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

AFPC Working Paper 98-1

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**AFPC**

**AGRICULTURAL & FOOD POLICY CENTER**
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# REPRESENTATIVE FARMS ECONOMIC OUTLOOK FOR THE JANUARY 1998 FAPRI/AFPC BASELINE

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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

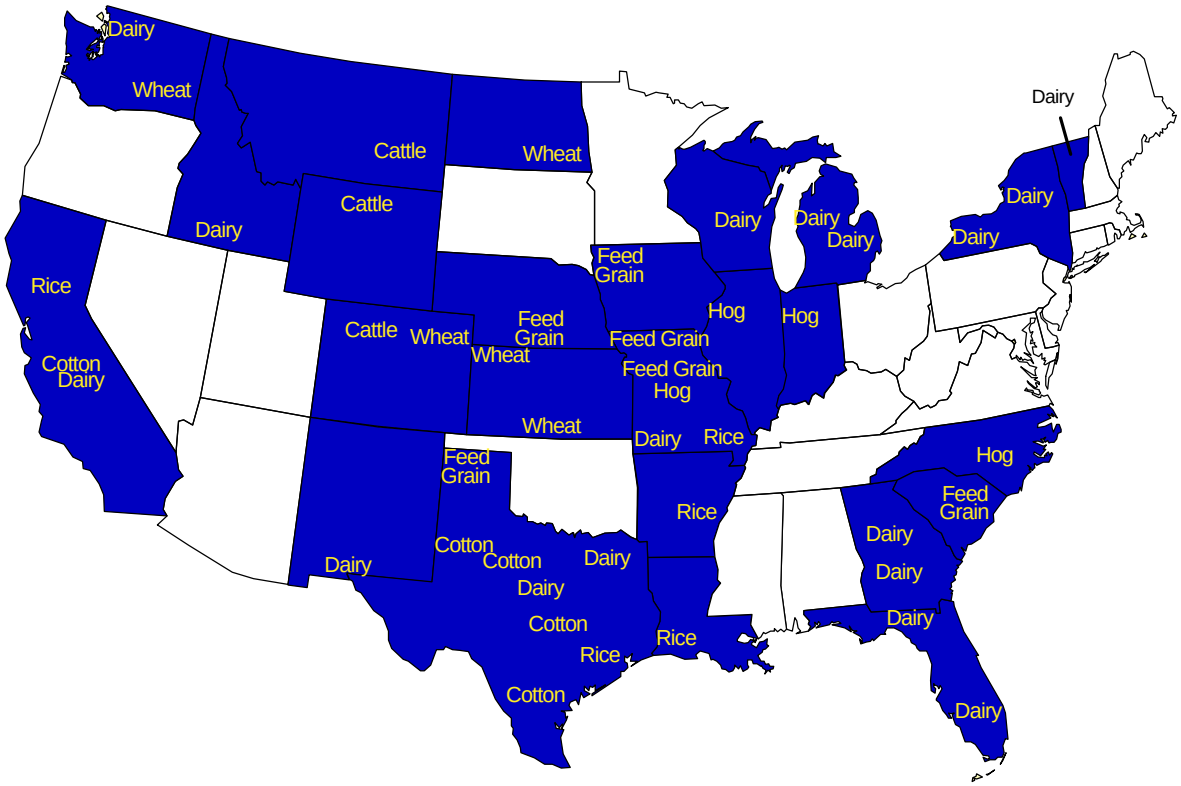


**Table 1. Comparison of Crop Prices, Loan Rates, and Net Contract Payment Rates 1997-2002.**

| | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
|---|---|---|---|---|---|---|
| **Crop Prices** | | | | | | |
| Corn ($/bu) | 2.51 | 2.39 | 2.37 | 2.42 | 2.46 | 2.49 |
| Wheat ($/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 ($/bu) | 1.89 | 1.89 | 1.89 | 1.89 | 1.89 | 1.89 |
| Wheat ($/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 ($/bu.) | 0.28 | 0.37 | 0.36 | 0.33 | 0.26 | 0.26 |
| Wheat ($/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 |

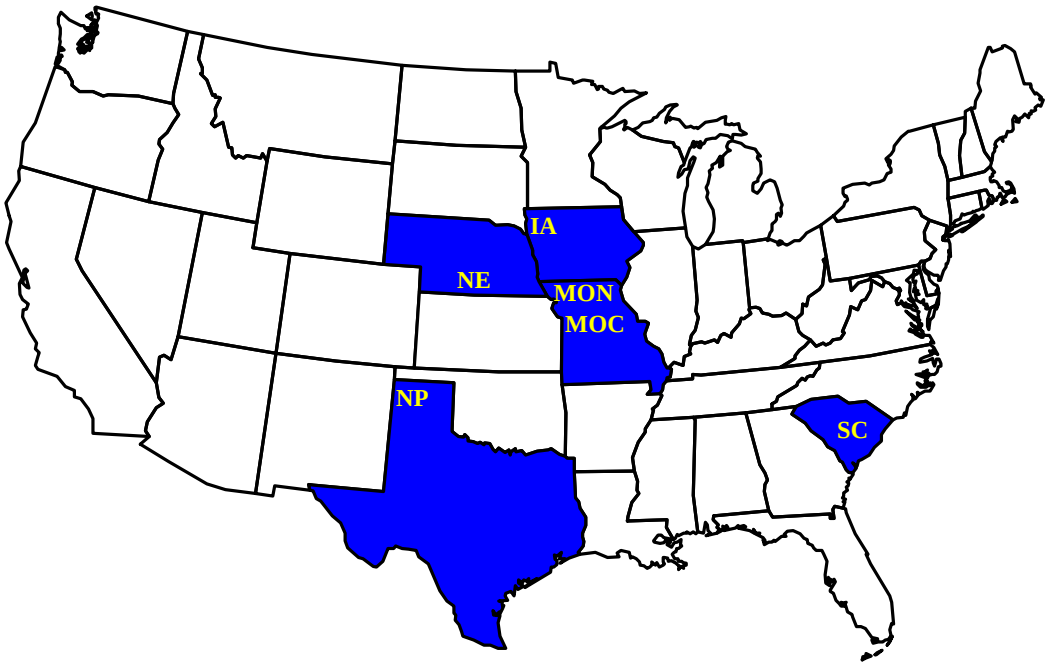
Source: Food and Agricultural Policy Research Institute (FAPRI) at the University of Missouri-Columbia and Iowa State University.

**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

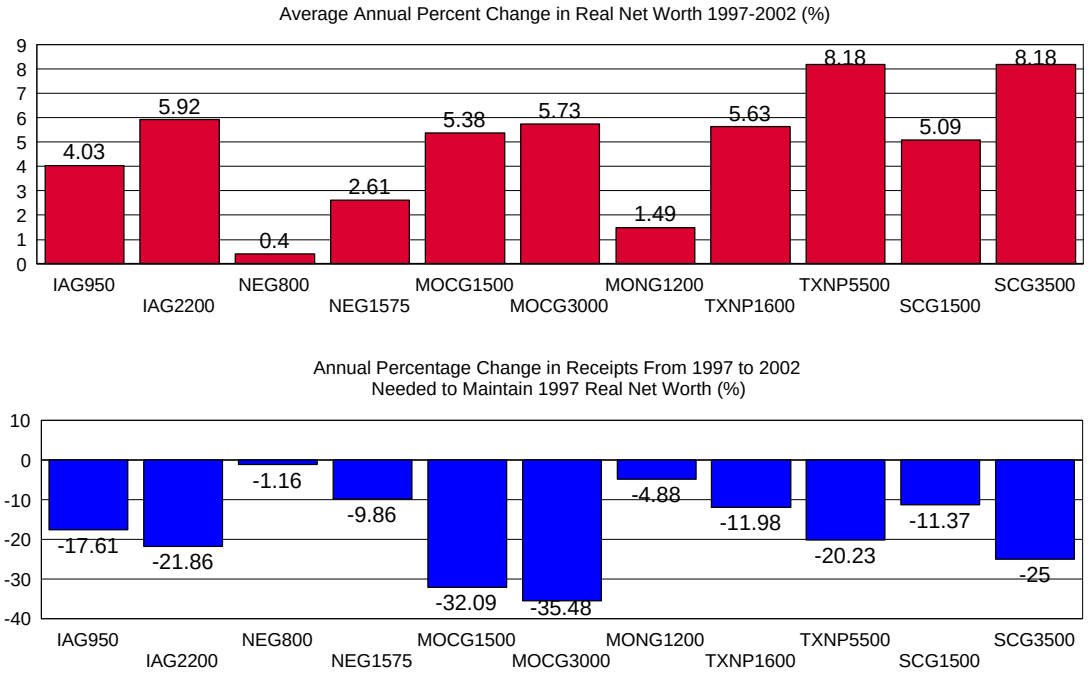



**Figure 4. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Feed Grain Farms**

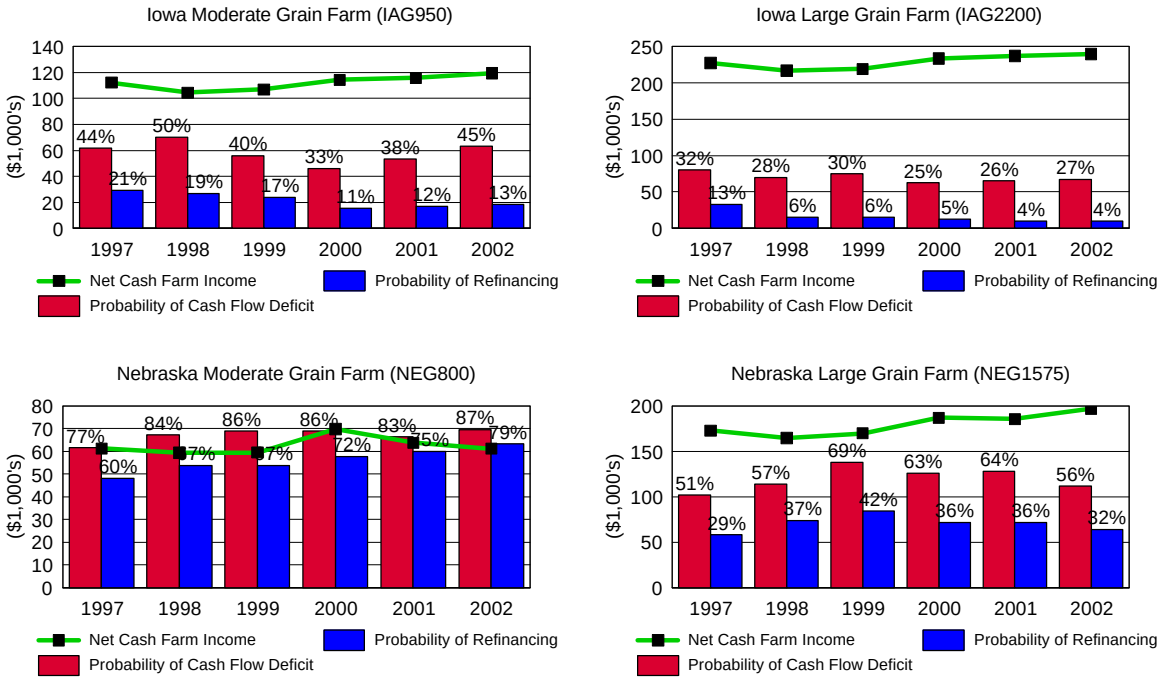


**Figure 5. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Feed Grain Farms**

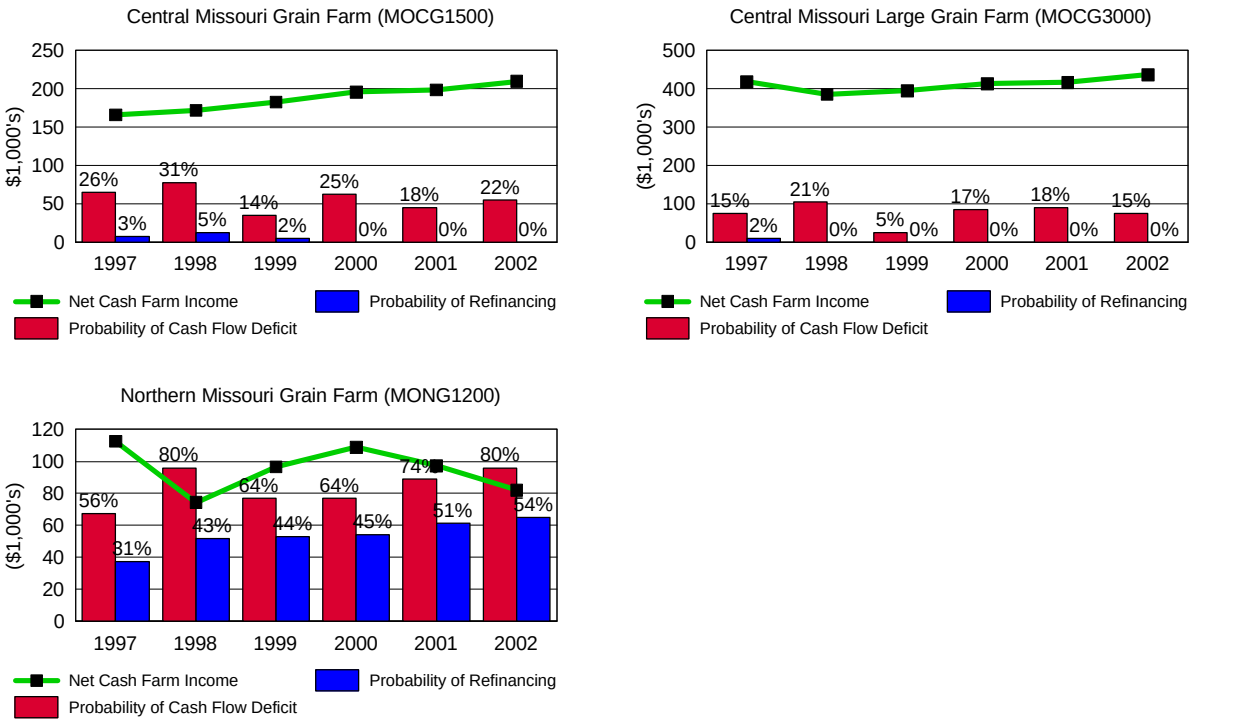
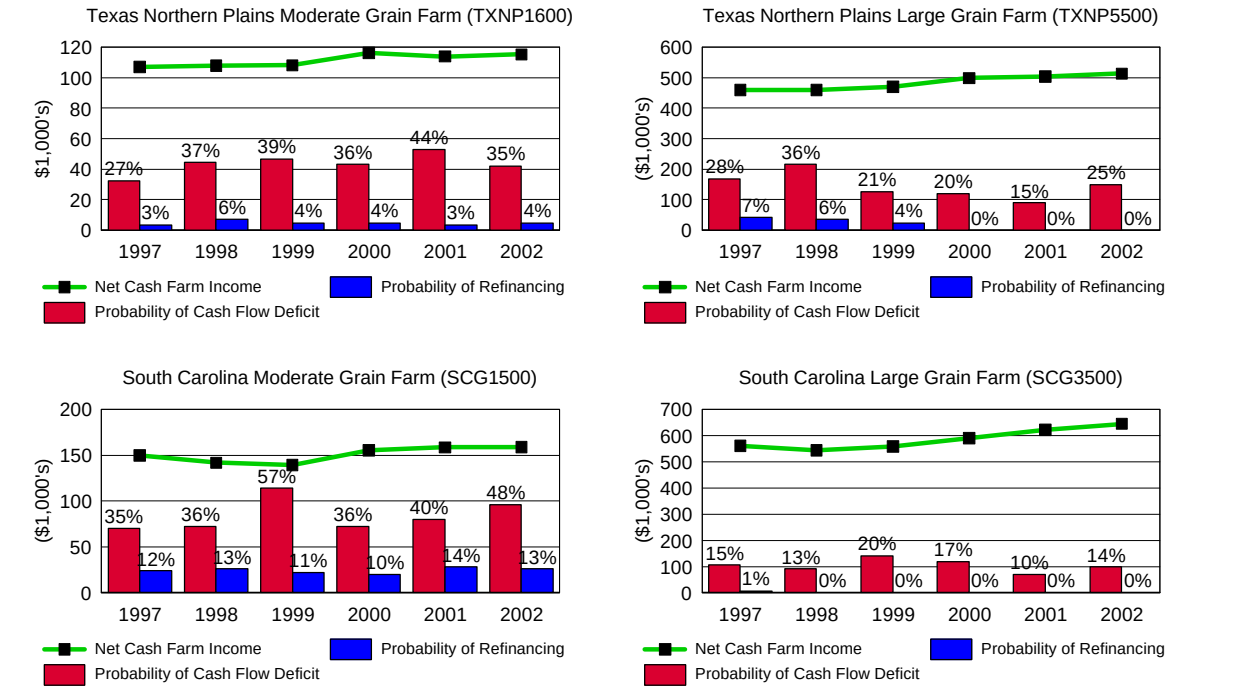
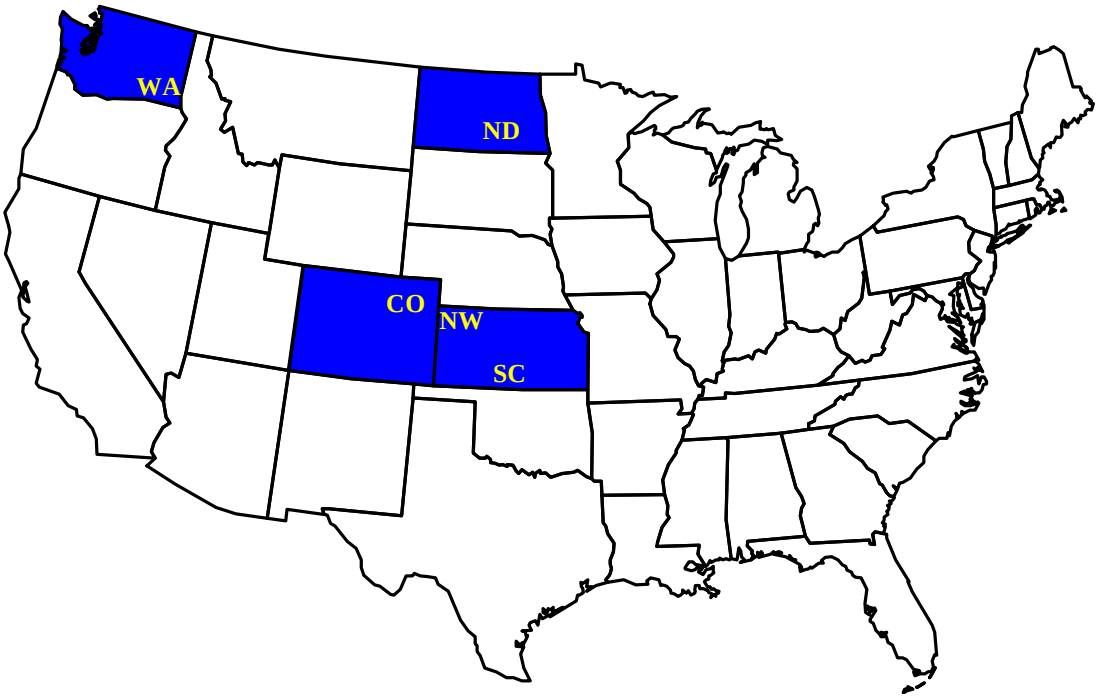



**Figure 6. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Feed Grain Farms**



# 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

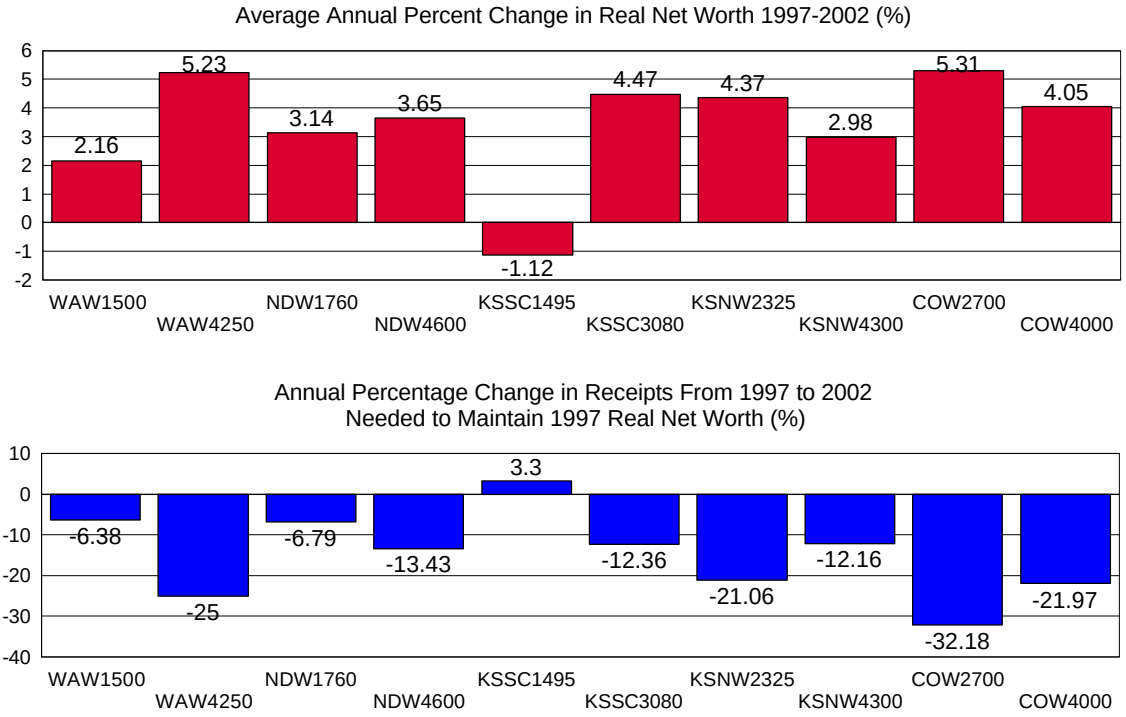



**Figure 9. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Wheat Farms**

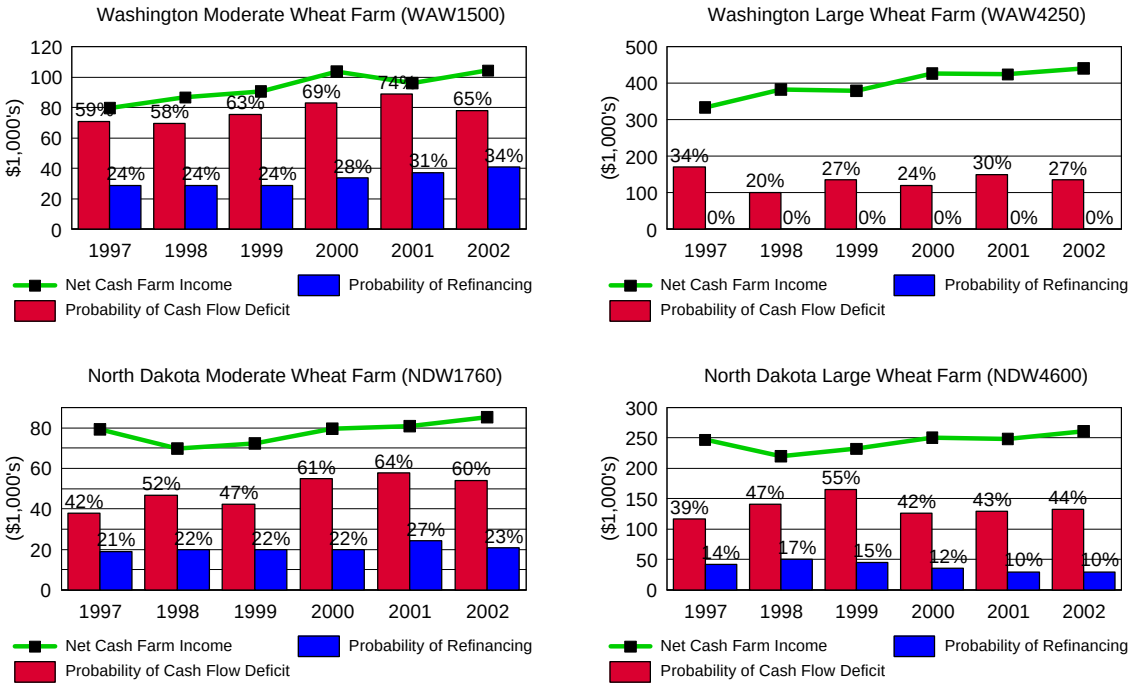


**Figure 10. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Wheat Farms**

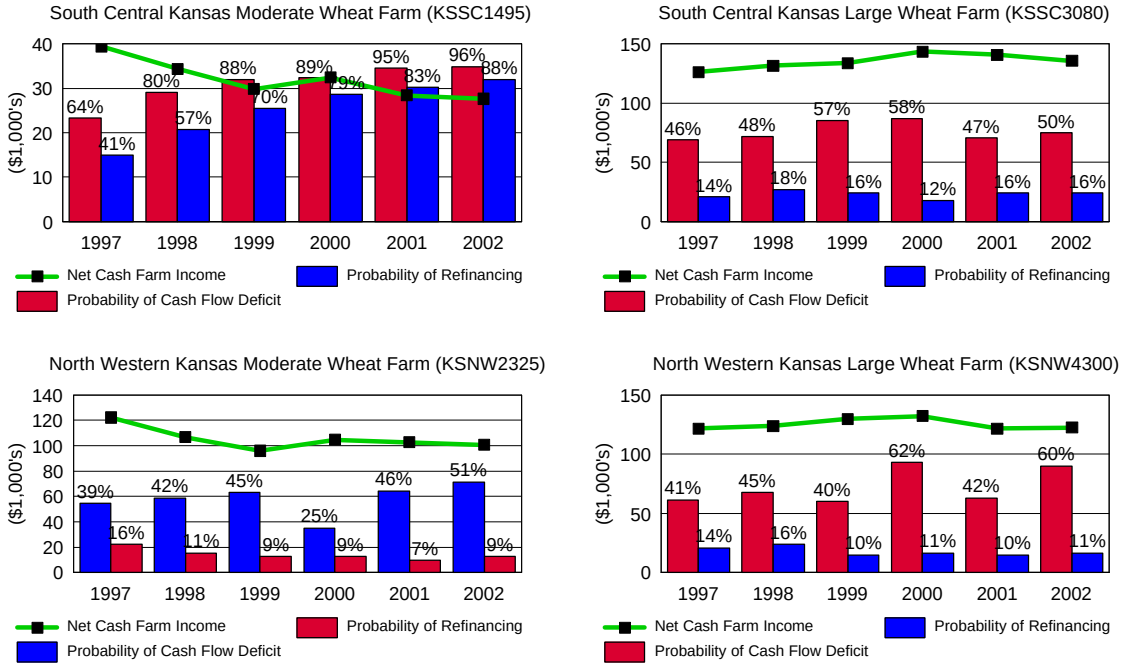
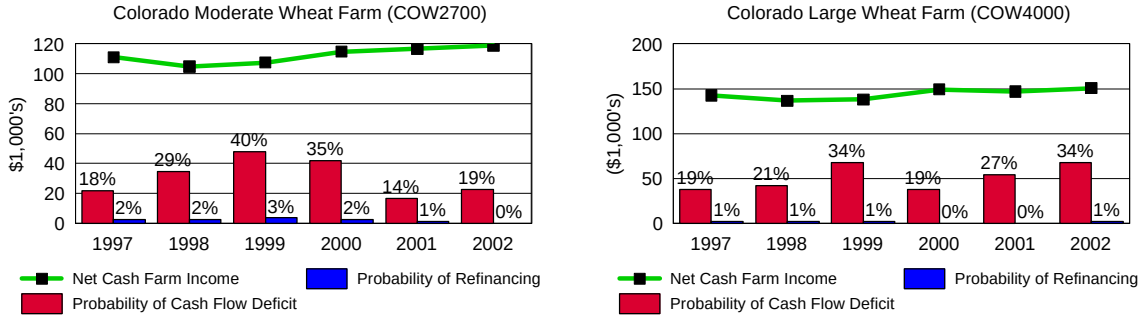
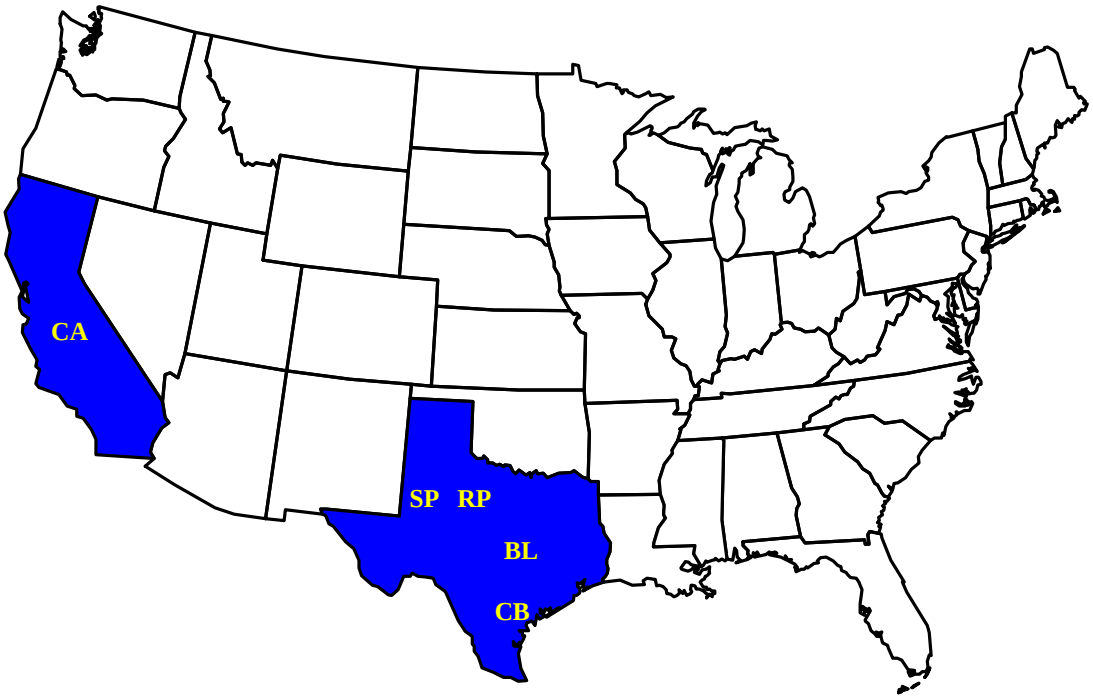



**Figure 11. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Wheat Farms**



# 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

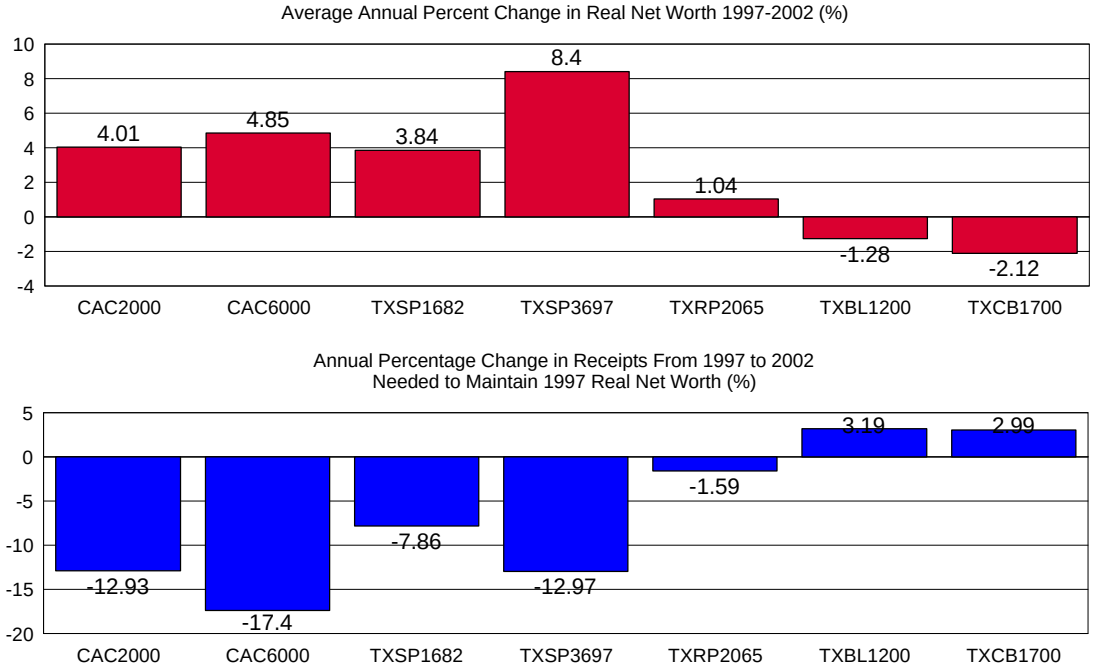



**Figure 14. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Cotton Farms**

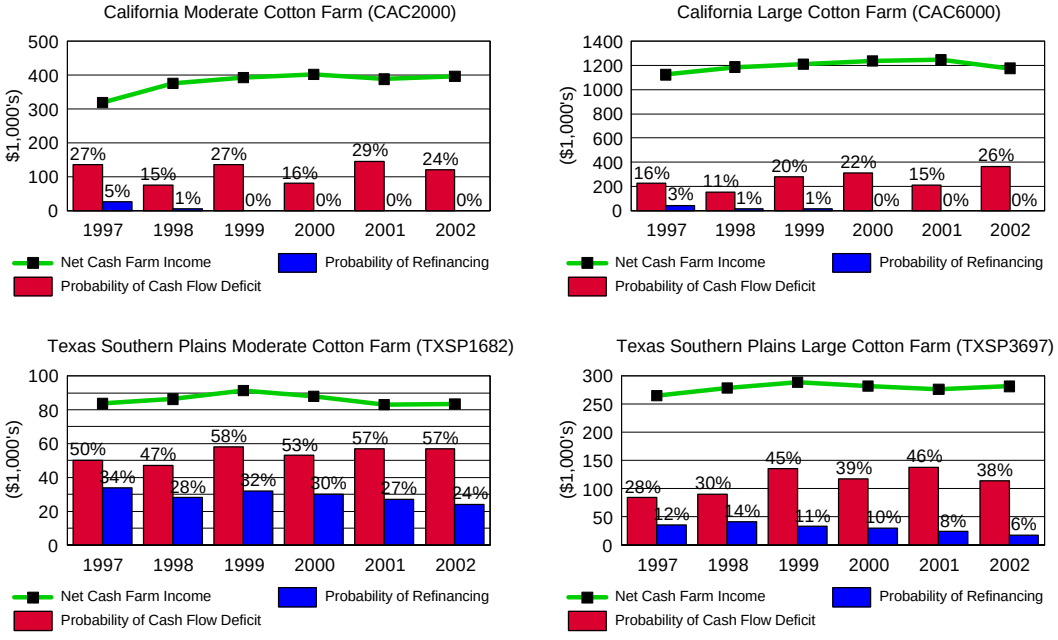
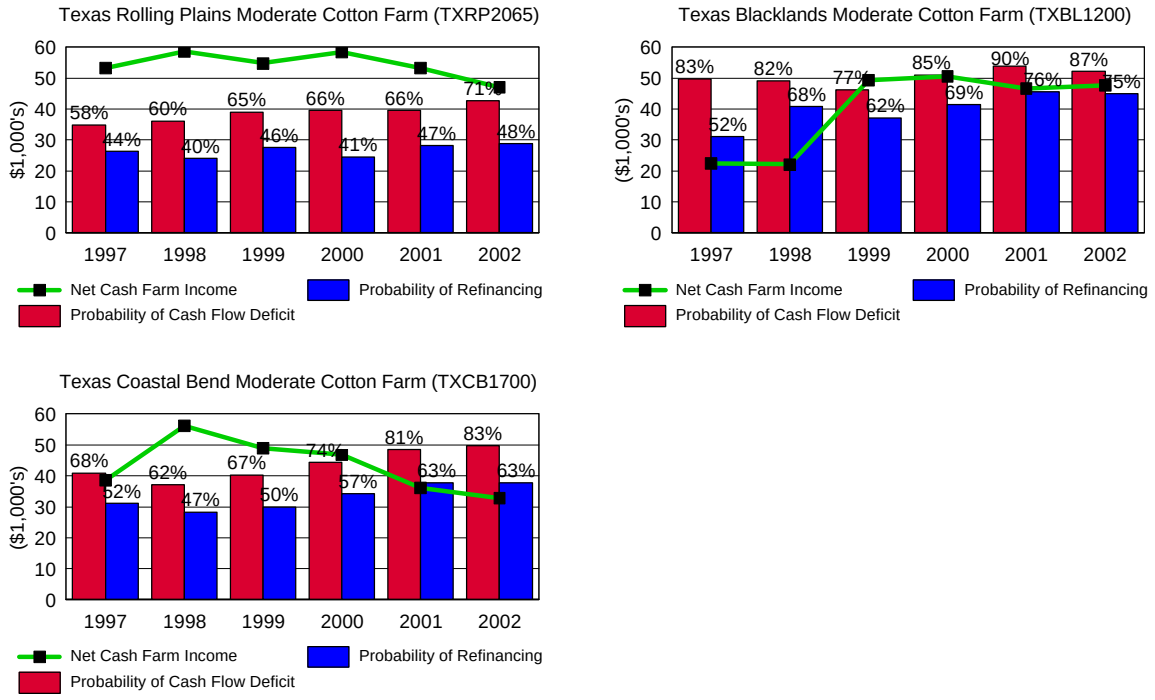
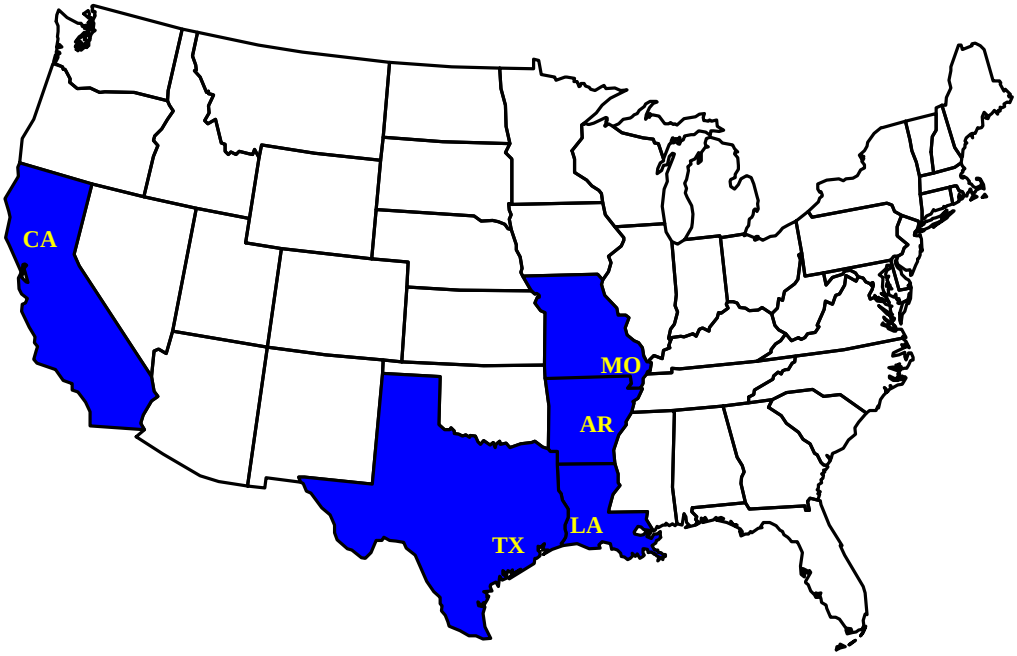


**Figure 15. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Cotton Farms**



# 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

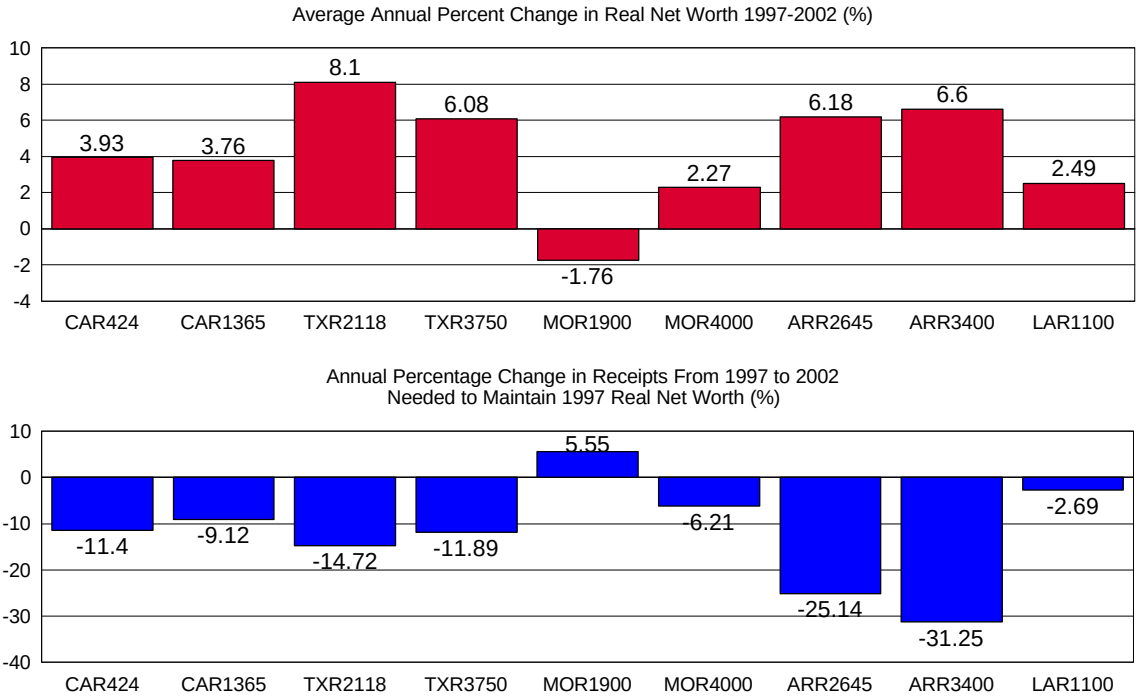



**Figure 18. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Rice Farms**

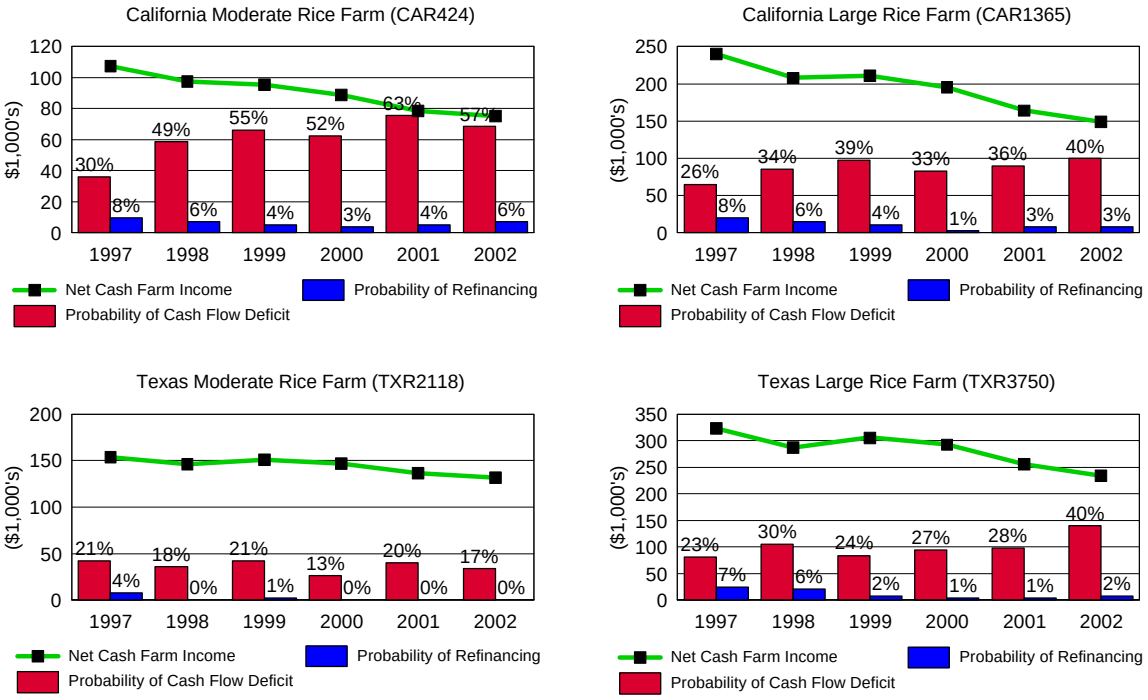


**Figure 19. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Rice Farms**

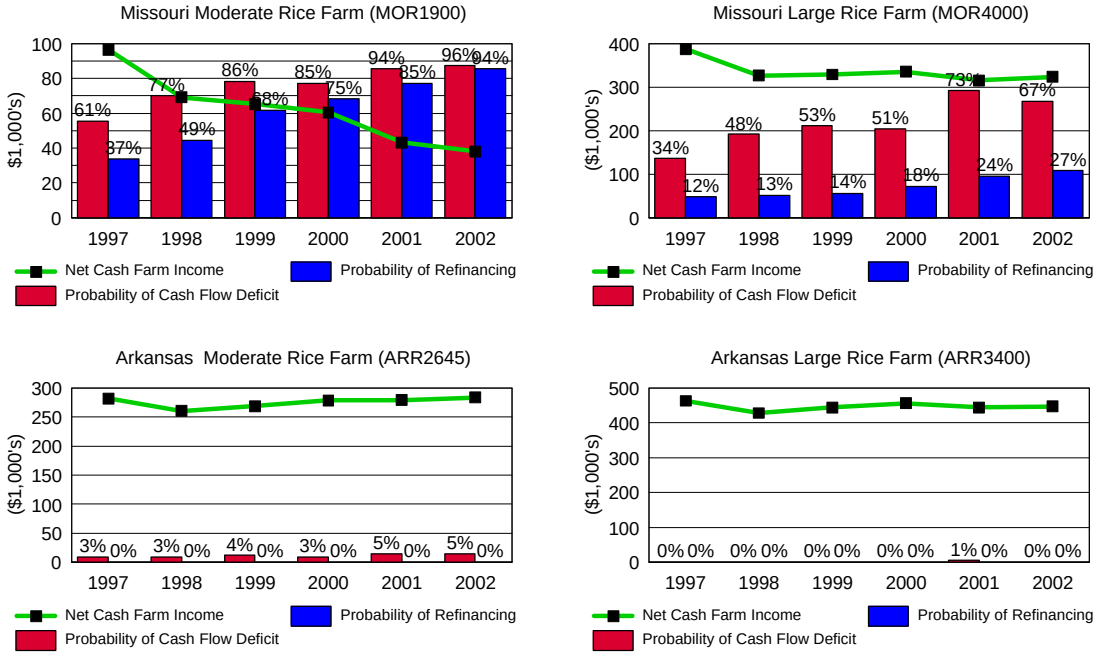
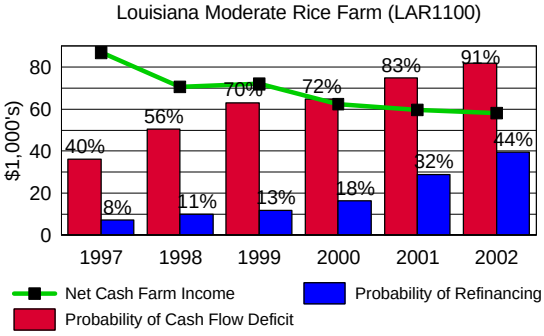
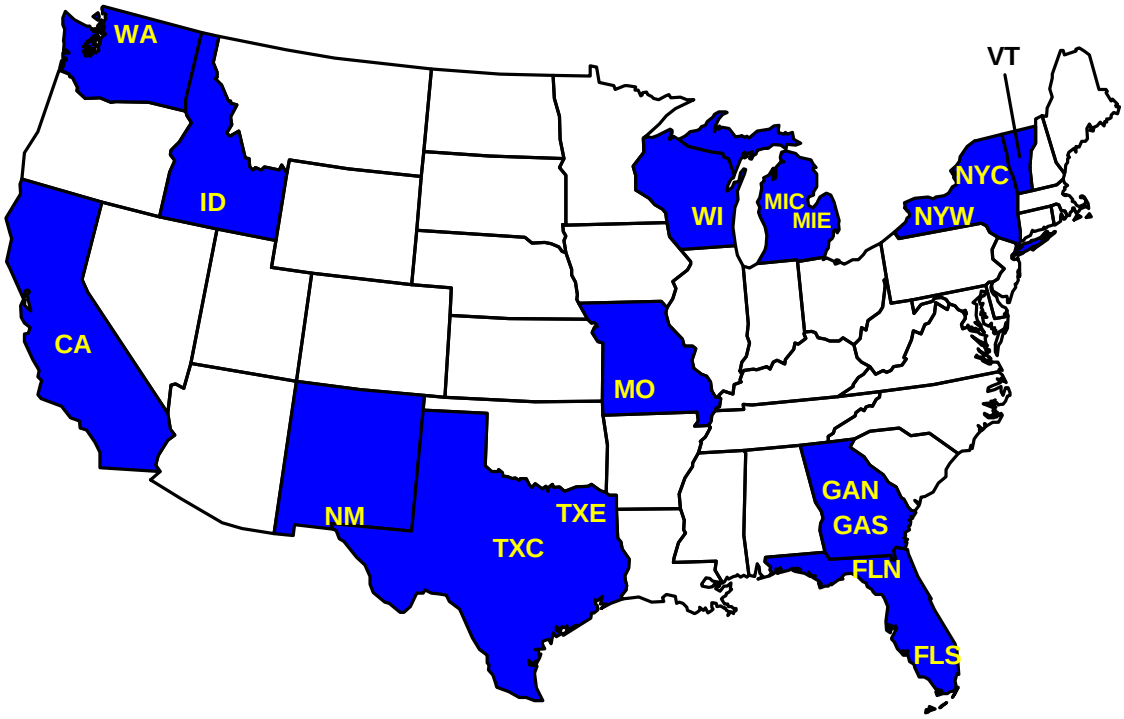



**Figure 20. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Rice Farms**



# 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 |

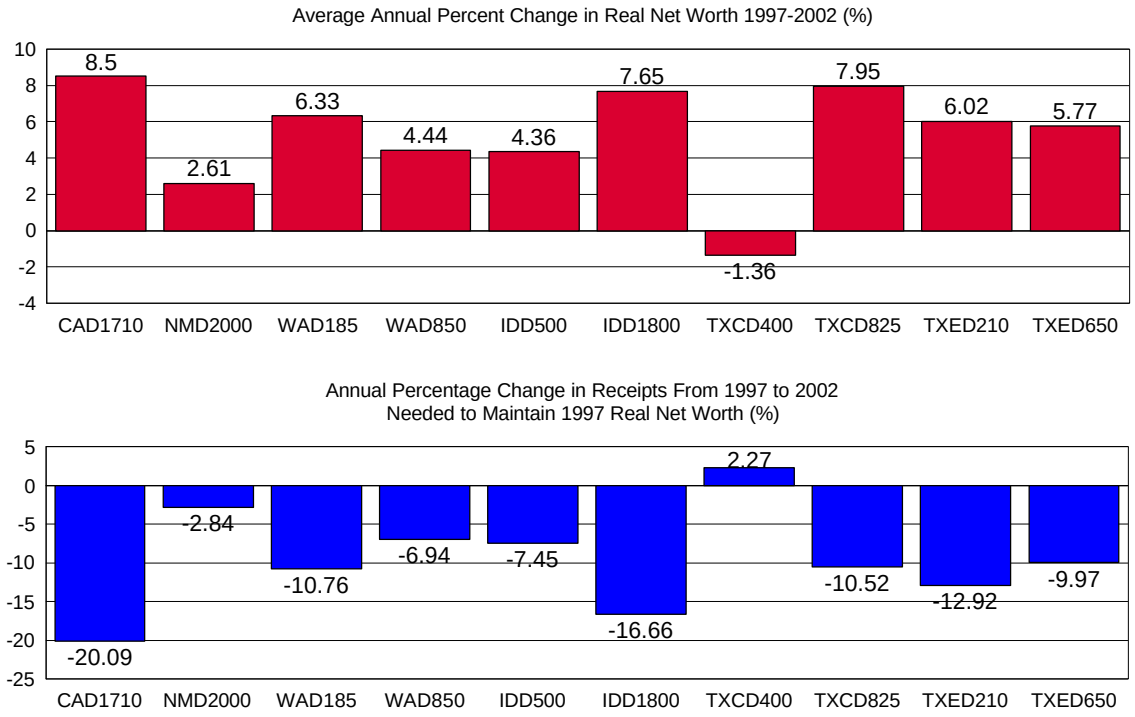
Table 10. Implications of the 1996 Farm Bill and the January 1998 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Milk

| | 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 |

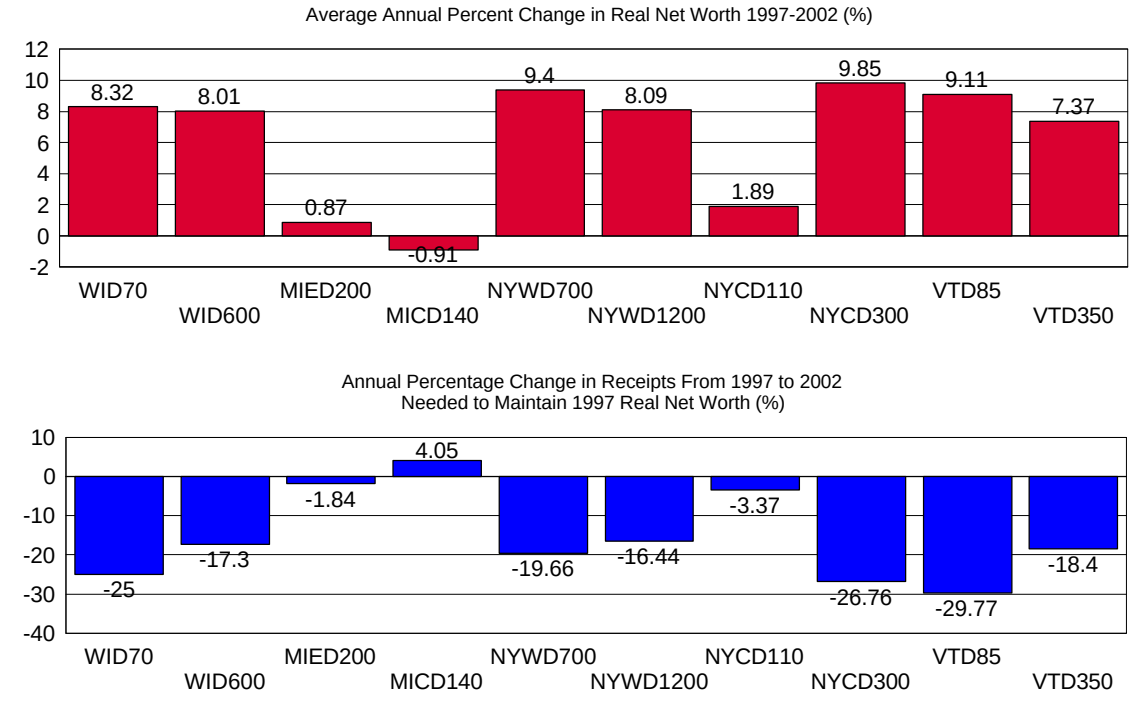
Table 11. Implications of the 1996 Farm Bill and the January 1998 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Milk

| | 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

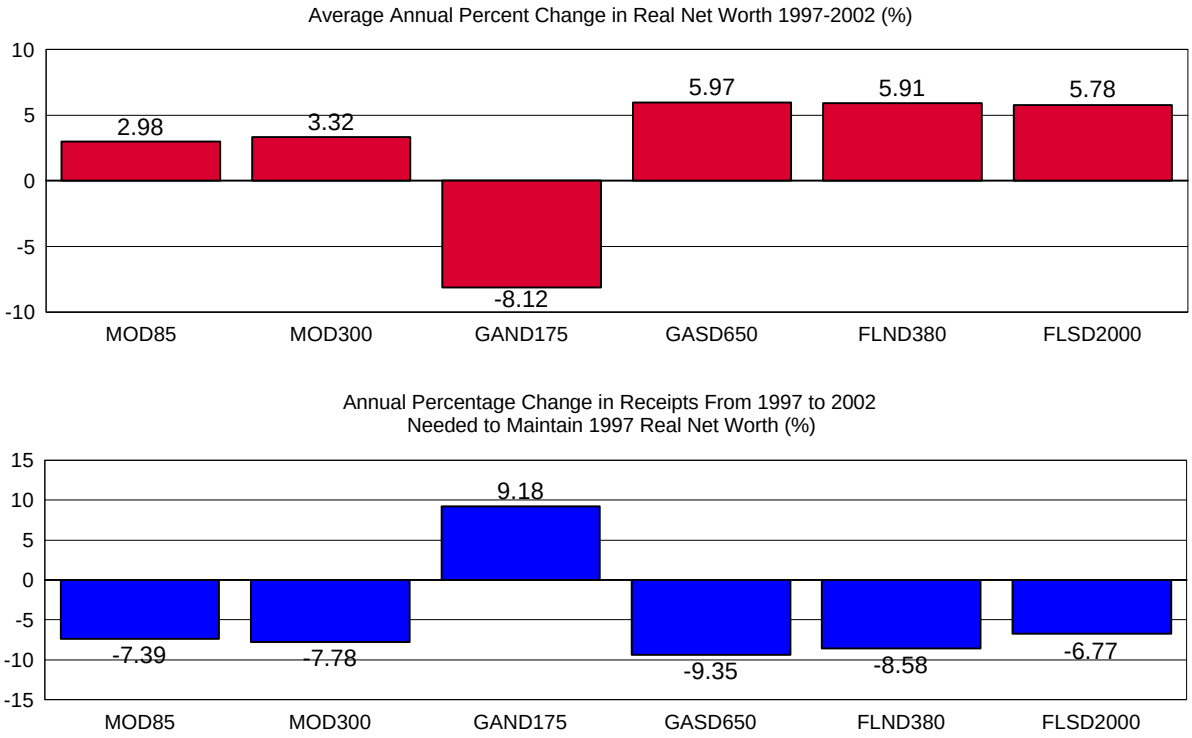



**Figure 25. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Dairy Farms**

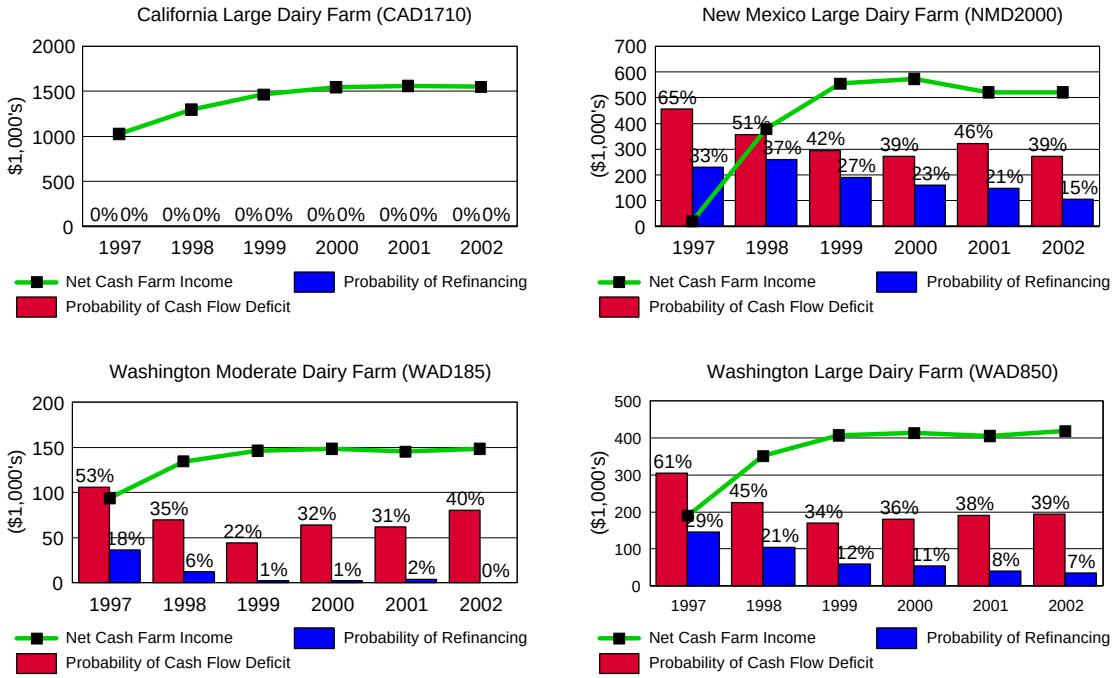


**Figure 26. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Dairy Farms**

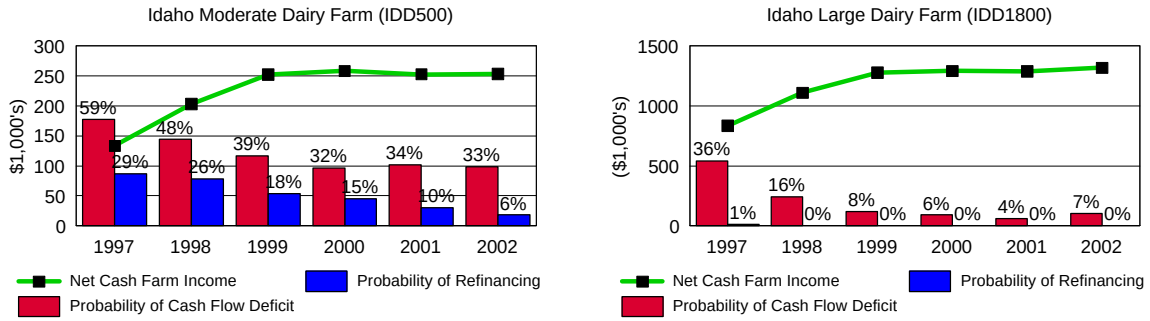



**Figure 27. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Dairy Farms**

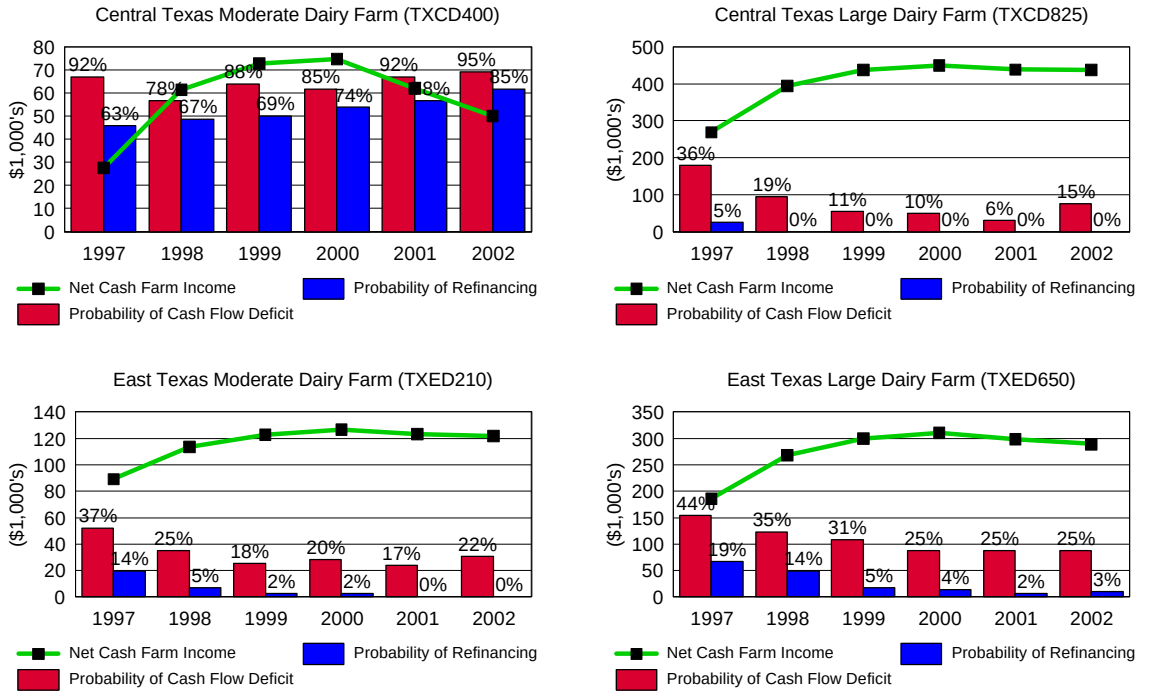


**Figure 28. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Dairy Farms**

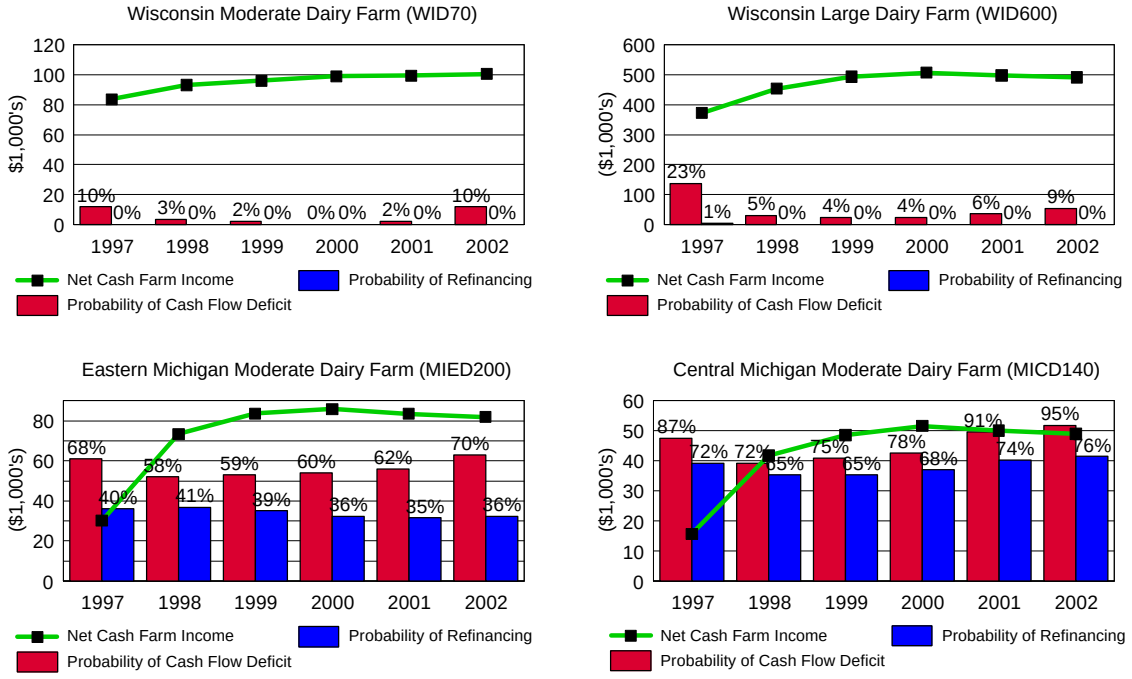



**Figure 29. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Dairy Farms**

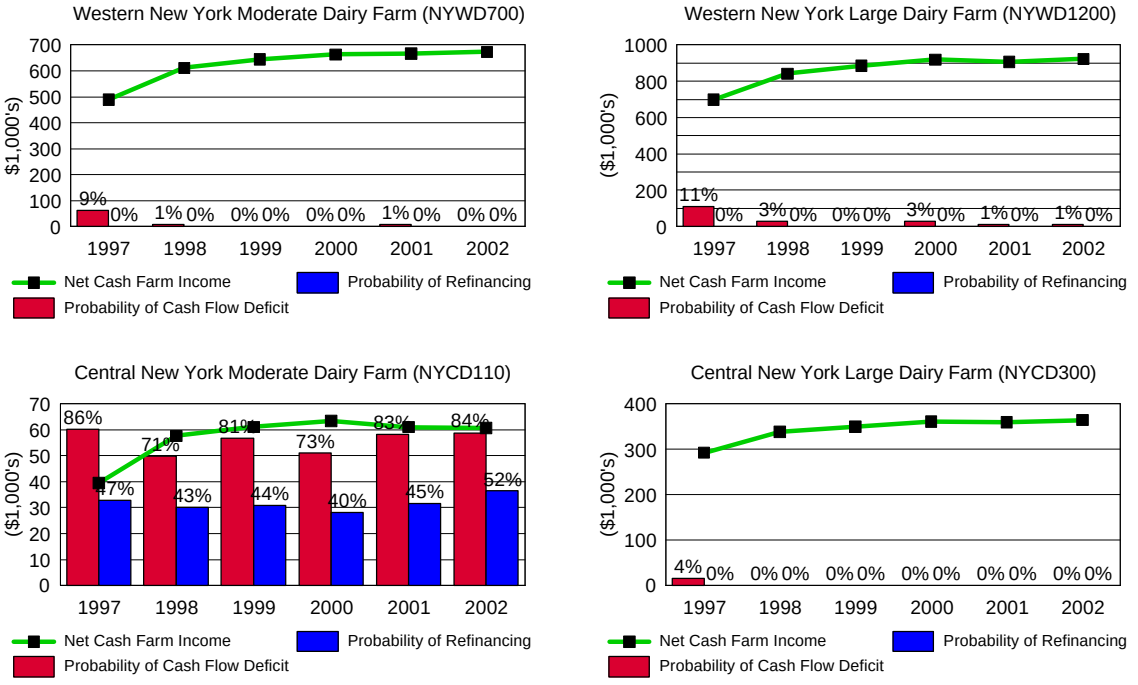


**Figure 30. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Dairy Farms**

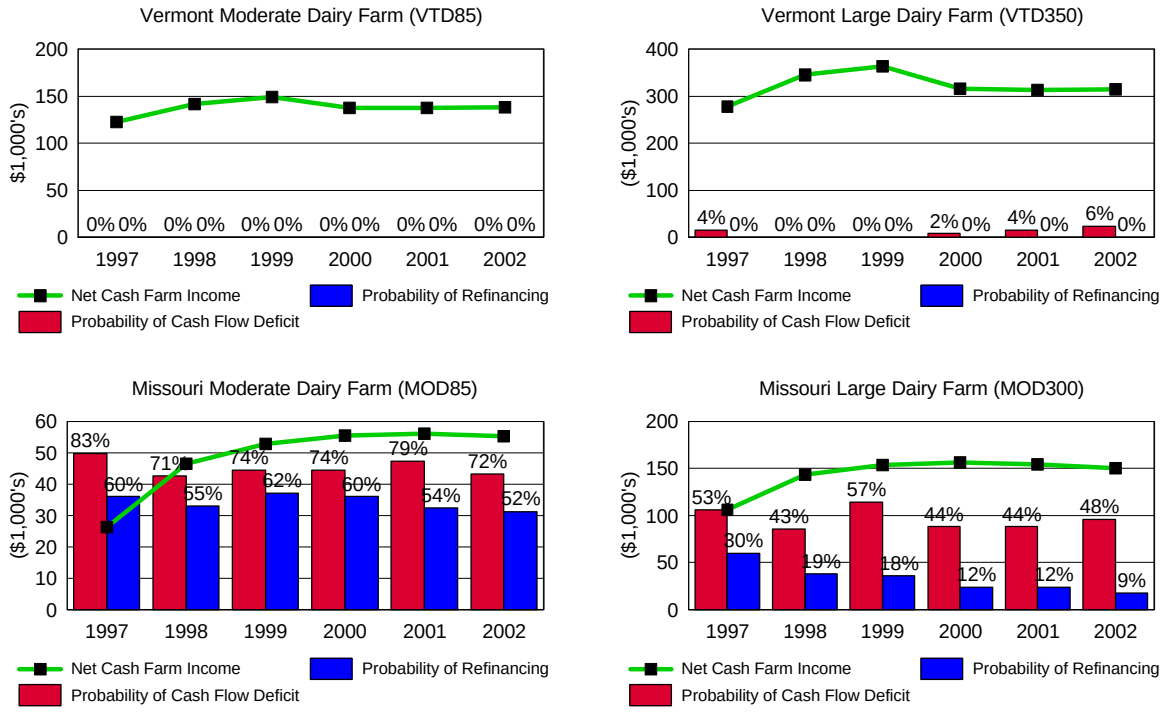
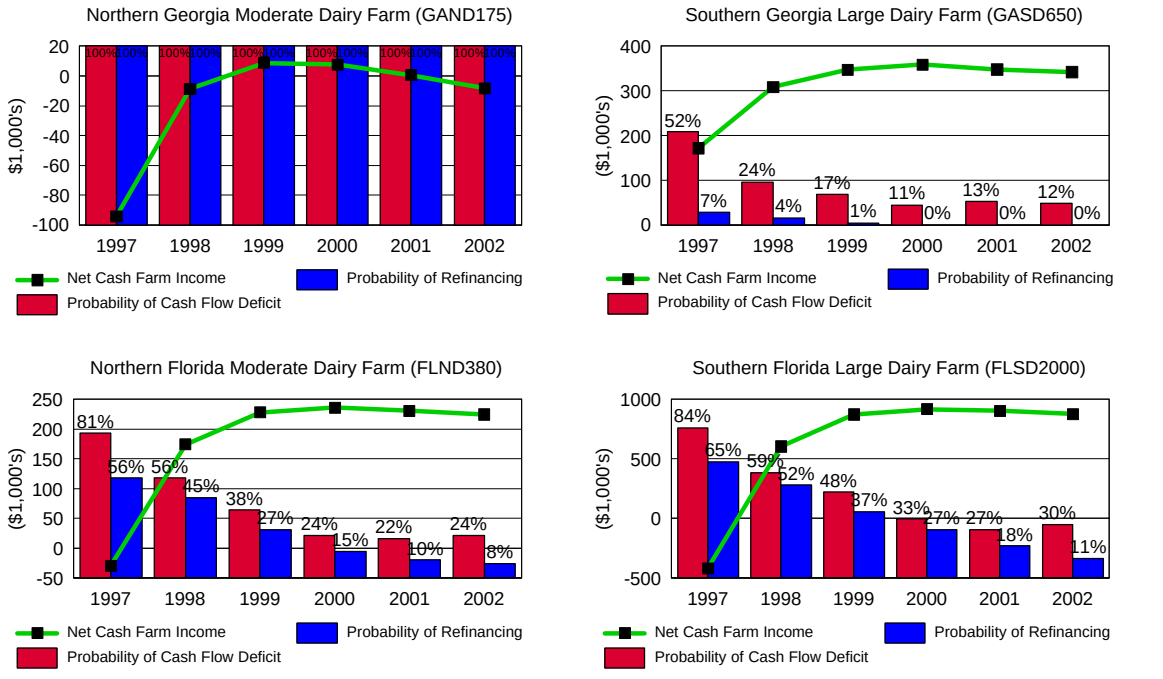
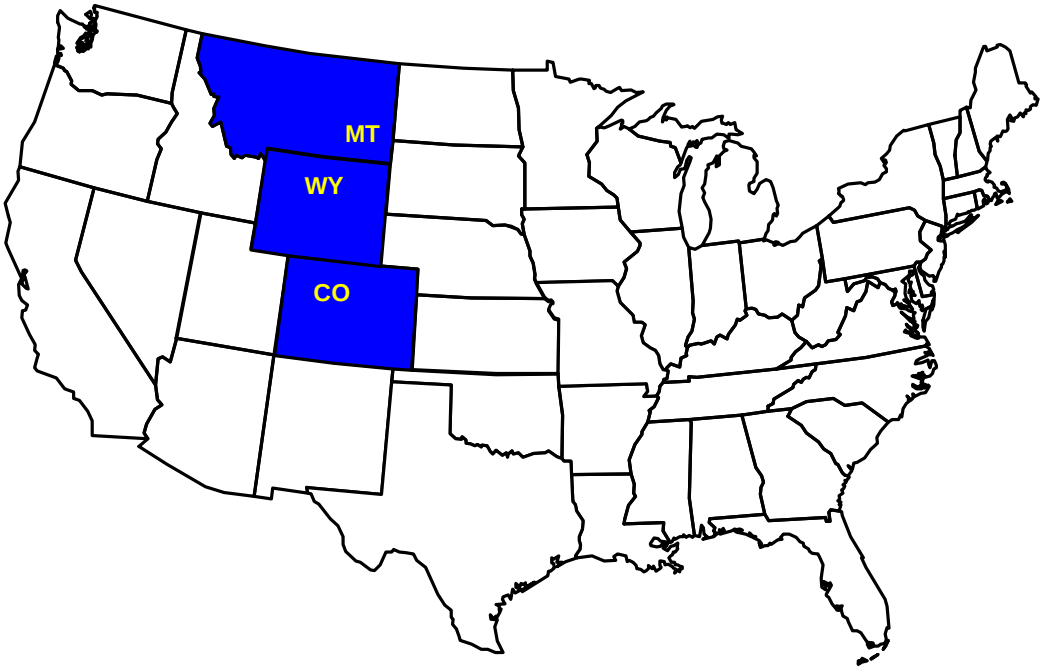



**Figure 31. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Dairy Farms**



# 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

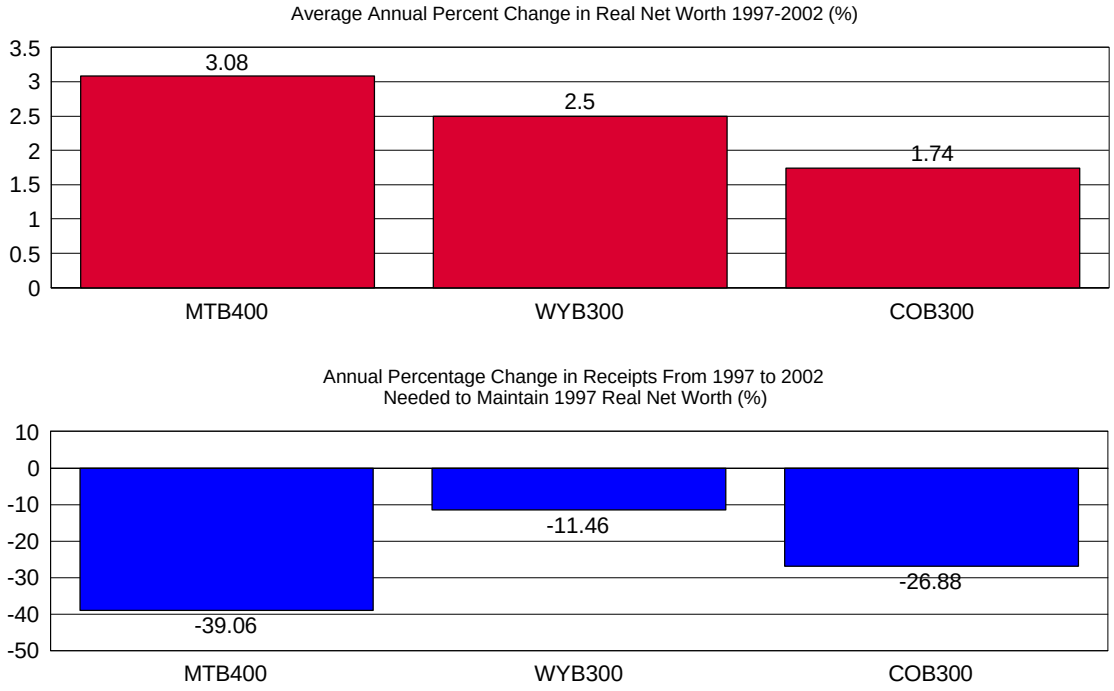
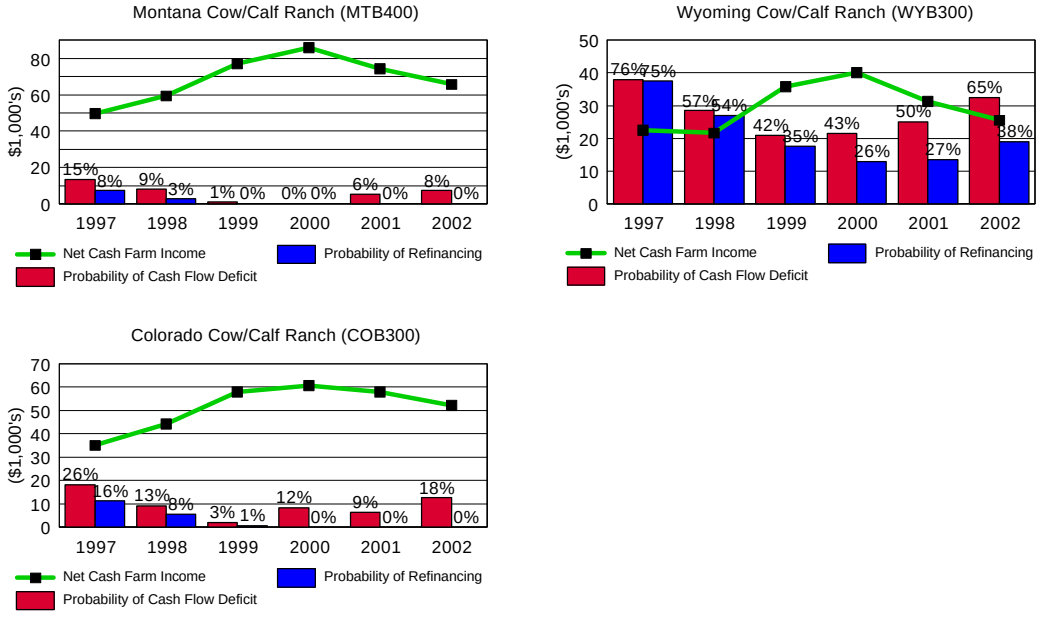
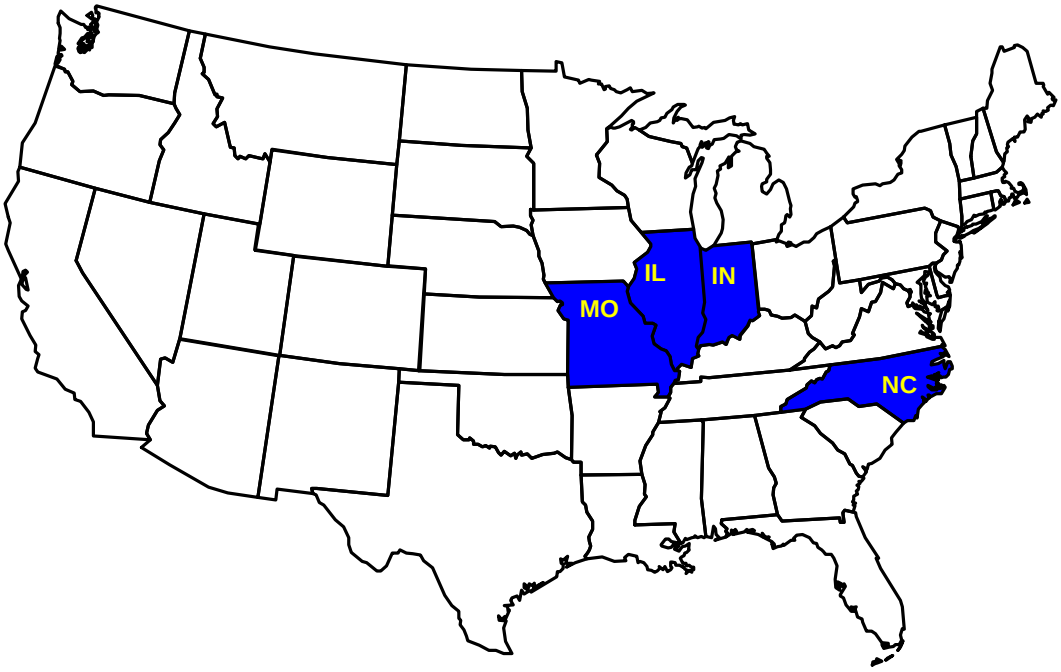



**Figure 34. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Cow/Calf Ranches**



# 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

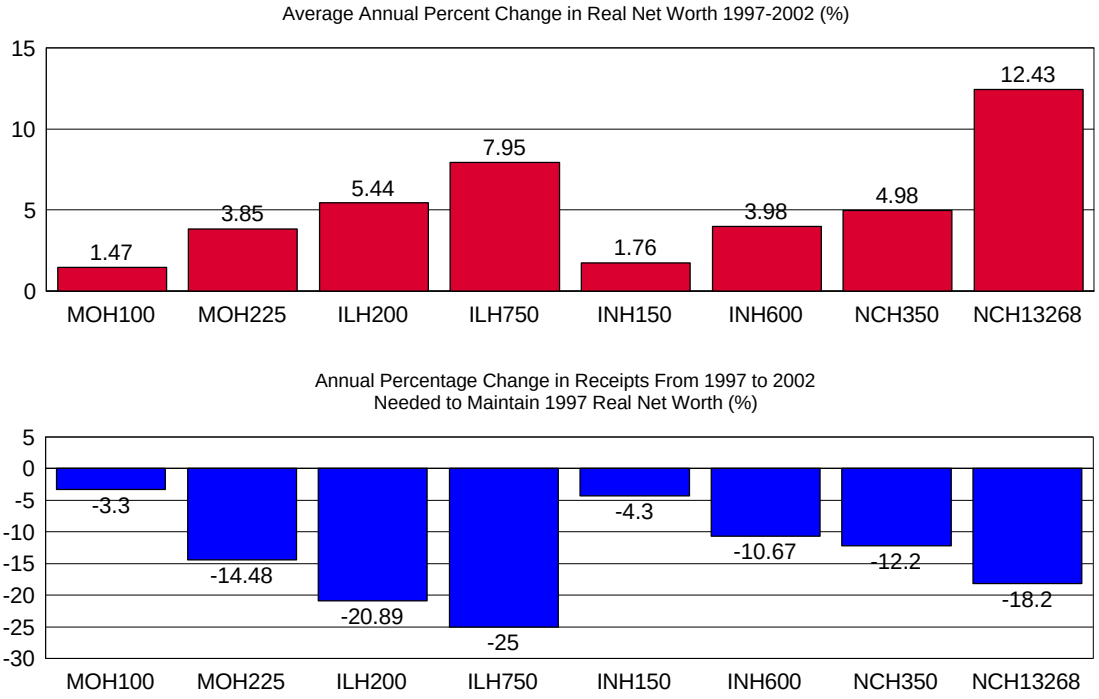



**Figure 37. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Farrow-to-Finish Hog Farms**

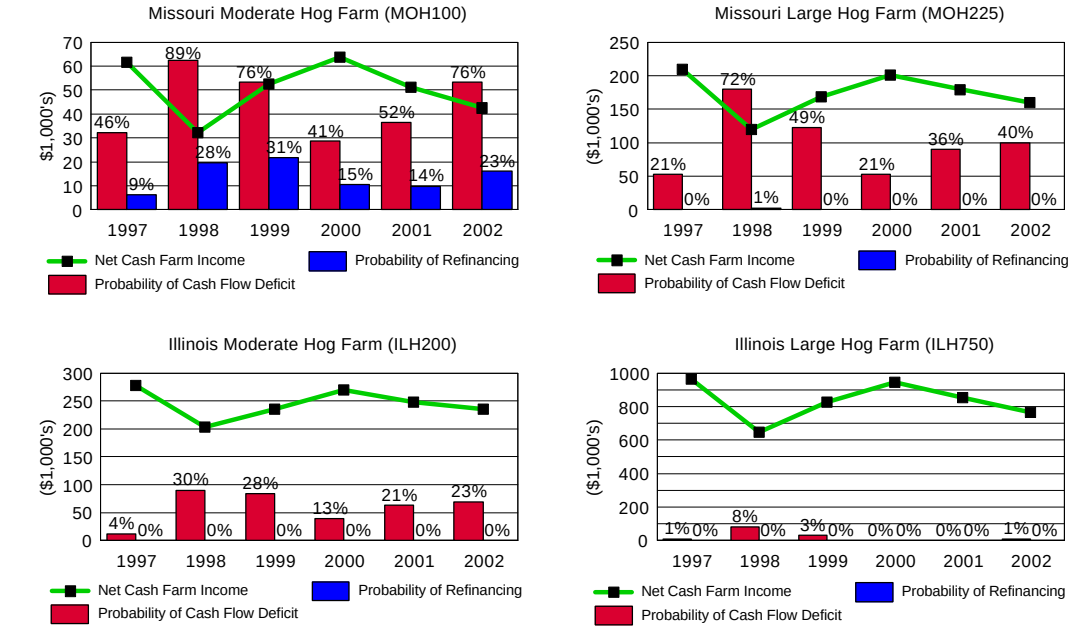
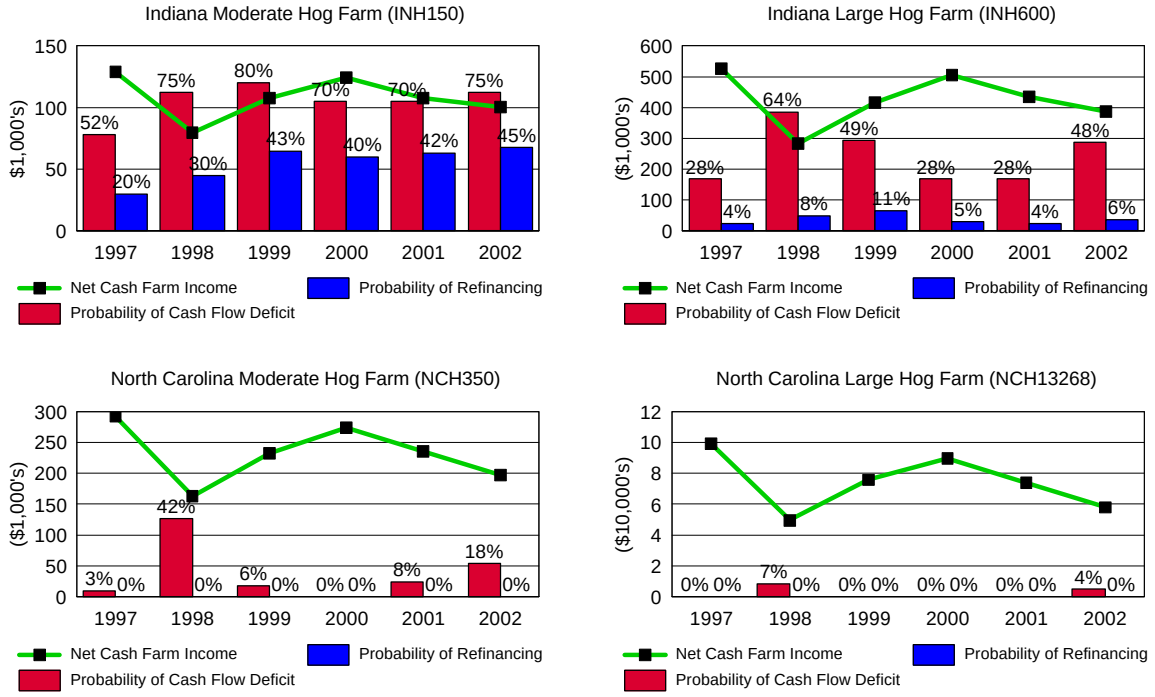


**Figure 38. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Farrow-to-Finish Hog Farms**



# 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 | 0.0 | 29.6 | 0.0 | 0.0 | 0.0 | 63.3 |
| | 0.00% | 0.00% | 8.00% | 0.00% | 0.00% | 0.00% | 13.30% |
| Hogs | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 181.2 |
| | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 38.10% |
| Corn | 179.4 | 327.1 | 342.3 | 756.7 | 171.2 | 462.5 | 94.2 |
| | 54.80% | 55.80% | 92.00% | 97.40% | 43.90% | 53.90% | 19.80% |
| Wheat | 0.0 | 0.0 | 0.0 | 0.0 | 45.9 | 57.3 | 0.0 |
| | 0.00% | 0.00% | 0.00% | 0.00% | 11.70% | 6.70% | 0.00% |
| Soybeans | 148.2 | 259.7 | 0.0 | 0.0 | 163.2 | 338.1 | 130.5 |
| | 45.20% | 44.20% | 0.00% | 0.00% | 41.80% | 39.40% | 27.50% |
| Hay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 6.0 |
| | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 1.30% |
| Other Receipts | 0.0 | 0.0 | 0.0 | 20.0 | 10.0 | 0.0 | 0.0 |
| | 0.00% | 0.00% | 0.00% | 2.60% | 2.60% | 0.00% | 0.00% |
| 1996 Planted Acres** | | | | | | | |
| Total | 950 | 2,200 | 800 | 1,575 | 1,500 | 3,000 | 1,200 |
| Corn | 475.0 | 1,100.0 | 770.0 | 1,575.0 | 550.0 | 1,350.0 | 525.0 |
| | 50.00% | 50.00% | 96.30% | 100.00% | 36.70% | 45.00% | 43.80% |
| Wheat | 0.0 | 0.0 | 0.0 | 0.0 | 250.0 | 300.0 | 0.0 |
| | 0.00% | 0.00% | 0.00% | 0.00% | 16.70% | 10.00% | 0.00% |
| Soybeans | 475.0 | 1,100.0 | 0.0 | 0.0 | 700.0 | 1,350.0 | 525.0 |
| | 50.00% | 50.00% | 0.00% | 0.00% | 46.70% | 45.00% | 43.80% |
| Hay | 0.0 | 0.0 | 30.0 | 0.0 | 0.0 | 0.0 | 150.0 |
| | 0.00% | 0.00% | 3.80% | 0.00% | 0.00% | 0.00% | 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, 1670 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 | 949.9 | 192.4 | 404.4 |
| | 49.40% | 67.30% | 31.10% | 24.90% |
| Sorghum | 68.7 | 67.0 | 0.0 | 0.0 |
| | 18.20% | 4.70% | 0.00% | 0.00% |
| Wheat | 121.9 | 379.8 | 205.5 | 458.9 |
| | 32.40% | 26.90% | 33.30% | 28.20% |
| Soybeans | 0.0 | 0.0 | 220.1 | 549.0 |
| | 0.00% | 0.00% | 35.60% | 33.70% |
| Cotton | 0.0 | 0.0 | 0.0 | 192.6 |
| | 0.00% | 0.00% | 0.00% | 11.80% |
| Other Receipts | 0.0 | 15.0 | 0.0 | 0.0 |
| | 0.00% | 1.10% | 0.00% | 0.00% |
| 1996 Planted Acres** | | | | |
| Total | 1,600 | 5,500 | 2,250 | 5,170 |
| Corn | 470.0 | 2,200.0 | 600.0 | 1,130.5 |
| | 29.40% | 40.00% | 26.70% | 21.90% |
| Sorghum | 280.0 | 275.0 | 0.0 | 0.0 |
| | 17.50% | 5.00% | 0.00% | 0.00% |
| Wheat | 642.0 | 2,475.0 | 750.0 | 1,669.5 |
| | 40.10% | 45.00% | 33.30% | 32.30% |
| Soybeans | 0.0 | 0.0 | 900.0 | 2,019.5 |
| | 0.00% | 0.00% | 40.00% | 39.10% |
| Cotton | 0.0 | 0.0 | 0.0 | 350.0 |
| | 0.00% | 0.00% | 0.00% | 6.80% |
| Fallow | 208.0 | 550.0 | 0.0 | 0.0 |
| | 13.00% | 10.00% | 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 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.

| | WAW1500 | WAW4250 | NDW1760 | NDW4600 | KSSC1495 | KSSC3080 | KSNW2325 | KSNW4300 | COW2700 | COW4000 |
|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 0.0 | 0.0 | 0.0 | 0.0 | 21.8 | 28.4 | 28.8 | 0.0 | 0.0 |
| | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 5.10% | 13.00% | 6.10% | 0.00% | 0.00% |
| Wheat | 266.7 | 982.4 | 152.1 | 458.3 | 141.0 | 348.8 | 120.5 | 268.3 | 168.2 | 315.5 |
| | 66.50% | 85.50% | 52.30% | 52.00% | 80.70% | 81.30% | 55.00% | 56.60% | 69.00% | 80.70% |
| Sorghum | 0.0 | 0.0 | 0.0 | 0.0 | 33.8 | 58.0 | 27.2 | 34.8 | 0.0 | 0.0 |
| | 0.00% | 0.00% | 0.00% | 0.00% | 19.30% | 13.50% | 12.40% | 7.30% | 0.00% | 0.00% |
| Barley | 63.9 | 86.6 | 62.9 | 225.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 15.90% | 7.50% | 21.60% | 25.60% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Corn | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 42.3 | 142.5 | 15.4 | 0.0 |
| | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 19.30% | 30.00% | 6.30% | 0.00% |
| Dry Peas | 70.7 | 79.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 17.60% | 6.90% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Sunflowers | 0.0 | 0.0 | 70.9 | 192.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.00% | 0.00% | 24.40% | 21.80% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Millet | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 54.2 | 75.4 |
| | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 22.20% | 19.30% |
| Hay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.10% | 0.00% | 0.00% | 0.00% | 0.00% |
| Other Receipts | 0.0 | 0.0 | 5.0 | 5.0 | 0.0 | 0.0 | 0.7 | 0.0 | 6.1 | 0.0 |
| | 0.00% | 0.00% | 1.70% | 0.60% | 0.00% | 0.00% | 0.30% | 0.00% | 2.50% | 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 | 3,187.5 | 920.0 | 2,400.0 | 1,200.0 | 2,464.0 | 900.0 | 2,000.0 | 1,100.0 | 1,700.0 |
| | 50.00% | 75.00% | 52.30% | 52.20% | 80.30% | 80.00% | 40.00% | 46.50% | 45.30% | 42.50% |
| Sorghum | 0.0 | 0.0 | 0.0 | 0.0 | 295.0 | 462.0 | 225.0 | 250.0 | 0.0 | 0.0 |
| | 0.00% | 0.00% | 0.00% | 0.00% | 19.70% | 15.00% | 10.00% | 5.80% | 0.00% | 0.00% |
| Barley | 300.0 | 425.0 | 400.0 | 1,200.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 20.00% | 10.00% | 22.70% | 26.10% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Corn | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 225.0 | 490.0 | 120.0 | 0.0 |
| | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 10.00% | 11.40% | 4.90% | 0.00% |
| Dry Peas | 450.0 | 637.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 30.00% | 15.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Sunflowers | 0.0 | 0.0 | 440.0 | 1,000.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.00% | 0.00% | 25.00% | 21.70% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Millet | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 400.0 | 600.0 |
| | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 16.50% | 15.00% |
| Hay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 154.0 | 0.0 | 75.0 | 0.0 | 0.0 |
| | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 5.00% | 0.00% | 1.70% | 0.00% | 0.00% |
| Fallow | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 900.0 | 1,485.0 | 810.0 | 1,700.0 |
| | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 40.00% | 34.50% | 33.30% | 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 | 0.0 | 0.0 | 0.0 | 6.2 | 7.9 | 0.0 |
| | 0.00% | 0.00% | 0.00% | 0.00% | 2.70% | 3.20% | 0.00% |
| Cotton | 1,229.5 | 3,787.4 | 240.1 | 900.5 | 149.9 | 102.1 | 257.5 |
| | 64.90% | 70.30% | 81.20% | 93.20% | 64.20% | 41.50% | 70.00% |
| Sorghum | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 44.9 | 126.5 |
| | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 18.20% | 30.00% |
| Wheat | 131.3 | 375.5 | 0.0 | 0.0 | 56.8 | 11.7 | 0.0 |
| | 6.90% | 7.00% | 0.00% | 0.00% | 24.40% | 4.70% | 0.00% |
| Corn | 190.2 | 138.7 | 0.0 | 0.0 | 0.0 | 59.0 | 0.0 |
| | 10.00% | 2.60% | 0.00% | 0.00% | 0.00% | 24.00% | 0.00% |
| Hay | 344.4 | 332.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 18.20% | 6.20% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Additional Peanuts | 0.0 | 0.0 | 45.2 | 57.4 | 0.0 | 0.0 | 0.0 |
| | 0.00% | 0.00% | 15.30% | 5.90% | 0.00% | 0.00% | 0.00% |
| Other Receipts | 0.0 | 750.0 | 10.3 | 8.6 | 0.0 | 0.0 | 0.0 |
| | 0.00% | 13.90% | 3.50% | 0.90% | 0.00% | 0.00% | 0.00% |
| 1996 Planted Acres** | | | | | | | |
| Total | 2,000 | 5,760 | 1,239 | 3,164 | 2,065 | 1,200 | 1,700 |
| Cotton | 1,100.0 | 3,000.0 | 961.0 | 2,822.0 | 1,240.0 | 400.0 | 765.0 |
| | 55.00% | 52.10% | 77.60% | 89.20% | 60.00% | 33.30% | 45.00% |
| Sorghum | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 350.0 | 935.0 |
| | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 29.20% | 55.00% |
| Wheat | 300.0 | 720.0 | 0.0 | 0.0 | 825.0 | 100.0 | 0.0 |
| | 15.00% | 12.50% | 0.00% | 0.00% | 40.00% | 8.30% | 0.00% |
| Corn | 300.0 | 240.0 | 0.0 | 0.0 | 0.0 | 350.0 | 0.0 |
| | 15.00% | 4.20% | 0.00% | 0.00% | 0.00% | 29.20% | 0.00% |
| Hay | 300.0 | 300.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 15.00% | 5.20% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Additional Peanuts | 0.0 | 0.0 | 95.0 | 128.0 | 0.0 | 0.0 | 0.0 |
| | 0.00% | 0.00% | 7.70% | 4.00% | 0.00% | 0.00% | 0.00% |
| Vegetables | 0.0 | 1,500.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.00% | 26.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| CRP | 0.0 | 0.0 | 183.0 | 214.0 | 0.0 | 0.0 | 0.0 |
| | 0.00% | 0.00% | 14.80% | 6.80% | 0.00% | 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 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 | 424 | 1,365 | 2,118 | 3,750 | 1,900 | 4,000 | 2,645 | 3,400 | 1,100 |
| Acres Owned | 212 | 515 | 318 | 1,688 | 380 | 2,000 | 815 | 1,020 | 50 |
| Acres Leased | 212 | 850 | 1,800 | 2,062 | 1,520 | 2,000 | 1,830 | 2,380 | 1,050 |
| Pastureland | | | | | | | | | |
| Acres Owned | 0 | 0 | 0 | 200 | 0 | 0 | 0 | 0 | 0 |
| 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 | 0.0 | 0.0 | 32.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.00% | 0.00% | 0.00% | 2.40% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Medium Grain Rice | 345.5 | 1,113.9 | 0.0 | 0.0 | 0.0 | 0.0 | 109.3 | 160.6 | 95.7 |
| | 95.00% | 98.30% | 0.00% | 0.00% | 0.00% | 0.00% | 14.10% | 15.30% | 29.10% |
| Long Grain Rice | 0.0 | 0.0 | 480.9 | 1,332.3 | 316.2 | 1,078.1 | 266.3 | 472.7 | 177.6 |
| | 0.00% | 0.00% | 98.60% | 96.20% | 47.70% | 55.80% | 34.50% | 44.90% | 53.90% |
| Soybeans | 0.0 | 0.0 | 0.0 | 0.0 | 129.0 | 197.9 | 216.6 | 333.2 | 52.9 |
| | 0.00% | 0.00% | 0.00% | 0.00% | 19.50% | 10.20% | 28.00% | 31.70% | 16.10% |
| Corn | 0.0 | 0.0 | 0.0 | 0.0 | 217.2 | 521.7 | 75.8 | 0.0 | 0.0 |
| | 0.00% | 0.00% | 0.00% | 0.00% | 32.80% | 27.00% | 9.80% | 0.00% | 0.00% |
| Wheat | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 100.7 | 86.0 | 0.0 |
| | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 13.00% | 8.20% | 0.00% |
| Cotton | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 135.0 | 0.0 | 0.0 | 0.0 |
| | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 7.00% | 0.00% | 0.00% | 0.00% |
| Other Receipts | 18.3 | 19.6 | 7.0 | 20.0 | 0.0 | 0.0 | 4.0 | 0.0 | 3.0 |
| | 5.00% | 1.70% | 1.40% | 1.40% | 0.00% | 0.00% | 0.50% | 0.00% | 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 | 1,265.0 | 0.0 | 0.0 | 0.0 | 0.0 | 175.0 | 325.0 | 189.1 |
| | 100.00% | 100.00% | 0.00% | 0.00% | 0.00% | 0.00% | 7.50% | 9.30% | 17.20% |
| Long Grain Rice | 0.0 | 0.0 | 1,110.2 | 2,775.0 | 616.0 | 1,710.0 | 512.0 | 975.0 | 350.9 |
| | 0.00% | 0.00% | 100.00% | 93.30% | 32.40% | 42.80% | 22.00% | 27.90% | 31.90% |
| Soybeans | 0.0 | 0.0 | 0.0 | 0.0 | 650.0 | 800.0 | 958.0 | 1,700.0 | 361.9 |
| | 0.00% | 0.00% | 0.00% | 0.00% | 34.20% | 20.00% | 41.20% | 48.60% | 32.90% |
| Corn | 0.0 | 0.0 | 0.0 | 0.0 | 633.0 | 1,250.0 | 230.0 | 0.0 | 0.0 |
| | 0.00% | 0.00% | 0.00% | 0.00% | 33.30% | 31.30% | 9.90% | 0.00% | 0.00% |
| Wheat | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 450.0 | 500.0 | 0.0 |
| | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 19.40% | 14.30% | 0.00% |
| Cotton | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 240.0 | 0.0 | 0.0 | 0.0 |
| | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 6.00% | 0.00% | 0.00% | 0.00% |
| Hay | 0.0 | 0.0 | 0.0 | 200.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.00% | 0.00% | 0.00% | 6.70% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Fallow | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 198.1 |
| | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 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% |
| Wheat | 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% |

*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)

**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 | 782.6 | 511.9 | 2,006.9 | 1,133.7 | 5,791.5 |
| | 91.20% | 95.50% | 96.20% | 96.10% | 94.90% | 93.80% |
| Dairy Cattle | 19.4 | 37.0 | 20.3 | 81.4 | 47.5 | 384.0 |
| | 8.80% | 4.50% | 3.80% | 3.90% | 4.00% | 6.20% |
| Hay | 0.0 | 0.0 | 0.0 | 0.0 | 13.2 | 0.0 |
| | 0.00% | 0.00% | 0.00% | 0.00% | 1.10% | 0.00% |
| 1996 Planted Acres** | | | | | | |
| Total | 220 | 685 | 0 | 550 | 200 | 1,210 |
| Hay | 220.0 | 578.0 | 0.0 | 150.0 | 200.0 | 1,210.0 |
| | 100.00% | 84.40% | 0.00% | 27.30% | 100.00% | 100.00% |
| Silage | 0.0 | 107.0 | 0.0 | 400.0 | 0.0 | 0.0 |
| | 0.00% | 15.60% | 0.00% | 72.70% | 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 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 | 87.3 | 123.8 |
| | 100.00% | 99.70% | 88.70% |
| Hay | 0.0 | 0.3 | 3.7 |
| | 0.00% | 0.30% | 2.70% |
| Other Receipts | 0.0 | 0.0 | 12.0 |
| | 0.00% | 0.00% | 8.60% |
| 1996 Planted Acres** | | | |
| Total | 440 | 200 | 400 |
| Hay | 440.0 | 200.0 | 400.0 |
| | 100.00% | 100.00% | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 2.80% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Hogs | 214.5 | 547.2 | 454.0 | 2,122.4 | 349.6 | 1,643.5 | 949.6 | 35,086.3 |
| | 81.90% | 81.10% | 59.50% | 88.20% | 57.60% | 73.80% | 100.00% | 100.00% |
| Corn | 3.0 | 6.4 | 135.0 | 25.4 | 186.2 | 306.6 | 0.0 | 0.0 |
| | 1.10% | 1.00% | 17.70% | 1.10% | 30.70% | 13.80% | 0.00% | 0.00% |
| Soybeans | 21.7 | 85.9 | 166.8 | 258.1 | 64.7 | 260.0 | 0.0 | 0.0 |
| | 8.30% | 12.70% | 21.80% | 10.70% | 10.70% | 11.70% | 0.00% | 0.00% |
| Wheat | 15.4 | 35.3 | 5.2 | 0.0 | 6.1 | 16.3 | 0.0 | 0.0 |
| | 5.90% | 5.20% | 0.70% | 0.00% | 1.00% | 0.70% | 0.00% | 0.00% |
| Other Receipts | 0.0 | 0.0 | 2.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.00% | 0.00% | 0.30% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| 1996 Planted Acres** | | | | | | | | |
| Total | 360 | 1,000 | 1,380 | 1,800 | 1,000 | 2,250 | 100 | 0 |
| Corn | 160.0 | 400.0 | 750.0 | 1,080.0 | 750.0 | 1,500.0 | 0.0 | 0.0 |
| | 44.40% | 40.00% | 54.30% | 60.00% | 75.00% | 66.70% | 0.00% | 0.00% |
| Soybeans | 80.0 | 400.0 | 610.0 | 720.0 | 225.0 | 700.0 | 0.0 | 0.0 |
| | 22.20% | 40.00% | 44.20% | 40.00% | 22.50% | 31.10% | 0.00% | 0.00% |
| Wheat | 80.0 | 200.0 | 20.0 | 0.0 | 25.0 | 50.0 | 0.0 | 0.0 |
| | 22.20% | 20.00% | 1.40% | 0.00% | 2.50% | 2.20% | 0.00% | 0.00% |
| Hay | 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 0.0 |
| | 11.10% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 100.00% | 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.

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

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

**Missouri**

*Facilitator*

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

*Panel Participants*

Mr. Larry Davies
Mr. Ron Gibson
Mr. Ron Venable
Mr. Gerald Kitchen
Mr. John Vogelsmeier
Mr. Clifford Lyons
Mr. Ron Linneman
Mr. Glenn Kaiser
Mr. Jack Harriman
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. Ellis Moore
Mr. Ronnie Williams
Mr. Kerri Cartwright
Mr.Wesley Spurlock
Mr. Marion Garland
Mr. Tom Moore

## 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. Roger Vest
Mr. Kevin Rosenbohm
Mr. Don Mobley
Mr. Gary Ecker

**South Carolina**

*Facilitator*

Mr. Toby Boring - Extension Agricultural Economist, Clemson University

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Mr. Harry DuRant
Mr. John Ducworth
Mr. Tom Jackson
Mrs. Vikki Brogdon
Mr. Leslie McIntosh
Mr. Steve Lowder
Mr. Billy Davis
Mr. John Spann
Mr. Chris Cogdill

## 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

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

**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. Arvid Winkler
Mr. Wade Bruns
Mr. Jack Formo
Mr. Ray Haugen
Mr. Jon Owen
Mr. Lloyd Thilmony
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. Nick Steffen
Mr. Donald Applegate
Mr. Joe Allen
Mr. Tim Turek
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. Calvin Schaffert
Mr. John Wright
Mr. Cliff Fletcher
Mr. David Foy
Mr. Leland Willeke
Mr. John Hickert
Mr. Marlin E. Snyder
Mr. Bill Rodwell
Mr. Gerry Ohr
Mr. Rick Lewton

**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

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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. Steve Boyett
Mr. Ernie Taylor
Mr. John Diener
Mr. Jeff Hildebrand
Mr. Wayne Wisecarver
Mr. Craig Pedersen
Mr. Dave Smith
Mr. Bill Tos
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. Milton Schneider
Mr. Dave Nix
Mr. Allan Gibson
Mr. Glen Phipps
Mr. Donald Vogler
Mr. Kent Nix
Mr. Mark Furlow
Mr. Norris Barron

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

**Texas - Blacklands**

*Facilitator*

Mr. Ronald Leps - Williamson County Agricultural Extension Agent

*Panel Participants*

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

**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. Clarence Chopelas
Mr. Darby Salge
Mr. Howard Salge

## RICE FARMS

**Arkansas**

*Facilitator*

Mr. Bill Free, Riceland Foods, Inc.

*Panel Participants*

Mr. David Feilkie
Mr. David Jessup
Mr. Derek Bohanan

**Texas**

*Facilitator*

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

*Panel Participants*

Mr. W. A. "Billy" Hefner, III
Mr. Ronald Gertson
Mr. Jim Wiese
Mr. Glen Rod
Mr. Kenneth "Peter" Stelzel
Mr. Steve Balas
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. Jack DeWitt
Mr. Don Staas
Mr. Ned Lemenager
Mr. Frank Rosa
Mr. Wayne Vineyard
Mr. Paul Lower
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. Bruce Yarbro
Mr. C. P. Johnson
Mr. Davis Minton
Mr. Floyd Page
Mr. Dale Conner
Mr. Fred Tanner
Mr. J. D. Sifford
Mr. Mike Mick
Mr. Rick Spargo
Mr. Cloyce Sowell

**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. Tommy Faulk
Mr. Jackie Loewes
Mr. Brian Wild
Mr. Allan McLain

## 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

**Texas - Eastern**

*Facilitator*

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

*Panel Participants*

Mr. George Tenberg
Mr. Greg Inman
Mr. Tim Spiva
Mr. Harold Bryant
Mr. Timothy Norris
Mr. Michael Mund
Mr. Hershel Kelsoe
Mr. Larry Ellison
Mr. W.D. Wafford

**Missouri**

*Facilitator*

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

*Panel Participants*

Mr. John Mallonee
Mr. & Mrs. Doug Owen
Mr. & Mrs. Freddie Martin
Mr. Wayne Whitehead
Mr. Larry Winfree
Mr. Allen Sulgrove
Mr. Dan Clemens
Mr. John Atkinson
Mr. Joe Peebles

**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. Keith Moeggenberg
Mr. Bob Pasch
Mr. Jim Wilson
Mr. & Mrs. Don Hopper
Mr. Jason Shinn
Mr. Ron McDonald
Mr. Bryan Neyer
Mr. Jerry Varner
Mr. Mike Fagan
Mr. Jim Reid
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. Louis Shiver
Mr. Bill Shaw
Mr. Edward Thomas
Mr. Glynn Rutledge
Mr. Rodney Land
Mr. Brad Hester
Mr. Kevin Jackson
Mr. Boyd Rucks
Mr. Everett Kerby
Mr. Tommy Rucks

**Georgia**

*Facilitator*

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

*Panel Participants*

Mr. Carlton McMichael
Mr. Mike Rainey
Mr. Ronny Parham
Mr. Bill Boyce
Mr. Bernard Sims
Mr. Terry Embry
Mr. Lamar Anthony
Mr. Earnest Turk
Mr. Raymond Hunter
Mr. Tom Thompson
Mr. Henry Cabaniss
Mr. Tim Camp

## DAIRY FARMS CONTINUED

**Wisconsin**

*Facilitator*

Mr. Jeff Key - Winnebago County Agricultural Extension Agent

*Panel Participants*

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

**New York - Western**

*Facilitator*

Mr. Jason Karszes - Cornell Cooperative Extension Service

*Panel Participants*

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

**New York - Central**

*Facilitator*

Dr. Wayne Knoblauch - Professor, Cornell University

*Panel Participants*

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

**Vermont**

*Facilitator*

Dr. Rick Wackernagel - Professor, University of Vermont

*Panel Participants*

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

## 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. Donald Ochsner
Mr. Jean Robinson
Mr. Art Drange

**Colorado**

*Facilitator*

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

*Panel Participants*

Mr. Doug Carlson
Mr. Dean Rossi
Mr. Charlie Cammer
Mr. Wayne Shoemaker
Mr. Jay Fetcher
Mr. Larry Monger
Mr. Pud Stetson
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. Gary Rice
Mr. Ray 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