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**ECONOMIC OUTLOOK FOR REPRESENTATIVE
COTTON FARMS GIVEN THE AUGUST 2003
FAPRI/AFPC BASELINE**



AFPC Working Paper 03-4

October 2003

A policy working paper is designed to provide economic research on a timely basis. It is an interim product of a larger AFPC research project which will eventually be published as a policy research report. These results are published at this time because they are believed to contain relevant information to the resolution of current policy issues. AFPC welcomes comments and discussions of these results and their implications. Address such comments to the author(s) at:

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**ECONOMIC OUTLOOK FOR REPRESENTATIVE
COTTON FARMS GIVEN THE AUGUST
2003 FAPRI/AFPC BASELINE**

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Executive Summary

The Agricultural and Food Policy Center (AFPC) at Texas A&M University develops and maintains data to simulate 19 representative cotton operations in major production areas in 8 states. The chief purpose of this analysis is to determine those farms' economic viability for 2003 through 2007. The data necessary to simulate the economic activity of these operations is developed through ongoing cooperation with panels of agricultural producers in each of the states. The Food and Agricultural Policy Research Institute (FAPRI) provided projected prices, policy variables, and input inflation rates in their August 2003 Baseline.

- Cotton prices are projected to increase to \$0.53/lb in 2004 before declining and holding at the \$0.51 to \$0.52/lb level from 2005 to 2007.
- Two of the 19 farms (LAC2640, and NCC1500) are considered to be in poor overall financial condition during the period. Both of these farms end the projected period at greater than a 50 percent probability of having a cash flow deficit. These two farms have greater than a 40 percent chance of losing real net worth by 2007.
- Eleven of the farms (CAC9000, TXSP3745, TXPC2500, TXEC5000, TXRP2500, TXMC3500, TXCB1850, TXCB5500, TXVC4500, ARC5000, and ALC3000) are overall classified as marginal. These farms are marginal due to their high probabilities of having cash flow deficits by 2007.
- Six of the farms (CAC2400, TXSP2239, TXBC1400, TNC1900, TNC4050, and GAC1700) are classified in good financial condition due to probabilities of cash flow deficits being less than 25 percent and low probabilities of losing real net worth.
- All production regions contain farms that are in good or marginal condition while the only two farms in poor condition are located in the South.

Economic Viability of Representative Cotton Farms

August 2003 Baseline

Farm Name	P(Cash Flow Deficit) 2003-2007	P(Real Net Worth Declines) 2003-2007
6/11/2	2003-2007	2003-2007
CAC2400	21-18	1-1
CAC9000	27-31	1-5
TXSP2239	3-11	1-1
TXSP3745	43-39	1-2
TXPC2500	25-33	1-1
TXEC5000	31-32	1-4
TXRP2500	25-41	1-8
TXBC1400	17-21	1-2
TXMC3500	34-43	1-11
TXCB1850	39-43	1-11
TXCB5500	40-51	1-22
TXVC4500	39-54	1-5
LAC2640	73-57	1-41
ARC5000	13-35	1-1
TNC1900	1-1	1-1
TNC4050	23-24	1-1
ALC3000	27-32	1-1
GAC1700	3-2	1-1
NCCI500	55-88	1-49

< 25%

25-50%

>50%

Economic Outlook for Representative Cotton Farms Given the August 2003 FAPRI/AFPC Baseline

The farm level economic impacts of the Farm Security and Rural Investment Act of 2002 on representative cotton farms are projected in this report. The analysis was conducted over the 2001-2007 planning horizon using FLIPSIM, AFPC's whole farm simulation model. Data to simulate farming operations in the nation's major cotton production regions came from two sources:

- Producer panel cooperation to develop economic information to describe and simulate representative cotton farms.
- Projected prices, policy variables, and input inflation rates from the Food and Agricultural Policy Research Institute (FAPRI) August 2003 Baseline.

The primary objective of the analysis is to determine the farms' economic viability by region through the life of the 2002 Farm Bill, given sector level conditions projected in the August 2003 FAPRI Baseline.

The FLIPSIM policy simulation model incorporates the historical risk faced by cotton farmers for prices and production. This report presents the results of the August 2003 Baseline in a risk context using selected simulated probabilities and ranges for annual net cash farm income values. The probability of a farm experiencing annual cash flow deficits and the probability of a farm losing real net worth are included as indicators of the cash flow and equity risks facing farms through the year 2007.

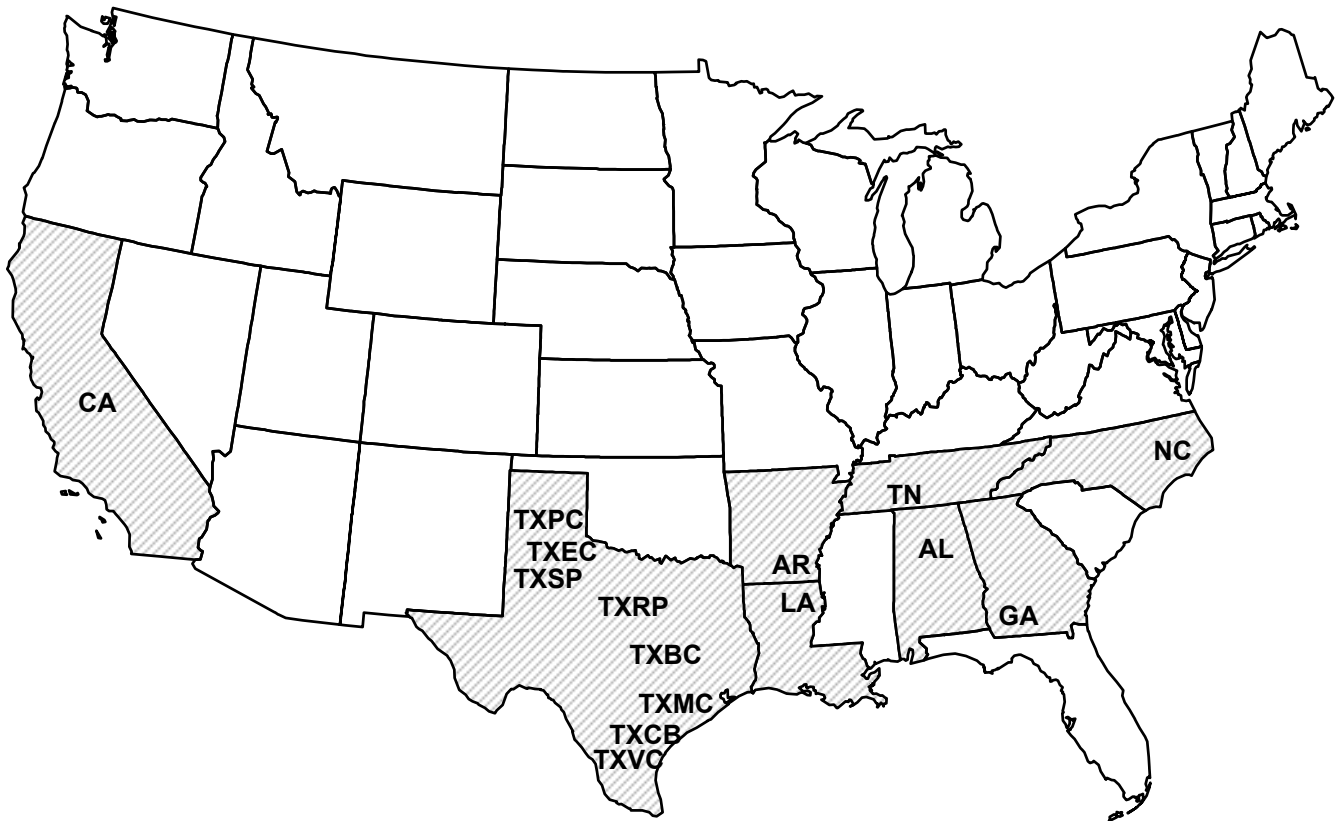
This report is organized into five sections. The first section summarizes the process used to develop the representative farms and the key assumptions utilized for the farm level analysis. The second section summarizes the FAPRI August 2003 Baseline and the policy and price assumptions used for the representative farm analyses. The third section presents the results of the simulation analyses for cotton farms. Two appendices constitute the final section of the report. Appendix A provides tables to summarize the physical and financial characteristics for each of the representative farms. Appendix B provides the names of producers, land grant faculty, and industry leaders who cooperated in the panel interview process to develop the representative cotton farms.

Panel Process

AFPC has developed and maintains data to simulate 19 representative cotton farms chosen from major production areas across the United States (Figure 1). Characteristics for each of the farms in terms of location, size, crop mix, assets, and average receipts are summarized in Appendix A. The locations of these farms are primarily the results of discussions with staffers for the U.S. House and Senate Agriculture Committees. Information necessary to simulate the economic activity on these representative farms is developed from panels of producers using a consensus-building interview process. Normally two farms are developed in each region using separate panels of producers: one is representative of moderate size full-time farm operations, and the second panel usually represents farms two to three times larger.

The data collected from the panel farms are analyzed in the whole farm simulation model (FLIPSIM) developed by AFPC. The producer panels are provided pro-forma financial statements for their representative farm and are asked to verify the accuracy of simulated results for the past year and the reasonableness of a five-year projection. Each panel must approve the model's ability to reasonably reflect the economic activity on their representative farm prior to using the farm for policy analyses.

FIGURE 1. REPRESENTATIVE FARMS PRODUCING COTTON



Most farms used in the analysis have been updated with the panels since June 2001. All of the crop farms are assumed to begin 2001 with 20 percent intermediate- and long-term debt, based on information provided by ERS-USDA and the panel members. The debt levels the farms have at the outset of 2001 are based on a stratified tabulation of USDA's Farm Cost and Returns Survey for 2000, using the survey data for moderate to large size farms in states where AFPC has representative farms.

Key Assumptions

- All farms classified as moderate scale are the size (acres or number of livestock) considered to be representative of a majority of full-time commercial farming operations in the study area. In many regions a second farm two to three times larger than the moderate scale farm is developed as an indicator of size economies.
- The farms were structured so government payment limits were not effective at reducing direct, counter-cyclical, and loan deficiency payments.
- Minimum family living withdrawals were assumed to be the higher of 10 percent of gross receipts or \$20,000 annually. Actual family living withdrawals are determined by historical consumption patterns. Therefore, as the farm's profitability increases so does the level of family living withdrawals.
- The farm is subject to owner/operator federal (income and self-employment) and state income taxes as a sole proprietor, based on the current income tax provisions.
- No off-farm-related income, including family employment, was included in the analyses. Therefore, the farm reflects only the ability of the farm to provide for family living and capital replacement.
- Farm program parameters, average annual prices, crop and livestock yield trends, interest rates, and input cost inflation (deflation) are based on the August 2003 FAPRI Baseline which assumes continuation of the 2002 Farm Bill through 2007.
- Direct payments for participating cotton, wheat, feed grain, oilseed and rice producers are made based on 85 percent of their historical base acreage times farm program yield times a direct payment rate. The direct payment rate is included in the August 2003 FAPRI Baseline.
- Marketing loan provisions for cotton, rice, wheat, feed grains, soybeans, sunflowers, and dry peas were authorized in the 2002 Farm Bill and are assumed to be in place for the farm level analysis.
- Counter-cyclical payments are triggered by marketing year prices included in the August 2003 FAPRI Baseline.
- The farm level simulation model incorporates price and yield risk faced by farmers. Historical yield variability for crops over the past ten years are assumed to prevail for the planning horizon. Random crop prices are simulated using the 2003 August Baseline by FAPRI as the forecast of average prices. Prices reflect national price volatility caused by international production and demand as well as U.S. production risk.

- Historical crop yields (2001 and 2002) were held constant based on actual values obtained from the producers. Crop yields for 2003-2007 were simulated stochastically based on the average yields provided by the producers and the historical yield variability for the farm. Prices were held constant at producer-provided values for 2001 and 2002. FAPRI's August Baseline prices were localized for the farms and used as the average prices for 2003-2007 to simulate stochastic crop prices.
- Market loss assistance payments and disaster provisions passed in 2001 have been incorporated into the analysis in 2001.
- Actual average loan deficiency payment (LDPs) rates in the counties where the representative farms are located are used for 2001 and 2002.
- Cotton farms are assumed to carry Multi-Peril Crop Insurance (MPCI) at the 65/100 level.

New and Updated Farms Since the February 2003 Baseline Update

Since publication of the last AFPC Representative Farms Baseline Update, the following representative farms have been added:

TXCB5500	A large-sized cotton and sorghum farm located on the Texas Coastal Bend in Nueces County.
TXEC5000	A large-sized cotton farm located on the Eastern Caprock of the Texas South Plains (Crosby County).
TXMC3500	A large-sized cotton farm located on the middle Gulf Coast of Texas (Jackson County).
TXPC2500	A large-sized cotton farm located in the Texas Panhandle (Deaf Smith County).
TXVC4500	A large-sized cotton farm located in the lower Rio Grande Valley of Texas (Willacy County).
TXRP2500	Updated variable costs and reduced labor expense.

FAPRI August 2003 Baseline

The August 2003 Baseline reflects the higher cotton prices experienced in 2003. Marketing year 2003 prices are projected to be five cents higher than was projected in the January 2003 Baseline. Projected crop prices for FAPRI's August 2003 Baseline are summarized in Table 1. Cotton prices continue to increase gradually to \$0.52/lb. in 2007. Corn prices start at a high of \$2.30/bu. in 2002, but are projected to decrease in 2003 to \$2.05 and then increase marginally until they reach \$2.23/bu. by 2007. Wheat prices are expected to increase from 2004 through 2007 when wheat prices are projected to reach \$3.25/bu. Rice prices are expected to increase to \$6.50 in 2003 before retreating to the \$5.00 to \$5.50 range for 2004 through 2007.

Assumed loan rates and direct payment rates are summarized in Table 1. The annual direct payment rates for 2002-2007 reflect the increase in these payment rates authorized in the 2002 farm bill.

Projected annual rates of change for variable cash expenses are summarized in Table 3. The rate of change in input prices and interest rates come from FAPRI's August 2003 Baseline which relies on Global Insight (formerly DRI) macroeconomic projections. Annual interest rates paid for long- and intermediate-term loans and earned for savings are also summarized in Table 3. Assumed annual rates of change in land values over the 2002-2007 period are provided by the FAPRI Baseline and indicate roughly a 2 to 4% per year increase in nominal land values throughout the 2004-2007 period (Table 3).

Table 1. FAPRI August 2003 Baseline Projections of Crop Prices, Loan Rates, and AMTA Payment Rates, 2001-2007

	2001	2002	2003	2004	2005	2006	2007
Crop Prices							
Corn (\$/bu.)	1.97	2.30	2.05	2.10	2.15	2.20	2.23
Wheat (\$/bu.)	2.78	3.56	3.15	3.05	3.15	3.20	3.25
Cotton (\$/lb.)	0.2980	0.4300	0.5000	0.5300	0.5200	0.5100	0.5200
Sorghum (\$/bu.)	1.94	2.35	1.95	2.00	2.05	2.10	2.13
Soybeans (\$/bu.)	4.38	5.50	4.95	4.85	4.95	5.00	5.05
Barley (\$/bu.)	2.22	2.72	2.35	2.35	2.39	2.42	2.44
Oats (\$/bu.)	1.59	1.81	1.50	1.50	1.51	1.52	1.53
Rice (\$/cwt.)	4.25	4.18	6.50	5.50	5.00	5.00	5.20
Soybean Meal (\$/ton)	160.00	166.93	153.00	148.00	152.00	154.00	156.00
All Hay (\$/ton)	96.50	94.53	86.00	85.00	84.00	85.00	85.50
Peanuts (\$/ton)	468.00	364.00	400.00	390.00	392.00	394.00	396.00
Loan Rates							
Corn (\$/bu.)	1.89	1.98	1.98	1.95	1.95	1.95	1.95
Wheat (\$/bu.)	2.58	2.80	2.80	2.75	2.75	2.75	2.75
Cotton (\$/lb.)	0.5192	0.5200	0.5200	0.5200	0.5200	0.5200	0.5200
Sorghum (\$/bu.)	1.71	1.98	1.98	1.95	1.95	1.95	1.95
Soybeans (\$/bu.)	5.26	5.00	5.00	5.00	5.00	5.00	5.00
Barley (\$/bu.)	1.65	1.88	1.88	1.85	1.85	1.85	1.85
Oats (\$/bu.)	1.21	1.35	1.35	1.33	1.33	1.33	1.33
Rice (\$/cwt.)	6.50	6.50	6.50	6.50	6.50	6.50	6.50
Peanuts (\$/ton)	610.00	355.00	355.00	355.00	355.00	355.00	355.00
Direct Payment Rates							
Corn (\$/bu.)	0.5670	0.2800	0.2800	0.2800	0.2800	0.2800	0.2800
Wheat (\$/bu.)	0.9952	0.5200	0.5200	0.5200	0.5200	0.5200	0.5200
Cotton (\$/lb.)	0.1209	0.0667	0.0667	0.0667	0.0667	0.0667	0.0667
Sorghum (\$/bu.)	0.6795	0.3500	0.3500	0.3500	0.3500	0.3500	0.3500
Soybeans (\$/bu.)	0.1195	0.4400	0.4400	0.4400	0.4400	0.4400	0.4400
Barley (\$/bu.)	0.4268	0.2400	0.2400	0.2400	0.2400	0.2400	0.2400
Oats (\$/bu.)	0.0453	0.0240	0.0240	0.0240	0.0240	0.0240	0.0240
Rice (\$/cwt.)	4.4323	2.3500	2.3500	2.3500	2.3500	2.3500	2.3500
Peanuts (\$/ton)	0.0000	36.0000	36.0000	36.0000	36.0000	36.0000	36.0000

Source: Food and Agricultural Policy Research Institute (FAPRI) at the University of Missouri-Columbia and Iowa State University.

Table 2. FAPRI August 2003 Baseline Projections of Livestock and Milk Prices, 2001-2007

	2001	2002	2003	2004	2005	2006	2007
Cattle Prices							
Feeder Cattle (\$/cwt)	95.29	86.11	91.95	97.54	99.91	95.63	88.28
Fat Cattle (\$/cwt)	72.71	67.04	76.51	78.19	79.23	76.26	73.49
Culled Cows (\$/cwt)	44.39	39.23	43.25	46.67	47.48	44.86	42.28
Hog Prices							
Barrows/Gilts (\$/cwt)	45.81	34.92	38.98	42.71	44.86	41.23	39.57
Culled Sows (\$/cwt)	33.98	23.71	27.00	29.85	31.99	29.24	27.71
Milk Prices -- National and State							
All Milk Price (\$/cwt)	15.05	12.10	11.65	11.95	12.13	12.48	12.64
California (\$/cwt)	13.94	10.93	10.36	10.65	10.84	11.20	11.37
Florida (\$/cwt)	17.80	15.25	14.56	14.89	15.08	15.45	15.63
Georgia (\$/cwt)	15.90	12.78	12.16	12.48	12.67	13.04	13.22
Idaho (\$/cwt)	13.50	11.26	10.91	11.22	11.42	11.79	11.96
Michigan (\$/cwt)	15.20	12.15	11.73	12.05	12.25	12.61	12.79
Missouri (\$/cwt)	14.90	12.22	11.70	12.02	12.21	12.58	12.76
New Mexico (\$/cwt)	14.80	11.75	11.29	11.62	11.81	12.17	12.35
New York (\$/cwt)	15.80	12.83	12.30	12.62	12.81	13.18	13.36
Texas (\$/cwt)	15.80	12.82	12.33	12.65	12.84	13.21	13.39
Vermont (\$/cwt)	15.80	12.62	12.09	12.40	12.59	12.96	13.14
Washington (\$/cwt)	15.30	12.09	11.57	11.88	12.07	12.45	12.62
Wisconsin (\$/cwt)	14.80	12.14	11.88	12.20	12.40	12.76	12.94

Source: Food and Agricultural Policy Research Institute (FAPRI) at the University of Missouri-Columbia and Iowa State University.

Table 3. FAPRI August 2003 Baseline Assumed Rates of Change in Input Prices, Annual Interest Rates, and Annual Changes in Land Values, 2002-2007

	2002	2003	2004	2005	2006	2007
Annual Rate of Change for Input Prices Paid						
Seed Prices (%)	2.20	1.68	1.62	1.30	1.19	1.09
Fertilizer Prices (%)	-17.25	-2.61	2.86	0.07	1.59	1.13
Chemical Prices (%)	-0.64	2.98	2.64	1.64	1.29	1.10
Machinery Prices (%)	-1.01	1.33	2.26	1.95	1.55	1.08
Fuel and Lube Prices (%)	-7.27	4.77	-2.88	0.14	2.26	1.71
Labor (%)	4.18	3.72	4.52	4.38	3.45	3.07
Other Input Prices (%)	-1.30	1.60	1.50	1.40	1.20	1.10
Non-Feed Dairy Costs (%)	1.02	1.04	-1.59	0.56	1.24	1.18
Non-Feed Beef Costs (%)	1.02	1.04	-1.59	0.56	1.24	1.18
Non-Feed Hog Costs (%)	1.64	2.17	2.07	2.08	2.24	2.36
Annual Change in Consumer Price Index (%)	1.70	2.90	2.90	2.90	2.60	2.40
Annual Interest Rates						
Long-Term (%)	6.97	6.53	6.27	6.50	7.54	7.99
Intermediate-Term (%)	4.53	4.09	4.85	6.09	6.47	6.37
Savings Account (%)	1.66	1.96	3.25	3.95	4.62	4.68
Annual Rate of Change for U.S. Land Prices (%)	5.22	4.28	3.18	1.50	1.98	2.45

Source: Food and Agricultural Policy Research Institute (FAPRI) at the University of Missouri-Columbia and Iowa State University.

Definitions of Variables in the Summary Tables

- **Overall Financial Position, 2003-2007** -- As a means of summarizing the representative farms' economic efficiency, liquidity, and solvency position AFPC classifies each farm as being in either a good, marginal or poor position. AFPC assumes a farm is in a good financial position when it has less than a 25 percent chance each of a cash flow deficit and a 25 percent chance of losing real net worth. If the probabilities of these events are between 25 and 50 percent the farm is classified as marginal. A probability greater than 50 percent places the farm in a poor financial position.
- **Net Income Adjustment (NIA), 2003-2007** -- NIA is the annual increase or decrease in net cash farm income necessary to insure the farm maintains its real net worth during the 2003-2007 period. A positive NIA indicates the additional annual net income needed to maintain real net worth. A negative NIA indicates the largest possible annual loss in net income the farm can endure and still maintain its real net worth through the period.
- **Annual Change in Real Net Worth, 2003-2007** -- Annualized percentage change in the operator's net worth from January 1, 2003 through December 31, 2007, after adjusting for inflation. This value reflects the real annualized increase or decrease in net worth or equity for the farm over the planning horizon including changes in real estate values.
- **Government Payments/Receipts, 2003-2007** -- Sum of all farm program payments (CCP, direct and loan deficiency payments) divided by total receipts received from the market plus CCP, direct and loan deficiency payments, crop insurance indemnities, and other farm related receipts.
- **Total Cash Receipts** -- Sum of cash receipts from all sources, including market sales, CCP and direct payments, loan deficiency payments, crop insurance indemnities, and other farm related receipts. The values in the tables are the average total receipts for each year in the planning horizon.
- **Government Payments** -- Sum of annual counter cyclical payments, direct payments, and marketing loan gains/LDP for crops and the milk program payment for dairy farms. The values in the tables are the averages for each year in the planning horizon.
- **Net Cash Farm Income** -- Equals total cash receipts minus all cash expenses. Net cash farm income is used to pay family living expenses, principal payments, income taxes, self employment taxes, and machinery replacement costs. The values in the tables are the averages for each year in the planning horizon.
- **Probability of a Cash Flow Deficit** -- Is the number of times out of 100 that the farm's annual net cash farm income does not exceed cash requirements for family living, principal payments, taxes (income and self-employment), and actual machinery replacement expenses (not depreciation). This probability is reported for each year of the planning horizon to indicate whether the cash flow risk for a farm increases or decreases over the planning horizon.
- **Ending Cash Reserves** -- Equals total cash on hand at the end of the year. Ending cash equals beginning cash reserves plus net cash farm income and interest earned on cash reserves less principal payments, federal taxes (income and self employment), state income taxes, family living withdrawals, and actual machinery replacement costs (not depreciation).

- **Nominal Net Worth** -- Equity at the end of each year equals total assets including land minus total debt from all sources. Net worth is not adjusted for inflation and averages are reported for each year in the planning horizon.
- **Probability of Decreasing Real Net Worth Over 2001-2007** -- Is the number of times out of 100 that real net worth in 2007 is less than the net worth for the farm at the beginning of 2001.

Representative Cotton Farms

- The typical California cotton farm (CAC2400) has 1,000 acres of cotton. Cash receipts will average \$2.05 to \$2.11 million over the 2003-2007 period. Government payments average \$232,850 over the 2003-2007 period and net cash income declines from \$552,650 in 2002 to \$391,210 by 2007. The farm must pay family living, taxes, principal payments, and replace machinery from net cash income, so the probability of cash flow deficits is between 14 and 22 percent each year. Overall, the farm is classified in good financial condition.
- The large California cotton farm (CAC9000) has about 4500 acres of cotton with the remainder planted to wheat, alfalfa, and vegetables. Net cash farm income declines from \$2.19 million in 2002 to \$1.86 million in 2007 due to inflation in input costs exceeding the growth in prices and the fact that cotton prices are not expected to exceed the cotton target price. The probability of a cash flow deficit exceeds 25 percent all years for this farm leading to an overall financial rating of marginal.
- The moderately-sized Texas Southern High Plains cotton farm (TXSP2239) plants just over 1600 acres of cotton, with approximately 22 percent of that land under irrigation. Remaining cultivated land is devoted to peanuts while 183 acres remain in the CRP program. Average annual cash receipts for the farm range from \$668,000 to \$690,000 over the 2003-2007 projection period. Likelihood of a cash flow deficit never exceeds 13 percent. Favorable liquidity and solvency positions lead to a good classification with respect to overall financial condition.
- The large Texas Southern High Plains cotton farm (TXSP3745) plants about 2625 acres of cotton, accounting for almost three-fourths of total cash receipts. Peanuts are planted on the remaining 245 acres of cropland, while 288 acres are in the CRP program. This farm averages 5.8 percent growth in real net worth each year. Probabilities of a cash flow deficit range from 28 to 43 percent. Despite a good solvency position, a marginal liquidity position contributes heavily to this farm's overall marginal classification.
- The Texas Panhandle cotton farm (TXPC2500) is located near Hereford, Texas. This farm plants 1184 acres of cotton annually. Approximately 85 percent of total cotton grown is pivot irrigated, while wheat, grain sorghum, and corn are planted on the remaining cultivated land. Government payments comprise about 26 percent of this farm's total cash receipts. This farm is in a marginal financial condition as the probability of a cash flow deficit increases to 33 percent in the last projected year.
- The Texas Eastern Caprock cotton farm (TXEC5000) is located east of Lubbock in Ralls, Texas. Eighty-six percent of this farm's land is planted in cotton, while wheat and grain sorghum are planted on the remaining 700 acres. Average annual cash receipts fluctuate between \$1.28 million and \$1.34 million for the 2003-2007 period. The probability of a cash flow deficit rises to a high of 32 percent in 2007, contributing to the marginal ranking with respect to overall financial condition.
- The Texas Rolling Plains cotton farm (TXRP2500) plants 1122 acres of dryland, skip-row cotton. Wheat is planted on the remaining acreage, and the farm maintains a 12 head cow-calf operation. This farm is relatively efficient as its cost to receipts ratio remains just over 70 percent. Government payments comprise an average of over 29 percent of total receipts for this farm throughout the projection period. Overall, this farm is in marginal financial condition.

Table 4. Implications of the August 2003 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Cotton.

	CAC2400	CAC9000	TXSP2239	TXSP3745	TXPC2500	TXEC5000	TXRP2500
Overall Financial Position							
2003-2007 Ranking	Good	Marginal	Good	Marginal	Marginal	Marginal	Marginal
NIA to Maintain Real Net Worth (\$1,000)	-376.78	-1,405.97	-116.45	-112.49	-93.63	-150.77	-42.17
NIA to Maintain Real Net Worth (% Rec.)	-18.14	-12.91	-17.14	-12.82	-11.57	-11.42	-16.54
Change Real Net Worth (%)							
2003-2007 Average	4.65	5.77	9.27	5.84	4.28	9.01	7.02
Govt Payments/Receipts (%)							
2003-2007 Average	11.63	10.48	24.65	23.78	25.98	25.51	29.44
Cost to Receipts Ratio (%)							
2003-2007 Average	82.00	84.33	72.83	78.67	80.04	80.32	70.23
Total Cash Receipts (\$1000)							
2001	2,087.10	10,868.40	469.13	559.30	923.30	898.91	215.26
2002	2,168.87	10,735.67	650.19	835.60	817.93	1,274.35	275.23
2003	2,056.03	10,667.03	668.35	863.54	858.91	1,289.03	251.27
2004	2,078.44	10,794.93	680.16	880.16	877.75	1,323.67	253.47
2005	2,061.41	10,910.69	678.52	876.31	885.03	1,321.77	255.34
2006	2,081.85	10,996.93	681.18	876.67	880.61	1,325.90	255.67
2007	2,108.90	11,085.25	689.10	889.24	884.50	1,339.02	259.01
2003-2007 Average	2,077.33	10,890.97	679.46	877.18	877.36	1,319.88	254.95
Government Payments (\$1000)							
2001	470.76	2,020.46	128.90	183.69	358.82	483.96	94.71
2002	333.81	1,451.38	217.93	272.40	239.40	448.69	90.40
2003	233.06	1,101.56	160.86	199.61	230.17	325.86	72.99
2004	221.22	1,059.84	163.32	197.77	223.36	304.51	68.68
2005	236.86	1,097.35	163.23	201.89	231.28	326.82	72.70
2006	245.01	1,138.28	168.22	209.14	229.08	337.05	74.16
2007	228.10	1,054.44	164.79	201.08	214.44	312.43	69.40
2003-2007 Average	232.85	1,090.29	164.08	201.90	225.67	321.33	71.58
Net Cash Farm Income (\$1000)							
2001	421.92	2,163.46	24.37	-49.97	193.20	-77.32	51.46
2002	552.65	2,191.70	175.60	176.53	150.56	271.90	106.29
2003	428.22	1,988.51	194.36	205.90	184.72	278.41	88.54
2004	433.01	2,002.46	198.68	214.44	194.25	302.77	88.06
2005	393.13	1,966.49	187.11	199.86	188.81	285.91	86.02
2006	382.81	1,888.25	179.17	187.38	169.92	266.66	84.73
2007	391.21	1,865.27	187.21	196.16	164.45	260.45	83.98
2003-2007 Average	405.68	1,942.20	189.31	200.75	180.43	278.84	86.26
Prob. of a Cash Flow Deficit (%)							
2003	21	27	3	43	25	31	25
2004	14	28	1	28	16	22	13
2005	22	32	13	38	20	25	31
2006	20	33	12	37	32	28	28
2007	18	31	11	39	33	32	41
Ending Cash Reserves (\$1000)							
2001	185.17	849.61	-21.82	-139.77	64.35	-197.42	-3.28
2002	415.41	1,609.27	74.17	-47.26	69.74	-19.19	35.84
2003	539.72	2,179.39	148.29	34.53	101.67	58.54	60.07
2004	725.90	2,822.15	230.32	142.22	163.21	196.74	97.42
2005	868.44	3,401.51	283.56	198.57	213.89	297.86	127.21
2006	987.77	3,952.31	337.70	252.34	241.75	379.15	154.39
2007	1,121.92	4,426.86	397.15	302.75	271.65	449.40	174.63
Nominal Net Worth (\$1000)							
2001	3,661.49	11,943.17	504.93	1,015.39	1,137.71	668.70	302.65
2002	4,120.60	13,583.37	636.82	1,166.23	1,202.55	875.90	352.93
2003	4,436.37	14,871.11	738.62	1,308.44	1,291.48	997.63	396.08
2004	4,745.21	16,105.12	834.05	1,431.00	1,367.61	1,130.83	434.78
2005	4,956.86	17,043.32	910.02	1,514.13	1,432.21	1,235.02	467.90
2006	5,181.48	18,036.55	982.46	1,588.74	1,492.77	1,333.50	499.86
2007	5,438.78	19,045.66	1,074.12	1,678.70	1,559.19	1,428.86	533.68
Prob. of Decreasing Real Net Worth Over 2001-2007 (%)	1	1	1	8	1	1	2

Representative Cotton Farms (continued)

- The Texas Blackland cotton farm (TXBC1400) plants 150 acres of cotton each year. Although just over ten percent of its total cultivated land is planted to cotton, the farm generated over 21 percent of its total cash receipts from sales of cotton in 2003. Corn, grain sorghum, and wheat sales along with a 50-head cow-calf operation also contribute to this farm's income. The probability of a cash flow deficit never exceeds 21 percent for any of the projected years. This farm is classified in good overall financial condition.
- The Texas Middle Gulf Coast cotton farm (TXMC3500) plants half of its 3500 acres to cotton annually, accounting for almost 70 percent of gross receipts. The other 1750 acres are divided equally between grain sorghum and corn. This farm receives government payments on 50 rice farm program acres throughout the 2002-2007 period. A marginal liquidity position drives this farm to an overall marginal classification with respect to financial condition.
- Half of the acres on the typical Texas Coastal Bend cotton farm (TXCB1850) are planted to cotton. The farm also grows 775 acres of grain sorghum and 150 acres of corn. The probability of a cash flow deficit fluctuates between 38 and 45 percent for the 2003-2007 period. The farm increases its net worth at an average annual rate of 6.2 percent. This farm is classified in marginal overall condition, largely due to the farm's liquidity position.
- The large Texas Coastal Bend cotton farm (TXCB5500) plants half of its 5500 acres to cotton and the other half to grain sorghum. This farm's average annual cash receipts fall between \$1.35 million and \$1.41 million throughout the projection period. Just under 26 percent of these cash receipts are in the form of government payments. An eight percent chance exists that this farm will lose net worth over the 2001-2007 period. Mostly due to its poor cash flow position, this farm is classified in marginal financial condition.
- The Texas Rio Grande Valley cotton farm (TXVC4500) typically plants 1888 acres of dryland cotton and 500 acres of row-irrigated cotton. This farm plants grain sorghum on the other half of its dryland acreage along with 225 acres of sugarcane. The farm collects an average of 23.9 percent of its total cash receipts from government payments over the 2003-2007 period. A poor cash flow position along with a good solvency position result in the marginal overall classification for this farm's financial condition.
- The Louisiana cotton farm (LAC2640) is located in Morehouse Parish. Approximately 1500 acres of cotton are planted annually, while corn and soybeans are planted to the remaining land. This farm suffers from a relatively high cost to receipts ratio (exceeds 90 percent) for the 2003-2007 period. The probability of a cash flow deficit never dips below 57 percent for the projection period, resulting in a poor liquidity ranking. This farm has a 41 percent chance of losing real equity over the 2001-2007 period, contributing to the poor overall financial classification.

Table 5. Implications of the August 2003 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Cotton.

	TXBC1400	TXMC3500	TXCB1850	TXCB5500	TXVC4500	LAC2640
Overall Financial Position						
2003-2007 Ranking	Good	Marginal	Marginal	Marginal	Marginal	Poor
NIA to Maintain Real Net Worth (\$1,000)	-51.91	-133.33	-82.56	-80.40	-152.81	-19.90
NIA to Maintain Real Net Worth (% Rec.)	-18.07	-10.42	-15.00	-5.81	-11.70	-2.09
Change Real Net Worth (%)						
2003-2007 Average	5.80	8.47	6.19	4.97	5.79	2.79
Govt Payments/Receipts (%)						
2003-2007 Average	21.34	22.12	22.12	25.85	23.95	21.94
Cost to Receipts Ratio (%)						
2003-2007 Average	69.88	83.20	78.42	87.58	83.42	90.18
Total Cash Receipts (\$1000)						
2001	275.61	1,026.63	467.99	1,298.82	817.62	831.09
2002	279.34	1,209.89	523.88	1,342.31	1,227.16	900.84
2003	284.64	1,261.67	546.13	1,357.83	1,281.88	925.24
2004	284.68	1,285.75	553.10	1,376.37	1,313.94	949.69
2005	289.21	1,267.05	543.01	1,384.79	1,310.28	956.57
2006	294.60	1,276.31	546.46	1,394.67	1,316.89	959.74
2007	292.87	1,306.07	563.21	1,405.58	1,309.83	976.47
2003-2007 Average	289.20	1,279.37	550.38	1,383.85	1,306.57	953.54
Government Payments (\$1000)						
2001	70.08	369.84	187.89	481.71	288.60	353.64
2002	48.58	315.31	133.01	416.05	359.04	228.66
2003	65.40	271.90	113.00	362.23	309.60	204.02
2004	61.82	257.74	109.72	335.42	296.91	195.10
2005	60.16	270.55	114.16	355.63	312.76	203.18
2006	59.57	279.11	116.94	361.90	317.88	203.90
2007	56.58	256.92	108.82	332.66	295.58	192.56
2003-2007 Average	60.71	267.24	112.53	349.56	306.54	199.75
Net Cash Farm Income (\$1000)						
2001	78.59	80.71	74.81	191.97	-59.02	25.58
2002	89.60	239.54	137.45	231.23	229.33	92.17
2003	90.70	281.20	160.28	232.10	275.66	106.90
2004	90.04	283.90	152.72	224.32	287.27	113.08
2005	92.88	238.21	139.13	206.16	261.35	104.93
2006	94.74	228.64	137.23	183.46	240.52	96.69
2007	94.97	243.97	150.63	177.62	222.69	105.23
2003-2007 Average	92.67	255.18	148.00	204.73	257.50	105.36
Prob. of a Cash Flow Deficit (%)						
2003	17	34	39	40	39	73
2004	16	32	38	40	49	69
2005	18	48	43	43	45	72
2006	21	44	45	49	57	74
2007	21	43	43	51	54	57
Ending Cash Reserves (\$1000)						
2001	12.36	-20.67	33.13	93.05	-151.48	-33.40
2002	31.75	94.86	92.69	204.42	-8.46	-63.62
2003	55.40	190.65	144.24	263.13	57.65	-74.11
2004	89.11	312.34	192.75	352.72	146.81	-52.44
2005	118.91	356.28	229.16	404.00	200.14	-40.43
2006	146.44	420.97	263.39	418.29	191.79	-42.78
2007	175.06	500.12	308.14	438.87	214.68	-2.80
Nominal Net Worth (\$1000)						
2001	454.77	663.96	624.69	833.06	1,285.30	675.65
2002	489.80	796.70	752.73	960.49	1,506.39	676.33
2003	535.69	917.87	835.19	1,049.83	1,659.28	694.41
2004	574.58	1,035.41	893.94	1,133.93	1,810.44	709.74
2005	612.14	1,099.09	949.14	1,203.68	1,909.35	718.94
2006	647.09	1,184.05	1,010.14	1,243.83	2,003.66	721.01
2007	687.52	1,293.07	1,087.42	1,310.67	2,124.46	780.17
Prob. of Decreasing Real Net Worth Over 2001-2007 (%)	1	2	1	8	2	41

Representative Cotton Farms (continued)

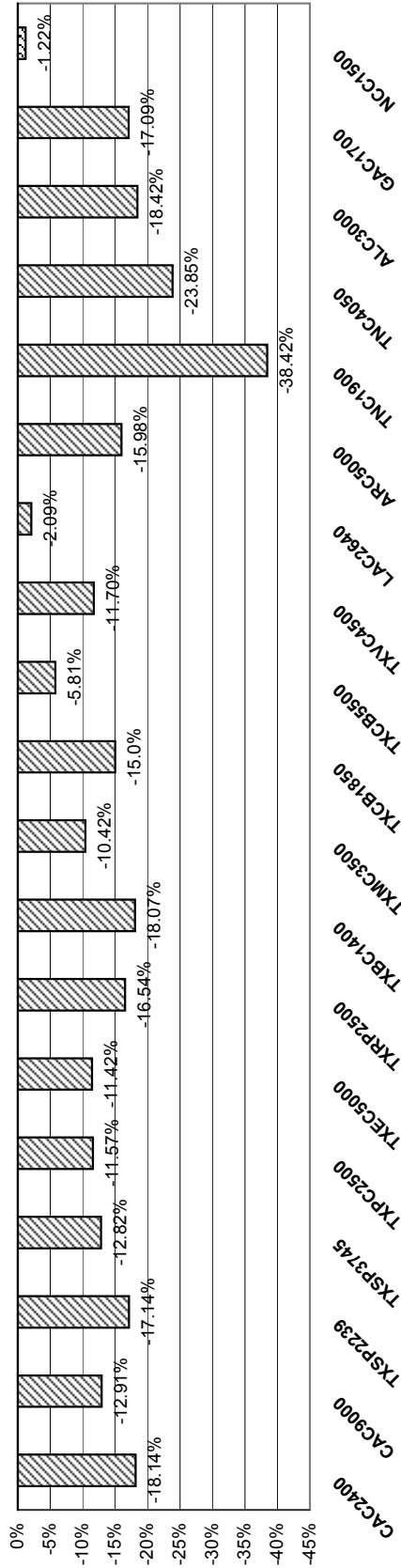
- The Arkansas cotton farm (ARC5000) plants 36 percent of its 5000 acres to cotton. The remaining land is utilized for rice, soybean, and corn production. Average annual cash receipts fall between \$2.4 and \$2.6 million for the projection period. An average of 29.5 percent of total cash receipts are in the form of government payments. This farm is in marginal overall financial condition, due solely to the fact that the probability of a cash flow deficit increases to 35 percent in 2007.
- The moderately-sized Tennessee cotton farm (TNC1900) plants 915 acres of cotton. Cotton sales make up just under 73 percent of total cash receipts; the remaining land is planted to soybeans, corn, grain sorghum, and wheat. With a cost to receipts ratio of 54.4 percent, this is the most efficient cotton farm in the national representative set. Consistently low probabilities of cash flow deficits and a strong solvency position result in a good overall financial ranking.
- The larger Tennessee cotton farm (TNC4050) plants about 61 percent of its land to cotton, comprising nearly 81 percent of total cash receipts. Soybeans, corn, and wheat are planted on the remaining cultivated land. Forty percent of the soybeans are double-cropped after wheat. Average annual cash receipts fall between \$1.73 million and \$1.78 million for the 2003-2007 period. Favorable liquidity and solvency conditions prevail throughout the period for this large Tennessee cotton farm, thus it is classified in good overall financial condition.
- The Alabama cotton farm (ALC3000) typically grows 2075 acres of cotton annually, making up about 80 percent of total cash receipts. Additional crops grown include corn and soybeans. Average annual cash income for the projected period ranges from \$402,000 to \$442,000. This farm is expected to build net worth each year despite slight cash flow problems, thus resulting in a marginal overall ranking.
- Decatur, Georgia is the location of the 1,700 acre Georgia representative cotton farm (GAC1700). This farm plants 60 percent of its land in cotton, 30 percent in peanuts, and 10 percent in soybeans. Average annual gross receipts for the 2003-2007 period range from \$1.28 to \$1.35 million. Probability of a cash flow deficit for this farm never climbs above 14 percent, indicating that this farm is in good condition with respect to liquidity. Solvency conditions for the farm are also favorable, resulting in a good overall ranking for the farm.
- Two thirds of the North Carolina cotton farm's (NCC1500) acres are planted to cotton, making up approximately 75 percent of total cash receipts. Wheat and double-cropped soybeans are grown on the remaining 500 acres. This farm has a relatively high cost to receipts ratio, indicating that it may not be operating efficiently. The farm averages a 25 percent likelihood of losing real net worth over the 2001-2007 period. Probability of a cash flow deficit never drops below 43 percent, and it reaches a high of 88 percent in 2007, the final year examined. A poor liquidity condition and a marginal solvency condition result in this farm's poor overall financial condition rating.

Table 6. Implications of the August 2003 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Cotton.

	ARC5000	TNC1900	TNC4050	ALC3000	GAC1700	NCC1500
Overall Financial Position						
2003-2007 Ranking	Marginal	Good	Good	Marginal	Good	Poor
NIA to Maintain Real Net Worth (\$1,000)	-408.06	-271.12	-417.50	-250.23	-225.68	-8.66
NIA to Maintain Real Net Worth (% Rec.)	-15.97	-38.42	-23.85	-18.42	-17.09	-1.22
Change Real Net Worth (%)						
2003-2007 Average	6.58	9.08	7.06	9.49	7.78	-0.13
Govt Payments/Receipts (%)						
2003-2007 Average	29.50	20.94	20.25	22.86	24.39	22.14
Cost to Receipts Ratio (%)						
2003-2007 Average	74.95	54.42	70.14	71.91	75.86	90.39
Total Cash Receipts (\$1000)						
2001	2,350.94	605.95	1,432.99	1,263.90	1,178.47	686.37
2002	2,458.36	693.16	1,649.16	1,333.43	1,283.43	687.27
2003	2,498.81	690.42	1,737.36	1,337.08	1,281.00	697.35
2004	2,542.49	702.95	1,753.72	1,358.72	1,315.79	705.62
2005	2,563.77	703.98	1,750.62	1,354.07	1,322.35	708.92
2006	2,568.25	708.63	1,758.14	1,366.95	1,336.81	714.32
2007	2,598.56	722.66	1,772.85	1,375.60	1,348.62	726.31
2003-2007 Average	2,554.38	705.73	1,754.54	1,358.48	1,320.91	710.50
Government Payments (\$1000)						
2001	1,150.37	240.85	621.01	527.75	320.71	290.76
2002	920.70	168.94	412.40	392.32	416.64	183.85
2003	645.87	145.52	330.12	289.92	308.95	145.50
2004	725.03	139.36	331.09	275.29	321.35	143.41
2005	796.34	144.07	348.66	287.31	317.79	149.55
2006	802.53	145.34	354.83	298.08	327.82	152.46
2007	765.28	137.82	332.76	276.61	318.40	142.74
2003-2007 Average	747.01	142.42	339.49	285.44	318.86	146.73
Net Cash Farm Income (\$1000)						
2001	464.26	214.33	283.49	348.74	102.06	85.06
2002	625.64	318.67	525.88	436.15	314.69	101.62
2003	656.69	322.09	618.48	434.63	308.95	108.22
2004	671.87	337.84	623.95	441.16	326.03	108.18
2005	663.00	326.80	601.13	416.82	318.60	89.01
2006	640.61	328.32	597.94	410.61	323.08	65.06
2007	641.30	332.92	600.82	402.33	328.51	45.53
2003-2007 Average	654.69	329.60	608.46	421.11	321.03	83.20
Prob. of a Cash Flow Deficit (%)						
2003	13	1	23	27	3	55
2004	5	1	23	13	2	43
2005	14	1	25	24	14	66
2006	15	1	25	27	2	71
2007	35	1	24	32	2	88
Ending Cash Reserves (\$1000)						
2001	230.10	73.67	126.74	175.76	-10.48	24.60
2002	487.09	210.00	386.10	375.71	116.91	49.98
2003	648.80	331.61	596.21	525.36	195.25	72.62
2004	884.67	495.29	884.81	747.73	270.13	119.01
2005	1,065.50	616.42	1,105.80	937.17	319.65	111.44
2006	1,216.25	763.19	1,337.31	1,115.23	412.30	69.79
2007	1,297.83	909.36	1,553.54	1,257.26	520.40	-53.42
Nominal Net Worth (\$1000)						
2001	2,721.03	1,216.43	2,754.73	1,181.17	1,314.11	1,318.26
2002	3,092.56	1,420.85	3,153.72	1,400.10	1,528.40	1,397.26
2003	3,406.74	1,601.65	3,503.34	1,582.36	1,687.46	1,469.04
2004	3,718.95	1,790.43	3,835.49	1,787.74	1,847.41	1,526.36
2005	3,986.89	1,949.85	4,091.87	1,959.71	1,978.37	1,537.12
2006	4,264.94	2,127.80	4,406.62	2,142.77	2,181.48	1,515.55
2007	4,503.10	2,315.70	4,707.34	2,303.12	2,331.48	1,453.49
Prob. of Decreasing Real Net Worth Over 2001-2007 (%)	1	1	1	1	1	25

Figure 2. Cotton Farms

Minimum Annual Percentage Change in Receipts, 2003-2007, Needed to Maintain Real Net Worth



Economic and Financial Position Over the Period, 2003-2007, for all Cotton Farms

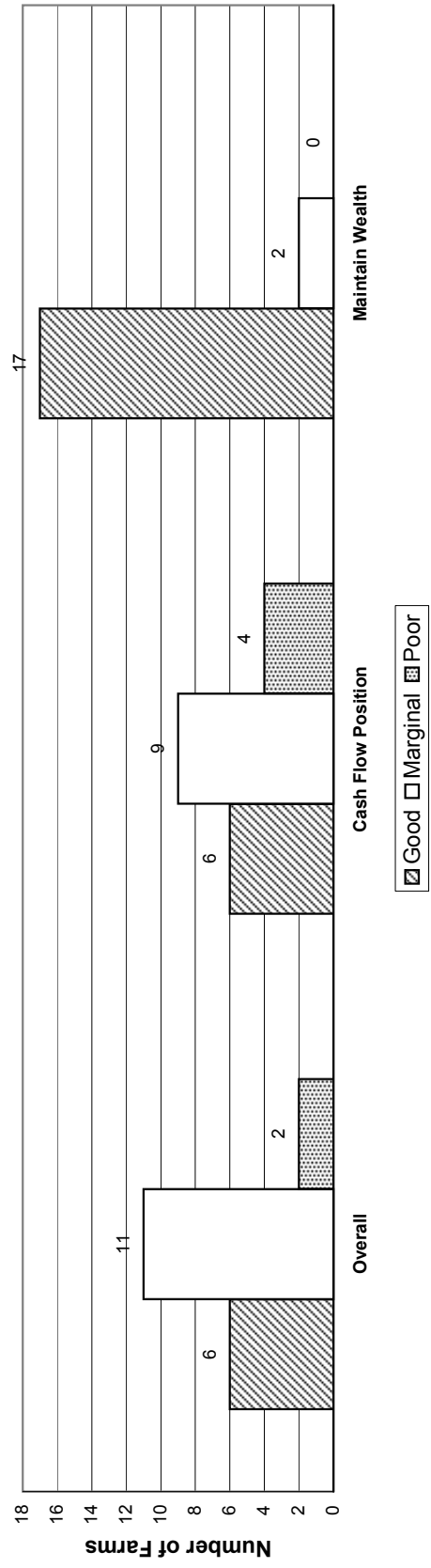
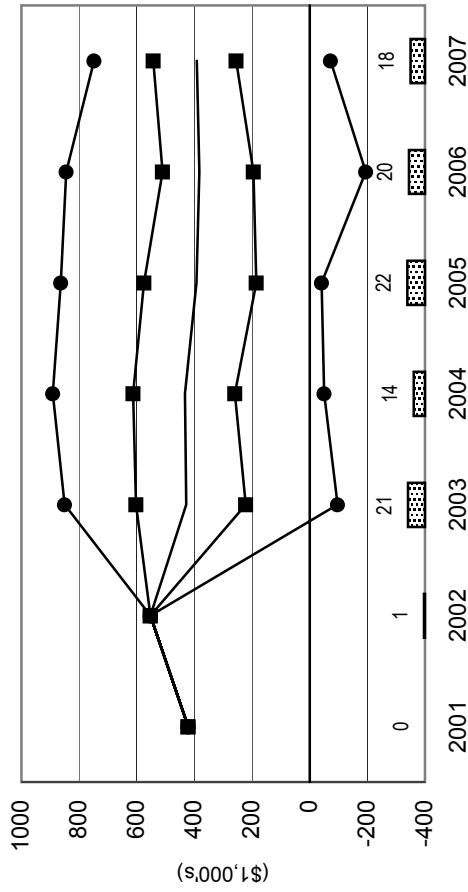


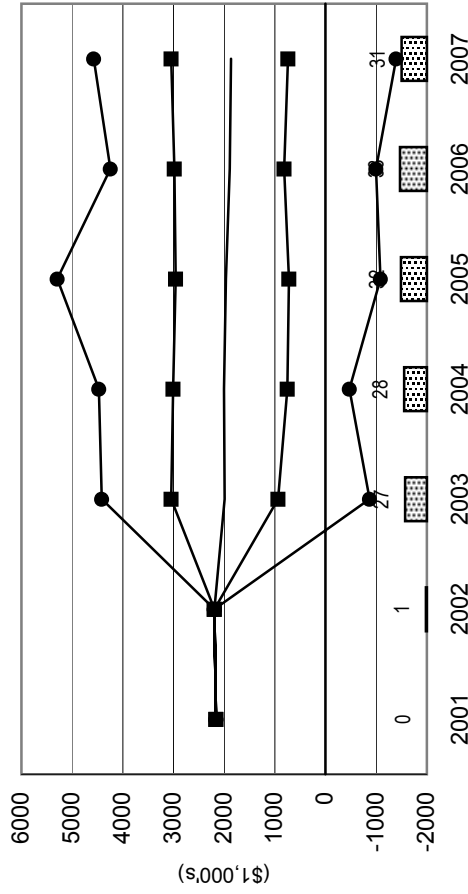
Figure 3. Net Cash Farm Income and Probabilities of a Cash Flow Deficit: Cotton Farms

— Average NCFI ■ 25 & 75 Percentile NCFI ● Prob. of Cash Flow Deficit

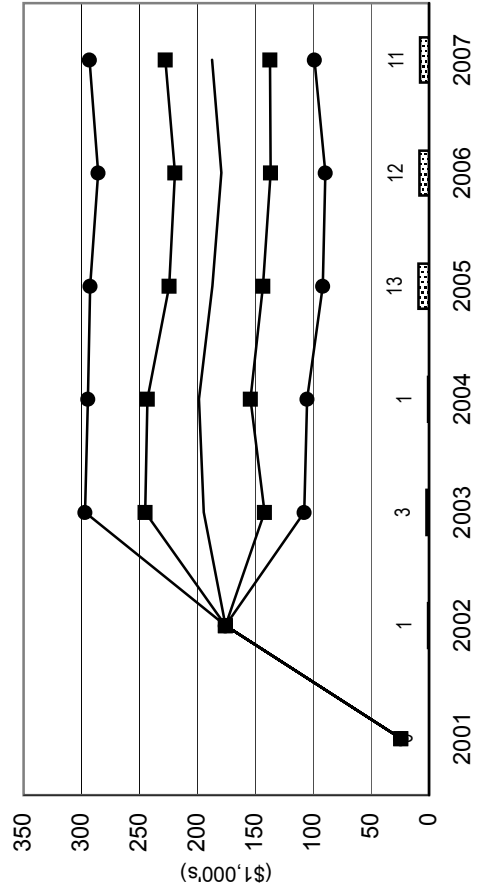
CAC2400 California Cotton Farm



CAC9000 Large California Cotton Farm



TXSP2239 Texas Southern Plains Cotton Farm



TXSP3745 Large Texas Southern Plains Cotton Farm

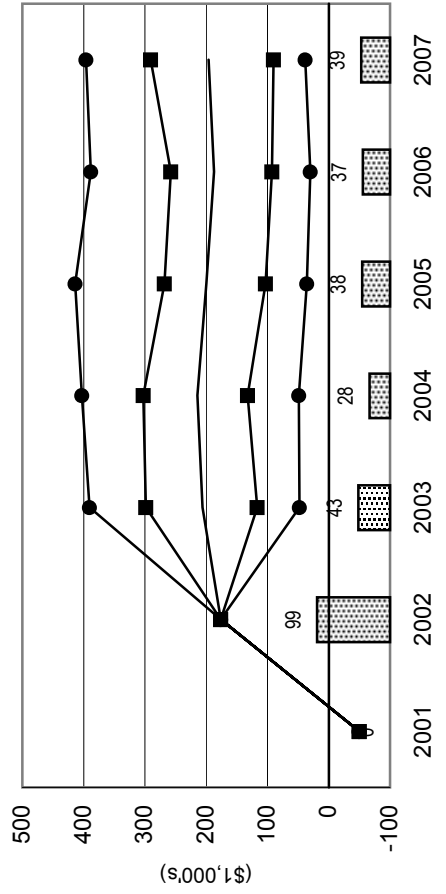
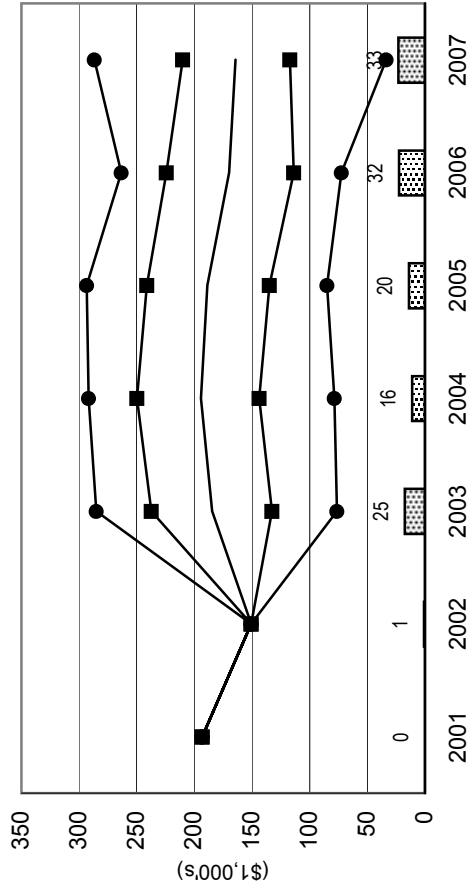


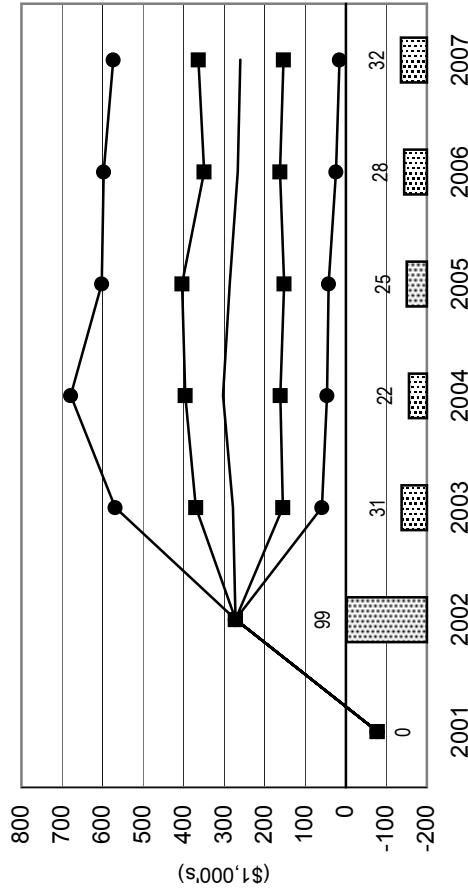
Figure 4. Net Cash Farm Income and Probabilities of a Cash Flow Deficit: Cotton Farms

— Average NCFI ■ 25 & 75 Percentile NCFI ● 5 & 95 Percentile NCFI ▨ Prob. of Cash Flow Deficit

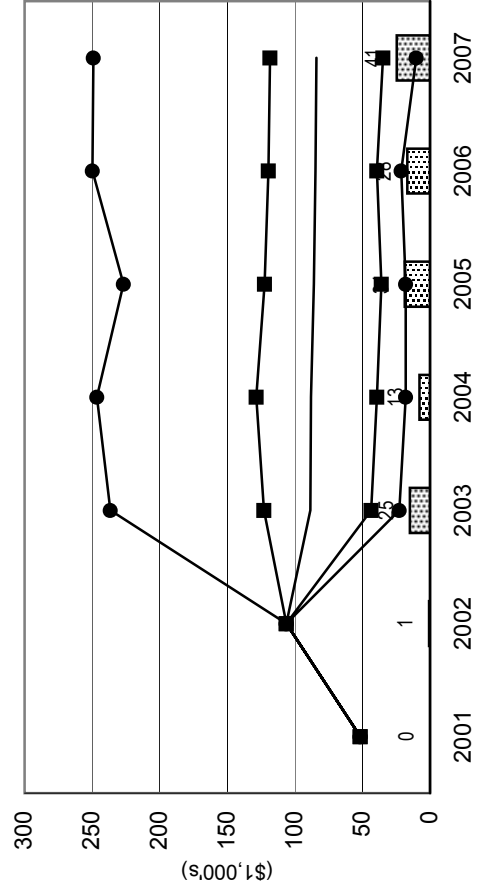
TXPC2500 Texas Panhandle Cotton Farm



TXEC5000 Texas Eastern Caprock Cotton Farm



TXRP2500 Texas Rolling Plains Cotton Farm



TXBC1400 Texas Blacklands Cotton Farm

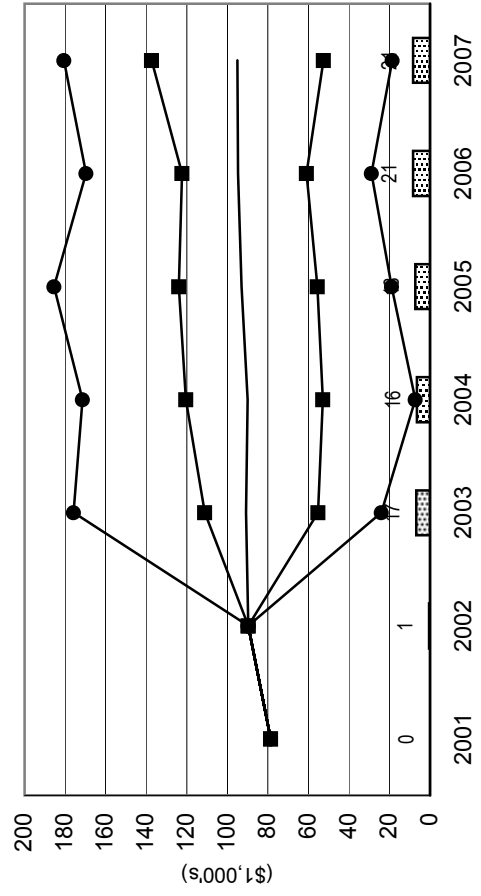
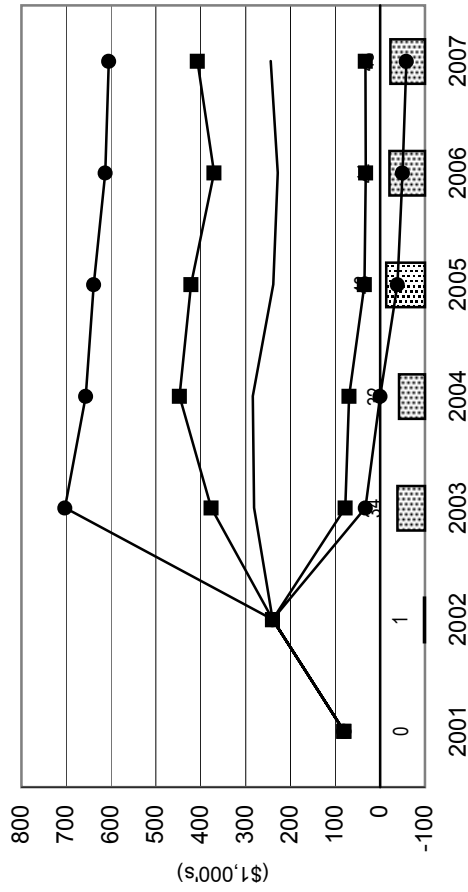


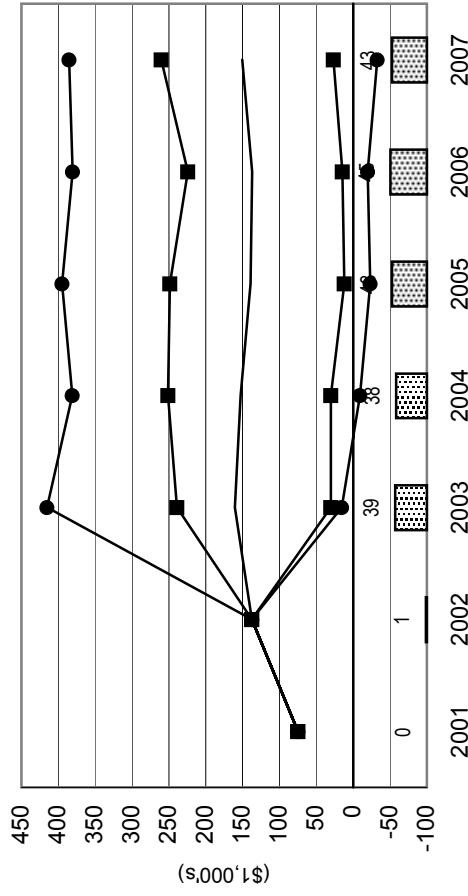
Figure 5. Net Cash Farm Income and Probabilities of a Cash Flow Deficit: Cotton Farms

— Average NCFI ■ 25 & 75 Percentile NCFI ● 5 & 95 Percentile NCFI ▨ Prob. of Cash Flow Deficit

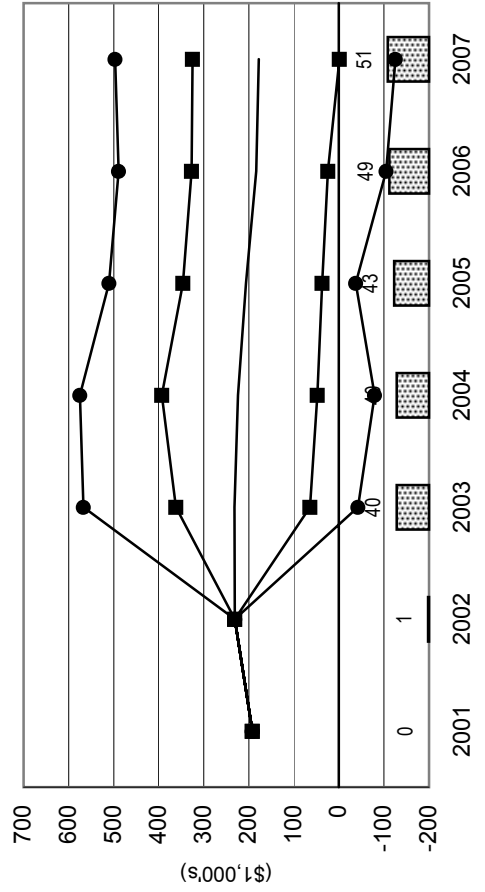
TXMC3500 Texas Mid-Coast Cotton Farm



TXCB1850 Texas Coastal Bend Cotton Farm



TXCB5500 Large Texas Coastal Bend Cotton Farm



TXVC4500 Texas Cotton Farm

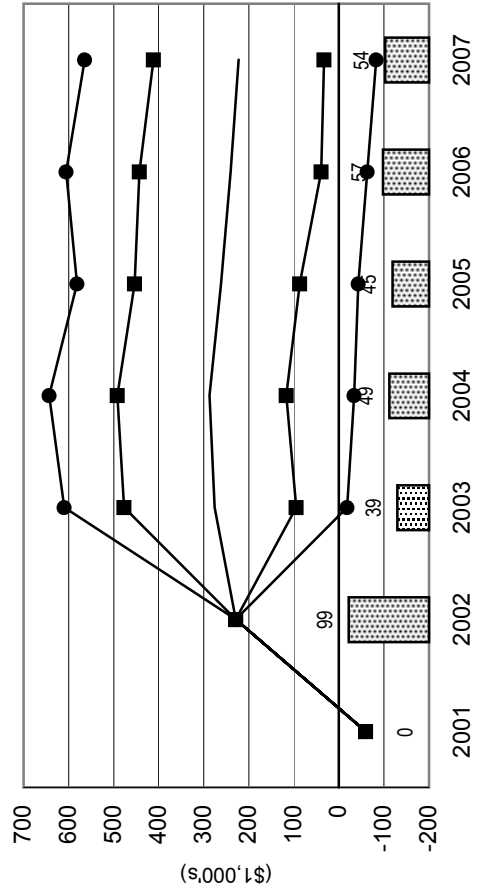
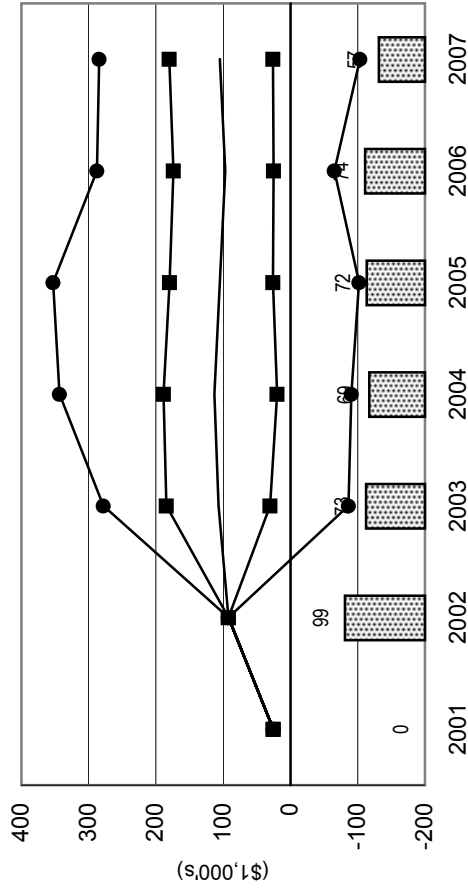


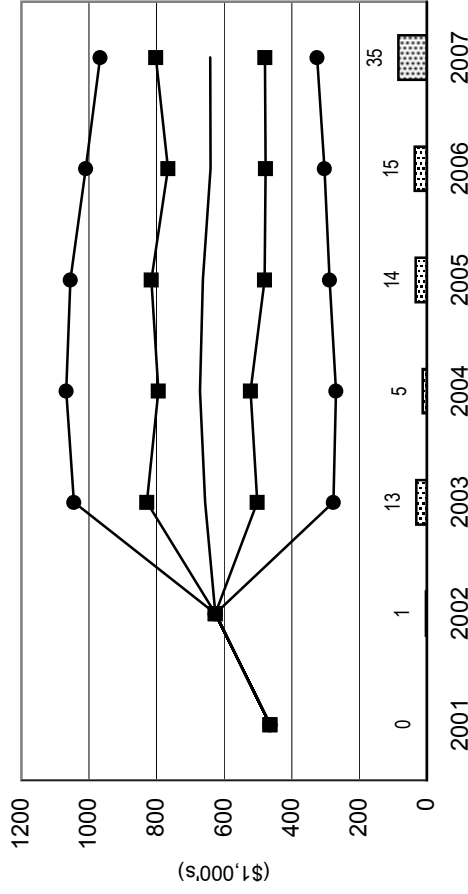
Figure 6. Net Cash Farm Income and Probabilities of a Cash Flow Deficit: Cotton Farms

— Average NCFI ■ 25 & 75 Percentile NCFI ● 5 & 95 Percentile NCFI ▨ Prob. of Cash Flow Deficit

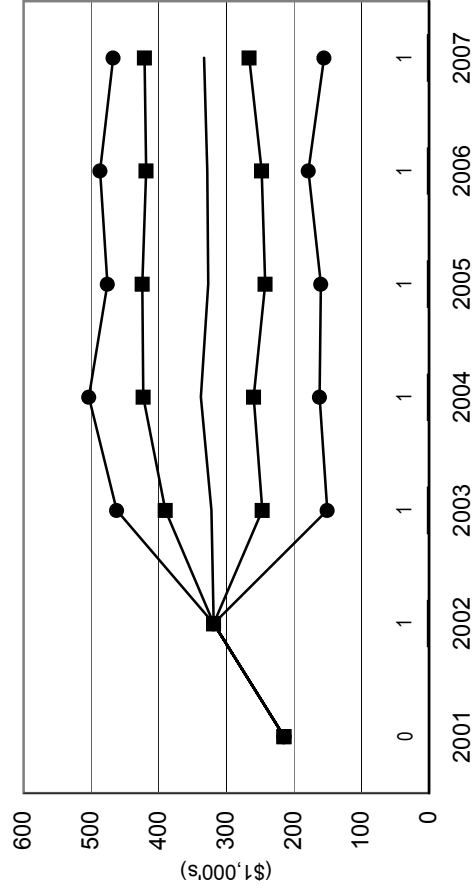
LAC2640 Louisiana Cotton Farm



ARC5000 Arkansas Cotton Farm



TNC1900 Tennessee Cotton Farm



TNC4050 Large Tennessee Cotton Farm

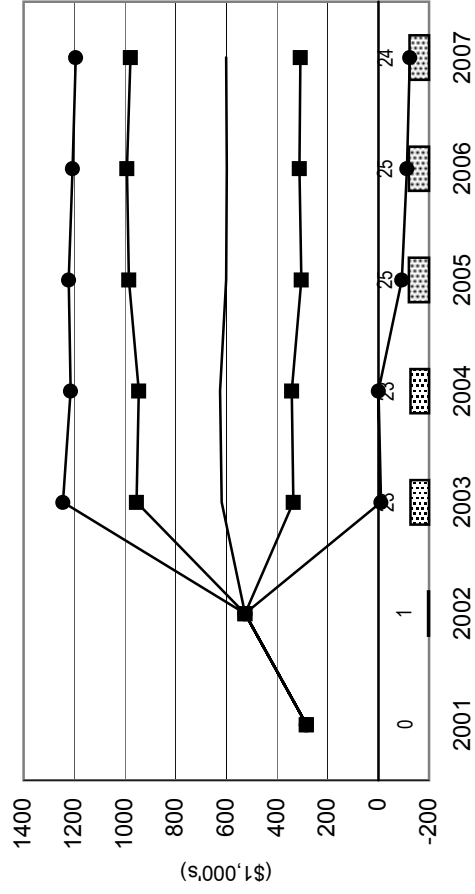
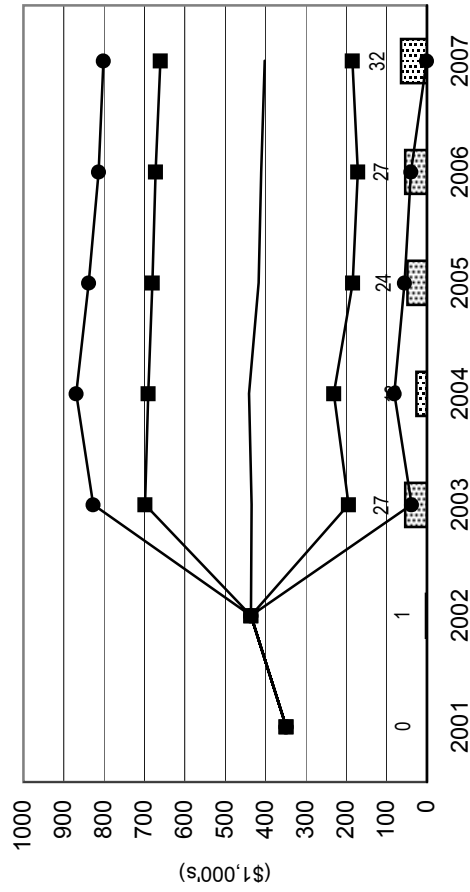


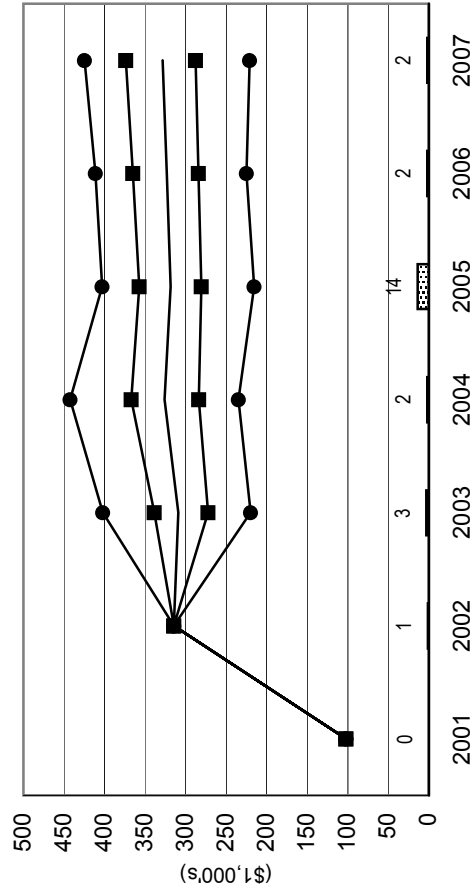
Figure 7. Net Cash Farm Income and Probabilities of a Cash Flow Deficit: Cotton Farms

— Average NCFI ■ 25 & 75 Percentile NCFI ● 5 & 95 Percentile NCFI ▨ Prob. of Cash Flow Deficit

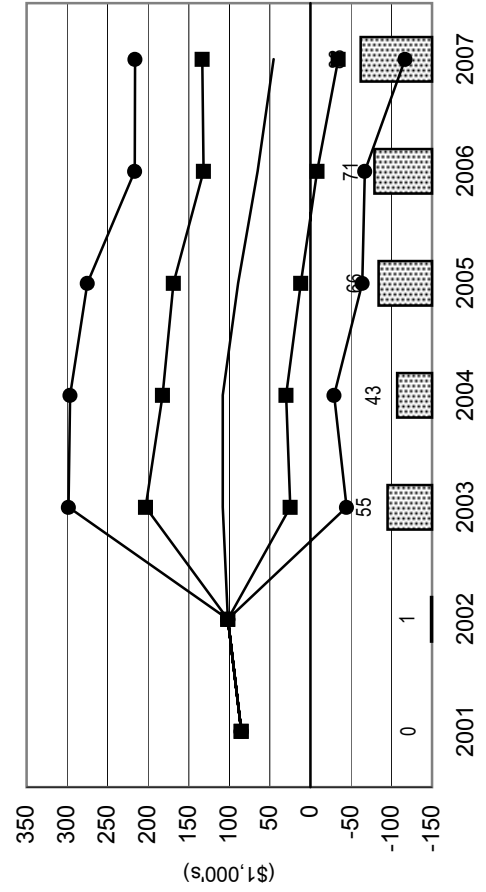
ALC3000 Alabama Cotton Farm



GAC1700 Georgia Cotton Farm



NCC1500 North Carolina Cotton Farm



**APPENDIX A:
CHARACTERISTICS OF
REPRESENTATIVE FARMS**

2003 CHARACTERISTICS OF PANEL FARMS PRODUCING COTTON

- CAC2400** CAC2400 is a 2,400-acre, moderate-sized cotton farm located in the central San Joaquin Valley of California (Kings County). This farm plants 1,000 acres of cotton and 1,400 acres of hay. During 2003, CAC2000 generated 57 percent of total receipts from cotton and 43 percent from hay.
- CAC9000** California's central San Joaquin Valley (Kings County) is home to this 9,000-acre farm. Cotton is planted on 4,500 acres, 1,260 acres to wheat, 720 acres of hay, and 2,520 acres of vegetables. Fifty-four percent of 2003 receipts were generated from cotton and 37 percent came from vegetable sales.
- TXSP2239** A 2,239-acre Texas South Plains (Dawson County) cotton farm that is moderate-sized for the area. TXSP2239 plants 1,616 acres of cotton (1,250 dryland, 366 irrigated), 270 acres of peanuts, and has 183 acres in CRP. For 2003, 58 percent of receipts came from cotton.
- TXSP3745** The Texas South Plains (Dawson County) is home to this 3,745-acre, large-sized cotton farm that grows 2,625 acres of cotton (2,120 dryland, 505 irrigated), 245 acres of peanuts, and has 288 acres in CRP. Cotton sales comprised 73 percent of 2003 receipts.
- TXPC2500** The Texas Panhandle is home to this 2,500-acre farm (Deaf Smith County). Annually, cotton is planted on 1,184 acres (1,000 irrigated and 184 dryland), 308 acres to sorghum (125 irrigated and 183 dryland), 883 acres planted to wheat (700 irrigated and 183 dryland), and 125 irrigated acres are planted to corn. Sixty-one percent of 2003 cash receipts were generated by cotton sales.
- TXEC5000** This 5,000-acre farm is located on the Eastern Caprock of the Texas South Plains (Crosby County). Annually, 4,300 acres are planted to cotton (2,800 irrigated and 1,500 dryland), 400 acres of wheat (100 irrigated and 300 dryland), and 300 acres of dryland sorghum. In 2003, cotton sales accounted for 96 percent of gross receipts.
- TXRP2500** TXRP2500 is a 2,500-acre cotton farm located in the Rolling Plains of Texas (Jones County). This farm plants 1,240 acres of cotton and 825 acres of winter wheat each year. Eighty percent of 2003 farm receipts came from cotton sales. Twelve head of beef cows generated approximately two percent of farm receipts.

Appendix Table A1. Characteristics of Panel Farms Producing Cotton.

	CAC2400	CAC9000	TXSP2239	TXSP3745	TXPC2500	TXEC5000	TXRP2500
County	Kings	Kings	Dawson	Dawson	Deaf Smith	Crosby	Jones
Total Cropland	2,000.00	9,000.00	2,239.00	3,745.00	2,500.00	5,000.00	2,500.00
Acres Owned	1,000.00	6,750.00	670.00	1,650.00	1,250.00	640.00	400.00
Acres Leased	1,000.00	2,250.00	1,569.00	2,095.00	1,250.00	4,360.00	2,100.00
Pastureland							
Acres Leased	0.00	0.00	0.00	0.00	0.00	0.00	500.00
Assets (\$1000)							
Total	5,126.00	17,431.00	788.00	1,449.00	1,532.00	1,179.00	438.00
Real Estate	4,123.00	15,120.00	352.00	863.00	677.00	341.00	194.00
Machinery	444.00	8.00	327.00	586.00	770.00	787.00	187.00
Other & Livestock	560.00	2,302.00	109.00	0.00	85.00	51.00	57.00
Debt/Asset Ratios							
Total	0.13	0.14	0.11	0.13	0.17	0.16	0.12
Intermediate	0.00	0.00	0.08	0.07	0.17	0.16	0.09
Long Run	0.16	0.16	0.15	0.18	0.16	0.15	0.16
Number of Livestock							
Beef Cows	0.00	0.00	0.00	0.00	0.00	0.00	12.00
2003 Gross Receipts (\$1,000)*							
Total	2,077.10	10,800.40	632.80	822.80	831.10	1,276.60	236.80
Cattle	0.00	0.00	0.00	0.00	0.00	0.00	4.30
	0.00	0.00	0.00	0.00	0.00	0.00	0.02
Cotton	1,192.50	5,861.70	368.10	604.30	509.90	1,228.50	191.40
	0.57	0.54	0.58	0.73	0.61	0.96	0.81
Sorghum	0.00	0.00	0.00	0.00	35.40	0.00	0.00
	0.00	0.00	0.00	0.00	0.04	0.00	0.00
Wheat	0.00	403.00	0.00	0.00	112.90	19.00	41.20
	0.00	0.04	0.00	0.00	0.14	0.02	0.17
Corn	0.00	0.00	0.00	0.00	105.20	0.00	0.00
	0.00	0.00	0.00	0.00	0.13	0.00	0.00
Hay	884.60	549.60	0.00	0.00	0.00	0.00	0.00
	0.43	0.05	0.00	0.00	0.00	0.00	0.00
Peanuts	0.00	0.00	259.60	208.90	0.00	0.00	0.00
	0.00	0.00	0.41	0.25	0.00	0.00	0.00
Sorghum	0.00	0.00	0.00	0.00	0.00	29.20	0.00
	0.00	0.00	0.00	0.00	0.00	0.02	0.00
Other Receipts	0.00	3,986.10	5.10	9.50	67.70	0.00	0.00
	0.00	0.37	0.01	0.01	0.08	0.00	0.00
2003 Planted Acres**							
Total	2,400.00	9,000.00	2,069.00	3,158.00	2,500.00	5,000.00	1,947.00
Cotton	1,000.00	4,500.00	1,616.00	2,625.00	1,184.00	4,300.00	1,122.00
	0.42	0.50	0.78	0.83	0.47	0.86	0.58
Sorghum	0.00	0.00	0.00	0.00	308.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.12	0.00	0.00
Wheat	0.00	1,260.00	0.00	0.00	883.00	400.00	825.00
	0.00	0.14	0.00	0.00	0.35	0.08	0.42
Corn	0.00	0.00	0.00	0.00	125.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.05	0.00	0.00
Hay	1,400.00	720.00	0.00	0.00	0.00	0.00	0.00
	0.58	0.08	0.00	0.00	0.00	0.00	0.00
Peanuts	0.00	0.00	270.00	245.00	0.00	0.00	0.00
	0.00	0.00	0.13	0.08	0.00	0.00	0.00
Sorghum	0.00	0.00	0.00	0.00	0.00	300.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.06	0.00
Vegetables	0.00	2,520.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.28	0.00	0.00	0.00	0.00	0.00
CRP	0.00	0.00	183.00	288.00	0.00	0.00	0.00
	0.00	0.00	0.09	0.09	0.00	0.00	0.00

*Receipts for 2003 are included to indicate the relative importance of each enterprise to the farm. Percents indicate the percentage of the total receipts accounted for by the livestock categories and the crops.

**Acreages for 2003 are included to indicate the relative importance of each enterprise to the farm. Total planted acreage may exceed total cropland available due to double cropping. Percents indicate the percentage of total planted acreage accounted for by the crop.

2003 CHARACTERISTICS OF PANEL FARMS PRODUCING COTTON (continued)

- TXBC1400** This 1,400-acre farm is located on the Blackland Prairie of Texas (Williamson County). TXBC1400 plants 150 acres of cotton, 900 acres of corn, 250 acres of sorghum, and 100 acres of winter wheat annually. Additionally, this farm has a 50-head beef cow herd that is pastured on rented ground that cannot be farmed. Cotton generated 21 percent of 2003 total receipts, corn generated 53 percent, and sorghum generated 14 percent.
- TXMC3500** A 3,500-acre cotton farm located on the middle Texas Gulf Coast (Jackson County) that farms 1,750 acres of cotton and 875 acres each of sorghum and corn. In 2003, cotton sales comprised 70 percent of total cash receipts on this operation.
- TXCB1850** A 1,850-acre cotton farm located on the Texas Coastal Bend (San Patricio County) that farms 925 acres of cotton, 775 acres of sorghum, and 150 acres of corn annually. Seventy-two percent of 2003 cash receipts were generated by cotton.
- TXCB5500** Nueces County, Texas, is home to this 5,500-acre farm. Annually, 2,750 acres is planted to cotton and 2,750 acres of sorghum. Cotton sales accounted for 76 percent of 2003 receipts.
- TXVC4500** This 4,500-acre farm is located in the lower Rio Grande Valley of Texas (Willacy County) and plants 2,388 acres to cotton (500 irrigated and 1,888 acres dryland), 1,887 acres to sorghum, and 225 acres of sugarcane. In 2003, 71 percent of TXVC4500's cash receipts were generated by cotton sales.
- LAC2640** This is a 2,640 cotton farm located in north Louisiana (Morehouse Parish). LAC2640 plants 1,498 acres of cotton, 686 acres of corn, and 456 acres of soybeans each year. During 2003, 47 percent of farm receipts were generated from cotton sales.

Appendix Table A2. Characteristics of Panel Farms Producing Cotton.

	TXBC1400	TXMC3500	TXCB1850	TXCB5500	TXVC4500	LAC2640
County	Williamson	Jackson	San Patricio	Nueces	Willacy	Morehouse
Total Cropland	1,400.00	3,500.00	1,850.00	5,500.00	4,500.00	2,640.00
Acres Owned	150.00	350.00	360.00	225.00	900.00	0.00
Acres Leased	1,250.00	3,150.00	1,490.00	5,275.00	3,600.00	2,640.00
Pastureland						
Acres Owned	30.00	0.00	0.00	0.00	0.00	0.00
Acres Leased	210.00	0.00	0.00	0.00	0.00	0.00
Assets (\$1000)						
Total	602.00	1,012.00	937.00	1,259.00	2,036.00	963.00
Real Estate	310.00	311.00	493.00	246.00	1,408.00	188.00
Machinery	209.00	539.00	276.00	748.00	607.00	708.00
Other & Livestock	83.00	161.00	169.00	265.00	21.00	66.00
Debt/Asset Ratios						
Total	0.12	0.12	0.13	0.16	0.20	0.30
Intermediate	0.08	0.13	0.09	0.17	0.31	0.35
Long Run	0.16	0.10	0.16	0.16	0.16	0.14
Number of Livestock						
Beef Cows	50.00	0.00	0.00	0.00	0.00	0.00
2003 Gross Receipts (\$1,000)*						
Total	277.40	1,210.70	521.70	1,337.20	1,225.60	906.70
Cattle	20.20	0.00	0.00	0.00	0.00	0.00
	0.07	0.00	0.00	0.00	0.00	0.00
Cotton	59.00	841.90	377.20	1,018.30	866.50	427.30
	0.21	0.70	0.72	0.76	0.71	0.47
Sorghum	40.00	164.90	123.30	318.90	236.70	0.00
	0.14	0.14	0.24	0.24	0.19	0.00
Wheat	10.50	0.00	0.00	0.00	0.00	0.00
	0.04	0.00	0.00	0.00	0.00	0.00
Soybeans	0.00	0.00	0.00	0.00	0.00	220.70
	0.00	0.00	0.00	0.00	0.00	0.24
Corn	145.70	196.30	21.20	0.00	0.00	258.70
	0.53	0.16	0.04	0.00	0.00	0.29
Rice	0.00	7.50	0.00	0.00	0.00	0.00
	0.00	0.01	0.00	0.00	0.00	0.00
Sugar Cane	0.00	0.00	0.00	0.00	122.40	0.00
	0.00	0.00	0.00	0.00	0.10	0.00
Other Receipts	2.00	0.00	0.00	0.00	0.00	0.00
	0.01	0.00	0.00	0.00	0.00	0.00
2003 Planted Acres**						
Total	1,400.00	3,500.00	1,850.00	5,500.00	4,500.00	2,640.00
Cotton	150.00	1,750.00	925.00	2,750.00	2,387.50	1,498.00
	0.11	0.50	0.50	0.50	0.53	0.57
Sorghum	250.00	875.00	775.00	2,750.00	1,887.50	0.00
	0.18	0.25	0.42	0.50	0.42	0.00
Wheat	100.00	0.00	0.00	0.00	0.00	0.00
	0.07	0.00	0.00	0.00	0.00	0.00
Soybeans	0.00	0.00	0.00	0.00	0.00	456.00
	0.00	0.00	0.00	0.00	0.00	0.17
Corn	900.00	875.00	150.00	0.00	0.00	686.00
	0.64	0.25	0.08	0.00	0.00	0.26
Sugar Cane	0.00	0.00	0.00	0.00	225.00	0.00
	0.00	0.00	0.00	0.00	0.05	0.00

*Receipts for 2003 are included to indicate the relative importance of each enterprise to the farm. Percents indicate the percentage of the total receipts accounted for by the livestock categories and the crops.

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2003 CHARACTERISTICS OF PANEL FARMS PRODUCING COTTON (continued)

- ARC5000** ARC5000 is a 5,000-acre cotton farm in northeast Arkansas (Desha County) that plants 1,800 acres of cotton, 1,500 acres of rice, 1,400 acres of soybeans, and 300 acres of corn. For 2003, 53 percent of gross receipts came from cotton sales, 34 percent from rice sales, and 12 percent from soybean sales.
- TNC1900** A 1,900-acre, moderate-sized West Tennessee (Fayette County) cotton farm. TNC1900 consists of 915 acres of cotton, 370 acres each of soybeans and corn, 150 acres of sorghum, 65 acres of wheat, and 30 acres enrolled in CRP. Cotton accounted for 73 percent of 2003 gross receipts, with corn and soybeans contributing 12 percent and nine percent, respectively.
- TNC4050** TNC4050 is a 4,050-acre, large-sized West Tennessee (Haywood County) cotton farm. This farm plants 2,670 acres of cotton, 820 acres of soybeans, 560 acres of corn, and 328 acres of wheat each year. During 2003, cotton sales generated 81 percent of gross receipts.
- ALC3000** A 3,000-acre cotton farm located in north central Alabama (Lawrence County) that plants 2,075 acres to cotton, 750 acres to corn, and 175 acres to soybeans annually. ALC3000 has been under a no-till regime for several years. Additionally, cotton produced on this farm is marketed through a cooperative gin. This gin has implemented ginning and marketing innovations that return a higher lint price than would be realized through conventional marketing channels. Cotton sales accounted for 80 percent of total farm receipts during 2003.
- GAC1700** Southwest Georgia (Decatur County) is home to a 1,700-acre cotton farm that plants 1,020 acres to cotton, 510 acres to peanuts, and 170 acres to soybeans. This farm was added during 2003 to represent resurgent cotton production in the Deep South. In 2003, farm receipts were comprised largely of cotton sales (55 percent) and peanut sales (38 percent).
- NCC1500** This is a 1,500-acre cotton farm located on the upper coastal plain of North Carolina (Wayne County). NCC1500 plants 1,000 acres of cotton, 500 acres of wheat, and 500 acres of double-cropped soybeans annually. This farm was added during 2001 to reflect the return of large-scale cotton production to North Carolina. Cotton accounted for 75 percent of this farm's 2003 receipts with 13 percent coming from soybean sales. 003.

Appendix Table A3. Characteristics of Panel Farms Producing Cotton.

	ARC5000	TNC1900	TNC4050	ALC3000	GAC1700	NCC1500
County	Desha	Fayette	Haywood	Lawrence	Decatur	Wayne
Total Cropland	5,000.00	1,900.00	4,050.00	3,000.00	1,700.00	1,500.00
Acres Owned	1,000.00	225.00	1,000.00	0.00	510.00	225.00
Acres Leased	4,000.00	1,675.00	3,050.00	3,000.00	1,190.00	1,275.00
Pastureland Acres Owned	0.00	0.00	0.00	0.00	90.00	0.00
Assets (\$1000)						
Total	4,138.00	1,712.00	3,985.00	1,795.00	2,136.00	1,643.00
Real Estate	1,769.00	729.00	1,843.00	141.00	1,255.00	1,146.00
Machinery	1,696.00	323.00	1,360.00	1,088.00	739.00	441.00
Other & Livestock	673.00	661.00	783.00	566.00	142.00	56.00
Debt/Asset Ratios						
Total	0.17	0.07	0.13	0.11	0.23	0.12
Intermediate	0.19	0.02	0.11	0.11	0.33	0.00
Long Run	0.15	0.10	0.14	0.16	0.17	0.17
2003 Gross Receipts (\$1,000)*						
Total	2,510.00	689.90	1,649.60	1,332.60	1,245.80	678.80
Cotton	1,317.60	502.70	1,332.10	1,064.80	685.30	508.70
	0.53	0.73	0.81	0.80	0.55	0.75
Sorghum	0.00	28.30	0.00	0.00	0.00	0.00
	0.00	0.04	0.00	0.00	0.00	0.00
Wheat	0.00	13.40	62.90	0.00	0.00	82.00
	0.00	0.02	0.04	0.00	0.00	0.12
Soybeans	302.70	60.50	123.10	102.00	82.30	88.20
	0.12	0.09	0.08	0.08	0.07	0.13
Corn	36.70	83.60	127.60	165.80	0.00	0.00
	0.02	0.12	0.08	0.12	0.00	0.00
Peanuts	0.00	0.00	0.00	0.00	478.20	0.00
	0.00	0.00	0.00	0.00	0.38	0.00
Rice	853.00	0.00	0.00	0.00	0.00	0.00
	0.34	0.00	0.00	0.00	0.00	0.00
Other Receipts	0.00	1.40	4.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00
2003 Planted Acres**						
Total	5,000.50	1,900.00	4,378.00	3,000.00	1,700.00	2,000.00
Cotton	1,800.50	915.00	2,670.00	2,075.00	1,020.00	1,000.00
	0.36	0.48	0.61	0.69	0.60	0.50
Sorghum	0.00	150.00	0.00	0.00	0.00	0.00
	0.00	0.08	0.00	0.00	0.00	0.00
Wheat	0.00	65.00	328.00	0.00	0.00	500.00
	0.00	0.03	0.08	0.00	0.00	0.25
Soybeans	1,400.00	370.00	820.00	175.00	170.00	500.00
	0.28	0.20	0.19	0.06	0.10	0.25
Corn	300.00	370.00	560.00	750.00	0.00	0.00
	0.06	0.20	0.13	0.25	0.00	0.00
Peanuts	0.00	0.00	0.00	0.00	510.00	0.00
	0.00	0.00	0.00	0.00	0.30	0.00
CRP	0.00	30.00	0.00	0.00	0.00	0.00
	0.00	0.02	0.00	0.00	0.00	0.00
Rice	1,500.00	0.00	0.00	0.00	0.00	0.00
	0.30	0.00	0.00	0.00	0.00	0.00

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**APPENDIX B:
LIST OF PANEL FARM
COOPERATORS**

COTTON FARMS**Alabama***Panel Participants*

Mr. James Blythe
 Dr. Steve Ford
 Ms. Larkin Martin

Mr. Paul Clark
 Mr. William Lee
 Mr. Ron Terry

Arkansas*Panel Participants*

Mr. Phillip Baugh
 Mr. Jeff Keeter
 Mr. Jim Whitaker

Mr. Gregg Day
 Mr. Joe Mencer
 Mr. Sam Whitaker

California*Facilitators*

Mr. Bruce Roberts - County Extension Director and Farm Advisor, Kings County

Panel Participants

Mr. Bo Champlin
 Mr. Matt Gilkey
 Mr. John Newton
 Mr. Bob Prys
 Mr. Dave Smith
 Mr. Bill Tos

Mr. Carlton Duty
 Mr. Kevin Lehar
 Mr. Craig Pedersen
 Mr. Ted Sheely
 Mr. Bill Stone
 Mr. Mark Watte

Georgia - Southwest*Facilitators*

Mr. Eddie McGriff - County Extension Coordinator, Decatur County
 Mr. Brad Mitchell - County Extension Coordinator, Mitchell County
 Dr. Don Shurley - Professor, University of Georgia

Panel Participants

Mr. John Bridges, Jr.
 Mr. Charles A. Collins
 Mr. Scott E. Vann

Mr. Bryant Collins
 Mr. Keith Griffin

Louisiana*Facilitators*

Mr. John Barnett - Director, LSU Ag Center, Central Region
 Dr. Gene Johnson - Professor, Agricultural Marketing, Louisiana State University

Panel Participants

Mr. Jess Barr
 Mr. J. Macon LaFoe, Sr.
 Mr. Buddy Page

Mr. Buddy Davis
 Mr. Randy Miller
 Mr. Jerry Stutts

North Carolina*Facilitators*

Mr. R. H. "Bob" Pleasants - County Extension Agent, Wayne County

Panel Participants

Mr. Landis Brantham, Jr.
 Mr. Danny C. Pierce
 Mr. Bryant Worley

Mr. Julian B. Nelms
 Mr. Craig West

COTTON FARMS (CONTINUED)

Tennessee

Facilitators

Mr. Jim Castellaw - Extension Area Specialist, Farm Management, Fayette County
 Mr. Chuck Danehower - Extension Area Specialist, Farm Management, Lauderdale
 Mr. Jamie H. Jenkins - County Extension Director, Fayette County
 Mr. Tim Roberts - County Extension Director, Crockett County
 Dr. Kelly Tiller - Agricultural Policy Analysis Center, University of Tennessee

Panel Participants

Mr. Harris Armour, III	Mr. Dewayne Hendrix
Mr. Tom Karcher	Mr. Allen King
Mr. Travis Lonon	Mr. Eugene McFerren

Texas - Blackland Prairie

Facilitators

Mr. Ronnie Leps - County Extension Agent, Williamson County

Panel Participants

Mr. Bob Bartosh	Mr. Herbert Raesz
Mr. Lonny Rinderknecht	Mr. Doug Schernik
Mr. Ken Seggern	Mr. Donald Stolte

Texas - Coastal Bend

Facilitators

Dr. Larry Falconer - Extension Economist - Management, Texas A&M University
 Mr. Mark Miller - Chief Operations Officer, Texas AgFinance
 Mr. Jeffrey Stapper - County Extension Agent, San Patricio County and Aransas County

Panel Participants

Mr. Marvin Beyer, Jr.	Mr. Brad Bickham
Mr. Clarence Chopelas	Mr. Jimmy Dodson
Mr. Joel Hoskinson	Mr. Wayne Lambert
Mr. Larry McNair	Mr. Mark Morris
Mr. Darby Salge	

Texas - Eastern Caprock

Facilitators

Mr. Jason Cox - Vice President, Ag Texas Farm Credit Services

Panel Participants

Mr. Lloyd Arthur	Mr. Brooks Ellison
Mr. Edwin Moore	Mr. Marvin Schoepf

Texas - Mid Coast

Facilitators

Mr. Jeff Nunley - Executive Director, South Texas Cotton & Grain Assn.

Panel Participants

Mr. Daniel Gavaronic	Mr. Joe Jenkins
Mr. Keith Johnson	Mr. Rob Kainer
Mr. Mark Malaer	Mr. Dwain Nunley

COTTON FARMS (CONTINUED)**Texas - Panhandle***Facilitators*

Mr. Sean Smith - Credit Office President, First Ag Credit

Panel Participants

Mr. Michael Carlson

Mr. Roy Carlson

Mr. Steve Hoffman

Mr. Harold Sides

Texas - Rio Grande Valley*Facilitators*

Mr. Reagan Florence - Exec. VP - Chief Lending Officer, Ag Credit of South Texas

Panel Participants

Mr. Derrick Swanberg

Mr. Marshall Swanberg

Ms. Mitzi Swanberg-Anzaldua

Mr. Mark Willis

Texas - Rolling Plains*Facilitators*

Mr. Stan Bevers - Extension Economist - Management, Texas A&M University

Mr. Mike Sloan - Regional Vice President, First Ag Credit

Mr. Todd Vineyard - County Extension Agent, Jones County

Panel Participants

Mr. Dennis Olson

Mr. Ronnie Richmond

Mr. Ronnie Riddle

Mr. Dale Spurgin

Mr. Ferdie Walker

Texas - South Plains*Facilitators*

Mr. John Farris - County Extension Agent, Dawson County

Dr. Jackie Smith - Extension Economist - Management, Texas A&M University

Panel Participants

Mr. Steven Archer

Mr. Brad Boyd

Mr. Jerry Chapman

Mr. Mark Furlow

Mr. Kent Nix

Mr. Donald Vogler

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