION FUEL	53	0
TILLAGE/HARVST FUEL	36	0
HARVESTING, HAULING, DRYING & CHECKOFF: \$/YIELD UNIT	0.13	0
HARVEST COST/ACRE	94	0
BOLL WEEVIL COST/ACRE	28	0
LABOR COST /ACRE	20	0
CROP INSURANCE		
YIELD ELECTION (FRACTION)	0.65	0
YIELD COVERAGE GUARANTEE	633.75	0
PRICE ELECTION (FRACTION)	1	0
PRICE GUARANTEE	0.5115	0
PREMIUM RATE (\$/ACRE)	8.25	0
PREMIUM COSTS	317.625	0

Table 41-2-A. Cotton, Surge Irrigation Demonstrator
INCOME STATEMENT FOR YEARS 2006 - 2015

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
CASH INCOME (NET OF SHARE LEASE)										
CASH RECEIPTS FOR CROPS	23,472	24,726	26,198	26,732	27,205	28,131	28,576	28,992	29,428	29,838
DECOUPLED DIRECT PAYMENTS	1,290	1,290	1,290	1,290	1,290	1,290	1,290	1,290	1,290	1,290
DECOUPLED CCPs	2,654	2,562	2,296	2,071	1,977	1,971	1,902	1,822	1,811	1,805
MARKETING LOAN PAYMENTS	3,848	3,150	2,729	2,491	2,562	2,511	2,345	2,333	2,395	2,348
MPCI CROP INSURANCE INDEMNITY	0	0	0	0	0	0	0	0	0	0
TOTAL CASH RECEIPTS	31,264	31,727	32,513	32,584	33,033	33,904	34,112	34,437	34,924	35,281
CASH FARM EXPENSE (NET OF SHARE LEASE)										
CROP PROD & HARVEST COSTS										
SEED COSTS	693	703	694	701	711	722	729	738	745	751
FERTILIZER COSTS	1,001	1,007	996	984	998	1,006	1,013	1,030	1,046	1,056
HERBICIDE COSTS	578	576	569	574	580	585	591	599	605	610
INSECTICIDE COSTS	2,502	2,467	2,407	2,441	2,484	2,524	2,563	2,599	2,624	2,637
FUNGICIDE COSTS	0	0	0	0	0	0	0	0	0	0
CUSTOM APPLICATION	135	133	125	121	118	115	114	115	117	119
SCOUTING & OTHER	0	0	0	0	0	0	0	0	0	0
IRRIGATION FUEL COSTS	2,040	2,013	1,896	1,834	1,784	1,746	1,727	1,747	1,775	1,802
FUEL & LUBE COSTS	1,386	1,367	1,288	1,246	1,212	1,186	1,173	1,187	1,206	1,224
HARVESTING COSTS	8,859	8,818	8,384	8,186	8,036	7,938	7,926	8,096	8,305	8,509
CROP INSURANCE PREMIUMS	318	318	318	318	318	318	318	318	318	318
BOLL WEEVIL COSTS	1,078	1,078	1,078	1,078	1,078	1,078	1,078	1,078	1,078	1,078
HIRED LABOR COSTS	770	793	819	842	862	885	908	929	951	973
SUB-TOTAL OF PROD COSTS	19,360	19,272	18,573	18,325	18,179	18,104	18,138	18,436	18,769	19,077
CASH RENT FOR CROPLAND	2,888	2,888	2,888	2,888	2,888	2,888	2,888	2,888	2,888	2,888
RENT PASTURE	0	0	0	0	0	0	0	0	0	0
MANAGEMENT COSTS	0	0	0	0	0	0	0	0	0	0
MANAGEMENT BONUS	0	0	0	0	0	0	0	0	0	0
ADDITIONAL MGMT. COSTS	0	0	0	0	0	0	0	0	0	0
HIRED LABOR COSTS	0	0	0	0	0	0	0	0	0	0
PROPERTY TAXES	0	0	0	0	0	0	0	0	0	0
PERSONAL PROPERTY TAXES	0	0	0	0	0	0	0	0	0	0
SALES TAXES FOR INPUTS	0	0	0	0	0	0	0	0	0	0
OTHER TAXES	0	0	0	0	0	0	0	0	0	0
ACCOUNTANT & LEGAL FEES	0	0	0	0	0	0	0	0	0	0
UNALLOCATED MAINTENANCE	0	0	0	0	0	0	0	0	0	0
UTILITIES	0	0	0	0	0	0	0	0	0	0
OTHER FUEL & LUBE	0	0	0	0	0	0	0	0	0	0
LIABILITY INSURANCE	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS COSTS	0	0	0	0	0	0	0	0	0	0
Surge Valve	180	180	180	180	180	180	180	180	180	180
LESS EXPENSES PREVIOUSLY PAID	0	0	0	0	0	0	0	0	0	0
PLUS PREPAID EXPENSES	0	0	0	0	0	0	0	0	0	0
SUB-TOTAL OF CASH COSTS	22,428	22,340	21,641	21,392	21,247	21,171	21,206	21,503	21,836	22,144
INTEREST ON LONG-TERM DEBT	0	0	0	0	0	0	0	0	0	0
INTEREST ON INTERMED. DEBT	0	0	0	0	0	0	0	0	0	0
INTEREST ON OPERATING DEBT	0	7	2	0	0	0	0	0	0	0
INTEREST ON CARRYOVER DEBT	0	0	0	0	0	0	0	0	0	0
TOTAL CASH EXPENSES	22,428	22,346	21,642	21,392	21,247	21,171	21,206	21,503	21,836	22,144
NET CASH FARM INCOME	8,836	9,381	10,871	11,192	11,787	12,732	12,906	12,934	13,087	13,137
ACCRUAL ADJUSTMENTS AND DEPRECIATION										
+/- CHANGE IN CROP INVENTORY	0	0	0	0	0	0	0	0	0	0
+/- CHANGE IN DEFERRED RECVBLS	0	0	0	0	0	0	0	0	0	0
+/- CHANGE IN LVSTK INVENTORY	0	0	0	0	0	0	0	0	0	0
+/- CHANGE IN PREPAID EXPENSES	0	0	0	0	0	0	0	0	0	0
+/- CHNG BASE VALU RAISED LVST	0	0	0	0	0	0	0	0	0	0
- BASIS BREEDING LVSTK SOLD	0	0	0	0	0	0	0	0	0	0
+ PURCHASED BREEDING LVSTK	0	0	0	0	0	0	0	0	0	0
- DEPRECIATION	0	0	0	0	0	0	0	0	0	-1
NET FARM INCOME	8,836	9,381	10,871	11,192	11,787	12,732	12,906	12,934	13,087	13,136
SUMMARY OF RECEIPTS & COSTS PER CROP ACRE										
CASH RECEIPTS (\$/ACRE)	812	824	844	846	858	881	886	894	907	916
CASH EXPENSES (\$/ACRE)	583	580	562	556	552	550	551	559	567	575
NET CASH INCOME (\$/ACRE)	230	244	282	291	306	331	335	336	340	341

Table 41-2-B. Cotton, Surge Irrigation Demonstration

CASHFLOW STATEMENT FOR YEARS 2006 - 2015

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
BEGINNING CASH	0	8,836	18,218	29,092	40,289	52,085	64,838	77,788	90,802	104,017
PLUS:										
NET CASH FARM INCOME	8,836	9,381	10,871	11,192	11,787	12,732	12,906	12,934	13,087	13,137
OFF-FARM SALARY FARMER	0	0	0	0	0	0	0	0	0	0
OFF-FARM SALARY SPOUSE	0	0	0	0	0	0	0	0	0	0
NON-TAXABLE INCOME	0	0	0	0	0	0	0	0	0	0
INTEREST ON CASH RESERVES	0	1	3	6	9	21	43	80	128	186
INVESTMENT EARNINGS/DIVIDENDS	0	0	0	0	0	0	0	0	0	0
NEW CAPITAL INVESTED IN FARM	0	0	0	0	0	0	0	0	0	0
CORPORATE DIVIDENDS EARNED	0	0	0	0	0	0	0	0	0	0
PARTNERSHIP CASH DRAWS	0	0	0	0	0	0	0	0	0	0
CASH INVESTED FROM OWNERS	0	0	0	0	0	0	0	0	0	0
SELL MACH./LIVESTOCK/CROPS	0	0	0	0	0	0	0	0	0	0
PROCEEDS FROM ASSETS SOLD	0	0	0	0	0	0	0	0	0	0
TOTAL CASH AVAILABLE	8,836	18,218	29,092	40,289	52,085	64,838	77,788	90,802	104,017	117,340
MINUS:										
DOWN PYMT NON-MACH PURCHASE	0	0	0	0	0	0	0	0	0	0
CASH DIFFERENCE MACH REPLACED	0	0	0	0	0	0	0	0	0	0
PAYOFF MACHINERY BOUGHT	0	0	0	0	0	0	0	0	0	0
REG. PRINCIPAL PAY. LONG-TERM	0	0	0	0	0	0	0	0	0	0
ACC. PRINCIPAL PAY. LONG-TERM	0	0	0	0	0	0	0	0	0	0
REG. PRINCIPAL PAY. INTR-TERM	0	0	0	0	0	0	0	0	0	0
ACC. PRINCIPAL PAY. INTR-TERM	0	0	0	0	0	0	0	0	0	0
PAY OPERATING LOAN CARRYOVER	0	0	0	0	0	0	0	0	0	0
FIXED INVESTMENT CONTRIBUTION	0	0	0	0	0	0	0	0	0	0
ADDITIONAL INVESTMENTS	0	0	0	0	0	0	0	0	0	0
CASH PAID TO PRTNSHIP/CORPS	0	0	0	0	0	0	0	0	0	0
PARTNERSHIP CASH WITHDRAWAL	0	0	0	0	0	0	0	0	0	0
FEDERAL INCOME TAX PAYMENTS	0	0	0	0	0	0	0	0	0	0
STATE INCOME TAX PAYMENTS	0	0	0	0	0	0	0	0	0	0
SELF-EMPLOYMENT+SOC SEC TAXES	0	0	0	0	0	0	0	0	0	0
TOTAL CASH OUTFLOWS	0	0	0	0	0	0	0	0	0	0
SURPLUS OR DEFICIT CASH	8,836	18,218	29,092	40,289	52,085	64,838	77,788	90,802	104,017	117,340
ENDING YEAR CASH RESERVE	8,836	18,218	29,092	40,289	52,085	64,838	77,788	90,802	104,017	117,340

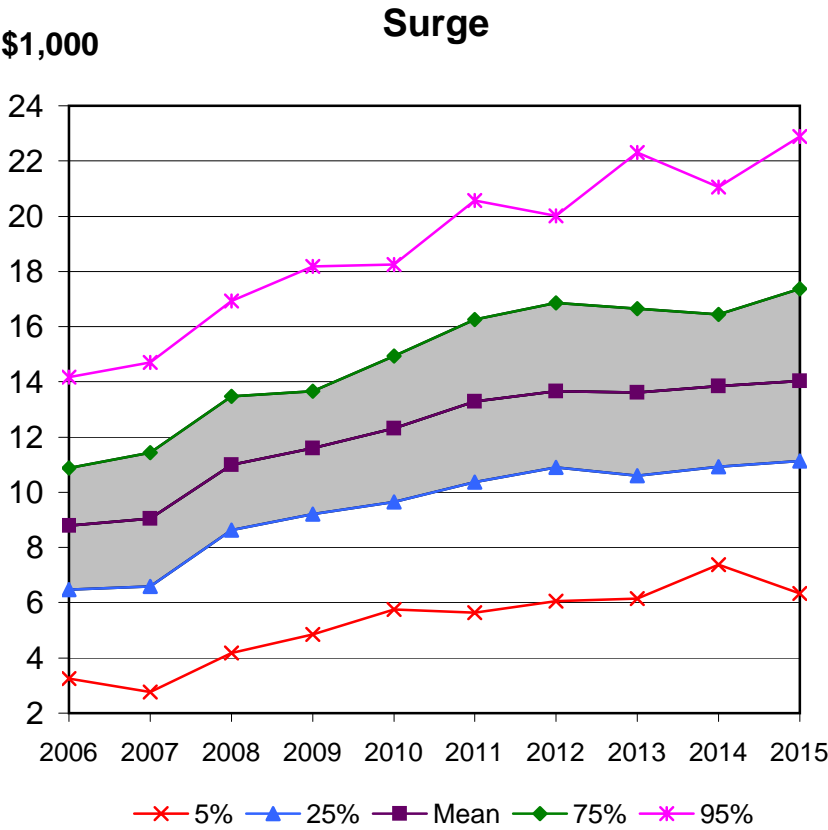
Table 41-3. Cotton, Surge Irrigation Demonstration

	Surge
Total Cash Receipts (\$1000)	
2006	31.21
2007	31.38
2008	32.65
2009	33.00
2010	33.56
2011	34.44
2012	34.90
2013	35.09
2014	35.67
2015	36.20
2006-2015 Average	33.81
Total Cash Costs (\$1000)	
2006	22.43
2007	22.34
2008	21.65
2009	21.40
2010	21.26
2011	21.17
2012	21.23
2013	21.48
2014	21.83
2015	22.16
2006-2015 Average	21.69
Net Cash Farm Income (\$1000)	
2006	8.79
2007	9.04
2008	11.00
2009	11.60
2010	12.31
2011	13.28
2012	13.67
2013	13.61
2014	13.84
2015	14.04
2006-2015 Average	12.12
Prob. Net Cash Income < Zero (%)	
2006	1.00
2007	1.00
2008	1.00
2009	1.00
2010	1.00
2011	1.00
2012	1.00
2013	1.00
2014	1.00
2015	1.00
Prob. of Average Net Cash Farm Income < Zero, 2006-2015 (%)	1.00

Table 41-3. Cotton, Surge Irrigation Demonstration

	Surge
<hr/>	
Ending Cash Reserves (\$1000)	
2006	8.79
2007	17.83
2008	28.83
2009	40.43
2010	52.75
2011	66.05
2012	79.76
2013	93.45
2014	107.42
2015	121.65
2006-2015 Average	61.69
Prob. of Ending Cash Reserves < Zero (%)	
2006	1.00
2007	1.00
2008	1.00
2009	1.00
2010	1.00
2011	1.00
2012	1.00
2013	1.00
2014	1.00
2015	1.00
Prob. of Ending Cash Reserves < Zero 2006-2015 (%)	
	1.00
Average Annual Operating Expense/Receipts	
2006	0.73
2007	0.72
2008	0.67
2009	0.66
2010	0.64
2011	0.63
2012	0.62
2013	0.62
2014	0.62
2015	0.62
2006-2015 Average	0.65

Figure 41-1. Projected Variability in Net Cash Farm Income for Cotton, Surge Irrigation Demonstration.



Note: Percentages indicate the probability that Net Cash Farm Income is below the indicated level. The shaded area contains 50% of the projected outcomes.

Demonstration Sites 42A & 42B: Cotton & Grain Sorghum, Surge Irrigation with Poly-Pipe

The basic costs of production assumptions for the cotton and grain sorghum surge irrigation with poly-pipe demonstration are given in Tables 42-1 and 42-2. For the purpose of presenting economic viability and outlook for the 94-acre cotton and 66-acre grain sorghum sites, production costs and overhead charges are producer estimated rates and may not reflect all producers but should be reasonable for the region. The first year of the financial projection is 2006. The assumptions and projections are intended to make the illustration relevant to a wide range of producers in the Lower Rio Grande Valley area.

The analysis consists of a 10-year financial outlook for the 94 acres of cotton and 66 acres of grain sorghum production. It is assumed the cotton and grain sorghum acreage is rotated annually. The analysis assumes a \$1,800 cost for a surge valve. The surge valve expense is evenly distributed over the 10-year period with the assumption of no financing cost. The initial cotton price is \$.56/lb. and the grain sorghum price is \$5.00/cwt., including marketing loan deficiency payments. Other commodity price trends and cost inflation estimates are provided by the Food and Agricultural Policy Research Institute (FAPRI, at the University of Missouri).

A detail of the income and expense projection for the baseline is provided in Table 42-3-A, followed by a cash flow summary (Table 42-3-B). The income and cash flow statement results from the simplistic (no risk) forecast assuming average prices and yields. Tables 42-4-1 and 42-4-2 give revenue and expense summaries for the two individual crops. A more comprehensive projection, including price and yield risk, is illustrated in Table 42-5 and Figures 42-1 & 42-2. Table 42-5 presents the average outcomes for selected financial projections, while the graphical

presentations illustrate the full range of possibilities for Net Cash Farm Income (NCFI) and cash flow requirements. Total cash receipts average just over \$92,000 initially and fluctuate from year-to-year as planted acreages rotate from cotton to grain sorghum production. Peak cash receipt years reflect those years where cotton plantings are the highest. In addition to market receipts, total receipts for the 160 acres include direct and counter-cyclical payments paid to base acres. Cash costs also reflect the cotton to grain sorghum rotation cycle, requiring roughly \$65,270 in the initial year and \$56,020 in 2007. NCFI generally follows the cotton to grain sorghum rotation cycle producing \$27,690 profit in the initial year and averages \$27,680 over the 10-year period. The risk associated with prices and yields suggests that, in a normal production year, NCFI (Figure 42-1) could range as much as \$14,000 to \$16,000 plus or minus the average expected NCFI. Cash reserves are expected to grow throughout the 10-year projection period Figure 42-2. The average cash flow balances (Figure 42-2) are intended to illustrate the cash requirements or positive flows generated by the crop enterprises.

Table 42-1. Cotton, Surge Irrigation with Poly-Pipe Demonstration
SUMMARY OF CROP ACREAGE, YIELD, AND VARIABLE COSTS IN 2006.

	Cotton Irr	Cotton Sdlrr	Y Corn Irr
PLANTED ACRES	94	94	0
BASE ACRES	112.22	0	3.07
YIELD UNITS	lb	ton	bu
BUDGETING YIELD	1000	0.75	0
FARM PROG YLD DIR	668	0	96
FARM PROG YLD CCP	668	0	96
PRICES/YIELD UNIT	0.44	99.07	2.1
VARIABLE PRODUCTION COSTS (\$/ACRE)			
SEED	22.5	0	0
FERTILIZER	88.13	0	0
HERBICIDES	5.07	0	0
INSECTICIDES	0	0	0
FUNGICIDES	0	0	0
CUSTOM APPLICATION	50.74	0	0
SCOUTING / OTHER	0	0	0
IRRIGATION FUEL	48.44	0	0
TILLAGE/HARVST FUEL	10.74	0	0
HARVESTING, HAULING, DRYING & CHECKOFF: \$/YIELD UNIT	0.21	0	0
HARVEST COST/ACRE	13	0	0
BOLL WEEVIL COST/ACRE	28	0	0
LABOR COST /ACRE	38.89	0	0
CROP INSURANCE			
YIELD ELECTION (FRACTION)	0.65	0	0
YIELD COVERAGE GUARANTEE	664.625	0	0
PRICE ELECTION (FRACTION)	1	0	0
PRICE GUARANTEE	0.4788	0	0
PREMIUM RATE (\$/ACRE)	12.3	0	0
PREMIUM COSTS	1156.2001	0	0

Table 42-2. Grain Sorghum, Surge Irrigation with Poly-Pipe Demonstration
SUMMARY OF CROP ACREAGE, YIELD, AND VARIABLE COSTS IN 2006.

	Sorghm Irr
PLANTED ACRES	66
BASE ACRES	11.2
YIELD UNITS	cwt
BUDGETING YIELD	60
FARM PROG YLD DIR	36.96
FARM PROG YLD CCP	36.96
PRICES/YIELD UNIT	4.68
VARIABLE PRODUCTION COSTS (\$/ACRE)	
SEED	13.26
FERTILIZER	48.87
HERBICIDES	3.85
INSECTICIDES	0
FUNGICIDES	0
CUSTOM APPLICATION	27.21
SCOUTING / OTHER	0
IRRIGATION FUEL	49.09
TILLAGE/HARVST FUEL	5.01
HARVESTING, HAULING, DRYING & CHECKOFF: \$/YIELD UNIT	0.6
HARVEST COST/ACRE	8.3
BOLL WEEVIL COST/ACRE	0
LABOR COST /ACRE	34.18
CROP INSURANCE	
YIELD ELECTION (FRACTION)	0.65
YIELD COVERAGE GUARANTEE	39.1625
PRICE ELECTION (FRACTION)	1
PRICE GUARANTEE	3.4373
PREMIUM RATE (\$/ACRE)	9
PREMIUM COSTS	594

Table 42 - 3 - A. Cotton & Grain Sorghum, Surge Irrigation with Poly-Pipe Demonstration
INCOME STATEMENT FOR YEARS 2006 - 2015

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
CASH INCOME (NET OF SHARE LEASE)										
CASH RECEIPTS FOR CROPS	66,877	62,963	71,833	65,479	74,279	68,296	77,325	70,510	78,894	71,058
DECOUPLED DIRECT PAYMENTS	4,540	4,540	4,540	4,540	4,540	4,540	4,540	4,540	4,540	4,540
DECOUPLED CCPs	9,003	8,967	8,921	8,811	8,447	7,796	7,147	6,541	6,182	6,109
MARKETING LOAN PAYMENTS	12,790	8,011	9,269	5,870	7,474	4,720	5,940	3,736	5,251	3,632
MPCI CROP INSURANCE INDEMNITY	0	0	0	0	0	0	0	0	0	0
TOTAL CASH RECEIPTS	93,210	84,481	94,563	84,700	94,741	85,351	94,953	85,328	94,867	85,339
CASH FARM EXPENSE (NET OF SHARE LEASE)										
CROP PROD & HARVEST COSTS										
SEED COSTS	2,990	2,769	3,067	2,849	3,168	2,945	3,275	3,032	3,367	3,119
FERTILIZER COSTS	11,510	10,070	10,834	9,907	11,174	10,344	11,666	10,752	12,093	11,127
HERBICIDE COSTS	731	689	719	691	732	708	755	730	776	750
INSECTICIDE COSTS	0	0	0	0	0	0	0	0	0	0
FUNGICIDE COSTS	0	0	0	0	0	0	0	0	0	0
CUSTOM APPLICATION	6,565	5,734	6,209	5,638	6,350	5,809	6,558	5,993	6,783	6,215
SCOUTING & OTHER	0	0	0	0	0	0	0	0	0	0
IRRIGATION FUEL COSTS	7,793	7,583	7,370	7,456	7,537	7,683	7,785	7,926	8,052	8,219
FUEL & LUBE COSTS	1,340	1,145	1,267	1,126	1,296	1,160	1,339	1,197	1,385	1,241
HARVESTING COSTS	23,886	18,387	22,732	18,195	23,397	18,868	24,320	19,588	25,316	20,444
CROP INSURANCE PREMIUMS	1,750	1,658	1,750	1,658	1,750	1,658	1,750	1,658	1,750	1,658
BOLL WEEVIL COSTS	2,632	1,848	2,632	1,848	2,632	1,848	2,632	1,848	2,632	1,848
HIRED LABOR COSTS	5,912	5,932	6,231	6,244	6,551	6,576	6,913	6,941	7,299	7,342
SUB-TOTAL OF PROD COSTS	65,109	55,815	62,811	55,609	64,588	57,599	66,993	59,664	69,453	61,963
CASH RENT FOR CROPLAND	0	0	0	0	0	0	0	0	0	0
RENT PASTURE	0	0	0	0	0	0	0	0	0	0
MANAGEMENT COSTS	0	0	0	0	0	0	0	0	0	0
MANAGEMENT BONUS	0	0	0	0	0	0	0	0	0	0
ADDITIONAL MGMT. COSTS	0	0	0	0	0	0	0	0	0	0
HIRED LABOR COSTS	0	0	0	0	0	0	0	0	0	0
PROPERTY TAXES	0	0	0	0	0	0	0	0	0	0
PERSONAL PROPERTY TAXES	0	0	0	0	0	0	0	0	0	0
SALES TAXES FOR INPUTS	0	0	0	0	0	0	0	0	0	0
OTHER TAXES	0	0	0	0	0	0	0	0	0	0
ACCOUNTANT & LEGAL FEES	0	0	0	0	0	0	0	0	0	0
UNALLOCATED MAINTENANCE	0	0	0	0	0	0	0	0	0	0
UTILITIES	0	0	0	0	0	0	0	0	0	0
OTHER FUEL & LUBE	0	0	0	0	0	0	0	0	0	0
LIABILITY INSURANCE	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS COSTS	0	0	0	0	0	0	0	0	0	0
OTHEREXPENSE	180	180	180	180	180	180	180	180	180	180
LESS EXPENSES PREVIOUSLY PAID	0	0	0	0	0	0	0	0	0	0
PLUS PREPAID EXPENSES	0	0	0	0	0	0	0	0	0	0
SUB-TOTAL OF CASH COSTS	65,289	55,995	62,991	55,789	64,768	57,779	67,173	59,844	69,633	62,143
INTEREST ON LONG-TERM DEBT	0	0	0	0	0	0	0	0	0	0
INTEREST ON INTERMED. DEBT	0	0	0	0	0	0	0	0	0	0
INTEREST ON OPERATING DEBT	0	11	6	0	0	0	0	0	0	0
INTEREST ON CARRYOVER DEBT	0	0	0	0	0	0	0	0	0	0
TOTAL CASH EXPENSES	65,289	56,006	62,997	55,789	64,768	57,779	67,173	59,844	69,633	62,143
NET CASH FARM INCOME	27,921	28,475	31,566	28,911	29,972	27,572	27,780	25,484	25,235	23,196
ACCRUAL ADJUSTMENTS AND DEPRECIATION										
+/- CHANGE IN CROP INVENTORY	0	0	0	0	0	0	0	0	0	0
+/- CHANGE IN DEFERRED RECVBLS	0	0	0	0	0	0	0	0	0	0
+/- CHANGE IN LVSTK INVENTORY	0	0	0	0	0	0	0	0	0	0
+/- CHANGE IN PREPAID EXPENSES	0	0	0	0	0	0	0	0	0	0
+/- CHNG BASE VALU RAISED LVST	0	0	0	0	0	0	0	0	0	0
- BASIS BREEDING LVSTK SOLD	0	0	0	0	0	0	0	0	0	0
+ PURCHASED BREEDING LVSTK	0	0	0	0	0	0	0	0	0	0
- DEPRECIATION	0	0	0	0	0	0	0	0	0	-1
NET FARM INCOME	27,921	28,475	31,566	28,911	29,972	27,572	27,780	25,484	25,235	23,195
SUMMARY OF RECEIPTS & COSTS PER CROP ACRE										
CASH RECEIPTS (\$/ACRE)	583	528	591	529	592	533	593	533	593	533
CASH EXPENSES (\$/ACRE)	408	350	394	349	405	361	420	374	435	388
NET CASH INCOME (\$/ACRE)	175	178	197	181	187	172	174	159	158	145

Table 42 - 3 - B. Cotton & Grain Sorghum, Surge Irrigation with Poly-Pipe Demonstration

CASHFLOW STATEMENT FOR YEARS 2006 - 2015

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
BEGINNING CASH	0	27,921	56,400	87,983	116,942	147,024	174,809	202,900	228,850	254,725
PLUS:										
NET CASH FARM INCOME	27,921	28,475	31,566	28,911	29,972	27,572	27,780	25,484	25,235	23,196
OFF-FARM SALARY FARMER	0	0	0	0	0	0	0	0	0	0
OFF-FARM SALARY SPOUSE	0	0	0	0	0	0	0	0	0	0
NON-TAXABLE INCOME	0	0	0	0	0	0	0	0	0	0
INTEREST ON CASH RESERVES	0	4	17	48	110	213	311	467	640	872
INVESTMENT EARNINGS/DIVIDENDS	0	0	0	0	0	0	0	0	0	0
NEW CAPITAL INVESTED IN FARM	0	0	0	0	0	0	0	0	0	0
CORPORATE DIVIDENDS EARNED	0	0	0	0	0	0	0	0	0	0
PARTNERSHIP CASH DRAWS	0	0	0	0	0	0	0	0	0	0
CASH INVESTED FROM OWNERS	0	0	0	0	0	0	0	0	0	0
SELL MACH./LIVESTOCK/CROPS	0	0	0	0	0	0	0	0	0	0
PROCEEDS FROM ASSETS SOLD	0	0	0	0	0	0	0	0	0	0
TOTAL CASH AVAILABLE	27,921	56,400	87,983	116,942	147,024	174,809	202,900	228,850	254,725	278,794
MINUS:										
DOWN PYMT NON-MACH PURCHASE	0	0	0	0	0	0	0	0	0	0
CASH DIFFERENCE MACH REPLACED	0	0	0	0	0	0	0	0	0	0
PAYOFF MACHINERY BOUGHT	0	0	0	0	0	0	0	0	0	0
REG. PRINCIPAL PAY. LONG-TERM	0	0	0	0	0	0	0	0	0	0
ACC. PRINCIPAL PAY. LONG-TERM	0	0	0	0	0	0	0	0	0	0
REG. PRINCIPAL PAY. INTR-TERM	0	0	0	0	0	0	0	0	0	0
ACC. PRINCIPAL PAY. INTR-TERM	0	0	0	0	0	0	0	0	0	0
PAY OPERATING LOAN CARRYOVER	0	0	0	0	0	0	0	0	0	0
FIXED INVESTMENT CONTRIBUTION	0	0	0	0	0	0	0	0	0	0
ADDITIONAL INVESTMENTS	0	0	0	0	0	0	0	0	0	0
CASH PAID TO PRTNSHIP/CORPS	0	0	0	0	0	0	0	0	0	0
PARTNERSHIP CASH WITHDRAWAL	0	0	0	0	0	0	0	0	0	0
FEDERAL INCOME TAX PAYMENTS	0	0	0	0	0	0	0	0	0	0
STATE INCOME TAX PAYMENTS	0	0	0	0	0	0	0	0	0	0
SELF-EMPLOYMENT+SOC SEC TAXES	0	0	0	0	0	0	0	0	0	0
TOTAL CASH OUTFLOWS	0	0	0	0	0	0	0	0	0	0
SURPLUS OR DEFICIT CASH	27,921	56,400	87,983	116,942	147,024	174,809	202,900	228,850	254,725	278,794
ENDING YEAR CASH RESERVE	27,921	56,400	87,983	116,942	147,024	174,809	202,900	228,850	254,725	278,794

Table 42 - 4 - 1. Cotton, Surge Irrigation with Poly-Pipe Demonstration

REVENUE AND EXPENSE SUMMARY.

Cotton

YEARS 2006 - 2015	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
UNIT 1. INCOME (NET OF SHARE LEASE)										
VALUE OF CROPS PRODUCED	48,344	35,900	52,281	36,898	53,774	38,636	56,300	40,337	57,627	40,597
DIRECT PAYMENTS	4,320	4,320	4,320	4,320	4,320	4,320	4,320	4,320	4,320	4,320
COUNTER-CYCLICAL PAYMENTS	8,833	8,805	8,786	8,715	8,388	7,765	7,134	6,538	6,182	6,109
MARKETING LOAN PAYMENTS	11,524	6,745	8,790	5,761	7,474	4,720	5,940	3,736	5,251	3,632
CROP INSURANCE INDEMNITY	0	0	0	0	0	0	0	0	0	0
OTHER ANNUAL FARM INCOME	0	0	0	0	0	0	0	0	0	0
TOTAL UNIT REVENUE	73,022	55,770	74,177	55,694	73,956	55,441	73,695	54,931	73,380	54,658
UNIT EXPENSES (NET OF SHARE LEASE)										
CROP PROD & HARVEST COSTS										
SEED COSTS	2,115	1,506	2,169	1,549	2,241	1,601	2,317	1,648	2,381	1,696
FERTILIZER COSTS	8,284	5,626	7,798	5,535	8,043	5,780	8,396	6,007	8,704	6,217
HERBICIDE COSTS	477	331	469	332	478	340	492	350	506	360
INSECTICIDE COSTS	0	0	0	0	0	0	0	0	0	0
FUNGICIDE COSTS	0	0	0	0	0	0	0	0	0	0
CUSTOM APPLICATIONS	4,770	3,251	4,510	3,196	4,613	3,294	4,764	3,398	4,928	3,524
SCOUTING / OTHER COSTS	0	0	0	0	0	0	0	0	0	0
IRRIGATION FUEL COSTS	4,553	3,103	4,306	3,051	4,404	3,144	4,548	3,244	4,704	3,364
FUEL & LUBE COSTS	1,010	688	955	677	976	697	1,008	719	1,043	746
HARVESTING COSTS	20,962	14,333	19,950	14,183	20,534	14,708	21,345	15,271	22,219	15,939
CROP INSURANCE PREMIUMS	1,156	812	1,156	812	1,156	812	1,156	812	1,156	812
BOLL WEEVIL PROGRAM COSTS	2,632	1,848	2,632	1,848	2,632	1,848	2,632	1,848	2,632	1,848
HIRED LABOR	3,656	2,635	3,853	2,773	4,051	2,920	4,275	3,082	4,514	3,261
SUB-TOTAL CROP EXPENSES	49,614	34,132	47,798	33,956	49,128	35,145	50,935	36,380	52,788	37,766
CASH RENT FOR CROPLAND	0	0	0	0	0	0	0	0	0	0
RENT STATE/PRIVATE PASTURE	0	0	0	0	0	0	0	0	0	0
RENT STOCKER PASTURE	0	0	0	0	0	0	0	0	0	0
UNIT EXPENSES	49,614	34,132	47,798	33,956	49,128	35,145	50,935	36,380	52,788	37,766
UNIT CONTRIBUTION TO UNALLOCATED OVERHEAD/FIXED COSTS	23,407	21,638	26,378	21,739	24,828	20,296	22,760	18,551	20,592	16,893
ALLOCATION OF OVERHEAD EXPENSES										
HIRED LABOR	0	0	0	0	0	0	0	0	0	0
MANAGEMENT	0	0	0	0	0	0	0	0	0	0
OTHER TAXES	0	0	0	0	0	0	0	0	0	0
ACCOUNTANT & LEGAL FEES	0	0	0	0	0	0	0	0	0	0
MAINTENANCE	0	0	0	0	0	0	0	0	0	0
UTILITIES	0	0	0	0	0	0	0	0	0	0
FUEL & LUBE	0	0	0	0	0	0	0	0	0	0
LIABILITY INSURANCE	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS COSTS	0	0	0	0	0	0	0	0	0	0
OTHER FARM EXPENSES	141	119	141	118	141	117	140	116	139	115
CROP STORAGE COSTS	0	0	0	0	0	0	0	0	0	0
CONSERVATION & ENVIRONMENT	0	0	0	0	0	0	0	0	0	0
INTEREST COST LONG-TERM DEBT	0	0	0	0	0	0	0	0	0	0
INTEREST COST INTERMEDIATE	0	0	0	0	0	0	0	0	0	0
INTEREST COST OPERATING DEBT	0	7	5	0	0	0	0	0	0	0
INTEREST COST CARRYOVER DEBT	0	0	0	0	0	0	0	0	0	0
DEPRECIATION	0	0	0	0	0	0	0	0	0	0
TOTAL ALLOCATED EXPENSES	141	126	146	118	141	117	140	116	139	116
UNIT NET INCOME	23,266	21,512	26,233	21,620	24,688	20,179	22,620	18,435	20,453	16,777

Table 42 - 4 - 2. Grain Sorghum, Surge Irrigation with Poly-Pipe Demonstration

REVENUE AND EXPENSE SUMMARY.

Grain Sorghum

YEARS 2006 - 2015	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
UNIT 2. INCOME (NET OF SHARE LEASE)										
VALUE OF CROPS PRODUCED	18,533	27,063	19,553	28,581	20,506	29,660	21,025	30,173	21,268	30,461
DIRECT PAYMENTS	220	220	220	220	220	220	220	220	220	220
COUNTER-CYCLICAL PAYMENTS	170	162	135	95	59	30	13	3	0	0
MARKETING LOAN PAYMENTS	1,266	1,266	478	109	0	0	0	0	0	0
CROP INSURANCE INDEMNITY	0	0	0	0	0	0	0	0	0	0
OTHER ANNUAL FARM INCOME	0	0	0	0	0	0	0	0	0	0
TOTAL UNIT REVENUE	20,189	28,711	20,386	29,006	20,785	29,911	21,258	30,396	21,488	30,681
UNIT EXPENSES (NET OF SHARE LEASE)										
CROP PROD & HARVEST COSTS										
SEED COSTS	875	1,264	898	1,300	927	1,344	959	1,384	985	1,423
FERTILIZER COSTS	3,225	4,444	3,036	4,372	3,131	4,565	3,269	4,744	3,389	4,910
HERBICIDE COSTS	254	358	250	359	255	368	263	379	270	390
INSECTICIDE COSTS	0	0	0	0	0	0	0	0	0	0
FUNGICIDE COSTS	0	0	0	0	0	0	0	0	0	0
CUSTOM APPLICATIONS	1,796	2,483	1,698	2,441	1,737	2,516	1,794	2,595	1,855	2,691
SCOUTING / OTHER COSTS	0	0	0	0	0	0	0	0	0	0
IRRIGATION FUEL COSTS	3,240	4,479	3,064	4,404	3,133	4,538	3,236	4,682	3,347	4,855
FUEL & LUBE COSTS	331	457	313	449	320	463	330	478	342	496
HARVESTING COSTS	2,924	4,055	2,782	4,012	2,863	4,159	2,975	4,317	3,097	4,505
CROP INSURANCE PREMIUMS	594	846	594	846	594	846	594	846	594	846
BOLL WEEVIL PROGRAM COSTS	0	0	0	0	0	0	0	0	0	0
HIRED LABOR	2,256	3,298	2,378	3,471	2,500	3,656	2,638	3,858	2,786	4,082
SUB-TOTAL CROP EXPENSES	15,495	21,683	15,012	21,654	15,460	22,454	16,058	23,284	16,665	24,198
CASH RENT FOR CROPLAND	0	0	0	0	0	0	0	0	0	0
RENT STATE/PRIVATE PASTURE	0	0	0	0	0	0	0	0	0	0
RENT STOCKER PASTURE	0	0	0	0	0	0	0	0	0	0
UNIT EXPENSES	15,495	21,683	15,012	21,654	15,460	22,454	16,058	23,284	16,665	24,198
UNIT CONTRIBUTION TO UNALLOCATED OVERHEAD/FIXED COSTS										
	4,694	7,028	5,373	7,352	5,324	7,456	5,200	7,113	4,823	6,484
ALLOCATION OF OVERHEAD EXPENSES										
HIRED LABOR	0	0	0	0	0	0	0	0	0	0
MANAGEMENT	0	0	0	0	0	0	0	0	0	0
OTHER TAXES	0	0	0	0	0	0	0	0	0	0
ACCOUNTANT & LEGAL FEES	0	0	0	0	0	0	0	0	0	0
MAINTENANCE	0	0	0	0	0	0	0	0	0	0
UTILITIES	0	0	0	0	0	0	0	0	0	0
FUEL & LUBE	0	0	0	0	0	0	0	0	0	0
LIABILITY INSURANCE	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS COSTS	0	0	0	0	0	0	0	0	0	0
OTHER FARM EXPENSES	39	61	39	62	39	63	40	64	41	65
CROP STORAGE COSTS	0	0	0	0	0	0	0	0	0	0
CONSERVATION & ENVIRONMENT	0	0	0	0	0	0	0	0	0	0
INTEREST COST LONG-TERM DEBT	0	0	0	0	0	0	0	0	0	0
INTEREST COST INTERMEDIATE	0	0	0	0	0	0	0	0	0	0
INTEREST COST OPERATING DEBT	0	4	1	0	0	0	0	0	0	0
INTEREST COST CARRYOVER DEBT	0	0	0	0	0	0	0	0	0	0
DEPRECIATION	0	0	0	0	0	0	0	0	0	0
TOTAL ALLOCATED EXPENSES	39	65	40	62	39	63	40	64	41	65
UNIT NET INCOME	4,655	6,963	5,333	7,290	5,285	7,393	5,160	7,049	4,782	6,419

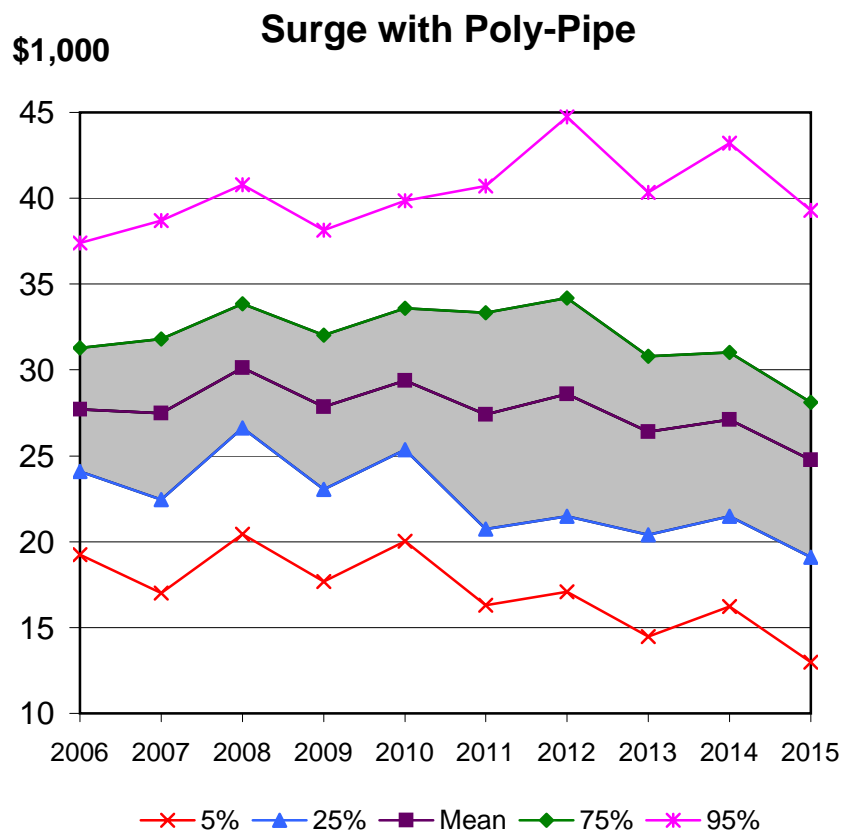
Table 42-5. Cotton & Grain Sorghum, Surge Irrigation Demonstration

Surge	
Total Crop Receipts (\$1000)	
2006	92.96
2007	83.49
2008	93.12
2009	83.65
2010	94.16
2011	85.17
2012	95.79
2013	86.21
2014	96.73
2015	86.95
2006-2015 Average	89.82
Total Cash Costs (\$1000)	
2006	65.27
2007	56.02
2008	62.98
2009	55.78
2010	64.76
2011	57.76
2012	67.20
2013	59.80
2014	69.62
2015	62.19
2006-2015 Average	62.14
Net Cash Farm Income (\$1000)	
2006	27.69
2007	27.47
2008	30.14
2009	27.87
2010	29.39
2011	27.40
2012	28.59
2013	26.41
2014	27.11
2015	24.76
2006-2015 Average	27.68
Ending Cash Reserves (\$1000)	
2006	27.69
2007	55.16
2008	85.32
2009	113.24
2010	142.74
2011	170.35
2012	199.24
2013	226.10
2014	253.84
2015	279.47
2006-2015 Average	155.31

Table 42-5. Cotton & Grain Sorghum, Surge Irrigation Demonstration

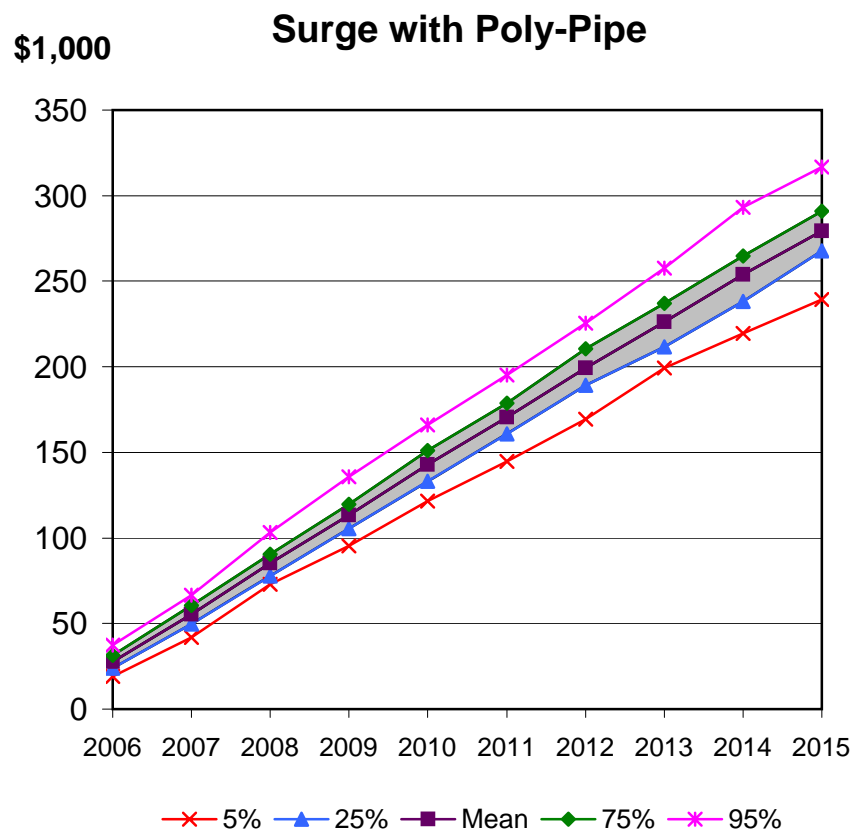
	Surge
<hr/>	
Prob. Net Cash Income < Zero (%)	
2006	1.00
2007	1.00
2008	1.00
2009	1.00
2010	1.00
2011	1.00
2012	1.00
2013	1.00
2014	1.00
2015	1.00
Prob. of Average Net Cash Farm Income < Zero, 2006-2015 (%)	1.00
Average Annual Operating Expense/Receipts	
2006	0.70
2007	0.67
2008	0.68
2009	0.67
2010	0.69
2011	0.68
2012	0.71
2013	0.70
2014	0.73
2015	0.72
2006-2015 Average	0.70

Figure 42-1. Projected Variability in Net Cash Farm Income for Cotton & Grain Sorghum, Surge Irrigation with Poly-Pipe Demonstration.



Note: Percentages indicate the probability that Net Cash Farm Income is below the indicated level.
The shaded area contains 50% of the projected outcomes.

Figure 42-2. Projected Variability in Ending Cash Reserves for Cotton & Grain Sorghum, Surge Irrigation with Poly-Pipe Demonstration.



Note: Percentages indicate the probability that Net Farm Income is below the indicated level.
 The shaded area contains 50% of the projected outcomes.

Demonstration Sites 43A & 43B: Cotton, Furrow with Poly-Pipe vs. Drip Irrigation

The basic costs of production assumptions for the cotton furrow with poly-pipe vs. drip demonstration are given in Tables 43-1 and 43-2. For the purpose of presenting economic viability and outlook for the 38-acre furrow and 17-acre drip sites, production costs and overhead charges are producer estimated rates and may not reflect all producers but should be reasonable for the region. The first year of the financial projection is 2006. The assumptions and projections are intended to make the illustration relevant to a wide range of producers in the Lower Rio Grande Valley area.

The analysis consists of a 10-year financial outlook for the 38 acres of furrow and 17 acres of drip cotton production. It is not assumed the cotton acreage is rotated annually with another crop. The initial cotton price is \$.56/lb., including marketing loan deficiency payments. Other commodity price trends and cost inflation estimates are provided by the Food and Agricultural Policy Research Institute (FAPRI, at the University of Missouri).

A detail of the income and expense projection for the furrow irrigation is provided in Table 43-3-A, followed by a cash flow summary (Table 43-3-B). Drip results are provided in Tables 43-4-A and 43-4-B. These income and cash flow statements result from the simplistic (no risk) forecast assuming average prices and yields. A more comprehensive projection, including price and yield risk, is illustrated in Table 43-5 and Figures 43-1. Table 43-5 presents the average outcomes for selected financial projections, while the graphical presentation illustrates the full range of possibilities for Net Cash Farm Income (NCFI).

Because the furrow and drip plots were not equal in acreages, a per-acre analysis reflects a more accurate comparison of key indicators. Total cash receipts average about \$590 per acre for both irrigation methods. In addition to market receipts, total receipts include direct and counter-cyclical payments paid to base acres. Due primarily to the required replacement of drip tape every two years, cash costs average \$530 per acre for the drip compared to \$400 per acre for the furrow irrigation. Peak cash cost years reflect those years where drip tape is replaced. NCFI on a per acre for the furrow plot averages \$190 per acre, over three times higher than for the drip plot. The risk associated with prices and yields suggests that, in a normal production year, NCFI (Figure 43-1) could range as much as \$5,000 (\$132 per acre) plus or minus the average expected NCFI for the furrow site. However, for the drip site, NCFI is projected to be highly volatile with a higher probability of being negative. Cash reserves are expected to grow throughout the 10-year projection period for the furrow site (Table 43-5). Ending cash reserves for the furrow site are projected to reach \$70,960, substantially higher than the \$5,560 for the drip site. The average cash flow balances (Table 43-5) are intended to illustrate the cash requirements or flows generated by the two irrigation methods.

Table 43-1. Cotton, Furrow Irrigation Demonstration
SUMMARY OF CROP ACREAGE, YIELD, AND VARIABLE COSTS IN 2006.

	Cotton Irr	Cotton Sdlrr
PLANTED ACRES	38	38
BASE ACRES	29.91	0
YIELD UNITS	lb	ton
BUDGETING YIELD	1000	0.75
FARM PROG YLD DIR	959	0
FARM PROG YLD CCP	959	0
PRICES/YIELD UNIT	0.44	99.07
VARIABLE PRODUCTION COSTS (\$/ACRE)		
SEED	31.29	0
FERTILIZER	36.05	0
HERBICIDES	15	0
INSECTICIDES	40	0
FUNGICIDES	0	0
CUSTOM APPLICATION	30	0
SCOUTING / OTHER	0	0
IRRIGATION FUEL	51	0
TILLAGE/HARVST FUEL	17.77	0
HARVESTING, HAULING, DRYING & CHECKOFF: \$/YIELD UNIT	0.15	0
HARVEST COST/ACRE	10	0
BOLL WEEVIL COST/ACRE	28	0
LABOR COST /ACRE	30	0
LANDLORDS SHARE FRACTIONS		
CROP PRODUCTION	0.25	0.25
SEED	0	0
FERTILIZER	0.25	0
HERBICIDES	0	0
INSECTICIDES	0.25	0
FUNGICIDES	0	0
CUSTOM APPLICATION	0	0
SCOUTING / OTHER	0	0
IRRIGATION FUEL	0	0
TILL/HARVEST FUEL	0	0
HARVEST, HAULING, DRYING & CHECKOFF: \$/YIELD UNIT	0.25	0
HARVEST COST/ACRE	0	0
BOLL WEEVIL COST/ACRE	0	0
LABOR COST /ACRE	0	0
CROP INSURANCE		
YIELD ELECTION (FRACTION)	0.65	0
YIELD COVERAGE GUARANTEE	505.57	0
PRICE ELECTION (FRACTION)	1	0
PRICE GUARANTEE	0.4788	0
PREMIUM RATE (\$/ACRE)	11.1	0
PREMIUM COSTS	421.8	0

Table 43-2. Cotton, Drip Irrigation Demonstration
SUMMARY OF CROP ACREAGE, YIELD, AND VARIABLE COSTS IN 2006.

	Cotton Irr	Cotton Sdlrr
PLANTED ACRES	17	17
BASE ACRES	13.44	0
YIELD UNITS	lb	ton
BUDGETING YIELD	1000	0.75
FARM PROG YLD DIR	959	0
FARM PROG YLD CCP	959	0
PRICES/YIELD UNIT	0.44	99.07
VARIABLE PRODUCTION COSTS (\$/ACRE)		
SEED	31.29	0
FERTILIZER	36.05	0
HERBICIDES	15	0
INSECTICIDES	40	0
FUNGICIDES	0	0
CUSTOM APPLICATION	30	0
SCOUTING / OTHER	0	0
IRRIGATION FUEL	60	0
TILLAGE/HARVST FUEL	17.77	0
HARVESTING, HAULING, DRYING & CHECKOFF: \$/YIELD UNIT	0.15	0
HARVEST COST/ACRE	10	0
BOLL WEEVIL COST/ACRE	28	0
LABOR COST /ACRE	30	0
LANDLORDS SHARE FRACTIONS		
CROP PRODUCTION	0.25	0.25
SEED	0	0
FERTILIZER	0.25	0
HERBICIDES	0	0
INSECTICIDES	0.25	0
FUNGICIDES	0	0
CUSTOM APPLICATION	0	0
SCOUTING / OTHER	0	0
IRRIGATION FUEL	0	0
TILL/HARVEST FUEL	0	0
HARVEST, HAULING, DRYING & CHECKOFF: \$/YIELD UNIT	0.25	0
HARVEST COST/ACRE	0	0
BOLL WEEVIL COST/ACRE	0	0
LABOR COST /ACRE	0	0
CROP INSURANCE		
YIELD ELECTION (FRACTION)	0.65	0
YIELD COVERAGE GUARANTEE	505.57	0
PRICE ELECTION (FRACTION)	1	0
PRICE GUARANTEE	0.4788	0
PREMIUM RATE (\$/ACRE)	11.1	0
PREMIUM COSTS	188.7	0

Table 43 - 3 - A. Cotton, Furrow Irrigation Demonstrator

INCOME STATEMENT FOR YEARS 2006 - 2015

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
CASH INCOME (NET OF SHARE LEASE)										
CASH RECEIPTS FOR CROPS	14,658	15,502	15,851	15,933	16,304	16,684	17,070	17,418	17,472	17,530
DECOUPLED DIRECT PAYMENTS	1,401	1,401	1,401	1,401	1,401	1,401	1,401	1,401	1,401	1,401
DECOUPLED CCPs	2,685	2,649	2,616	2,563	2,441	2,243	2,054	1,878	1,774	1,753
MARKETING LOAN PAYMENTS	3,494	2,912	2,665	2,488	2,266	2,038	1,801	1,613	1,592	1,568
MPCI CROP INSURANCE INDEMNITY	0	0	0	0	0	0	0	0	0	0
TOTAL CASH RECEIPTS	22,237	22,465	22,533	22,385	22,412	22,366	22,326	22,311	22,239	22,253
CASH FARM EXPENSE (NET OF SHARE LEASE)										
CROP PROD & HARVEST COSTS										
SEED COSTS	1,189	1,206	1,220	1,240	1,260	1,282	1,302	1,320	1,339	1,358
FERTILIZER COSTS	1,027	994	967	978	997	1,021	1,041	1,061	1,079	1,098
HERBICIDE COSTS	570	564	561	565	571	580	589	597	605	614
INSECTICIDE COSTS	1,140	1,135	1,137	1,153	1,172	1,194	1,218	1,240	1,262	1,284
FUNGICIDE COSTS	0	0	0	0	0	0	0	0	0	0
CUSTOM APPLICATION	1,140	1,107	1,078	1,088	1,103	1,121	1,139	1,157	1,178	1,199
SCOUTING & OTHER	0	0	0	0	0	0	0	0	0	0
IRRIGATION FUEL COSTS	1,938	1,881	1,833	1,850	1,874	1,906	1,936	1,966	2,002	2,039
FUEL & LUBE COSTS	675	655	639	645	653	664	675	685	698	711
HARVESTING COSTS	4,655	4,533	4,430	4,485	4,559	4,650	4,738	4,827	4,931	5,037
CROP INSURANCE PREMIUMS	422	422	422	422	422	422	422	422	422	422
BOLL WEEVIL COSTS	1,064	1,064	1,064	1,064	1,064	1,064	1,064	1,064	1,064	1,064
HIRED LABOR COSTS	1,140	1,170	1,202	1,231	1,263	1,297	1,333	1,369	1,408	1,448
SUB-TOTAL OF PROD COSTS	14,961	14,730	14,551	14,720	14,938	15,201	15,457	15,708	15,988	16,274
CASH RENT FOR CROPLAND	0	0	0	0	0	0	0	0	0	0
RENT PASTURE	0	0	0	0	0	0	0	0	0	0
MANAGEMENT COSTS	0	0	0	0	0	0	0	0	0	0
MANAGEMENT BONUS	0	0	0	0	0	0	0	0	0	0
ADDITIONAL MGMT. COSTS	0	0	0	0	0	0	0	0	0	0
HIRED LABOR COSTS	0	0	0	0	0	0	0	0	0	0
PROPERTY TAXES	0	0	0	0	0	0	0	0	0	0
PERSONAL PROPERTY TAXES	0	0	0	0	0	0	0	0	0	0
SALES TAXES FOR INPUTS	0	0	0	0	0	0	0	0	0	0
OTHER TAXES	0	0	0	0	0	0	0	0	0	0
ACCOUNTANT & LEGAL FEES	0	0	0	0	0	0	0	0	0	0
UNALLOCATED MAINTENANCE	0	0	0	0	0	0	0	0	0	0
UTILITIES	0	0	0	0	0	0	0	0	0	0
OTHER FUEL & LUBE	0	0	0	0	0	0	0	0	0	0
LIABILITY INSURANCE	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS COSTS	0	0	0	0	0	0	0	0	0	0
LESS EXPENSES PREVIOUSLY PAID	0	0	0	0	0	0	0	0	0	0
PLUS PREPAID EXPENSES	0	0	0	0	0	0	0	0	0	0
SUB-TOTAL OF CASH COSTS	14,961	14,730	14,551	14,720	14,938	15,201	15,457	15,708	15,988	16,274
INTEREST ON LONG-TERM DEBT	0	0	0	0	0	0	0	0	0	0
INTEREST ON INTERMED. DEBT	0	0	0	0	0	0	0	0	0	0
INTEREST ON OPERATING DEBT	0	3	0	0	0	0	0	0	0	0
INTEREST ON CARRYOVER DEBT	0	0	0	0	0	0	0	0	0	0
TOTAL CASH EXPENSES	14,961	14,733	14,551	14,720	14,938	15,201	15,457	15,708	15,988	16,274
NET CASH FARM INCOME	7,277	7,732	7,982	7,665	7,474	7,165	6,869	6,603	6,251	5,979
ACCRUAL ADJUSTMENTS AND DEPRECIATION										
+/- CHANGE IN CROP INVENTORY	0	0	0	0	0	0	0	0	0	0
+/- CHANGE IN DEFERRED RECVBLS	0	0	0	0	0	0	0	0	0	0
+/- CHANGE IN LVSTK INVENTORY	0	0	0	0	0	0	0	0	0	0
+/- CHANGE IN PREPAID EXPENSES	0	0	0	0	0	0	0	0	0	0
+/- CHNG BASE VALU RAISED LVST	0	0	0	0	0	0	0	0	0	0
- BASIS BREEDING LVSTK SOLD	0	0	0	0	0	0	0	0	0	0
+ PURCHASED BREEDING LVSTK	0	0	0	0	0	0	0	0	0	0
- DEPRECIATION	0	0	0	0	0	0	0	0	0	-1
NET FARM INCOME	7,277	7,732	7,982	7,665	7,474	7,165	6,869	6,603	6,251	5,978
SUMMARY OF RECEIPTS & COSTS PER CROP ACRE										
CASH RECEIPTS (\$/ACRE)	585	591	593	589	590	589	588	587	585	586
CASH EXPENSES (\$/ACRE)	394	388	383	387	393	400	407	413	421	428
NET CASH INCOME (\$/ACRE)	191	203	210	202	197	189	181	174	165	157

Table 43 - 3 - B. Cotton, Furrow Irrigation Demonstration

CASHFLOW STATEMENT FOR YEARS 2006 - 2015

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
BEGINNING CASH	0	7,277	15,010	22,997	30,675	38,179	45,399	52,351	59,074	65,493
PLUS:										
NET CASH FARM INCOME	7,277	7,732	7,982	7,665	7,474	7,165	6,869	6,603	6,251	5,979
OFF-FARM SALARY FARMER	0	0	0	0	0	0	0	0	0	0
OFF-FARM SALARY SPOUSE	0	0	0	0	0	0	0	0	0	0
NON-TAXABLE INCOME	0	0	0	0	0	0	0	0	0	0
INTEREST ON CASH RESERVES	0	1	5	13	30	55	83	120	169	224
INVESTMENT EARNINGS/DIVIDENDS	0	0	0	0	0	0	0	0	0	0
NEW CAPITAL INVESTED IN FARM	0	0	0	0	0	0	0	0	0	0
CORPORATE DIVIDENDS EARNED	0	0	0	0	0	0	0	0	0	0
PARTNERSHIP CASH DRAWS	0	0	0	0	0	0	0	0	0	0
CASH INVESTED FROM OWNERS	0	0	0	0	0	0	0	0	0	0
SELL MACH./LIVESTOCK/CROPS	0	0	0	0	0	0	0	0	0	0
PROCEEDS FROM ASSETS SOLD	0	0	0	0	0	0	0	0	0	0
TOTAL CASH AVAILABLE	7,277	15,010	22,997	30,675	38,179	45,399	52,351	59,074	65,493	71,696
MINUS:										
DOWN PYMT NON-MACH PURCHASE	0	0	0	0	0	0	0	0	0	0
CASH DIFFERENCE MACH REPLACED	0	0	0	0	0	0	0	0	0	0
PAYOFF MACHINERY BOUGHT	0	0	0	0	0	0	0	0	0	0
REG. PRINCIPAL PAY. LONG-TERM	0	0	0	0	0	0	0	0	0	0
ACC. PRINCIPAL PAY. LONG-TERM	0	0	0	0	0	0	0	0	0	0
REG. PRINCIPAL PAY. INTR-TERM	0	0	0	0	0	0	0	0	0	0
ACC. PRINCIPAL PAY. INTR-TERM	0	0	0	0	0	0	0	0	0	0
PAY OPERATING LOAN CARRYOVER	0	0	0	0	0	0	0	0	0	0
FIXED INVESTMENT CONTRIBUTION	0	0	0	0	0	0	0	0	0	0
ADDITIONAL INVESTMENTS	0	0	0	0	0	0	0	0	0	0
CASH PAID TO PRTNSHIP/CORPS	0	0	0	0	0	0	0	0	0	0
PARTNERSHIP CASH WITHDRAWAL	0	0	0	0	0	0	0	0	0	0
FEDERAL INCOME TAX PAYMENTS	0	0	0	0	0	0	0	0	0	0
STATE INCOME TAX PAYMENTS	0	0	0	0	0	0	0	0	0	0
SELF-EMPLOYMENT+SOC SEC TAXES	0	0	0	0	0	0	0	0	0	0
TOTAL CASH OUTFLOWS	0	0	0	0	0	0	0	0	0	0
SURPLUS OR DEFICIT CASH	7,277	15,010	22,997	30,675	38,179	45,399	52,351	59,074	65,493	71,696
ENDING YEAR CASH RESERVE	7,277	15,010	22,997	30,675	38,179	45,399	52,351	59,074	65,493	71,696

Table 43 - 4 - A. Cotton, Drip Irrigation Demonstrator

INCOME STATEMENT FOR YEARS 2006 - 2015

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
CASH INCOME (NET OF SHARE LEASE)										
CASH RECEIPTS FOR CROPS	6,557	6,935	7,091	7,128	7,294	7,464	7,636	7,792	7,816	7,843
DECOUPLED DIRECT PAYMENTS	630	630	630	630	630	630	630	630	630	630
DECOUPLED CCPs	1,206	1,190	1,175	1,152	1,097	1,008	923	844	797	788
MARKETING LOAN PAYMENTS	1,563	1,303	1,192	1,113	1,014	912	806	722	712	702
MPCI CROP INSURANCE INDEMNITY	0	0	0	0	0	0	0	0	0	0
TOTAL CASH RECEIPTS	9,956	10,058	10,088	10,022	10,034	10,013	9,995	9,988	9,955	9,962
CASH FARM EXPENSE (NET OF SHARE LEASE)										
CROP PROD & HARVEST COSTS										
SEED COSTS	532	539	546	555	564	573	583	590	599	607
FERTILIZER COSTS	460	445	433	437	446	457	466	475	483	491
HERBICIDE COSTS	255	252	251	253	256	259	264	267	271	275
INSECTICIDE COSTS	510	508	509	516	524	534	545	555	565	574
FUNGICIDE COSTS	0	0	0	0	0	0	0	0	0	0
CUSTOM APPLICATION	510	495	482	487	493	502	509	517	527	537
SCOUTING & OTHER	0	0	0	0	0	0	0	0	0	0
IRRIGATION FUEL COSTS	1,020	990	965	974	986	1,003	1,019	1,035	1,054	1,073
FUEL & LUBE COSTS	302	293	286	288	292	297	302	307	312	318
HARVESTING COSTS	2,082	2,028	1,982	2,006	2,039	2,080	2,120	2,160	2,206	2,254
CROP INSURANCE PREMIUMS	189	189	189	189	189	189	189	189	189	189
BOLL WEEVIL COSTS	476	476	476	476	476	476	476	476	476	476
HIRED LABOR COSTS	510	523	538	551	565	580	596	612	630	648
SUB-TOTAL OF PROD COSTS	6,846	6,738	6,654	6,731	6,831	6,951	7,068	7,183	7,311	7,442
CASH RENT FOR CROPLAND	0	0	0	0	0	0	0	0	0	0
RENT PASTURE	0	0	0	0	0	0	0	0	0	0
MANAGEMENT COSTS	0	0	0	0	0	0	0	0	0	0
MANAGEMENT BONUS	0	0	0	0	0	0	0	0	0	0
ADDITIONAL MGMT. COSTS	0	0	0	0	0	0	0	0	0	0
HIRED LABOR COSTS	0	0	0	0	0	0	0	0	0	0
PROPERTY TAXES	0	0	0	0	0	0	0	0	0	0
PERSONAL PROPERTY TAXES	0	0	0	0	0	0	0	0	0	0
SALES TAXES FOR INPUTS	0	0	0	0	0	0	0	0	0	0
OTHER TAXES	0	0	0	0	0	0	0	0	0	0
ACCOUNTANT & LEGAL FEES	0	0	0	0	0	0	0	0	0	0
UNALLOCATED MAINTENANCE	0	0	0	0	0	0	0	0	0	0
UTILITIES	0	0	0	0	0	0	0	0	0	0
OTHER FUEL & LUBE	0	0	0	0	0	0	0	0	0	0
LIABILITY INSURANCE	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS COSTS	0	0	0	0	0	0	0	0	0	0
Drip Tape	4,080	0	4,080	0	4,080	0	4,080	0	4,080	0
LESS EXPENSES PREVIOUSLY PAID	0	0	0	0	0	0	0	0	0	0
PLUS PREPAID EXPENSES	0	0	0	0	0	0	0	0	0	0
SUB-TOTAL OF CASH COSTS	10,926	6,738	10,734	6,731	10,911	6,951	11,148	7,183	11,391	7,442
INTEREST ON LONG-TERM DEBT	0	0	0	0	0	0	0	0	0	0
INTEREST ON INTERMED. DEBT	0	0	0	0	0	0	0	0	0	0
INTEREST ON OPERATING DEBT	0	3	10	8	19	17	26	21	32	23
INTEREST ON CARRYOVER DEBT	0	4	3	5	0	0	0	0	0	0
TOTAL CASH EXPENSES	10,926	6,745	10,747	6,745	10,930	6,968	11,174	7,203	11,422	7,464
NET CASH FARM INCOME	-969	3,314	-658	3,277	-896	3,045	-1,179	2,784	-1,467	2,497
ACCRUAL ADJUSTMENTS AND DEPRECIATION										
+/- CHANGE IN CROP INVENTORY	0	0	0	0	0	0	0	0	0	0
+/- CHANGE IN DEFERRED RECVBLS	0	0	0	0	0	0	0	0	0	0
+/- CHANGE IN LVSTK INVENTORY	0	0	0	0	0	0	0	0	0	0
+/- CHANGE IN PREPAID EXPENSES	0	0	0	0	0	0	0	0	0	0
+/- CHNG BASE VALU RAISED LVST	0	0	0	0	0	0	0	0	0	0
- BASIS BREEDING LVSTK SOLD	0	0	0	0	0	0	0	0	0	0
+ PURCHASED BREEDING LVSTK	0	0	0	0	0	0	0	0	0	0
- DEPRECIATION	-288	-533	-453	-385	-336	-336	-336	-336	-336	-336
NET FARM INCOME	-1,257	2,781	-1,111	2,892	-1,231	2,709	-1,515	2,449	-1,802	2,161
SUMMARY OF RECEIPTS & COSTS PER CROP ACRE										
CASH RECEIPTS (\$/ACRE)	586	592	593	590	590	589	588	588	586	586
CASH EXPENSES (\$/ACRE)	643	397	632	397	643	410	657	424	672	439
NET CASH INCOME (\$/ACRE)	-57	195	-39	193	-53	179	-69	164	-86	147

Table 43 - 4 - B. Cotton, Drip Irrigation Demonstration

CASHFLOW STATEMENT FOR YEARS 2006 - 2015

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
BEGINNING CASH	0	0	0	0	1,123	228	3,273	2,098	4,885	3,426
PLUS:										
NET CASH FARM INCOME	-969	3,314	-658	3,277	-896	3,045	-1,179	2,784	-1,467	2,497
OFF-FARM SALARY FARMER	0	0	0	0	0	0	0	0	0	0
OFF-FARM SALARY SPOUSE	0	0	0	0	0	0	0	0	0	0
NON-TAXABLE INCOME	0	0	0	0	0	0	0	0	0	0
INTEREST ON CASH RESERVES	0	0	0	0	1	0	4	3	8	7
INVESTMENT EARNINGS/DIVIDENDS	0	0	0	0	0	0	0	0	0	0
NEW CAPITAL INVESTED IN FARM	0	0	0	0	0	0	0	0	0	0
CORPORATE DIVIDENDS EARNED	0	0	0	0	0	0	0	0	0	0
PARTNERSHIP CASH DRAWS	0	0	0	0	0	0	0	0	0	0
CASH INVESTED FROM OWNERS	0	0	0	0	0	0	0	0	0	0
SELL MACH./LIVESTOCK/CROPS	0	0	0	0	0	0	0	0	0	0
PROCEEDS FROM ASSETS SOLD	0	0	0	0	0	0	0	0	0	0
TOTAL CASH AVAILABLE	-969	3,314	-658	3,277	228	3,273	2,098	4,885	3,426	5,930
MINUS:										
DOWN PYMT NON-MACH PURCHASE	0	0	0	0	0	0	0	0	0	0
CASH DIFFERENCE MACH REPLACED	3,840	0	0	0	0	0	0	0	0	0
PAYOFF MACHINERY BOUGHT										
REG. PRINCIPAL PAY. LONG-TERM	0	0	0	0	0	0	0	0	0	0
ACC. PRINCIPAL PAY. LONG-TERM	0	0	0	0	0	0	0	0	0	0
REG. PRINCIPAL PAY. INTR-TERM	0	0	0	0	0	0	0	0	0	0
ACC. PRINCIPAL PAY. INTR-TERM	0	0	0	0	0	0	0	0	0	0
PAY OPERATING LOAN CARRYOVER	0	4,809	1,496	2,154	0	0	0	0	0	0
FIXED INVESTMENT CONTRIBUTION	0	0	0	0	0	0	0	0	0	0
ADDITIONAL INVESTMENTS	0	0	0	0	0	0	0	0	0	0
CASH PAID TO PRTNSHIP/CORPS	0	0	0	0	0	0	0	0	0	0
PARTNERSHIP CASH WITHDRAWAL	0	0	0	0	0	0	0	0	0	0
FEDERAL INCOME TAX PAYMENTS	0	0	0	0	0	0	0	0	0	0
STATE INCOME TAX PAYMENTS	0	0	0	0	0	0	0	0	0	0
SELF-EMPLOYMENT+SOC SEC TAXES	0	0	0	0	0	0	0	0	0	0
TOTAL CASH OUTFLOWS	3,840	4,809	1,496	2,154	0	0	0	0	0	0
SURPLUS OR DEFICIT CASH	-4,809	-1,496	-2,154	1,123	228	3,273	2,098	4,885	3,426	5,930
ENDING YEAR CASH RESERVE	0	0	0	1,123	228	3,273	2,098	4,885	3,426	5,930

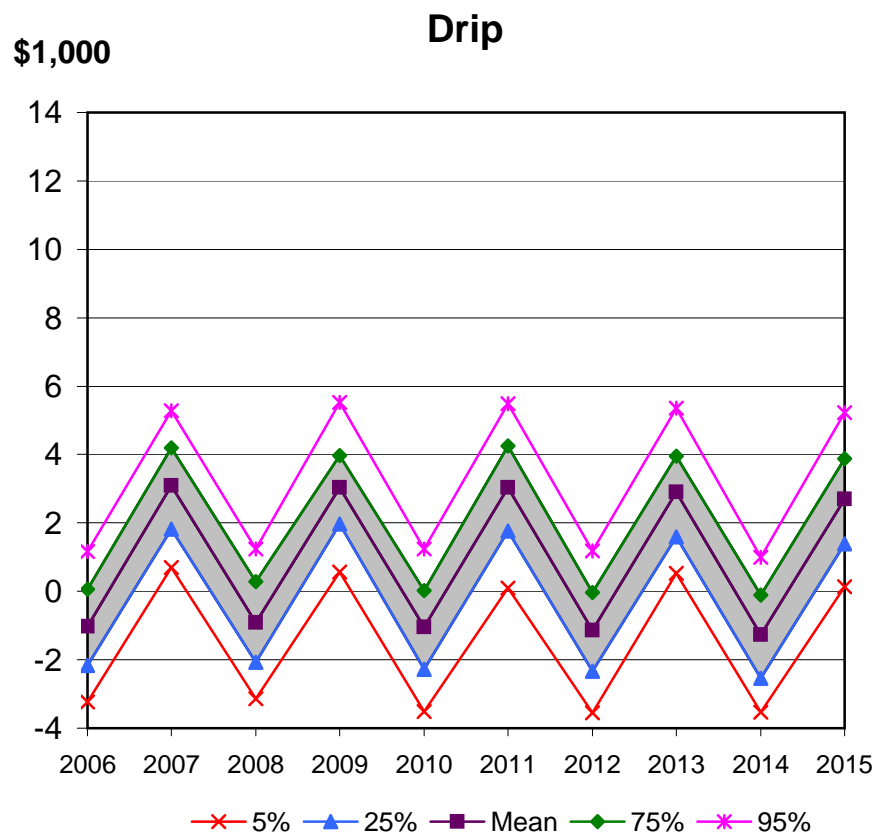
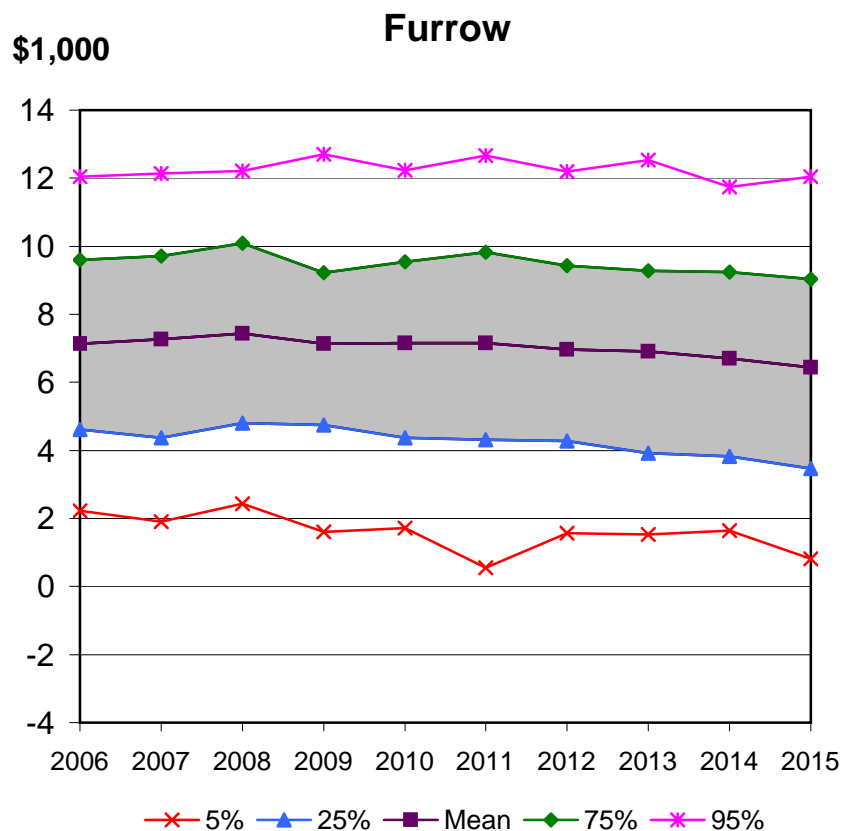
Table 43-5. Cotton, Furrow & Drip Irrigation Demonstration

	Furrow		Drip	
	Total (38 acres)	Per Acre	Total (17 acres)	Per Acre
Total Cash Receipts (\$1000)				
2006	22.11	0.58	9.90	0.58
2007	22.00	0.58	9.85	0.58
2008	21.98	0.58	9.84	0.58
2009	21.86	0.58	9.79	0.58
2010	22.10	0.58	9.89	0.58
2011	22.37	0.59	10.01	0.59
2012	22.42	0.59	10.04	0.59
2013	22.61	0.60	10.12	0.60
2014	22.69	0.60	10.16	0.60
2015	22.70	0.60	10.16	0.60
2006-2015 Average	22.28	0.59	9.98	0.59
Total Cash Costs (\$1000)				
2006	14.96	0.39	10.93	0.64
2007	14.74	0.39	6.75	0.40
2008	14.55	0.38	10.75	0.63
2009	14.72	0.39	6.75	0.40
2010	14.94	0.39	10.93	0.64
2011	15.21	0.40	6.98	0.41
2012	15.45	0.41	11.18	0.66
2013	15.71	0.41	7.21	0.42
2014	16.00	0.42	11.43	0.67
2015	16.27	0.43	7.47	0.44
2006-2015 Average	15.25	0.40	9.04	0.53
Net Cash Farm Income (\$1000)				
2006	7.14	0.19	-1.03	-0.06
2007	7.26	0.19	3.10	0.18
2008	7.43	0.20	-0.91	-0.05
2009	7.14	0.19	3.04	0.18
2010	7.16	0.19	-1.04	-0.06
2011	7.16	0.19	3.03	0.18
2012	6.97	0.18	-1.14	-0.07
2013	6.91	0.18	2.91	0.17
2014	6.70	0.18	-1.27	-0.07
2015	6.43	0.17	2.69	0.16
2006-2015 Average	7.03	0.19	0.94	0.06
Ending Cash Reserves (\$1000)				
2006	7.14	0.19	-4.87	-0.29
2007	14.40	0.38	-1.77	-0.10
2008	21.83	0.57	-2.68	-0.16
2009	28.99	0.76	0.36	0.02
2010	36.18	0.95	-0.68	-0.04
2011	43.39	1.14	2.36	0.14
2012	50.43	1.33	1.22	0.07
2013	57.46	1.51	4.14	0.24
2014	64.31	1.69	2.87	0.17
2015	70.96	1.87	5.56	0.33
2006-2015 Average	39.51	1.04	0.65	0.04

Table 5. Cotton, Furrow & Drip Irrigation Demonstration

	Furrow (38 acres)	Drip (17 acres)
Prob. Net Cash Income < Zero (%)		
2006	1.00	70.00
2007	1.00	1.00
2008	1.00	70.00
2009	1.00	1.00
2010	1.00	73.00
2011	1.00	2.00
2012	1.00	76.00
2013	1.00	1.00
2014	1.00	78.00
2015	2.00	3.00
Prob. of Average Net Cash Farm Income < Zero, 2006-2015 (%)	1.00	37.40
Average Annual Operating Expense/Receipts		
2006	0.69	1.13
2007	0.69	0.70
2008	0.68	1.12
2009	0.69	0.71
2010	0.69	1.14
2011	0.70	0.72
2012	0.71	1.15
2013	0.71	0.73
2014	0.72	1.16
2015	0.74	0.75
2006-2015 Average	0.70	0.93

Figure 43-1. Projected Variability in Net Cash Farm Income for Furrow vs. Drip Irrigated Cotton.



Note: Percentages indicate the probability that Net Cash Farm Income is below the indicated level. The shaded area contains 50% of the projected outcomes.

Demonstration Site 44A: Cotton, Surge Irrigation with Poly-Pipe

The basic costs of production assumptions for the cotton surge with poly-pipe demonstration are given in Table 44A-1. For the purpose of presenting economic viability and outlook for the 38-acre site, production costs and overhead charges are producer estimated rates and may not reflect all producers but should be reasonable for the region. The first year of the financial projection is 2006. The assumptions and projections are intended to make the illustration relevant to a wide range of producers in the Lower Rio Grande Valley area.

The analysis consists of a 10-year financial outlook for the 38 acres of surge irrigation with poly-pipe cotton production. It is not assumed the cotton acreage is rotated annually with another crop. The initial cotton price is \$.529/lb., including marketing loan deficiency payments. Other commodity price trends and cost inflation estimates are provided by the Food and Agricultural Policy Research Institute (FAPRI, at the University of Missouri).

The analysis also includes the purchase and use of a surge valve at a cost of \$2,200. The surge valve expense is evenly distributed over the 10-year period with the assumption of no financing costs.

A detail of the income and expense projection for the surge irrigation with poly-pipe is provided in Table 44A-2-A, followed by a cash flow summary (Table 44A-2-B). These income and cash flow statements result from the simplistic (no risk) forecast assuming average prices and yields. A more comprehensive projection, including price and yield risk, is illustrated in Table 44A-3 and Figures 44A-1 and 44A-2. Table 44A-3 presents the average outcomes for selected financial projections,

while the graphical presentation illustrates the full range of possibilities for Net Cash Farm Income (NCFI).

Total cash receipts average \$22,490 over the 10-year period and cash costs average just under \$17,370. In addition to market receipts, total receipts include direct and counter-cyclical payments paid to base acres. NCFI increases throughout the 10-year period from \$2,870 in 2006 to \$6,440 in 2015 (Table 44A-3). The risk associated with prices and yields suggests some chances of negative NCFI. In a normal production year, NCFI (Figure 44A-1) could range as much as \$6,000 plus or minus the average expected NCFI for the site. Cash reserves are expected to grow throughout the 10-year projection period and reach \$51,680 by 2015 (Table 44A-3). The average cash flow balances (Table 44A-3) are intended to illustrate the cash requirements or flows generated using the surge irrigation method. Figure 44A-2 depicts the growth in cash reserves, and the risk associated with the ending cash balance by reflecting the probability of carryover debt in the early years of the projection. The probability of carryover debt is 18% or greater in 2006 and then declines to 1% or less by 2011.

Table 44A-1. Cotton, Surge Irrigation with Poly-Pipe Demonstration
SUMMARY OF CROP ACREAGE, YIELD, AND VARIABLE COSTS IN 2006.

	SprCorn	Sorghm Irr	Cotton Irr	Cotton Sdlrr
PLANTED ACRES	0	0	38	38
BASE ACRES	6.27	4.89	22.42	0
YIELD UNITS	bu	cwt	lb	ton
BUDGETING YIELD	83	45	750	0.63
FARM PROG YLD DIR	79	35.28	550	0
FARM PROG YLD CCP	79	35.28	550	0
PRICES/YIELD UNIT	2.46	3.62	0.45	106.62
VARIABLE PRODUCTION COSTS (\$/ACRE)				
SEED	45	16	45	0
FERTILIZER	30	24	31	0
HERBICIDES	15	5	20	0
INSECTICIDES	0	0	0	0
FUNGICIDES	0	0	0	0
CUSTOM APPLICATION	0	0	30	0
SCOUTING / OTHER	0	0	0	0
IRRIGATION FUEL	42	18	40	0
TILLAGE/HARVST FUEL	0	0	21	0
HARVESTING, HAULING, DRYING & CHECKOFF: \$/YIELD UNIT	0.152	0.27	0.12	0
HARVEST COST/ACRE	0	0	0	0
BOLL WEEVIL COST/ACRE	0	0	28	0
LABOR COST /ACRE	0	0	57	0
CROP INSURANCE				
YIELD ELECTION (FRACTION)	0.65	0.5	0.65	0
YIELD COVERAGE GUARANTEE	0	0	383.305	0
PRICE ELECTION (FRACTION)	1	1	1	0
PRICE GUARANTEE	0	0	0.5115	0
PREMIUM RATE (\$/ACRE)	9.16	5.38	10.1	0
PREMIUM COSTS	0	0	383.8	0

Table 44A - 2 - A. Cotton, Surge with Poly-Pipe Demonstrator
INCOME STATEMENT FOR YEARS 2006 - 2015

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
CASH INCOME (NET OF SHARE LEASE)										
CASH RECEIPTS FOR CROPS	15,377	16,401	17,349	17,683	17,991	18,618	18,937	19,291	19,621	19,973
DECOUPLED DIRECT PAYMENTS	909	909	909	909	909	909	909	909	909	909
DECOUPLED CCPs	1,581	1,409	1,245	1,123	1,071	1,068	1,031	988	982	978
MARKETING LOAN PAYMENTS	2,720	2,229	1,933	1,766	1,818	1,783	1,667	1,660	1,706	1,673
MPCI CROP INSURANCE INDEMNITY	0	0	0	0	0	0	0	0	0	0
TOTAL CASH RECEIPTS	20,588	20,948	21,435	21,480	21,789	22,379	22,543	22,847	23,217	23,534
CASH FARM EXPENSE (NET OF SHARE LEASE)										
CROP PROD & HARVEST COSTS										
SEED COSTS	1,710	1,735	1,712	1,729	1,754	1,783	1,799	1,820	1,838	1,853
FERTILIZER COSTS	1,178	1,185	1,172	1,158	1,174	1,184	1,192	1,212	1,230	1,243
HERBICIDE COSTS	760	758	749	755	763	770	778	788	796	802
INSECTICIDE COSTS	0	0	0	0	0	0	0	0	0	0
FUNGICIDE COSTS	0	0	0	0	0	0	0	0	0	0
MAINTENANCE & EQUIPMENT	1,140	1,124	1,059	1,025	997	975	965	976	992	1,007
SCOUTING & OTHER	0	0	0	0	0	0	0	0	0	0
IRRIGATION FUEL COSTS	1,520	1,520	1,520	1,534	1,555	1,581	1,606	1,631	1,661	1,691
FUEL & LUBE COSTS	798	787	741	717	698	683	675	683	694	705
HARVESTING COSTS	3,420	3,428	3,283	3,228	3,191	3,174	3,191	3,282	3,389	3,496
CROP INSURANCE PREMIUMS	384	384	384	384	384	384	384	384	384	384
BOLL WEEVIL COSTS	1,064	1,064	1,064	1,064	1,064	1,064	1,064	1,064	1,064	1,064
HIRED LABOR COSTS	2,166	2,232	2,304	2,368	2,426	2,489	2,553	2,613	2,675	2,737
SUB-TOTAL OF PROD COSTS	14,140	14,217	13,989	13,963	14,004	14,087	14,206	14,453	14,723	14,982
CASH RENT FOR CROPLAND	2,660	2,660	2,660	2,660	2,660	2,660	2,660	2,660	2,660	2,660
RENT PASTURE	0	0	0	0	0	0	0	0	0	0
MANAGEMENT COSTS	0	0	0	0	0	0	0	0	0	0
MANAGEMENT BONUS	0	0	0	0	0	0	0	0	0	0
ADDITIONAL MGMT. COSTS	0	0	0	0	0	0	0	0	0	0
HIRED LABOR COSTS	0	0	0	0	0	0	0	0	0	0
PROPERTY TAXES	0	0	0	0	0	0	0	0	0	0
PERSONAL PROPERTY TAXES	0	0	0	0	0	0	0	0	0	0
SALES TAXES FOR INPUTS	0	0	0	0	0	0	0	0	0	0
OTHER TAXES	0	0	0	0	0	0	0	0	0	0
ACCOUNTANT & LEGAL FEES	0	0	0	0	0	0	0	0	0	0
UNALLOCATED MAINTENANCE	0	0	0	0	0	0	0	0	0	0
UTILITIES	0	0	0	0	0	0	0	0	0	0
OTHER FUEL & LUBE	0	0	0	0	0	0	0	0	0	0
LIABILITY INSURANCE	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS COSTS	0	0	0	0	0	0	0	0	0	0
Surge Valve	220	220	220	220	220	220	220	220	220	220
LESS EXPENSES PREVIOUSLY PAID	0	0	0	0	0	0	0	0	0	0
PLUS PREPAID EXPENSES	0	0	0	0	0	0	0	0	0	0
SUB-TOTAL OF CASH COSTS	17,020	17,097	16,869	16,843	16,884	16,967	17,086	17,333	17,603	17,862
INTEREST ON LONG-TERM DEBT	0	0	0	0	0	0	0	0	0	0
INTEREST ON INTERMED. DEBT	0	0	0	0	0	0	0	0	0	0
INTEREST ON OPERATING DEBT	638	538	397	244	78	0	0	0	0	0
INTEREST ON CARRYOVER DEBT	0	0	0	0	0	0	0	0	0	0
TOTAL CASH EXPENSES	17,658	17,635	17,266	17,086	16,962	16,967	17,086	17,333	17,603	17,862
NET CASH FARM INCOME	2,930	3,312	4,170	4,394	4,827	5,411	5,457	5,514	5,613	5,672
ACCRUAL ADJUSTMENTS AND DEPRECIATION										
+/- CHANGE IN CROP INVENTORY	0	0	0	0	0	0	0	0	0	0
+/- CHANGE IN DEFERRED RECVBLS	0	0	0	0	0	0	0	0	0	0
+/- CHANGE IN LVSTK INVENTORY	0	0	0	0	0	0	0	0	0	0
+/- CHANGE IN PREPAID EXPENSES	0	0	0	0	0	0	0	0	0	0
+/- CHNG BASE VALU RAISED LVST	0	0	0	0	0	0	0	0	0	0
- BASIS BREEDING LVSTK SOLD	0	0	0	0	0	0	0	0	0	0
+ PURCHASED BREEDING LVSTK	0	0	0	0	0	0	0	0	0	0
- DEPRECIATION	0	0	0	0	0	0	0	0	0	0
NET FARM INCOME	2,930	3,312	4,170	4,394	4,827	5,411	5,457	5,514	5,613	5,672
SUMMARY OF RECEIPTS & COSTS PER CROP ACRE										
CASH RECEIPTS (\$/ACRE)	542	551	564	565	573	589	593	601	611	619
CASH EXPENSES (\$/ACRE)	465	464	454	450	446	447	450	456	463	470
NET CASH INCOME (\$/ACRE)	77	87	110	116	127	142	144	145	148	149

Table 44A - 2 - B. Cotton, Surge Irrigation with Poly-Pipe Demonstration
CASHFLOW STATEMENT FOR YEARS 2006 - 2015

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
BEGINNING CASH	0	2,930	6,246	10,423	14,831	19,680	25,124	30,636	36,231	41,957
PLUS:										
NET CASH FARM INCOME	2,930	3,312	4,170	4,394	4,827	5,411	5,457	5,514	5,613	5,672
OFF-FARM SALARY FARMER	0	0	0	0	0	0	0	0	0	0
OFF-FARM SALARY SPOUSE	0	0	0	0	0	0	0	0	0	0
NON-TAXABLE INCOME	0	0	0	0	0	0	0	0	0	0
INTEREST ON CASH RESERVES	0	4	7	15	21	34	55	81	112	149
INVESTMENT EARNINGS/DIVIDENDS	0	0	0	0	0	0	0	0	0	0
NEW CAPITAL INVESTED IN FARM	0	0	0	0	0	0	0	0	0	0
CORPORATE DIVIDENDS EARNED	0	0	0	0	0	0	0	0	0	0
PARTNERSHIP CASH DRAWS	0	0	0	0	0	0	0	0	0	0
CASH INVESTED FROM OWNERS	0	0	0	0	0	0	0	0	0	0
SELL MACH./LIVESTOCK/CROPS	0	0	0	0	0	0	0	0	0	0
PROCEEDS FROM ASSETS SOLD	0	0	0	0	0	0	0	0	0	0
TOTAL CASH AVAILABLE	2,930	6,246	10,423	14,831	19,680	25,124	30,636	36,231	41,957	47,778
MINUS:										
DOWN PYMT NON-MACH PURCHASE	0	0	0	0	0	0	0	0	0	0
CASH DIFFERENCE MACH REPLACED	0	0	0	0	0	0	0	0	0	0
PAYOFF MACHINERY BOUGHT	0	0	0	0	0	0	0	0	0	0
REG. PRINCIPAL PAY. LONG-TERM	0	0	0	0	0	0	0	0	0	0
ACC. PRINCIPAL PAY. LONG-TERM	0	0	0	0	0	0	0	0	0	0
REG. PRINCIPAL PAY. INTR-TERM	0	0	0	0	0	0	0	0	0	0
ACC. PRINCIPAL PAY. INTR-TERM	0	0	0	0	0	0	0	0	0	0
PAY OPERATING LOAN CARRYOVER	0	0	0	0	0	0	0	0	0	0
FIXED INVESTMENT CONTRIBUTION	0	0	0	0	0	0	0	0	0	0
ADDITIONAL INVESTMENTS	0	0	0	0	0	0	0	0	0	0
CASH PAID TO PRTNSHIP/CORPS	0	0	0	0	0	0	0	0	0	0
PARTNERSHIP CASH WITHDRAWAL	0	0	0	0	0	0	0	0	0	0
FEDERAL INCOME TAX PAYMENTS	0	0	0	0	0	0	0	0	0	0
STATE INCOME TAX PAYMENTS	0	0	0	0	0	0	0	0	0	0
SELF-EMPLOYMENT+SOC SEC TAXES	0	0	0	0	0	0	0	0	0	0
TOTAL CASH OUTFLOWS	0	0	0	0	0	0	0	0	0	0
SURPLUS OR DEFICIT CASH	2,930	6,246	10,423	14,831	19,680	25,124	30,636	36,231	41,957	47,778
ENDING YEAR CASH RESERVE	2,930	6,246	10,423	14,831	19,680	25,124	30,636	36,231	41,957	47,778

Table 44A-3. Cotton, Surge Irrigation with Poly-Pipe Demonstration

Surge with Poly-Pipe	
Total Cash Receipts (\$1000)	
2006	20.51
2007	20.90
2008	21.57
2009	21.90
2010	22.25
2011	22.93
2012	23.23
2013	23.41
2014	23.86
2015	24.31
2006-2015 Average	22.49
Total Cash Costs (\$1000)	
2006	17.64
2007	17.64
2008	17.27
2009	17.12
2010	17.04
2011	17.05
2012	17.15
2013	17.35
2014	17.61
2015	17.87
2006-2015 Average	17.37
Net Cash Farm Income (\$1000)	
2006	2.87
2007	3.26
2008	4.31
2009	4.78
2010	5.22
2011	5.88
2012	6.08
2013	6.06
2014	6.26
2015	6.44
2006-2015 Average	5.12
Prob. Net Cash Income < Zero (%)	
2006	18.00
2007	18.00
2008	14.00
2009	11.00
2010	10.00
2011	9.00
2012	8.00
2013	8.00
2014	13.00
2015	10.00
Prob. of Average Net Cash Farm Income < Zero, 2006-2015 (%)	11.90

Table 44A-3. Cotton, Surge Irrigation with Poly-Pipe Demonstration

Surge with poly-Pipe

Ending Cash Reserves (\$1000)

2006	2.87
2007	6.14
2008	10.45
2009	15.25
2010	20.49
2011	26.41
2012	32.55
2013	38.70
2014	45.08
2015	51.68

2006-2015 Average 24.96

Prob. of Ending Cash Reserves < Zero (%)

2006	18.00
2007	10.00
2008	7.00
2009	4.00
2010	2.00
2011	1.00
2012	1.00
2013	1.00
2014	1.00
2015	1.00

Prob. of Ending Cash Reserves < Zero

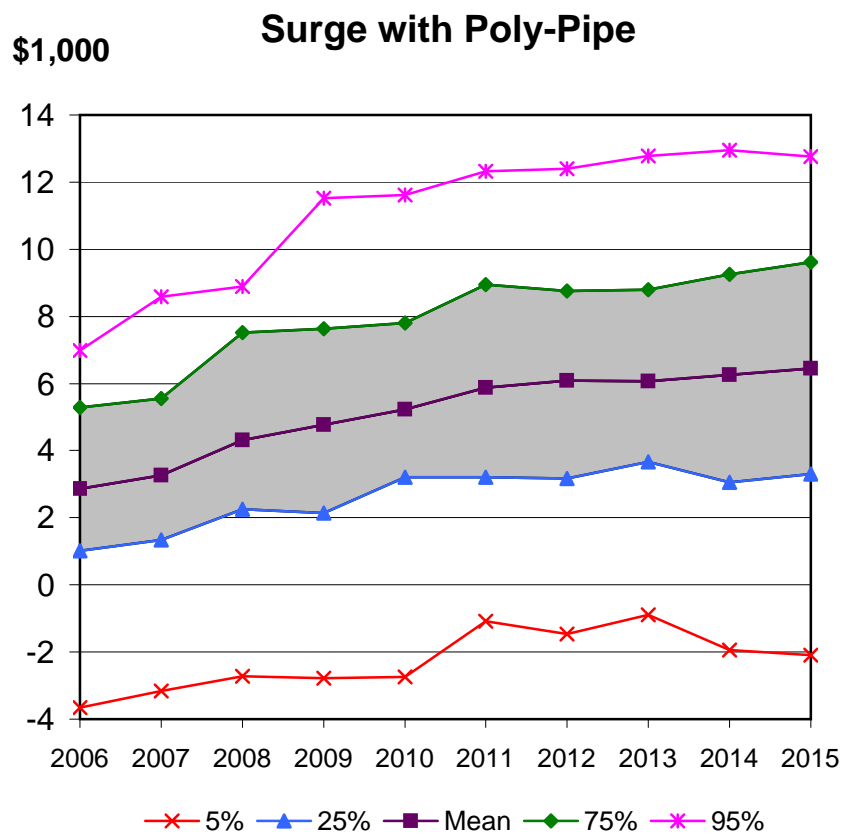
2006-2015 (%) 4.30

Average Annual Operating Expense/Receipts

2006	0.86
2007	0.85
2008	0.81
2009	0.80
2010	0.79
2011	0.77
2012	0.76
2013	0.77
2014	0.77
2015	0.77

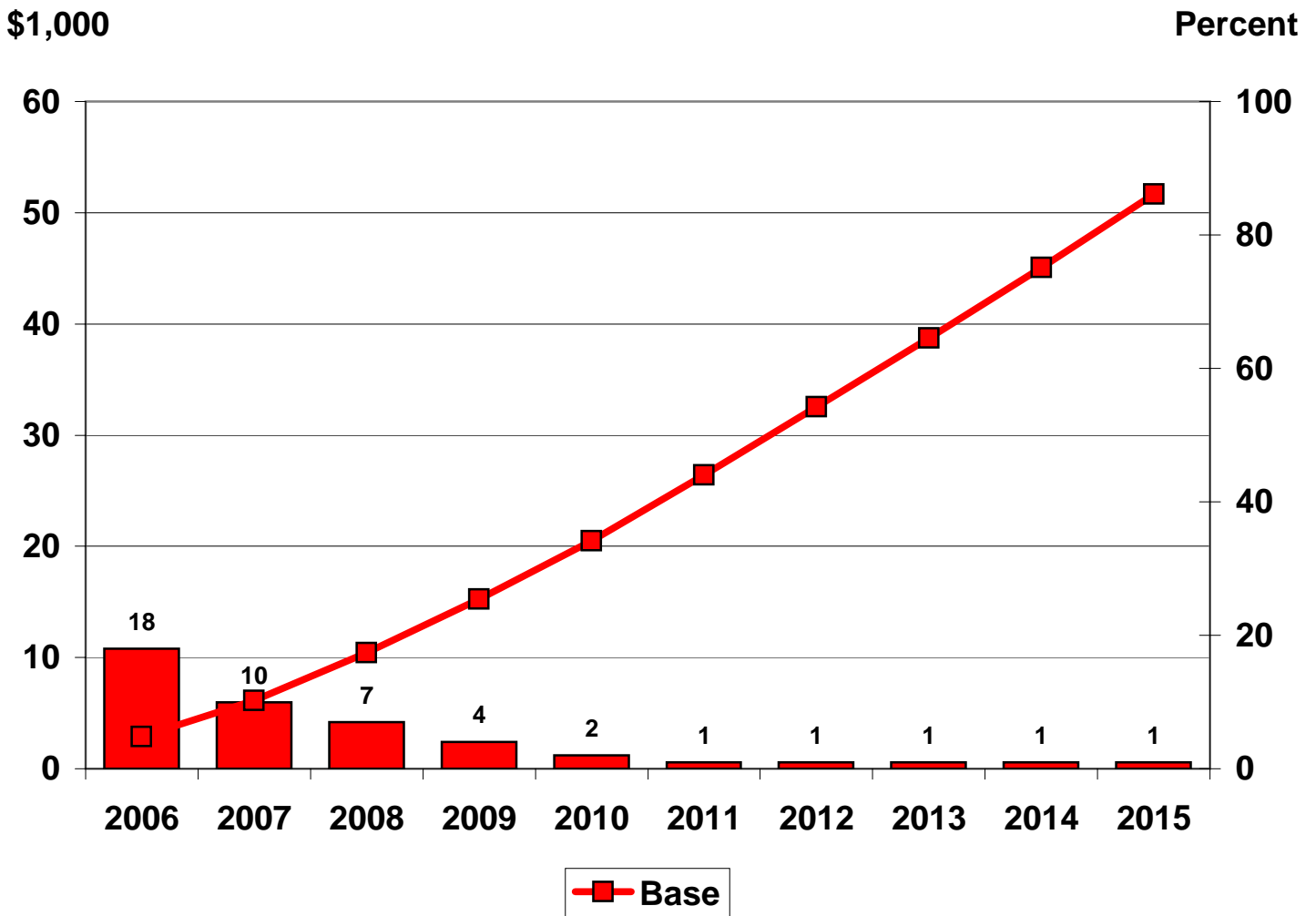
2006-2015 Average 0.79

Figure 44A-1. Projected Variability in Net Cash Farm Income for Irrigated Cotton, Surge Irrigation with Poly-Pipe Demonstration.



Note: Percentages indicate the probability that Net Cash Farm Income is below the indicated level.
 The shaded area contains 50% of the projected outcomes.

Figure 44A-2. Ending Cash Reserves and Prob. of Having to Refinance Operating Note for Irrigated Cotton, Surge Irrigation with Poly-Pipe Demonstration.



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Demonstration Site 45: Sugarcane, Furrow Irrigation with Poly-Pipe

Table 45-1 provides the basic cost of production assumptions for the sugarcane furrow irrigation with poly-pipe demonstration. For the purpose of presenting economic viability and outlook for the 38-acre site, production costs and overhead charges are producer estimated rates and may not be typical for the region. The actual demonstration was conducted on a new field of sugarcane, where 2006 is the establishment year of the crop and the first year of the financial projection. The assumptions and projections are intended to make the illustration relevant to a wide range of producers in the Lower Rio Grande Valley area.

The analysis consists of a 10-year financial outlook for the 38 acres of sugarcane production including the initial outright purchase of sugarcane grinding rights (\$800/acre) with no financing. While the baseline scenario produces a negative cash position and subsequent negative carryover cash balances, no interest was charged on carryover balances. The purpose is to illustrate the amount of cash flow a producer would have to support. Some may support that cash flow with extended term debt, and others may be able to self finance the purchase with no direct interest cost. For the 10-year outlook projection, the sugarcane price is based on the producer's estimate of future prices and is held at an average of \$17 per ton throughout the analysis period. Other commodity price trends and cost inflation estimates are provided by the Food and Agricultural Policy Research Institute (FAPRI, at the University of Missouri).

A detail of the income and expense projection for the baseline is provided in Table 45-2-A, followed by a cash flow summary (Table 45-2-B). The income and cash flow statement results from the simplistic (no risk) forecast assuming average prices and yields. The more comprehensive

projection including price and yield risk is illustrated in Table 45-3 and Figures 45-1, 45-2 & 45-3. Table 45-3 presents the average outcomes for selected financial projections, while the graphical presentations illustrate the full range of possibilities for Net Cash Farm Income (NCFI) and cash flow requirements. Total cash receipts average just over \$32,000 initially and decline as the productive capacity of the sugarcane diminishes until the sixth year when the land is idle. Cash costs also reflect the sugarcane production cycle, requiring roughly \$21,080 in the initial year, about one-half that amount in subsequent years and approximately \$4,930 in the idle year. Average NCFI generally follows the sugarcane production cycle producing \$11,180 profit in the initial year and peaking at \$17,310 the second year. It averages approximately \$9,680 per year for the assumed 6-year sugarcane cycle. The risk associated with prices and yields suggests that, in a normal production year, NCFI (Figure 45-1) could range as much as \$7,000 to \$8,000 plus or minus the average expected NCFI. Except for the 2011 idle year, cash reserves are expected to grow throughout the 10-year projection period Figure 45-2. The average cash flow balances (line in Figures 45-2 and 45-3) are intended to illustrate the cash requirements or positive flows generated by the enterprise. The bars in Figure 45-3 indicate the probability of the net cash impact being negative in a specific year. It is important to note here that, although not included, the base could also create definitive interest charges depending on the whole farm's ability to support the cash requirements of the enterprise.

Table 45-1. Sugarcane, Furrow Irrigation with Poly-Pipe Demonstration
SUMMARY OF CROP ACREAGE, YIELD, AND VARIABLE COSTS.

	Sugar Cane
PLANTED ACRES	38
BASE ACRES	0
YIELD UNITS	ton
BUDGETING YIELD	50
FARM PROG YLD DIR	0
FARM PROG YLD CCP	0
PRICES/YIELD UNIT	17
VARIABLE PRODUCTION COSTS (\$/ACRE)	
SEED	0
FERTILIZER	48
HERBICIDES	18
INSECTICIDES	0
FUNGICIDES	0
CUSTOM APPLICATION	0
SCOUTING / OTHER	0
IRRIGATION FUEL	56
TILLAGE/HARVST FUEL	16
HARVESTING, HAULING, DRYING & CHECKOFF: \$/YIELD UNIT	0
HARVEST COST/ACRE	0
BOLL WEEVIL COST/ACRE	0
LABOR COST /ACRE	33
CROP INSURANCE	
YIELD ELECTION (FRACTION)	0.65
YIELD COVERAGE GUARANTEE	0
PRICE ELECTION (FRACTION)	1
PRICE GUARANTEE	16
PREMIUM RATE (\$/ACRE)	13
PREMIUM COSTS	494

Table 45 - 2 - A. Sugarcane, Furrow Irrigation with Poly-Pipe Demonstrator
INCOME STATEMENT FOR YEARS 2006 - 2015

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
CASH INCOME (NET OF SHARE LEASE)										
CASH RECEIPTS FOR CROPS	32,300	29,070	25,840	24,548	19,380	0	32,300	29,070	25,840	24,548
DECOUPLED DIRECT PAYMENTS	0	0	0	0	0	0	0	0	0	0
DECOUPLED CCPs	0	0	0	0	0	0	0	0	0	0
MARKETING LOAN PAYMENTS	0	0	0	0	0	0	0	0	0	0
MPCI CROP INSURANCE INDEMNITY	0	0	0	0	0	0	0	0	0	0
TOTAL CASH RECEIPTS	32,300	29,070	25,840	24,548	19,380	0	32,300	29,070	25,840	24,548
CASH FARM EXPENSE (NET OF SHARE LEASE)										
CROP PROD & HARVEST COSTS										
SEED COSTS	0	0	0	0	0	0	0	0	0	0
FERTILIZER COSTS	1,824	1,764	1,717	1,736	1,771	0	1,849	1,884	1,916	1,950
HERBICIDE COSTS	684	677	673	678	686	0	707	716	727	737
INSECTICIDE COSTS	0	0	0	0	0	0	0	0	0	0
FUNGICIDE COSTS	0	0	0	0	0	0	0	0	0	0
CUSTOM APPLICATION	0	0	0	0	0	0	0	0	0	0
SCOUTING & OTHER	0	0	0	0	0	0	0	0	0	0
IRRIGATION COSTS	2,128	2,066	2,012	2,031	2,058	0	2,126	2,159	2,199	2,239
FUEL & LUBE COSTS	608	590	575	580	588	0	607	617	628	640
HARVESTING COSTS	0	0	0	0	0	0	0	0	0	0
CROP INSURANCE PREMIUMS	494	494	494	494	494	0	494	494	494	494
BOLL WEEVIL COSTS	0	0	0	0	0	0	0	0	0	0
HIRED LABOR COSTS	1,254	1,287	1,322	1,355	1,390	0	1,466	1,506	1,548	1,593
SUB-TOTAL OF PROD COSTS	6,992	6,878	6,793	6,874	6,986	0	7,249	7,376	7,512	7,652
CASH RENT FOR CROPLAND	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800
RENT PASTURE	0	0	0	0	0	0	0	0	0	0
MANAGEMENT COSTS	0	0	0	0	0	0	0	0	0	0
MANAGEMENT BONUS	0	0	0	0	0	0	0	0	0	0
ADDITIONAL MGMT. COSTS	0	0	0	0	0	0	0	0	0	0
HIRED LABOR COSTS	0	0	0	0	0	0	0	0	0	0
PROPERTY TAXES	0	0	0	0	0	0	0	0	0	0
PERSONAL PROPERTY TAXES	0	0	0	0	0	0	0	0	0	0
SALES TAXES FOR INPUTS	0	0	0	0	0	0	0	0	0	0
OTHER TAXES	0	0	0	0	0	0	0	0	0	0
ACCOUNTANT & LEGAL FEES	0	0	0	0	0	0	0	0	0	0
UNALLOCATED MAINTENANCE	0	0	0	0	0	0	0	0	0	0
UTILITIES	0	0	0	0	0	0	0	0	0	0
OTHER FUEL & LUBE	0	0	0	0	0	0	0	0	0	0
LIABILITY INSURANCE	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS COSTS	0	0	0	0	0	0	0	0	0	0
LandPrep	1,520	0	0	0	0	0	1,748	0	0	0
Seed	3,002	0	0	0	0	0	3,452	0	0	0
Planting	4,750	0	0	0	0	0	5,463	0	0	0
Irr&Prop Tax	1,013	1,032	1,052	1,076	1,102	1,131	1,162	1,193	1,225	1,258
LESS EXPENSES PREVIOUSLY PAID	0	0	0	0	0	0	0	0	0	0
PLUS PREPAID EXPENSES	0	0	0	0	0	0	0	0	0	0
SUB-TOTAL OF CASH COSTS	21,077	11,710	11,645	11,750	11,888	4,931	22,874	12,369	12,537	12,710
INTEREST ON LONG-TERM DEBT	0	0	0	0	0	0	0	0	0	0
INTEREST ON INTERMED. DEBT	0	0	0	0	0	0	0	0	0	0
INTEREST ON OPERATING DEBT	0	5	10	0	0	0	0	0	0	0
INTEREST ON CARRYOVER DEBT	0	15	3	0	0	0	0	0	0	0
TOTAL CASH EXPENSES	21,077	11,730	11,659	11,750	11,888	4,931	22,874	12,369	12,537	12,710
NET CASH FARM INCOME	11,223	17,340	14,181	12,798	7,492	-4,931	9,426	16,701	13,303	11,838
ACCRUAL ADJUSTMENTS AND DEPRECIATION										
+/- CHANGE IN CROP INVENTORY	0	0	0	0	0	0	0	0	0	0
+/- CHANGE IN DEFERRED RECVBLS	0	0	0	0	0	0	0	0	0	0
+/- CHANGE IN LVSTK INVENTORY	0	0	0	0	0	0	0	0	0	0
+/- CHANGE IN PREPAID EXPENSES	0	0	0	0	0	0	0	0	0	0
+/- CHNG BASE VALU RAISED LVST	0	0	0	0	0	0	0	0	0	0
- BASIS BREEDING LVSTK SOLD	0	0	0	0	0	0	0	0	0	0
+ PURCHASED BREEDING LVSTK	0	0	0	0	0	0	0	0	0	0
- DEPRECIATION	0	0	0	0	0	0	0	0	0	0
NET FARM INCOME	11,223	17,340	14,181	12,798	7,492	-4,931	9,426	16,701	13,303	11,838
SUMMARY OF RECEIPTS & COSTS PER CROP ACRE										
CASH RECEIPTS (\$/ACRE)	850	765	680	646	510	0	850	765	680	646
CASH EXPENSES (\$/ACRE)	555	309	307	309	313	130	602	326	330	334
NET CASH INCOME (\$/ACRE)	295	456	373	337	197	-130	248	439	350	312

Table 45 - 2 - B. Sugarcane, Furrow Irrigation with Poly-Pipe Demonstration
CASHFLOW STATEMENT FOR YEARS 2006 - 2015

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
BEGINNING CASH	0	0	0	12,344	25,148	32,664	27,788	37,250	54,034	67,495
PLUS:										
NET CASH FARM INCOME	11,223	17,340	14,181	12,798	7,492	-4,931	9,426	16,701	13,303	11,838
OFF-FARM SALARY FARMER	0	0	0	0	0	0	0	0	0	0
OFF-FARM SALARY SPOUSE	0	0	0	0	0	0	0	0	0	0
NON-TAXABLE INCOME	0	0	0	0	0	0	0	0	0	0
INTEREST ON CASH RESERVES	0	0	0	5	25	54	36	84	158	238
INVESTMENT EARNINGS/DIVIDENDS	0	0	0	0	0	0	0	0	0	0
NEW CAPITAL INVESTED IN FARM	0	0	0	0	0	0	0	0	0	0
CORPORATE DIVIDENDS EARNED	0	0	0	0	0	0	0	0	0	0
PARTNERSHIP CASH DRAWS	0	0	0	0	0	0	0	0	0	0
CASH INVESTED FROM OWNERS	0	0	0	0	0	0	0	0	0	0
SELL MACH./LIVESTOCK/CROPS	0	0	0	0	0	0	0	0	0	0
PROCEEDS FROM ASSETS SOLD	0	0	0	0	0	0	0	0	0	0
TOTAL CASH AVAILABLE	11,223	17,340	14,181	25,148	32,664	27,788	37,250	54,034	67,495	79,571
MINUS:										
DOWN PYMT NON-MACH PURCHASE	30,400	0	0	0	0	0	0	0	0	0
CASH DIFFERENCE MACH REPLACED	0	0	0	0	0	0	0	0	0	0
PAYOFF MACHINERY BOUGHT	0	0	0	0	0	0	0	0	0	0
REG. PRINCIPAL PAY. LONG-TERM	0	0	0	0	0	0	0	0	0	0
ACC. PRINCIPAL PAY. LONG-TERM	0	0	0	0	0	0	0	0	0	0
REG. PRINCIPAL PAY. INTR-TERM	0	0	0	0	0	0	0	0	0	0
ACC. PRINCIPAL PAY. INTR-TERM	0	0	0	0	0	0	0	0	0	0
PAY OPERATING LOAN CARRYOVER	0	19,177	1,837	0	0	0	0	0	0	0
FIXED INVESTMENT CONTRIBUTION	0	0	0	0	0	0	0	0	0	0
ADDITIONAL INVESTMENTS	0	0	0	0	0	0	0	0	0	0
CASH PAID TO PRTNSHIP/CORPS	0	0	0	0	0	0	0	0	0	0
PARTNERSHIP CASH WITHDRAWAL	0	0	0	0	0	0	0	0	0	0
FEDERAL INCOME TAX PAYMENTS	0	0	0	0	0	0	0	0	0	0
STATE INCOME TAX PAYMENTS	0	0	0	0	0	0	0	0	0	0
SELF-EMPLOYMENT+SOC SEC TAXES	0	0	0	0	0	0	0	0	0	0
TOTAL CASH OUTFLOWS	30,400	19,177	1,837	0	0	0	0	0	0	0
SURPLUS OR DEFICIT CASH	-19,177	-1,837	12,344	25,148	32,664	27,788	37,250	54,034	67,495	79,571
ENDING YEAR CASH RESERVE	0	0	12,344	25,148	32,664	27,788	37,250	54,034	67,495	79,571

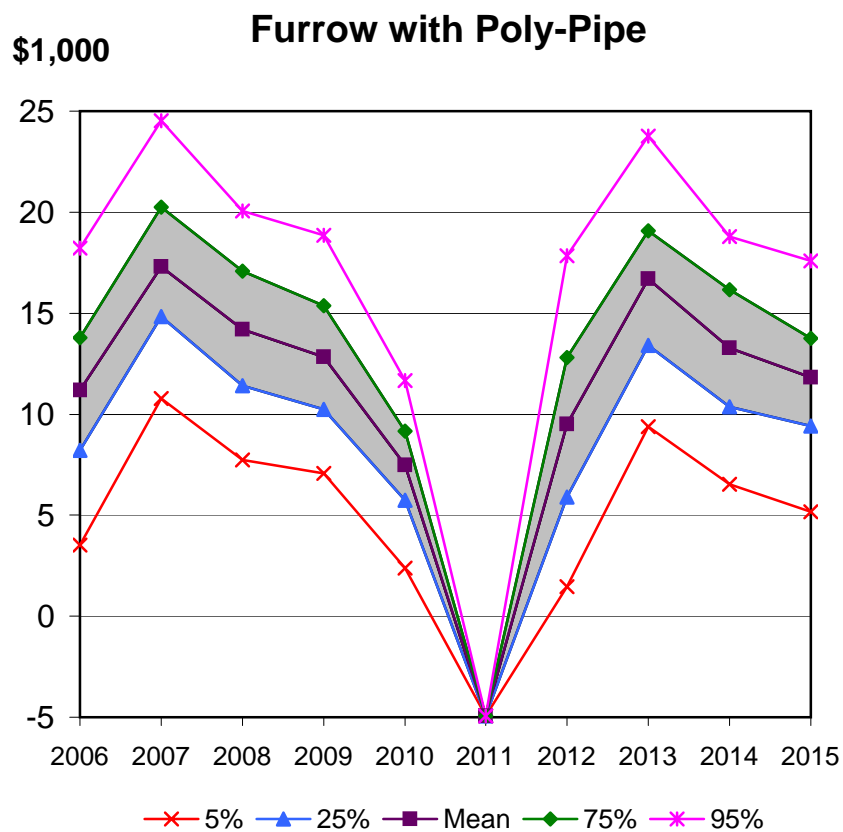
Table 45-3. Sugarcane, Furrow Irrigation with Poly-Pipe Demonstration

Furrow with Poly-Pipe	
Crop Receipts (\$1000)	
2006	32.26
2007	29.04
2008	25.87
2009	24.59
2010	19.37
2011	0.00
2012	32.40
2013	29.06
2014	25.82
2015	24.54
2006-2015 Average	24.29
Total Cash Receipts (\$1000)	
2006	32.26
2007	29.04
2008	25.87
2009	24.59
2010	19.37
2011	0.00
2012	32.40
2013	29.06
2014	25.82
2015	24.54
2006-2015 Average	24.29
Total Cash Costs (\$1000)	
2006	21.08
2007	11.73
2008	11.66
2009	11.75
2010	11.89
2011	4.93
2012	22.88
2013	12.37
2014	12.54
2015	12.71
2006-2015 Average	13.35
Average Annual Operating Expense/Receipts	
2006	0.67
2007	0.41
2008	0.46
2009	0.49
2010	0.63
2011	0.00
2012	0.72
2013	0.44
2014	0.50
2015	0.53
2006-2015 Average	0.48
Net Cash Farm Income (\$1000)	
2006	11.18
2007	17.31
2008	14.21
2009	12.84
2010	7.48
2011	-4.93
2012	9.52
2013	16.69
2014	13.28
2015	11.83
2006-2015 Average	10.94

Table 45-3. Sugarcane, Furrow with Poly-Pipe Demonstration

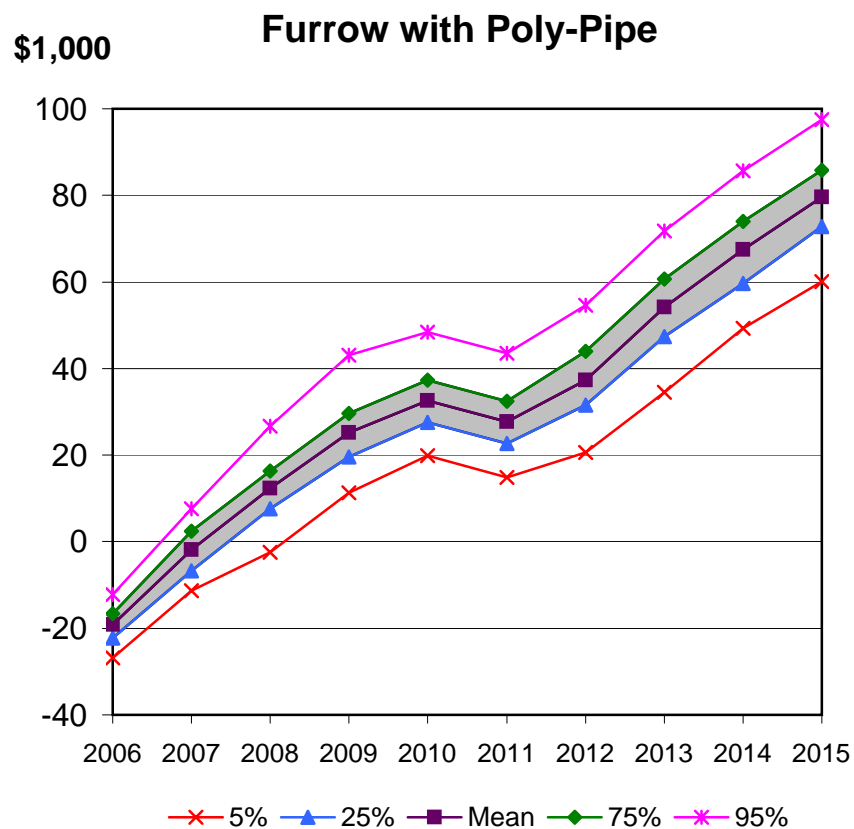
Furrow with Poly-Pipe	
Prob. Net Cash Income < Zero (%)	
2006	1.00
2007	1.00
2008	1.00
2009	1.00
2010	1.00
2011	99.00
2012	1.00
2013	1.00
2014	1.00
2015	1.00
Prob. of Average Net Cash Farm Income < Zero, 2006-2015 (%)	10.10
Ending Cash Reserves (\$1000)	
2006	-19.22
2007	-1.91
2008	12.30
2009	25.14
2010	32.65
2011	27.77
2012	37.33
2013	54.10
2014	67.54
2015	79.61
2006-2015 Average	31.53

Figure 45-1. Projected Variability in Net Cash Farm Income for Sugarcane, Furrow Irrigation with Poly-Pipe Demonstration.



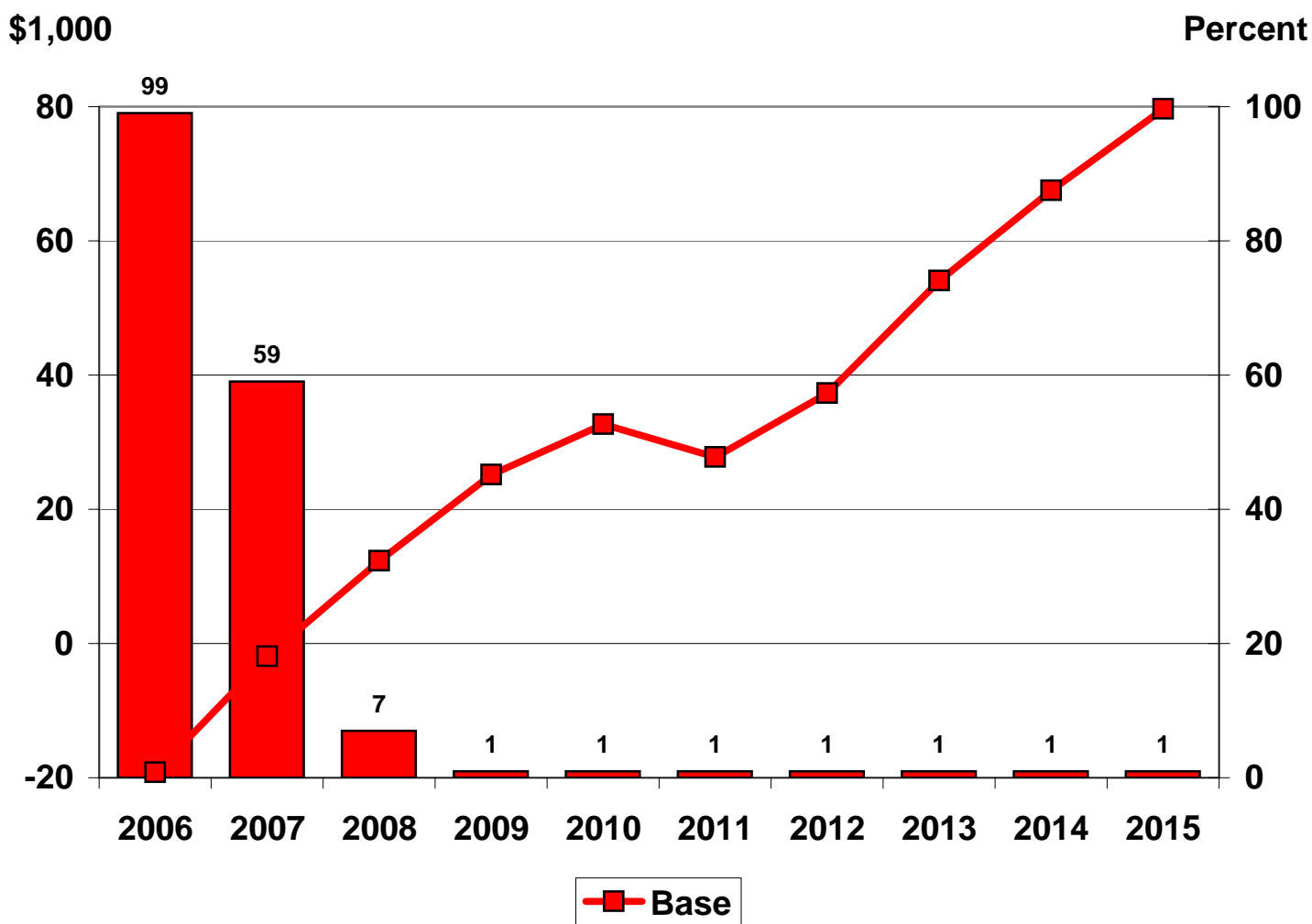
Note: Percentages indicate the probability that Net Cash Farm Income is below the indicated level.
The shaded area contains 50% of the projected outcomes.

Figure 45-2. Projected Variability in Ending Cash Reserves for Sugarcane, Furrow with Poly-Pipe Demonstration.



Note: Percentages indicate the probability that Net Farm Income is below the indicated level. The shaded area contains 50% of the projected outcomes.

Figure 45-3. Ending Cash Reserves and Probability Cash Shortfall for Sugarcane, Furrow with Poly-Pipe Demonstration.



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