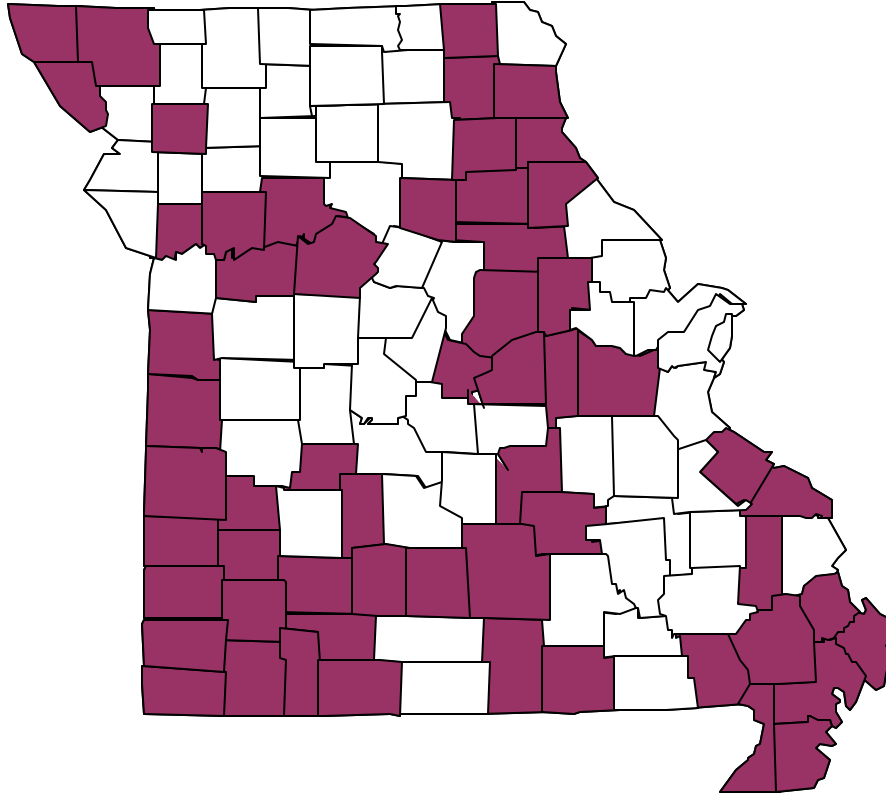


Baseline Outlook for Missouri Representative Farms 2003-2007



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Food and Agricultural
Policy Research Institute



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Shaded areas of cover map are home counties of representative farm panel members

Published by the Food and Agricultural Policy Research Institute (FAPRI), University of Missouri-Columbia, March 2003.

FAPRI
101 S. Fifth
Columbia, MO 56201
<http://www.fapri.missouri.edu>

This material is based on work supported by the Cooperative State Research Education and Extension Service, U.S. Department of Agriculture, under agreement no. 2002-34228-11826.

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Baseline Outlook for Missouri Representative Farms 2003-2007

FAPRI-UMC Report #01-03

March 2003

Brent Carpenter
Peter Zimmel
Joe Trujillo



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Executive Summary

The projections of farm financial strength in this report are partially dependent on what has occurred over the last several months. In general, 2002 was not a good year for the rep farms. Government payments were delayed and dramatically lower in the 2002 calendar year for many farms. Livestock prices, particularly for hogs and dairy products were at low levels. In addition, yields were down considerably due to weather events. One quarter of the rep farms begin the projection period with a negative cash balance. That is, they technically have no cash on hand and have a carryover operating loan balance. Another third of the farms have accumulated less than one quarter of their annual operating expenses and hold it in reserves for the 2003 calendar year. Relative to this recent history the future looks brighter for most of the representative farms.

Perhaps the best summary of financial outlook for the 42 representative farms is to examine the risk scores assigned based on probabilities of cash flow deficit and/or declining net worth over 2003-2007 (see figures 1 and 2). Nine of the farms are projected to meet cash needs and build wealth by accumulating cash or other business assets (green colored, low risk farms). This category of farms tend to be larger sized. Some have contracts to reduce price risk. On a group basis, dairy farms show the least risk. Conversely, only one of the 14 farms with beef cattle receives a good risk rating.

On the other end of the spectrum are the poor (red), or high-risk farms. Seven, or 16 percent of the rep farms are not expected to be able to continue farming the same way over the next five years without severe financial consequences. All farm types, except dairies, have farms in this risk category.

For the majority of farms – those in the marginal risk category -- solvency is not an issue, but liquidity is expected to be a major concern. The implication is that there will be one to perhaps several years in the five-year projection period when the farm will not generate enough receipts to meet cash needs.

The reasons for a mixed outlook are explained in later discussion. Relative to the previous baseline outlook for the rep farms (June 2002), there is considerably more risk across the board, owing largely to the events of 2002.



Figure 1. The 42 rep farms by risk rating, 2003-07 baseline outlook

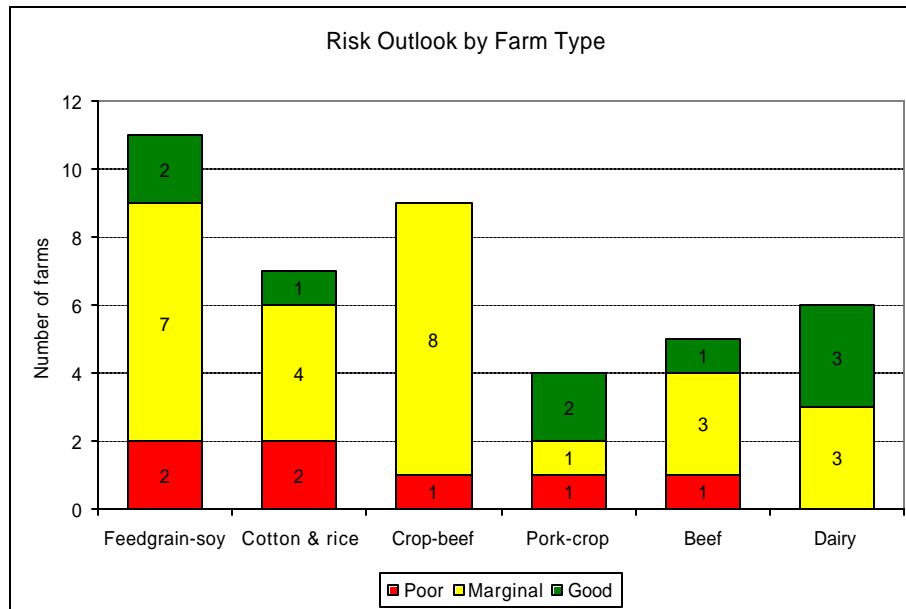


Figure 2. Risk ratings of rep farms by farm type, 2003-07 baseline outlook

Introduction

This report presents a five-year outlook for the representative farms under provisions of the Food Security and Rural Investment Act of 2002 (FSRI). Throughout this report, farms are identified by a number and grouped by primary sources of income.

The Missouri representative farm database currently contains a total of 44 farms. Table 1 is a general overview of the farms for the 2003-07 period. Note that farm size ranges widely within the farm type categories. Twelve of the rep farms (27 percent) fit the USDA definition of a small farm with less than \$250,000 in agricultural product sales. Outlook for the two broiler-beef farms is not included in this report, but a complete analysis is available in FAPRI-UMC Report 07-02, *Financial Analysis of Missouri Broiler-Beef Farms*, July 2002.

Table 1. Missouri representative farms database

Farm Type	Number of Farms	Total Receipts (\$1000)		Operator Assets (\$1000)		Risk Ratings (Num. of farms)		
		Min.	Max.	Min.	Max.	Poor	Marginal	Good
Feedgrain-soy	11	194	1314	678	4343	2	7	2
Cotton and rice	7	107	1534	467	6005	2	4	1
Crop-beef	9	144	606	558	2846	1	8	0
Pork-crop	4	291	3690	1251	6166	1	1	2
Beef	5	101	223	920	2131	1	3	1
Dairy	6	259	1233	891	2513	0	3	3
Broiler-beef	2	132	199	646	786	na	na	na
All farms	44	101	3690	467	6166	7	26	9

Procedural Notes and Assumptions

The representative farm approach treats a farm business unit as a unique system characterized by local features that are adapted to by the farm manager. Local conditions are internalized in the creation and simulation of each farm.

Primary data are initially developed and continuously validated by Missouri producers via the representative farm process. Producers establish farm structure, size, farming practices, costs of production and associated financial requirements for the representative farm, based on their own individual operations. In some cases, data points are cross-referenced with published sources to test assumptions or to verify and explain differences. Business size and structure are held constant for the simulation period, 2000-2007.

For simulation, actual historical data are used for the years 2000-02. The historical period provides some perspective of financial performance with known values and sets a footing for simulation through the projection period, 2003-2007. Future outcomes are based on FAPRI baseline projections for the U.S. agricultural sector published in March 2003. The sector baseline includes average annual prices, production trends, interest rates and inflation factors for input costs. See Table 2 for a listing of average, deterministic prices.

The simulation model incorporates historical production and price variability and derives projected values stochastically. Projected crop yields, livestock sale weights, birth rates and milk per cow, for example, vary as in the past ten years. Prices reflect national volatility resulting from international supply and demand interactions, as well as U.S. production risk. Numbers reported in the financial tables are the mean of 500 stochastic simulations. Farm level analysis is generated using FLIPSIM software.

Farms are assumed to participate in government programs as eligible. Applicable farm bill provisions are incorporated over the life of the simulation, i.e., provisions of the 1996 farm bill are applied to the years 2000-2001 and provisions of the 2002 farm bill are applied to the years 2002-07. For example, market loss assistance payments (double AMTA) and disaster provisions are included in the 2000 and 2001 analysis. The 2002 livestock compensation program is imposed on the beef and dairy farms, as is the milk income loss contract (MILC) program on the rep dairy farms. It assumed that the rep farms do not encounter limitations on government payments.

The base and yield update opportunity offered by the 2002 farm bill was evaluated for each of the farms and applied in the projection period. All of the eligible rep farms updated base and yield in 2002 for determination of direct and counter-cyclical payments.

For rep farms participating in the multi-peril crop insurance program, eligible crops are insured with a basic plan at 100 percent price and 65 percent yield protection.

Table 2. FAPRI baseline prices, March 2003

Commodity	2000	2001	2002	2003	2004	2005	2006	2007
Cotton, lb	0.50	0.30	0.42	0.46	0.48	0.49	0.48	0.50
Wheat, bu	2.62	2.78	3.65	3.07	3.10	3.13	3.15	3.22
Sorghum, bu	1.89	1.94	2.39	2.01	1.97	2.01	2.05	2.08
Corn, bu	1.85	1.97	2.35	2.10	2.10	2.14	2.19	2.20
Soybeans, bu	4.54	4.38	5.45	4.99	4.99	5.15	5.26	5.30
Long rice, cwt	5.76	4.28	4.05	4.56	4.92	5.19	5.31	5.38
Soybean meal, ton	166.70	160.00	162.15	146.09	147.25	152.81	157.67	159.80
All hay, ton	85.00	97.30	96.99	92.57	88.98	88.57	89.32	90.24
Cull cows, lb	0.42	0.44	0.39	0.42	0.45	0.46	0.43	0.41
Feeder steers, lb	0.94	0.95	0.86	0.93	0.98	1.00	0.96	0.88
Fed steers, lb	0.70	0.73	0.67	0.75	0.77	0.78	0.76	0.73
Cull sows, lb	0.30	0.34	0.24	0.27	0.30	0.32	0.29	0.28
Barrows & gilts, lb	0.45	0.46	0.35	0.39	0.43	0.45	0.41	0.40
Missouri milk, cwt	12.10	14.90	12.22	12.25	12.32	12.36	12.63	12.70

Only income generated with farm business assets is included in receipts, not off-farm salary income. On some farms a relatively small portion of total receipts are generated from custom farming enterprises and are included in the analysis. Household expenses are not included.

Each farm is assumed to be a sole proprietorship with four tax exemptions, subject to federal, Missouri and self-employment taxes. Unpaid managerial labor for the operator is deducted as a family living expense. The amount in 2000 varies by farm within a range of \$15,000 to \$60,000 and is inflated thereafter. Any other family labor is treated as hired labor and deducted as a cash expense.

For simulation, farm debt is an assumed value based on the type of farm (asset turnover rate) and the business phase as indicated by the panel members. This differential is particularly important for livestock and dairy farms with widely varying investment in facilities. For all rep farms, an initial term debt level is set in 2000 and the simulation forces principal and interest payments on schedule. January 2000 cash on hand is assumed to be zero. Actual debt on individual farms in Missouri is difficult to assess. However, national debt ratios are shown in Figure 3 and Table 3 as a reference. Debt ratios vary by size and sales category.

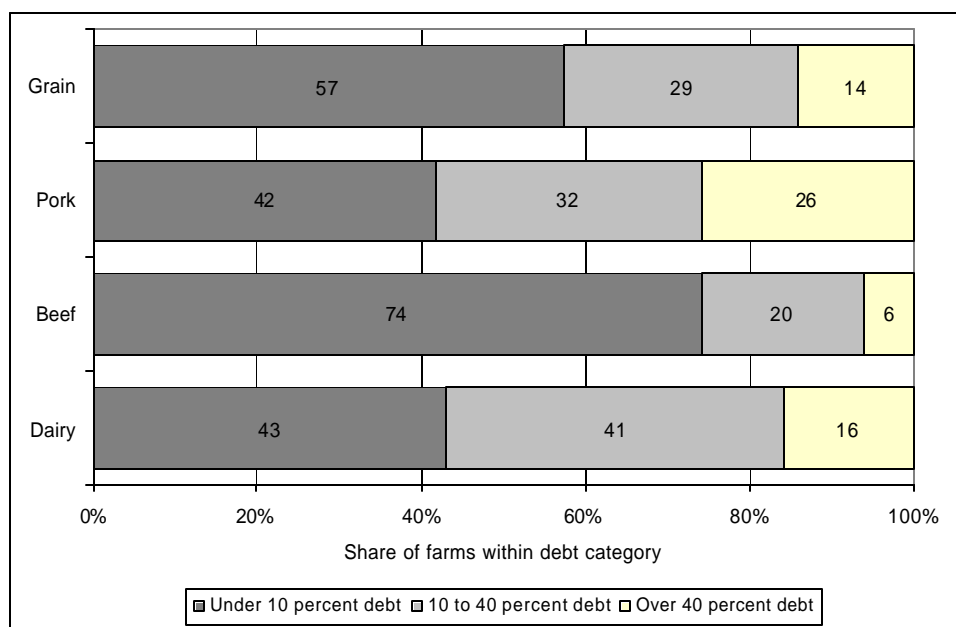


Figure 3. Distribution of debt on U.S. farms in 2000. Source USDA-ERS

Table 3. Average debt ratios by sales category, 2000. Source: USDA-ERS.

	Grain	Hog	Beef	Dairy
under \$100 K	6.4	na	5.8	11.9
\$100 K - \$250 K	16.3	na	9.4	16.1
\$250 K - \$500 K	15.6	23.4	17.7	15.9
\$500 K - \$1000 K	16.9	23.1	13.7	23.2
over \$1000 K	21.5	31.7	16.5	27.4

While the simulation output generates a full set of financial statements, the cash flow statement is the primary tool of this analysis. The accounting procedure is a straightforward cash-basis approach with tax liabilities incorporated. Table 5 on the following page presents a modified cash flow statement for a diversified farm to illustrate the procedures used to develop the summary statistics for all farms shown in this report. The sample farm raises program crops on 250 acres which are primarily fed through the beef enterprise (125 cows) and the farrow-finish enterprise (200 sows). The "bottom-line" of this analysis is return to family living, i.e., cash available after taxes and debt reduction.

Reader Hints

Individual outlook for each farm is summarized in the tables that begin on page 8. A few hints for the reader: There are two columns for each farm. Production and size characteristics are shown on the left page and financial statistics are listed on the right page. Farms are numbered sequentially across the top of the page. Several items are footnoted. Detailed notes can be found at the end of the tables on page 34. The tables for each farm type group are preceded by a synopsis with specific points highlighted for many of the farms.

For readers that wish to peruse the results by region rather than farm type, refer to Table 4 for a geographical sort of the farms. Regions refers to the cropping regions of the Missouri Ag Statistics Service.

Table 4. Representative farm identification numbers, by region

Farm Type	North	North	North	West	East	South	South	South
	West	Central	East	Central	Central	West	Central	East
Feedgrain-soy	1	3	5	8		9		10
	2	4	6					11
			7					
Cotton and rice								12
								13
								14
								15
								16
								17
Crop-beef	19		21	23		24	26	
	20		22			25	27	
Pork-crop			28	29	30	31		
					32		33	35
Beef							34	36
							38	42
						37	39	
							40	
Dairy							41	
							43	
							44	
Broiler-beef								
Regional Count	4	2	6	3	2	4	11	3
								9

Table 5. Sample modified cash flow statement for illustration purposes

	2000	2001	2002	2003
Beginning cash reserve ⁱ	0	27,925	50,484	0
Income (net of share leases)				
Crop receipts	13,335	12,021	15,514	12,246
Cow-calf receipts	59,010	58,727	55,367	58,582
Hog receipts	458,663	473,342	340,552	362,092
CCP payments	0	0	0	5,828
Fixed payments	8,492	6,919	5,166	5,166
LDP payments	12,769	4,832	0	5,787
Indemnity payments	0	0	0	0
Other farm income	0	0	0	0
Interest on cash reserve	0	937	621	0
Total cash receipts ^a	552,269	556,778	417,220	449,701
Expenses (Net of share leases)				
Direct crop production	28,352	30,986	27,204	27,330
Direct cow-calf production	14,220	14,684	14,463	14,634
Direct hog production	238,720	244,965	246,005	242,466
Allocated variable costs	281,292	290,635	287,672	284,430
Cash rent for land	6,650	6,650	6,650	6,650
Hired labor	50,032	50,587	52,914	54,883
RE and property taxes	3,872	3,894	3,966	4,032
Professional services	550	575	584	594
Unallocated main./repair	17,000	18,000	18,265	18,455
Whole farm utilities	10,482	10,054	9,457	9,908
Whole farm fuel and lube	8,538	8,189	7,703	8,070
Whole farm liability insurance	2,800	3,000	3,049	3,098
Miscellaneous	1,100	1,300	1,321	1,342
Unallocated costs	102,024	103,249	104,924	108,062
LT interest payments	17,383	12,723	11,782	11,577
IT interest payment	7,704	5,586	3,390	1,930
Op interest payment	4,158	3,025	2,614	2,789
Carryover interest payment	0	0	0	306
Total interest expense	29,245	21,334	17,786	16,602
Total cash operating expenses	412,561	415,218	410,382	409,094
Net cash farm income ^g	139,708	141,560	6,838	40,607
Cash available	139,708	169,485	57,322	40,607
Cash diff. capital replacement	2,190	3,025	0	412
LT principal payment	18,077	20,551	20,544	22,279
IT principal payment	34,709	42,126	44,175	15,918
Carryover op loan payment	0	0	0	18,778
Federal income taxes	7,646	7,937	-3,606	-786
State income taxes	4,196	4,392	0	427
SE taxes	10,234	10,684	555	336
Sub-total cash needs	77,052	88,715	61,668	57,364
Return to family living ^h	62,656	52,845	-54,830	-16,757
Family living withdrawal assumed ⁱ	25,000	25,660	26,097	26,853
Annual cash surplus	37,656	27,185	-80,927	-43,610
Cumulative cash reserve	27,925	55,110	-25,817	-69,427

See page 34 for footnotes.

Feedgrain-soy Farms

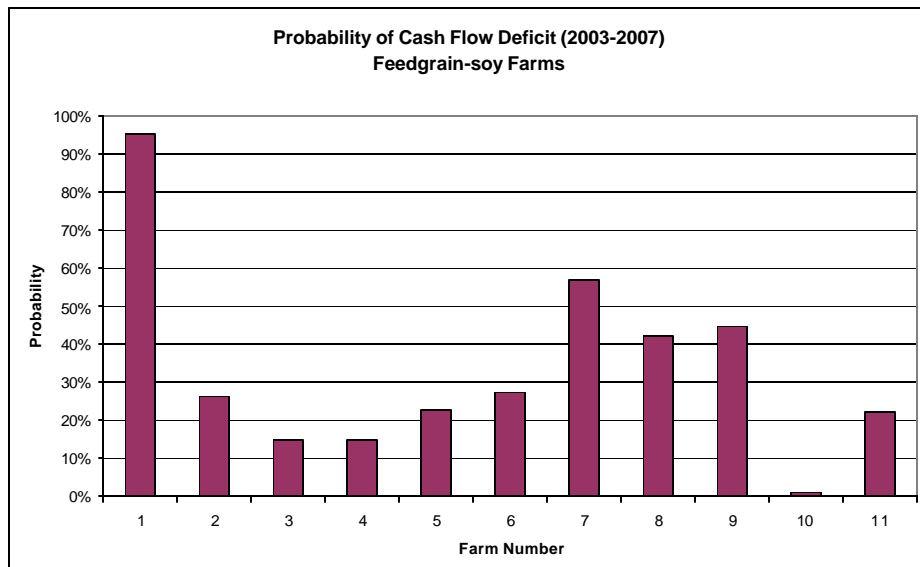
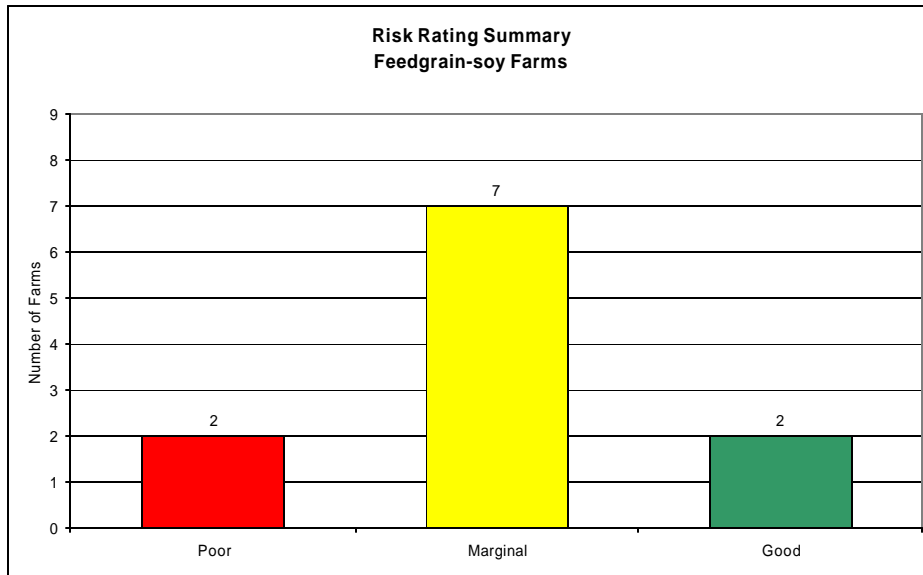
Group Characteristics

This group of eleven farms is geographically dispersed around the state. Cropland acres range from a low of 800 acres in Barton County to a high of 4500 acres in Mississippi County. The share of planted acres for the group is led by soybeans (52 percent), then corn (36 percent), wheat (8 percent), and grain sorghum (4 percent). The majority of the farms had above average yields in 2000 and 2001, but yields were generally below trend in 2002, especially for farms in the northwest region.

Outlook Summary

With the implementation of the 2002 farm bill, the overall economic outlook for these farms is more certain. With counter-cyclical payments, crop producers know that over the next six years government support is pre-established when market prices are low.

A combination of low yields and low government payments in 2002 shifted several farms to a lower risk rating from the previous baseline projection (June 2002). Eight of the eleven farms begin the projection period with relatively little cash accumulated from the previous three years, i.e., less than a third of 2003 operating expenses. However, for the period as a whole, nine of the eleven farms have a greater than 55 percent probability of positive cash flow. Return to operator assets is expected to average 5.85 percent with a range of 1.3 to 12.4 percent. Government payments are expected to average 20 percent of receipts, down from 16 percent in the previous baseline.



Feedgrain-soy spotlights

Farm 1

This northwest region farm plants 2000 acres of corn and soybeans in equal proportions. 2002 corn yields were only 55 percent of 2001 and beans yields were 83 percent of the previous year. Yet, even with trend yields this farm struggles to meet the assumed family withdrawal of \$28,400 with 20 percent debt. This farm has the highest land value per acre, but also the lowest yields on average. The maximum amount of term debt the farm can support is 2 percent.

Farm 2

This Missouri River bottom farm plants 2300 acres, $\frac{1}{4}$ to corn and $\frac{3}{4}$ to soybeans. Drought and changes in government programs caused the farm to have a lean 2002, with only \$22,600 generated for family living. However, the outlook for this farm is much improved. This farm increased in size recently by renting more acres.

Farms 3 and 4

These two Carroll County farms are similar in most respects, except for the number of acres farmed – 1700 and 3630 acres. Yields are strong relative to land costs and total operating costs are comparatively low. It is expected that both of these farms will be able to provide a full family living. However, the smaller farm receives only a marginal risk rating because cash flow risk climbs over the projection period.

Farm 5

This northeast region farm has grown recently by cash renting additional acres and now farms 2240 acres. 2001 and 2002 were not good years for this farm – leaving the farm with just 5 percent of operating costs in reserve. Future years are projected to be much better with trend yields and more stabilizing government support. Overall risk of cash flow deficit due to price and production variability is estimated to be 23 percent.

Farm 6

This northeast region farm with 1300 acres is expected to generate \$28,400 in family living with 27 percent probability of cash flow deficit. Corn and sorghum yields were well below average in 2002. This medium sized farm, and others like it, is highly dependent on government support to meet family living needs.

Farm 7

This farm raises crops on 1165 acres in the northeast region and also owns 2 shares in an ethanol processing plant. Returns from the cooperative have been positive, but 2002 yields were well below trend. Risk of cash flow deficit for the period is 57 percent while the household withdraws only \$28,400 for family living. Inflating costs exceed receipts in the later years of simulation, placing this farm in a poor position.

Farm 8

This Lafayette County farm crops corn and soybeans on 1800 acres and does some custom spraying. Operator assets are over \$3 million and half of the farm is leased. With trend yields and historical variability the risk of not meeting the \$36,300 withdrawal for family living is 44 percent.

Farm 9

This 800-acre farm in Barton County is the smallest farm in the feedgrain-soy group. In 2002, only \$9,100 in residual was available for the household. Assuming the farm wishes to withdraw \$28,400 on average in the projection period, there is a 45 percent probability of not meeting this goal.

Farm 10

This bootheel crop farm raises crops with strong yields on 1800 acres -- only 5 percent of which are owned. Lease arrangements are such that the farm has comparatively low land costs. The farm receives a good risk rating because there is less than a 25 percent probability of cash flow deficit while withdrawing an average of \$56,800 for the household.

Farm 11

This bootheel farm is the largest of the feedgrain-soy farms, but the operator owns only 11 percent of the 4000 crop acres. Operating costs as a share of receipts are higher for this farm than its smaller neighbor (farm 10). The farm is expected to withdraw a healthy amount for family living, but the risk of not being able to meet the withdrawal from any given years' receipts is about one year in five.

Table 6. **Feedgrain-soy** farms, characteristics and financial outlook

Code	NWFG2000	NWFG2300	NCFG1700	NCFG3630	NEFG2240	NEFG1300	NEFG1165
Farm number	1	2	3	4	5	6	7
Region	Northwest	Northwest	North Central	North Central	Northeast	Northeast	Northeast
County	Atchison	Ray	Carroll	Carroll	Marion	Audrain	Shelby
Total acres operated	2060	2368	1800	3830	2310	1340	1212
Share of land owned	46%	55%	62%	47%	38%	32%	23%
Cropland	2000	2300	1700	3630	2240	1300	1165
Acres owned	880	1230	1020	1600	810	390	235
Acres leased	1120	1070	680	2030	1430	910	930
Nonproductive acres owned	60	68	100	200	70	40	47
Cash receipts, 2002 ^a							
Total (\$1000)	\$357	\$446	\$431	\$806	\$497	\$289	\$257
Share of total							
Corn	54%	32%	58%	54%	51%	20%	33%
Sorghum						21%	
Wheat			1%	2%	3%		15%
Soybeans	46%	68%	41%	44%	46%	59%	43%
Custom work							9%
Planted acres ^b							
Total	2000	2300	1700	3630	2240	1300	1398
Share of total							
Corn	50%	24%	49%	46%	49%	25%	32%
Sorghum						18%	
Wheat			3%	3%	3%		17%
Soybeans	50%	76%	49%	51%	48%	57%	51%
Crop yields ^c							
Corn, bu							
2000	125	155	158	178	155	155	161
2001	132	171	160	155	117	142	130
2002	73	124	147	150	95	72	99
Sorghum, bu							
2000						118	
2001						130	
2002						109	
Wheat, bu							
2000			48	58	58	51	59
2001			60	64	56	49	63
2002			55	54	63	48	57
Soybeans, bu							
2000	42	48	41	39	40	46	50
2001	43	47	48	47	38	49	48
2002	36	39	49	50	41	45	41

Table 6. **Feedgrain-soy** farms, characteristics and financial outlook (continued)

Code	NWFG2000	NWFG2300	NCFG1700	NCFG3630	NEFG2240	NEFG1300	NEFG1165
Farm number	1	2	3	4	5	6	7
Financial risk outlook ^d	Poor	Marginal	Marginal	Good	Marginal	Marginal	Poor
Average operator assets (\$1000)	2774	3513	2735	4343	2380	1187	976
Average return to operator assets (%)	5.3	4.9	4.8	6.6	6.3	4.6	1.3
Assumed operator debt in 2000 (%) ^e	20	20	20	20	20	20	20
Max beginning debt ratio in 2003 (%) ^f	2	34	37	41	45	36	32
Cropland value in 2000 (\$ per acre)	2400	2000	1900	1775	1800	1800	1925
Average operating expense/receipts (%)	75.5	56.0	57.4	56.7	64.5	70.7	76.0
Average government payments/receipts (%)	16.4	13.4	16.3	16.2	16.2	17.2	15.2
Government payments (\$1000) ^g							
2002	28.7	24.7	26.7	48.2	36.0	18.2	16.1
2003	80.9	71.9	75.1	135.4	100.7	53.4	40.7
2004	87.6	76.1	80.3	144.5	99.5	58.8	43.0
2005	82.2	70.3	77.5	139.0	95.0	54.8	40.8
2006	77.7	65.8	72.7	130.5	89.5	51.4	38.8
2007	74.1	62.7	68.9	123.6	85.1	48.3	36.7
Average	80.5	69.3	74.9	134.6	94.0	53.3	40.0
Total cash receipts (\$1000) ^a							
2000	498.0	538.3	435.1	851.3	613.9	349.7	298.6
2001	462.0	541.9	447.7	822.6	493.4	341.5	272.8
2002	357.4	446.2	431.1	806.0	496.7	289.3	257.0
2003	502.7	524.5	459.2	828.7	620.4	300.7	260.5
2004	506.2	529.9	462.9	835.2	583.5	305.8	262.9
2005	517.3	539.1	475.1	857.4	590.0	310.6	266.8
2006	523.7	548.4	476.1	859.4	602.6	314.4	270.6
2007	527.9	552.4	484.4	874.2	604.7	316.0	272.0
Average	515.6	538.8	471.6	851.0	600.3	309.5	266.6
Net cash farm income (\$1000) ^h							
2000	136.7	259.9	170.2	378.7	213.1	131.1	75.8
2001	99.8	259.3	174.4	344.4	80.4	116.8	70.8
2002	16.1	166.4	171.0	339.7	98.6	76.3	65.4
2003	151.7	240.8	203.6	367.8	224.7	89.0	67.5
2004	151.9	244.1	204.3	369.5	228.8	91.5	66.5
2005	157.7	248.0	210.7	386.5	230.7	92.5	65.9
2006	149.7	252.6	210.0	382.3	238.3	95.3	64.5
2007	154.1	257.1	212.9	399.8	239.9	93.5	63.0
Average	153.0	248.5	208.3	381.2	232.5	92.4	65.5
Return to family living (\$1000) ⁱ							
2000	26.7	132.1	80.8	207.6	121.5	69.1	47.6
2001	-10.7	99.1	72.2	144.0	17.8	51.3	40.3
2002	-114.7	22.6	61.1	107.6	18.1	17.6	30.5
2003	-101.2	66.3	111.2	147.2	119.7	41.3	46.3
2004	-99.0	65.3	88.8	118.3	109.4	39.9	36.8
2005	-74.8	36.3	93.5	125.2	89.3	25.9	26.9
2006	-86.3	64.0	87.5	125.3	87.8	42.3	17.2
2007	-98.0	65.2	61.7	143.9	87.1	34.4	2.7
Average	-91.9	59.4	88.5	132.0	98.7	36.8	26.0
Average withdrawal assumed (\$1000) ^j	28.4	43.2	51.1	67.9	51.1	28.4	28.4
Beginning cash/operating expenses (%) ^k	-40.1	49.9	29.9	60.1	5.3	29.3	22.1
Probability of a cash flow deficit (%) ^l							
2003	88.2	20.2	9.4	14.4	28.2	23.2	19.0
2004	84.0	20.6	19.8	23.4	31.8	24.8	24.2
2005	75.8	53.8	17.8	21.6	36.8	56.4	48.4
2006	75.4	23.4	26.0	25.2	37.4	25.6	78.6
2007	75.0	25.4	50.2	19.8	37.4	42.6	92.8

Table 6. **Feedgrain-soy** farms, characteristics and financial outlook (continued)

Code	WCFG1800	SWFG800	SEFG1800	SEFG4000
Farm number	8	9	10	11
Region	West Central	Southwest	Southeast	Southeast
County	Lafayette	Barton	Mississippi	Mississippi
Total acres operated	1997	845	1805	4025
Share of land owned	54%	53%	5%	11%
Cropland	1800	800	1800	4000
Acres owned	875	400	82	400
Acres leased	925	400	1718	3600
Nonproductive acres owned	197	45	5	25
Cash receipts, 2002 ^a				
Total (\$1000)	\$547	\$156	\$476	\$1,192
Share of total				
Corn	53%	13%	44%	44%
Sorghum		26%	6%	
Wheat		24%	9%	15%
Soybeans	39%	37%	41%	41%
Custom work	8%			
Planted acres ^b				
Total	1800	1066	2070	5360
Share of total				
Corn	50%	8%	32%	28%
Sorghum		17%	8%	
Wheat		25%	13%	26%
Soybeans	50%	50%	47%	46%
Crop yields ^c				
Corn, bu				
2000	155	145	164	167
2001	144	167	175	182
2002	130	141	163	153
Sorghum, bu				
2000		110	114	
2001		113	90	
2002		105	107	
Wheat, bu				
2000		20	61	67
2001		68	63	77
2002		45	61	51
Soybeans, bu				
2000	36	25	42	41
2001	50	42	41	40
2002	42	18	49	44

Table 6. **Feedgrain-soy** farms, characteristics and financial outlook (continued)

Code	WCFG1800	SWFG800	SEFG1800	SEFG4000
Farm number	8	9	10	11
Financial risk outlook ^d	Marginal	Marginal	Good	Marginal
Average operator assets (\$1000)	3068	678	1011	2805
Average return to operator assets (%)	3.7	6.1	12.4	8.4
Assumed operator debt in 2000 (%) ^e	20	20	20	20
Max beginning debt ratio in 2003 (%) ^f	33	21	78	72
Cropland value in 2000 (\$ per acre)	2000	1000	2100	2000
Average operating expense/receipts (%)	71.5	63.6	59.1	70.8
Average government payments/receipts (%)	14.9	17.1	16.2	15.8
Government payments (\$1000) ^g				
2002	29.7	13.1	27.3	80.3
2003	84.6	32.8	75.1	207.7
2004	91.1	36.0	80.8	219.7
2005	85.6	33.5	77.0	209.2
2006	81.1	31.5	72.4	199.5
2007	77.4	29.3	68.7	188.3
Average	83.9	32.6	74.8	204.9
Total cash receipts (\$1000) ^a				
2000	570.9	158.4	447.5	1,228.3
2001	590.2	204.2	453.9	1,292.5
2002	546.8	155.9	475.5	1,191.8
2003	566.4	188.8	455.1	1,281.5
2004	571.1	191.3	461.3	1,295.6
2005	578.0	194.3	468.6	1,315.8
2006	586.9	196.6	475.5	1,334.7
2007	590.0	196.8	478.2	1,344.4
Average	578.5	193.6	467.7	1,314.4
Net cash farm income (\$1000) ^h				
2000	175.1	39.5	184.6	355.7
2001	190.0	80.2	180.8	401.2
2002	154.1	39.9	214.0	321.7
2003	175.3	72.4	193.4	397.6
2004	178.1	73.3	196.3	395.0
2005	174.3	73.3	197.6	397.4
2006	180.7	74.5	193.8	400.3
2007	183.9	74.8	191.5	392.7
Average	178.5	73.7	194.5	396.6
Return to family living (\$1000) ⁱ				
2000	89.4	12.5	122.0	187.5
2001	90.3	24.6	106.8	202.8
2002	42.0	9.1	118.6	69.8
2003	74.7	28.0	94.6	127.6
2004	65.2	34.8	121.7	117.5
2005	25.8	33.7	114.5	147.1
2006	24.2	30.3	101.8	116.3
2007	29.0	27.5	94.2	104.5
Average	43.8	30.9	105.3	122.6
Average withdrawal assumed (\$1000) ^j	36.3	28.4	56.8	67.9
Beginning cash/operating expenses (%) ^k	31.8	-14.6	75.0	31.6
Probability of a cash flow deficit (%) ^l				
2003	28.2	45.6	10.8	24.0
2004	32.0	33.2	1.2	30.2
2005	53.4	32.4	3.6	22.6
2006	52.2	45.6	8.0	31.2
2007	51.4	52.0	18.6	37.8

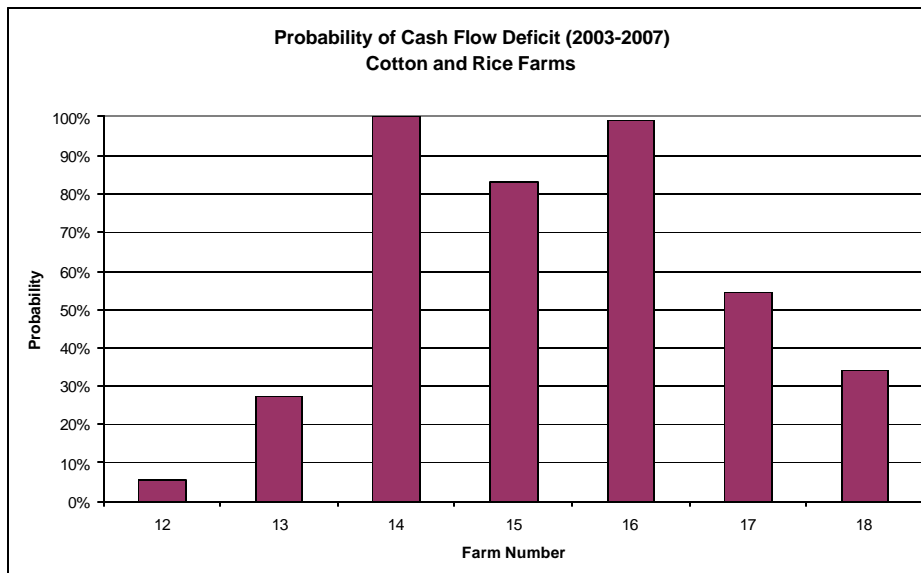
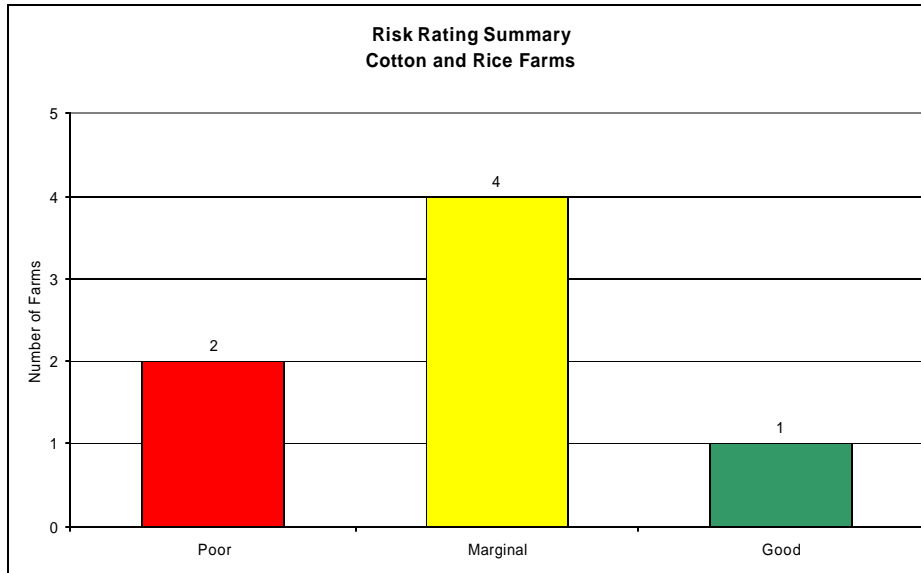
Cotton and Rice Farms

Group Characteristics

This set of seven Missouri bootheel crop farms raises cotton and/or rice as a major part, if not the dominant portion of their crop mix. Planted acres range from 400 to 4500. Owned acres are as little 10 percent and as high as 51 percent on these farms. Most leased acres are done on a share basis

Group Outlook Summary

The outlook for this set of farms is mixed. Recent production history was generally above average. However, the farms enter the projection period on the heels of fairly dismal market prices, particularly 2001 cotton and rice prices. Based on the beginning assumptions, two farms start the projection period with a cash deficit accumulated in 2000-02. Government payments are a substantial portion of total receipts, averaging 30 percent for the group.



Cotton and Rice Spotlights

Farm 12

This 1600-acre farm irrigates cotton, soybeans, and rice and plants dryland sorghum. Only ten percent of the acreage is owned. Cotton is planted on 42 percent of the acres, but makes up 60 percent of the farm receipts. Rice is 22 percent of receipts. This farm receives a good risk rating. Probability of cash flow deficit remains below 25 percent while return to family living averages over \$100,000.

Farm 13

This 3000-acre farm gets 58 percent of its income from cotton. No rice is grown. Cash return to family living is quite volatile partly due to the need for periodic machinery replacement, particularly cotton strippers and module building equipment. On average, the farm can conceivably provide family support over \$100,000 on average, but ranges from \$17,600 to \$165,500 over the projection period.

Farm 14

This 2000-acre farm in Butler County receives 42 percent of its income from rice. Under the assumption of 20 percent debt the farm is unable to cash flow and receives a poor rating. Initial debt must be below 2 percent for this farm to sustain the assumed level of family income. This farm has the highest operating costs as a share of receipts at 90 percent. Although the simulation maintains a constant crop-mix, changes are expected on this farm in the coming years.

Farm 15

This 4000-acre Butler County farm plants rice and soybeans on an equal number of acres. Rice provides two-thirds of the total farm receipts. Like the smaller Butler County farm, this farm is unlikely to meet cash needs without some changes. With 88 percent of receipts consumed by operating expenses, there is not enough left over to replace machinery, pay taxes and provide for family living at a level theoretically justified by a business with \$518,000 in receipts and \$5.89 million in assets.

Farm 16

USDA would classify this operation as a limited-resource farm. It plants 400 acres to rice, sorghum, and soybeans. Rice generates 58 percent of total income. With expected annual receipts slightly over \$100,000 this farm cannot fully support a family. For simulation it is assumed the farm plans to withdraw an average of \$17,000. However, the opportunity to do this occurs in only two of the five projection years.

Farm 17

With 2500 acres planted to rice, corn, wheat, and soybeans this farm is expected to generate an average of \$954,500 in receipts. However, only a small fraction of this total income is left for family living. Over \$743,000 is required to operate the farm. After taxes, debt reduction, and machinery replacement this farm is expected to have liquidity pressure.

Farm 18

This 4500-acre farm is the largest of the crop farms, but not necessarily the most efficient. Operating costs as a share of receipts are moderately high by comparison at 76.1 percent. Retaining the assumption that there is no effective ceiling on government payments, this farm is expected to provide an average household income of \$62,500, but not without substantial risk. Scheduled machinery replacement in the later years of the projection period is largely responsible for the decline in residual returns.

Table 7. Cotton and rice farms, characteristics and financial outlook

Code	SECT1600	SECT3000	SERC2000	SERC4000	SERC400	SERC2500	SERC4500
Farm number	12	13	14	15	16	17	18
Region County	Southeast Pemiscot	Southeast Pemiscot	Southeast Butler	Southeast Butler	Southeast Stoddard	Southeast Stoddard	Southeast New Madrid
Total acres operated	1608	3080	2040	4100	408	2519	4650
Share of land owned	10%	35%	41%	51%	51%	16%	37%
Cropland	1600	3000	2000	4000	400	2500	4500
Acres owned	160	1000	800	2000	200	375	1575
Acres leased	1440	2000	1200	2000	200	2125	2925
Nonproductive acres owned	8	80	40	100	8	19	150
Cash receipts, 2002 ^a							
Total (\$1000)	\$494	\$1,022	\$571	\$1,509	\$99	\$902	\$1,641
Share of total Cotton	60%	58%					
Rice	22%		42%	67%	58%	40%	44%
Corn		14%	9%			38%	37%
Sorghum	2%		4%		16%		
Wheat		7%	7%			6%	
Soybeans	16%	21%	38%	33%	26%	16%	19%
Planted acres ^d							
Total	1600	3559	2300	4000	400	2750	4500
Share of total Cotton	42%	30%					
Rice	17%		22%	50%	25%	30%	33%
Corn		14%	6%			36%	33%
Sorghum	3%		6%		25%		
Wheat		16%	13%			10%	
Soybeans	38%	40%	52%	50%	50%	24%	33%
Crop yields ^c							
Cotton, lbs							
2000	600	720 irr	706	878 irr			
2001	743	900 irr	750	1000 irr			
2002	575	900 irr	712	950 irr			
Rice, cwt							
2000		59.4		60.8	62.0	61.2	63.9
2001		60.8		63.0	63.0	58.5	60.0
2002		58.5		59.4	64.0	57.0	60.3
Corn, bu							
2000			145	170			176
2001			148	160			166
2002			130	162			140
Sorghum, bu							
2000	100			105		95	
2001	115			100		95	
2002	106			66		86	
Wheat, bu							
2000			61	50			69
2001			55	60			58
2002			50	52			55
Soybeans, bu							
2000	15	35 irr	30	38	42	30	44
2001	26	50 irr	42	47	45	28	37
2002	20	50 irr	35	40	44	30	40

Table 7. Cotton and rice farms, characteristics and financial outlook (continued)

Code	SECT1600	SECT3000	SERC2000	SERC4000	SERC400	SERC2500	SERC4500
Farm number	12	13	14	15	16	17	18
Financial risk outlook ^d	Good	Marginal	Poor	Poor	Marginal	Marginal	Marginal
Average operator assets (\$1000)	768	3369	2417	5883	467	2055	5606
Average return to operator assets (%)	15.1	6.1	-0.3	1.2	4.1	5.5	4.2
Assumed operator debt in 2000 (%) ^e	20	20	20	20	20	20	20
Max beginning debt ratio in 2003 (%) ^f	86	55	2	24	26	64	37
Cropland value in 2000 (\$ per acre)	1200	1700	2000	1900	1520	2000	2000
Average operating expense/receipts (%)	65.1	68.1	90.5	87.9	64.0	79.3	75.9
Average government payments/receipts (%)	29.3	21.7	28.7	36.8	34.4	29.5	29.6
Government payments (\$1000) ^g							
2002	171.0	229.9	173.9	699.0	35.8	264.2	530.2
2003	155.3	245.1	179.3	576.4	39.6	297.3	485.3
2004	144.5	234.2	173.7	538.1	38.7	287.4	466.9
2005	137.5	224.2	163.3	504.9	36.6	274.6	443.6
2006	138.8	226.4	158.1	491.7	35.3	266.5	428.3
2007	131.5	210.8	153.1	480.2	34.1	259.2	416.4
Average	141.5	228.1	165.5	518.3	36.8	277.0	448.1
Total cash receipts (\$1000) ^a							
2000	370.8	844.9	591.6	1,714.3	114.3	916.5	1,521.7
2001	502.9	1,062.8	640.7	1,498.1	96.1	859.0	1,425.5
2002	497.0	1,022.2	571.4	1,508.8	99.0	902.2	1,641.0
2003	482.5	1,047.0	571.1	1,416.3	104.8	932.8	1,496.2
2004	484.6	1,055.1	577.3	1,430.8	106.4	942.3	1,516.6
2005	487.6	1,064.9	583.8	1,447.6	107.4	955.8	1,536.4
2006	493.6	1,080.4	590.6	1,461.5	108.4	966.6	1,555.1
2007	495.5	1,081.5	594.2	1,473.3	108.7	975.0	1,567.7
Average	488.8	1,065.8	583.4	1,445.9	107.1	954.5	1,534.4
Net cash farm income (\$1000) ^h							
2000	66.6	166.0	106.3	523.4	34.8	220.3	426.5
2001	191.4	368.4	141.4	296.9	28.1	136.3	286.7
2002	194.3	341.3	89.1	339.3	32.2	200.1	540.6
2003	178.9	361.7	84.6	241.3	38.2	227.1	391.8
2004	176.9	360.0	76.7	236.5	39.7	219.5	392.9
2005	175.8	344.5	62.1	229.2	40.3	214.2	390.2
2006	177.7	345.2	50.7	218.6	40.0	209.2	389.6
2007	176.4	345.2	41.5	216.2	36.4	209.2	391.5
Average	177.1	351.3	63.1	228.4	38.9	215.8	391.2
Return to family living (\$1000) ⁱ							
2000	39.4	77.5	23.6	288.2	10.1	134.2	184.1
2001	99.1	222.1	29.1	76.4	2.8	38.3	62.7
2002	106.4	136.3	-33.7	88.9	-4.0	51.6	190.7
2003	115.6	165.5	-69.9	20.3	1.0	84.7	142.0
2004	112.4	152.2	-146.1	-38.1	5.9	57.2	116.0
2005	115.4	17.6	-234.0	-66.1	17.1	11.7	91.2
2006	101.6	85.8	-358.4	-132.3	27.5	0.3	82.0
2007	101.0	99.0	-491.0	-181.0	-9.3	-17.0	48.6
Average	109.2	104.0	-259.9	-79.5	8.4	27.4	96.0
Average withdrawal assumed (\$1000) ^j	56.8	67.9	28.4	45.4	17.0	34.1	62.5
Beginning cash/operating expenses (%) ^k	33.6	36.8	-11.6	28.6	-29.5	18.8	24.6
Probability of a cash flow deficit (%) ^l							
2003	11.8	14.2	99.0	48.6	99.0	21.0	20.0
2004	14.6	17.8	99.0	58.0	98.2	35.6	24.4
2005	13.6	64.4	99.0	59.6	48.8	53.2	33.2
2006	20.6	41.2	99.0	66.2	10.6	56.4	38.6
2007	23.2	37.4	99.0	68.6	99.0	60.8	50.0

Crop-beef Farms

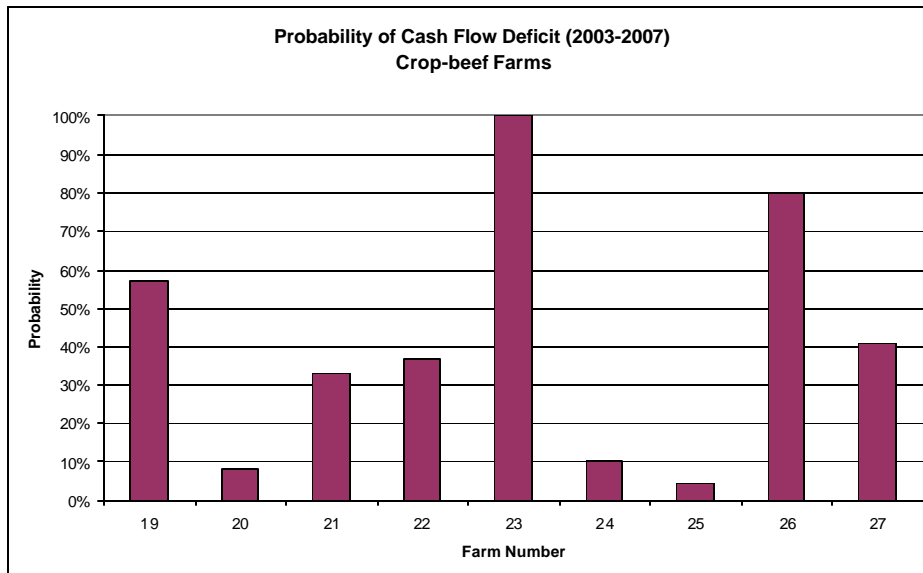
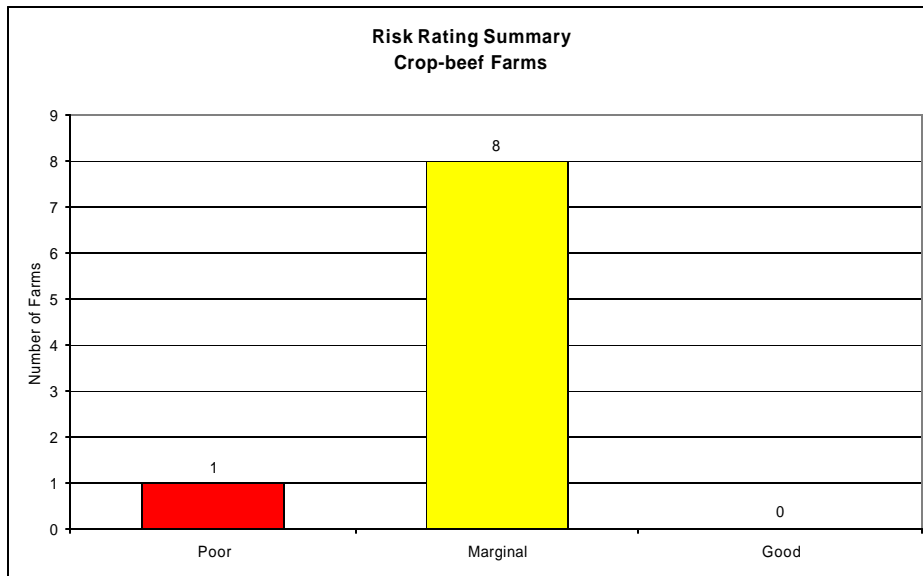
Group Characteristics

This group of nine diversified farms receives income from cow-calf enterprises and cash grains. Cropland acres range from 240 to 1850 and cow herd size ranges from 40 to 200. The portion of receipts generated by beef ranges from 11 to 54 percent of the total. All farms in this set raise corn and soybeans. Seven also raise wheat and three produce grain sorghum. Only a third of the farms own more than half of the acres operated.

Group Outlook Summary

The crop-beef farms are facing greater cash risk than was projected in the previous outlook. This is largely due to poorer than expected yields in 2002 and a beef price that is expected to decline in the later years of the projection period. All but one of these farms begins 2003 in a very tight cash position—less than a third of operating expenses accumulated in 2000-2002. Return on assets are expected to range from 0.2 to 5.1 percent.

Government crop payments make up 6 to 15 percent of the receipts on these farms. The livestock compensation program of 2002 provided a one-time payment for drought relief.



Crop-beef spotlights

Farm 19

This northwest region farm plants 1850 acres to corn and soybeans and runs a cow-calf enterprise with 200 cows. The 2002 drought was not kind to this farm. Corn yields were 62 percent of the previous year and soybean yields were 53 percent. The farm begins the projection period with negative cash reserves. With higher government payments and a return to trend yields in 2003, the outlook improves as indicated by the return to family living calculation which moves from a negative \$41,000 to a positive \$53,300. However, this farm is expected to continue struggling with tight cash flow.

Farm 21

This northeast farm raises corn, beans and wheat on 1460 acres and runs 80 beef cows on 244 acres of forage. One-half of the farm is leased. This farm has the capacity to provide a modest sized family living, but is expected to face liquidity issues.

Farm 22

This northeast region farm is one of the smaller farms in the dataset with 500 acres of row crops and 40 beef cows. The data shows that the contribution to family income from the business is expected to be about \$21,000 on average, slightly below the level of government payments received.

Farm 23

This Bates County farm is the poorest performer of the group. It has struggled with poor soybean yield and quality issues. This farm cannot survive as simulated. It is essentially broke going into the projection period and cannot meet cash needs even with zero debt against fixed assets.

Farm 24

This Perry County diversified farm crops 380 acres and raises calves from 40 beef cows on 190 acres of forage. Grass seed sales are a major contributor to income. Return to family living averages about \$35,000 until beef prices decline in 2007. In that year, the risk of cash flow deficit spikes to 85 percent and the projected residual declines to \$14,300.

Farm 25

This Perry County farm is the largest and the most profitable of the crop-beef rep farms. It consists of 1700 acres of cropland (some in Mississippi River bottom) and a beef enterprise with 200 cows. Steers are finished on the farm. The farm is expected to generate an average return to the household of \$56,800 with comparatively manageable cash flow risk. Cash flow deficit risk is less than a third in all projection years.

Farm 26

This Dade County farm earns the majority of its income from the 150-cow beef herd and crops another 240 acres. Corn, wheat and bean yields are well below the national averages. The crops garner an average of \$9300 in government payments under the 2002 farm bill. It will be difficult to support a family on this farm. Return to family living averages \$16,900 for the projection period.

Farm 27

This Barton County farm crops 1800 acres in addition to raising and backgrounding calves from 135 beef cows. Two center pivots allow the farm to irrigate corn and soybeans and harvest crop from 2400 acres. With family support of \$43,200 the farm can expect to have a cash flow deficit about 40 percent of the time.

Table 8. **Crop-beef farms, characteristics and financial outlook**

Code	NWCB1850	NWCB1200	NECB1460	NECB500	WCCB800
Farm number	19	20	21	22	23
Region County	Northwest Nodaway	Northwest DeKalb	Northeast Monroe	Northeast Audrain	West Central Bates
Total acres operated	2914	1720	1790	655	1197
Share of land owned	55%	47%	50%	62%	43%
Cropland	1850	1200	1460	500	800
Acres owned	950	480	730	250	320
Acres leased	900	720	730	250	480
Forages	1000	400	244	120	350
Acres owned	600	200	80	120	150
Acres leased	400	200	164		200
Nonproductive acres owned	64	120	86	35	47
Mature beef cows (hd)	200	100	80	40	90
Cash receipts, 2002 ^a					
Total (\$1000)	\$431	\$307	\$361	\$168	\$188
Share of total					
Beef	26%	14%	11%	14%	20%
Corn	42%	45%	37%	27%	41%
Sorghum				10%	
Wheat			6%	3%	12%
Soybeans	30%	34%	46%	46%	27%
Hay and/or seed	1%	4%			
Custom work	1%	2%			
Planted acres ^d					
Total	2850	1600	1760	655	1350
Share of total					
Corn	32%	38%	33%	25%	24%
Sorghum				8%	
Wheat			7%	5%	15%
Soybeans	32%	38%	46%	43%	36%
Hay and/or seed	7%	11%	3%	8%	11%
Improved pasture	28%	14%	11%	11%	15%
Conservation reserve	2%				
Crop yields ^c					
Corn, bu					
2000	140	150	180	155	150
2001	140	100	131	115	150
2002	87	95	105	121	125
Sorghum, bu					
2000				118	
2001				115	
2002				128	
Wheat, bu					
2000			58	51	55
2001			64	48	70
2002			57	50	45
Soybeans, bu					
2000	40	45	46	46	15
2001	45	40	44	40	45
2002	24	33	43	49	33

Table 8. **Crop-beef farms, characteristics and financial outlook (continued).**

Code	NWCB1850	NWCB1200	NECB1460	NECB500	WCCB800
Farm number	19	20	21	22	23
Financial risk outlook ^d	Marginal	Marginal	Marginal	Marginal	Poor
Average operator assets (\$1000)	2848	1504	1754	939	1063
Average return to operator assets (%)	2.9	5.1	4.6	4.8	0.2
Assumed operator debt in 2000 (%) ^e	20	20	20	20	20
Max beginning debt ratio in 2003 (%) ^f	27	40	39	35	0
Cropland value in 2000 (\$ per acre)	1420	1250	1455	1800	1250
Average operating expense/receipts (%)	78.4	68.0	67.3	64.7	86.7
Average government payments/receipts (%)	13.6	13.4	14.9	13.9	13.7
Government payments (\$1000) ^g					
2002	29.1	19.8	22.8	8.8	11.8
2003	82.3	53.0	62.0	24.2	31.7
2004	87.7	56.4	65.9	26.3	33.7
2005	83.7	53.7	62.2	24.6	32.0
2006	79.6	50.8	59.0	23.3	30.5
2007	76.0	48.5	56.6	22.0	29.1
Average	81.9	52.5	61.2	24.1	31.4
Total cash receipts (\$1000) ^a					
2000	512.9	408.3	442.0	191.5	222.3
2001	599.7	324.5	388.7	162.8	265.6
2002	435.1	309.2	363.0	169.3	190.3
2003	598.4	388.1	408.0	170.9	226.3
2004	607.6	393.1	413.7	174.4	230.3
2005	621.1	399.6	421.1	176.5	234.6
2006	625.2	401.8	424.9	177.9	235.8
2007	621.5	401.4	422.8	176.4	233.4
Average	614.8	396.8	418.1	175.2	232.1
Net cash farm income (\$1000) ^h					
2000	120.5	159.7	153.3	77.2	43.9
2001	147.2	55.0	112.7	47.4	79.7
2002	2.6	49.2	94.3	60.1	10.9
2003	153.3	126.7	138.8	60.4	43.2
2004	153.4	129.9	142.1	62.3	44.0
2005	156.4	131.9	145.2	65.6	37.6
2006	149.5	132.0	150.9	66.1	31.6
2007	138.7	129.3	147.6	66.3	27.2
Average	150.3	130.0	144.9	64.2	36.7
Return to family living (\$1000) ⁱ					
2000	61.2	88.9	80.4	35.9	8.9
2001	78.4	11.2	40.3	14.1	11.1
2002	-41.0	-4.8	4.7	14.1	-45.8
2003	53.3	75.9	65.7	25.2	-67.4
2004	47.1	66.8	59.3	22.0	-89.3
2005	43.9	49.4	51.1	20.8	-143.5
2006	35.2	58.7	48.1	19.7	-196.2
2007	-7.0	56.6	43.8	18.2	-253.5
Average	34.5	61.5	53.6	21.2	-150.0
Average withdrawal assumed (\$1000) ^j	43.2	34.1	36.3	17.0	22.7
Beginning cash/operating expenses (%) ^k	-4.0	1.5	10.3	16.6	-36.4
Probability of a cash flow deficit (%) ^l					
2003	39.8	7.2	25.8	25.8	99.0
2004	41.8	11.6	32.0	28.0	99.0
2005	44.4	29.2	38.0	36.2	99.0
2006	44.6	23.8	41.6	42.6	99.0
2007	60.8	25.6	47.4	46.0	99.0

Table 8. **Crop-beef** farms, characteristics and financial outlook (continued)

Code	ECCB380	ECCB1700	SWCB240	SWCB1800
Farm number	24	25	26	27
Region	East Central	East Central	Southwest	Southwest
County	Perry	Perry	Dade	Barton
Total acres operated	595	2250	850	2330
Share of land owned	35%	41%	76%	79%
Cropland	380	1700	240	1800
Acres owned	120	815	175	1350
Acres leased	260	885	65	450
Forages	190	450	600	500
Acres owned	65		465	450
Acres leased	125	450	135	50
Nonproductive acres owned	25	100	10	30
Mature beef cows (hd)	40	200	150	135
Cash receipts, 2002 ^a				
Total (\$1000)	\$123	\$569	\$133	\$524
Share of total Beef	13%	19%	54%	11%
Corn	22%	41%	22%	27%
Sorghum			3%	12%
Wheat	9%	8%	4%	18%
Soybeans	33%	30%	10%	32%
Hay and/or seed	20%	2%	7%	
Custom work	3%			
Planted acres ^b				
Total	745	2715	1120	2900
Share of total Corn	17%	33%	9%	16%
Sorghum			2%	9%
Wheat	11%	12%	5%	21%
Soybeans	28%	26%	10%	38%
Hay and/or seed	37%	13%	37%	4%
Improved pasture	7%	16%	37%	12%
Crop yields ^c				
Corn, bu				
2000	143	145	95	145 180 irr
2001	156	138	98	150 190 irr
2002	80	123	113	155 155 irr
Sorghum, bu				
2000			90	110
2001			95	115
2002			75	105
Wheat, bu				
2000	52	50	48	50
2001	55	52	57	70
2002	43	43	35	55
Soybeans, bu				
2000	44	47	20	33 25 irr
2001	39	50	32	15 40 irr
2002	32	49	23	45 32 irr

Table 8. **Crop-beef farms, characteristics and financial outlook (continued)**

Code	ECCB380	ECCB1700	SWCB240	SWCB1800
Farm number	24	25	26	27
Financial risk outlook ^d	Marginal	Marginal	Marginal	Marginal
Average operator assets (\$1000)	558	2657	845	2666
Average return to operator assets (%)	3.9	5.3	2.5	4.9
Assumed operator debt in 2000 (%) ^e	20	20	20	20
Max beginning debt ratio in 2003 (%) ^f	44	38	30	35
Cropland value in 2000 (\$ per acre)	1475	1825	1075	1100
Average operating expense/receipts (%)	62.0	63.9	60.2	68.0
Average government payments/receipts (%)	10.8	13.6	6.5	15.6
Government payments (\$1000) ^g				
2002	5.9	30.3	3.3	34.4
2003	15.7	81.5	9.2	89.2
2004	16.6	86.9	10.1	97.0
2005	15.7	83.7	9.5	91.6
2006	14.8	79.1	9.0	87.0
2007	14.1	75.0	8.5	81.0
Average	15.4	81.2	9.3	89.2
Total cash receipts (\$1000) ^a				
2000	151.8	592.4	138.2	545.2
2001	157.6	592.8	146.5	607.4
2002	124.2	572.5	133.2	527.2
2003	142.1	591.0	139.3	560.9
2004	142.3	600.6	143.9	571.7
2005	145.3	611.0	147.0	580.8
2006	145.2	614.4	144.1	582.8
2007	145.4	610.5	138.9	581.3
Average	144.1	605.5	142.7	575.5
Net cash farm income (\$1000) ^h				
2000	61.5	210.1	50.4	168.2
2001	64.3	204.8	57.6	216.5
2002	39.4	200.1	50.4	156.4
2003	55.9	221.5	55.4	191.1
2004	56.0	221.6	59.2	194.9
2005	56.0	228.8	61.1	195.3
2006	56.6	226.3	59.6	189.9
2007	53.3	216.2	54.3	188.9
Average	55.6	222.9	57.9	192.0
Return to family living (\$1000) ⁱ				
2000	31.7	110.1	23.7	65.7
2001	31.0	95.7	22.4	82.9
2002	14.9	89.1	12.3	25.6
2003	36.3	132.6	19.8	71.3
2004	40.2	102.1	20.2	58.1
2005	34.5	109.7	19.1	51.5
2006	30.2	94.9	17.8	28.6
2007	14.3	79.5	7.7	38.0
Average	31.1	103.8	16.9	49.5
Average withdrawal assumed (\$1000) ^j	22.7	56.8	22.7	43.2
Beginning cash/operating expenses (%) ^k	18.9	38.6	-3.4	15.7
Probability of a cash flow deficit (%) ^l				
2003	1.0	2.6	47.4	30.6
2004	4.8	11.4	49.4	37.8
2005	9.6	13.2	54.8	43.6
2006	15.6	23.4	59.2	57.2
2007	84.4	32.8	78.4	50.0

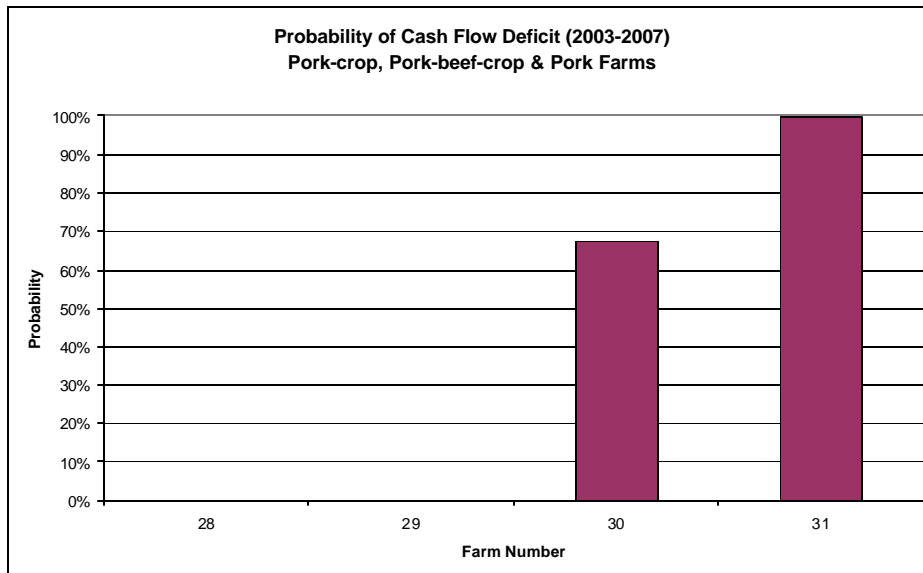
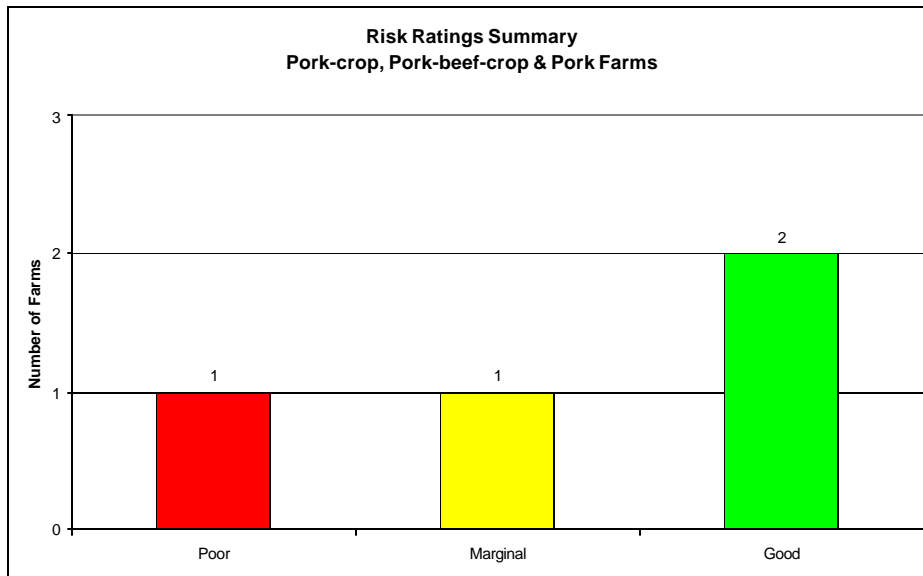
Pork-crop Farms

Group Characteristics

The four hog farms are a diverse set engaged in several enterprises, but each receives the greatest share of income from the pork production unit. A variety of production phases, sizes, and management levels are reflected. There is one less pork-crop farm in this baseline than the previous outlook because most of the producers on the panel recently exited the hog business.

Outlook Summary

Barrow and gilt prices in this baseline peak in 2001 bottom in 2002-03, and climb to another peak in 2005. As might be expected, return to family living is quite volatile, requiring restraint by farm managers to hold cash in reserve for expected low price years. However, cash flow deficit risk exposure is very different on these farms. Over the 5-year period the large, highly efficient farrow-to-finish operation and the contract nursery are expected to have little cash deficit risk exposure. The high risk farm with a wean-finish enterprise suffers from 1500 acres of crops with a history of low yields.



Pork-crop spotlights

Farm 28

This northeast region farm is strictly in the business of raising hogs in a multi-site 1500 sow farrow-to-finish operation. The farm is highly leveraged against \$5 million in fixed assets (60 percent debt assumed in 2000). Receipts are expected to average \$3.68 million with operating expenses of \$2.57 million. The farm built cash in 2000-01, but loses over half of its reserve in 2002. Annual cash residual swings from a negative \$172,700 with low hog prices to a positive \$919,800 with high hog prices. The farm extracts the maximum amount assumed for family living and receives a good risk rating because there is little to no risk of cash flow deficit measured as a result of price and production variability.

Farm 29

This is a diverse farm with 550 acres of row crops, a 70-cow beef herd and a two-house contract nursery pig enterprise built in the mid 1990s in west central Missouri. A relatively high level of debt (30 percent) is assumed to begin the simulation in 2000. The pig enterprise provides strong risk protection from prices and production. Risk of a cash flow deficit is negligible in the projection years. Although 2002 was not a stellar year for the crops, good yields in 2000 and 2001 help propel this farm forward in a strong financial position.

Farm 30

This farm is a more traditional, diversified operation in the river hills of Osage County. Primary income is from the 200-sow farrow-to-finish unit with hogs sold on the spot market. However, the farm also has a 125-cow beef herd and raises 225 acres of corn, sorghum, and wheat that is fed on the farm. This farm faces considerable price and production risk. With 20 percent initial debt, annual return to family living falls from a high of \$62,500 in 2000 to a negative \$56,000 just two years later. The probability of the farm not meeting cash needs in the projection period, including the \$28,400 for family living is about 65 percent. Yet, the farm receives a marginal risk rating because land values are expected to prop up net worth through the projection period.

Farm 31

This farm recently transitioned out of farrowing into a 3000 head wean-finish enterprise. Pigs are purchased from a single source pool, finished in retrofitted housing and then sold on the spot market. This farm has also grown by renting more land and now crops 1500 acres. Government payments are 9.8 percent of receipts, the largest share of any of the rep hog farms. Crop yields were at trend in 2000 and 2001, but were well below trend in 2002. With low yields the farm generates negative cash. The data shows that under the assumptions of 20 percent initial debt and an average household withdrawal of \$28,400, the farm can not cover all costs even with trend yields. The implication is that something must change for this farm to be a viable business. Machinery repair and replacement is a major factor of the relatively high costs on this farm.

Table 9. **Pork-crop, Pork-beef-crop and Pork farms, characteristics and financial outlook**

Code	NEH1500	WCHBC550	CTHBC250	ECHC1500
Farm number	28	29	30	31
Region County	Northeast Monroe	West Central Vernon	Central Osage	East Central Montgomery
Total acres operated	200	852	800	1590
Share of land owned	100%	54%	75%	43%
Cropland	0	550	250	1500
Acres owned		225	163	600
Acres leased		325	87	900
Forages	0	285	330	
Acres owned		215	215	
Acres leased		70	115	
Nonproductive acres owned	200	17	220	90
Production unit	farrow-finish	nursery only	farrow-finish	wean-finish
Sows/hogs sold per year (hd)	1500 / 31,326	0 / 31,160	200 / 4045	0 / 3000
Mature beef cows (hd)		70	125	
Cash receipts, 2002 ^a				
Total (\$1000)	\$3,181	\$254	\$417	\$456
Share of total				
Pork	100%	48%	84%	56%
Beef		13%	13%	
Corn		9%	1%	7%
Sorghum		7%	1%	
Wheat		10%		4%
Soybeans		13%	2%	31%
Custom work				2%
Planted acres ^b				
Total	0	1015	605	1670
Share of total				
Corn		10%	29%	34%
Sorghum		9%	4%	
Wheat		18%	4%	10%
Soybeans		36%	8%	56%
Hay and/or seed		7%	17%	
Improved pasture		21%	38%	
Crop yields ^c				
Corn, bu				
2000		126	135	125
2001		126	112	125
2002		120	97	103
Sorghum, bu				
2000		125	105	
2001		125	80	
2002		110	100	
Wheat, bu				
2000		72	50	50
2001		72	44	55
2002		55	45	45
Soybeans, bu				
2000		19	40	45
2001		38	40	45
2002		20	39	43

Table 9. Pork-crop, Pork-beef-crop and Pork farms, characteristics and financial outlook (continued)

Code	NEH1500	WCHBC550	CTHBC250	ECHC1500
Farm number	28	29	30	31
Financial risk outlook ^d	Good	Good	Marginal	Poor
Average operator assets (\$1000)	6166	1252	1718	2103
Average return to operator assets (%)	11.6	4.6	2.4	3.4
Assumed operator debt in 2000 (%) ^e	60	30	20	20
Max beginning debt ratio in 2003 (%) ^f	103	60	19	20
Cropland value in 2000 (\$ per acre)	1275	1200	1450	1700
Average operating expense/receipts (%)	70.6	46.6	83.3	82.3
Average government payments/receipts (%)	0.0	8.7	2.9	9.8
Government payments (\$1000) ^g				
2002	0.0	9.8	5.2	21.0
2003	0.0	25.3	14.4	55.2
2004	0.0	27.5	15.7	58.8
2005	0.0	25.9	15.3	55.5
2006	0.0	24.5	14.5	52.5
2007	0.0	22.9	13.7	50.0
Average	0.0	25.2	14.7	54.4
Total cash receipts (\$1000) ^a				
2000	3,834.6	276.1	552.3	617.2
2001	4,062.2	297.7	555.8	622.2
2002	3,180.5	254.9	419.1	456.2
2003	3,479.3	287.1	485.9	526.8
2004	3,791.9	290.2	529.6	558.8
2005	3,984.7	293.1	555.8	580.3
2006	3,668.1	293.1	512.9	554.9
2007	3,525.4	291.2	489.6	544.7
Average	3,689.9	291.0	514.8	553.1
Net cash farm income (\$1000) ^h				
2000	1,185.7	129.1	139.5	163.5
2001	1,460.7	157.8	140.4	174.3
2002	657.2	110.7	5.6	27.6
2003	933.5	144.9	71.8	90.5
2004	1,240.6	160.9	113.9	116.2
2005	1,388.9	160.0	131.9	127.5
2006	1,070.9	157.4	80.2	95.3
2007	939.8	157.9	55.7	78.9
Average	1,114.8	156.2	90.7	101.7
Return to family living (\$1000) ⁱ				
2000	184.0	76.7	62.5	62.5
2001	301.1	88.1	52.0	59.0
2002	-172.7	52.2	-56.0	-49.6
2003	235.2	91.4	12.5	5.8
2004	372.9	94.1	27.9	-8.0
2005	919.8	76.2	49.3	-19.2
2006	736.2	73.9	16.9	-57.6
2007	653.2	67.2	-13.4	-110.2
Average	583.5	80.6	18.6	-37.8
Average withdrawal assumed (\$1000) ^j	67.9	45.4	28.4	28.4
Beginning cash/operating expenses (%) ^k	5.2	66.5	-4.0	-0.9
Probability of a cash flow deficit (%) ^l				
2003	19.2	1.0	60.6	73.0
2004	6.2	1.0	50.0	77.8
2005	1.0	1.0	28.6	79.2
2006	1.2	1.4	54.6	95.2
2007	1.8	11.8	82.2	98.8

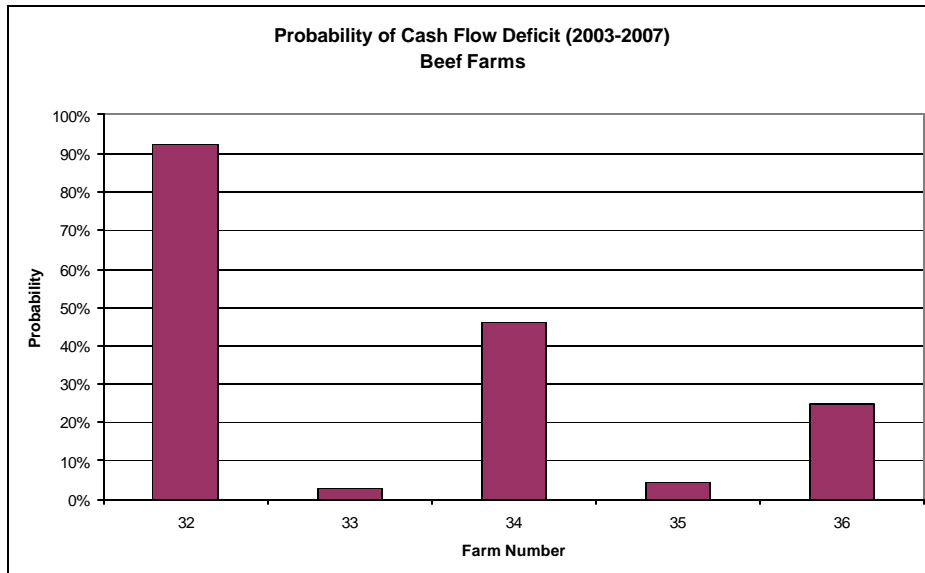
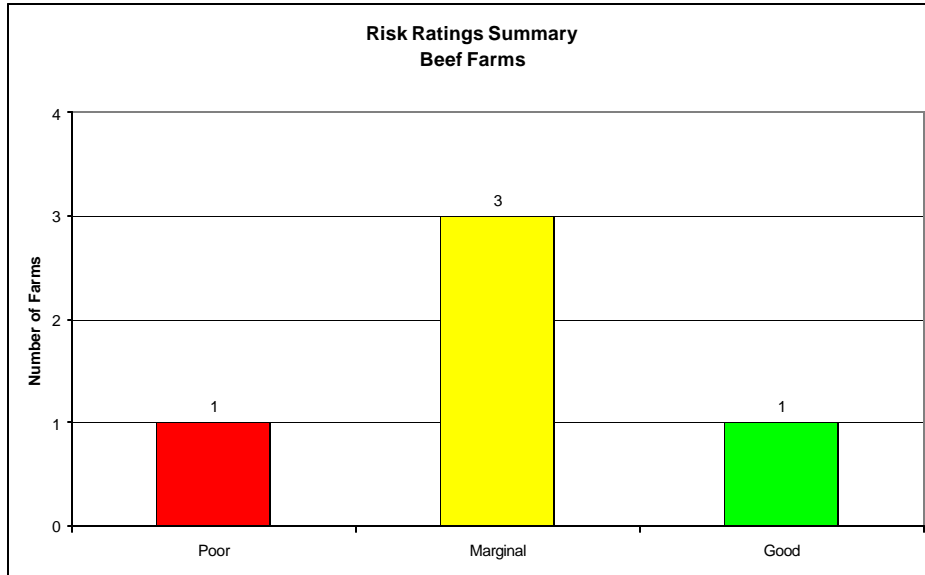
Beef Farms

Group Characteristics

All five of these farms operate cow-calf operations and sell raised calves as their primary product. The farms also harvest hay and/or fescue seed as a secondary income source. Calves are held for variable lengths of time from weaning to yearlings. Steer selling weights range from 540 to 760 lbs.

Outlook Summary

Recent price history and the projected price path for beef is strong until 2007. Based simply on the price path, one would expect these farms as a group to be performing near their peak financially. However, these data show a poor to good outlook. The lowest cost farm barely retains a good risk rating. Drought impacts are partially responsible for the poorer than expected outlook. The LCP program of 2002 provided about a 40 to 50 percent offset to loss income for the south-central beef farms.



Beef spotlights

Farm 32

This Ozarks farm near Rolla markets calves from 350-beef cows and harvests fescue seed in addition to selling some hay. Hardwood timber is also a major resource on the 3000 total farm acres. Semi-regular timber harvests are scheduled to help offset periods of poor cattle prices. Of the five rep beef farms, this farm has the highest per cow costs and faces the most difficulty to provide for family living expenses. With initial debt of 7 percent assumed against \$2.2 million operator assets, this farm is very unlikely to sustain the minimum level of household withdrawal assumed for a farm of this size (average \$28,400). Of course, with a lower debt level, the farm is sustainable in the projection period. Drought impacts of 2001 are partly responsible for the farm entering the projection period with a negative cash balance.

Farm 33

This southwest region farm in Barry County is best described as a traditional Missouri cow-calf operation with 200 cows on 735 acres of owned land. Calves are sold directly off the cow at an average weight of 540 pounds and at a comparatively strong price. Fescue seed sales and custom combining account for 27 percent of receipts. At \$457, this farm has the lowest cost per cow of any of the rep beef farms. The farm receives a good risk rating because it is expected to have less than a 25 percent probability of cash flow deficit in any projection year in addition to providing an average family living of \$36,300. The level of return is 3.3 percent of operator assets, the highest of any rep beef farm.

Farm 34

This Lawrence County farm runs 260 beef cows and backgrounds home raised calves to an average weight of 760 pounds on 1085 total farm acres. Raised alfalfa hay provides a substantial portion of the forage needs. This farm is projected to struggle to meet cash needs which includes the assumed minimum of \$28,400 for household purposes. Like many of the beef cattle farms, this farm took a financial hit in 2001 due to drought. Despite strong cattle prices and an LCP payment, cash available for family living in 2001 and 2002 is less than the assumed family withdrawal for those years and the farm begins the projection period with little cash in reserve. The risk of cash flow deficit exceeds 50 percent by the end of the period when cattle prices are projected to have begun a steep decline.

Farm 35

This 350-cow farm of 2000 acres in Oregon County is the only rep beef farm with average receipts in excess of \$200,000. Forages include alfalfa and warm-season grasses. Cost per cow is \$516. The 2001 drought and armyworms wiped out the gains of the previous year so the farm begins the projection period in a negative cash position. However, with strong cattle prices over the next four years, the farm is expected to recover and meet the minimum household cash assumption.

Farm 36

This Howell County farm raises and backgrounds calves from 150 cows on 825 acres at a per cow cost of \$496. This is the only rep farm with no seed sales. Forages include warm season grass and alfalfa. Return to family living averages \$26,500. If the household extracts an average of \$22,700, the risk of a cash flow deficit climbs from 10 percent to 70 percent over the projection period. The farm receives a poor risk rating because expected gains in fixed asset values do not offset the rapidly increasing probability of cash flow deficit.

Table 10. **Beef** farms, characteristics and financial outlook

Code	CTBF350	SWBF200	SWBF260	SCBF350	SCBF150
Farm number	32	33	34	35	36
Region	Central	Southwest	Southwest	South Central	South Central
County	Phelps	Barry	Lawrence	Oregon	Howell
Total acres operated	3000	770	1085	2000	825
Share of land owned	64%	100%	63%	46%	83%
'Cropland' hay acres owned	40	0	100	90	50
Other forage acres	2060	735	835	1760	600
Acres owned	1020	735	535	760	510
Acres leased	1040		300	1000	90
Timber/waste acres owned	900	35	150	150	175
Mature beef cows (hd)	350	200	260	350	150
Average sale weight of steers (lbs)	627	540	760	600	735
Cash receipts, 2002 ^a					
Total (\$1000)	\$192	\$120	\$137	\$211	\$95
Share of total Beef	85%	73%	90%	86%	81%
Hay and/or seed	13%	18%	9%	11%	19%
Custom work/timber sales	2%	9%	1%	3%	
Harvested acres ^b					
Total	1560	955	1041	2115	650
Alfalfa hay	40		100	50	50
Warm-season grass hay				40	10
Cool-season grass hay	300	220	200	200	75
Fescue seed	220	310	106	425	
Improved pasture	1000	425	635	1400	515
Crop yields ^c					
Alfalfa, tns					
2000	3.8		4.5	4.0	4.1
2001	2.0		3.8	3.0	3.2
2002	3.0		3.8	4.0	4.1
Warm-season grass hay, tns					
2000				4.0	2.5
2001				2.0	1.5
2002				4.0	2.5
Cool-season grass hay, tns					
2000	1.5	1.5	2.0	2.0	2.1
2001	0.8	1.1	1.5	1.0	1.9
2002	1.5	1.5	2.5	2.0	2.1
Fescue seed, lbs					
2000	200	300	300	100.0	
2001	200	320	200	0.0	
2002	433	300	300	150	

Table 10. **Beef** farms, characteristics and financial outlook (continued)

Code	CTBF350	SWBF200	SWBF260	SCBF350	SCBF150
Farm number	32	33	34	35	36
Financial risk outlook ^d	Marginal	Good	Marginal	Marginal	Poor
Average operator assets (\$1000)	2231	1217	1356	1326	922
Average operator assets (\$ per cow)	6374	6086	5214	3789	6148
Average return to operator assets (%)	0.5	3.3	1.4	2.0	0.9
Assumed operator debt in 2000 (%) ^e	7	7	7	7	7
Max beginning debt ratio in 2003 (%) ^f	6	16	12	20	13
Cropland value in 2000 (\$ per acre)	1000	1200	1200	750	1050
Average operating expense/receipts (%)	79.0	46.6	67.4	71.5	62.0
Average whole-farm cash expenses excluding family living (\$/cow)	523	457	482	516	496
Livestock compensation payment (2002)	7286	4028	7290	3078	6471
Total cash receipts (\$1000) ^a					
2000	191.7	139.8	147.5	210.6	98.8
2001	192.5	146.2	142.3	199.3	97.3
2002	191.9	124.4	143.4	218.1	97.7
2003	187.5	142.3	150.7	218.8	99.3
2004	196.3	146.5	157.1	227.7	102.3
2005	201.8	149.6	161.9	233.0	106.1
2006	193.9	145.3	155.8	225.1	101.3
2007	180.9	138.9	146.0	212.5	95.4
Average	192.1	144.5	154.3	223.4	100.9
Net cash farm income (\$1000) ^h					
2000	53.5	72.4	49.3	58.7	42.5
2001	29.5	78.9	39.2	14.7	32.6
2002	52.9	59.8	47.6	54.6	39.8
2003	43.1	75.9	49.4	61.8	39.2
2004	50.5	81.8	57.5	70.9	42.4
2005	52.9	84.9	60.9	75.4	43.5
2006	42.8	78.7	53.4	65.5	39.8
2007	27.5	72.5	40.8	51.6	32.5
Average	43.4	78.8	52.4	65.0	39.5
Return to family living (\$1000) ⁱ					
2000	31.8	46.4	34.5	34.8	27.8
2001	10.7	49.9	20.0	-2.3	20.9
2002	21.3	36.4	24.9	12.1	26.2
2003	20.6	52.5	29.5	34.3	30.2
2004	19.7	55.8	31.5	53.6	31.0
2005	17.4	57.0	32.8	57.5	29.3
2006	4.9	51.5	32.7	44.9	25.5
2007	-17.9	48.6	18.9	24.5	16.5
Average	8.9	53.1	29.1	43.0	26.5
Average withdrawal assumed (\$1000) ^j	28.4	36.3	28.4	28.4	22.7
Beginning cash/operating expenses (%) ^k	-3.3	52.5	2.7	-8.9	22.7
Probability of a cash flow deficit (%) ^l					
2003	65.8	4.4	32.2	20.0	9.6
2004	61.8	4.2	30.2	3.2	18.6
2005	65.8	6.8	34.2	1.0	23.6
2006	77.6	20.6	36.0	17.0	37.6
2007	88.2	25.0	57.8	56.2	69.6

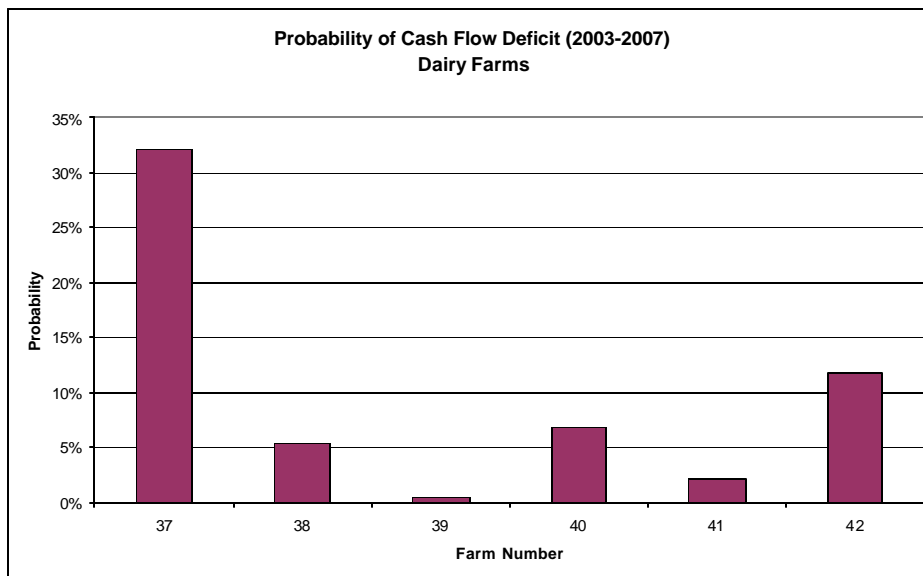
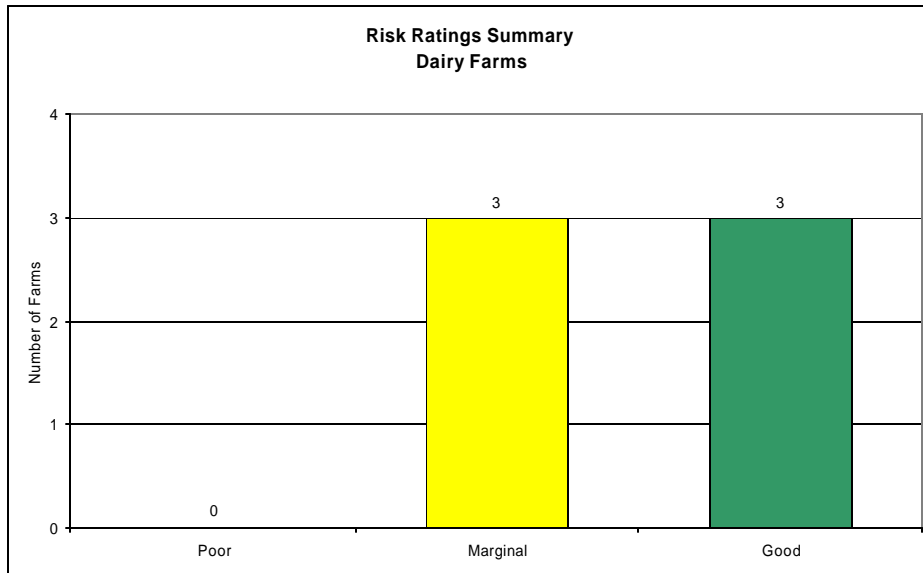
Dairy Farms

Group Characteristics

The representative dairy farms are as diverse as Missouri's industry, ranging in size from 85 to 400 cows. Each farm is unique in its approach to producing milk. Investment and debt assumptions are variable for the dairies.

Outlook Summary

The deterministic baseline milk price, which does not adequately reflect price volatility as does the stochastic analysis, ranges from a low of \$12.22 to a high of \$12.70 per cwt. For perspective, Missouri average milk prices were exceptionally low in 2000 (\$12.10/cwt) followed by strong prices the next year (\$14.90/cwt) and then a return to low prices in 2002 (\$12.22/cwt). The high price year allowed producers to replace capital and/or build cash reserves for future years, but much of the surplus evaporated in 2002. The impact of milk income loss (MILC) payments are very evident on these farms, particularly the smaller ones. The risk of cash flow deficit for all of the dairies takes a steep increase when MILC expires in 2006. While risk is on the horizon, the outlook for this set of farms is generally positive.



Dairy spotlights

Farm 37

This 150-cow dairy located in the Missouri River hills produces milk with a moderate investment in confinement facilities. In addition to growing all forage requirements for the dairy, the farm raises corn and soybeans on 240 acres. Asset values are relatively high, partially influenced by the farms' proximity to St. Louis and the resulting demand for recreational land use. Of the six rep dairies, this farm has the second highest level of milk production per cow at 21,300 lbs.

This farm is expected to provide a low-to-modest family income (\$34,100 assumed), but has the greatest risk to cash flow of any of the rep dairy farms. In the last two years of the projection period – post MILC program – the risk of cash flow deficit exceeds 50 percent. Debt capacity as a percent of operator assets is comparatively low, as is return to operator assets. Machinery replacement decisions over time are critical to the financial performance of this farm. Despite severe cash flow pressure, the farm receives a marginal risk rating due to the outlook for total net worth, driven largely by land values on this farm.

Farm 38

This farm is a traditional 85-cow dairy that raises alfalfa and corn silage. It is located in the southwest region near Branson where there has been very rapid development and escalating land prices. The panel is nearing retirement from milking and has made relatively little capital improvements in recent years. Rolling herd average is 18,600 lbs. Under the initial debt assumption of 20 percent, this farm is expected to generate an average return of \$28,400 for family living with low cash flow deficit risk until the expiration of the MILC program when cash risk climbs to 33 percent.

Farm 39

This 95-cow farm in Barry County is a hybrid of grazing and traditional dairying. Investments in waste management and mechanical harvesting machinery are relatively low. The farm raises all forages, but also purchases a high quantity of feed. Rolling herd average is the highest of the rep dairies at 21,500 lbs and costs per hundredweight of milk is the lowest. With 30 percent initial debt, the farm earns a modest family living (\$45,400 assumed) with little measurable cash flow deficit risk as a result of price and production variability.

Farm 40

This 400-cow farm in the southwest region operates a comparatively new confinement facility, grows corn silage as a portion of the forage requirements and purchases another 735 tons of alfalfa hay. Rolling herd average is 20,500 lbs. Although farm expenses as a share of receipts are comparatively high (71.8 percent), the farm withdraws the maximum allowed in the simulation for family living with cash flow risk remaining below 25 percent.

Farm 41

This 230-cow grazing dairy has the lowest costs per cow of any of the rep dairy farms. Over 400 tons of hay is purchased and heifers are developed off-site for a fee allowing the farm to maintain the milking herd on relatively few acres (1.5 acres per cow). With an initial debt load of 30 percent and a rolling herd average of 14,000 lbs, the farm is expected to generate an average return for family living over \$56,000 with little measurable cash flow risk.

Farm 42

This farm is unique among the rep dairies because a substantial portion of resources are dedicated to retaining dairy steers on the farm. Steer sales comprise 6 percent of the total receipts on this dairy. Milk production tends to the low side at 18,800 lbs per cow. The farm feeds a combination of raised and purchased forages and houses the cows on pasture. The farm is expected to generate a modest family living (\$45,400) but carries enough risk of cash flow deficit to receive only a marginal rating.

Table 11. Dairy farms, characteristics and financial outlook

Code	ECDY150	SWDY85	SWDY95	SWDY400	SWDY230	SCDY150
Farm number	37	38	39	40	41	42
Region County	East Central Franklin	Southwest Christian	Southwest Barry	Southwest Dade	Southwest Dade	South Central Wright
Total acres operated	745	390	275	770	360	500
Share of land owned	81%	86%	89%	70%	81%	100%
Crop and hayland	420	260	180	680	0	170
Acres owned	320	260	150	450		170
Acres leased	100		30	230		
Pastureland	170	110	65	60	350	250
Acres owned	130	55	65	60	280	250
Acres leased	40	55			70	
Timber/waste acres owned	155	20	30	30	10	80
Mature dairy cows (hd)	150	85	95	400	230	150
Milk per cow, 2002 (lbs)	21,300	18,600	21,500	20,500	14,000	18,800
Forages purchased, 2002 (tns)	0	0	0	735	415	360
Cash receipts, 2002 ^a						
Total (\$1000)	\$488	\$257	\$325	\$1,199	\$482	\$462
Share of total						
Milk	84%	88%	89%	93%	87%	86%
Cows, heifers, baby calves	8%	12%	11%	7%	13%	8%
Dairy stocker steers						6%
Corn, grain	5%					
Soybeans	5%					
Harvested acres ^b						
Total	590	370	245	740	350	420
Alfalfa	40	100	60		52	
Corn silage	60	40		135		
Perennial grass mixes	50	120	125	250	88	135
Annual grass mixes	30		30	295	140	35
Improved pasture	170	110	30	60	70	250
Corn, grain	135					
Soybeans	105					

Table 11. Dairy farms, characteristics and financial outlook (continued)

Code	ECDY150	SWDY85	SWDY95	SWDY400	SWDY230	SCDY150
Farm number	37	38	39	40	41	42
Financial risk outlook ^d	Marginal	Marginal	Good	Good	Good	Marginal
Average operator assets (\$1000)	2582	1038	1000	2394	911	1355
Average return to operator assets (%)	3.3	5.2	10.4	11.9	14.5	6.1
Assumed operator debt in 2000 (%) ^e	20	20	30	45	30	20
Max beginning debt ratio in 2003 (%) ^f	31	41	63	68	71	36
Cropland value in 2000 (\$ per acre)	2200	1450	1170	970	925	975
Average operating expense/receipts (%)	72.8	63.9	53.6	71.8	64.6	71.2
Average whole-farm cash expenses excluding family living (\$/cow)	3140	2470	2525	2649	1782	2613
excluding family living (\$/cwt)	na	13.50	11.91	13.11	13.35	14.13
Average government payments/receipts (%)	5.2	4.0	4.1	1.3	3.0	3.3
Government payments (\$1000) ^g						
2002	35.3	20.6	26.6	31.2	31.2	31.2
2003	36.8	17.2	22.2	25.7	25.7	25.7
2004	37.3	17.2	22.3	25.4	25.4	25.4
2005	36.4	17.3	22.3	25.1	25.1	25.1
2006	10.8	0.0	0.0	0.0	0.0	0.0
2007	10.4	0.0	0.0	0.0	0.0	0.0
Average	26.3	10.3	13.4	15.2	15.2	15.2
Total cash receipts (\$1000) ^a						
2000	463.5	221.4	291.2	1086.8	468.4	412.6
2001	552.4	274.7	348.9	1352.6	535.4	502.0
2002	493.3	260.7	328.4	1213.8	490.5	468.4
2003	508.7	256.9	330.6	1199.0	513.3	462.8
2004	519.6	262.2	337.0	1223.1	523.7	471.8
2005	526.9	266.4	342.4	1243.9	532.1	480.4
2006	510.5	253.5	326.2	1243.2	515.8	462.5
2007	515.4	255.8	329.8	1257.8	520.8	464.8
Average	516.2	259.0	333.2	1233.4	521.1	468.5
Net cash farm income (\$1000) ^h						
2000	103.7	59.5	88.6	277.9	120.9	91.2
2001	197.1	110.7	164.0	495.8	203.5	184.2
2002	131.3	103.4	149.6	385.1	166.5	154.3
2003	149.9	98.6	152.8	349.5	186.9	142.5
2004	157.0	102.5	161.8	371.2	196.4	149.4
2005	153.4	102.5	167.8	374.7	199.3	150.9
2006	127.8	86.7	150.4	351.5	178.4	126.2
2007	127.5	86.7	151.2	351.5	180.1	124.1
Average	143.1	95.4	156.8	359.7	188.2	138.6
Return to family living (\$1000) ⁱ						
2000	26.7	25.3	35.4	41.2	54.4	39.7
2001	75.1	54.9	74.9	127.7	106.0	96.4
2002	23.6	44.4	64.3	72.9	81.2	72.2
2003	65.8	53.7	99.8	179.5	114.7	93.8
2004	56.9	52.7	97.7	185.6	122.3	87.3
2005	49.4	54.6	98.2	181.4	117.3	81.7
2006	31.8	40.0	84.0	165.9	101.3	61.8
2007	22.7	44.1	86.9	156.9	101.2	57.6
Average	45.3	49.0	93.3	173.9	111.3	76.5
Average withdrawal assumed (\$1000) ^j	34.1	28.4	45.4	67.9	56.8	45.4
Beginning cash/operating expenses (%) ^k	10.2	30.4	31.7	9.1	27.1	26.9
Probability of a cash flow deficit (%) ^l						
2003	9.6	2.2	1.0	8.8	1.0	2.4
2004	22.2	4.0	1.0	8.4	1.0	6.0
2005	30.2	3.2	1.0	11.6	1.2	11.6
2006	50.2	32.8	6.6	20.0	16.4	35.4
2007	62.0	28.0	3.8	22.6	16.8	42.2

Table Reference Notes

The term “average” in these tables always refers to an average of the variable for the years 2003-2007.

- a. Cash receipts is total gross revenue from all sources, including cash sales in the market and government payments for crops that may not be planted. For a minority of farms this figure also includes a relatively small income from custom farming activity.
- b. Planted acres may exceed total crop acres due to double and triple cropping practices. Forage crops are labeled as harvested acres for beef and dairy farms. These acres may be harvested mechanically (hay, haylage, silage) and/or grazed.
- c. All yield data are as reported by the panels. Irrigated crops denoted by “Irr”, otherwise yields are dryland. Soybean yields are for full season crops.
- d. Financial risk outlook is scored by combining the magnitude and trend of two probabilities: the probability of cash flow deficit and the probability of declining net worth over the projection period. For example, farms with a probable cash flow deficit less than 25% and an increasing net worth receive a ‘good’ rating. Farms with probable cash flow deficit above 50% and declining real net worth receive a ‘poor’ rating. Note that this rating is size neutral. It only scores risk exposure to prices and production given the assumptions concerning debt and the cash withdrawn from the business.
- e. A beginning debt level on January 1, 2000 is assumed for each of the farms based on the farm type, information provided by the panels, and data supplied by USDA-ERS. Operator debt in 2000 is total liabilities/total assets, assuming a zero cash balance and no current liabilities. The debt ratio is assumed to be equal for long-term and intermediate term loans. Loan length is the same for all the farms, but interest rates are localized. Debt in future years fluctuates from this beginning starting point.
- f. Maximum beginning debt ratio in 2003 is a crude, but effective estimate of the debt capacity limit for the farm going into the projection period. Projected receipts and expenses are used to determine an after-tax dollar amount of principal and interest payment the farm could potentially support, assuming a ten-year loan at 7.5 % interest. The ratio is calculated in relation to operator assets.
- g. Government payments include all receipts provided through the commodity titles of the farm bills. The payment types summarized in this variable are direct (fixed) payments, counter-cyclical payments, and loan deficiency payments. Dairy market loss payments and the livestock compensation program are included where applicable. Average government payments refers to the five-year projection period, 2003-2007.
- h. Net cash farm income is total cash receipts less all farm operating expenses, i.e., all cash expenses for production, including interest payments on outstanding debt. It is an intermediate step in determination of total cash outflow.
- i. Annual return to family living (net cash return) is the farms’ after-tax bottom line for the given year. It is the residual after all other cash expenses are deducted from current year receipts. This calculation does not include carryover cash from prior years. (See the financial statement on page 6).
- j. Average withdrawal is the annual amount assumed to be extracted from the business for household purposes. It is also used as a proxy for the value of managerial labor in determining rates of return. This amount is deducted from the return to family living (h) to derive a carryover balance for the following year. It may be more, or less, than the years’ net cash return. If the withdrawal exceeds net cash return, then the deduction is made from accumulated cash reserves. If cash reserve is insufficient, then an offsetting operating loan is created and carried forward into the following year.
- k. Beginning cash in 2003 is the cash reserve accumulated by the farm in the three historical years of the analysis after the assumed family living withdrawal. It is an estimate of the cash cushion the farm has going into the projection period, expressed as a percent of the projected operating expenses in 2003.
- l. Probability of cash flow deficit is the chance that total cash expenses will exceed total cash receipts within the given year as a result of price and production risk. Prior year losses are rolled forward as an extended operating loan. However, any gains from prior years (beginning cash balance and interest on savings) are not included in the current years receipts.

Representative Farm Panels

<p>No. 1 2000 acres feedgrain-soy Facilitator: Brooks Hurst – Atchison County Sam Graves – Atchison County Steve Alexander – Nodaway County Terry Ecker – Nodaway County</p>	<p>Lyle Brown – Atchison County Brooks Hurst – Atchison County</p>	<p>NWFG2000</p>
<p>No. 2 2300 acres feedgrain-soy Facilitator: Tom Waters – Ray County Dwight McMullen – Ray County Perry Vandiver – Ray County Max Hockemeier – Ray County</p>	<p>Steve Ewert – Clay County Tom Waters – Ray County</p>	<p>NWFG2300</p>
<p>No. 3 1700 acres feedgrain-soy Facilitator: Parman Green – UOE Ag Business Specialist James Wheeler – Carroll County Gerald Kitchen – Saline County Ron Linneman – Carroll County</p>	<p>Larry Davies – Livingston County Dennis Hensiek – Carroll County Jack Harriman – Saline County</p>	<p>NCFG1700</p>
<p>No. 4 3630 acres feedgrain-soy Facilitator: Parman Green – UOE Ag Business Specialist Mike Hisle – Saline County Ron Gibson – Carroll County Ron Venable – Saline County Charles Reid – Carroll County</p>	<p>John Vogelsmeier – Saline County Glen Kaiser – Carroll County Ronald Jenkins – Carroll County D. J. Tweedie – Carroll County</p>	<p>NCFG3630</p>
<p>No. 5 2240 acres feedgrain-soy Facilitator: John Schaffer – Lewis County Jerry Ketsenburg – Ralls County Earl Gard – Marion County David Lillard – Lewis County Alton Vannice – Marion County</p>	<p>John Schaffer – Lewis County David McCutcheon Bill Goldinger – Marion County</p>	<p>NEFG2240</p>
<p>No. 6 1300 acres feedgrain-soy Facilitator: Jules Willott – Audrain County Donnie Schwartz – Audrain County Jon Robnett – Audrain County Andy Adam – Audrain County Ralph Windman – Montgomery County</p>	<p>Charles Vogtr – Audrain County Jim Gastler – Callaway County Jules Willott – Audrain County Richard Primus – Audrain County</p>	<p>NEFG1300</p>
<p>No. 7 1165 acres feedgrain-soy Facilitator: Joe Trujillo – FAPRI at MU Grover Gamm - Lewis County Brian Munzlinger – Lewis County Jeff Otto – Knox County</p>	<p>Brent Rockhold – Scotland County Dale Samp - Randolph County Sam Cobb – Montgomery County</p>	<p>NEFG1165</p>
<p>No. 8 1800 acres feedgrain-soy Facilitator: Neil Bredehoeft – Lafayette County Ron Catlett – Saline County Ellis Dieckhoff – Lafayette County Dennis Schneider – Lafayette County</p>	<p>Neil Bredehoeft – Lafayette County Lynn Fahrmeier – Lafayette County</p>	<p>WCFG1800</p>
<p>No. 9 800 acres feedgrain-soy Facilitator: Rick Mammen – UOE Agronomy Specialist Harvey Letton – Barton County Wally Norton – Barton County</p>	<p>Don Lucietta – Barton County Dale Norwood – Barton County</p>	<p>SWFG800</p>
<p>No. 10 1800 acres feedgrain-soy Facilitator: John Moreton – Mississippi County Ron Rolwing – Mississippi County Daniel Babb – Mississippi County</p>	<p>Mike Geske - New Madrid County Wayne Corse – Mississippi County</p>	<p>SEFG1800</p>

No. 11 4000 acres feedgrain-soy		SEFG4000
Facilitator: John Moreton – Mississippi County		
Jack Moxley – Mississippi County	John Moreton – Mississippi County	
Bart Stallings – Mississippi County	Hoyt Barnes – Mississippi County	
Jim Burke – Mississippi County		
No. 12 1600 acres feedgrain, soy, cotton, rice		SECT1600
Facilitators: Dave Madison, Pemiscot County Port Authority Director and Mike Blankenship, Pemiscot County		
USDA/FSA		
Danny Davis – Dunklin County	Rance Daniels – Dunklin County	
Johnny Arbuckle – Pemiscot County	Johnny Watkins – Pemiscot County	
Mike Stetson – Pemiscot County	Tony Watkins – Pemiscot County	
Brian Waldrop – Pemiscot County	Dwight Blankenship – Dunklin County	
Steve Dunavant – Pemiscot County		
No. 13 3000 acres feedgrain, soy, cotton		SECT3000
Facilitators: Dave Madison, Pemiscot County Port Authority Director and Mike Blankenship, Pemiscot County		
USDA/FSA		
Ted Streete – Pemiscot County	James Raulerson – Pemiscot County	
Mike Clayton – Pemiscot County	Dalma Reid – Pemiscot County	
Steve Reid - Pemiscot County		
No. 14 2000 acres soybeans and rice		SERC2000
Facilitator: Bruce Beck – UOE Agronomy-Rice Specialist		
Bruce Yarbro – Butler County	Floyd Page – Butler County	
Rick Spargor – Butler County	Rodney Walls – Butler County	
Mitch Clark – Butler County		
No. 15 4000 acres soybeans and rice		SERC4000
Facilitator: Bruce Beck – UOE Agronomy-rice Specialist		
C.P. Johnson – Butler County	Frank Smody – Butler County	
Rodney Eaker – Butler County	Jim Bieller – Butler County	
No. 16 400 acres feedgrain, soybeans and rice		SERC400
Facilitator: Walter Smith – Stoddard County NRCS		
Sean Rutledge - New Madrid County	Ted Pullen – Stoddard County	
Alex Green - Pemiscot County		
No. 17 2500 acres feedgrain, soybeans and rice		SERC2500
Facilitator: Joe Trujillo – FAPRI at MU		
C.D. Stewart – Stoddard County	Larry Riley – Stoddard County	
Andy Turman – Stoddard County	Dale Conner – Stoddard County	
No. 18 4500 acres feedgrain, soybeans and rice		SERC4500
Facilitator: Joe Trujillo – FAPRI at MU		
Terry Scott – Dunklin County	Dick Burnett – Stoddard County	
Tom Jennings – Scott County	Scott Wheeler – Stoddard County	
No. 19 2050 acres feedgrain-soy, 200 beef cows		NWCB2050
Facilitator: Mike Killingsworth –Killingsworth Ag Services		
Jack Baldwin – Nodaway County	Kevin Rosenbohm – Nodaway County	
Gary Ecker – Nodaway County	Roger Vest – Nodaway County	
No. 20 1200 acres feedgrain-soy, 100 beef cows		NWCB1200
Facilitator:		
Rob Mattson – DeKalb County	Dennis Marshall – DeKalb County	
Rodney Hahn – DeKalb County	Dwayne Groebe – DeKalb County	
Chris Curtis – DeKalb County		

No. 21 1460 acres feedgrain-soy and 25 beef cows NECB1460		
Facilitator: Gary Noel – NRCS Ralls County Field Office		
Joe Hagan – Monroe County	Micah Lehenbauer – Ralls County	
Don Griffin - Ralls County	Tuley Elliott – Ralls County	
Phillip Thompson – Ralls County	Danny Benson – Ralls County	
Pat Hays – Monroe County		
No. 22 550 acres feedgrain-soy and 50 beef cows		NECB550
Facilitator: Jules Willott – Audrain County		
Jim Gastler – Callaway County	Rodney Willingham – Audrain County	
Henry Borgmeyer – Audrain County	Jeffrey Fennwald – Audrain County	
John Houston – Audrain County	Adam Blaue – Montgomery County	
Marty Bertels – Audrain County		
No. 23 800 acres feedgrain-soy and 75 beef cows		WCCB800
Facilitator: Brad Powell - NRCS Bates County Field Office		
Andy Starkebaum – Cass County	Freeman Stanfill – Bates County	
Terry VanSandt – Bates County	Trent Smith – Cass County	
Brad Addleman – Bates County		
No. 24 515 acres feedgrain-soy and 40 beef cows		ECCB515
Facilitator: Joe Trujillo – FAPRI at MU		
LeRoy Lukefahr – Perry County	Brian Koenig – Perry County	
Dean Lukefahr – Perry County	Kevin Bachmann - Perry County	
Terry Weinrich – Bollinger County		
No. 25 1700 acres feedgrain-soy and 200 beef cows		ECCB1700
Facilitator: Joe Trujillo – FAPRI at MU		
Dale Huber – Perry County	Marion Brown - Ste. Genevieve County	
Robert Breig - Ste. Genevieve County	Norman Reiss Perry County	
Henry Romann – Perry County		
No. 26 240 acres feedgrain-soy and 150 beef cows		SWCB240
Facilitator: Brian Gillen - Lockwood H.S., Vo-Ag		
Mike Theurer – Dade County	Ray Hunter – Lawrence County	
Randall Erisman – Dade County	Chuck Daniel – Dade County	
Gary Wolf – Lawrence County	James Nivens – Lawrence County	
Steve Allison – Dade County		
No. 27 1800 acres feedgrain-soy and 135 beef cows		SWCB1800
Facilitator: Rick Mammen – UOE Agronomy Specialist		
Rose Ann & Rodney Overman – Barton County	Mark Whittle – Barton County	
Jerry Schnelle – Barton County	Wayne Schnelle – Dade County	
No. 28 1500 sow farrow -to-finish		NEH1500
Facilitator: Joe Trujillo – FAPRI at MU		
Jim Fisher – Montgomery County	Scott Hays – Monroe County	
Jerry Epperson – Montgomery County	Kathy Chinn – Shelby County	
No. 29 550 acres feedtrain-soy, 70 beef cows and 2-houses contract nursery pigs		WCHBC550
Facilitator: Wayne Prewitt – UOE Ag Business Specialist		
Rocky Rush – Jasper County	Gary Waltz – Jasper County	
Ronnie Means – Barton County	Lawrence Tally – Vernon County	
Tommy Wait – Vernon County	Wayne Jeans – Vernon County	
Bill Handy – Vernon County		
No. 30 250 acres feedgrain-soy, 125 beef cows, and 200 sows Farrow-Finish		CTHBC250
Facilitator: Russ Kremer – Missouri Farmers Union		
Leo Brandt – Osage County	John Muenks – Osage County	
Luke Deeken – Osage County	Doug Luebbering – Cole County	

No. 31 1500 acres feedgrains-soy and 3000 head grow-finish hogs		ECHC1500
Facilitator: Gary Hoette – UOE Agronomy Specialist		
Harold Clark – Montgomery County	Mike Grosse – Montgomery County	
Bill Deichman – Audrain County	Charles Grosse – Montgomery County	
Mark Stevens – Montgomery County	Jim Foster – Montgomery County	
No. 32 350 beef cows		CTBF350
Facilitator:		
Ken Lenox – Phelps County	Tom Gollhofer – Dent County	
George Barnitz – Dent County	Doug & Pat Black – Phelps County	
No. 33 200 beef cows		SWBF200
Facilitator: Tony Rickard – UOE Dairy Specialist		
Eugene Mielkey – Barry County	Basil Ferguson – Lawrence County	
Larry Henbest – Barry County		
No. 34 260 beef cows		SWBF260
Facilitator: Eldon Cole – UOE Livestock Specialist		
Rod Lewis – Lawrence County	Ben Kaal – Lawrence County	
Nolan Kleiboeker - Lawrence County	Steve Parker – Lawrence County	
No. 35 350 beef cows		SCBF350
Facilitator: Stacy Hambleton - Dade County Extension Center		
Calvin Crawford – Oregon County	Doug & Alice Robison – Oregon County	
Carol Grimes – Oregon County	Wilbur Spreutels – Oregon County	
Don Johnson – Oregon County		
No. 36 150 beef cows		SCBF150
Facilitator: Randy Saner – UOE Livestock Specialist		
Cindy Ulm – Howell County	Don Proffitt – Howell County	
Becky Day – Howell County	Charlie Rymer – Howell County	
Al Vance – Howell County		
No. 37 150 cow dairy and 240 acres feedgrain-soy		ECDY150
Facilitator: Matt Herring and Ken Bolte- UOE Natural Resources and Ag. Business Specialists		
Bob Riegel – Franklin County	Daryl Rademacher – Gasconade County	
Eugene Scheer – Franklin County	Roy Koeling – Gasconade County	
No. 38 85 cow dairy		SWDY85
Facilitator: Stacey Hamilton – UOE Dairy Specialist		
Allen Sulgrove – Taney County	Doug Owen – Webster County	
Joe Peebles – Christian County	Larry Winfree – Stone County	
No. 39 95 cow dairy		SWDY95
Facilitator: Tony Rickard – UOE Dairy Specialist		
Rex Henderson – Barry County	Robert Pointer - Barry County	
Phil Schad – Barry County	Ronald Edmondson - County	
No. 40 400 cow dairy		SWDY400
Facilitator: Stacey Hamilton – UOE Dairy Specialist		
Wayne Whitehead – Webster County	Steve Gallivan – Dallas County	
John McArthur – Dade County	Freddie Martin – Hickory County	
No. 41 230 cow grazing dairy		SWDY230
Facilitator: Stacey Hamilton – UOE Dairy Specialist		
Bernie VanDalfsen – Jasper County	Jeff Buckner – Cedar County	
John McArthur – Dade County	Charles Fletcher – Barry County	
No. 42 150 cow dairy and backgrounding		SCDY150
Facilitator: Ted Probert and Karla Deaver – UOE Dairy Specialists		
David Hutsell – Wright County	Nathan Roth – Wright County	
David Gray – Wright County	Ted & Barbara Sheppard – Texas County	
Roger & Linda McClanahan – Wright County		

No. 43 4-Houses broilers and 50 beef cows

Facilitator: Jim Durham – Simmons Foods
Jerry Evans – Newton County
Don Kier – Barry County

SWBRBF4

Bill Wilson – McDonald County
Murphy Biglow – McDonald County

No. 44 6-Houses broilers and 50 beef cows

Facilitator: Mike Lucareillo – Tyson Foods
David Brittenham – Lawrence County
Ron Campbell – Lawrence County

SWBRBF6

Cliff Fitchpatrick – Newton County
Roger Schnake – Lawrence County