

**REPRESENTATIVE FARMS ECONOMIC
OUTLOOK FOR THE JANUARY
1998 FAPRI/AFPC BASELINE**

AFPC Working Paper 98-1

February 1998



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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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REPRESENTATIVE FARMS ECONOMIC OUTLOOK FOR THE JANUARY 1998 FAPRI/AFPC BASELINE

The farm level financial outlook of representative crop and livestock operations are projected in this report. FAPRI's sector level projections, including full consideration of the impacts of the 1996 farm bill, are projected at the farm level. The analysis was conducted over the 1997-2002 planning horizon using AFPC's whole farm simulation model (FLIPSIM). Data to simulate farming operations in the nation's major production regions came from two sources:

- # Producer panel cooperation to develop economic information to describe representative crop, livestock, and dairy farms.

- # Projected prices, policy variables, and input inflation rates from the Food and Agricultural Policy Research Institute (FAPRI) January 1998 Baseline.

The primary objective of the analysis is to determine the farms' economic viability by region and commodity over the remaining years of the 1996 Farm Bill.

The FLIPSIM model incorporates the historical risk faced by farmers for prices and production. In the past, averages for the simulated values of key economic and financial output variables were presented in AFPC policy analysis reports. This report breaks from that tradition by presenting the results of the January 1998 Baseline in a risk context using selected probabilities. The probability that a farm will experience an annual cash flow deficit and the probability of having to refinance these cash flow deficits using outside capital are provided as an indicator of the financial risk faced by each representative farm. The probability that a farm will lose real net worth is included as an indicator of the equity risk facing farms over the next five years.

This report is organized into ten sections. The first section summarizes the process used to develop the representative farms and the key assumptions for the farm level analysis. The second section summarizes the FAPRI January 1998 Baseline and the policy and price assumptions used for the representative farm analyses. The third through sixth sections present the results of the simulation analyses for feed grain, wheat, cotton, and rice farms. The seventh through ninth sections summarize simulation results for dairy, cattle and hog 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.

Panel Process

AFPC has developed and maintains data to simulate the 74 representative crop and livestock farms in this report (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 location of these farms is primarily the result of discussions with staffers for the House and Senate Agriculture

Committees. Information necessary to simulate the economic activity on these representative farms are 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 a 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 four to five year projection. Each panel must approve of the model's ability to reasonably reflect economic activity on their representative farm prior to using the farm for policy analyses.

The farms used in the analysis have been updated with the panels through 1996. Representative farms in the whole farm data base that have not been updated are not reported in this Working Paper. All of the crop farms are assumed to begin 1996 with 20 percent intermediate- and long-term debt, based on information provided by ERS-USDA and the panel members. Initial debt levels for dairy farms were set at 30 percent; initial debt levels for beef cattle ranches were 1 percent for land and 5 percent for cattle and machinery; and initial debt levels for hog farms were 45 percent.

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.
- # Dairy, hog, and cattle herd sizes are held constant for all farms over the 1997-2002 planning horizon.
- # The farm was structured so government payment limits were not effective at reducing contract payments.
- # Minimum family living withdrawals were assumed at a base rate of 10 percent of gross receipts or \$25,000 annually, whichever is lower. 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 1997 tax provisions..
- # No off-farm-related income including family employment was included in the analyses.

- # Farm program parameters, average annual prices, crop and livestock yield trends, interest rates, and input cost inflation (deflation) are based on the January 1998 FAPRI Baseline which assumes implementation of the 1996 Farm Bill.
- # Contract payments for participating cotton, wheat, feed grain, and rice producers are made based on 85 percent of their historical base acreage times farm program yield times a contract payment rate. The contract payment rate is projected by dividing the fixed annual appropriations by the production signed up in the program and is included in the January 1998 FAPRI Baseline.
- # The farms are assumed to be enrolled in the 7 year production flexibility program and take full advantage of the flexibility provisions in the 1996 Farm Bill (within the current crop mix). Crop mix changes over the 1997-2002 study period were estimated based on projected net returns for each of the enterprises currently produced on the farms. During the update process most of the crop farm panels indicated that they would flex out of their current crop mix, but only if expected net returns per acre from the change exceeded \$40, due to rotation and/or other cultural concerns.
- # Marketing loan provisions for cotton, rice, wheat, feed grains, and soybeans were authorized in the 1996 Farm Bill and are assumed to be in place for the farm level analysis.
- # The farm level simulation model incorporates price and yield risk faced by farmers. Historical yield variability for crops and production for livestock (sale weights and milk/cow) over the past ten years are assumed to prevail for the planning horizon. Market prices for crops and feedstuffs are assumed to be more variable than over the past ten years due to the 1996 Farm Bill provisions, based on recent research. The assumed increase in relative price variability is: 82 percent for feed grains, 40 percent for wheat, 26 percent for soybeans, 1 percent for cotton and rice, and 10 percent for livestock. Random prices are appropriately correlated based on historical correlations, among crop and livestock prices, both within year and across years.
- # The 1996 Farm Bill eliminated the dairy assessments after 1996 and provides for a reduction in the milk support price starting in 1997. The dairy support price is reduced 15 cents per hundred weight annually until the support price reaches \$9.90 per hundred weight in 1999, after which it is eliminated.

FAPRI January 1998 Baseline

Projected crop prices for FAPRI's January 1998 baseline are summarized in Table 1. Projected corn prices decline from the high of \$2.51/bu. in 1997 to a low of \$2.37/bu. in 1999 then increase steadily until they reach \$2.49/bu. in 2002. Wheat prices are projected to decline to \$3.33/bu. by 1998 and then increase through 2002 when wheat prices are projected at \$3.57/bu. Cotton prices increase from \$0.6812/lb. in 1997 to \$0.7069/lb. in 2002. Rice prices are projected to decline from the \$9.84/cwt. level realized in 1997 to the \$9.30/cwt. range by 1999 before increasing slightly to \$9.39/cwt. in 2002.

Assumed loan rates and projected annual contract payment rates, net of 1995 deficiency repayments in 1997, are also summarized in Table 1. The farms growing contract commodities accepted the 1995 advance deficiency payments and had the repayments for corn and sorghum offset against their 1997 contract payments. FAPRI estimated that the net annual contract payment rates for corn will be \$0.28/bu. in 1997; increasing to \$0.37/bu. in 1998 and decreasing to \$0.26/bu. in 2002. Contract payment rates for wheat are estimated at \$0.61/bu. in 1997 with the payment rate decreasing to \$0.46/bu. in 2002. Cotton's contract payment rate for 1997 is estimated at \$0.07/lb. and is projected to decrease to \$0.05/lb. by 2002. The contract payment rate for rice is projected to be \$2.73/cwt. in 1997; increasing to \$2.85/cwt. in 1998 and declining to \$1.98/cwt in 2002.

Projected livestock prices for FAPRI's January 1998 Baseline are summarized in Table 2. Beef cattle prices are projected to increase starting in 1997 and reach a peak in 2000. The average 1997 feeder cattle price was estimated at \$81.38/cwt., and 2000 is projected to peak at \$95/cwt. Hog prices decline after 1997 reaching a low of \$40.36/cwt. in 1998 and then recovering to \$46.64/cwt. in 2000, followed by a subsequent decline to \$42.44/cwt. in 2002. Annual milk prices for the 12 states, where representative dairy farms are located, are summarized in Table 2. Milk prices decrease gradually through 2002.

Projected annual rates of change for variable cash expenses are presented in Table 3. The rate of change in input prices and interest rates come from FAPRI's January 1998 Baseline which relies on WEFA's 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 1997-2002 period are provided by the FAPRI Baseline (Table 3). The annual rates of change in land values are assumed to be the same across all regions and farms.

Definitions of Variables in the Summary Tables

- # **Annual Percentage Change in Real Net Worth, 1997-2002** -- The annualized percentage change in the operator's net worth from January 1, 1997 through December 31, 2002, 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.
- # **NIA for Total Real Net Worth, 1997-2002** -- Net income adjustment (NIA) is the annual increase or decrease in net cash farm income necessary to cause the annualized percentage change in real net worth, including land inflation, to equal zero over the planning horizon. If the change in net worth is negative, the NIA is the annual increase in net income necessary to prevent a loss in total real net worth. NIA's are expressed both as total dollars per year and as a percent of average annual cash receipts.
- # **Costs to Receipts Ratio, 1997-2002** -- The ratio of all cash expenses to total receipts (from all sources). Cash expenses include interest costs, fixed cash costs, and variable costs but exclude principal payments, depreciation, income taxes, and family living expenses.

- # **Government Payments to Receipts, 1997-2002** -- The average value of all government payments divided by total receipts received from the market plus farm program (contract and marketing loan deficiency) payments, CCC loans, crop insurance indemnities, and other farm related income. The average value in the tables is computed over the planning horizon.

- # **Total Cash Receipts** -- Total receipts are cash receipts from market sales, contract payments, CCC loans, marketing loan gains, crop insurance indemnities, and other farm related income. The values in the tables are the average total receipts for each year in the planning horizon, as well as the overall average for 1997-2002.

- # **Net Cash Farm Income** -- 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, and the overall average.

- # **Probability of a Cash Flow Deficit** -- The probability of a farm experiencing a cash flow deficit is the number of price-yield combinations out of 100 that result in the farm's annual net cash farm income not exceeding cash requirements for family living, principal payments, taxes (income and self-employment), and machinery replacement expenses. 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** -- Cash reserves are the 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, taxes (income and self employment), family living withdrawals, and machinery replacement costs. The values in the tables are the average cash reserves for each year in the planning horizon, as well as the overall average for 1997-2002.

- # **Probability of Refinancing Deficits** -- The probability of a farm refinancing deficits is the number of price-yield combinations out of 100 where cash flow deficits are greater than cash reserves. This probability is reported for each year of the planning horizon to indicate whether the financial risk for a farm increases or decreases over the planning horizon.

- # **Nominal Net Worth** -- Total net worth or equity at the end of each year in the planning horizon equals total assets including land minus total debt from all sources. This value of net worth is not adjusted for inflation and averages are reported for each year in the planning horizon. The values in the tables are the average ending net worth for each year in the planning horizon, as well as the overall average for 1997-2002.

- # **Probability of Losing Real Net Worth** -- The probability of a farm losing real worth is the number of price-yield combinations out of 100 where real net worth is less than the initial net worth for the farm. The probability is reported for each year of the planning horizon to indicate whether the equity risk is increasing or decreasing from year to year.

Figure 1. Representative Farms

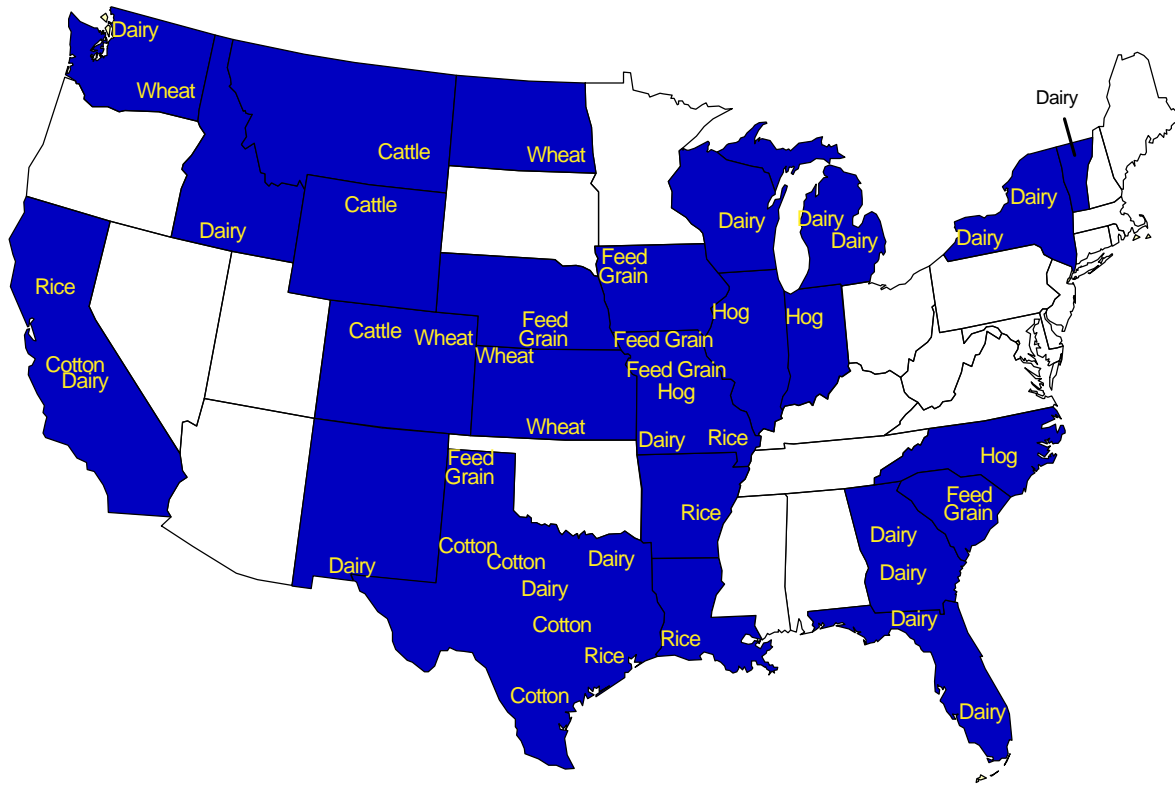


Table 1. Comparison of Crop Prices, Loan Rates, and Net Contract Payment Rates 1997-2002.

	1997	1998	1999	2000	2001	2002
Crop Prices						
Corn (\$/bu)	2.51	2.39	2.37	2.42	2.46	2.49
W heat (\$/bu.)	3.45	3.33	3.37	3.49	3.54	3.57
Cotton (\$/lb.)	0.6812	0.6888	0.6894	0.6942	0.7005	0.7069
Sorghum (\$/bu.)	2.26	2.21	2.19	2.24	2.29	2.33
Soybeans (\$/bu.)	6.53	5.87	5.91	5.92	5.97	6.01
Barley (\$/bu.)	2.40	2.25	2.26	2.32	2.34	2.36
Oats (\$/bu.)	1.60	1.54	1.54	1.56	1.58	1.59
Rice (\$/cwt)	9.84	9.31	9.30	9.33	9.37	9.39
Soybean Meal (\$/ton)	190.50	176.10	177.20	179.50	181.90	183.40
All Hay (\$/ton)	101.10	93.00	92.80	93.40	94.70	95.60
Loan Rates						
Corn (\$/bu)	1.89	1.89	1.89	1.89	1.89	1.89
W heat (\$/bu.)	2.58	2.58	2.58	2.58	2.58	2.58
Cotton (\$/lb.)	0.5192	0.5192	0.5192	0.5192	0.5192	0.5192
Sorghum (\$/bu.)	1.74	1.75	1.75	1.74	1.72	1.74
Soybeans (\$/bu.)	5.26	5.26	5.26	5.26	5.20	5.04
Barley (\$/bu.)	1.58	1.54	1.54	1.54	1.54	1.54
Oats (\$/bu.)	1.11	1.12	1.15	1.19	1.25	1.22
Rice (\$/cwt)	6.50	6.50	6.50	6.50	6.50	6.50
Net Contract Payment Rates						
Corn (\$/bu.)	0.28	0.37	0.36	0.33	0.26	0.26
W heat (\$/bu.)	0.61	0.65	0.63	0.58	0.47	0.46
Cotton (\$/lb.)	0.07	0.08	0.07	0.07	0.06	0.05
Sorghum (\$/bu.)	0.33	0.45	0.43	0.40	0.32	0.31
Barley (\$/bu.)	0.26	0.29	0.28	0.26	0.21	0.20
Oats (\$/bu.)	0.03	0.03	0.03	0.03	0.02	0.02
Rice (\$/cwt)	2.73	2.85	2.75	2.53	2.04	1.98

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

Table 2. Comparison of Livestock Prices and Milk Prices, 1997-2002.

	1997	1998	1999	2000	2001	2002
Cattle Prices						
Feeder Cattle (\$/cwt)	81.38	81.83	91.20	95.00	90.20	85.65
Fat Cattle (\$/cwt)	66.33	69.29	74.90	78.55	74.79	71.70
Culled Cows (\$/cwt)	34.17	40.34	46.05	47.39	47.51	45.41
Hog Prices						
Barrows/Gilts (\$/cwt)	51.73	40.36	43.92	46.64	44.59	42.44
Culled Sows (\$/cwt)	44.80	37.33	39.81	41.17	39.98	37.98
Milk Prices -- National and State						
All Milk Price (\$/cwt)	13.30	13.27	13.15	13.11	13.09	13.08
California (\$/cwt)	12.50	12.53	12.42	12.43	12.42	12.39
Florida (\$/cwt)	16.51	16.49	16.37	16.38	16.37	16.34
Georgia (\$/cwt)	14.33	14.38	14.27	14.27	14.26	14.24
Idaho (\$/cwt)	12.28	12.09	11.98	11.89	11.86	11.94
Michigan (\$/cwt)	13.55	13.56	13.45	13.45	13.44	13.42
Missouri (\$/cwt)	13.64	13.63	13.52	13.51	13.49	13.48
New Mexico (\$/cwt)	12.81	12.68	12.58	12.51	12.49	12.54
New York (\$/cwt)	13.28	13.24	13.13	13.11	13.09	13.10
Texas (\$/cwt)	13.71	13.64	13.51	13.46	13.42	13.41
Vermont (\$/cwt)	14.27	14.56	14.50	13.77	13.76	13.75
Washington (\$/cwt)	13.31	13.13	13.02	12.93	12.90	12.98
Wisconsin (\$/cwt)	13.36	13.34	13.23	13.22	13.20	13.20

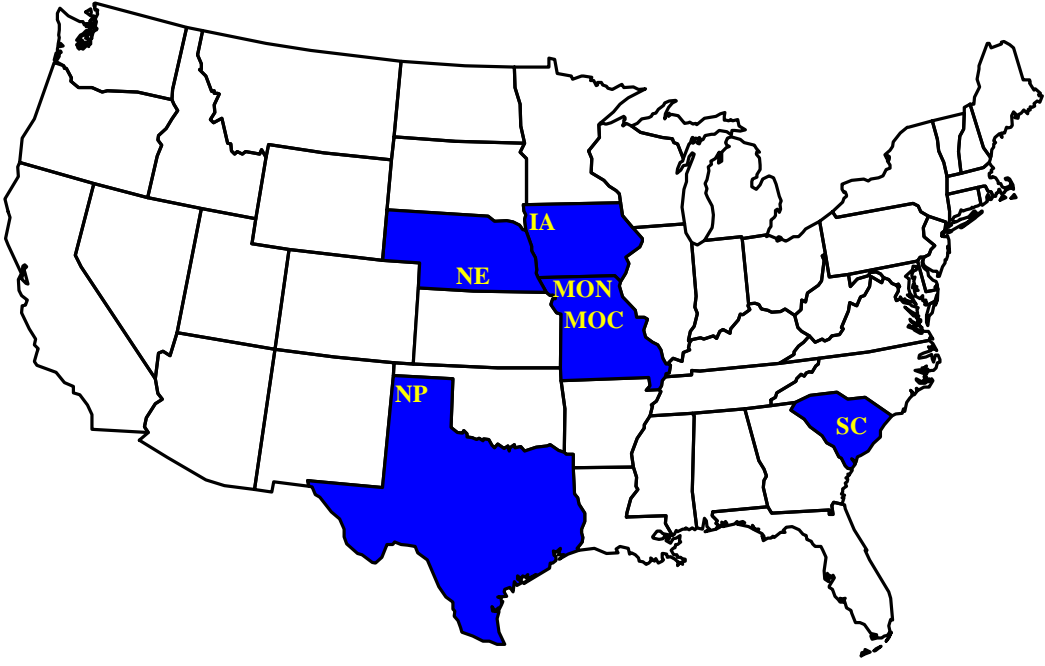
Source: Food and Agricultural Policy Research Institute (FAPRI) at the University of Missouri-Columbia and Iowa State University.

Table 3. Rate of Change for Input Prices, Consumer Price Index, Interest Rates, and Rate of Change in Land Values, 1996-2002.

	1997	1998	1999	2000	2001	2002
Annual Rate of Change for Input Prices Paid						
Seed Prices (%)	1.65	1.03	1.74	1.81	2.03	1.93
Fertilizer Prices (%)	0.72	-0.85	0.30	1.60	1.86	1.86
Chemical Prices (%)	1.11	0.10	-0.34	1.11	1.91	2.04
Machinery Prices (%)	-1.29	1.41	0.83	-0.40	-0.90	0.28
Fuel and Lube Prices (%)	-0.94	-2.04	0.31	3.01	3.51	3.46
Labor (%)	0.87	1.73	1.61	1.96	2.19	1.95
Other Input Prices (%)	0.14	1.37	1.93	1.84	1.85	2.22
Non-Feed Dairy Costs (%)	2.22	1.77	1.68	2.07	2.24	2.01
Non-Feed Beef Costs (%)	0.13	-0.63	0.34	1.10	1.20	1.16
Non-Feed Hog Costs (%)	0.27	-1.18	0.90	1.59	1.69	1.61
Rate of Change in CPI	164.40	168.86	173.50	177.99	182.56	187.40
Annual Interest Rates						
Long-Term (%)	8.01	8.44	8.31	7.94	7.78	7.53
Intermediate-Term (%)	8.87	9.10	8.98	8.60	8.60	8.35
Savings Account (%)	4.87	5.10	4.98	4.60	4.60	4.35
Annual Rate of Change for U.S. Land Prices (%)	5.83	4.28	4.93	2.99	2.12	1.14

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

**FIGURE 2. REPRESENTATIVE FARMS
PRODUCING FEED GRAINS**



Feed Grain Farm Impacts

- # All eleven feed grain farms are projected to increase real net worth over the 1997-2002 study period. Annual average increases in net worth, after adjusting for inflation, range from 0.4 percent on the moderate scale Nebraska farm (NEG800) to over 8 percent for the large Texas Northern Plains (TXNP5500) and South Carolina (SCG3500) operations (Figure 3).
- # Land value for all farms is projected to increase approximately 0.9 percent annually in real terms. Real land value annual appreciation accounts for between 0.2 and 0.7 percentage points. Only the moderate Nebraska (NEG800) farm would experience annual declines in real net worth without including appreciation of land values.
- # In all regions where AFPC monitors both a moderate and large scale operation, the larger operations are more financially sound than their moderate scale counterparts. However, only the moderate scale Nebraska (NEG800) and Northern Missouri farms (MONG1200) appear particularly vulnerable. If annual net cash farm incomes declined by as little as 5 percent relative to total receipts then these two farms would begin to lose real equity. The other nine farms could sustain drops in net cash farm income the equivalent of 9 percent or more of cash receipts and still sustain real equity growth (Table 4 and Figure 3).
- # While most of the feed grain farms appear sound based on their ability to maintain net worth over the study period, there are some warning flags from an operational perspective.
 - The probability that the farm will annually experience a cash flow deficit is greater than 35-40 percent for the moderate Iowa, both Nebraska, the Northern Missouri, the moderate Texas Northern Plains, and the moderate South Carolina operation (Figure 4-6).
 - These annual cash flow deficits will have to be covered either through refinancing operating debt or drawing down previously retained cash surpluses. Eight of the feed grain farms appear very capable of offsetting annual declines in cash flow from retained wealth. Both Nebraska farms and the Northern Missouri operations, however, will likely have to depend on debt refinancing if they are to maintain operations. The probability of refinancing ranges from 60-79 percent for the moderate Nebraska, 31-54 percent for the Northern Missouri, and 29-42 percent for the large Nebraska farm. On all three farms the initial cash expense to receipts ratio approached or exceeded 80 percent. Past experience suggests that beginning expense to receipt ratios exceeding 80 percent will likely lead to operational cash flow problems for most crop dependent farms.

Table 4. Implications of the 1996 Farm Bill and the January 1998 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Feed Grains

	IAG950	IAG2200	NEG800	NEG1575	MOCG1500	MOCG3000	MONG1200
Annual % Change in Real Net Worth (%)							
1997-2002 Average	4.03	5.92	0.40	2.61	5.38	5.73	1.49
Net Income Adjustment (NIA)							
1997-2002 (\$1,000)	-53.45	-119.40	-4.44	-73.95	-119.24	-290.73	-22.34
Net Income Adjustment (NIA)							
1997-2002 (% Receipts)	-17.61	-21.86	-1.16	-9.86	-32.09	-35.48	-4.88
Cost to Receipts Ratio (%)							
1997-2002 Average	67.37	61.88	88.65	80.51	53.67	52.82	81.96
Govt Payments/Receipts (%)							
1997-2002 Average	7.36	8.92	9.17	9.67	5.75	5.86	2.95
Total Cash Receipts (\$1000)							
1997	305.16	549.48	370.45	756.83	359.11	836.91	475.32
1998	294.46	532.73	370.46	751.15	364.09	792.32	429.84
1999	295.86	534.43	378.42	757.71	374.31	795.85	453.94
2000	305.00	549.46	392.63	775.43	386.75	817.07	471.01
2001	308.80	553.92	392.87	782.09	394.25	825.34	461.81
2002	312.28	557.95	395.88	797.63	410.86	849.67	453.09
1997-2002 Average	303.59	546.33	383.45	770.14	381.56	819.53	457.50
Net Cash Farm Income (\$1000)							
1997	112.22	227.29	61.25	172.79	165.88	417.87	112.54
1998	104.35	217.03	59.32	164.88	171.98	385.74	74.34
1999	106.92	219.29	59.46	169.81	182.83	395.05	96.67
2000	114.41	233.35	69.75	186.89	195.80	413.45	108.91
2001	115.86	237.18	63.75	185.47	198.81	416.25	97.34
2002	119.52	239.71	61.16	197.06	209.61	436.71	82.07
1997-2002 Average	112.21	228.98	62.45	179.48	187.49	410.85	95.31
Prob. of a Cash Flow Deficit (%)							
1997	44	32	77	51	26	15	56
1998	50	28	84	57	31	21	80
1999	40	30	86	69	14	5	64
2000	33	25	86	63	25	17	64
2001	38	26	83	64	18	18	74
2002	45	27	87	56	22	15	80
Ending Cash Reserves (\$1,000)							
1997	68.26	148.17	-22.55	58.93	121.92	327.47	30.80
1998	81.52	199.18	-43.41	55.12	168.51	448.48	5.86
1999	101.90	256.31	-74.89	46.75	236.20	601.28	9.25
2000	130.17	324.26	-92.74	60.71	303.77	753.26	10.31
2001	159.48	400.66	-119.52	68.16	381.22	906.00	-2.54
2002	178.37	470.82	-142.02	91.54	455.69	1069.80	-28.51
1997-2002 Average	119.95	299.90	-82.52	63.53	277.89	684.38	4.20
Prob. of Refinancing Deficits (%)							
1997	21	13	60	29	3	2	31
1998	19	6	67	37	5	0	43
1999	17	6	67	42	2	0	44
2000	11	5	72	36	0	0	45
2001	12	4	75	36	0	0	51
2002	13	4	79	32	0	0	54
Nominal Net Worth (\$1000)							
1997	1026.32	1293.39	1086.90	2347.77	1543.41	3027.23	1381.66
1998	1099.67	1414.93	1125.69	2482.38	1678.51	3308.13	1415.59
1999	1182.39	1533.32	1170.27	2636.22	1829.27	3611.35	1505.78
2000	1262.34	1669.54	1202.80	2758.44	1964.54	3879.15	1570.62
2001	1331.36	1788.92	1218.69	2874.60	2104.76	4136.15	1614.53
2002	1386.91	1897.73	1232.49	2970.31	2226.96	4382.48	1624.29
1997-2002 Average	1214.83	1599.64	1172.81	2678.28	1891.24	3724.08	1518.75
Prob. of Losing Real Net Worth (%)							
1997	12	10	36	22	1	1	14
1998	4	4	31	16	0	0	17
1999	3	2	33	10	0	0	12
2000	3	2	34	7	0	0	12
2001	3	2	35	6	0	0	14
2002	4	2	41	7	0	0	16

Table 5. Implications of the 1996 Farm Bill and the January 1998 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Feed Grains

	TXNP1600	TXNP5500	SCG1500	SCG3500
Annual % Change in Real Net Worth (%)				
1997-2002 Average	5.63	8.18	5.09	8.18
Net Income Adjustment (NIA)				
1997-2002 (\$1,000)	-42.25	-264.89	-64.75	-381.88
Net Income Adjustment (NIA)				
1997-2002 (% Receipts)	-11.98	-20.23	-11.37	-25.00
Cost to Receipts Ratio (%)				
1997-2002 Average	70.75	65.87	76.77	63.76
Govt Payments/Receipts (%)				
1997-2002 Average	10.38	9.09	6.75	5.56
Total Cash Receipts (\$1000)				
1997	348.48	1313.07	559.08	1502.18
1998	347.74	1299.45	550.03	1476.68
1999	345.79	1299.31	556.30	1492.82
2000	355.79	1331.88	574.47	1527.53
2001	355.87	1340.44	583.85	1568.46
2002	361.94	1363.64	593.90	1597.37
1997-2002 Average	352.60	1324.63	569.60	1527.51
Net Cash Farm Income (\$1000)				
1997	106.84	459.21	150.02	561.16
1998	107.67	459.68	141.73	543.23
1999	107.96	470.07	139.35	558.39
2000	116.03	498.34	155.37	591.17
2001	113.82	503.16	158.51	622.73
2002	115.16	512.92	158.93	644.89
1997-2002 Average	111.25	483.90	150.65	586.93
Prob. of a Cash Flow Deficit (%)				
1997	27	28	35	15
1998	37	36	36	13
1999	39	21	57	20
2000	36	20	36	17
2001	44	15	40	10
2002	35	25	48	14
Ending Cash Reserves (\$1,000)				
1997	111.51	378.37	129.83	541.56
1998	141.36	488.10	166.95	746.96
1999	172.33	648.48	183.34	928.32
2000	205.78	819.43	223.17	1149.23
2001	229.19	1016.59	256.83	1384.67
2002	258.47	1198.45	281.44	1636.96
1997-2002 Average	186.44	758.24	206.93	1064.62
Prob. of Refinancing Deficits (%)				
1997	3	7	12	1
1998	6	6	13	0
1999	4	4	11	0
2000	4	0	10	0
2001	3	0	14	0
2002	4	0	13	0
Nominal Net Worth (\$1000)				
1997	530.17	2001.97	854.52	2806.51
1998	579.47	2244.74	928.63	3145.25
1999	628.20	2486.20	997.15	3498.43
2000	679.07	2748.00	1074.87	3837.72
2001	726.61	3028.99	1145.11	4201.12
2002	768.26	3279.01	1207.96	4569.71
1997-2002 Average	651.96	2631.49	1034.71	3676.46
Prob. of Losing Real Net Worth (%)				
1997	22	16	20	2
1998	12	3	13	1
1999	10	3	13	0
2000	6	0	8	0
2001	4	0	8	0
2002	6	0	10	0

Figure 3. Feed Grain Farms

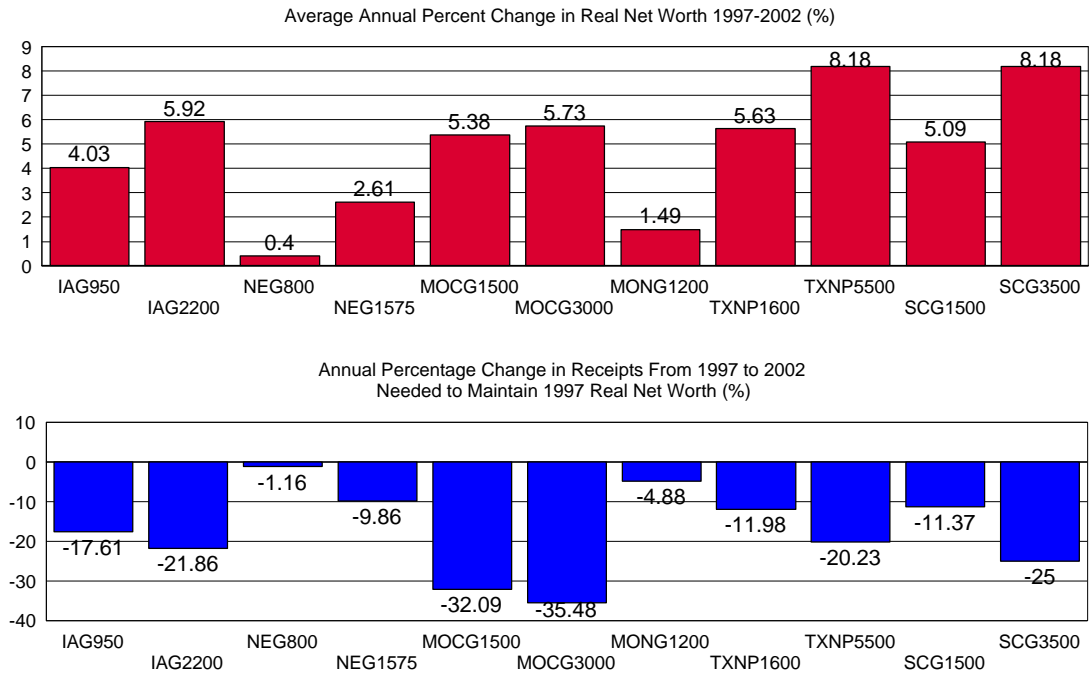


Figure 4. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Feed Grain Farms

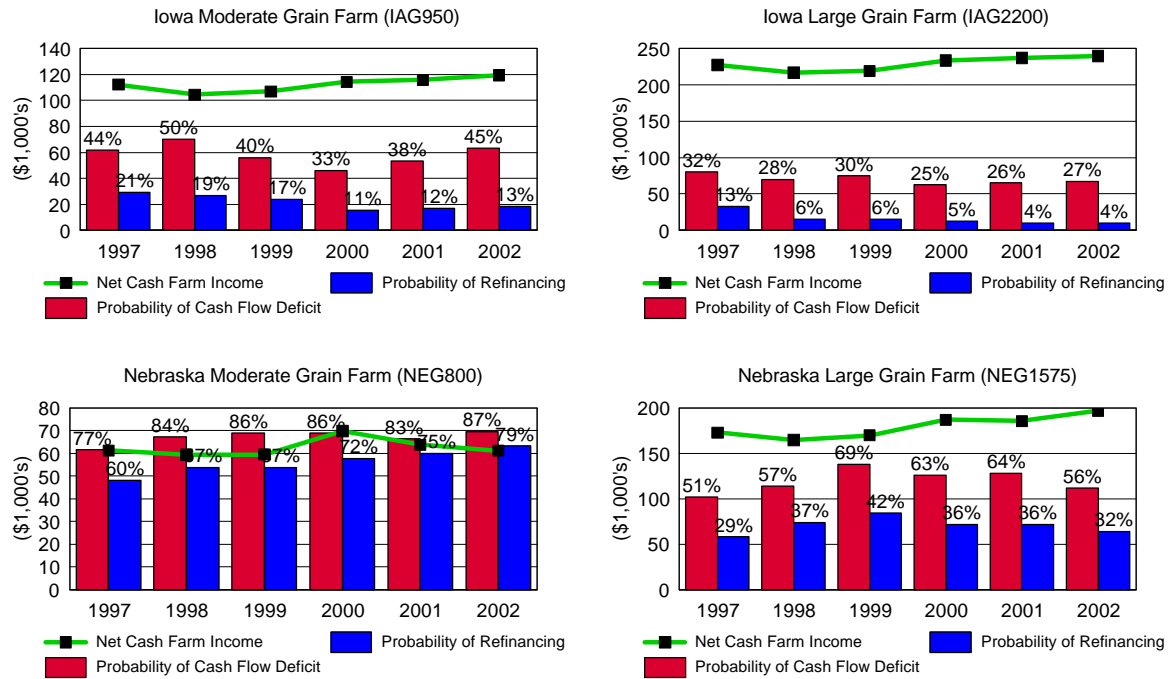


Figure 5. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Feed Grain Farms

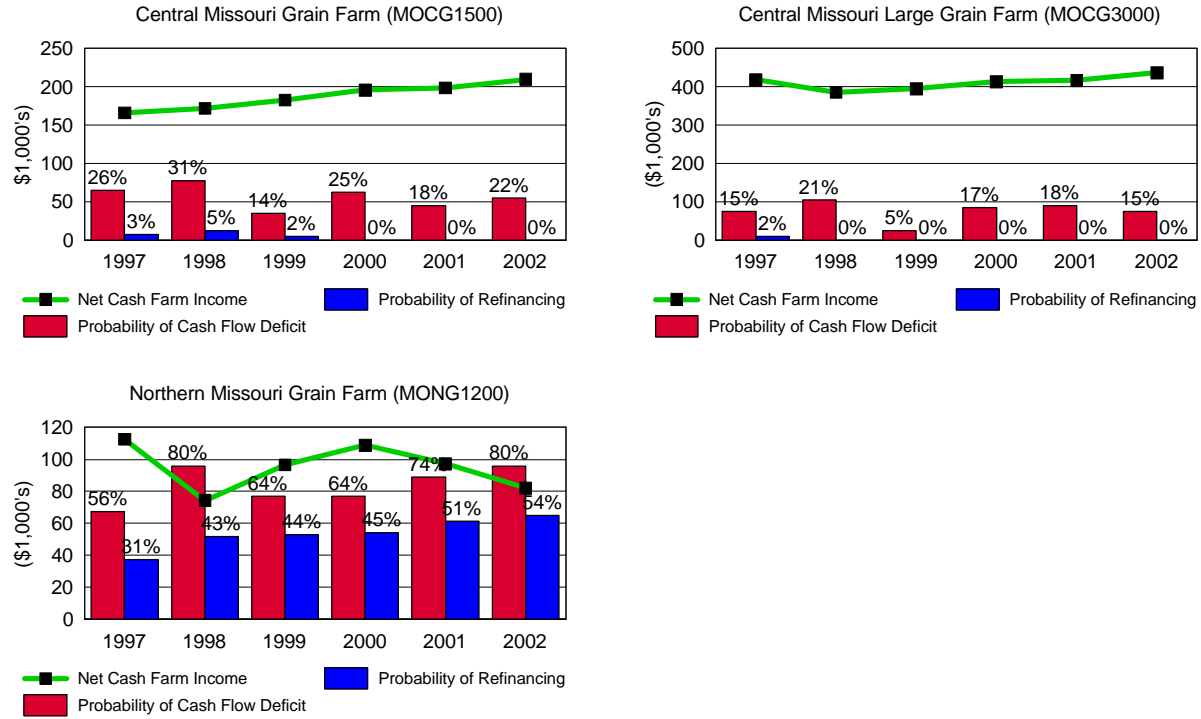


Figure 6. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Feed Grain Farms

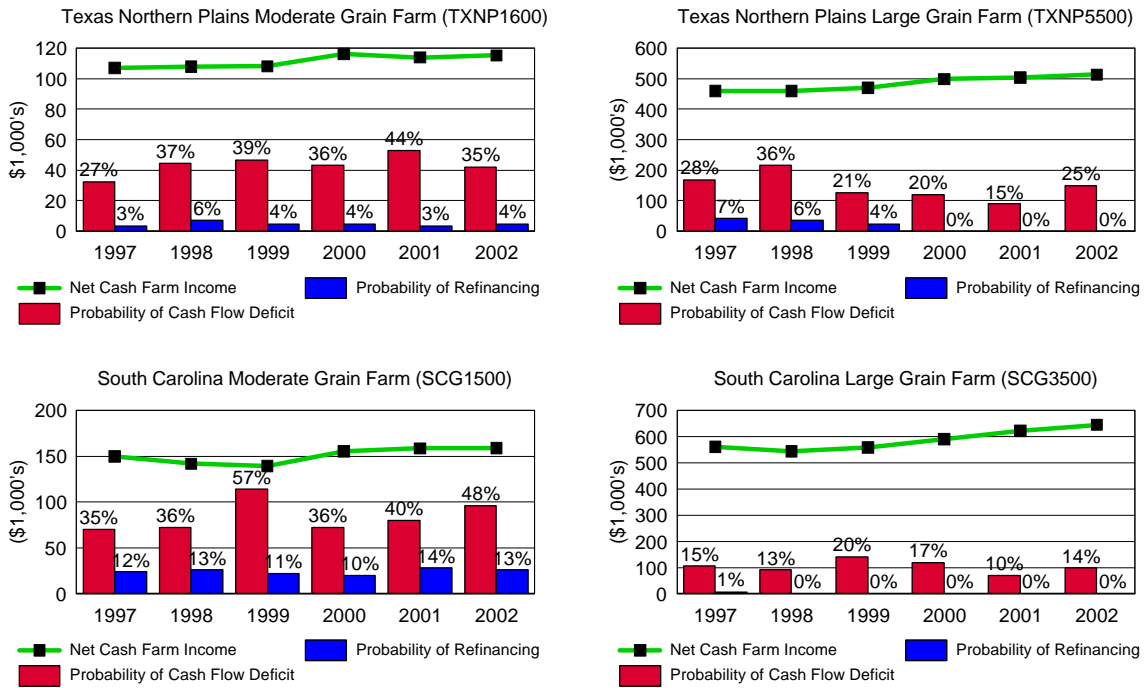
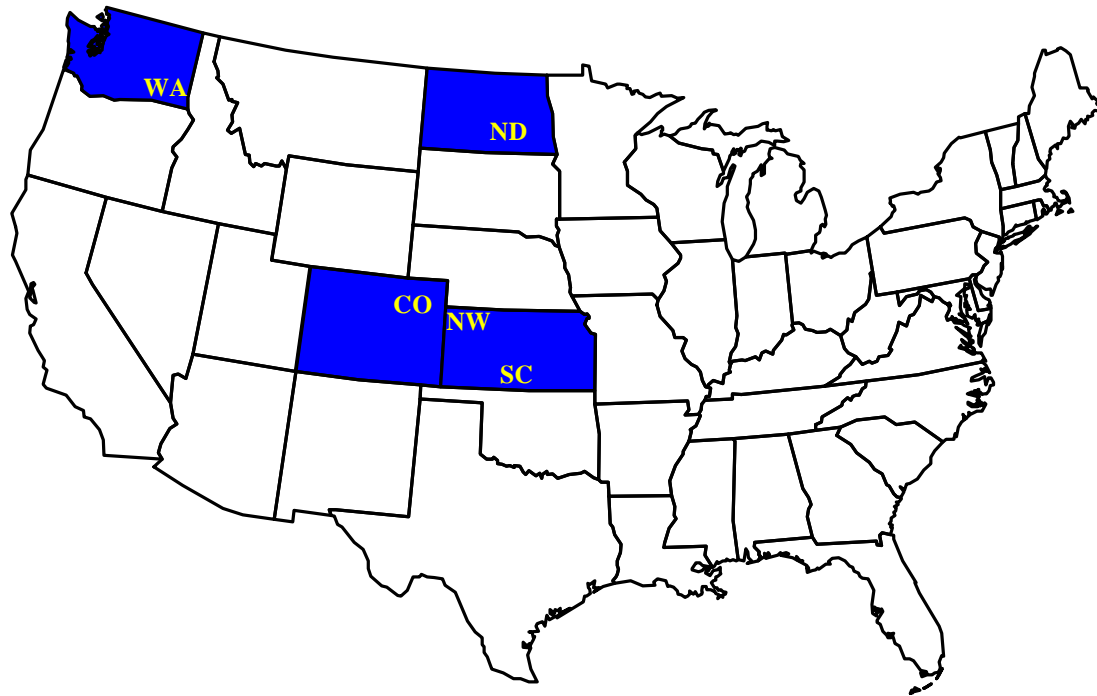


FIGURE 7. REPRESENTATIVE FARMS PRODUCING WHEAT



Wheat Farm Impacts

- # While not quite as financially strong as the feed grain farms, nine of the ten wheat farms experience annual growth in real net worth ranging from 2-5 percent over the 1997-2002 study period (Figure 8). Only the moderate South Central Kansas farm (KSSC1495) experiences annual declines of 1 percent in real wealth over the period.
 - The KSSC1495 farm's average cash receipts of only \$154,000 (Table 6) makes it the smallest wheat farm monitored and, as such, it is not large enough to generate the profits necessary to maintain family living, principal payments, and capital replacement. The farm will either have to subsidize the operation from off farm income or restructure to survive.
 - Real increases in the value of owned land contribute between 0.2 and 0.8 percentage points of the 2-5 percent increases shown in Figure 8.

- # While the majority of the wheat farms appear sound based on their ability to maintain firm wealth, there are some warning signs from an operational perspective.
 - Seven of the ten farms, WAW1500, NDW1760, NDW4600, KSSC1495, KSSC3080, KSNW2325, and KSNW4300, are projected to experience annual cash flow deficits routinely in excess of 40 percent of the time (Figures 9-11).
 - Only three of these seven farms, however, will likely have to seek outside sources to refinance the cash flow deficits. The moderate Washington farm is projected to seek outside refinancing from 24-34 percent of the time. It is also troubling that this percentage is steadily increasing over the period. The moderate North Dakota (NDW1760) farm will likely need to refinance operations 20-25 percent of the time. While this probability is of concern the operation appears to be holding its own. As already discussed, the moderate South Central Kansas farm is in trouble with the probability of refinancing deficits growing from 41 to 88 percent over the period (Figures 9-11).

- # In three of the five wheat regions, the larger scale operation appears to be in better financial shape than their moderate scale counterparts. This is not the case, however, in Eastern Colorado and Northwest Kansas where the moderate scale operations have a slight financial advantage. The moderate scale farms in Colorado and Northwest Kansas are economically more efficient than the larger scale operations in the region with at least an 8 percentage point lower initial cash cost to receipts ratios. Although a number of factors likely contribute to this structural reversal in efficiency, it is interesting to note that these paired farms do not differ that much in size. The large KSNW4300 generates about 80 percent more in cash receipts than the KSWW2325. The large Colorado operation is about 60 percent larger than its moderate scale counterpart in terms of cash receipts.

Table 6. Implications of the 1996 Farm Bill and the January 1998 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Wheat

	WAW1500	WAW4250	NDW1760	NDW4600	KSSC1495	KSSC3080	KSNW2325	KSNW4300	COW2700	COW4000
Annual % Change in Real Net Worth (%)										
1997-2002 Average	2.16	5.23	3.14	3.65	-1.12	4.47	4.37	2.98	5.31	4.05
Net Income Adjustment (NIA)										
1997-2002 (\$1,000)	-24.30	-251.39	-16.99	-103.20	5.08	-48.06	-51.66	-54.23	-65.43	-73.78
Net Income Adjustment (NIA)										
1997-2002 (% Receipts)	-6.38	-25.00	-6.79	-13.43	3.30	-12.36	-21.06	-12.16	-32.18	-21.97
Cost to Receipts Ratio (%)										
1997-2002 Average	78.16	62.68	76.18	75.39	83.24	68.68	61.36	75.26	48.05	59.50
Govt Payments/Receipts (%)										
1997-2002 Average	5.86	5.70	7.59	6.76	13.48	11.73	9.66	10.24	8.71	8.96
Total Cash Receipts (\$1000)										
1997	353.40	940.12	257.23	780.35	152.19	382.20	292.14	439.02	211.82	335.88
1998	368.17	983.12	247.72	747.84	152.34	383.92	259.57	437.57	205.58	329.94
1999	373.85	983.95	250.67	757.96	152.32	386.93	223.35	442.42	205.02	329.72
2000	392.54	1031.35	256.34	775.91	155.68	395.54	235.52	451.54	211.59	340.21
2001	394.10	1038.13	257.18	780.20	154.37	393.26	233.88	448.19	210.52	338.26
2002	403.27	1056.79	262.50	797.50	155.85	391.79	231.53	457.09	211.67	340.81
1997-2002 Average	380.89	1005.58	255.27	773.30	153.79	388.94	246.00	445.97	209.37	335.80
Net Cash Farm Income (\$1000)										
1997	79.70	333.89	79.29	247.12	39.40	126.35	122.31	121.75	110.95	142.51
1998	86.63	383.29	69.75	219.90	34.38	131.55	106.74	123.84	104.78	136.64
1999	90.74	378.98	72.22	232.14	29.84	133.95	96.06	129.72	107.49	137.89
2000	103.64	426.75	79.47	250.46	32.46	143.60	104.64	132.30	114.70	149.11
2001	96.17	423.93	80.76	248.40	28.41	140.69	102.71	121.72	116.59	146.83
2002	104.33	440.73	85.18	261.25	27.65	135.83	100.84	122.52	118.75	150.68
1997-2002 Average	93.54	397.93	77.78	243.21	32.02	135.33	105.55	125.31	112.21	143.94
Prob. of a Cash Flow Deficit (%)										
1997	59	34	42	39	64	46	39	41	18	19
1998	58	20	52	47	80	48	42	45	29	21
1999	63	27	47	55	88	57	45	40	40	34
2000	69	24	61	42	89	58	25	62	35	19
2001	74	30	64	43	95	47	46	42	14	27
2002	65	27	60	44	96	50	51	60	19	34
Ending Cash Reserves (\$1,000)										
1997	49.18	341.49	68.08	224.74	12.12	94.82	79.87	93.75	78.39	134.88
1998	60.99	480.37	73.96	254.90	-10.97	116.01	105.89	126.57	100.50	175.56
1999	68.18	603.65	85.50	285.90	-33.71	127.64	124.05	158.64	121.44	205.04
2000	67.33	743.04	95.66	354.21	-59.23	154.83	157.04	174.06	144.27	257.79
2001	59.05	860.06	98.21	411.15	-95.56	183.91	175.83	200.21	182.31	298.34
2002	58.81	1000.91	111.25	473.06	-132.30	211.11	192.68	207.50	218.40	336.28
1997-2002 Average	60.59	671.59	88.78	333.99	-53.28	148.05	139.23	160.12	140.89	234.65
Prob. of Refinancing Deficits (%)										
1997	24	0	21	14	41	14	16	14	2	1
1998	24	0	22	17	57	18	11	16	2	1
1999	24	0	22	15	70	16	9	10	3	1
2000	28	0	22	12	79	12	9	11	2	0
2001	31	0	27	10	83	16	7	10	1	0
2002	34	0	23	10	88	16	9	11	0	1
Nominal Net Worth (\$1000)										
1997	1048.68	2951.57	487.22	1761.72	394.62	776.47	900.17	1174.52	885.34	1283.33
1998	1102.96	3226.69	515.04	1873.79	404.68	833.65	968.23	1253.76	959.66	1377.66
1999	1169.46	3510.07	548.60	2005.38	411.86	899.61	1044.16	1349.27	1044.69	1483.36
2000	1227.94	3792.21	579.76	2120.82	417.52	960.20	1105.39	1417.81	1119.97	1576.41
2001	1270.12	4046.57	605.34	2232.41	415.36	1023.01	1160.83	1465.34	1204.28	1658.69
2002	1312.49	4292.10	630.89	2349.90	408.86	1077.96	1203.66	1500.12	1266.14	1735.23
1997-2002 Average	1188.61	3636.54	561.14	2057.34	408.82	928.48	1063.74	1360.14	1080.01	1519.11
Prob. of Losing Real Net Worth (%)										
1997	26	2	31	27	42	28	10	20	0	2
1998	22	0	35	25	44	24	7	11	0	2
1999	15	0	28	17	48	9	1	8	0	0
2000	15	0	27	13	51	7	0	4	0	0
2001	11	0	21	13	61	4	0	4	0	0
2002	12	0	20	9	66	5	1	6	0	0

Figure 8. Wheat Farms

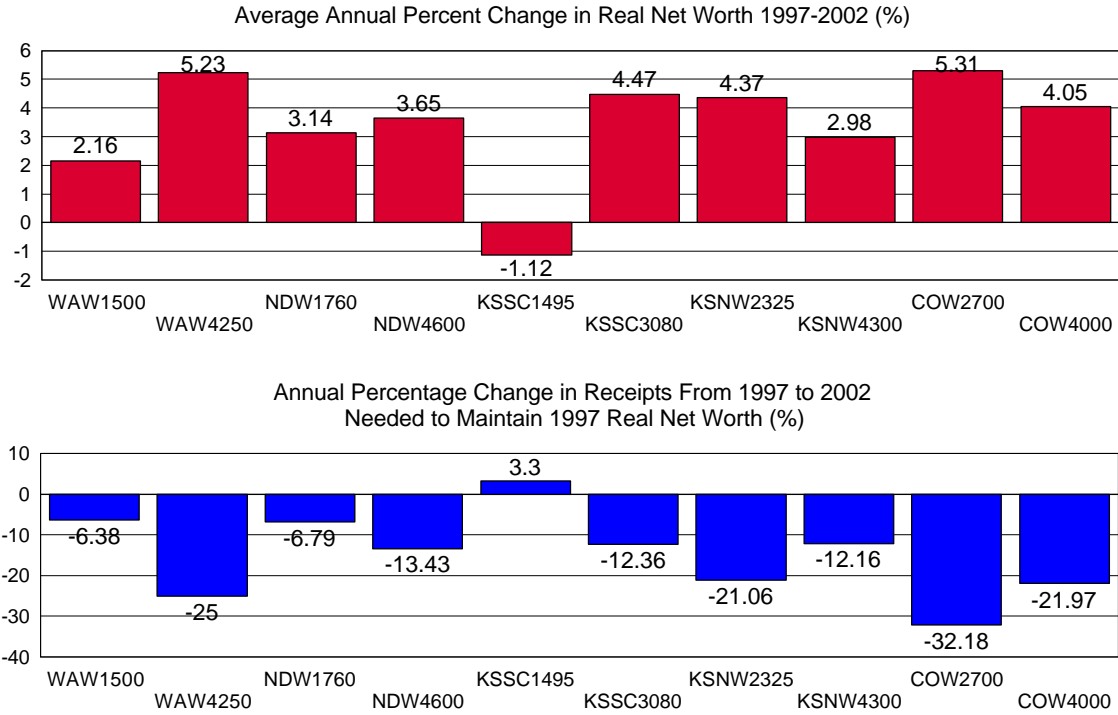


Figure 9. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Wheat Farms

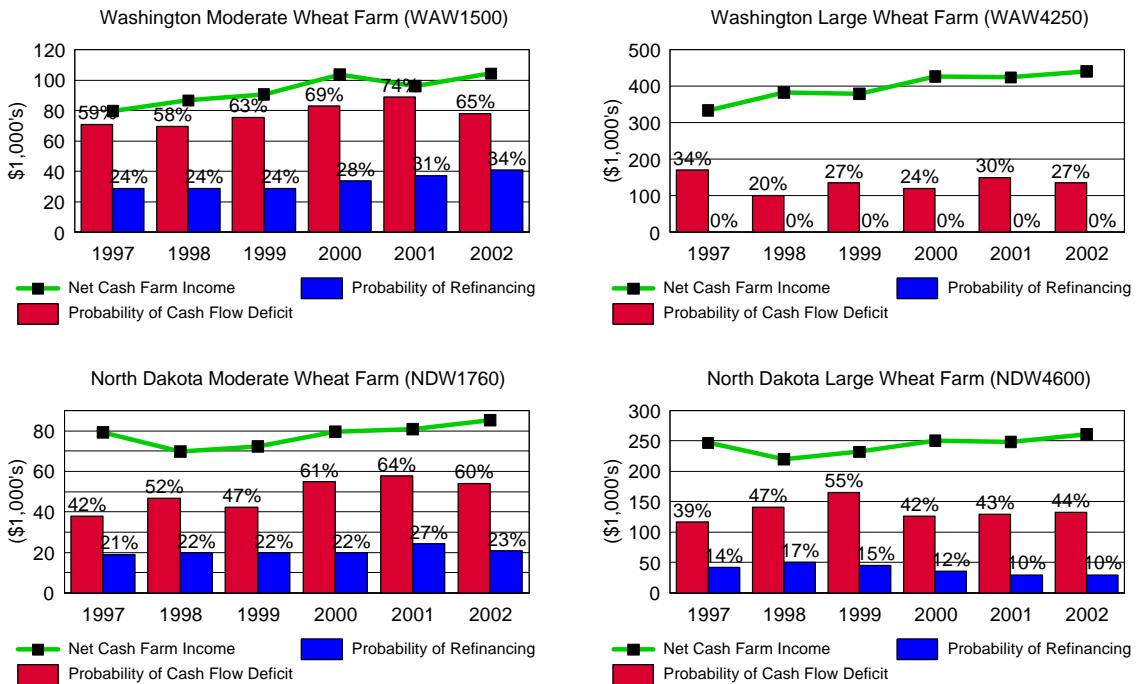


Figure 10. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Wheat Farms

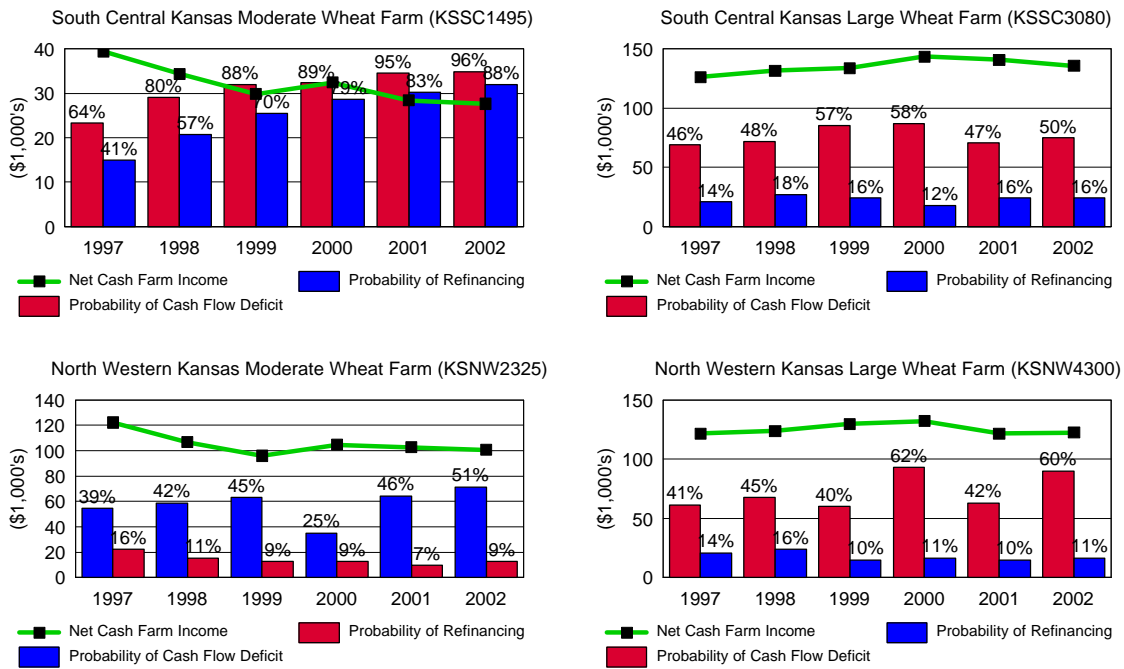


Figure 11. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Wheat Farms

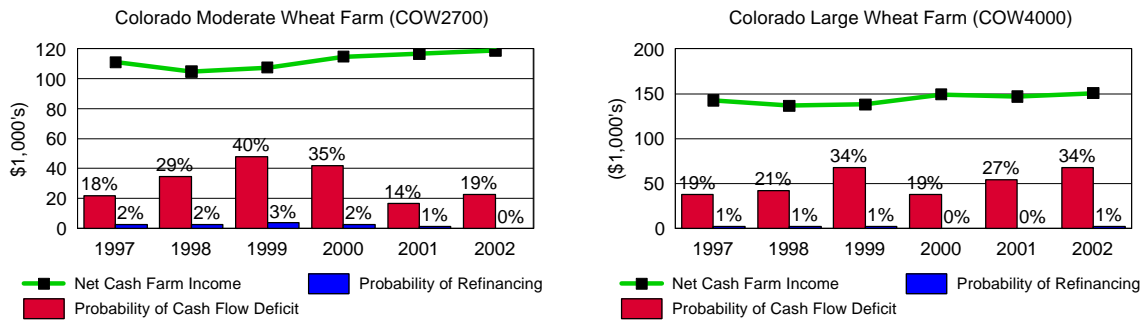


FIGURE 12. REPRESENTATIVE FARMS PRODUCING COTTON



Cotton Farm Impacts

- # Despite the contract payments and projected upland cotton prices ranging from 68 to 70 cents per pound, four of the seven cotton farms are projected to have financial difficulties over the 1997 to 2002 period. Only the three largest farms, two in California and in the Texas Southern Plains, appear to be able to absorb the risk inherent in cotton production. Even then the large Texas Southern Plains farm is projecting annual cash flow deficits over a third of the time (Figure 7).
- # Of the four farms experiencing financial difficulty, the moderate Texas Southern Plains farm appears to be in the best shape. The TXSP1682 is projected to annually increase real wealth approximately 4 percent over the study period. However, if projected net cash from income fell by more than 8 percent of cash receipts, the farm would begin losing real equity. Operationally, the farm is showing significant stress experiencing annual cash flow deficits more than 50 percent of the time and having to refinance those deficits roughly one out of every three or four years.
- # The three remaining Texas cotton farms will likely not be able to remain in cotton farming without restructuring the operation or subsidizing it from off-farm sources.
 - The Texas Rolling Plains farm is projected on average to increase its annual real worth by approximately one percent over the study period (Figure 13). However, the real increase in land value accounts for approximately 0.45 percentage points of that growth. The farm is projected to lose real equity approximately 37 percent of that time (Table 7). By 2002, the TXRP2065 farm is experiencing annual cash flow deficits 70 percent of the time and having to refinance these deficits through outside sources 48 percent of the time (Figure 15).
 - The Texas Blacklands (TXBL1200) and Coastal Bend (TXCB1700) farms are both projected to lose from 1-2 percent of their real equity annually over the period. By 2002, the TXBL1200 farm is losing real equity 70 percent of the time, while the TXCB1700 is losing real equity in 59 percent of the simulations. By 2002 both farms are experiencing annual cash flow deficits over 80 percent of the time, and refinancing these deficits from outside sources in excess of 60 percent of the simulations.
- # We are currently monitoring seven cotton farms, two in California and five in Texas. This represents a decline of three from last year. AFPC maintains a policy of personally meeting with the farm panel members to update the farms at least every three years. The two Mississippi Delta farms that we normally monitor are outside that range, but are in process of being updated. The two farms in the Texas Rolling Plains were combined at the request of the panel members, since all members were currently operating at approximately the same scale.

Table 7. Implications of the 1996 Farm Bill and the January 1998 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Cotton

	CAC2000	CAC6000	TXSP1682	TXSP3697	TXRP2065	TXBL1200	TXCB1700
Annual % Change in Real Net Worth (%)							
1997-2002 Average	4.01	4.85	3.84	8.40	1.04	-1.28	-2.12
Net Income Adjustment (NIA)							
1997-2002 (\$1,000)	-246.07	-965.05	-23.58	-128.29	-3.81	7.82	13.21
Net Income Adjustment (NIA)							
1997-2002 (% Receipts)	-12.93	-17.40	-7.86	-12.97	-1.59	3.19	2.99
Cost to Receipts Ratio (%)							
1997-2002 Average	80.89	79.40	76.52	75.16	87.80	86.94	95.74
Govt Payments/Receipts (%)							
1997-2002 Average	4.67	3.17	6.39	5.32	11.95	8.57	8.90
Total Cash Receipts (\$1000)							
1997	1803.74	5386.89	297.13	962.79	231.62	188.91	421.43
1998	1883.71	5451.88	300.36	977.25	239.08	192.80	443.91
1999	1900.05	5490.27	304.38	993.35	238.65	270.71	441.67
2000	1918.72	5581.89	302.59	990.83	244.46	272.77	445.28
2001	1942.86	5681.98	305.16	998.25	242.44	273.49	444.90
2002	1969.98	5694.07	307.81	1012.17	245.77	274.51	450.43
1997-2002 Average	1903.18	5547.83	302.91	989.11	240.34	245.53	441.27
Net Cash Farm Income (\$1000)							
1997	319.34	1123.99	83.60	265.19	53.31	22.36	38.62
1998	376.06	1186.72	86.29	278.62	58.74	22.15	56.21
1999	392.20	1211.37	91.45	288.44	54.83	49.37	48.96
2000	402.27	1238.16	88.03	281.93	58.48	50.66	46.77
2001	388.17	1246.06	83.09	276.56	53.35	46.73	36.09
2002	396.63	1176.43	83.31	281.44	47.01	47.79	32.87
1997-2002 Average	379.11	1197.12	85.96	278.70	54.28	39.84	43.25
Prob. of a Cash Flow Deficit (%)							
1997	27	16	50	28	58	83	68
1998	15	11	47	30	60	82	62
1999	27	20	58	45	65	77	67
2000	16	22	53	39	66	85	74
2001	29	15	57	46	66	90	81
2002	24	26	57	38	71	87	83
Ending Cash Reserves (\$1,000)							
1997	247.46	956.07	37.82	212.41	15.57	-6.88	-8.08
1998	371.34	1410.44	53.99	291.54	17.32	-24.12	-7.12
1999	480.02	1812.22	66.10	348.18	1.86	-26.20	-18.10
2000	618.45	2258.79	83.29	409.48	4.87	-34.04	-36.59
2001	721.45	2711.26	92.77	456.50	1.92	-50.72	-67.48
2002	837.72	3079.99	104.20	520.88	-13.88	-57.95	-95.06
1997-2002 Average	546.07	2038.13	73.03	373.17	4.61	-33.32	-38.74
Prob. of Refinancing Deficits (%)							
1997	5	3	34	12	44	52	52
1998	1	1	28	14	40	68	47
1999	0	1	32	11	46	62	50
2000	0	0	30	10	41	69	57
2001	0	0	27	8	47	76	63
2002	0	0	24	6	48	75	63
Nominal Net Worth (\$1000)							
1997	3772.71	12849.76	550.79	1062.06	360.45	433.22	413.97
1998	4079.20	13991.05	594.79	1200.39	381.80	429.87	430.15
1999	4408.43	15234.41	643.12	1338.80	397.94	446.76	438.09
2000	4676.91	16235.43	679.36	1459.85	413.79	459.86	438.96
2001	4899.14	17169.04	707.04	1594.07	425.28	462.24	427.79
2002	5117.17	17922.61	740.88	1734.02	418.55	461.34	411.19
1997-2002 Average	4492.26	15567.05	652.66	1398.20	399.64	448.88	426.69
Prob. of Losing Real Net Worth (%)							
1997	4	0	33	20	39	55	49
1998	0	0	22	13	35	62	48
1999	0	0	17	11	32	61	47
2000	0	0	16	7	36	65	49
2001	0	0	16	5	35	68	55
2002	0	0	14	4	43	70	59

Figure 13. Cotton Farms

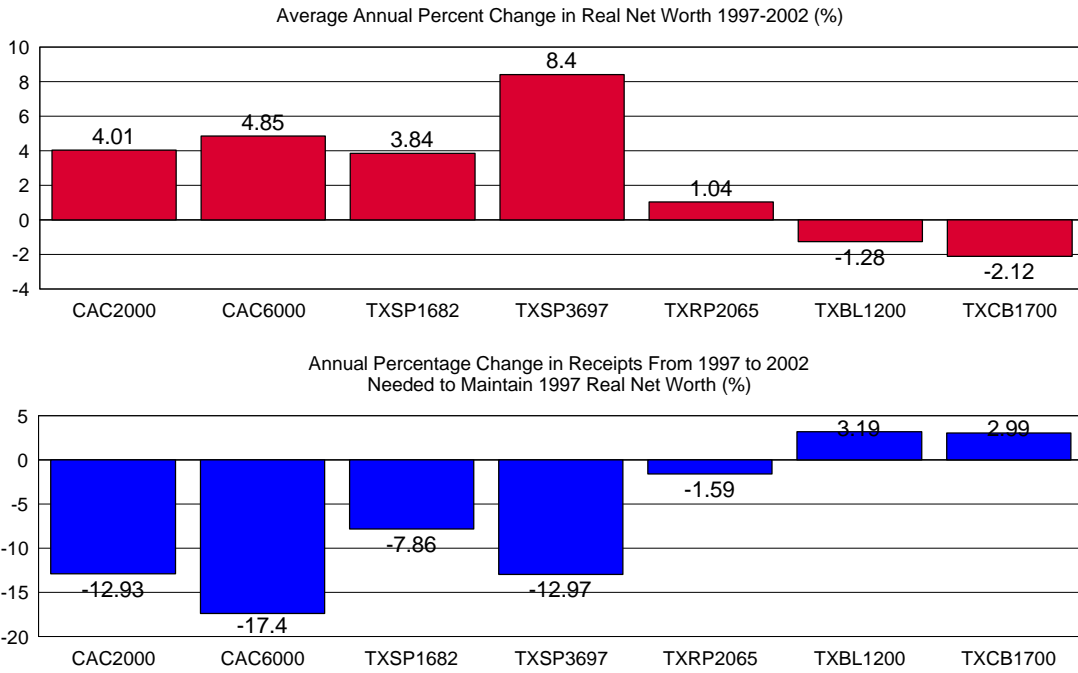


Figure 14. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Cotton Farms

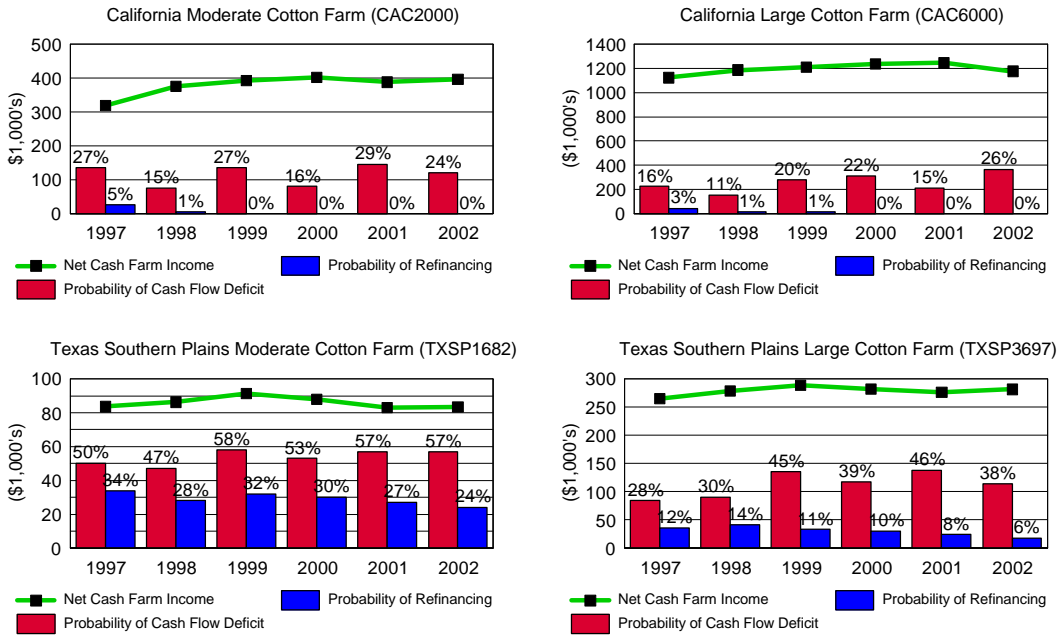
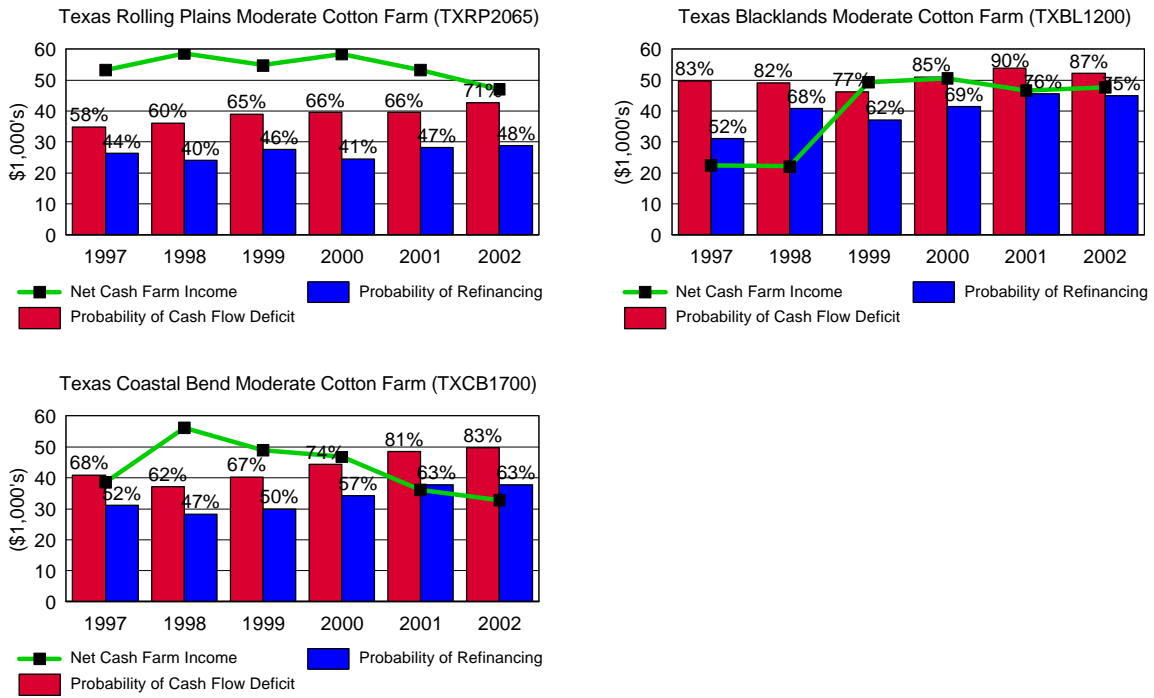
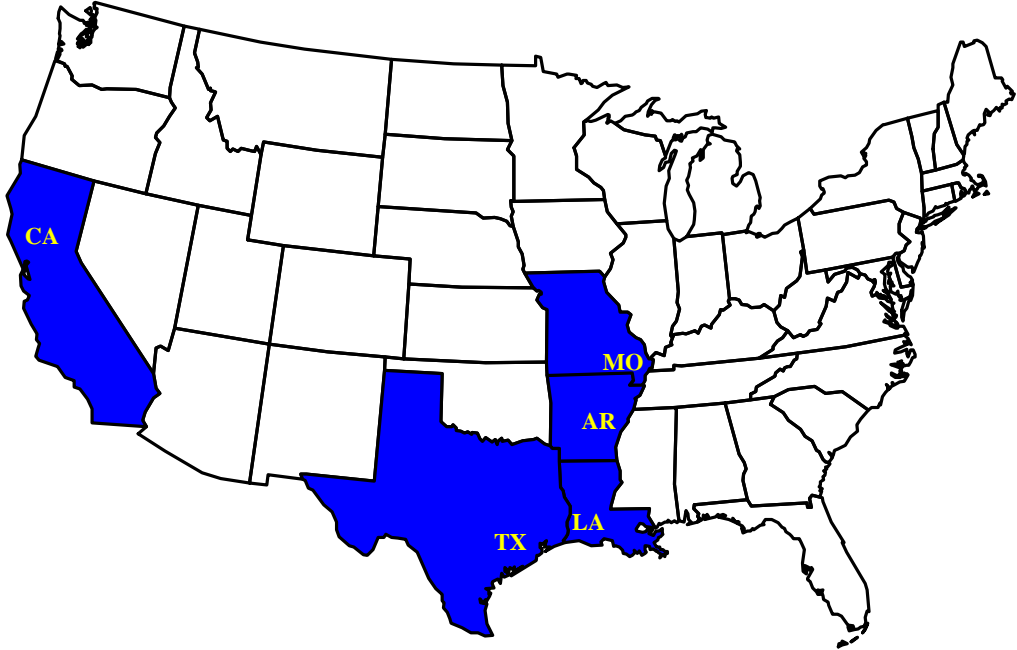


Figure 15. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Cotton Farms



**FIGURE 16. REPRESENTATIVE FARMS
PRODUCING RICE**



Rice Farm Impacts

- # With production flexibility payments and rice prices that are projected to stay in the \$9.30/cwt range, all but one of the nine representative rice farms experience annual growth in real net worth, ranging from 2 - 8 percent over the study period (Figure 17). Only the moderate Missouri operation (MOR1900) loses real equity on average. Simulation under risk, however, reveals financial problems for the Louisiana operation as well. By 2002, the MOR1900 is losing equity 81 percent of the time while the LAR1100 is experiencing real equity decline in 26 percent of the 100 simulations (Table 8).
- # The problems with maintaining real equity is explained by examining the operational parameters on these two farms. Both the moderate Missouri and Louisiana operations are experiencing cash flow deficits over 90 percent of the time by year 2002. Refinancing from outside sources is necessary over 90 percent of the time for the moderate Missouri farm and roughly half the time for the Louisiana farm (Figures 19 and 20).
- # Both California farms appear financially sound although there is an upward trend observed in the probability of an annual cash flow deficit (Figure 18). The moderate California farm is experiencing a cash flow deficit 57 percent of the time by 2002, while the large operation is approaching 40 percent. Both farms, however, appear to be able to cover these cash flow deficits out of retained cash surpluses.
- # The large Missouri rice farm is obviously in much better shape compared to its moderate scale counterpart, but there are some warning signs. The MOR4000 is experiencing annual cash flow deficits in excess of 50 percent of the time throughout most of the period. Initially it is able to cover the cash shortfalls through retained earnings (12% in 1997) but is having to borrow outside funds roughly 27 percent of the time by 2002. The operational trend, therefore, is troublesome although the farm experiences real net worth declines less than 10 percent of the time (Table 8).
- # The Texas and Arkansas rice farms are financially sound by almost any measure. The only caution being an increasing probability that the large Texas farm will experience cash flow problems (23% in 1997 rising to 40% by 2002).
 - During the update process, the Texas and Arkansas farms changed locations within the state. The Texas rice farms are geographically concentrated in what is believed to be the most efficient rice growing area in the Texas rice belt. We now have two Arkansas farms located in the Stuttgart area. Both are larger than our previous panel farm that was located further north. The two Arkansas farms are very efficient as seen by average cash expense to receipt ratios of 60 percent for the ARR2645 and 52 percent for the ARR3400. The Arkansas farms are also the most diversified of our rice panels receiving 50-60 percent of their revenue from rice, 32-38 percent from soybeans, and 8-13 percent from wheat.

Table 8. Implications of the 1996 Farm Bill and the January 1998 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Rice

	CAR424	CAR1365	TXR2118	TXR3750	MOR1900	MOR4000	ARR2645	ARR3400	LAR1100
Annual % Change in Real Net Worth (%)									
1997-2002 Average	3.93	3.76	8.10	6.08	-1.76	2.27	6.18	6.60	2.49
Net Income Adjustment (NIA)									
1997-2002 (\$1,000)	-38.39	-99.12	-68.73	-160.64	35.35	-117.16	-181.15	-307.75	-8.53
Net Income Adjustment (NIA)									
1997-2002 (% Receipts)	-11.40	-9.12	-14.72	-11.89	5.55	-6.21	-25.14	-31.25	-2.69
Cost to Receipts Ratio (%)									
1997-2002 Average	75.54	83.65	70.43	80.32	91.99	83.64	62.72	55.16	79.86
Govt Payments/Receipts (%)									
1997-2002 Average	16.99	16.72	18.18	16.37	11.41	9.92	9.94	13.48	12.19
Total Cash Receipts (\$1000)									
1997	366.97	1144.21	491.32	1412.36	647.72	1911.44	736.42	1014.15	327.96
1998	356.70	1110.08	477.90	1375.05	627.52	1865.46	709.71	973.35	316.85
1999	357.84	1114.27	478.63	1384.94	631.99	1874.15	716.67	979.61	319.12
2000	354.10	1103.19	472.88	1373.35	636.54	1884.44	724.70	983.29	319.08
2001	346.69	1081.37	461.59	1341.70	633.74	1880.36	726.46	975.86	317.07
2002	346.83	1082.11	461.28	1337.88	641.64	1900.91	733.74	982.55	319.14
1997-2002 Average	354.85	1105.87	473.93	1370.88	636.52	1886.13	724.62	984.80	319.87
Net Cash Farm Income (\$1000)									
1997	107.43	240.19	153.54	323.41	96.43	387.64	282.12	463.39	86.92
1998	97.59	207.91	145.88	287.45	69.13	326.45	260.78	428.31	70.67
1999	95.49	210.69	150.73	305.59	65.18	329.14	268.80	444.32	71.96
2000	88.71	195.30	146.68	292.66	60.53	335.34	278.86	456.62	62.30
2001	78.44	164.07	136.56	256.06	43.25	315.75	279.30	444.33	59.67
2002	75.04	148.52	131.79	234.57	38.03	323.90	283.84	447.60	58.20
1997-2002 Average	90.45	194.45	144.20	283.29	62.09	336.37	275.62	447.43	68.29
Prob. of a Cash Flow Deficit (%)									
1997	30	26	21	23	61	34	3	0	40
1998	49	34	18	30	77	48	3	0	56
1999	55	39	21	24	86	53	4	0	70
2000	52	33	13	27	85	51	3	0	72
2001	63	36	20	28	94	73	5	1	83
2002	57	40	17	40	96	67	5	0	91
Ending Cash Reserves (\$1,000)									
1997	71.14	203.87	119.95	250.12	24.85	300.06	263.85	383.31	51.35
1998	87.64	264.17	163.99	326.88	-13.55	320.43	350.41	520.75	56.09
1999	97.89	310.39	210.31	420.41	-68.78	333.39	437.95	649.58	54.67
2000	105.24	374.89	268.64	512.32	-109.35	322.53	545.70	818.02	42.19
2001	104.99	419.85	320.14	591.11	-175.28	261.97	651.58	985.22	25.70
2002	104.77	458.68	375.36	643.47	-266.94	223.27	758.71	1168.50	1.56
1997-2002 Average	95.28	338.64	243.06	457.38	-101.51	293.61	501.37	754.23	38.59
Prob. of Refinancing Deficits (%)									
1997	8	8	4	7	37	12	0	0	8
1998	6	6	0	6	49	13	0	0	11
1999	4	4	1	2	68	14	0	0	13
2000	3	1	0	1	75	18	0	0	18
2001	4	3	0	1	85	24	0	0	32
2002	6	3	0	2	94	27	0	0	44
Nominal Net Worth (\$1000)									
1997	625.97	1804.49	536.71	1807.82	1244.59	4682.17	1650.07	2653.70	274.42
1998	675.19	1945.20	601.17	1985.63	1259.27	4934.01	1808.47	2924.27	289.42
1999	725.59	2097.96	672.44	2202.41	1279.67	5235.65	1979.81	3219.94	310.76
2000	763.11	2208.94	737.25	2363.42	1281.22	5467.63	2144.00	3487.63	311.84
2001	795.73	2293.19	796.62	2505.90	1265.23	5654.06	2294.85	3753.04	323.26
2002	826.52	2355.74	854.84	2597.94	1230.97	5788.41	2439.44	4003.68	329.29
1997-2002 Average	735.35	2117.59	699.84	2243.85	1260.16	5293.66	2052.77	3340.38	306.50
Prob. of Losing Real Net Worth (%)									
1997	7	11	7	7	36	12	0	0	21
1998	1	4	1	2	44	9	0	0	13
1999	0	0	0	0	47	4	0	0	11
2000	0	1	0	0	61	5	0	0	18
2001	0	0	0	0	69	4	0	0	23
2002	0	2	0	0	81	8	0	0	26

Figure 17. Rice Farms

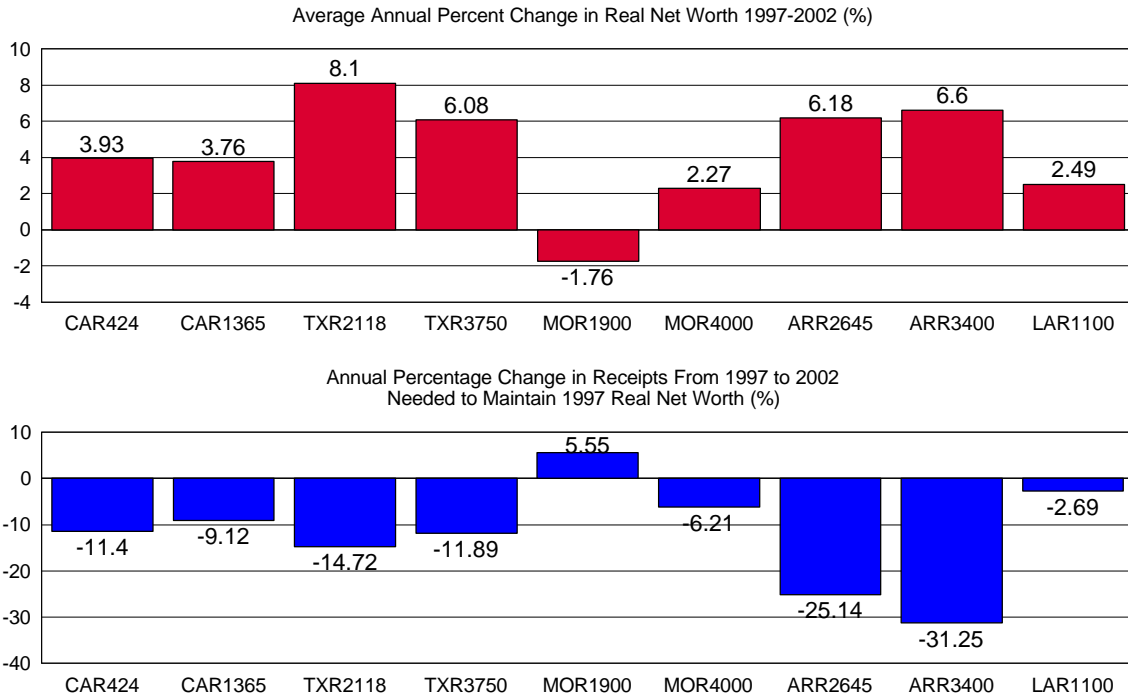


Figure 18. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Rice Farms

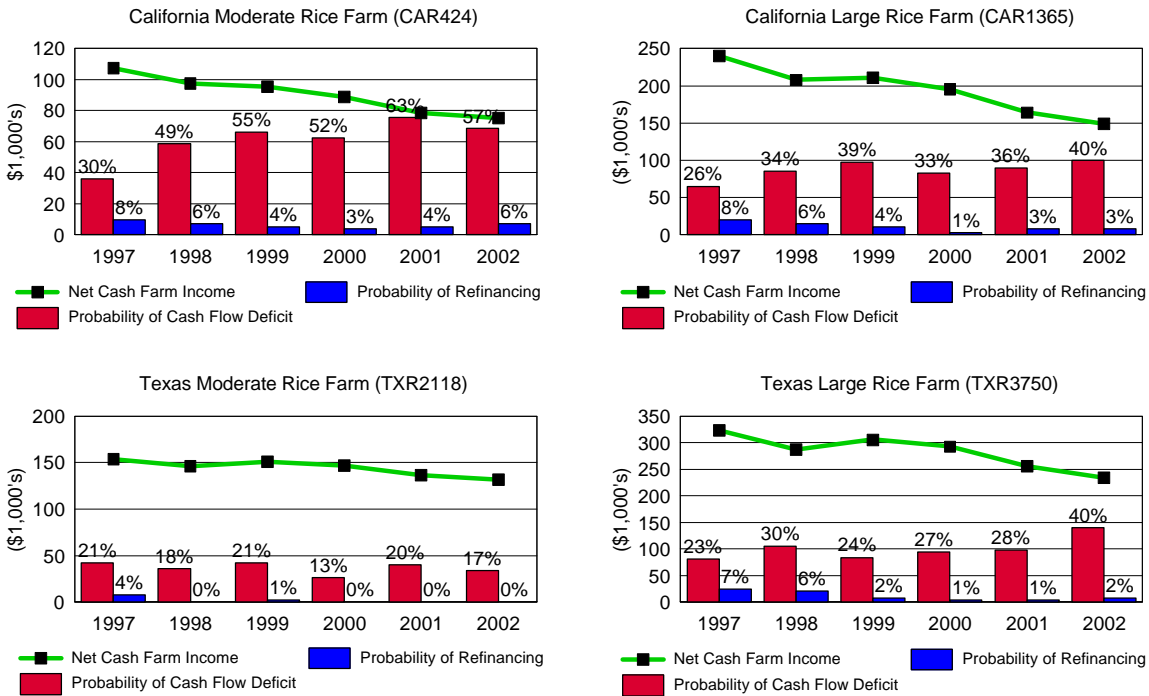


Figure 19. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Rice Farms

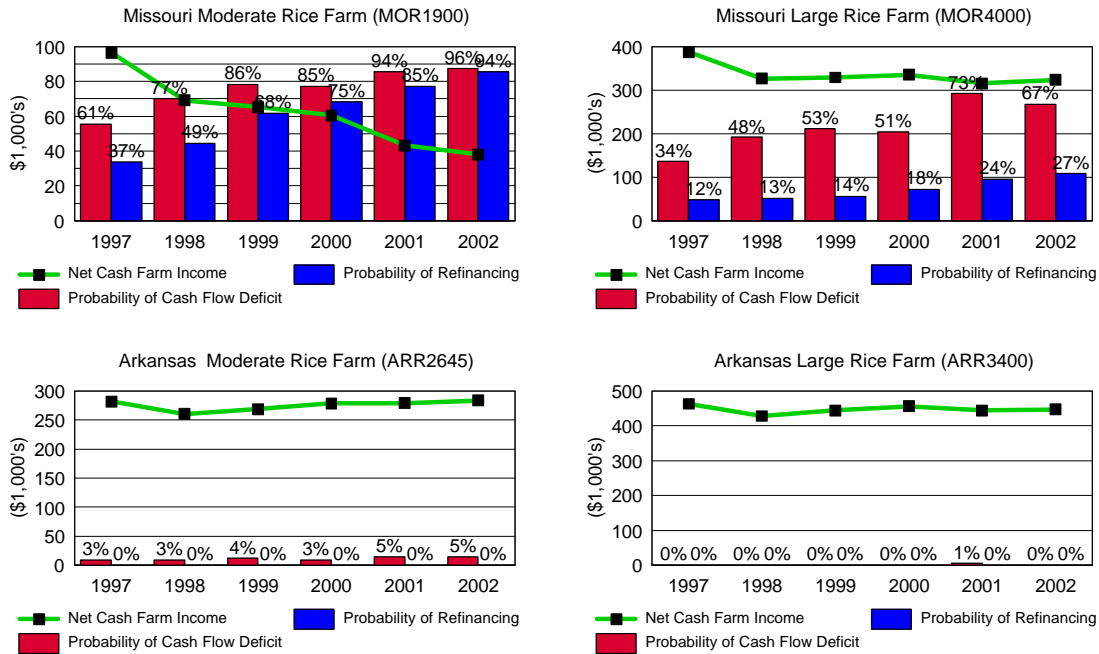


Figure 20. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Rice Farms

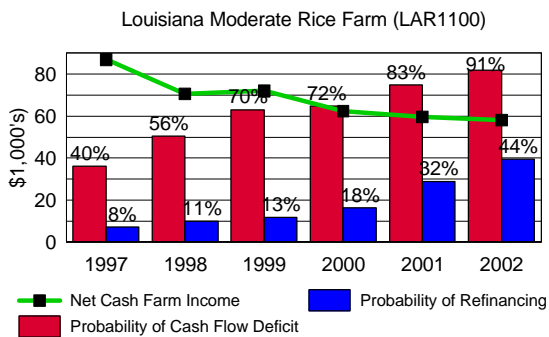
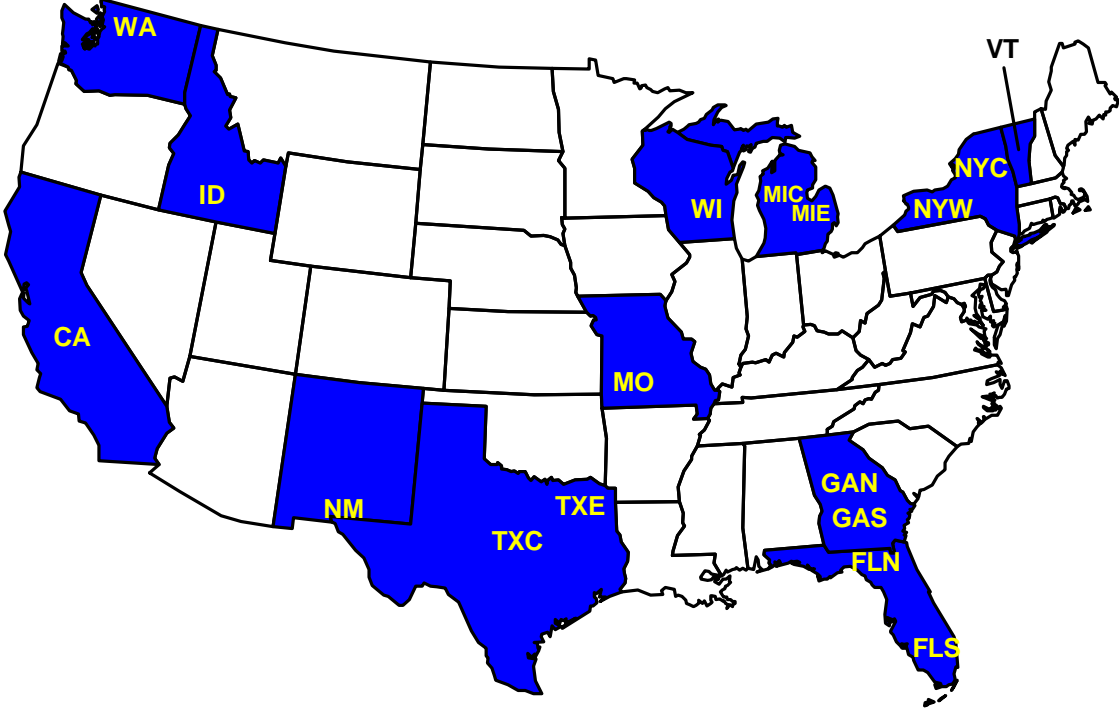


FIGURE 21. REPRESENTATIVE FARMS PRODUCING MILK



Dairy Impacts

- # All but three of the 26 representative dairy farms increase real net worth over the 1997-2002 study period. The moderate Georgia (GAND175) operation experiences an annual 8 percent decline in real net worth. The moderate Central Texas (TXCD400) and Central Michigan (MICD140) dairies lose about one percent of real net worth annually (Figures 22-23).
- # The 23 dairy farms projected to experience annual increases in real net worth see increases ranging from about one percent for the Eastern Michigan dairy (MICD200) to 9.85 percent for a large dairy in Central New York (NYCD300).
- # Fourteen of the 26 dairies experience a high (greater than 30 percent) probability of losing real net worth in 1997. But, by 2002 10 of those dairies are able to reduce that probability below 15 percent.
- # Seven of the dairy farms exhibit relatively high cost to receipts ratios, greater than 85 percent. These farms will be more vulnerable to milk and feed price variability. The 2000 cow New Mexico (NMD2000) dairy increased real net worth and built cash reserves over the study period, but only a 2.8 percent decline in receipts would reduce this farm's real net worth growth to zero.
- # The moderate Missouri (MOD85), moderate Georgia (GAD175), moderate and large Florida (FLND380, FLSD2000), moderate Central New York (NYCD110), Central Michigan (MICD140), and moderate Central Texas (TXCD400) dairies experience negative cash reserves. This results in increased carryover debt and interest expenses. The Florida dairies are able to recover from cash flow deficits early in the study period. The moderate Central New York, moderate Missouri, moderate Georgia, Central Michigan, Central New York moderate, and moderate Central Texas dairies encounter a negative ending cash balance in 2002.
- # Using the New Mexico dairy as an example, ending cash reserves increase over the period. While cash reserves in 1997 are positive, on average, the farm has a 33 percent probability of a negative ending cash balance which requires refinancing. That probability declines by 2002 as ending cash balances increase.
- # Half of the dairies have a 25 percent or greater probability of a cash flow deficit in 2002. Meaning that expenses and other cash flow requirements exceeded cash receipts in that year.
- # Overall, the baseline is favorable for the representative dairy farms. However, 54 percent (14 of 26) of the dairy farms are either losing real net worth or would lose real net worth if their receipts declined by more than 10 percent.

Table 9. Implications of the 1996 Farm Bill and the January 1998 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Milk

	CAD1710	NMD2000	WAD185	WAD850	IDD500	IDD1800	TXCD400	TXCD825	TXED210	TXED650
Annual % Change in Real Net Worth (%)										
1997-2002 Average	8.50	2.61	6.33	4.44	4.36	7.65	-1.36	7.95	6.02	5.77
Net Income Adjustment (NIA)										
1997-2002 (\$1,000)	-1042.66	-180.06	-72.81	-199.44	-114.31	-871.67	22.52	-255.90	-70.82	-172.52
Net Income Adjustment (NIA)										
1997-2002 (% Receipts)	-20.09	-2.84	-10.76	-6.94	-7.45	-16.66	2.27	-10.52	-12.92	-9.97
Cost to Receipts Ratio (%)										
1997-2002 Average	73.09	94.04	80.95	88.50	86.18	78.21	94.71	83.91	79.61	85.12
Total Cash Receipts (\$1000)										
1997	4947.72	6119.07	658.05	2797.44	1481.97	5081.22	955.64	2342.17	526.13	1664.45
1998	5086.60	6219.13	663.83	2821.02	1500.40	5124.13	975.34	2389.59	538.02	1699.63
1999	5166.46	6310.81	670.82	2851.08	1532.32	5217.93	989.39	2421.93	546.58	1724.13
2000	5254.26	6390.80	678.97	2885.91	1545.53	5259.91	1002.99	2454.53	554.08	1747.65
2001	5319.42	6457.23	687.00	2919.15	1561.00	5315.27	1012.58	2478.86	558.91	1763.67
2002	5361.95	6559.10	700.13	2974.27	1582.02	5399.21	1023.78	2507.54	564.25	1783.09
1997-2002 Average	5189.40	6342.69	676.47	2874.81	1533.87	5232.94	993.29	2432.44	548.00	1730.44
Net Cash Farm Income (\$1000)										
1997	1027.30	20.85	93.60	189.41	133.39	835.80	27.70	268.76	89.18	185.58
1998	1295.85	378.45	134.60	350.76	202.99	1110.25	61.47	394.21	113.43	268.13
1999	1464.98	555.07	146.34	406.75	252.15	1277.13	72.73	437.45	122.87	299.72
2000	1543.69	573.66	148.50	413.08	258.15	1292.84	74.71	449.29	126.84	310.17
2001	1557.44	520.97	145.56	404.96	252.62	1288.07	61.87	438.52	123.45	298.60
2002	1550.19	520.74	148.40	418.59	253.55	1317.85	50.04	437.30	121.84	289.32
1997-2002 Average	1406.58	428.29	136.17	363.93	225.48	1186.99	58.08	404.25	116.27	275.25
Prob. of a Cash Flow Deficit (%)										
1997	0	65	53	61	59	36	92	36	37	44
1998	0	51	35	45	48	16	78	19	25	35
1999	0	42	22	34	39	8	88	11	18	31
2000	0	39	32	36	32	6	85	10	20	25
2001	0	46	31	38	34	4	92	6	17	25
2002	0	39	40	39	33	7	95	15	22	25
Ending Cash Reserves (\$1,000)										
1997	1193.96	184.76	83.87	204.89	92.90	954.45	-33.32	305.22	62.47	182.80
1998	1815.96	289.37	133.60	332.27	129.60	1395.62	-53.37	483.14	99.27	274.97
1999	2513.20	510.21	187.82	477.63	190.03	1922.20	-74.32	670.90	138.88	374.85
2000	3281.42	713.44	241.90	620.33	270.44	2490.27	-87.13	881.04	184.17	502.75
2001	4053.33	876.08	293.45	763.53	340.41	3041.25	-116.93	1080.85	229.46	621.55
2002	4812.70	1044.83	335.74	905.74	415.79	3592.04	-153.56	1276.57	271.57	735.81
1997-2002 Average	2945.10	603.11	212.73	550.73	239.86	2232.64	-86.44	782.95	164.30	448.79
Prob. of Refinancing Deficits (%)										
1997	0	33	18	29	29	1	63	5	14	19
1998	0	37	6	21	26	0	67	0	5	14
1999	0	27	1	12	18	0	69	0	2	5
2000	0	23	1	11	15	0	74	0	2	4
2001	0	21	2	8	10	0	78	0	0	2
2002	0	15	0	7	6	0	85	0	0	3
Nominal Net Worth (\$1000)										
1997	6586.60	5136.28	677.66	3000.66	1742.65	6514.39	874.68	1952.76	705.69	1878.12
1998	7515.32	5539.02	762.65	3298.13	1910.18	7386.31	912.20	2247.93	781.93	2096.25
1999	8563.66	6100.73	855.52	3642.73	2115.18	8392.38	954.55	2567.13	868.34	2340.25
2000	9478.90	6441.24	927.28	3885.78	2255.68	9195.17	964.54	2824.57	933.46	2524.32
2001	10325.80	6663.94	990.29	4092.54	2363.53	9903.72	958.28	3041.13	992.84	2677.32
2002	11085.82	6801.22	1047.87	4262.69	2459.66	10530.15	925.76	3224.61	1037.57	2796.65
1997-2002 Average	8926.02	6113.74	876.88	3697.09	2141.15	8653.69	931.67	2643.02	886.64	2385.49
Prob. of Losing Real Net Worth (%)										
1997	1	48	33	39	39	15	54	27	16	32
1998	0	40	12	20	18	4	50	4	6	12
1999	0	29	4	10	7	0	44	0	1	4
2000	0	23	2	9	6	0	48	0	0	5
2001	0	23	2	7	4	0	52	1	1	4
2002	0	21	1	8	5	0	64	0	1	3

Table 10. Implications of the 1996 Farm Bill and the January 1998 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Milk

	WID70	WID600	MIED200	MICD140	NYWD700	NYWD1200	NYCD110	NYCD300	VTD85	VTD350
Annual % Change in Real Net Worth (%)										
1997-2002 Average	8.32	8.01	0.87	-0.91	9.40	8.09	1.89	9.85	9.11	7.37
Net Income Adjustment (NIA)										
1997-2002 (\$1,000)	-55.70	-315.29	-12.21	17.87	-470.30	-635.91	-12.21	-261.49	-94.00	-223.58
Net Income Adjustment (NIA)										
1997-2002 (% Receipts)	-25.00	-17.30	-1.84	4.05	-19.66	-16.44	-3.37	-26.76	-29.77	-18.40
Cost to Receipts Ratio (%)										
1997-2002 Average	58.02	75.22	90.15	90.70	74.24	78.08	84.66	65.11	56.83	73.89
Total Cash Receipts (\$1000)										
1997	212.72	1742.16	636.32	419.50	2295.60	3709.32	347.60	936.90	304.93	1171.10
1998	218.41	1785.58	652.17	432.07	2350.10	3800.18	356.32	959.98	318.61	1222.06
1999	221.61	1813.28	660.07	439.17	2373.29	3839.45	360.01	970.07	324.39	1242.03
2000	225.60	1845.12	671.44	446.67	2413.95	3906.29	366.38	987.51	315.04	1203.36
2001	228.18	1865.58	679.06	451.41	2440.31	3949.58	370.34	997.48	318.57	1217.32
2002	230.30	1884.53	687.22	456.00	2476.76	4008.90	375.64	1011.40	322.13	1233.05
1997-2002 Average	222.80	1822.71	664.38	440.80	2391.67	3868.95	362.72	977.22	317.28	1214.82
Net Cash Farm Income (\$1000)										
1997	83.47	372.61	30.18	15.69	489.43	699.14	39.49	292.36	122.45	277.66
1998	93.17	453.38	73.34	41.82	611.68	842.28	57.70	338.80	141.55	344.84
1999	95.87	493.32	83.57	48.55	644.88	886.29	61.08	349.48	148.89	363.60
2000	98.89	506.38	85.88	51.67	663.74	919.07	63.42	361.40	137.63	315.90
2001	99.19	496.85	83.55	50.08	666.82	907.70	61.04	359.88	137.71	312.60
2002	100.44	491.00	81.96	49.08	673.08	922.32	60.69	364.37	138.50	313.99
1997-2002 Average	95.17	468.92	73.08	42.81	624.94	862.80	57.24	344.38	137.79	321.43
Prob. of a Cash Flow Deficit (%)										
1997	10	23	68	87	9	11	86	4	0	4
1998	3	5	58	72	1	3	71	0	0	0
1999	2	4	59	75	0	0	81	0	0	0
2000	0	4	60	78	0	3	73	0	0	2
2001	2	6	62	91	1	1	83	0	0	4
2002	10	9	70	95	0	1	84	0	0	6
Ending Cash Reserves (\$1,000)										
1997	69.23	406.33	9.31	-18.74	529.26	803.35	2.62	277.88	111.69	275.01
1998	100.56	613.05	20.76	-22.22	810.44	1160.11	4.56	416.87	170.55	424.72
1999	131.10	837.23	34.03	-26.47	1094.01	1531.05	2.84	552.39	228.92	574.36
2000	165.34	1076.70	48.73	-27.33	1399.51	1937.54	5.95	703.35	287.51	704.29
2001	198.27	1312.47	54.47	-35.48	1711.75	2338.40	3.95	857.81	345.60	825.78
2002	229.97	1552.84	51.17	-50.43	2031.36	2747.12	-2.99	1010.12	404.05	951.05
1997-2002 Average	149.08	966.44	36.41	-30.11	1262.72	1752.93	2.82	636.40	258.06	625.87
Prob. of Refinancing Deficits (%)										
1997	0	1	40	72	0	0	47	0	0	0
1998	0	0	41	65	0	0	43	0	0	0
1999	0	0	39	65	0	0	44	0	0	0
2000	0	0	36	68	0	0	40	0	0	0
2001	0	0	35	74	0	0	45	0	0	0
2002	0	0	36	76	0	0	52	0	0	0
Nominal Net Worth (\$1000)										
1997	410.80	2164.03	1315.15	1086.17	2792.37	4563.67	482.05	1407.29	589.11	1614.41
1998	466.52	2465.98	1386.73	1106.97	3233.65	5186.00	515.22	1628.84	679.77	1841.88
1999	524.71	2795.00	1466.89	1139.65	3708.66	5872.90	552.04	1867.86	776.94	2082.70
2000	577.52	3075.11	1517.07	1154.33	4113.16	6447.94	573.62	2070.55	854.31	2250.49
2001	628.59	3326.65	1545.63	1156.27	4494.29	6957.01	589.99	2264.15	932.95	2406.84
2002	672.13	3556.24	1554.61	1144.73	4843.18	7421.93	597.15	2440.20	1002.27	2543.70
1997-2002 Average	546.71	2897.17	1464.35	1131.35	3864.22	6074.91	551.68	1946.48	805.89	2123.34
Prob. of Losing Real Net Worth (%)										
1997	4	15	45	37	4	5	38	0	0	3
1998	0	2	29	42	0	0	16	0	0	0
1999	0	0	18	39	0	0	10	0	0	0
2000	0	0	20	53	0	0	10	0	0	0
2001	0	0	24	62	0	0	9	0	0	0
2002	0	0	29	81	0	0	14	0	0	0

Table 11. Implications of the 1996 Farm Bill and the January 1998 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Milk

	MOD85	MOD300	GAND175	GASD650	FLND380	FLSD2000
Annual % Change in Real Net Worth (%)						
1997-2002 Average	2.98	3.32	-8.12	5.97	5.91	5.78
Net Income Adjustment (NIA)						
1997-2002 (\$1,000)	-16.03	-62.20	46.53	-185.61	-101.12	-415.27
Net Income Adjustment (NIA)						
1997-2002 (% Receipts)	-7.39	-7.78	9.18	-9.35	-8.58	-6.77
Cost to Receipts Ratio (%)						
1997-2002 Average	78.48	83.03	103.63	84.57	85.49	90.46
Total Cash Receipts (\$1000)						
1997	206.45	765.30	483.12	1894.71	1126.66	5836.58
1998	212.10	784.50	496.90	1946.24	1151.72	5996.51
1999	216.15	796.37	504.32	1973.23	1172.32	6106.52
2000	219.77	808.47	512.83	2006.03	1193.35	6213.21
2001	222.22	817.90	519.45	2031.91	1208.20	6284.78
2002	224.03	826.36	524.62	2052.99	1221.62	6344.30
1997-2002 Average	216.79	799.82	506.87	1984.19	1178.98	6130.32
Net Cash Farm Income (\$1000)						
1997	26.31	106.04	-94.32	171.71	-29.41	-419.75
1998	46.55	143.63	-8.72	308.41	174.47	605.13
1999	52.92	153.37	8.68	347.38	227.97	872.94
2000	55.49	156.59	7.62	358.66	235.97	917.65
2001	56.05	154.60	0.63	347.82	230.54	902.68
2002	55.27	150.54	-8.34	342.02	224.64	876.73
1997-2002 Average	48.76	144.13	-15.74	312.67	177.36	625.90
Prob. of a Cash Flow Deficit (%)						
1997	83	53	100	52	81	84
1998	71	43	100	24	56	59
1999	74	57	100	17	38	48
2000	74	44	100	11	24	33
2001	79	44	100	13	22	27
2002	72	48	100	12	24	30
Ending Cash Reserves (\$1,000)						
1997	-6.18	58.81	-143.95	183.43	-44.25	-402.53
1998	-9.15	88.86	-188.25	288.45	30.51	-92.55
1999	-12.16	101.50	-222.98	394.70	116.35	308.77
2000	-12.44	131.99	-256.66	528.19	201.87	710.88
2001	-10.33	161.48	-297.78	656.82	284.89	1106.78
2002	-9.36	183.91	-350.72	781.81	363.73	1486.29
1997-2002 Average	-9.94	121.09	-243.39	472.23	158.85	519.61
Prob. of Refinancing Deficits (%)						
1997	60	30	100	7	56	65
1998	55	19	100	4	45	52
1999	62	18	100	1	27	37
2000	60	12	100	0	15	27
2001	54	12	100	0	10	18
2002	52	9	100	0	8	11
Nominal Net Worth (\$1000)						
1997	403.54	1214.05	287.38	1681.52	940.10	4115.56
1998	430.16	1311.48	274.58	1894.27	1090.84	4794.53
1999	465.36	1418.87	277.14	2126.58	1259.58	5597.95
2000	488.56	1491.74	260.31	2307.63	1388.49	6185.26
2001	512.00	1554.94	228.49	2461.99	1499.47	6682.52
2002	525.29	1597.50	178.70	2583.23	1587.68	7053.40
1997-2002 Average	470.82	1431.43	251.10	2175.87	1294.36	5738.20
Prob. of Losing Real Net Worth (%)						
1997	35	27	93	33	58	64
1998	17	11	91	10	37	39
1999	10	8	89	2	14	21
2000	9	6	86	1	8	13
2001	8	5	95	0	6	12
2002	8	7	97	1	4	8

Figure 22. Dairy Farms

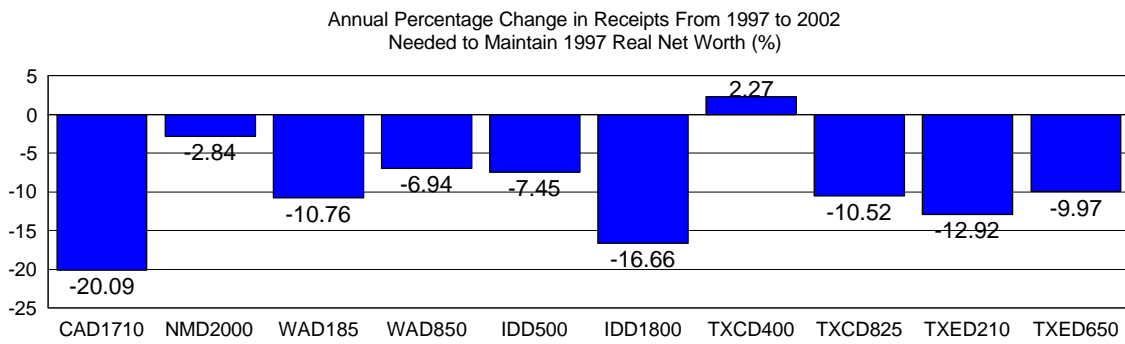
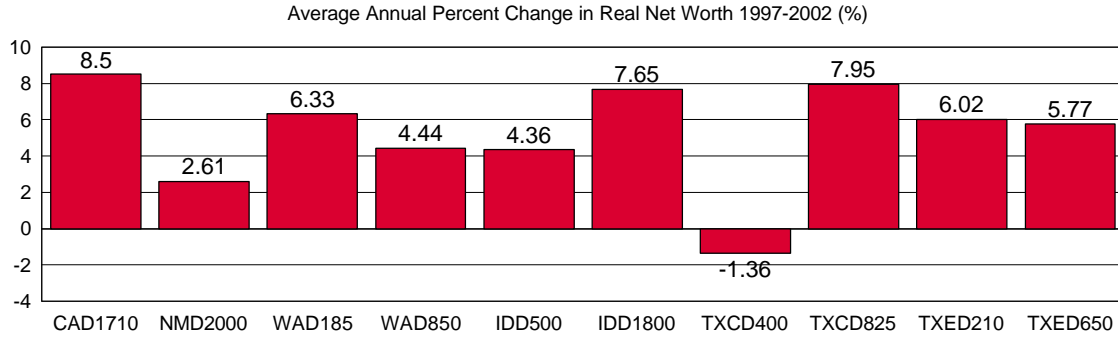


Figure 23. Dairy Farms

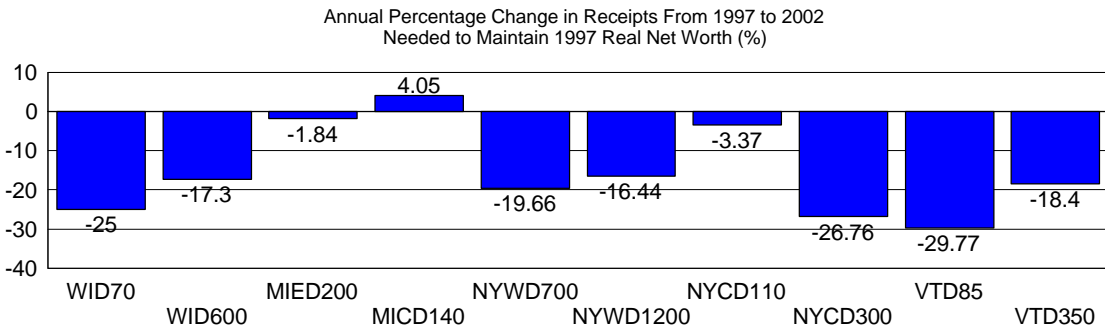
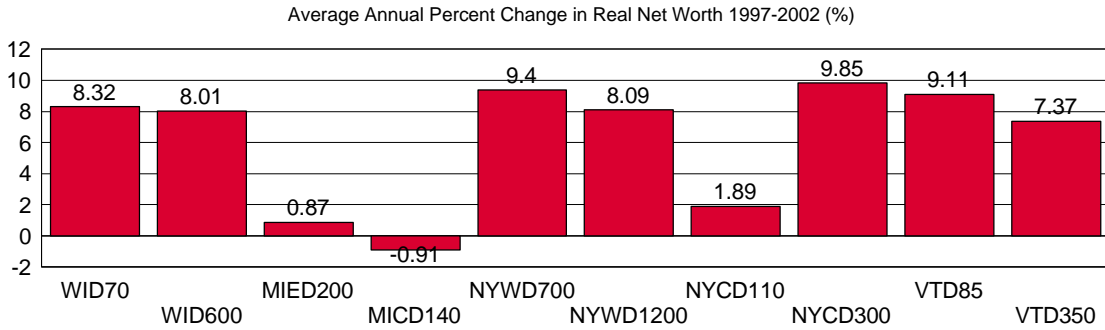


Figure 24. Dairy Farms

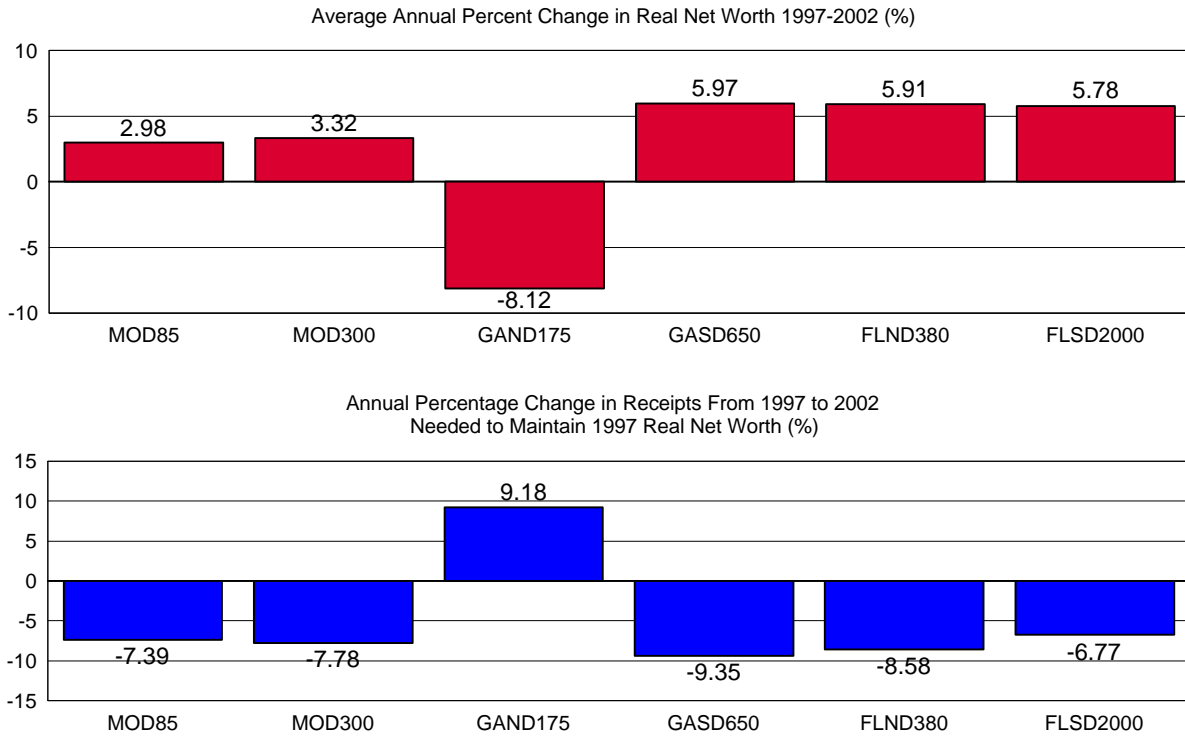


Figure 25. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Dairy Farms

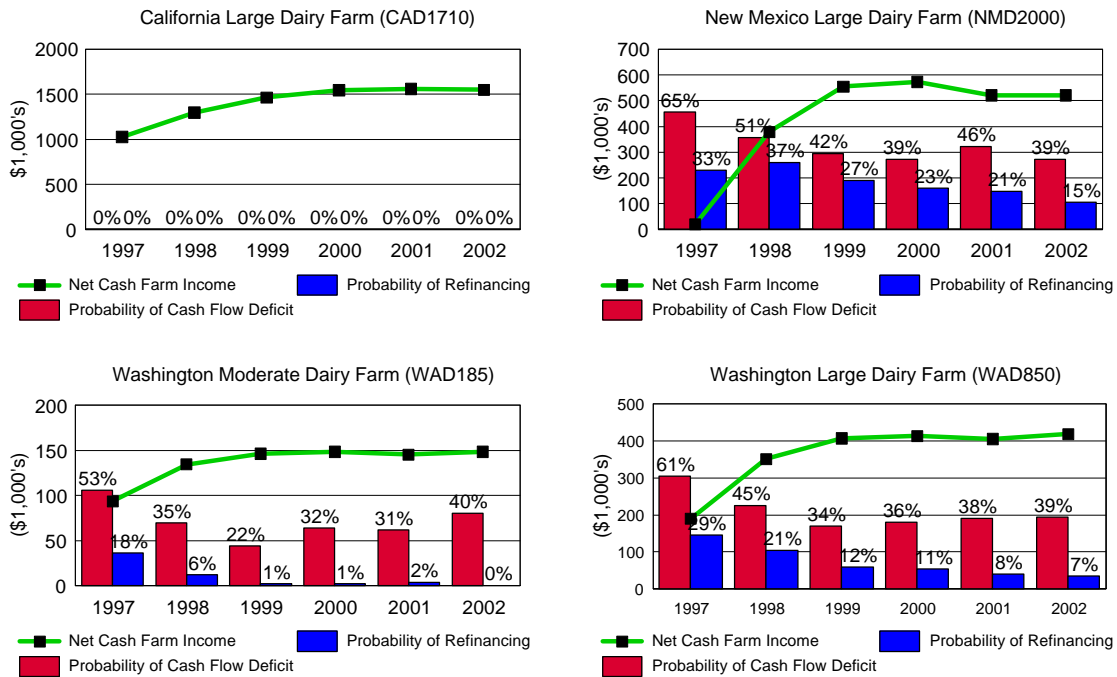


Figure 26. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Dairy Farms

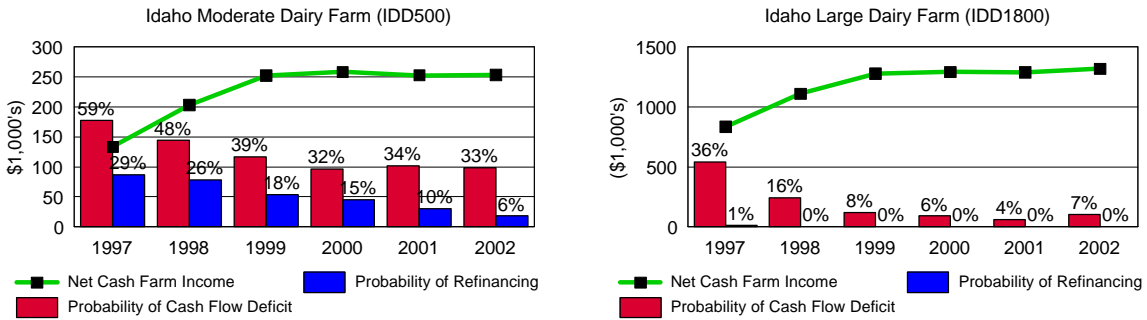


Figure 27. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Dairy Farms

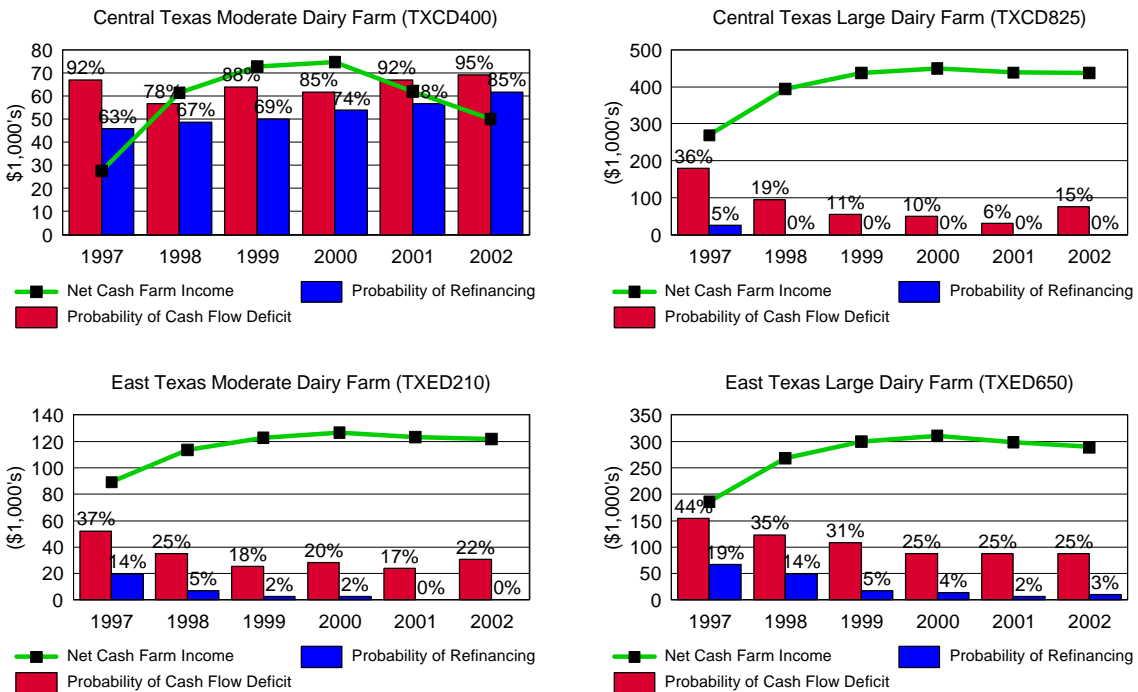


Figure 28. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Dairy Farms

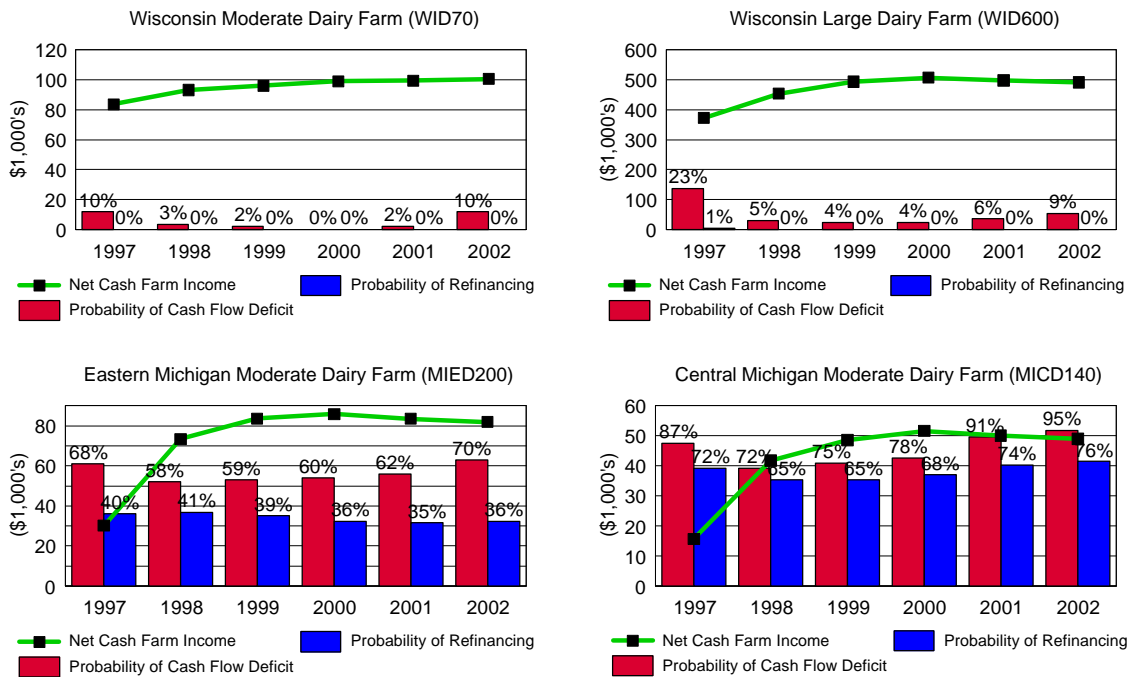


Figure 29. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Dairy Farms

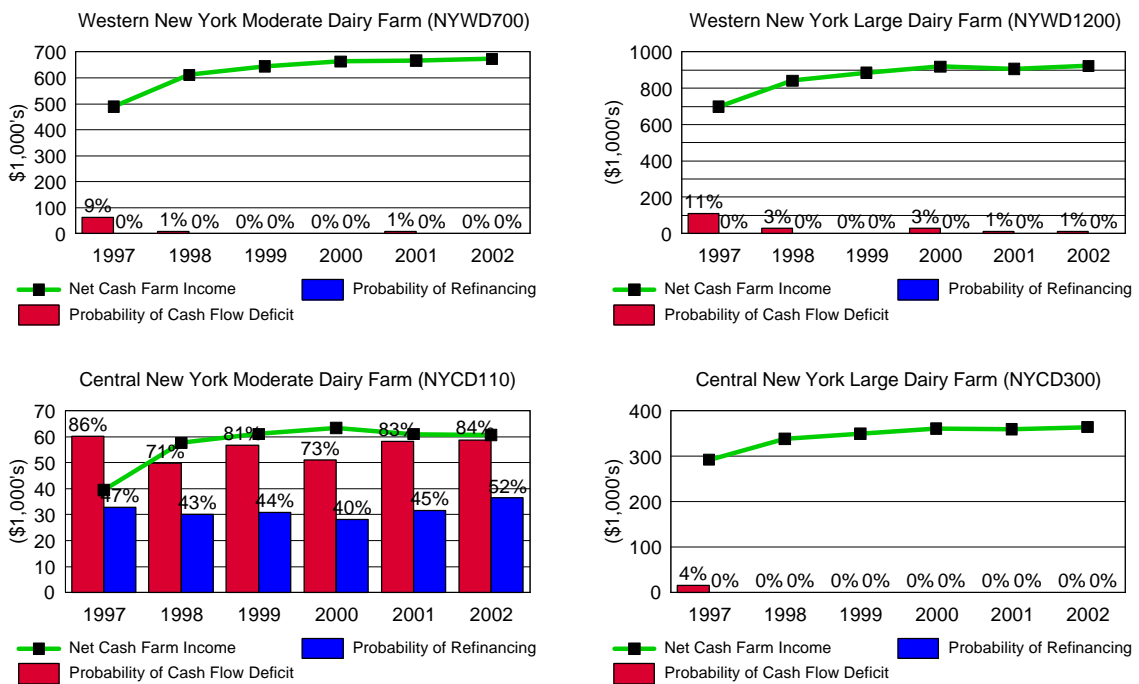


Figure 30. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Dairy Farms

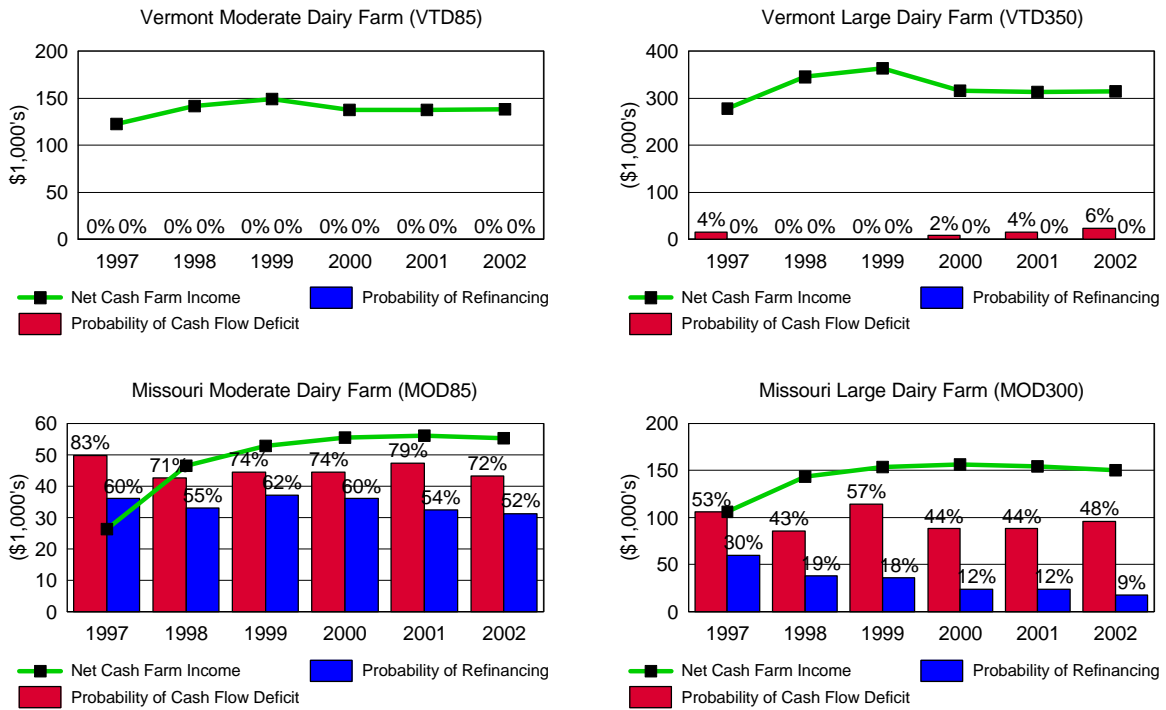


Figure 31. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Dairy Farms

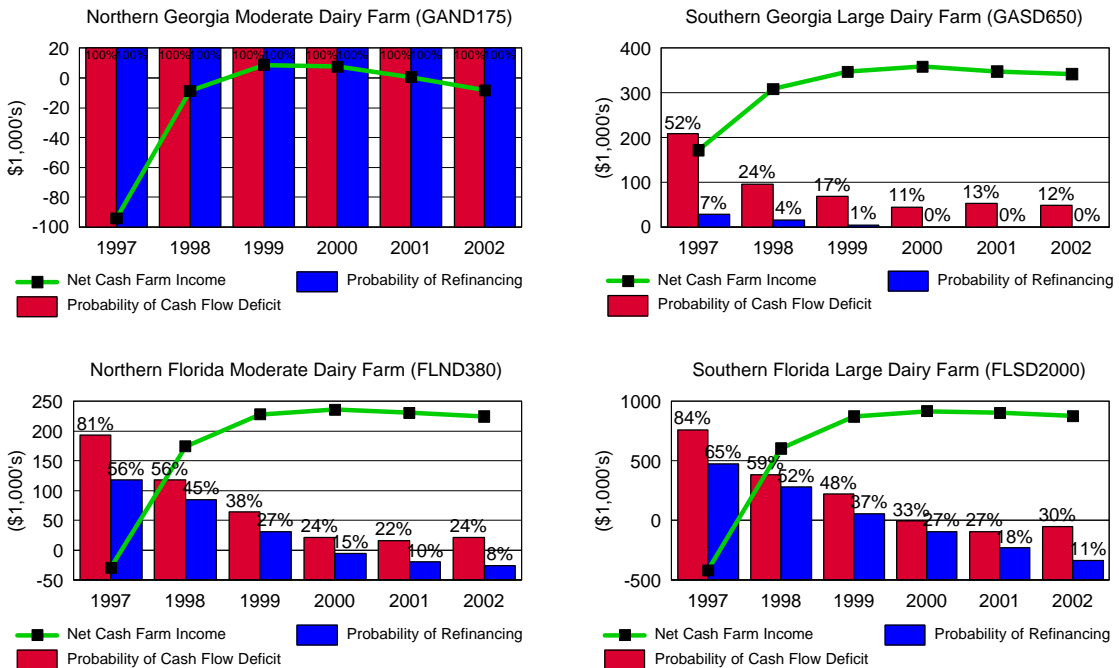
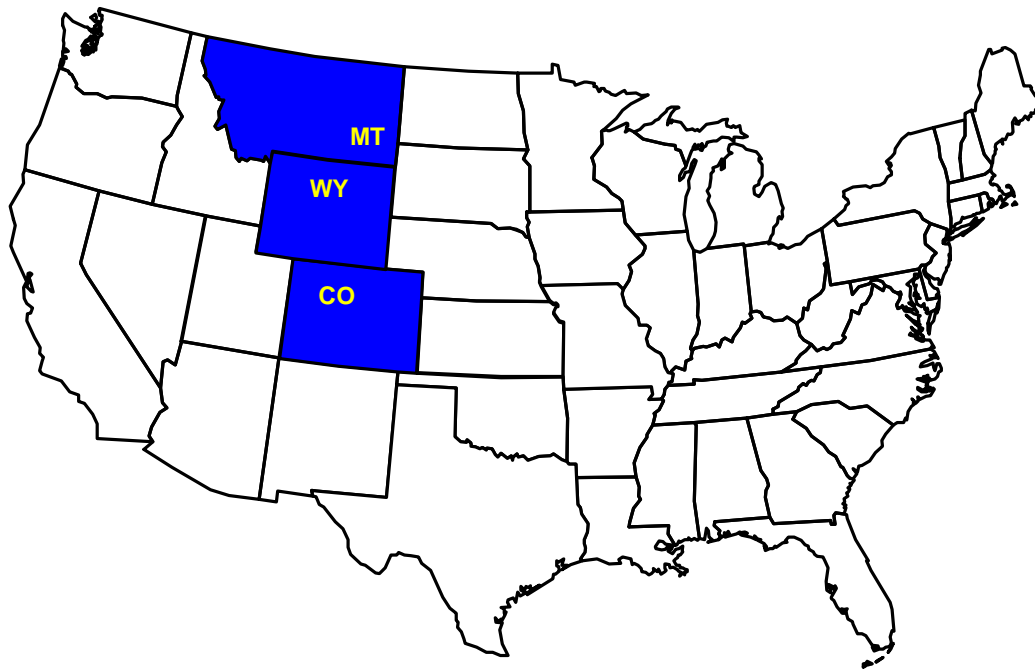


FIGURE 32. REPRESENTATIVE FARMS PRODUCING BEEF CATTLE



Beef Cattle Impacts

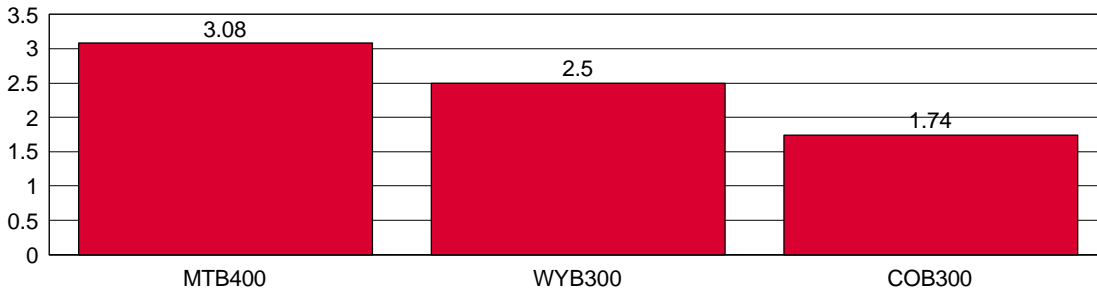
- # The beef cattle situation is positively impacted due to the upturn in cattle prices projected over the study period. Feeder cattle prices are projected to rise from approximately \$81/cwt. in 1997 to \$95/cwt. by 2000 before starting to decline in 2001.
- # All three representative cattle ranches experience real growth in net worth over the 1997-2002 study period. Real land value appreciation contributes 0.44, 0.66, and 0.79 percentage points of the annual growth in real net worth on the Wyoming, Montana, and Colorado ranches, respectively. The Wyoming ranch has a 6 percent chance of experiencing a decline in real net worth in year 2002.
- # Ending cash reserves grow over the period for each of the ranches. The Wyoming ranch experiences negative ending cash balances in 1997 and 1998 but recovers as cattle prices rebound through the period. The probability of refinancing deficits declines for each of the ranches as cattle prices increase through 2000.
- # Net cash farm incomes (NCFIs) show substantial improvement over the 1997-2000 period as cattle prices rebound. Lower cattle prices in 2001-2002 lead to higher probabilities of annual cash flow deficits. The Montana and Colorado ranches have larger ending cash positions than the Wyoming ranch and are able to keep the probability of refinancing low.

Table 12. Implications of the 1996 Farm Bill and the January 1998 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Beef Cattle

	MTB400	WYB300	COB300
Annual % Change in Real Net Worth (%)			
1997-2002 Average	3.08	2.50	1.74
Net Income Adjustment (NIA)			
1997-2002 (\$1,000)	-61.74	-14.73	-42.87
Net Income Adjustment (NIA)			
1997-2002 (% Receipts)	-39.06	-11.46	-26.88
Cost to Receipts Ratio (%)			
1997-2002 Average	58.08	78.76	70.91
Total Cash Receipts (\$1000)			
1997	142.13	116.16	153.55
1998	146.96	119.82	161.52
1999	165.40	134.05	176.67
2000	172.63	139.71	184.93
2001	164.91	134.05	179.25
2002	156.23	127.69	173.00
1997-2002 Average	158.05	128.58	171.49
Net Cash Farm Income (\$1000)			
1997	49.64	22.43	35.03
1998	59.36	21.64	44.24
1999	77.01	35.73	57.94
2000	86.00	40.07	60.54
2001	74.15	31.35	57.81
2002	65.69	25.51	52.20
1997-2002 Average	68.64	29.46	51.29
Prob. of a Cash Flow Deficit (%)			
1997	15	76	26
1998	9	57	13
1999	1	42	3
2000	0	43	12
2001	6	50	9
2002	8	65	18
Ending Cash Reserves (\$1,000)			
1997	22.27	-9.86	10.81
1998	50.38	-6.04	26.82
1999	88.34	8.64	53.02
2000	134.53	15.72	74.02
2001	165.94	18.46	93.47
2002	195.08	11.35	105.63
1997-2002 Average	109.42	6.38	60.63
Prob. of Refinancing Deficits (%)			
1997	8	75	16
1998	3	54	8
1999	0	35	1
2000	0	26	0
2001	0	27	0
2002	0	38	0
Nominal Net Worth (\$1000)			
1997	1692.36	625.85	2887.10
1998	1796.87	655.15	3025.83
1999	1941.19	713.91	3219.53
2000	2045.01	751.27	3343.02
2001	2105.64	756.98	3417.60
2002	2140.20	749.83	3455.57
1997-2002 Average	1953.55	708.83	3224.78
Prob. of Losing Real Net Worth (%)			
1997	1	14	0
1998	0	10	0
1999	0	4	0
2000	0	1	0
2001	0	4	0
2002	0	6	0

Figure 33. Cow/Calf Ranches

Average Annual Percent Change in Real Net Worth 1997-2002 (%)



Annual Percentage Change in Receipts From 1997 to 2002 Needed to Maintain 1997 Real Net Worth (%)

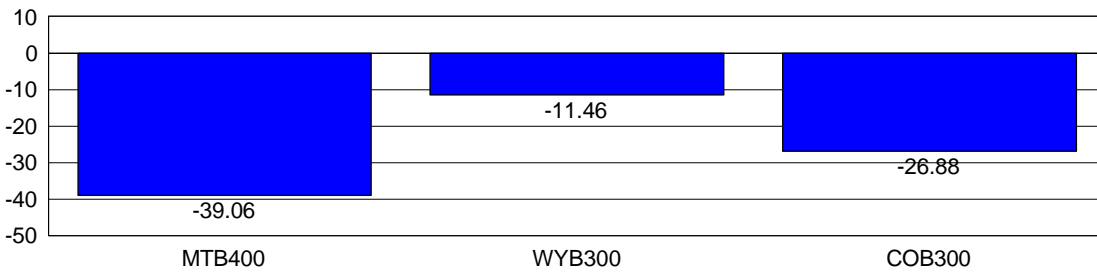


Figure 34. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Cow/Calf Ranches

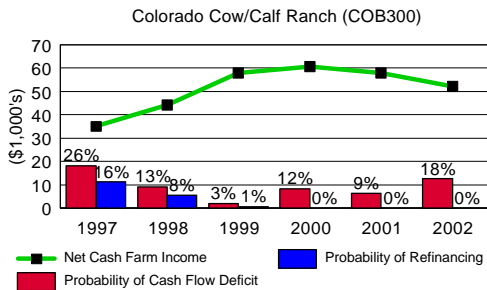
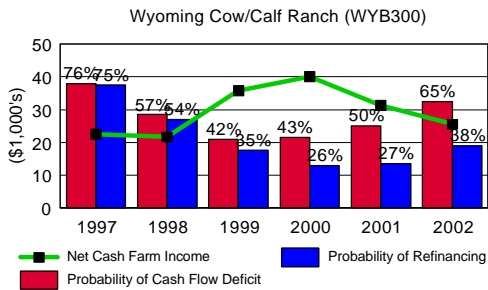
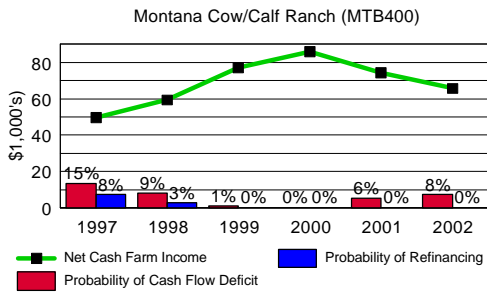
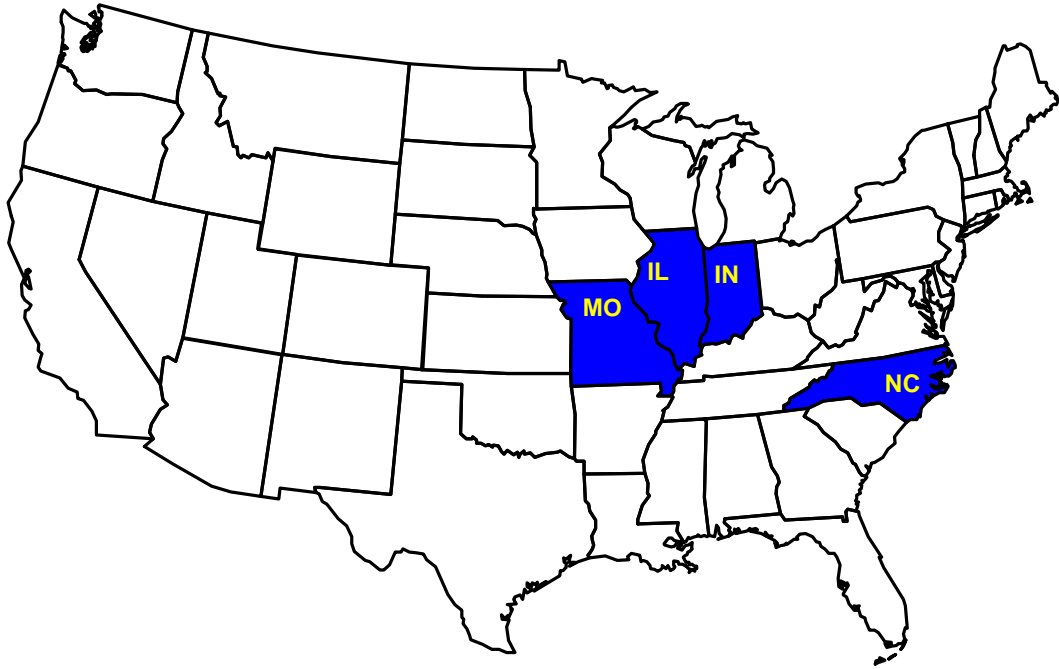


FIGURE 35. REPRESENTATIVE FARMS PRODUCING HOGS



Hog Farm Impacts

- # Baseline projected hog prices range from \$40 per cwt. in 1998 to \$46 per cwt. in 2000.
- # All eight hog farms experience an increase in real equity over the 1997-2002 period. The annual real equity growth ranges from 1.5 percent on the moderate Missouri (MOH100) farm to about 8 percent on the ILH750. Annual real equity growth on the large contract farming operation in North Carolina is substantially higher than the other farms at 12.4 percent.
- # The moderate Indiana (INH150) and Missouri (MOH100) hog farms show relatively high probabilities of losing real net worth, 20 and 26 percent in 2002. Low hog prices in 1998 increase those probabilities to the 38 and 32 percent range, respectively. A decline in annual cash receipts of only 3 to 5 percent is sufficient to cause a loss of equity over the baseline period for these two farms.
- # The moderate Indiana farm shows serious signs of financial stress through 2002. Ending cash balances generally decline from 1999-2002, requiring refinancing of the operation. The probability of refinancing increases to 45 percent by 2002. The moderate Missouri hog farm also has low cash reserves and its probability of refinancing deficits increases from 15 percent in 2000 to 23 percent in 2002.
- # The larger scale farms in each state exhibit greater profitability and more potential for real equity growth over the 1997-2002 period than the moderate farm. The baseline results indicate significant pressure for continued structural change in the industry.

Table 13. Implications of the 1996 Farm Bill and the January 1998 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Hogs

	MOH100	MOH225	ILH200	ILH750	INH150	INH600	NCH350	NCH13268
Annual % Change in Real Net Worth (%)								
1997-2002 Average	1.47	3.85	5.44	7.95	1.76	3.98	4.98	12.43
Net Income Adjustment (NIA)								
1997-2002 (\$1,000)	-7.58	-83.38	-143.47	-535.73	-23.79	-210.12	-99.10	-5456.15
Net Income Adjustment (NIA)								
1997-2002 (% Receipts)	-3.30	-14.48	-20.89	-25.00	-4.30	-10.67	-12.20	-18.20
Cost to Receipts Ratio (%)								
1997-2002 Average	78.69	70.61	65.60	61.57	82.73	79.83	71.99	75.91
Total Cash Receipts (\$1000)								
1997	254.90	647.05	743.27	2412.35	594.31	2164.33	923.21	34098.27
1998	211.84	528.19	645.77	1965.41	515.98	1814.41	737.38	27191.14
1999	226.73	566.38	674.72	2109.89	544.03	1936.57	797.76	29435.13
2000	238.05	594.17	708.26	2209.52	566.20	2025.39	840.43	31023.65
2001	229.30	571.40	688.78	2123.96	552.03	1960.16	805.89	29738.46
2002	219.57	547.92	675.63	2036.43	545.40	1911.77	769.44	28387.31
1997-2002 Average	230.06	575.85	689.40	2142.93	552.99	1968.77	812.35	29978.99
Net Cash Farm Income (\$1000)								
1997	61.64	209.94	277.45	964.74	128.94	525.80	292.77	9905.22
1998	32.22	120.14	203.49	648.12	79.84	283.33	162.71	4955.92
1999	52.43	168.85	235.67	826.00	107.48	416.54	232.43	7573.27
2000	63.85	200.91	269.89	944.87	124.09	505.50	273.68	8970.56
2001	51.19	179.55	248.41	854.91	107.52	434.20	235.51	7397.76
2002	42.53	160.14	235.30	767.19	100.29	386.80	197.33	5794.08
1997-2002 Average	50.64	173.26	245.04	834.30	108.03	425.36	232.41	7432.80
Prob. of a Cash Flow Deficit (%)								
1997	46	21	4	1	52	28	3	0
1998	89	72	30	8	75	64	42	7
1999	76	49	28	3	80	49	6	0
2000	41	21	13	0	70	28	0	0
2001	52	36	21	0	70	28	8	0
2002	76	40	23	1	75	48	18	4
Ending Cash Reserves (\$1,000)								
1997	26.76	148.59	241.01	821.21	65.50	357.84	232.59	11851.98
1998	14.74	136.74	292.21	1040.51	42.67	312.73	264.65	14654.58
1999	16.30	159.57	355.19	1319.38	25.72	355.91	352.86	19366.95
2000	31.45	219.10	452.33	1769.62	31.80	507.28	461.40	24934.95
2001	38.43	257.27	529.84	2154.69	31.02	615.41	546.14	29614.77
2002	34.85	296.11	602.59	2505.82	19.38	682.97	615.81	33483.59
1997-2002 Average	27.09	202.90	412.20	1601.87	36.01	472.02	412.24	22317.80
Prob. of Refinancing Deficits (%)								
1997	9	0	0	0	20	4	0	0
1998	28	1	0	0	30	8	0	0
1999	31	0	0	0	43	11	0	0
2000	15	0	0	0	40	5	0	0
2001	14	0	0	0	42	4	0	0
2002	23	0	0	0	45	6	0	0
Nominal Net Worth (\$1000)								
1997	484.59	1213.38	1692.61	4153.93	1200.16	3311.07	1029.91	24396.00
1998	478.98	1229.44	1789.00	4385.72	1217.35	3361.25	1014.14	24750.08
1999	514.87	1346.86	1966.51	4988.14	1296.57	3687.97	1141.39	30268.83
2000	548.66	1460.99	2140.38	5598.01	1361.47	4000.45	1272.72	36384.22
2001	564.60	1536.75	2272.73	6089.06	1409.37	4225.82	1356.97	40614.39
2002	568.25	1609.21	2396.70	6517.83	1436.20	4369.50	1419.92	43976.96
1997-2002 Average	526.66	1399.44	2042.99	5288.78	1320.19	3826.01	1205.84	33398.41
Prob. of Losing Real Net Worth (%)								
1997	18	11	4	3	25	12	13	9
1998	38	19	1	0	32	18	24	8
1999	21	2	0	0	20	5	4	0
2000	10	0	0	0	18	2	0	0
2001	11	0	0	0	15	1	0	0
2002	20	0	0	0	26	1	0	0

Figure 36. Farrow-to-Finish Hog Farms

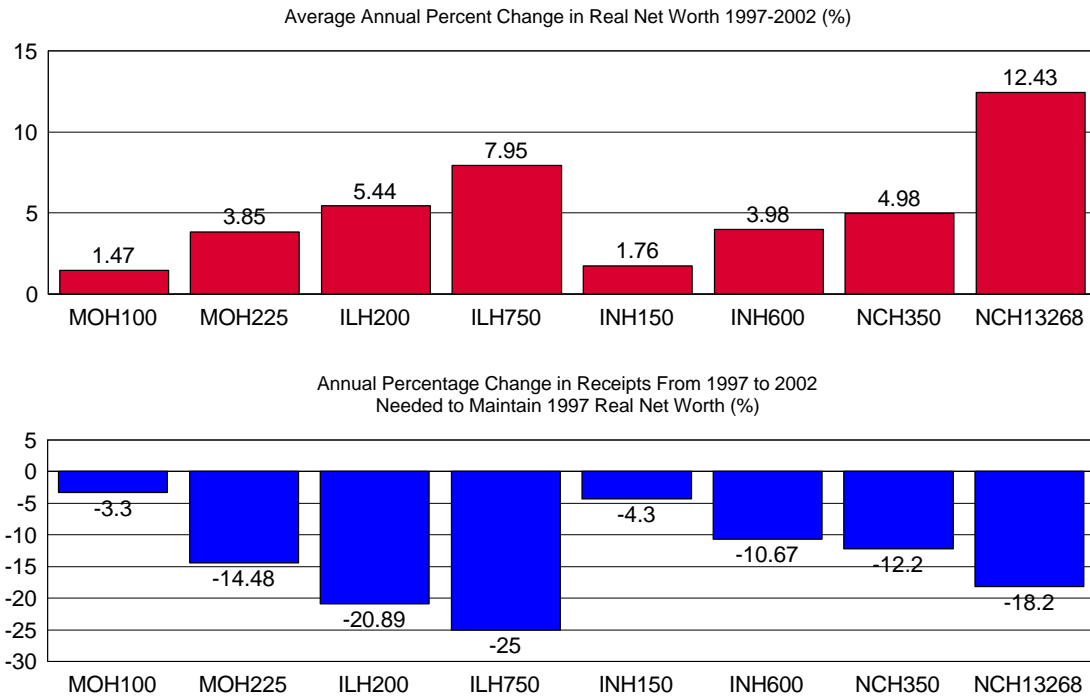
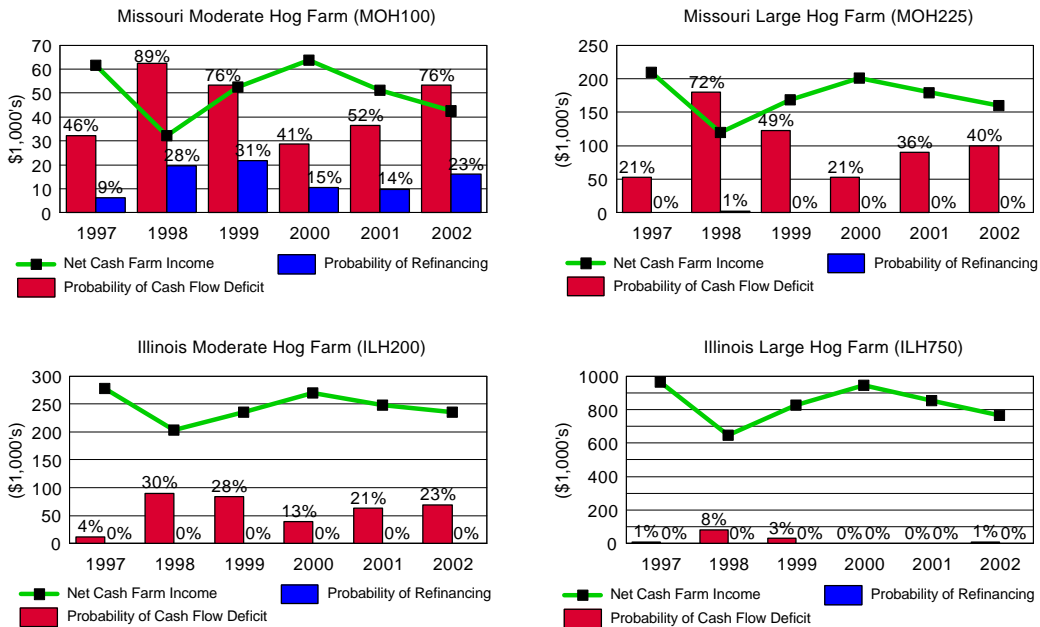
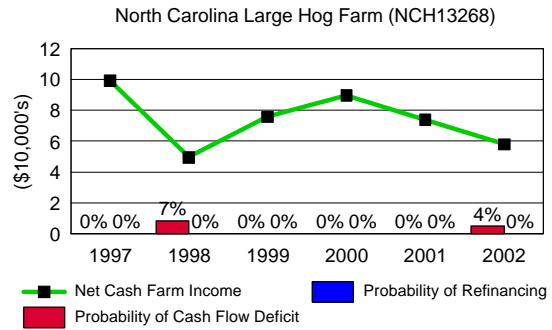
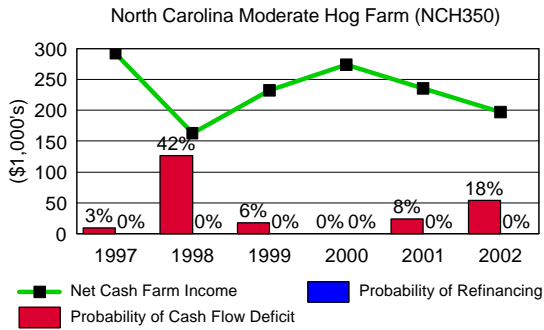
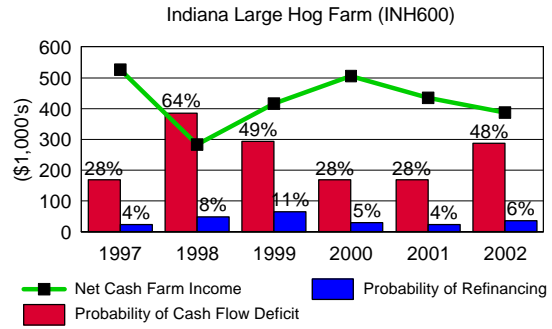
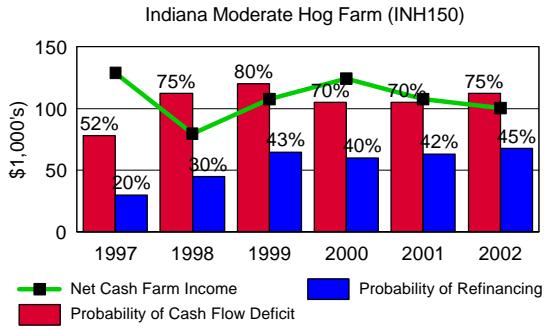


Figure 37. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Farrow-to-Finish Hog Farms



**Figure 38. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing:
Farrow-to-Finish Hog Farms**



APPENDIX A:

CHARACTERISTICS OF

REPRESENTATIVE FARMS

CHARACTERISTICS OF PANEL FARMS PRODUCING FEED GRAINS

- IAG950** A 950-acre Northwestern Iowa (Webster County) moderate size grain farm that plants 475 acres of corn and 475 acres of soybeans. The farm receives 55 percent of its receipts from corn.
- IAG2200** A 2,200-acre Northwestern Iowa (Webster County) large grain farm that plants 1,100 acres of corn and 1,100 acres of soybeans. The farm generates 56 percent of its receipts from corn.
- NEG800** An 800-acre South Central Nebraska (Phelps County) moderate size, 100 percent irrigated grain farm that plants 770 acres of corn, and 30 acres of alfalfa. The farm also has 100 breeding cows. The farm generates 92 percent of its receipts from corn.
- NEG1575** A 1,575-acre South Central Nebraska (Phelps County) large, 100 percent irrigated grain farm that plants 1,575 acres of corn. The farm generates about 97 percent of its receipts from corn.
- MOCG1500** A 1,500-acre Central Missouri (Carroll County) moderate size grain farm with 550 acres of corn, 250 acres of wheat, and 700 acres of soybeans. This farm is located in the Missouri river bottom and supplies feed to livestock producers in the region at a premium relative to other areas of Missouri. The farm generates about 44 percent of its receipts from corn and 42 percent from soybeans.
- MOCG3000** A 3,000-acre Central Missouri (Carroll County) large grain farm with 1,350 acres of corn, 300 acres of wheat, and 1,350 acres of soybeans. This farm is located in the Missouri river bottom and supplies feed to livestock producers in the region at a premium relative to other areas of Missouri. Corn generates about 54 percent of the farm's total revenue.
- MONG1200** A 1,200-acre Northern Missouri (Nodaway County) diversified grain farm with 525 acres of corn, 525 acres of soybeans, and 150 acres of hay. The farm also has 150 breeding cows and 80 breeding sows. The farm generates about 47 percent of its total revenue from corn and soybeans, 38 percent from hogs, and 13 percent from cattle.

Appendix Table A1. Characteristics of Representative Farms in Iowa, Missouri, and Nebraska Producing Feed Grains.

	IAG950	IAG2200	NEG800	NEG1575	MOCG1500	MOCG3000	MONG1200
County	Webster	Webster	Phelps	Phelps	Carroll	Carroll	Nodaway
Total Cropland	950	2,200	800	1,575	1,500	3,000	1,200
Acres Owned	320	320	400	1,040	750	1,500	600
Acres Leased	630	1,880	400	535	750	1,500	600
Pastureland							
Acres Owned	0	0	250	0	0	0	300
Acres Leased	0	0	250	0	0	0	300
Assets (\$1,000)							
Total	1,191	1,469	1,292	2,778	1,770	3,304	1,573
Real Estate	943	958	965	2,150	1,345	2,565	1,135
Machinery	197	416	273	573	350	559	255
Other & Livestock	51	96	54	55	76	180	183
Number of Livestock							
Beef Cows	0	0	100	0	0	0	150
Sows	0	0	0	0	0	0	80
1996 Gross Receipts (\$1,000)*							
Total	327.6	586.8	371.9	776.7	390.4	857.9	475.2
Cattle	0.0 0.00%	0.0 0.00%	29.6 8.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	63.3 13.30%
Hogs	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	181.2 38.10%
Corn	179.4 54.80%	327.1 55.80%	342.3 92.00%	756.7 97.40%	171.2 43.90%	462.5 53.90%	94.2 19.80%
Wheat	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	45.9 11.70%	57.3 6.70%	0.0 0.00%
Soybeans	148.2 45.20%	259.7 44.20%	0.0 0.00%	0.0 0.00%	163.2 41.80%	338.1 39.40%	130.5 27.50%
Hay	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	6.0 1.30%
Other Receipts	0.0 0.00%	0.0 0.00%	0.0 0.00%	20.0 2.60%	10.0 2.60%	0.0 0.00%	0.0 0.00%
1996 Planted Acres**							
Total	950	2,200	800	1,575	1,500	3,000	1,200
Corn	475.0 50.00%	1,100.0 50.00%	770.0 96.30%	1,575.0 100.00%	550.0 36.70%	1,350.0 45.00%	525.0 43.80%
Wheat	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	250.0 16.70%	300.0 10.00%	0.0 0.00%
Soybeans	475.0 50.00%	1,100.0 50.00%	0.0 0.00%	0.0 0.00%	700.0 46.70%	1,350.0 45.00%	525.0 43.80%
Hay	0.0 0.00%	0.0 0.00%	30.0 3.80%	0.0 0.00%	0.0 0.00%	0.0 0.00%	150.0 12.50%

*Receipts for 1996 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 1996 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.

CHARACTERISTICS OF PANEL FARMS PRODUCING FEED GRAINS (CONTINUED)

- TXNP1600** a 1,600-acre Northern High Plains of Texas (Moore County) moderate size, 100 percent irrigated grain farm with 470 acres of corn, 280 acres of sorghum, 642 acres of wheat, and 208 acres fallow. The farm generates 68 percent of its total receipts from feed grains.
- TXNP5500** A 5,500-acre Northern High Plains of Texas (Moore County) large, 85 percent irrigated grain farm with 2,200 acres of irrigated corn, 275 acres of irrigated sorghum, 1,675 acres of irrigated wheat, 800 acres of dryland wheat in the corners of all pivot irrigated fields, and 550 acres fallow. The farm generates about 72 percent of its receipts from feed grains.
- SCG1500** A 1,500-acre South Carolina (Clarendon County) moderate size grain farm with 600 acres of corn, 750 acres of double cropped wheat and soybeans, and 150 acres of full season soybeans. The farm generates 67 percent of its total receipts from corn and soybeans. This farm enjoys high returns on double cropped acreage but timing will not allow more than 750 acres.
- SCG3500** a 3,500-acre South Carolina (Clarendon County) large grain farm with 1,130 acres of corn, 1,670 acres of double crop wheat and soybeans, 350 acres of full season soybeans, and 350 acres of cotton. This farm enjoys high returns on double cropped acreage but timing is a limiting factor. The farm generates about 59 percent of its receipts from corn and soybeans.

Appendix Table A2. Characteristics of Representative Farms in Texas and South Carolina Producing Feed Grains.

	TXNP1600	TXNP5500	SCG1500	SCG3500
County	Moore	Moore	Clarendon	Clarendon
Total Cropland	1,600	5,500	1,500	3,500
Acres Owned	320	1,100	500	1,400
Acres Leased	1,280	4,400	1,000	2,100
Assets (\$1000)				
Total	568	2,144	933	3,007
Real Estate	185	647	567	1,954
Machinery	316	1,251	271	726
Other	67	246	95	327
1996 Gross Receipts (\$1,000)*				
Total	376.5	1,411.7	618.0	1,627.3
Corn	186.0 49.40%	949.9 67.30%	192.4 31.10%	404.4 24.90%
Sorghum	68.7 18.20%	67.0 4.70%	0.0 0.00%	0.0 0.00%
Wheat	121.9 32.40%	379.8 26.90%	205.5 33.30%	458.9 28.20%
Soybeans	0.0 0.00%	0.0 0.00%	220.1 35.60%	549.0 33.70%
Cotton	0.0 0.00%	0.0 0.00%	0.0 0.00%	192.6 11.80%
Other Receipts	0.0 0.00%	15.0 1.10%	0.0 0.00%	0.0 0.00%
1996 Planted Acres**				
Total	1,600	5,500	2,250	5,170
Corn	470.0 29.40%	2,200.0 40.00%	600.0 26.70%	1,130.5 21.90%
Sorghum	280.0 17.50%	275.0 5.00%	0.0 0.00%	0.0 0.00%
Wheat	642.0 40.10%	2,475.0 45.00%	750.0 33.30%	1,669.5 32.30%
Soybeans	0.0 0.00%	0.0 0.00%	900.0 40.00%	2,019.5 39.10%
Cotton	0.0 0.00%	0.0 0.00%	0.0 0.00%	350.0 6.80%
Fallow	208.0 13.00%	550.0 10.00%	0.0 0.00%	0.0 0.00%

*Receipts for 1996 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 crop.

**Acreages for 1996 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.

CHARACTERISTICS OF PANEL FARMS PRODUCING WHEAT

- WAW1500** A 1,500-acre Southeastern Washington (Whitman County) moderate size grain farm that plants 750 acres of wheat, 300 acres of barley, and 450 acres of peas. Disease problems require a rotation that includes a minimum amount of barley and peas in order to maintain wheat yields. The farm generates 67 percent of its receipts from wheat.
- WAW4250** A 4,250-acre Southeastern Washington (Whitman County) large grain farm that is harvesting 3,188 acres of wheat, 425 acres of barley, and 638 acres of peas. Disease problems require a rotation that includes a minimum amount of barley and peas in order to maintain wheat yields. Winter and spring wheat account for 86 percent of receipts.
- NDW1760** A 1,760-acre South Central North Dakota (Barnes County) moderate size grain farm that has 920 acres of wheat, 400 acres of barley, and 440 acres of sunflowers. Rotation and disease problems will not allow more than 25 percent of the acres to be planted to sunflowers. The farm receives about 52 percent of receipts from wheat.
- NDW4600** A 4,600-acre South Central North Dakota (Barnes County) large grain farm that plants 2,400 acres of wheat, 1,200 acres of barley, and 1,000 acres of sunflowers. Rotation and disease problems will not allow more than 25 percent of the acres to be planted to sunflowers. Wheat accounts for 52 percent of the farm's total gross receipts.
- KSSC1495** A 1,495-acre South Central Kansas (Sumner County) moderate size grain farm that plants 1,200 acres of wheat and 295 acres of grain sorghum. The farm generates 81 percent of its receipts from wheat.
- KSSC3080** A 3,080-acre South Central Kansas (Sumner County) large grain farm harvesting 2,464 acres of wheat, 462 acres of grain sorghum, and 154 acres of hay. The farm also has 67 breeding cows. The farm generates 81 percent of its receipts from wheat.
- KSNW2325** A 2,325-acre North Western Kansas (Thomas County) moderate size grain farm that plants 900 acres of wheat, 225 acres of grain sorghum, 225 acres of corn, and has 900 acres of fallow. The farm also has 100 breeding cows. The farm generates 55 percent of its receipts from wheat.
- KSNW4300** A 4,300-acre North Western Kansas (Thomas County) large grain farm harvesting 2,000 acres of wheat, 250 acres of grain sorghum, 250 acres of dryland corn, 240 of irrigated corn, 75 acres of hay, and 1485 acres of fallow. The farm also has 100 breeding cows. The farm generates 57 percent of its receipts from wheat.
- COW2700** A 2,700-acre Northeast Colorado (Washington County) moderate size grain farm that plants 1,100 acres of wheat, 400 acres of millet, 120 acres of corn, 810 acres fallow, and has 270 acres in CRP. This farm is using a smaller fallow rotation than its larger counterpart thus allowing it to harvest only 680 less acres per year. The farm generates 69 percent of its receipts from wheat.
- COW4000** A 4,000-acre Northeast Colorado (Washington County) large size grain farm that plants 1,700 acres of wheat, 600 acres of millet, and will leave 1700 acres in fallow. The 50/50 rotation on wheat and fallow makes the harvested acres on this farm closer to the harvested acres on the moderate size farm. Wheat produces 81 percent of the farms gross revenue.

Appendix Table A3. Characteristics of Representative Farms in Washington, North Dakota, Kansas, and Colorado Producing Wheat.

	W A W 1500	W A W 4250	NDW 1760	NDW 4600	KSSC1495	KSSC3080	KSNW 2325	KSNW 4300	COW 2700	COW 4000
County	Whitman	Whitman	Barnes	Barnes	Sumner	Sumner	Thomas	Thomas	Washington	Washington
Total Cropland	1,500	4,250	1,760	4,600	1,495	3,080	2,325	4,300	2,700	4,000
Acres Owned	750	1,700	400	1,840	498	330	930	1,075	1,650	2,000
Acres Leased	750	2,550	1,360	2,760	997	2,750	1,395	3,225	1,050	2,000
Pastureland										
Acres Owned	0	0	0	0	0	25	500	500	0	0
Acres Leased	0	0	0	0	0	775	500	500	0	0
Assets (\$1,000)										
Total	1,217	3,314	592	2,023	514	921	963	1,311	1,034	1,422
Real Estate	931	2,294	215	968	277	353	585	712	743	960
Machinery	241	763	321	874	223	454	294	474	246	369
Other & Livestock	45	257	56	181	14	114	84	124	45	93
Number of Livestock										
Beef Cows	0	0	0	0	0	67	100	100	0	0
1996 Gross Receipts (\$1,000)*										
Total	401.2	1,148.6	291.0	880.8	174.7	429.0	219.1	474.4	243.9	391.0
Cattle	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	21.8 5.10%	28.4 13.00%	28.8 6.10%	0.0 0.00%	0.0 0.00%
Wheat	266.7 66.50%	982.4 85.50%	152.1 52.30%	458.3 52.00%	141.0 80.70%	348.8 81.30%	120.5 55.00%	268.3 56.60%	168.2 69.00%	315.5 80.70%
Sorghum	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	33.8 19.30%	58.0 13.50%	27.2 12.40%	34.8 7.30%	0.0 0.00%	0.0 0.00%
Barley	63.9 15.90%	86.6 7.50%	62.9 21.60%	225.2 25.60%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%
Corn	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	42.3 19.30%	142.5 30.00%	15.4 6.30%	0.0 0.00%
Dry Peas	70.7 17.60%	79.6 6.90%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%
Sunflowers	0.0 0.00%	0.0 0.00%	70.9 24.40%	192.3 21.80%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%
Millet	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	54.2 22.20%	75.4 19.30%
Hay	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.4 0.10%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%
Other Receipts	0.0 0.00%	0.0 0.00%	5.0 1.70%	5.0 0.60%	0.0 0.00%	0.0 0.00%	0.7 0.30%	0.0 0.00%	6.1 2.50%	0.0 0.00%
1996 Planted Acres**										
Total	1,500	4,250	1,760	4,600	1,495	3,080	2,250	4,300	2,430	4,000
Wheat	750.0 50.00%	3,187.5 75.00%	920.0 52.30%	2,400.0 52.20%	1,200.0 80.30%	2,464.0 80.00%	900.0 40.00%	2,000.0 46.50%	1,100.0 45.30%	1,700.0 42.50%
Sorghum	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	295.0 19.70%	462.0 15.00%	225.0 10.00%	250.0 5.80%	0.0 0.00%	0.0 0.00%
Barley	300.0 20.00%	425.0 10.00%	400.0 22.70%	1,200.0 26.10%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%
Corn	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	225.0 10.00%	490.0 11.40%	120.0 4.90%	0.0 0.00%
Dry Peas	450.0 30.00%	637.5 15.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%
Sunflowers	0.0 0.00%	0.0 0.00%	440.0 25.00%	1,000.0 21.70%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%
Millet	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	400.0 16.50%	600.0 15.00%
Hay	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	154.0 5.00%	0.0 0.00%	75.0 1.70%	0.0 0.00%	0.0 0.00%
Fallow	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	900.0 40.00%	1,485.0 34.50%	810.0 33.30%	1,700.0 42.50%

*Receipts for 1996 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 1996 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.

CHARACTERISTICS OF PANEL FARMS PRODUCING COTTON

- CAC2000** A 2000-acre Central San Joaquin Valley California (Kings County) moderate size cotton farm that plants 1100 acres of cotton, 300 acres of wheat, 300 acres of corn and 300 acres of hay. The farm generates 65 percent of its gross income from cotton.
- CAC6000** A 6000-acre Central San Joaquin Valley California (Kings County) large cotton farm harvesting 3,000 acres of cotton, 720 acres of wheat, 240 acres of corn, 300 acres of hay, and 1,500 acres of vegetables. Vegetables on this farm vary from year to year depending on the price of the particular vegetable, however, the returns to this 1500 acres remain relatively stable over time. Cotton generates about 70 percent of this farm's receipts.
- TXSP1682** A 1,682-acre Texas Southern High Plains (Dawson County) moderate size cotton farm. The farm plants 961 acres of cotton (886 dryland and 75 irrigated), 95 acres of peanuts, and has 183 acres in CRP. This farm is starting to adopt the irrigation practices of its larger counterpart. The farm generates 81 percent of its receipts from cotton.
- TXSP3697** A 3,697-acre Texas Southern High Plains (Dawson County) large cotton farm. The farm plants 2,822 acres of cotton (2,094 dryland and 728 irrigated), 128 acres of peanuts and has 214 acres in CRP. Cotton generates 93 percent of this farm's receipts.
- TXRP2065** A 2,065-acre Texas Rolling Plains (Jones County) cotton farm that plants 1,240 acres of cotton and 825 acres of wheat. The farm also has 25 breeding cows and uses the wheat acreage to graze the cattle in the winter. About 65 percent of this farms receipts are derived from cotton. This farm represents the consolidation of two previous representative farms.
- TXBL1200** A 1,200-acre Texas Blacklands (Williamson County) moderate size cotton and grain farm with 400 acres of cotton, 350 acres of sorghum, 100 acres of wheat, and 350 acres of corn. This farm also has 50 breeding cows which are pastured on rented land that cannot be cropped. Cotton generates 42 percent of the farm's receipts.
- TXCB1700** A 1,700-acre Texas Coastal Bend (San Patricio County) cotton farm with 765 acres of cotton and 935 acres of grain sorghum. Severe disease problems force this farm to plant at a minimum 50 percent of the land to grain sorghum. About 61 percent of this farm's receipts are cotton receipts.

Appendix Table A4. Characteristics of Representative Farms in California and Texas Producing Cotton.

	CAC2000	CAC6000	TXSP1682	TXSP3697	TXRP2065	TXBL1200	TXCB1700
County	Kings	Kings	Dawson	Dawson	Jones	Williamson	San Patricio
Total Cropland	2,000	6,000	1,682	3,697	2,500	1,200	1,700
Acres Owned	1,000	5,400	653	705	400	150	300
Acres Leased	1,000	600	1,029	2,992	2,100	1,050	1,400
Pastureland							
Acres Owned	0	0	0	0	0	30	0
Acres Leased	0	0	0	0	500	210	0
Assets (\$1,000)							
Total	4,259	14,206	613	1,165	427	524	512
Real Estate	3,300	12,030	295	374	190	226	286
Machinery	796	1,658	288	668	212	266	216
Other & Livestock	163	519	29	122	25	32	10
Number of Livestock							
Beef Cows	0	0	0	0	25	50	0
1996 Gross Receipts (\$1,000)*							
Total	1,895.4	5,383.8	295.6	966.5	233.4	246.3	421.0
Cattle	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	6.2 2.70%	7.9 3.20%	0.0 0.00%
Cotton	1,229.5 64.90%	3,787.4 70.30%	240.1 81.20%	900.5 93.20%	149.9 64.20%	102.1 41.50%	257.5 70.00%
Sorghum	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	44.9 18.20%	126.5 30.00%
Wheat	131.3 6.90%	375.5 7.00%	0.0 0.00%	0.0 0.00%	56.8 24.40%	11.7 4.70%	0.0 0.00%
Corn	190.2 10.00%	138.7 2.60%	0.0 0.00%	0.0 0.00%	0.0 0.00%	59.0 24.00%	0.0 0.00%
Hay	344.4 18.20%	332.1 6.20%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%
Additional Peanuts	0.0 0.00%	0.0 0.00%	45.2 15.30%	57.4 5.90%	0.0 0.00%	0.0 0.00%	0.0 0.00%
Other Receipts	0.0 0.00%	750.0 13.90%	10.3 3.50%	8.6 0.90%	0.0 0.00%	0.0 0.00%	0.0 0.00%
1996 Planted Acres**							
Total	2,000	5,760	1,239	3,164	2,065	1,200	1,700
Cotton	1,100.0 55.00%	3,000.0 52.10%	961.0 77.60%	2,822.0 89.20%	1,240.0 60.00%	400.0 33.30%	765.0 45.00%
Sorghum	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	350.0 29.20%	935.0 55.00%
Wheat	300.0 15.00%	720.0 12.50%	0.0 0.00%	0.0 0.00%	825.0 40.00%	100.0 8.30%	0.0 0.00%
Corn	300.0 15.00%	240.0 4.20%	0.0 0.00%	0.0 0.00%	0.0 0.00%	350.0 29.20%	0.0 0.00%
Hay	300.0 15.00%	300.0 5.20%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%
Additional Peanuts	0.0 0.00%	0.0 0.00%	95.0 7.70%	128.0 4.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%
Vegetables	0.0 0.00%	1,500.0 26.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%
CRP	0.0 0.00%	0.0 0.00%	183.0 14.80%	214.0 6.80%	0.0 0.00%	0.0 0.00%	0.0 0.00%

*Receipts for 1996 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 1996 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.

CHARACTERISTICS OF PANEL FARMS PRODUCING RICE

- CAR424** A 424-acre Sacramento Valley California (Sutter and Yuba Counties) moderate size rice farm that plants 400 acres of rice. The farm generates 95 percent of its gross income from rice.
- CAR1365** A 1,365-acre Sacramento Valley California (Sutter and Yuba Counties) large rice farm that plants 1265 acres of rice. The farm generates about 98 percent of its gross income from rice.
- TXR2118** A 2,118-acre west of Houston, Texas (Wharton County) moderate size rice farm that harvests 600 acres of first crop rice and 510 acres of ratoon rice. The farm receives 99 percent of its gross receipts from rice.
- TXR3750** A 3,750-acre west of Houston, Texas (Wharton County) large rice farm that harvests 1500 acres of first-crop rice, 1275 acres of ratoon rice and 200 acres of hay. The farm also has 200 breeding cows. 96 percent of the farm's gross receipts are from rice.
- MOR1900** A 1,900-acre Southeastern Missouri (Butler County) moderate size rice farm with 616 acres of rice, 650 acres of soybeans, and 633 acres of corn. Rice accounts for 47 percent of this farm's receipts.
- MOR4000** A 4,000-acre Southeastern Missouri (Butler County) large rice farm with 1,710 acres of rice, 800 acres of soybeans, 1,250 acres of corn, and 240 acres of cotton. Fifty-six percent of this farm's receipts are generated from rice.
- ARR2645** A 2,645-acre Central Arkansas (Stuttgart County) moderate size farm with 687 acres of rice, 958 acres of soybeans, 230 acres of corn, and 450 acres of wheat. Rice accounts for 49 percent of this farms receipts. This farm was added to the AFPC database in 1998.
- ARR3400** A 3,400-acre Central Arkansas (Stuttgart County) large rice farm harvesting 1,300 acres of rice, 1,700 acres of soybeans, and 500 acres of wheat. Sixty percent of this farm's receipts are generated from rice production. This farm was added to the AFPC database in 1998.
- LAR1100** A 1,100-acre Louisiana (Jefferson Davis, Acadia, and Vermilion Parishes) moderate size rice farm harvesting 540 acres of rice, 362 acres of soybeans, and 198 acres of fallow. About 83 percent of this farm's receipts are generated by rice.

Appendix Table A5. Characteristics of Representative Farms in California, Texas, Missouri, Louisiana, and Arkansas Producing Rice.

	CAR424	CAR1365	TXR2118	TXR3750	MOR1900	MOR4000	ARR2645	ARR3400	LAR1100
County	Sutter	Sutter	Wharton	Wharton	Butler	Butler	Arkansas	Arkansas	Acadia
Total Cropland Acres Owned	424	1,365	2,118	3,750	1,900	4,000	2,645	3,400	1,100
Acres Leased	212	515	318	1,688	380	2,000	815	1,020	50
Pastureland Acres Owned	212	850	1,800	2,062	1,520	2,000	1,830	2,380	1,050
Assets (\$1,000)									
Total	694	1,985	558	1,935	1,482	5,547	1,722	2,785	302
Real Estate	446	1,327	197	1,138	846	3,942	1,050	1,780	78
Machinery	207	550	303	602	608	1,400	542	828	197
Other & Livestock	40	109	59	194	28	206	130	177	27
Number of Livestock									
Beef Cows	0	0	0	200	0	0	0	0	0
1996 Gross Receipts (\$1,000)*									
Total	363.8	1,133.5	487.9	1,385.0	662.4	1,932.8	772.8	1,052.4	329.2
Cattle	0.0 0.00%	0.0 0.00%	0.0 0.00%	32.7 2.40%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%
Medium Grain Rice	345.5 95.00%	1,113.9 98.30%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	109.3 14.10%	160.6 15.30%	95.7 29.10%
Long Grain Rice	0.0 0.00%	0.0 0.00%	480.9 98.60%	1,332.3 96.20%	316.2 47.70%	1,078.1 55.80%	266.3 34.50%	472.7 44.90%	177.6 53.90%
Soybeans	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	129.0 19.50%	197.9 10.20%	216.6 28.00%	333.2 31.70%	52.9 16.10%
Corn	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	217.2 32.80%	521.7 27.00%	75.8 9.80%	0.0 0.00%	0.0 0.00%
Wheat	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	100.7 13.00%	86.0 8.20%	0.0 0.00%
Cotton	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	135.0 7.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%
Other Receipts	18.3 5.00%	19.6 1.70%	7.0 1.40%	20.0 1.40%	0.0 0.00%	0.0 0.00%	4.0 0.50%	0.0 0.00%	3.0 0.90%
1996 Planted Acres**									
Total	400	1,265	1,110	2,975	1,899	4,000	2,325	3,500	1,100
Medium Grain Rice	400.0 100.00%	1,265.0 100.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	175.0 7.50%	325.0 9.30%	189.1 17.20%
Long Grain Rice	0.0 0.00%	0.0 0.00%	1,110.2 100.00%	2,775.0 93.30%	616.0 32.40%	1,710.0 42.80%	512.0 22.00%	975.0 27.90%	350.9 31.90%
Soybeans	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	650.0 34.20%	800.0 20.00%	958.0 41.20%	1,700.0 48.60%	361.9 32.90%
Corn	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	633.0 33.30%	1,250.0 31.30%	230.0 9.90%	0.0 0.00%	0.0 0.00%
Wheat	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	450.0 19.40%	500.0 14.30%	0.0 0.00%
Cotton	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	240.0 6.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%
Hay	0.0 0.00%	0.0 0.00%	0.0 0.00%	200.0 6.70%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%
Fallow	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	198.1 18.00%

*Receipts for 1996 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 1996 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.

CHARACTERISTICS OF PANEL FARMS PRODUCING MILK

- CAD1710** A 1710-cow Central California (Tulare County) large dairy farm that produces 21,800 pounds of milk per cow. The farm plants 200 acres of hay and 325 acres of silage for which it employs custom harvesting. Milk receipts generate 95 percent of all receipts.
- NMD2000** A 2000-cow Southern New Mexico (Dona Anna and Chaves County) large dairy farm that averages 22,400 pounds of milk per cow. Rather than plant any crops, this farm purchased all commodities necessary for blending its own total mixed ration. Milk sales account for 95 percent of cash receipts.
- WAD185** A 185-cow Northern Washington (Whatcom County) moderate size dairy farm that produces 25,500 pounds of milk per cow. The farm plants 115 acres of silage and generates 98 percent of its receipts from milk.
- WAD850** A 850-cow Northern Washington (Whatcom County) large dairy farm that produces 23,500 pounds of milk per cow. The farm plants 505 acres of silage and generates 97 percent of its receipts from milk.
- IDD500** A 500-cow Idaho (Twin Falls County) moderate size dairy farm that produces 21,000 pounds of milk per cow. The farm plants no crops. Milk is 91 percent of the farm's gross income.
- IDD1800** A 1800-cow Idaho (Twin Falls County) large dairy farm that produces 21,000 pounds of milk per cow. The farm plants 156 acres of hay and 398 acres of silage. Milk is 95 percent of the farm's gross income.
- TXCD400** A 400-cow Central Texas (Erath County) moderate size dairy farm that produces 16,100 pounds of milk per cow. The farm plants 120 acres of hay and 183 acres of silage. Milk is 95 percent of the farm's gross income.
- TXCD825** An 825-cow Central Texas (Erath County) large dairy farm that produces 19,200 pounds of milk per cow. The farm plants 430 acres for silage, 20 acres of haylage, and milk accounts for 96 percent of receipts.
- TXED210** A 210-cow East Texas (Hopkins County) moderate size dairy farm that produces 16,000 pounds of milk per cow. The farm plants 195 acres of hay and generates 90 percent of its receipts from milk.
- TXED650** A 650-cow East Texas (Lamar County) large dairy farm that produces 17,000 pounds of milk per cow. The farm plants 140 acres of hay and 360 acres of silage. The farm generates 93 percent of its receipts from milk.

Appendix Table A6. Characteristics of Representative Farms in California, New Mexico, Washington, Idaho, and Texas Producing Milk.

	CAD1710	NMD2000	WAD185	WAD850	IDD500	IDD1800	TXCD400	TXCD825	TXED210	TXED650
County	Tulare	Dona Ana	Whatcom	Whatcom	Twin Falls	Twin Falls	Erath	Erath	Hopkins	Lamar
Total Cropland	528	300	120	505	80	620	300	250	250	500
Acres Owned	528	300	60	250	80	620	150	250	200	500
Acres Leased	0	0	60	255	0	0	150	0	50	0
Pastureland										
Acres Owned	0	0	0	0	0	0	0	250	25	300
Acres Leased	0	0	0	0	0	0	150	0	0	0
Assets (\$1,000)										
Total	7,264	6,228	785	3,657	2,025	7,069	1,096	2,094	774	2,099
Real Estate	4,506	3,480	485	2,480	1,040	3,674	534	913	380	980
Machinery	412	403	62	286	257	423	200	231	104	284
Other & Livestock	2,346	2,345	238	890	728	2,972	362	950	290	835
Number of Livestock										
Dairy Cows	1,710	2,000	185	850	500	1,800	400	825	210	650
Cwt Milk/Cow	218	224	255	235	210	210	161	192	160	170
1996 Gross Receipts (\$1,000)*										
Total	5,242.6	6,401.1	697.8	2,962.7	1,609.5	5,557.0	1,018.5	2,499.3	558.0	1,772.5
Milk	4,969.8	6,071.5	682.9	2,886.4	1,460.6	5,254.4	970.5	2,395.9	501.3	1,648.7
	94.80%	94.90%	97.90%	97.40%	90.70%	94.60%	95.30%	95.90%	89.80%	93.00%
Dairy Cattle	272.8	329.6	14.8	76.3	148.9	302.6	48.0	103.3	56.6	123.8
	5.20%	5.10%	2.10%	2.60%	9.30%	5.40%	4.70%	4.10%	10.10%	7.00%
1996 Planted Acres**										
Total	525	0	115	505	0	554	303	450	195	500
Hay	200.0	0.0	0.0	0.0	0.0	156.0	120.0	0.0	195.0	140.0
	38.10%	0.00%	0.00%	0.00%	0.00%	28.20%	39.60%	0.00%	100.00%	28.00%
Silage	325.0	0.0	115.0	505.0	0.0	398.0	183.0	430.0	0.0	360.0
	61.90%	0.00%	100.00%	100.00%	0.00%	71.80%	60.40%	95.60%	0.00%	72.00%
Haylage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	4.40%	0.00%	0.00%

*Receipts for 1996 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 1996 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.

CHARACTERISTICS OF PANEL FARM PRODUCING MILK (CONTINUED)

- WID70** A 70-cow Eastern Wisconsin (Winnebago County) moderate size dairy farm that produces 20,500 pounds of milk per cow. The farm plants 37 acres of hay, 24 acres of silage, 89 acres of haylage, and 45 acres of corn. Milk makes up 92 percent of this farm's receipts.
- WID600** A 600-cow Eastern Wisconsin (Winnebago County) large dairy farm that produces 19,800 pounds of milk per cow. The farm plants 200 acres of silage, 450 acres of haylage, and 350 acres of corn. Milk accounts for 93 percent of the farm's receipts.
- MIED200** A 200-cow Michigan (Sanilac County) moderate size dairy farm that produces 22,000 pounds of milk per cow. The farm plants 170 acres of silage, 220 acres of corn, and 50 acres of wheat. Milk accounts for 94 percent of the farm's receipts.
- MICD140** A 140-cow Michigan (Isabella County) moderate size dairy farm that produces 20,300 pounds of milk per cow. The farm plants 70 acres of hay, 65 acres of silage, 110 acres of haylage, 175 acres of corn, and 70 acres of wheat. Milk accounts for 91 percent of the farm's receipts.
- NYWD700** A 700-cow Western New York (Wyoming County) moderate size dairy farm that produces 22,700 pounds of milk per cow. The farm plants 535 acres of silage and 450 acres of haylage. About 94 percent of the farm's receipts come from milk.
- NYWD1200** A 1200-cow Western New York (Wyoming County) large dairy farm that produces 21,700 pounds of milk per cow. The farm plants 825 acres of silage and 700 acres of haylage. Milk accounts for 96 percent of the farm's receipts.
- NYCD110** A 110-cow Central New York (Cayuga County) moderate size dairy farm that produces 22,000 pounds of milk per cow. The farm plants 49 acres of hay, 78 acres of silage, 84 acres of haylage, and 75 acres of corn. Milk accounts for 95 percent of the farm's receipts.
- NYCD300** A 300-cow Central New York (Cayuga County) large dairy farm that produces 21,500 pounds of milk per cow. The farm plants 170 acres of hay, 190 acres of silage, 298 acres of haylage, and 142 acres of corn. The farm generates 95 percent of its receipts from milk.
- VTD85** An 85-cow Vermont (Washington County) moderate size dairy farm that averages 22,400 pounds of milk per cow. The farm plants 60 acres of hay, 58 acres of silage, and 70 acres of haylage. Milk accounts for 92 percent of the receipts.
- VTD350** A 350-cow Vermont (Washington County) large dairy farm that averages 22,000 pounds of milk per cow. The farm plants 205 acres of hay, 200 acres of silage, and 177 acres of haylage. Milk accounts for 96 percent of the farm's receipts.

Appendix Table A7. Characteristics of Representative Farms in Wisconsin, Michigan, New York, and Vermont Producing Milk.

	WID70	WID600	MIED200	MICD140	NYWD700	NYWD1200	NYCD110	NYCD300	VTD85	VTD350
County	Winnebago	Winnebago	Sanilac	Isabella	Wyoming	Wyoming	Cayuga	Cayuga	Washington	Washington
Total Cropland	182	1,000	590	510	935	1,800	296	800	200	700
Acres Owned	152	400	363	300	800	1,200	250	700	140	525
Acres Leased	30	600	227	210	135	600	46	100	60	175
Pastureland										
Acres Owned	0	0	50	25	200	300	50	400	50	50
Acres Leased	0	0	0	0	0	0	0	0	0	50
Assets (\$1,000)										
Total	459	2,356	1,550	1,279	3,015	4,960	602	1,490	662	1,811
Real Estate	247	1,242	870	735	1,610	2,595	379	780	360	1,040
Machinery	90	190	313	284	291	593	92	213	135	260
Other & Livestock	122	925	367	260	1,114	1,772	131	497	168	512
Number of Livestock										
Dairy Cows	70	600	200	140	700	1,200	110	300	85	350
Cwt Milk/Cow	205	198	220	203	227	217	220	215	224	220
1996 Gross Receipts (\$1,000)*										
Total	226.5	1,858.2	685.4	447.7	2,495.5	4,036.4	377.1	1,012.9	316.8	1,220.8
Milk	208.8	1,726.8	645.0	407.7	2,356.0	3,861.6	359.4	957.8	289.7	1,174.3
	92.20%	92.90%	94.10%	91.10%	94.40%	95.70%	95.30%	94.60%	91.50%	96.20%
Dairy Cattle	17.7	131.4	32.5	40.0	139.5	174.8	17.7	55.0	25.5	46.5
	7.80%	7.10%	4.70%	8.90%	5.60%	4.30%	4.70%	5.40%	8.10%	3.80%
Wheat	0.0	0.0	7.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.00%	0.00%	1.20%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Other Receipts	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.50%	0.00%
1996 Planted Acres**										
Total	195	1,000	440	490	985	1,525	286	800	188	582
Hay	37.0	0.0	0.0	70.0	0.0	0.0	49.0	170.0	60.0	205.0
	19.00%	0.00%	0.00%	14.30%	0.00%	0.00%	17.10%	21.30%	31.90%	35.20%
Silage	24.0	200.0	170.0	65.0	535.0	825.0	78.0	190.0	58.0	200.0
	12.30%	20.00%	38.60%	13.30%	54.30%	54.10%	27.30%	23.80%	30.90%	34.40%
Haylage	89.0	450.0	0.0	110.0	450.0	700.0	84.0	298.0	70.0	177.0
	45.60%	45.00%	0.00%	22.40%	45.70%	45.90%	29.40%	37.30%	37.20%	30.40%
Corn	45.0	350.0	220.0	175.0	0.0	0.0	75.0	142.0	0.0	0.0
	23.10%	35.00%	50.00%	35.70%	0.00%	0.00%	26.20%	17.80%	0.00%	0.00%
W heat	0.0	0.0	50.0	70.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.00%	0.00%	11.40%	14.30%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

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**Acreages for 1996 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.

CHARACTERISTICS OF PANEL FARM PRODUCING MILK (CONTINUED)

- MOD85** An 85-cow Southwestern Missouri (Christian County) moderate size dairy farm that averages 15,600 pounds of milk per cow. The farm plants 220 acres of hay. About 91 percent of the farm's receipts come from milk.
- MOD300** A 300-cow Southwestern Missouri (Christian County) large dairy farm that averages 17,300 pounds of milk per cow. The farm plants 578 acres of hay and 107 acres of silage. Milk accounts for 96 percent of this farm's receipts.
- GAND175** A 175-cow Central Georgia (Putnam County) moderate size dairy farm that produces 18,000 pounds of milk per cow. Rather than plant any crops, this farm opts to purchase all of its feed requirements in the form of a premixed ration. Milk accounts for 96 percent of the farm's gross income.
- GASD650** A 650-cow Southern Georgia (Houston County) large dairy farm that produces 19,000 pounds of milk per cow. The farm plants 150 acres of hay and 400 acres of silage. Milk makes up 96 percent of the farm's receipts.
- FLND380** A 380-cow North Florida (Lafayette County) moderate size dairy farm that averages 17,000 pounds of milk per cow. The farm grows 200 acres of hay. All feed requirements, in addition to hay, are met through a purchased pre-mixed ration. Milk sales account for 95 percent of the farm's receipts. Excess hay sales provide one percent of cash receipts and are expected to provide supplemental sales from year to year.
- FLSD2000** A 2000-cow South Central Florida (Okeechobee County) large dairy farm that produces 16,500 pounds of milk per cow. The farm grows 1,210 acres of hay. In addition to grass hay, grass silage, and pasture, cows receive a purchased premixed ration. Milk sales generate 94 percent of its receipts.

Appendix Table A8. Characteristics of Representative Farms in Missouri, Georgia, and Florida Producing Milk.

	MOD85	MOD300	GAND175	GASD650	FLND380	FLSD2000
County	Christian	Christian	Putnam	Houston	Layfayette	Okeechobee
Total Cropland	220	685	0	350	590	2,250
Acres Owned	140	450	0	300	440	2,250
Acres Leased	80	235	0	50	150	0
Pastureland						
Acres Owned	55	20	200	150	60	0
Acres Leased	55	100	0	0	0	0
Assets (\$1,000)						
Total	510	1,460	492	1,926	1,202	5,233
Real Estate	295	882	280	886	700	2,750
Machinery	104	217	38	284	70	210
Other & Livestock	111	360	175	757	432	2,273
Number of Livestock						
Dairy Cows	85	300	175	650	380	2,000
Cwt Milk/Cow	156	173	180	190	170	165
1996 Gross Receipts (\$1,000)*						
Total	218.9	819.6	532.1	2,088.3	1,194.4	6,175.5
Milk	199.6 91.20%	782.6 95.50%	511.9 96.20%	2,006.9 96.10%	1,133.7 94.90%	5,791.5 93.80%
Dairy Cattle	19.4 8.80%	37.0 4.50%	20.3 3.80%	81.4 3.90%	47.5 4.00%	384.0 6.20%
Hay	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	13.2 1.10%	0.0 0.00%
1996 Planted Acres**						
Total	220	685	0	550	200	1,210
Hay	220.0 100.00%	578.0 84.40%	0.0 0.00%	150.0 27.30%	200.0 100.00%	1,210.0 100.00%
Silage	0.0 0.00%	107.0 15.60%	0.0 0.00%	400.0 72.70%	0.0 0.00%	0.0 0.00%

*Receipts for 1996 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 1996 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.

CHARACTERISTICS OF PANEL FARMS PRODUCING BEEF CATTLE

- MTB400** A 400-cow ranch located in the eastern plains of Montana (Custer County). The ranch runs cows on a combination of owned, federal, state, and private lease land. One quarter of its total Animal Unit Month grazing needs come from federal land and the ranch owns 14,000 acres of pasture. Of the total land owned, 440 acres are planted for hay. Cattle generates 100 percent of the total receipts on the ranch.
- WYB300** A 300-cow ranch located in North Central Wyoming (Washakie County). The ranch harvests hay from 200 acres of owned cropland, and it owns another 1000 acres of pastureland. Rangeland leased from the Forest Service provides 42 percent of the ranch's grazing needs. Cattle generates 99 percent of the total receipts on the ranch.
- COB300** A 300-cow ranch located in Northwest Colorado (Routt County). Federal land provides 7 percent of the ranch's AUM needs. Hay is produced on 400 acres of the pasture-hay land, of which the ranch owns 300 acres. The ranch owns 1800 acres of pastureland, and the cattle graze the federal land during the summer months. Cattle generates 89 percent of the total receipts on the ranch. This ranch participates in a retained ownership program through the feedlot with 75% of the steers raised.

Appendix Table A9. Characteristics of Representative Farms in Montana, Wyoming, and Colorado Producing Beef Cattle.

	MTB400	WYB300	COB300
County	Custer	Washakie	Routt
Total Cropland	0	200	400
Acres Owned	0	200	300
Acres Leased	0	0	100
Pastureland			
Acres Owned	14,000	1,000	1,800
Federal AUM"S Leased	1,350	1,500	250
State & Private AUM"s	450	160	630
Assets (\$1000)			
Total	1,553	580	2,707
Real Estate	1,260	345	2,400
Machinery	97	75	105
Other & Livestock	195	160	202
Number of Livestock			
Beef Cows	400	300	300
1996 Gross Receipts (\$1,000)*			
Total	103.1	87.6	139.5
Cattle	103.1 100.00%	87.3 99.70%	123.8 88.70%
Hay	0.0 0.00%	0.3 0.30%	3.7 2.70%
Other Receipts	0.0 0.00%	0.0 0.00%	12.0 8.60%
1996 Planted Acres**			
Total	440	200	400
Hay	440.0 100.00%	200.0 100.00%	400.0 100.00%

*Receipts for 1996 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 1996 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.

CHARACTERISTICS OF PANEL FARMS PRODUCING HOGS

- MOH100** A 100-sow hog farm located in North Central Missouri (Carroll County). The farm plants 160 acres of corn, 80 acres of soybeans, 80 acres of wheat, and 40 acres of hay. The farm also has 25 breeding cows. The farm weans 16 pigs per sow in a year and has a feeding efficiency measure of 3.4 pounds of feed per pound of pork sold. Hogs generate 82 percent of the farm's total receipts while crops produce another 15 percent of receipts.
- MOH225** A 225-sow hog farm located in North Central Missouri (Carroll County). The farm plants 400 acres of corn, 400 acres of soybeans, and 200 acres of wheat. This farm feeds 3.7 pounds of feed for every pound of pork sold and averages 19 pigs weaned per sow per year. The hog enterprise generates about 81 percent of the total receipts for the farm. The remainder of total receipts is generated in crop sales.
- ILH200** A 200-sow hog farm located in Western Illinois (Knox County). The farm plants 750 acres of corn, 610 acres of soybeans, and 20 acres of wheat. This farm weans 17 pigs/sow/year and operates on 3.5 pounds of feed per pound of pork sold. The hog operation produces about 60 percent of the farm's total receipts while the sale of crops accounts for about 40.
- ILH750** A 750-sow hog farm located in Western Illinois (Knox County). The farm plants 1080 acres of corn and 720 acres of soybeans. This farm will wean an average of 22 pigs per sow in a year, and feeds about 3.1 pounds of feed per pound of pork sold in a year. The hog enterprise generates 88 percent of the total receipts on the farm. Corn and soybean sales account for the remaining 11 percent.
- INH150** A 150-sow hog farm located in North Central Indiana (Carroll County). The farm plants 750 acres of corn, 225 acres of soybeans, and 25 acres of wheat. The farm feeds 3.3 pounds of feed per pound of pork sold and weans 17 pigs/sow/year. About 58 percent of the farm's receipts come from hogs, and the remainder of receipts are generated through crop sales.
- INH600** A 600-sow hog farm located in North Central Indiana (Carroll County). The farm plants 1500 acres of corn, 700 acres of soybeans, and 50 acres of wheat. The farm is able to wean 20 pigs per sow per year and feed 3.3 pounds of feed per pound of pork sold. The hog operation accounts for approximately three quarters of the farm's total receipts. The other quarter of receipts comes from crop sales.
- NCH350** A 350-sow hog farm located in Eastern North Carolina (Wayne County). The farm plants 100 acres of hay to dispose of waste from the farrow-to-finish hog operation but does not plant any crops for feed. All feed for the operation is purchased. The farm will wean 19.5 pigs per sow per year and will feed 3.0 pounds of feed per pound of pork sold. The sale of hogs produces 100 percent of the farm's receipts.
- NCH13268** A 13,268-sow hog farm located in Eastern North Carolina (Wayne County). The operation contracts with individual farmers who provide on-site management, labor, and facilities. The operation provides hogs, purchased feed, and specialized labor for its group of contract farrowing, nursery, and finishing farms. On average the farm will wean 20 pigs per sow per year. A measure of feed efficiency for this operation is 2.9 pounds of feed per pound of pork sold. 100 percent of the farm's receipts are produced from the sale of hogs.

Appendix Table A10. Characteristics of Representative Farms in Missouri, Illinois, Indiana, and North Carolina Producing Hogs.

	MOH100	MOH225	ILH200	ILH750	INH150	INH600	NCH350	NCH13268
County	Carroll	Carroll	Knox	Knox	Carroll	Carroll	Wayne	Wayne
Total Cropland	330	1,020	1,400	1,800	1,020	2,250	100	0
Acres Owned	220	520	400	950	300	800	100	0
Acres Leased	110	500	1,000	850	720	1,450	0	0
Pastureland								
Acres Owned	100	0	0	0	0	0	0	0
Assets (\$1,000)								
Total	658	1,621	2,077	5,255	1,565	4,418	1,296	19,078
Real Estate	481	1,073	1,420	3,590	1,165	2,804	745	1
Machinery	62	256	320	448	218	819	87	16
Other & Livestock	115	292	337	1,217	181	794	465	19,061
Number of Livestock								
Beef Cows	25	0	0	0	0	0	0	0
Sows	100	225	200	750	150	600	350	13,268
1996 Gross Receipts (\$1,000)*								
Total	262.0	674.9	763.5	2,405.9	606.6	2,226.4	949.6	35,086.3
Cattle	7.3 2.80%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%
Hogs	214.5 81.90%	547.2 81.10%	454.0 59.50%	2,122.4 88.20%	349.6 57.60%	1,643.5 73.80%	949.6 100.00%	35,086.3 100.00%
Corn	3.0 1.10%	6.4 1.00%	135.0 17.70%	25.4 1.10%	186.2 30.70%	306.6 13.80%	0.0 0.00%	0.0 0.00%
Soybeans	21.7 8.30%	85.9 12.70%	166.8 21.80%	258.1 10.70%	64.7 10.70%	260.0 11.70%	0.0 0.00%	0.0 0.00%
W heat	15.4 5.90%	35.3 5.20%	5.2 0.70%	0.0 0.00%	6.1 1.00%	16.3 0.70%	0.0 0.00%	0.0 0.00%
Other Receipts	0.0 0.00%	0.0 0.00%	2.5 0.30%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%
1996 Planted Acres**								
Total	360	1,000	1,380	1,800	1,000	2,250	100	0
Corn	160.0 44.40%	400.0 40.00%	750.0 54.30%	1,080.0 60.00%	750.0 75.00%	1,500.0 66.70%	0.0 0.00%	0.0 0.00%
Soybeans	80.0 22.20%	400.0 40.00%	610.0 44.20%	720.0 40.00%	225.0 22.50%	700.0 31.10%	0.0 0.00%	0.0 0.00%
W heat	80.0 22.20%	200.0 20.00%	20.0 1.40%	0.0 0.00%	25.0 2.50%	50.0 2.20%	0.0 0.00%	0.0 0.00%
Hay	40.0 11.10%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	0.0 0.00%	100.0 100.00%	0.0 0.00%

*Receipts for 1996 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 1996 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.

APPENDIX B:
LIST OF PANEL FARM
COOPERATORS

FEED GRAIN FARMS

Iowa

Facilitators

Mr. Jim Patton - Webster County Extension Agent
Dr. William Edwards - Professor and Extension Economist, Iowa State University

Panel Participants

Mr. Phil Naeve	Mr. Dennis Ammen	
Mr. Larry Lynch		Mr. John Ricke
Mr. Don Sandell		Mr. Britt Shelton
Mr. Bob Anderson		Mr. Virgil Gordon
Mr. Larry Lane		Mr. Merv Berg
Mr. Perry Black		Mr. and Mrs. Jim Carver
Mr. Loren Wuebker		

Nebraska

Facilitators

Mr. Gary Hall - Phelps County Agricultural Extension Agent
Dr. Roger Selley - Extension Farm Management Specialist, University of Nebraska
Mr. Joe Trujillo-University of Missouri-Columbia

Panel Participants

Mr. Frank Hadley	Mr. Tom Schwarz
Mr. Gary Robison	Mr. Tony Davis
Mr. Kerry Blythe	Mr. Johnny Nelson
Mr. Brian Johnson	Mr. Phil High

Missouri

Facilitator

Mr. Parman Green - Farm Management Specialist, University of Missouri - Columbia

Panel Participants

Mr. Larry Davies	Mr. Clifford Lyons
Mr. Ron Gibson	Mr. Ron Linneman
Mr. Ron Venable	Mr. Glenn Kaiser
Mr. Gerald Kitchen	Mr. Jack Harriman
Mr. John Vogelsmeier	Mr. Jim Wheeler

Texas - Northern High Plains

Facilitators

Mr. Robert Harris - Moore County Agricultural Extension Agent
Dr. Steve Amosson - Extension Economist - Management, Texas A&M University

Panel Participants

Mr. Kyle Williams	Mr. Wesley Spurlock
Mr. Ellis Moore	Mr. Marion Garland
Mr. Ronnie Williams	Mr. Tom Moore
Mr. Kerri Cartwright	

FEED GRAIN FARMS CONTINUED

Northern Missouri

Facilitator

Mr. Mike Killingsworth - Farm Management Consultant, Maryville, Missouri

Mr. Joe Trujillo-University of Missouri-Columbia

Panel Participants

Mr. Jack Baldwin

Mr. Don Mobley

Mr. Roger Vest

Mr. Gary Ecker

Mr. Kevin Rosenbohm

South Carolina

Facilitator

Mr. Toby Boring - Extension Agricultural Economist, Clemson University

Panel Participants

Mr. Harry DuRant

Mr. Steve Lowder

Mr. John Ducworth

Mr. Billy Davis

Mr. Tom Jackson

Mr. John Spann

Mrs. Vikki Brogdon

Mr. Chris Cogdill

Mr. Leslie McIntosh

WHEAT FARMS

Washington

Facilitators

Mr. John Burns - Whitman County Agricultural Extension Agent
Dr. Herb Hinman - Extension Economist, Washington State University
Mr. Earl Aehlschlaeger - Adult Farm Management, Community College of Spokane

Panel Participants

Mr. Brian Largent	Mr. Greg Largent
Mr. Bruce Nelson	Mr. John Whitman
Mr. Asa Clark	Mr. Henry Sues
Mr. David Harlow	

North Dakota

Facilitators

Mr. Lester Stuber - Barnes County Agricultural Extension Agent
Mr. Dwight Aakre - Extension Associate - Farm Management, North Dakota State University

Panel Participants

Mr. Mike Clemens	Mr. Ray Haugen
Mr. Arvid Winkler	Mr. Jon Owen
Mr. Wade Bruns	Mr. Lloyd Thilmony
Mr. Jack Formo	Mr. Greg Shanenko

South Central Kansas

Facilitators

Mr. Gerald Le Valley - Sumner County Agricultural Extension Agent
Mr. Glen Brunkow - Harper County Extension Agent
Mr. Arlen Suderman - Sedgwick County Extension Agent
Mr. Fred Delano - Administrator of Farm Management Association Program, Kansas State University

Panel Participants

Mr. Robert White	Mr. Joe Allen
Mr. Nick Steffen	Mr. Tim Turek
Mr. Donald Applegate	Mr. David Messengerr

Colorado

Facilitators

Mr. Don Nitchie - Director, Farm Mgmt/Marketing, Colorado State University Cooperative Extension
Dr. Paul H. Gutierrez - Associate Professor, Colorado State University

Panel Participants

Mr. Terry Kuntz	Mr. John Hickert
Mr. Calvin Schaffert	Mr. Marlin E. Snyder
Mr. John Wright	Mr. Bill Rodwell
Mr. Cliff Fletcher	Mr. Gerry Ohr
Mr. David Foy	Mr. Rick Lewton
Mr. Leland Willeke	

WHEAT FARMS CONTINUED

Northwestern Kansas

Facilitators

Mr. Rich Wahl - Extension Agricultural Economist, Farm Management Assoc., Kansas State University

Mr. Scott Docken - Extension Agricultural Economist, Farm Management Association, KSU

Mr. Mark Wood - Extension Agricultural Economist, Farm Management Association, KSU

Mr. Dan Obrien - Extension Agricultural Economist, Farm Management Association, KSU

Mr. Fred Delano - Administrator of Farm Management Association Program, Kansas State University

Panel Participants

Mr. Harold Mizell

Mr. Brian Laufer

Mr. Lee Jueneman

Mr. Lance Leebrick

Mr. Lyman Goetsch

Mr. Gerald Huessman

Mr. Steve Schertz

Mr. Dennis Franklin

Mr. Rich Calliham

Mr. Vernon Akers

COTTON FARMS

California

Facilitator

Mr. Bruce A. Roberts - Kings County Director and Farm Advisor, University of California
Cooperative Extension

Panel Participants

Mr. Mark Hansen	Mr. Wayne Wisecarver
Mr. Steve Boyett	Mr. Craig Pedersen
Mr. Ernie Taylor	Mr. Dave Smith
Mr. John Diener	Mr. Bill Tos
Mr. Jeff Hildebrand	Mr. David Costa

Texas - Southern High Plains

Facilitators

Mr. John Farris - Dawson County Agricultural Extension Agent
Dr. Jackie Smith - Extension Economist - Management, Texas A&M University

Panel Participants

Mr. Nolan Vogler	Mr. Donald Vogler
Mr. Milton Schneider	Mr. Kent Nix
Mr. Dave Nix	Mr. Mark Furlow
Mr. Allan Gibson	Mr. Norris Barron
Mr. Glen Phipps	

Texas - Rolling Plains

Facilitators

Mr. Todd Vineyard - Ellis County Agricultural Extension Agent
Mr. Stan Bevers - Extension Economist - Management, Texas A&M University

Panel Participants

Mr. Steve Blankenship	Mr. Mark Lundgren
Mr. James Seidenberger	Mr. B.C. Spraberry
Mr. Ronnie Richmond	Mr. and Mrs. Darrell Richards
Mr. Mike Gray	Mr. David Cook
Mr. Glen Gilbreath	Mr. Ronnie Riddle

Texas - Blacklands

Facilitator

Mr. Ronald Leps - Williamson County Agricultural Extension Agent

Panel Participants

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

Texas - Coastal Bend

Facilitators

Dr. Rick Jahn - San Patricio-Aransas Counties Agricultural Extension Agent
Dr. Larry Falconer - Extension Economist - Management, Texas A&M University

Panel Participants

Mr. Brad Bickham	Mr. Darby Salge
Mr. Clarence Chopelas	Mr. Howard Salge

RICE FARMS

Arkansas

Facilitator

Mr. Bill Free, Riceland Foods, Inc.

Panel Participants

Mr. David Feilkie

Mr. Derek Bohanan

Mr. David Jessup

Texas

Facilitator

Dr. Ed Rister - Professor, Texas A&M University

Mr. W. A. "Billy" Hefner, III

Mr. Ronald Gertson

Mr. Jim Wiese

Mr. Glen Rod

Mr. Kenneth "Peter" Stelzel

Mr. Steve Balas

Panel Participants

Mr. Andy Anderson

Mr. Madison H. Smith

Mr. John Waligur

Mr. Layton Raun

Mr. Jason Hlavinka

California

Facilitator

Mr. Jack Williams - Farm Advisor, Sutter and Yuba Counties, University of California
Cooperative Extension

Panel Participants

Mr. Bill Baggett

Mr. Frank Rosa

Mr. Jack DeWitt

Mr. Wayne Vineyard

Mr. Don Staas

Mr. Paul Lower

Mr. Ned Lemenager

Mr. Scott Tucker

Missouri

Facilitators

Mr. Bruce Beck - Farmer's Agronomy Specialist, University of Missouri - Columbia

Mr. David Reinbott - Farm Management Specialist, University of Missouri - Columbia

Mr. Joe Trujillo-University of Missouri-Columbia

Panel Participants

Mr. Sonny Martin

Mr. Fred Tanner

Mr. Bruce Yarbrow

Mr. J. D. Sifford

Mr. C. P. Johnson

Mr. Mike Mick

Mr. Davis Minton

Mr. Rick Spargo

Mr. Floyd Page

Mr. Cloyce Sowell

Mr. Dale Conner

Louisiana

Facilitators

Mr. Eddie Eskew - County Agent, Louisiana Cooperative Extension Service

Mr. Howard J. Cormier - County Agent, Louisiana Cooperative Extension Service

Mr. Ronnie Levy - County Agent/Parrish Chairman, Louisiana Cooperative Extension Service

Mr. D. L. Eugene (Gene) Johnson - Specialist in Marketing, Louisiana Cooperative Extension
Service, Natural Resources and Economic Development

Panel Participants

Mr. Alden Horten

Mr. Brian Wild

Mr. Tommy Faulk

Mr. Allan McLain

Mr. Jackie Loewes

DAIRY FARMS

California

Facilitator

Mr. Jack Prince - President, Dairyman's Cooperative Creamery Assoc.

Panel Participants

Mr. Dave Rebeiro

Mr. Phillip Rebeiro

Mr. Bill Van Beek

Mr. Bob Wilbur

New Mexico

Facilitator

Dr. Robert Schwart - Professor and Extension Economist, Texas A&M University

Panel Participants

Mr. Brad Bouma

Mr. Mike McClosky

Mr. Joe Gonzalez

Mr. Von Hilburn

Mr. Tony Bos

Mr. Dean Harton

Mr. Mark Reischman

Washington

Facilitator

Mr. David C. Grusenmeyer - Professor and Extension Dairy Specialist, Washington State University

Panel Participants

Mrs. Star Hovander

Mr. Ron Bronsema

Mr. Keith Boon

Mr. Jim Heeringa

Mr. Rod DeJong

Mr. & Mrs. Pete DeJager

Mr. Dick Bengen

Mr. Greg McKay

Mr. Ed Pomeroy

Mr. Dave Buys

Idaho

Facilitator

Mr. Dean Falk - Extension Dairy Specialist, University of Idaho

Dr. Wilson Grey - Farm Management Specialist - University of Idaho

Panel Participants

Mr. & Mrs. Martin Lee

Mr. Harry Hogland

Mr. Michael Quesnell

Mr. Greg Ledbetter

Mr. Bill Stouder

Mr. Rick Thompson

Mr. John Beukers

Mr. Jack Van Beek

Mr. Adrian Boer

Mr. Reagon Hatch

Mr. Alan Gerratt

Mr. Hank Hafliger

Mr. Randy Tolman

Texas - Central

Facilitator

Mr. Joe Pope - Erath County Agricultural Extension Agent

Panel Participants

Mr. Lane Jones

Mr. Robert Ervin

Mr. Leonard Moncrief

Mr. Bob Strona

Mr. Jack Parks

Mr. Jake Van Vlie

Mr. Owen Sieperda

Mr. Brian Parish

DAIRY FARMS CONTINUED

Texas - Eastern

Facilitator

Mr. Dale Haygood - Zone Manager, Associated Milk Producers, Inc.

Panel Participants

Mr. George Tenberg

Mr. Michael Mund

Mr. Greg Inman

Mr. Hershel Kelsoe

Mr. Tim Spiva

Mr. Larry Ellison

Mr. Harold Bryant

Mr. W.D. Wafford

Mr. Timothy Norris

Missouri

Facilitator

Mr. Ron Young - Christian County Extension Dairy Specialist, Retired

Panel Participants

Mr. John Mallonee

Mr. Allen Sulgrove

Mr. & Mrs. Doug Owen

Mr. Dan Clemens

Mr. & Mrs. Freddie Martin

Mr. John Atkinson

Mr. Wayne Whitehead

Mr. Joe Peebles

Mr. Larry Winfree

Michigan

Facilitator

Mr. Mike McFadden - Extension Dairy Agent - Michigan State University

Dr. Craig Thomas - Extension Dairy Agent - Michigan State University Extension

Mr. Wes Lane - Director- Communications Division - Dairy Farmers of Ontario

Dr. Sherrill Nott - Farm Management Specialist - Michigan State University

Panel Participants

Mr. Tom Fox

Mr. Ron McDonald

Mr. Keith Moeggenberg

Mr. Bryan Neyer

Mr. Bob Pasch

Mr. Jerry Varner

Mr. Jim Wilson

Mr. Mike Fagan

Mr. & Mrs. Don Hopper

Mr. Jim Reid

Mr. Jason Shinn

Mr. Duane Stuever

Florida

Facilitators

Mr. Chris Vann - Lafayette County Agricultural Extension Agent

Mr. Art Darling - Dairy Farms, Inc.

Panel Participants

Mr. Keith Rucks

Mr. Brad Hester

Mr. Louis Shiver

Mr. Kevin Jackson

Mr. Bill Shaw

Mr. Boyd Rucks

Mr. Edward Thomas

Mr. Everett Kerby

Mr. Glynn Rutledge

Mr. Tommy Rucks

Mr. Rodney Land

Georgia

Facilitator

Mr. Bill Thomas - Professor and Extension Economist, University of Georgia

Panel Participants

Mr. Carlton McMichael

Mr. Lamar Anthony

Mr. Mike Rainey

Mr. Earnest Turk

Mr. Ronny Parham

Mr. Raymond Hunter

Mr. Bill Boyce

Mr. Tom Thompson

Mr. Bernard Sims

Mr. Henry Cabaniss

Mr. Terry Embry

Mr. Tim Camp

DAIRY FARMS CONTINUED

Wisconsin

Facilitator

Mr. Jeff Key - Winnebago County Agricultural Extension Agent

Panel Participants

Mr. David Allen	Mr. Joe Bonlender
Mr. Larry Engel	Mr. Glenn Armstrong
Mr. Ronald Miller	Mr. Doug Hodorff
Mr. Pete Knigge	Mr. Fred Kasten
Mr. Edwin Davis	Mr. Jerome Schmidt
Mr. Dean Hughes	Mr. Carl Theonis
Mr. Jeff Bradley	Mr. Mike Bradley
Mr. Pat Brennand	Mr. Ben Hughes
Mr. Jeff Meulmans	Mr. Bob Staudinger

New York - Western

Facilitator

Mr. Jason Karszes - Cornell Cooperative Extension Service

Panel Participants

Mr. Gary Van Slyke	Mr. Dick Popp
Mr. Willard DeGolyer	Mr. Bill Fitch
Mr. George Mueller	Mr. John Emerling
Mr. Peter Dueppengiesser	Mr. Kent Miller
Mr. John Mueller	

New York - Central

Facilitator

Dr. Wayne Knoblauch - Professor, Cornell University

Panel Participants

Mr. Gary Mutchler	Mr. Ron Space, Jr.
Mr. Bill Head	Mr. Mike Learn
Mr. David Shurtleff	Mr. Dale Van Erden
Mr. & Mrs. Tom Brown	

Vermont

Facilitator

Dr. Rick Wackernagel - Professor, University of Vermont

Panel Participants

Mr. Steve Hurd	Mr. Kim Harvey
Mr. Hank Nop	Mr. Everett Maynard
Mr. Steve Ovellette	Mr. Stanley Scribner
Mr. Ted Foster	Mr. Roger Rainville
Mr. Reg Chaput	Mr. Paul Gingue
Mr. Onan Whitcomb	Ms. Sally Goodrich
Mr. Mark Rodgers	

BEEF PRODUCERS

Montana

Facilitators

Mr. Olaf Sherwood - Custer County Agricultural Extension Agent
Dr. Alan Baquet - Farm Management Specialist, Montana State University

Panel Participants

Mr. Dee Murray
Mr. Jean Robinson

Mr. Donald Ochsner
Mr. Art Drange

Colorado

Facilitator

Mr. C.J. Mucklow - Routt County Agricultural Extension Agent

Panel Participants

Mr. Doug Carlson
Mr. Charlie Cammer
Mr. Jay Fetcher
Mr. Pud Stetson

Mr. Dean Rossi
Mr. Wayne Shoemaker
Mr. Larry Monger
Mr. Jim Rossi

Wyoming

Facilitators

Mr. Jim Gill, County Extension Agent, Washakie County
Dr. Larry Van Tassell - University of Wyoming

Panel Participants

Mr. Bill Greer
Mr. Ray Rice

Mr. Gary Rice
Mr. Jim Foreman

HOG FARMS

Illinois

Facilitator

Mr. Don Teel - Retired Knox County Agricultural Extension Agent

Panel Participants

Mr. David Hawkinson

Mr. Kevin Maine

Mr. Dale Carlson

Mr. David Bowman

Mr. Mike Hennenfent

Mr. John Gustafson

Mr. Sterling Saline

Mr. Steve Maine

Mr. Don Erickson

Mr. Lance Humphreys

Mr. Bob Hennenfent

Dr. Donald G. Reeder

Indiana

Facilitator

Mr. Steve Nichols - Carroll County Agricultural Extension Agent

Dr. Chril Hurt - Extension Farm Management Specialist - Purdue University

Panel Participants

Mr. Rick Brown

Mr. Larry Trapp

Mr. Sam Zook

Mr. Bill Pickart

Mr. Levi Huffman

Mr. Brad Burton

Mr. Trent Odell

Mr. Mark Martin

Missouri

Facilitator

Mr. Parman Green - Farm Management Specialist, University of Missouri - Columbia

Panel Participants

Mr. Larry Charles

Mr. Dale Miles

Mr. Vernon Thoeni

Mr. John Vogelsmeier

Mr. Herbert Kiehl

Mr. Paul Benedict

Mr. R. David Hemme

Mr. Gary L. Sanders

Mr. Robert S. Mayden

Mr. Matt Reichert

Mr. Richard Clemens

North Carolina

Facilitators

Mr. Mike Regans - Wayne County Agricultural Extension Agent

Dr. Kelly Zering - Associate Professor and Extension Specialist, North Carolina State University

Mr. Jeff Chandler - Wayne County Agricultural Extension Agent

Panel Participants

Mr. Ben Outlaw

Mr. David Harrell Overman

Mr. Charlie McClenny

Mr. Ronald Parks

Mr. David Sanderson

Mr. Frankie Warren

Mr. Jeff Hansen

Mr. John Dawson

Mr. R.H. Mohesky