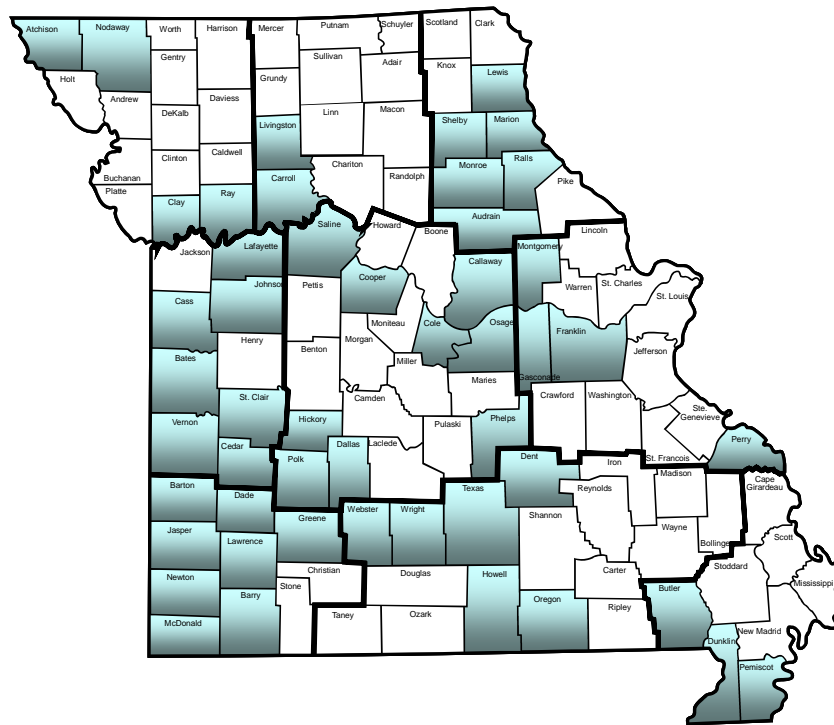


Baseline Outlook for Missouri Representative Farms 2006-2010



Shaded areas of the cover page map are the home counties of representative farm panel members. Bolded lines on the map are boundaries for USDA-Missouri Ag Statistics Service crop reporting districts which correspond with rep farm regions in this report.

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FAPRI
101 Park DeVille Drive, Suite E
Columbia, MO 65203
573-882-3576
<http://www.fapri.missouri.edu>

Authors: Brent Carpenter, Peter Zimmel, Scott Gerlt

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Executive Summary

The purpose of this report is to highlight financial information about specific types of farm operations, based on the best economic intelligence available. The results are not so much a prediction of the future, but a projected path for individual farms, provided structural changes do not occur.

2005 was a more normal weather year in that crop farms were treated unequally. For the northeast farms in particular, much of the financial gains of 2004 were given back in 2005 due to drought. Other crop farms prospered and continued to build cash to carry into the projection period. Beef, pork, and to a lesser extent dairies, had a very successful year. Overall, the rep farms are currently experiencing relative financial health, having retired some debt and in many cases accumulated a cash cushion.

However, the projections in this report raise several red flags for Missouri production agriculture.

The progressive run up in some costs, particularly energy related inputs, is shown as a serious drag on future cash margins of some farms. Also evident is the cyclical nature of agriculture, particularly in the soybean and beef sectors. Our estimates of future bean prices, based on economic fundamentals, reflect declining soybean returns. The prospects

of declining beef prices have widespread impacts. Obviously, for the beef farms the impact is expected to be direct and substantial. But over half of the rep farms are involved in a beef enterprise and will see the beef component of returns fall. We do not believe a widespread crisis is imminent, but management's resiliency is likely to be tested in the outlook years.

One method of summarizing the outlook is with risk scores based on the probability of cash flow deficit, as shown in the figures on the following page. The primary concern in this baseline is cash flow, not equity, as land values are projected to flatten and then slowly climb, relative to recent history.

In the near term, 2006-2007, two-thirds of the farms are expected to generate sufficient revenues to meet cash demands. In the intermediate term, 2008-2010, this number slips to slightly more than half.

Readers should also be careful to observe the assumptions that underlie the financial estimates. A key assumption is that farm policy provisions and funding carry forward as set in the farm bill of 2002. In fact, debate on the next farm bill has already begun. This baseline will form the foundation to test various policy proposals as we move closer to a new farm bill.

Figure 1. 2005 and 2006 baseline comparison, risk scores for near term

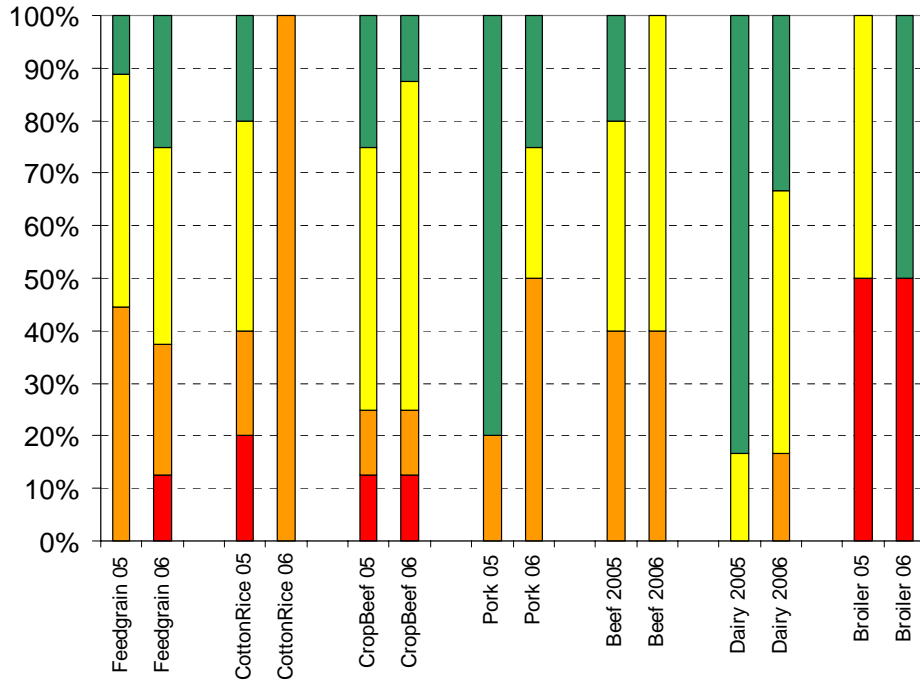


Figure 2. 2005 and 2006 baseline comparison, risk scores for intermediate term

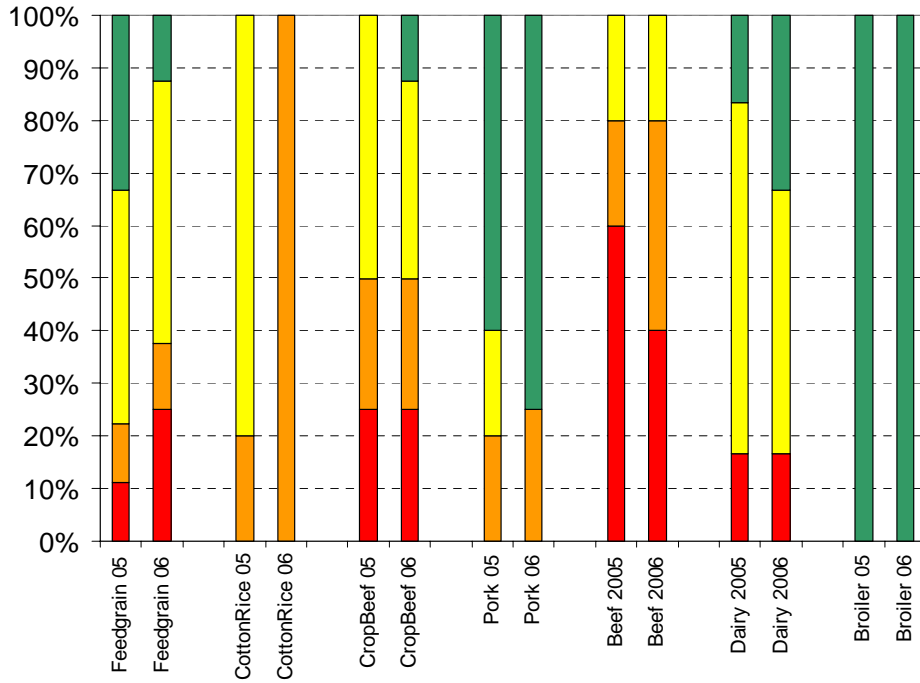


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Acknowledgement

This work would not be possible without the cooperation of the 200 plus producers and facilitators who voluntarily participate. We are grateful for their willingness to collectively share with us how Missouri farm businesses are really operated.

Report Readers' Guide

This report presents a five-year outlook for the representative farms under provisions of the Food Security and Rural Investment Act of 2002. Throughout this report, farms are identified by number and grouped by primary sources of income. Findings are based on a number of important assumptions as discussed in Appendix A. Different assumptions will yield a different financial outlook. It is also important to recognize that each farm is a unique entity. Exercise caution when comparing across farms.

Table 1 summarizes receipts and operator assets for the rep farms by type of production. There are 36 farms of various sizes in this database. Projected receipts for 2006 are expected to range from \$121 thousand to \$4.27 million. Ten of the rep farms (28 percent) fit the definition of a small farm suggested by USDA with less than \$250,000 in agricultural product sales. All of these smaller rep farms have beef cattle.

The baseline outlook simulates financial performance over eight calendar years beginning in 2003. The historical period includes 2003-05. Financial projections are for the years 2006-2010.

Individual farms are described in the tables that begin on page 4. Production and size characteristics are shown on the left page and financial statistics are listed on the right page. Farms are numbered sequentially at the top of the page. Several items are footnoted and explained in the table reference notes on page 34. The tables for each farm type group are preceded by a synopsis with specific points highlighted for all of the farms.

To find results by region rather than farm type, refer to Table 2 for a geographical sort. Regions correspond to Missouri Ag Statistics Service cropping districts as shown on the cover map.

Table 1. Overview of Missouri rep farms database, 2006

Farm Type	Number of Farms	Total Receipts (\$1000)		Operator Assets (\$1000)	
		Min.	Max.	Min.	Max.
Feedgrain-soy	8	\$281	\$1,011	\$1,005	\$6,963
Cotton and rice	3	\$553	\$1,676	\$1,026	\$8,962
Crop-beef	8	\$162	\$850	\$698	\$4,724
Pork-crop	4	\$299	\$4,276	\$1,495	\$6,862
Beef	5	\$121	\$274	\$1,234	\$3,373
Dairy	6	\$254	\$1,305	\$1,215	\$4,120
Broiler-beef	2	\$147	\$208	\$992	\$1,011
All farms	36	\$121	\$4,276	\$698	\$8,962

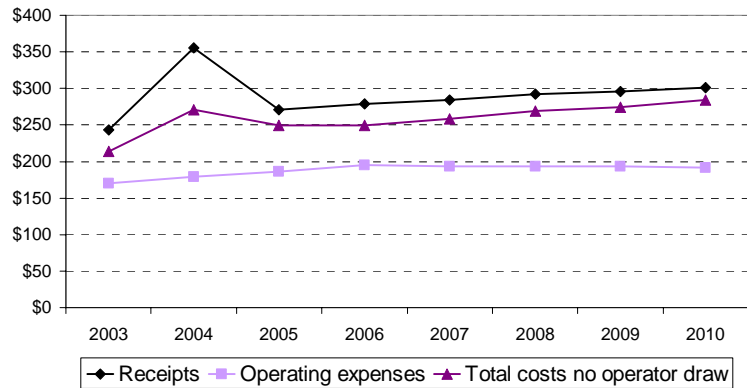
Table 2. Representative farm identification numbers, by region

Farm Type	North West	North Central	North East	West Central	Central	East Central	South West	South Central	South East
Feedgrain-soy	1, 2	3, 4	5, 6	7			8		
Cotton and rice									9, 10, 11
Crop-beef	12	13	14, 15	16		17	18, 19		
Pork-crop			20	21	22, 23				
Beef					24		25, 26	27, 28	
Dairy							30, 31		
						29	32, 33	34	
Broiler-beef							35, 36		
Regional count	3	3	5	3	3	2	11	3	3

Summary of Feedgrain-soy farms

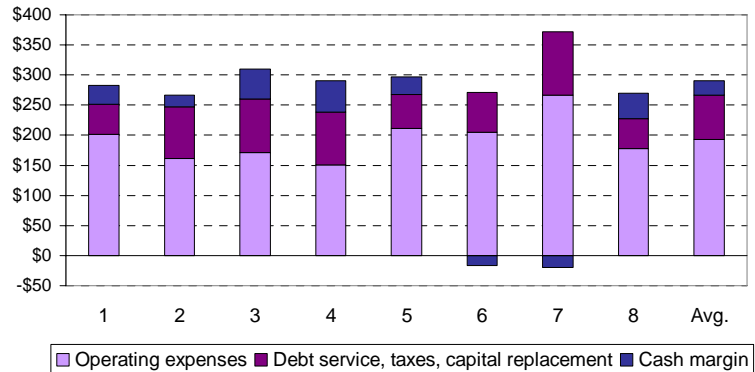
- Average annual costs and returns for the group of 8 feedgrain-soy rep farms indicate narrowing margins from about \$30 per acre in 2006 to \$17 per acre in 2010. Cash margin—the amount available to the operator for withdrawal—peaked at \$84 per acre in 2004.
- Operating expenses, averaged across all feedgrain farms and all crops, increased \$25 per acre from 2003 to 2006. The largest changes occurred in fuel, fertilizer, and interest expenses.

Costs and returns per acre, all feedgrain farms



- Returns, costs, and cash margins differ substantially across the set of rep farms. The chart shows projected whole farm receipts and costs on a per acre basis, averaged over the five-year projection period.
- Cash margins for this set of farms range from -\$19 to \$51, with an average of \$23 per acre.

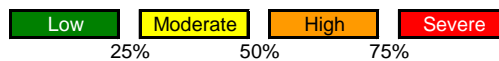
Costs and returns per acre, by farm



- Cash flow risk ratings indicate the likelihood of cash deficits in the near-term and the intermediate term (including operator withdrawal) due to price and production variability.
- Five of the farms are expected to meet cash demands, while three are likely to experience cash deficits under the assumptions of this analysis.

Cash flow risk ratings, by farm

Farm	Region	Crop acres	2006-07	2008-2010
1	NW	2500	Moderate	Moderate
2	NW	2300	High	High
3	NC	2050	Low	Moderate
4	NC	3630	Low	Moderate
5	NE	2600	Moderate	Moderate
6	NE	1300	Severe	Severe
7	WC	1800	High	Severe
8	SW	1100	Moderate	Moderate



Spotlights

Farm 1

This northwest farm plants 2500 acres of corn and soybeans in a 50-50 rotation. Two years of strong yields have brought this farm out of a serious cash shortfall that began with a drought in 2002. Entering 2006, the farm has cash reserves equivalent to 60 percent of operating expenses. At trend yields and projected prices, the farm is expected to return about \$79,000 cash annually to the operator on \$4.2 million in assets.

Farm 2

This Missouri River bottom farm crops 2300 acres. About two-thirds are in soybeans with some double cropping, plus corn and some wheat. Yields have been quite strong for two years, but this farm continues to operate at a high level of cash flow risk. The greatest risk to this farm may be the mandated spring rise on the Missouri River.

Farms 3 and 4

These two Carroll County farms are similar in most respects except for the number of acres farmed—2050 and 3630 acres. The smaller farm does have slightly higher capital expenses per acre. Yields have remained strong helping these farms to build some cash reserve entering 2006. At trend yields, net returns are choppy on the smaller farm due to the timing of equipment replacement. This is the major reason for a higher risk rating in the intermediate term.

Farm 5

After posting record breaking yields and returns in 2004, drought in 2005 caused this northeast farm of 2600 acres to experience the other extreme. Returns to family living were negative in 2005. With trend yield and projected prices, returns to family living are expected to average about \$75,000 with a moderate risk of cash flow deficits.

Farm 6

This northeast farm with 1300 crop acres raises corn, sorghum, and beans. Similar to farm 5, the two yield extremes were experienced in back-to-back years. For this farm with fairly high expenses relative to receipts, the drought year hurts future financial health. The farm is highly unlikely to earn the assumed owner withdrawal of about \$28,000 per year over the projection period.

Farm 7

This Lafayette County farm crops corn and soybeans on 1800 acres and owns specialized equipment for custom spraying. Added revenue does not cover the additional equipment and labor costs to support the custom business. The farm cannot sustain the assumed owner withdrawal of about \$45,000 per year over the projection period.

Farm 8

This 1100 acre farm in Barton County is the smallest farm in the feedgrain-soy group. The farm is in a grain deficit area and receives a premium price for corn. The trend in the area has been to plant less sorghum and more corn to meet the demands of the poultry industry in southwest Missouri. Below average yields in 2005 were difficult, but not ruinous to this relatively efficient farm. After three years of simulated operation, the farm carries cash equivalent to 72 percent of operator expenses—although the assumed level of owner withdrawal is less than what most families are willing to accept.

Table 3. **Feedgrain-soy** farms, characteristics

Code	NWFG2500	NWFG2300	NCFG2050	NCFG3630
Farm number	1	2	3	4
Region	Northwest	Northwest	North Central	North Central
County	Atchison	Ray	Carroll	Carroll
Cropland	2500	2300	2050	3630
Acres owned	1050	1380	1150	1600
Acres leased	1450	920	900	2030
Nonproductive acres owned	150	68	80	160
Total acres operated	2650	2368	2130	3790
Operator owned (%)	46	61	58	46
Cash leased (%)	25		8	
Share leased (%)	29	39	34	54
Cash receipt sources ^a				
Share of total				
All crops (%)	100	100	100	100
Custom work (%)				
Planted acres ^b				
Total acres	2500	2500	2050	3630
Double crop acres		200		
Share of total				
Corn (%)	50	28	50	52
Sorghum (%)				
Wheat (%)		8		3
Soybeans (%)	50	64	50	45
Crop yields ^c				
Corn, bu				
2003	112	133	137	172
2004	186	184	185	203
2005	173	174	145	177
Sorghum, bu				
2003				
2004				
2005				
Wheat, bu				
2003		62		70
2004		66		60
2005		60		77
Soybeans, bu				
2003	28	29	33	39
2004	49	48	53	53
2005	51	47	49	49

Table 3. **Feedgrain-soybean** farms, financial outlook (continued).

Code	NWFG2500	NWFG2300	NCFG2050	NCFG3630
Farm number	1	2	3	4
Near term cash risk outlook ^d	Moderate	High	Low	Low
Intermediate term cash risk outlook	Moderate	High	Moderate	Low
Average operator assets (\$1000)	4,220	5,641	4,996	6,963
Average return to operator assets (%)	4.1	4.4	5.4	7.0
Assumed operator debt, Jan 1, 2003 (%) ^e	20	20	20	20
Term debt capacity, Jan 1, 2006 (%) ^f	26	24	31	38
Cropland value in 2003 (\$ per acre)	2,000	2,439	2,413	2,155
Average operating expense/receipts (%)	74.3	62.5	57.2	53.8
Government payments (\$1000) ^g				
2003	89.6	16.2	16.8	26.1
2004	100.6	67.0	85.0	137.4
2005	153.6	89.1	116.2	203.4
2006	119.1	89.9	107.1	165.1
2007	100.7	78.8	89.8	139.1
2008	86.8	69.2	77.2	119.3
2009	79.4	63.9	69.7	107.3
2010	72.9	59.9	63.6	97.6
Average	91.8	72.3	81.5	125.7
Total cash receipts (\$1000) ^a				
2003	568.1	468.5	457.6	943.0
2004	880.6	707.6	693.2	1,143.8
2005	830.7	654.6	586.9	1,020.7
2006	684.9	586.6	612.5	1,011.2
2007	692.2	599.5	619.2	1,026.1
2008	709.0	616.1	642.6	1,065.4
2009	719.4	624.4	641.4	1,065.4
2010	730.8	634.8	659.0	1,096.3
Average	707.3	612.3	635.0	1,052.9
Net cash farm income (\$1000) ^h				
2003	123.4	136.2	144.3	462.4
2004	408.8	358.5	361.2	639.2
2005	338.3	277.4	245.5	488.1
2006	178.5	210.8	256.3	455.0
2007	190.7	226.2	267.6	475.3
2008	204.2	246.1	285.5	518.0
2009	218.0	250.1	291.6	522.2
2010	231.7	266.7	316.5	559.1
Average	204.6	240.0	283.5	505.9
Return to family living (\$1000) ⁱ				
2003	53.7	10.9	58.3	216.6
2004	221.9	89.8	188.1	273.2
2005	164.7	68.4	96.9	173.5
2006	80.3	46.2	122.8	186.4
2007	87.3	34.8	113.0	168.8
2008	72.7	56.5	74.0	195.0
2009	85.8	44.3	92.2	189.0
2010	70.8	36.0	104.4	194.0
Average	79.4	43.6	101.3	186.6
Average owner withdrawal assumed (\$1000) ^j	51.0	51.0	52.3	69.4
Beginning cash, 2006 (\$1000) ^k	302.3	64.8	204.83	480.04
Beginning cash/operating expenses (%) ^k	59.7	17.2	57.5	86.3
Probability of a cash flow deficit (%) ^l				
2006	33.8	50.0	13.8	10.8
2007	31.8	61.2	18.0	14.8
2008	38.0	40.0	40.0	9.6
2009	36.8	48.8	28.8	11.0
2010	38.4	53.6	20.8	10.6

Table 3. **Feedgrain-soy** farms, characteristics (continued)

Code	NEFG2600	NEFG1300	WCFG1800	SWFG1100
Farm number	5	6	7	8
Region	Northeast	Northeast	West Central	Southwest
County	Marion	Audrain	Lafayette	Barton
Cropland	2600	1300	1800	1100
Acres owned	936	390	875	360
Acres leased	1664	910	925	740
Nonproductive acres owned	70	40	197	41
Total acres operated	2670	1340	1997	1141
Operator owned (%)	38	32	53	36
Cash leased (%)	41	34	31	32
Share leased (%)	21	34	16	32
Cash receipt sources^a				
Share of total				
All crops (%)	100	100	95	100
Custom work (%)			5	
Planted acres^b				
Total acres	2600	1300	1800	1465
Double crop acres				365
Share of total				
Corn (%)	48	25	50	17
Sorghum (%)		18		8
Wheat (%)	4			25
Soybeans (%)	48	57	50	50
Crop yields^c				
Corn, bu				
2003	118	119	111	105
2004	205	170	192	170
2005	80	60	138	98
Sorghum, bu				
2003		110		72
2004		140		135
2005		85		82
Wheat, bu				
2003	66			80
2004	55			50
2005	58			52
Soybeans, bu				
2003	36	39	34	29
2004	61	50	58	44
2005	36	37	48	36

Baseline Outlook for Missouri Rep Farms, 2006-2010

Table 3. **Feedgrain-soybean** farms, financial outlook (continued).

Code	NEFG2600	NEFG1300	WCFG1800	SWFG1100
Farm number	5	6	7	8
Near term cash risk outlook ^d	Moderate	Severe	High	Moderate
Intermediate term cash risk outlook	Moderate	Severe	Severe	Moderate
Average operator assets (\$1000)	3,821	1,659	4,601	1,100
Average return to operator assets (%)	5.2	3.4	3.2	6.0
Assumed operator debt, Jan 1, 2003 (%) ^e	20	20	20	20
Term debt capacity, Jan 1, 2006 (%) ^f	31	21	20	51
Cropland value in 2003 (\$ per acre)	2,067	2,200	2,550	1,085
Average operating expense/receipts (%)	75.2	81.6	78.7	67.5
Government payments (\$1000) ^g				
2003	22.1	9.4	15.4	9.0
2004	117.6	36.1	58.1	28.4
2005	117.5	35.6	105.8	25.1
2006	131.7	47.9	97.5	32.9
2007	111.2	42.8	81.9	31.8
2008	96.6	38.2	70.5	29.0
2009	88.4	35.3	63.7	27.3
2010	81.1	33.7	58.7	25.9
Average	101.8	39.6	74.4	29.4
Total cash receipts (\$1000) ^a				
2003	659.0	300.6	480.8	304.3
2004	1,071.3	401.0	841.6	375.2
2005	569.8	243.3	601.0	269.5
2006	749.0	314.8	613.1	280.1
2007	756.9	323.1	622.5	289.3
2008	772.9	333.6	636.3	298.7
2009	785.4	338.1	645.7	305.0
2010	796.0	345.0	652.6	310.4
Average	772.0	330.9	634.0	296.7
Net cash farm income (\$1000) ^h				
2003	177.1	69.0	59.2	134.6
2004	557.9	159.6	401.6	196.8
2005	49.3	-3.1	147.8	81.2
2006	191.5	51.3	132.6	80.4
2007	203.3	58.0	142.3	92.0
2008	223.0	68.3	157.0	103.6
2009	238.2	70.3	164.1	111.6
2010	252.1	76.9	173.4	118.6
Average	221.6	65.0	153.9	101.2
Return to family living (\$1000) ⁱ				
2003	95.7	32.9	-24.2	77.9
2004	289.5	83.8	180.7	114.9
2005	-39.2	-48.0	23.7	26.5
2006	86.9	9.7	7.5	30.6
2007	82.6	-6.7	-6.4	35.2
2008	65.7	-20.2	-21.6	49.1
2009	69.4	-37.5	-56.5	56.7
2010	68.8	-55.0	-95.1	57.8
Average	74.7	-22.0	-34.4	45.9
Average owner withdrawal assumed (\$1000) ^j	51.0	28.3	45.3	28.3
Beginning cash, 2006 (\$1000) ^k	209.9	-8.3	121.3	143.9
Beginning cash/operating expenses (%) ^k	37.7	-3.2	25.2	72.1
Probability of a cash flow deficit (%) ^l				
2006	39.0	69.4	62.2	44.2
2007	39.8	78.0	68.6	39.2
2008	40.0	83.0	71.6	26.4
2009	39.8	89.8	77.6	22.6
2010	40.2	91.6	81.4	22.8

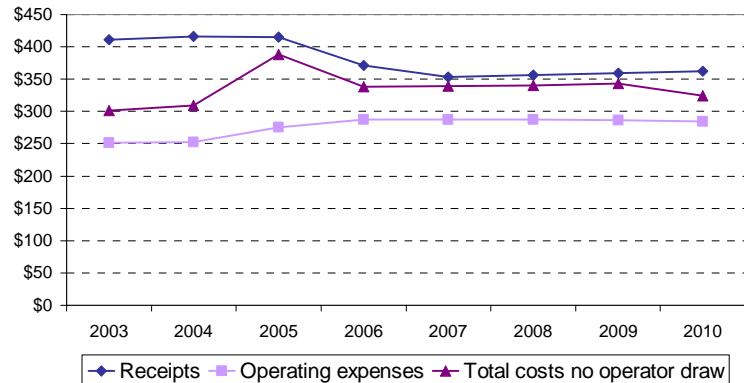
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Summary of Cotton and Rice Farms

Farm 9

This 1600-acre, Pemiscot County farm irrigates cotton, soybeans, and rice and raises dryland cotton, soybeans and sorghum. Ninety percent of the acreage is leased. Cotton is planted on 42 percent of the acres, but makes up 57 percent of the farm receipts. Yields have generally been strong. The farm is projected to cover rising costs, but relatively little residual is left for operator withdrawal. Average returns to family living are less than the owner withdrawal. Cash reserve declines over the projection period.

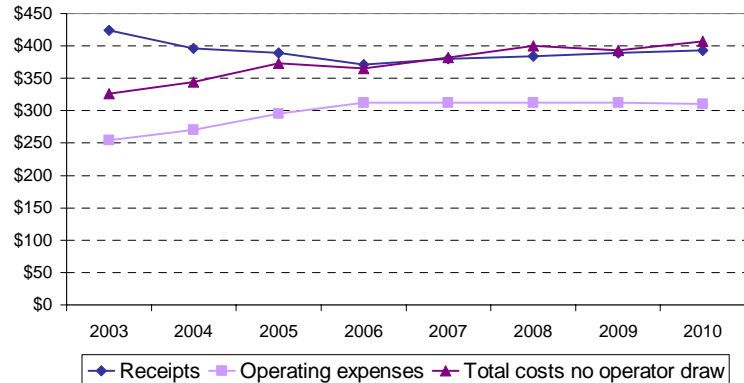
Costs and returns per acre, farm 9



Farm 10

This 2000-acre farm in Butler County receives 58 percent of its income from rice. Due to relatively strong yields, this farm accumulated cash in the historical period. However, cash deficits are predicted for each year of the projection period. Operating costs in 2006 are up by \$115,000, or 23 percent compared to 2003. Present cost and return relationships on this farm are not sustainable. Return on assets is below 3 percent.

Costs and returns per acre, farm 10



Farm 11

This 4000-acre Butler County farm plants rice and soybeans on an equal number of acres. Rice provides 70 percent of the total farm receipts. Costs outpace receipts in the projection period. Compared to 2003, 2006 operating costs are up \$192,000 or 16 percent. The farm weathers cash deficits through 2010 without new borrowing, but only by drawing down cash reserves built in 2003 and 2004.

Costs and returns per acre, farm 11

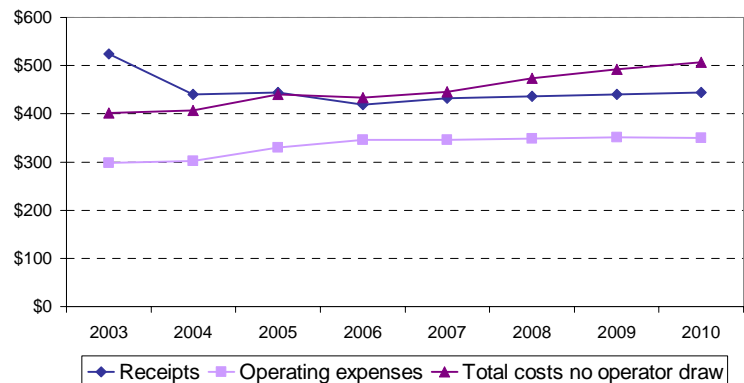


Table 4. Cotton and rice farms, characteristics

Code	SECT1600	SERC2000	SERC4000
Farm number	9	10	11
Region	Southeast	Southeast	Southeast
County	Pemiscot	Butler	Butler
Cropland	1600	2000	4000
Acres owned	160	800	2000
Acres leased	1440	1200	2000
Nonproductive acres owned	8	40	100
Total acres operated	1608	2040	4100
Operator owned (%)	10	41	52
Cash leased (%)	9	15	24
Share leased (%)	81	44	24
Cash receipt sources ^a			
Share of total			
All crops (%)	100	100	100
Custom work (%)			
Planted acres ^b			
Total acres	1600	2200	4000
Double crop acres		200	
Share of total			
Cotton (%)	42		
Rice (%)	17	36	50
Corn (%)		7	
Sorghum (%)	3		
Wheat (%)		9	
Soybeans (%)	38	48	50
Crop yields ^c			
Cotton, lbs			
2003	900	1100 irr	
2004	1125	1125 irr	
2005	776	932 irr	
Rice, cwt			
2003		58.5	66.1
2004		65.0	68.4
2005		66.7	68.8
Corn, bu			
2003		170	
2004		180	
2005		162	
Sorghum, bu			
2003	100	91	
2004	100	100	
2005	78	72	
Wheat, bu			
2003		55	
2004		60	
2005		59	
Soybeans, bu			
2003	31	45 irr	48
2004	38	51 irr	50
2005	25	52 irr	46

Table 4. **Cotton and rice** farms, financial outlook (continued).

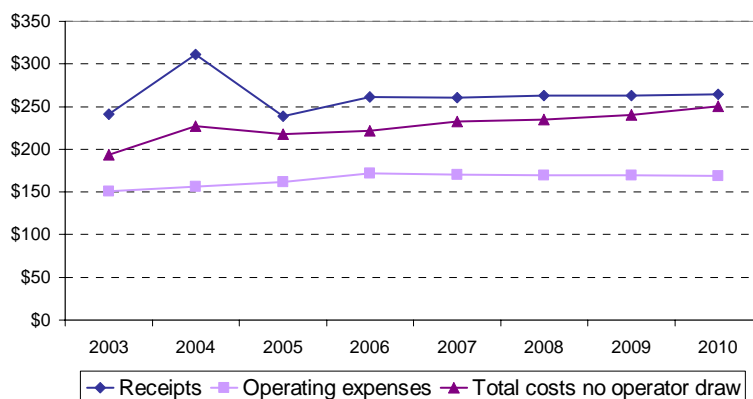
Code	SECT1600	SERC2000	SERC4000
Farm number	9	10	11
Near term cash risk outlook ^d	High	High	High
Intermediate term cash risk outlook	High	High	High
Average operator assets (\$1000)	1,175	3,669	8,962
Average return to operator assets (%)	2.4	2.4	3.0
Assumed operator debt, Jan 1, 2003 (%) ^e	20	20	20
Term debt capacity, Jan 1, 2006 (%) ^f	51	27	28
Cropland value in 2003 (\$ per acre)	1,434	2,169	2,086
Average operating expense/receipts (%)	81.2	83.5	85.1
Average government payments/receipts (%)	22.5	19.6	24.0
Government payments (\$1000) ^g			
2003	66.3	146.5	412.8
2004	169.1	111.2	302.9
2005	156.2	126.1	332.1
2006	142.0	155.8	410.5
2007	130.4	156.0	423.3
2008	127.4	153.3	421.7
2009	124.0	143.1	396.7
2010	120.0	129.8	361.9
Average	128.8	147.6	402.8
Total cash receipts (\$1000) ^a			
2003	657.6	848.0	2,095.5
2004	666.2	791.9	1,763.0
2005	663.8	779.3	1,779.3
2006	593.1	741.5	1,676.3
2007	565.7	761.1	1,731.8
2008	569.2	768.6	1,744.9
2009	574.9	777.7	1,759.6
2010	578.8	786.4	1,775.1
Average	576.3	767.1	1,737.5
Net cash farm income (\$1000) ^h			
2003	255.8	338.5	902.2
2004	261.6	250.2	553.3
2005	222.7	189.0	458.7
2006	132.6	117.3	292.4
2007	105.8	137.1	348.3
2008	110.1	143.8	349.9
2009	117.2	154.1	354.5
2010	123.6	165.2	377.9
Average	117.9	143.5	344.6
Return to family living (\$1000) ⁱ			
2003	175.1	195.4	488.9
2004	171.9	102.7	134.1
2005	42.8	32.9	17.1
2006	52.7	10.3	-58.9
2007	22.8	-3.3	-48.5
2008	25.6	-30.9	-147.9
2009	25.8	-9.3	-207.8
2010	60.3	-27.8	-251.5
Average	37.4	-12.2	-142.9
Average owner withdrawal assumed (\$1000) ^j	45.3	34.0	45.3
Beginning cash, 2006 (\$1000) ^k	267.8	239.5	521.7
Beginning cash/operating expenses (%) ^k	58.1	38.4	37.7
Probability of a cash flow deficit (%) ^l			
2006	38.8	51.0	54.2
2007	54.4	58.2	56.0
2008	53.6	69.8	65.0
2009	55.8	57.2	66.2
2010	38.4	60.8	66.2

Summary of Crop-Beef farms

- Average annual costs and returns for the group of 8 crop-beef rep farms indicate narrowing margins from about \$40 per productive acre (crop + forage acres) in 2006 to \$14 per acre in 2010.

- Operating expenses, averaged across all crop-beef farms, increased \$21 per acre from 2003 to 2006. The largest changes occurred in fuel, fertilizer, and interest expenses.

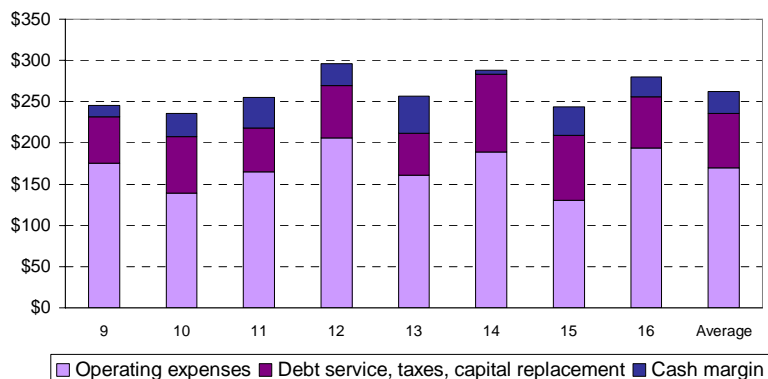
Costs and returns per acre, all crop-beef farms



- Returns, costs, and cash margins differ across the set of rep farms. The chart shows projected whole farm receipts and costs on a per acre basis, averaged over the five-year projection period.

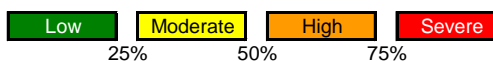
- Cash margins for this set of farms range from \$5 to \$45, with an average of \$27 per acre.

Costs and returns per acre, by farm



Cash flow risk ratings, by farm

Farm	Region	Crop acres	Cows	2006-07	2008-2010
12	NW	1850	200 + Bk	Moderate	High
13	NC	1485	100	Moderate	High
14	NE	1460	80	Moderate	Moderate
15	NE	500	50	High	Moderate
16	WC	1400	150 + F	Low	Low
17	EC	380	40	Severe	Severe
18	SW	240	150	Moderate	Severe
19	SW	1800	150 + Bk	Moderate	Moderate



- In the near term, six of the crop-beef farms are expected to cash flow, while two will more than likely not meet all cash demands.

Spotlights

Farm 12

This northwest farm plants 1850 acres to corn and soybeans and runs a cow-calf enterprise with 200 cows. The farm recovered in 2004 from back to back droughts and generated strong returns again in 2005. Lower soybean and beef prices, coupled with higher costs, indicate much leaner days ahead for this farm with cash deficits expected in years of large machinery replacements.

Farm 13

This Livingston County farm plants 1485 acres and earns 12 percent of receipts from a 100 cow beef herd. Ten percent of crop acres are in the conservation and wetland reserve programs. Yields were below average in 2005, creating an essentially break-even year. At trend yields, the farm maintains cash reserves in the projection period.

Farm 14

This northeast farm raises corn, beans and wheat on 1460 acres and runs 80 beef cows. One-half of the farm is leased. Corn yields were pathetic in 2005 and the farm had a cash deficit. At trend yields, the farm has the capacity to provide a modest family living, but is expected to face liquidity issues.

Farm 15

This northeast farm is one of the smaller farms in the dataset with 500 acres of row crops and 50 beef cows. The 2005 cut cash reserve in half. At trend yields the contribution to family income from the business is expected to average \$16,100.

Farm 16

This Bates County farm earns 79 percent of receipts from the 1400 crop acres. In addition, the business runs 150 beef cows and backgrounds all offspring. Steers are held for finishing on the farm. The farm maintains a relatively high stocking rate due to a heavy fertility program. This farm exhibits the most financial strength of the group with slightly lower operating and ownership costs per unit.

Farm 17

This Perry County diversified farm crops 380 acres and raises calves from 40 beef cows on 190 acres of forage. Grass and clover seed sales are a major contributor to income. The outlook for this farm is not good. At trend yields, higher crop costs and declining beef prices take their toll. By 2009, returns to family living are negative.

Farm 18

This Dade County farm earns the majority of its income from the 250-cow beef herd and crops 240 acres. Corn, wheat and bean yields are well below the national averages. The farm generates income in support of the planned owner withdrawal until 2009. Lumpy replacement of crop machinery is responsible for the steep loss in 2010.

Farm 19

This Barton County farm crops 1800 acres in addition to raising and backgrounding calves from 150 beef cows. Two center pivots allow the farm to irrigate corn and soybeans. With double cropping, 2400 crop acres are harvested. The outlook is positive, but with moderate cash risk. Projected returns to family living are fairly consistent, averaging about \$58,000 over the projection period.

Table 5. **Crop-beef** farms, characteristics

Code	NWCB1850	NCCB1485	NECB1460	NECB500
Farm number	12	13	14	15
Region	Northwest	North Central	Northeast	Northeast
County	Nodaway	Livingston	Monroe	Audrain
Cropland	1850	1485	1460	500
Acres owned	950	975	730	250
Acres leased	900	510	730	250
Forages	1000	340	400	120
Acres owned	600	155	132	120
Acres leased	400	185	268	
Nonproductive acres owned	140	70	86	35
Total acres operated	2990	1895	1946	655
Operator owned (%)	56	64	49	62
Cash leased (%)	17	23	36	38
Share leased (%)	27	13	15	
Beef herd description				
Mature beef cows (hd)	200	100	80	50
Cattle backgrounded (hd)	146		70	35
Cattle fed on farm (hd)				
Cash receipt sources ^a				
Share of total				
Crops (%)	81	88	90	87
Beef (%)	17	12	10	13
Hay and/or seed (%)	1			
Custom work (%)	1			
Planted acres ^b				
Total acres	2850	1825	1916	655
Double crop acres			56	35
Share of total				
Corn (%)	32	18	30	25
Sorghum (%)				8
Wheat (%)		5	7	4
Soybeans (%)	32	49	42	44
Hay and/or seed (%)	7	5	4	8
Improved pasture (%)	28	13	17	11
Conservation reserve (%)	1	10		
Crop yields ^c				
Corn, bu				
2003	123	111	89	115
2004	190	175	175	169
2005	180	91	63	40
Sorghum, bu				
2003				115
2004				149
2005				85
Wheat, bu				
2003		85	85	48
2004		60	60	48
2005		62	61	65
Soybeans, bu				
2003	33	31	31	45
2004	55	60	57	61
2005	60	41	34	30

Table 5. **Crop-beef** farms, financial outlook (continued).

Code	NWCB1850	NCCB1485	NECB1460	NECB500
Farm number	12	13	14	15
Near term cash risk outlook ^d	Moderate	Moderate	Moderate	High
Intermediate term cash risk outlook	High	High	Moderate	Moderate
Average operator assets (\$1000)	4,698	3,360	2,552	1,321
Average return to operator assets (%)	3.9	4.1	5.0	3.6
Assumed operator debt Jan 1, 2003 (%) ^e	20	20	20	20
Term debt capacity Jan 1, 2006 (%) ^f	25	34	35	22
Cropland value in 2003 (\$ per acre)	2,000	1,600	1,578	2,200
Average operating expense/receipts (%)	74.6	60.2	66.9	71.3
Average government payments/receipts (%)	10.9	11.0	12.1	11.1
Government payments (\$1000) ^g				
2003	15.3	9.3	12.1	4.6
2004	80.4	39.3	55.2	18.9
2005	124.2	40.6	54.7	16.8
2006	96.7	56.1	69.6	24.2
2007	81.0	50.4	60.3	21.6
2008	69.5	43.9	53.0	19.0
2009	63.3	40.8	48.5	17.5
2010	57.6	38.0	44.9	16.4
Average	73.6	45.8	55.3	19.7
Total cash receipts (\$1000) ^a				
2003	584.5	378.5	371.9	168.1
2004	851.6	547.4	573.1	231.5
2005	822.4	373.8	363.1	142.2
2006	698.5	420.7	465.6	180.2
2007	691.3	425.3	467.8	181.7
2008	697.4	434.1	476.0	183.6
2009	701.0	434.8	479.2	185.1
2010	706.2	439.4	483.7	186.1
Average	698.9	430.9	474.5	183.3
Net cash farm income (\$1000) ^h				
2003	133.2	149.3	105.1	50.8
2004	389.1	309.8	294.4	109.0
2005	338.0	126.6	72.1	20.5
2006	200.5	160.8	155.9	49.7
2007	192.2	167.7	159.3	52.3
2008	201.8	179.3	169.9	56.9
2009	195.0	181.6	175.5	58.3
2010	206.4	192.0	181.0	61.8
Average	199.2	176.3	168.3	55.8
Return to family living (\$1000) ⁱ				
2003	57.0	78.1	47.1	23.0
2004	194.1	170.7	161.7	57.8
2005	155.0	36.9	-2.7	-16.6
2006	84.9	71.2	78.5	17.5
2007	47.5	54.6	67.6	12.3
2008	64.3	38.9	66.7	16.1
2009	-27.6	47.5	73.8	18.7
2010	28.3	47.5	56.7	15.8
Average	39.5	51.9	68.6	16.1
Average owner withdrawal assumed (\$1000) ^j	39.6	37.4	37.4	17.0
Beginning cash, 2006 (\$1000) ^k	298.9	185.9	104.7	18.1
Beginning cash/operating expenses (%) ^k	60.0	71.5	33.8	13.9
Probability of a cash flow deficit (%) ^l				
2006	30.4	18.6	24.0	40.8
2007	40.6	30.2	29.6	50.0
2008	39.2	50.0	30.4	45.8
2009	71.0	41.2	28.6	41.2
2010	52.2	42.0	38.4	44.8

Table 5. **Crop-beef** farms, characteristics (continued)

Code	WCCB1400	ECCB380	SWCB240	SWCB1800
Farm number	16	17	18	19
Region	West Central	East Central	Southwest	Southwest
County	Bates	Perry	Dade	Barton
Cropland	1400	380	240	1800
Acres owned	530	120	175	1350
Acres leased	870	260	65	450
Forages	440	190	850	555
Acres owned	220	65	570	500
Acres leased	220	125	280	55
Nonproductive acres owned	80	25	10	30
Total acres operated	1920	595	1100	2385
Operator owned (%)	43	35	69	79
Cash leased (%)	34	45	25	2
Share leased (%)	23	20	6	19
Beef herd description				
Mature beef cows (hd)	150	40	250	150
Cattle backgrounded (hd)	124			100
Cattle fed on farm (hd)	61			
Cash receipt sources ^a				
Share of total				
Crops (%)	79	69	41	88
Beef (%)	21	11	53	12
Hay and/or seed (%)		18	6	
Custom work (%)		2		
Planted acres ^b				
Total acres	2180	750	1348	2955
Double crop acres	340	180	258	600
Share of total				
Corn (%)	24	17	9	16
Sorghum (%)			2	9
Wheat (%)	16	11	5	21
Soybeans (%)	40	28	10	38
Hay and/or seed (%)	5	37	24	3
Improved pasture (%)	15	7	50	13
Crop yields ^c				
Corn, bu				
2003	89	122	81	117 183 irr
2004	158	159	128	161 210 irr
2005	113	70	35	99 127 irr
Sorghum, bu				
2003			83	80
2004			75	145
2005			43	90
Wheat, bu				
2003	75	53	48	80
2004	60	53	50	50
2005	54	52	50	53
Soybeans, bu				
2003	25	36	50	31 45 irr
2004	48	50	24	45 48 irr
2005	38	30	22	47 42 irr

Table 5. **Crop-beef** farms, financial outlook (continued).

Code	WCCB1400	ECCB380	SWCB240	SWCB1800
Farm number	16	17	18	19
Near term cash risk outlook ^d	Low	Severe	Moderate	Moderate
Intermediate term cash risk outlook	Low	Severe	Severe	Moderate
Average operator assets (\$1000)	2,841	849	2,259	3,905
Average return to operator assets (%)	4.2	1.8	2.2	4.1
Assumed operator debt Jan 1, 2003 (%) ^e	20	20	20	20
Term debt capacity, Jan 1, 2006 (%) ^f	35	30	21	30
Cropland value in 2003 (\$ per acre)	1,700	2,061	1,466	1,193
Average operating expense/receipts (%)	63.7	66.5	54.5	70.8
Average government payments/receipts (%)	11.2	8.6	3.6	10.5
Government payments (\$1000) ^g				
2003	13.2	3.2	1.8	19.4
2004	50.5	13.2	7.3	62.2
2005	61.1	13.6	7.1	68.0
2006	63.0	17.1	9.1	78.8
2007	56.6	15.1	8.0	72.5
2008	50.5	13.2	7.1	65.6
2009	46.2	12.1	6.4	60.9
2010	42.9	11.2	6.0	57.5
Average	51.9	13.8	7.3	67.1
Total cash receipts (\$1000) ^a				
2003	417.3	161.0	196.4	704.6
2004	560.5	189.1	211.2	754.0
2005	473.5	136.4	199.2	616.0
2006	471.5	162.0	218.8	643.9
2007	470.3	161.6	208.3	652.2
2008	472.6	164.8	204.3	662.0
2009	472.6	164.8	198.5	666.9
2010	472.8	166.7	193.9	674.3
Average	472.0	164.0	204.8	659.8
Net cash farm income (\$1000) ^h				
2003	147.2	74.5	95.9	304.1
2004	282.1	95.7	108.6	342.2
2005	184.6	39.9	92.7	180.9
2006	171.3	55.6	105.9	181.4
2007	172.7	55.6	99.3	192.8
2008	175.9	56.0	94.7	204.3
2009	177.0	56.7	91.9	212.0
2010	180.1	57.0	83.3	223.8
Average	175.4	56.2	95.0	202.9
Return to family living (\$1000) ⁱ				
2003	97.2	41.7	44.3	165.3
2004	172.9	56.9	50.0	173.5
2005	92.8	11.1	31.7	43.0
2006	92.7	23.8	50.7	59.8
2007	80.4	7.2	36.3	54.4
2008	72.7	10.3	37.0	50.5
2009	83.0	-4.0	29.7	56.9
2010	80.5	-24.5	-7.9	69.3
Average	81.8	2.6	29.2	58.2
Average owner withdrawal assumed (\$1000) ^j	37.4	28.3	34.0	45.3
Beginning cash, 2006 (\$1000) ^k	263.5	32.5	33.7	260.0
Beginning cash/operating expenses (%) ^k	87.8	30.6	29.8	56.2
Probability of a cash flow deficit (%) ^l				
2006	3.8	63.0	15.8	39.6
2007	9.4	95.8	44.4	40.0
2008	16.8	88.4	43.4	43.8
2009	9.4	95.6	60.8	40.2
2010	14.2	98.6	99.0	36.0

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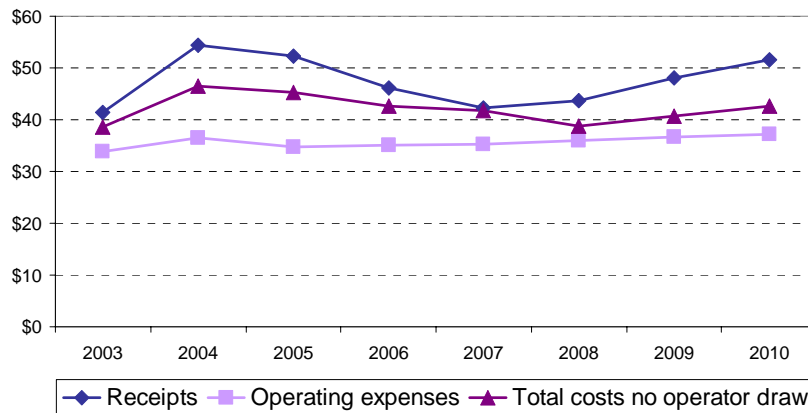
Summary of Pork-crop Farms

Pork farms have enjoyed exceptionally strong prices after some dismal years of red ink in the industry. The outlook for barrow and gilt prices in this baseline follows a cyclical pattern reaching a bottom in 2007.

There are essentially three different types of pork farms represented here as explained below. The two modern farrow-to-finish farms

are summarized in terms of cash costs and returns per hundredweight of pork sold. These farms are purposely modeled with the first two years of the outlook period under loan, and the remaining three years simulating returns post debt on facilities. In 2006, net returns are about \$3.57 per cwt. and fall to 0.50 per cwt. in 2007.

Farrow-finish costs and returns per cwt, two farms



Spotlights

Farm 20

This northeast farm is strictly in the business of raising hogs in a multi-site 1500 sow farrow-to-finish operation. The baseline farm simulates an operation that retires the initial debt for facilities at the end of 2007. The poorest year financially occurs in 2007, a period of low hog prices coupled with heavy debt. The farm builds cash in each year of the simulation.

Farm 21

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. A relatively high level of remaining debt (30 percent) is assumed to begin the simulation in 2003. The pig enterprise provides strong risk protection from prices and production. Cash flow is relatively steady, producing approximately \$74,000 per year in returns to family living. This analysis assumes stable contract arrangements and relatively slow declines in housing asset values due to demand.

Farm 22

This farm is a traditional, diversified operation in the river hills of Osage County. Primary income is from the 200-sow farrow-to-finish unit. Sow productivity is relatively high, but little gain has occurred in the last few years. The farm also has a 125-cow beef herd and raises 225 acres of corn, sorghum, and wheat that is fed on the farm. With 20 percent initial debt, the simulation projects a farm that is able to provide a modest family living.

Farm 23

This rep farm reflects a farrow-to-finish operation of 1250 sows, located in the central region. Production efficiencies and costs per unit are similar, but not identical to farm 20. Annual cash expenditures exceed \$2.7 million. Years of financial struggling—some severe—paid off in 2004 and 2005. In 2007, a period of low prices and the final year of debt service on facilities, the farm experiences a cash deficit. The remainder of the projection is for this farm to build wealth with relatively low cash flow risk.

Table 6. **Pork-crop** farms, characteristics

Code	NEH1500	WCHBC550	CTHBC250	CTH1250
Farm number	20	21	22	23
Region	Northeast	West Central	Central	Central
County	Monroe	Vernon	Osage	Saline
Cropland		550	250	
Acres owned		225	163	
Acres leased		325	87	
Forages		285	330	
Acres owned		215	215	
Acres leased		70	115	
Nonproductive acres owned	200	22	220	160
Total acres operated	200	857	800	160
Operator owned (%)	100	54	75	100
Cash leased (%)		27	13	
Share leased (%)		19	12	
Livestock herds				
Pork production unit type	Farrow-finish	Nursery	Farrow-finish	Farrow-finish
Number of sows	1500		200	1250
Number of pigs sold per year	33,120	32,000	4,045	26,450
Mature beef cows (hd)		70	125	
Cattle backgrounded (hd)				
Cattle fed (hd)				
Cash receipt sources ^a				
Share of total				
Pork (%)	100	50	84	100
Beef (%)		13	11	
Crops (%)		37	5	
Custom work (%)				
Planted acres ^b				
Total acres		1015	605	
Double crop acres		180	25	
Share of total				
Corn (%)		10	29	
Sorghum (%)		9	4	
Wheat (%)		18	4	
Soybeans (%)		35	8	
Hay and/or seed (%)		7	17	
Improved pasture (%)		21	38	
Crop yields ^c				
Corn, bu				
2003		90	95	
2004		160	172	
2005		118	81	
Sorghum, bu				
2003		60	90	
2004		115	80	
2005		78	70	
Wheat, bu				
2003		67	50	
2004		55	50	
2005		54	53	
Soybeans, bu				
2003		33	40	
2004		45	45	
2005		36	33	

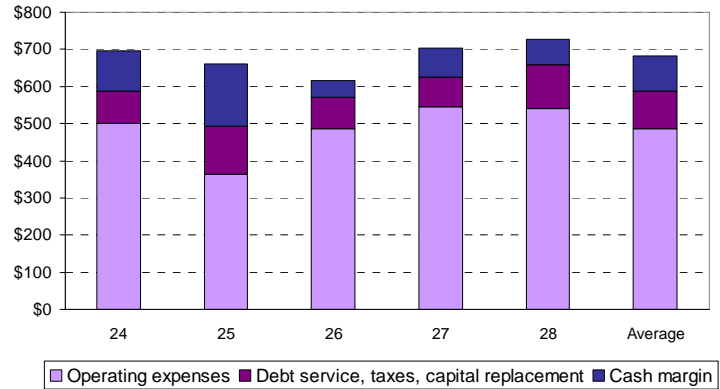
Table 6. **Pork-crop** farms, financial outlook (continued).

Code	NEH1500	WCHBC550	CTHBC250	CTH1250
Farm number	20	21	22	23
Near term cash risk outlook ^d	Moderate	Low	High	High
Intermediate term cash risk outlook	Low	Low	High	Low
Average operator assets (\$1000)	6,806	1,465	2,541	5,680
Average return to operator assets (%)	7.8	4.1	3.0	3.9
Assumed operator debt in 2003 (%) ^e	50	30	20	40
Term debt capacity, Jan 1, 2006 (%) ^f	82	46	22	65
Cropland value in 2003 (\$ per acre)	1,357	1,277	1,834	1,434
Average operating expense/receipts (%)	79.0	50.3	79.2	82.0
Average government payments/receipts (%)	0.0	6.0	2.0	0.0
Government payments (\$1000) ^g				
2003	0.0	5.4	2.8	0.0
2004	0.0	15.7	14.6	0.0
2005	0.0	17.3	16.5	0.0
2006	0.0	20.4	15.4	0.0
2007	0.0	19.5	12.7	0.0
2008	0.0	17.7	10.9	0.0
2009	0.0	16.6	9.8	0.0
2010	0.0	15.7	8.9	0.0
Average	0.0	18.0	11.5	0.0
Total cash receipts (\$1000) ^a				
2003	3,925.8	285.3	525.8	2,994.6
2004	5,021.8	326.2	709.9	4,063.0
2005	4,850.6	299.9	678.4	3,885.3
2006	4,276.2	298.8	608.8	3,428.5
2007	3,917.1	298.9	558.9	3,142.6
2008	4,039.0	300.9	568.8	3,239.5
2009	4,446.4	301.5	612.8	3,563.9
2010	4,786.4	302.4	648.8	3,834.6
Average	4,293.0	300.5	599.6	3,441.8
Net cash farm income (\$1000) ^h				
2003	770.7	131.0	94.9	492.1
2004	1,688.1	178.8	275.1	1,325.2
2005	1,692.2	146.2	201.4	1,266.1
2006	1,088.7	139.7	153.9	782.6
2007	705.2	144.6	101.6	474.4
2008	775.2	149.2	107.7	526.6
2009	1,114.3	152.7	149.8	787.7
2010	1,413.9	165.3	186.7	1,015.6
Average	1,019.5	150.3	139.9	717.4
Return to family living (\$1000) ⁱ				
2003	281.2	74.6	49.6	171.9
2004	746.4	99.2	164.0	573.4
2005	686.9	69.0	108.4	502.3
2006	322.2	77.1	82.6	270.6
2007	90.4	72.0	34.6	8.3
2008	490.6	67.5	36.6	337.9
2009	716.5	72.7	72.5	517.9
2010	875.5	81.3	98.1	646.5
Average	499.1	74.1	64.9	356.2
Average owner withdrawal assumed (\$1000) ^j	77.0	49.8	45.3	77.0
Beginning cash, 2006 (\$1000) ^k	1,509.9	107.3	199.5	1,042.9
Beginning cash/operating expenses (%) ^k	47.4	67.5	43.9	39.4
Probability of a cash flow deficit (%) ^l				
2006	22.0	1.0	27.8	21.6
2007	47.6	7.4	57.2	57.6
2008	15.4	16.4	55.8	22.4
2009	7.0	11.4	36.2	10.8
2010	3.4	3.6	24.6	5.2

Summary of Beef Farms

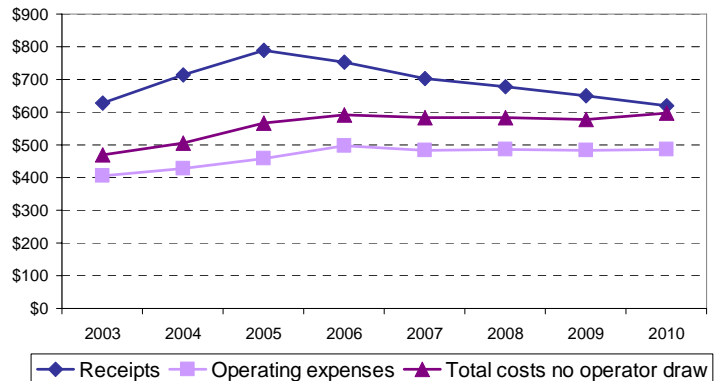
- All five of the beef farms have a cow herd and sell raised calves as the primary product. Calves are held for various lengths of time from just-weaned to yearlings. Hay and/or fescue seed sales are also important to most of the farms.
- Average operating costs per cow are \$489 (2006-2010). Average cash margin for the period is \$94.

Costs and returns per cow, by farm



- The outlook is consistent across this set of farms. Margins are expected to narrow from the record high of \$221 per cow in 2005 to \$22 in 2010.
- Operating costs per cow climb \$90 from 2003 to 2006.

Costs and returns per cow, all beef farms



Cash flow risk ratings, by farm

- Cash deficit risk climbs for all the farms. Only one is expected to be able to meet cash needs (including operator withdrawal) in each year of the intermediate period.

Farm	Region	Forage ac	Cows	2006-07	2008-2010
24	CT	1560	350 Bk	High	High
25	SW	735	200	High	High
26	SW	935	260 Bk	High	Severe
27	SC	1850	350	High	Severe
28	SC	650	150 Bk	High	Severe



Spotlights

Farm 24

This Ozark hill farm near Salem markets calves from 400 beef cows and harvests fescue seed in addition to selling some hay. Hardwood timber is also a major resource on the 2460 total farm acres. Semi-regular timber harvests are scheduled to help offset periods of poor cattle prices. With initial debt of 7 percent assumed against the \$3.3 million in operator assets, the farm “pays the bills” as long as feeder cattle prices are above the mid nineties. Returns to family living on this farm rise and fall with the cattle price.

Farm 25

This southwest region farm is best described as a traditional Missouri cow-calf operation with 200 cows on 735 acres of owned forage land. Calves are sold directly off the cow at an average weight of 540 pounds. Fescue seed sales from owned acres are a substantial portion of receipts. However, this farm no longer earns income from a custom seed harvest enterprise due, in part, to seed contamination issues. With relatively low costs per cow, the farm is expected to have positive cash flow in each year of the projection period.

Farm 26

This Lawrence County farm runs 260 beef cows and backgrounds home raised calves to an average weight of 760 pounds on 935 forage acres. Alfalfa hay provides a substantial portion of the forage needs. This farm has had two good years with record beef prices. With a declining price outlook, it is projected to struggle to meet the minimum withdrawal for household purposes. By 2010, returns to family living are negative.

Farm 27

This farm runs 350 cows on 1850 forage acres in Oregon County. Forages include alfalfa and warm-season grasses. Costs per cow are relatively high at \$626. With strong cattle prices the farm is expected to meet the minimum withdrawal with less than a 50 percent probability of cash deficit.

Farm 28

This Howell County farm raises and backgrounds calves from 150 cows on 650 forage acres. This is the only beef farm with no seed sales. Forages include warm season grass and alfalfa. Receipts per cow are the highest of the group, but so are costs. The farm returned about \$35,000 to family living in 2005, but declining beef prices result in negative returns by 2010.

Table 7. Beef farms, characteristics

Code	CTBF400	SWBF200	SWBF260	SCBF350	SCBF150
Farm number	24	25	26	27	28
Region	Central	Southwest	Southwest	South Central	South Central
County	Phelps	Barry	Lawrence	Oregon	Howell
Total acres operated	2460	770	1085	2000	825
'Cropland' hay acres	40		100	90	50
Other forage acres	1520	735	835	1760	600
Timber/waste acres	900	35	150	150	175
Operator owned (%)	80	100	72	50	89
Cash leased (%)	20		28	50	11
Beef herd					
Mature beef cows (hd)	400	200	260	350	150
Average sale weight of steers (lbs)	700	540	760	600	735
Cash receipt sources^a					
Share of total Beef (%)	91	87	93	88	85
Hay and/or seed (%)	7	13	6	10	15
Custom work/timber sales (%)	2		1	2	
Harvested acres^b					
Total acres	1560	885	1041	2125	650
Alfalfa hay	40		100	50	50
Warm-season grass hay				40	10
Cool-season grass hay	300	310	200	200	75
Fescue seed	220	150	106	425	
Improved pasture	1000	425	635	1410	515
Crop yields^c					
Alfalfa, tns					
2003	4.3		4.1	3.5	3.2
2004	4.3		4.1	4.0	4.1
2005	4.3		4.1	4.0	4.1
Warm-season grass hay, tns					
2003				4.0	2.5
2004				4.0	2.5
2005				4.0	2.5
Cool-season grass hay, tns					
2003	1.5	1.5	1.8	2.6	2.1
2004	1.5	1.5	1.8	2.0	2.1
2005	1.5	1.5	1.8	2.0	2.1
Fescue seed, lbs					
2003	215	300	300	200	
2004	215	200	300	250	
2005	215	300	300	200	

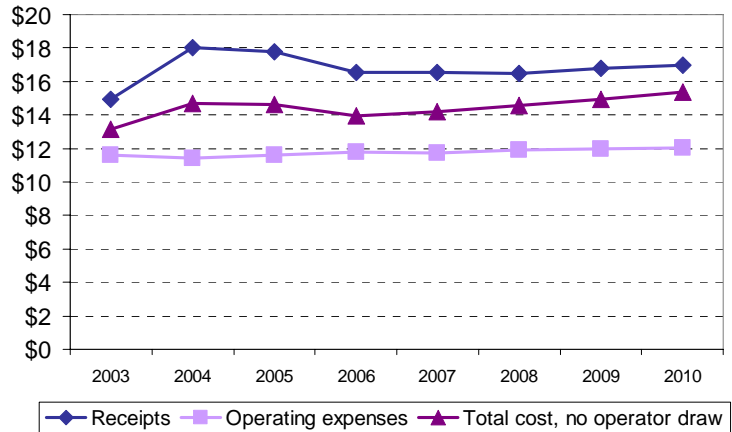
Table 7. **Beef** farms, financial outlook (continued).

Code	CTBF400	SWBF200	SWBF260	SCBF350	SCBF150
Farm number	24	25	26	27	28
Near term cash risk outlook ^d	Moderate	Moderate	High	Moderate	High
Intermediate term cash risk outlook	High	Moderate	Severe	Severe	Severe
Average operator assets (\$1000)	3,365	1,855	1,778	2,057	1,231
Average operator assets (\$ per cow)	8,412	9,277	6,840	5,878	8209
Average return to operator assets (%)	0.5	2.5	-0.2	-0.7	-0.4
Assumed operator debt, Jan 1, 2003 (%) ^e	7	7	7	7	7
Term debt capacity, Jan 1, 2006 (%) ^f	8	9	2	11	4
"Cropland" value in 2003 (\$ per acre)	1,043	1,529	1,277	1,000	1,200
Average operating expense/receipts (%)	74.5	56.2	81.5	78.7	76.4
Average whole-farm cash expenses excluding operator labor (\$ per cow)	514	492	570	626	658
Average whole-farm cash receipts (\$ per cow)	609	661	616	704	727
Total cash receipts (\$1000) ^a					
2003	235.7	119.2	147.1	235.9	94.6
2004	268.7	127.9	166.1	262.0	115.6
2005	288.8	150.6	185.0	280.9	127.5
2006	273.6	144.0	179.3	268.4	121.3
2007	254.0	136.1	166.0	254.4	112.4
2008	241.9	131.7	158.7	245.2	108.8
2009	230.9	127.1	151.8	236.7	103.6
2010	218.0	122.2	144.8	227.4	99.5
Average	243.7	132.2	160.1	246.4	109.1
Net cash farm income (\$1000) ^h					
2003	88.8	56.6	37.1	78.2	30.5
2004	113.7	61.9	58.9	97.9	42.9
2005	122.3	80.3	70.2	100.9	51.9
2006	96.7	67.7	50.6	76.1	38.7
2007	78.3	63.2	41.3	63.6	32.8
2008	66.3	59.7	33.8	54.5	27.2
2009	56.0	54.3	26.6	46.1	24.1
2010	44.4	52.0	17.0	37.1	17.7
Average	68.3	59.4	33.9	55.5	28.1
Return to family living (\$1000) ⁱ					
2003	63.5	38.7	26.8	57.5	22.3
2004	83.2	42.8	44.0	72.5	30.4
2005	80.0	50.0	47.5	73.2	34.8
2006	61.4	39.4	33.2	52.3	24.6
2007	48.4	36.0	22.5	32.7	16.7
2008	34.8	31.7	14.0	30.5	10.0
2009	29.0	31.2	4.4	17.7	7.1
2010	17.5	30.6	-14.7	3.1	-6.4
Average	38.2	33.8	11.9	27.3	10.4
Average owner withdrawal assumed (\$1000) ^j	28.3	28.3	28.3	28.3	22.6
Beginning cash, 2006 (\$1000) ^k	150.6	54.5	41.1	126.4	25.9
Beginning cash/operating expenses (%) ^k	85.1	71.5	32.0	65.7	31.3
Probability of a cash flow deficit (%) ^l					
2006	10.4	15.8	37.6	11.0	40.2
2007	25.2	27.8	54.4	39.2	63.8
2008	42.2	38.4	70.6	43.8	81.4
2009	46.6	44.0	80.0	65.4	80.2
2010	58.8	44.6	88.8	81.0	90.8

Summary of Dairy Farms

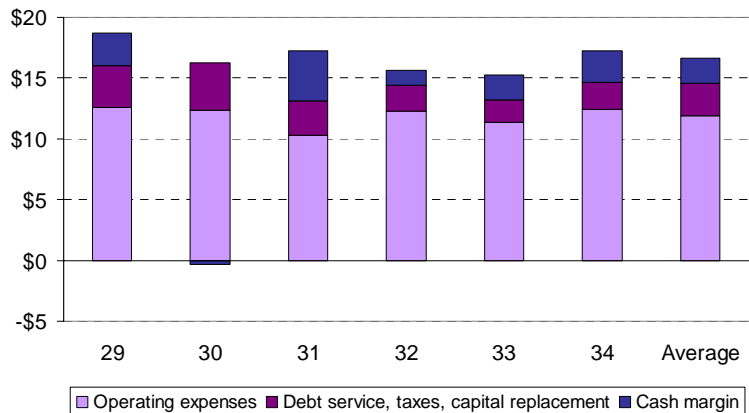
- Cash margin in 2006 averages \$2.62, down from the peak of \$3.32 in 2004.
- MILC payments are expected to be received in at least a portion of 2006 and 2007.

Costs and returns per cwt., all dairies



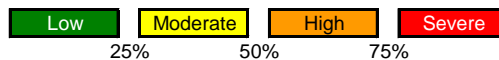
- Cash margins for this set of farms average \$2.06 per cwt. of milk sold, with a range from negative \$0.33 to \$4.11.

Costs and returns per cwt., by farm



Cash flow risk ratings, by farm

Farm	Region	Forage ac	Cows	2006-07	2008-2010
29	EC	350 + 240 C	150	Low	Low
30	SW	340	85	High	Severe
31	SW	245	110	Low	Low
32	SW	600	400	Moderate	Moderate
33	SW	350	230	Moderate	Moderate
34	SC	420	150 + Bk	Moderate	Moderate



- With the exception of the smallest, least efficient dairy, these farms are expected to cash flow in each year of the analysis.

Dairy Spotlights

Farm 29

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 of bottomland. Asset values are relatively high, partially influenced by the farms' proximity to St. Louis and the resulting demand for recreational land. Of the six rep dairies, this farm has the second highest level of milk production per cow at 21,600 lbs. This farm is expected to provide a household income with low to moderate risk.

Farm 30

This farm is a traditional 85-cow dairy raising alfalfa and corn silage. Population growth and the fact that some panel members are nearing retirement from milking means there have been few capital improvements. Rolling herd average is under 18,000 pounds. Under the initial debt assumption of 20 percent, this farm is not sustainable with dairy income alone.

Farm 31

This 110-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. Costs per hundredweight of milk sold are the lowest out of all rep dairy farms. With 30 percent initial debt, the farm is expected to generate family living income with relatively low risk.

Farm 32

This 400-cow farm in the southwest operates a comparatively new confinement facility, grows corn silage as a portion of the forage requirements and purchases another 780 tons of alfalfa hay. With debt remaining against facilities, the business is projected to generate an annual average of \$108,000 for family living.

Farm 33

This 230-cow grazing dairy has the lowest costs per cow of any of the rep dairy farms, but not the lowest cost per unit of milk sold. 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 (1.25 acres per cow). With an initial debt load of 30 percent and a rolling herd average of 13,400 lbs, the farm is expected to return approximately \$67,000 per year to family income.

Farm 34

This farm is unique among the rep dairies because a substantial portion of resources are dedicated to retaining dairy steers on the farm. However, steer sales comprise only 6 percent of the total receipts. Milk production averages 19,100 pounds per cow. The farm feeds a combination of raised and purchased forages and houses the cows on pasture. It is expected to generate a modest family living, but carries enough risk of cash flow deficit to receive a moderate risk rating.

Table 8. Dairy farms, characteristics

Code	ECDY150	SWDY85	SWDY110	SWDY400	SWDY230	SCDY150
Farm number	29	30	31	32	33	34
Region County	East Central Franklin	Southwest Christian	Southwest Barry	Southwest Dade	Southwest Dade	South Central Wright
Crop and hayland	420	222	180	450		170
Acres owned	320	222	150	450		170
Acres leased	100		30			
Other forages	170	110	65	150	290	250
Acres owned	130	55	65	150	290	250
Acres leased	40	55				
Timber/waste acres owned	155	20	30	120	10	80
Total acres operated	745	352	275	720	300	500
Operator owned (%)	81	84	89	100	100	100
Cash leased (%)	19	16	11			
Dairy herd						
Mature dairy cows (hd)	150	85	110	400	230	150
Milk per cow (lbs)	21,600	17,700	20,400	20,800	13,400	19,100
Forages purchased (tns)				980	415	360
Cash receipt sources^a						
Share of total						
Milk (%)	82	86	89	93	91	94
Cows, heifers, baby calves (%)	9	14	11	7	9	9
Dairy stocker steers (%)						7
Crops (%)	9					
Harvested acres^b						
Total	590	332	245	600	342	420
Alfalfa	40	85	60		52	
Corn silage	60	32		135		
Perennial grass mixes	50	105	125	315	115	135
Annual grass mixes	30		30		115	35
Improved pasture	170	110	30	150	60	250
Corn, grain	135					
Soybeans	105					

Baseline Outlook for Missouri Rep Farms, 2006-2010

Table 8. Dairy farms, financial outlook (continued).

Code	ECDY150	SWDY85	SWDY110	SWDY400	SWDY230	SCDY150
Farm number	29	30	31	32	33	34
Near term cash risk outlook ^d	Low	High	Low	Moderate	Moderate	Moderate
Intermediate term cash risk outlook	Low	Severe	Low	Moderate	Moderate	Moderate
Average operator assets (\$1000)	3,434	1,412	1,352	4,016	1,206	1,573
Average return to operator assets (%)	3.7	1.2	6.4	3.1	4.7	5.5
Assumed operator debt, Jan 1, 2003 (%) ^e	20	20	30	30	30	20
Term debt capacity, Jan 1, 2006 (%) ^f	32	18	59	37	28	29
"Cropland" value in 2003 (\$ per acre)	2,342	2,328	1,434	1,897	1,379	1,064
Average operating expense/receipts (%)	67.9	78.5	60.6	79.4	75.6	73.0
Average whole-farm cash expenses, excluding operator labor (\$ per cow)	3,516	3,052	2,730	3,053	1,906	2,828
excluding operator labor (\$ per cwt)	16.28	17.24	13.38	14.68	14.22	14.81
Average government payments/receipts (%)	2.4	1.2	1.2	0.4	0.9	0.9
Government payments (\$1000) ^g						
2003	26.7	15.4	23.0	24.5	24.5	24.5
2004	9.2	0.0	0.0	0.0	0.0	0.0
2005	11.5	0.0	0.0	0.0	0.0	0.0
2006	23.3	6.8	10.2	10.4	10.4	10.4
2007	22.4	7.7	11.6	11.6	11.6	11.6
2008	9.4	0.0	0.0	0.0	0.0	0.0
2009	8.5	0.0	0.0	0.0	0.0	0.0
2010	7.8	0.0	0.0	0.0	0.0	0.0
Average	14.3	2.9	4.4	4.4	4.4	4.4
Total cash receipts (\$1000) ^a						
2003	551.8	232.5	361.4	1144.9	450.0	445.2
2004	647.2	281.4	414.7	1483.7	557.2	530.6
2005	636.5	272.6	419.5	1434.5	542.7	540.3
2006	609.3	253.6	392.0	1305.4	501.3	500.6
2007	609.4	253.4	392.6	1303.6	501.1	495.9
2008	609.2	250.2	388.6	1319.9	499.4	493.0
2009	621.4	255.0	396.4	1348.2	509.7	501.4
2010	629.7	258.2	401.9	1368.2	516.9	506.3
Average	615.8	254.1	394.3	1329.1	505.7	499.5
Net cash farm income (\$1000) ^h						
2003	178.0	26.4	142.3	115.4	79.9	81.2
2004	248.2	90.2	179.1	495.3	200.0	189.7
2005	231.8	81.7	181.3	430.5	175.5	189.5
2006	192.1	60.4	154.9	292.2	126.4	147.2
2007	195.3	60.0	159.1	280.1	126.9	141.0
2008	193.8	53.4	152.8	278.3	122.0	132.6
2009	206.1	55.1	159.3	291.3	130.5	137.0
2010	217.7	57.0	165.8	305.7	137.2	140.0
Average	201.0	57.2	158.4	289.5	128.6	139.6
Return to family living (\$1000) ⁱ						
2003	113.3	1.2	87.1	40.6	36.9	45.6
2004	136.1	25.6	103.0	231.5	105.2	109.0
2005	108.6	37.3	101.5	197.1	92.9	101.3
2006	100.5	27.1	100.7	139.4	68.4	83.7
2007	89.8	13.7	97.5	116.5	67.3	73.0
2008	82.8	-4.8	89.8	97.6	61.5	69.1
2009	82.8	-19.4	92.1	88.7	68.0	74.2
2010	86.5	-43.2	89.9	98.1	71.5	76.0
Average	88.5	-5.3	94.0	108.1	67.4	75.2
Average owner withdrawal assumed (\$1000) ^j	51.0	30.6	45.3	62.3	56.6	51.0
Beginning cash, 2006 (\$1000) ^k	219.0	8.6	168.0	315.6	95.0	117.3
Beginning cash/operating expenses (%) ^k	52.5	4.5	70.9	31.2	25.3	33.2
Probability of a cash flow deficit (%) ^l						
2006	5.0	51.2	1.0	20.0	41.6	18.2
2007	11.8	69.0	1.0	28.6	43.0	27.8
2008	19.2	80.0	7.8	35.0	47.2	34.6
2009	20.0	86.6	5.6	41.8	45.4	30.8
2010	20.8	95.0	8.4	35.4	40.8	30.6

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Summary of Broiler-beef Farms

The broiler-beef farms were built and are maintained in cooperation with the integrator firms who contribute critical data for the analysis through the consensus process. Several assumptions underlie these farms for baseline analysis.

For both farms it assumed that the poultry units came online in 1998 with 90 percent financing for the houses—other real estate assets owned free and clear by the operator. With a ten year loan, debt payments expire after 2007. Broiler house technology is held constant with a 40 X 400 foot, curtain sided building, heated with propane. In keeping with the local markets in southwest Missouri, the nominal market value of existing units is held

constant. Additional costs are applied in 2006 and 2007 to cover significant building repairs. Income taxes make up a substantial share of the costs in this analysis, particularly after loan payout.

A critical assumption for the baseline analysis—made for the broiler-beef farms only—is that no owner withdrawal is extracted from the business. Thus, it is implied that an off-farm source of income is available to support the household.

Contract terms, though different for each rep farm, have been relatively stable the past few years and are modeled at a flat rate in the projection period.

Broiler-beef Spotlights

Farm 35

This farm raises 6 flocks per year in a 4 house complex. Receipts come from the broilers and beef calves only. All 210 acres are owned. Hay is harvested by a custom operator for a fee. Land values have escalated rapidly in recent years due to population pressure in the region.

Under loan, the farm struggles to make payments on the 90 percent financing. After the loan, and with fresh repairs to the buildings, farm net returns are expected to average about \$35,000, or \$8750 per house (no managerial labor costs).

Farm 36

This farm raises 6 to 7 flocks a year in a 6 house complex on 120 owned acres. An additional 40 acres of pasture is leased. A portion of receipts come from fescue seed. All haying equipment is owned by the operator.

As modeled, the farm has negative returns the last two years of the loan when repairs are required. Post loan, farm net returns are expected to average \$25,000, or \$4166 per house (no managerial labor costs).

Table 9. **Broiler-beef** farms, characteristics

Code	SWBRBF4	SWBRBF6
Farm number	35	36
Region	Southwest	Southwest
County	McDonald	Lawrence
Crop and hayland	40	65
Acres owned	40	65
Acres leased		
Other forages	160	95
Acres owned	160	55
Acres leased		40
Timber/waste acres owned	10	
Total acres operated	210	160
Operator owned (%)	100	75
Cash leased (%)		25
Poultry and livestock		
Broiler production		
Number of houses	4	6
Sale weight of birds (lbs)	4.4	3.9
Mature beef cows (hd)	50	50
Cash receipt sources ^a		
Share of total		
Broiler (%)	79	84
Beef (%)	21	14
Hay and/or seed (%)		2
Harvested acres ^b		
Total acres	200	225
Cool-season grass hay	40	65
Fescue seed		65
Improved pasture	160	95
Crop yields ^c		
Cool-season grass hay, tns		
2003	3.0	3.0
2004	3.0	3.0
2005	3.0	3.0
Fescue seed, lbs		
2003		200
2004		400
2005		200

Table 9. **Broiler-beef** farms, financial outlook (continued).

Code	SWBRBF4	SWBRBF6
Farm number	35	36
Near term cash risk outlook ^d	Low	Severe
Intermediate term cash risk outlook	Low	Low
Average operator assets (\$1000)	1009	991
Average return to operator assets (%)	4.7	3.7
Assumed operator debt, Jan 1, 2003 (%) ^e	19	27
Term debt capacity, Jan 1, 2006 (%) ^f	36	36
"Cropland" value in 2003 (\$ per acre)	1568	1617
Average operating expense/receipts (%)	52.3	62.0
Average whole-farm cash expenses excluding family living (\$/cow)	2,347	3,828
Total cash receipts (\$1000) ^a		
2003	141.3	203.6
2004	145.1	210.0
2005	147.2	208.9
2006	146.7	208.5
2007	143.6	205.3
2008	143.0	205.0
2009	141.1	203.0
2010	140.5	202.6
Average	143.0	204.9
Net cash farm income (\$1000) ^h		
2003	72.4	96.6
2004	76.9	99.3
2005	72.5	84.4
2006	67.7	76.5
2007	69.3	77.3
2008	69.2	78.0
2009	68.8	79.3
2010	66.8	79.3
Average	68.4	78.0
Return to family living (\$1000) ⁱ		
2003	27.9	30.2
2004	28.1	27.4
2005	21.3	8.4
2006	14.1	-0.8
2007	8.5	-7.2
2008	36.2	29.1
2009	34.7	25.3
2010	34.6	21.1
Average	25.6	13.5
Average owner withdrawal assumed (\$1000) ^j	0.0	0.0
Beginning cash, 2006 (\$1000) ^k	77.2	67.5
Beginning cash/operating expenses (%) ^k	97.7	51.1
Probability of a cash flow deficit (%) ^l		
2006	1.0	59.4
2007	3.0	84.6
2008	1.0	1.0
2009	1.0	1.0
2010	1.0	1.0

Table Reference Notes

The term “average” in the financial tables always refers to the annual average of the variable for the five projection years.

- a. Cash receipts is total gross revenue from all sources, including cash sales in the market, insurance indemnities, 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. Yield data are as reported by the panels via update meetings or surveys. Irrigated crops are denoted by “Irr,” otherwise yields are dryland. Soybean yields are for full season crops.
- d. Cash risk outlook is scored based on the probability of cash flow deficit over two time periods (see I). Near term is the calendar years 2006 and 2007. Intermediate term is the period 2008-2010. Low risk is less than a 25 percent chance of cash flow deficit in *any* year of the time period; moderate risk is 25 to 49 percent, high risk is 50 to 74 percent, and severe risk is greater than a 75 percent probability of a cash flow deficit.
- e. A beginning level of term debt on January 1, 2003 is assumed for each of the farms. Loan length is the same for all the farms, but interest rates are localized. The values of assets and liabilities, and therefore debt ratios, fluctuate from this starting point. (See Appendix A).
- f. Term debt capacity ratio is a crude estimate of the debt capacity limit for the farm going into the projection period. Projected receipts and expenses are used to estimate cash available for servicing debt. The loan calculations assume a ten-year loan at 8.0 percent interest. The debt ratio is calculated in relation to operator assets at fair market value. The number reported in the tables is at the median risk level. See Appendix A for further explanation.
- g. Government payments include all receipts provided through the commodity titles of the farm bills, including direct (fixed) payments, counter-cyclical payments, and marketing loan benefits. Dairy market loss payments are included where applicable.
- h. Net cash farm income is total cash receipts less all farm *operating* expenses including interest payments on all outstanding debt. Cash costs not included are principal payments on liabilities, cash down payment for capital replacement, income taxes, and owner withdrawal. (See Appendix A).
- i. Annual return to family living is the farm’s 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 includes carryover debt, but not carryover cash from prior years. (See Appendix A).
- j. Owner withdrawal is the minimum 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.
- k. Beginning cash in 2006 is the cash reserve accumulated by the farm in the three historical years of the simulation. 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 2006.
- l. Annual probability of cash flow deficit is the chance that total receipts will be less than total cash expenses as a result of price and production risk. Alternatively, it is the chance that returns to family living will be less than the minimum owner withdrawal (See Appendix A).

APPENDIX A Procedural Notes and Assumptions

Methods and Assumptions

The representative farm approach treats a farm business unit as a unique system characterized by local features and resources 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 a consensus process. Producers establish farm structure, size, farming practices, costs of production and associated financial requirements for the representative farm based on their individual operations. In some cases, data points are cross-referenced with published sources to test assumptions or to verify and explain differences. Business size, structure and management practices are held constant for the simulation period, 2003-2010.

For simulation, actual yield, price, and operating costs data are used for the years 2003-05. The historical period provides some perspective of financial performance with known values and sets a footing for simulation over the five year projection period.

Farm financial statements are generated using FLIPSIM software, property of the Texas Agricultural Experiment Station maintained at the Agricultural and Food Policy Center, Texas A&M University. National price estimates are generated by the FAPRI consortium at the University

of Missouri and Iowa State University. Table A.1 shows the deterministic prices used to build financial performance estimates for the rep farms. (See discussion on stochastic analysis below).

Rep farms are assumed to participate in government programs as eligible. Applicable farm bill provisions are incorporated over the life of the simulation. With the exception of the dairy program, it is assumed that provisions of the 2002 farm bill remain intact through 2010. The milk income loss contract (MILC) program expires August 31, 2007 in this analysis, as it does in current law. It is further assumed for the baseline that the rep farms do not encounter limitations on the level of government payments and the current farm bill is fully funded without budget cuts.

For rep farms participating in the multi-peril crop insurance program, eligible crops are assumed to be insured with a basic plan at 100 percent price and 65 percent yield protection. Only income generated with farm business assets is included in receipts, not off-farm wage income. On some farms a relatively small portion of total receipts are generated from custom farming enterprises and are included in the analysis.

Each farm is modeled as a sole proprietorship with four tax exemptions, subject to federal, Missouri and self-employment taxes.

Table A.1. National, season-average prices, FAPRI deterministic projections (\$ per unit)

Commodity	2003	2004	2005	2006	2007	2008	2009	2010
Crop Year								
Corn, bu	2.42	2.06	1.90	2.08	2.20	2.30	2.38	2.44
Sorghum, bu	2.39	1.79	1.69	1.96	2.04	2.11	2.18	2.23
Wheat, bu	3.40	3.40	3.38	3.30	3.39	3.45	3.55	3.61
Soybeans, bu	7.34	5.74	5.40	4.96	5.25	5.45	5.48	5.52
Cotton, lb	0.618	0.416	0.481	0.483	0.511	0.515	0.514	0.515
Long rice, cwt	8.29	7.52	7.97	7.50	7.62	7.43	7.71	7.97
Cottonseed, tn	117	107	95	89	94	97	97	97
Soybean meal (44%), tn	244	174	165	160	164	165	164	163
All hay, tn	86	92	95	97	98	100	101	102
Calendar Year								
Cull cows, lb	0.466	0.524	0.546	0.510	0.480	0.457	0.441	0.423
Feeder steers, lb	0.952	1.118	1.200	1.132	1.055	1.005	0.953	0.904
Fed steers, lb	0.847	0.848	0.873	0.839	0.817	0.794	0.765	0.742
Cull sows, lb	0.282	0.435	0.429	0.378	0.352	0.366	0.390	0.414
Barrow and gilts, lb	0.395	0.525	0.501	0.437	0.398	0.412	0.456	0.493
Missouri all milk, cwt	12.69	16.36	15.53	13.67	13.52	13.78	13.99	13.99

With the exception of the two broiler-beef rep farms, an annual charge for unpaid operator labor, or more appropriately called owner withdrawal is deducted from the farm business as a lump sum. Household expenses are not itemized.

The level of owner withdrawal assumed for the beginning year (2003) varies for each farm within a range of \$15,000 to \$68,000 and is inflated thereafter. This amount is a function of farm size, investment, hours required, and projected net income. In general, owner withdrawal is a modest amount. Any other family labor is treated as hired labor and deducted as a cash expense.

Accounting procedures

The accounting method used to model rep farm financials is a cash-basis, whole-farm, after-tax approach. The cash flow statement is the primary tool of this analysis and returns to family living are considered to be the bottom line, i.e., cash *available* for owner withdrawal from *current year* earnings. The tables below illustrate how summary statistics are developed for all farms shown in this report. The sample farm crops 1500 acres of corn, soybeans and wheat and runs 80 beef cows.

Table A.2 shows the receipts portion of a modified cash flow statement with three years of historical data and four projected years (deterministic). Cash receipts for crops and the cow-calf enterprise (lines 1 and 2) are the market returns from ag product sales. Govern-

Table A.2. Modified cash income statement, sample rep farm

	2003	2004	2005	2006	2007	2008	2009
Cash income (net of share lease)							
1 Cash receipts for crops	307,918	461,671	213,907	322,762	344,017	361,831	373,504
2 Cow-calf receipts	49,801	56,236	62,447	58,842	54,938	52,302	49,730
3 CCP payments	0	5,427	17,601	22,230	19,166	8,022	1,706
4 Fixed payments	22,785	22,785	22,785	22,785	22,785	22,785	22,785
5 LDP payments	750	26,961	14,110	15,263	4,241	895	0
6 Lump sum payments (LCP)	0	0	0	0	0	0	0
7 Indemnity payments	1,998	0	32,034	0	0	0	0
8 Total cash receipts	383,252	573,080	362,884	441,882	445,147	445,835	447,725
Farm expenses (net of share lease)							
9 Seed	38,739	39,208	41,392	43,448	45,231	46,017	46,501
10 Fertilizer	34,952	39,200	44,701	50,234	48,563	47,915	47,460
11 Crop chem	29,185	29,139	29,411	29,924	29,579	29,448	29,427
12 Custom hire	9,363	9,530	12,504	13,491	13,229	12,958	12,614
13 Hauling/drying/other harvest	3,862	7,455	3,549	8,142	8,084	8,017	7,901
14 Crop insurance premiums	6,714	4,873	6,714	6,714	6,714	6,714	6,714
15 Cash rent for cropland	35,040	35,040	35,040	35,040	35,040	35,040	35,040
16 Sum listed crop costs	157,855	164,445	173,311	186,993	186,440	186,109	185,657
17 Cow-calf direct cost	5,176	5,137	5,457	5,818	5,850	5,883	5,905
18 Cow-calf purchased feed and hay	2,753	4,019	3,838	3,828	3,827	3,907	3,950
19 Purchased beef cattle	6,643	7,692	8,811	8,222	7,566	7,131	6,691
20 Cash rent for pastureland	5,092	5,092	5,092	5,092	5,092	5,092	5,092
21 Sum listed beef costs	19,664	21,940	23,198	22,960	22,335	22,013	21,638
22 Hired labor	12,368	12,458	12,711	13,048	13,476	13,887	14,272
23 RE and property taxes	5,582	5,840	6,259	6,563	6,586	6,722	6,793
24 Accounting and legal	1,175	1,196	1,253	1,319	1,320	1,327	1,334
25 Unallocated maintenance	24,862	25,305	26,434	27,430	27,822	28,245	28,700
26 Utilities	2,119	1,932	2,535	2,735	2,682	2,627	2,557
27 Whole farm fuel	13,447	14,843	19,475	21,014	20,606	20,184	19,647
28 Farm insurance	4,983	5,071	5,313	5,590	5,596	5,625	5,657
29 Miscellaneous	368	374	394	408	410	414	418
30 Conservation work	461	470	494	511	510	514	517
31 Sum unallocated overhead costs	65,365	67,489	74,868	78,618	79,008	79,545	79,895
32 Sum all listed costs	242,884	253,874	271,377	288,571	287,783	287,667	287,190
33 Gross margin	140,368	319,206	91,507	153,311	157,364	158,168	160,535

ment payments are estimated on lines 3 through line 6. Counter cyclical and loan deficiency payments are estimated given FAPRI's baseline market prices. In 2003 and 2005 this farm received crop insurance indemnity payments as a result of drought conditions.

Table A.2 also summarizes the cash farm operating expenses for the sample farm. Direct costs are allocated to an enterprise and overhead costs are estimated for the whole farm as structured by the panel. Gross margin (line 33) is total cash receipts (line 8) less the sum of all listed costs (line 32). It is the cash earned within the year after operating expenses, excluding interest.

Five costs components are deducted from gross margin to arrive at net earnings for the year. They are: 1) interest payments, including carryover interest, if any, 2) principal payments on debt service, including carryover, if any, 3) cash difference in trade-in values to replace depreciable assets, 4) estimated income and self-employment taxes, and 5) an owner withdrawal for family living. These charges are tracked for the sample farm in a modified cash flow statement, Table A.3.

Machinery and equipment is replaced on a schedule as determined by the practices of the panel and financial feasibility. For example, say the farm purchased a combine and corn head (new or used) in 2000 and plans to replace it every 8 years. The simulation will force the trade in 2008. All major depreciable assets for the farm have a similar, but independent replacement schedule. When replacement is due, a cash transaction occurs and, if necessary, a new intermediate loan is created—such as in 2008 for the sample farm (line 47).

Income and self-employment tax liabilities are deducted on line 51. Section 179 rules and income averaging are built into the federal tax calculations.

No carryover debt is shown for the sample farm. If a shortfall occurs, repayment with interest is forced in the following year. The simulation will continue to create new borrowing until the cash deficit is eliminated with farm earnings.

In 2005, the sample farm does experience a cash deficit. Return to family living, i.e., cash earnings for the year available to the operator

Table A.3. Modified cash flow statement, sample rep farm

	2003	2004	2005	2006	2007	2008	2009
34 Beginning cash reserves	0	15,705	143,575	106,216	135,218	156,562	171,138
35 Interest earned on reserve	0	48	464	407	522	615	689
36 Gross margin	140,368	319,206	91,507	153,311	157,364	158,168	160,535
37 Cash available	140,368	334,959	235,546	259,934	293,104	315,345	332,362
38 LT interest	13,318	12,262	11,153	9,988	8,763	7,477	6,125
39 IT interest	3,931	5,031	3,746	3,988	6,230	6,263	6,299
40 Op interest	6,617	7,455	4,648	7,007	5,933	5,308	4,933
41 Carryover op interest	0	0	0	0	0	0	0
42 Total interest expense	23,866	24,748	19,547	20,983	20,926	19,048	17,357
43 LT principal payment	20,868	21,924	23,033	24,198	25,423	26,709	28,061
44 IT principal payment	32,015	41,389	44,210	22,405	35,951	38,579	36,789
45 Operating loan carryover	0	0	0	0	0	0	0
46 Total debt reduction	52,883	63,313	67,243	46,603	61,374	65,288	64,850
47 Cash difference on trade-in	382	376	777	0	419	5,771	0
48 Federal income taxes	270	40,566	918	6,300	6,665	6,464	7,926
49 Missouri income taxes	958	11,566	1,377	3,789	3,966	3,892	4,527
50 Self-employment taxes	3,539	16,933	4,435	11,078	11,661	11,487	13,211
51 Total taxes	4,767	69,065	6,730	21,167	22,292	21,843	25,664
52 Sum listed cash demands	81,898	157,502	94,297	88,753	105,011	111,950	107,871
53 Return to family living	58,470	161,704	-2,790	64,558	52,353	46,218	52,664
54 Annual owner withdrawal	33,000	33,885	35,036	35,962	36,622	37,350	38,081
55 Annual net earnings	25,470	127,819	-37,826	28,596	15,731	8,868	14,583
56 Cumulative cash position	25,470	143,572	106,213	135,219	151,471	166,045	186,410

are a negative \$2,790 (line 53). After the owner withdrawal, there is a net loss for the year of \$37,826 (line 55). Fortunately, for this farm business, there is a positive carryover from 2004. This farm does not create new borrowing to cover the shortfall, but must dip into the cash reserve (line 56), reducing the carryover into 2006 (line 34).

Debt on farms

To simulate future cash flows, initial farm debt in the baseline is an assumed value based on the type of farm (asset turnover rate), historical profitability, and the business phase as indicated by the panel members. This assumption is particularly important for livestock, dairy, and poultry farms with a potentially wide range of investment in facilities.

For all rep farms, an initial term debt level is set for the beginning of the simulation period (January 1, 2003) and the simulation forces annual principal and interest payments on schedule. For example, a profitable crop farm with beginning term debt of 20 percent will

have term debt of about 10 percent at the start of the projection period due to declining liabilities and escalating asset values over the three historical years. The assumed level of initial term debt appears in the financial tables. The rule regarding term length places a farm in the middle of the loan term. For example, crop farms start with a 20 year real estate loan with 10 years remaining. Exceptions to the rule are made for farms with high investment in single purpose buildings. For all baseline farms, current assets and current liabilities are assumed to be zero on January 1, 2003.

According to USDA, the trend in total debt for Missouri farms, as a percent of assets, gradually declined from the recent high of 15.1 percent in 1998 to 12.5 percent in 2003 and then fell to 7.7 percent in 2004.

Table A.4 layouts USDA data by major enterprise and sales category. With the exception of cotton and beef farms, average farm debt is lower on Missouri farms than the national average.

Table A.4. Average debt to asset ratios for farm businesses, 2004

Sales (\$1000)	Cash grains	Corn	Soy	Cotton	Beef	Hogs	Dairy	Poultry	All
Missouri									
Under \$100	4.1*	4.3*	8.1*	**	7.0	16.2*	12.7*	**	7.1
\$100 to \$250	14.1	4.5*	8.3*	**	3.7	10.4*	14.1	6.2	6.9
\$250 to \$500	8.5	13.8*	14.2	**	7.0*	9.9*	18.9*	24.7*	10.5
\$500 to \$1000	12.0*	10.8*	17.4*	**	27.5*	26.5	11.8*	30.5*	17.3
Over \$1000	16.1*	**	7.0*	8.4*	**	18.0	**	17.0	12.4
All sales classes	8.9	6.0	8.9	10.6*	6.2	16.0	14.3	20.2	7.7
U.S.									
Under \$100	6.7	8.5	8.0	6.4	4.9	7.9	6.2	5.9	5.5
\$100 to \$250	13.3	11.5	11.2	10.5	9.1	16.4	11.9	13.0	10.6
\$250 to \$500	13.7	16.7	9.0	5.3	11.4	18.0	14.7	18.9	12.8
\$500 to \$1000	15.6	19.7	14.1	10.3	4.7	21.4	13.6	21.7	12.1
Over \$1000	25.1	16.4	16.1	15.1	13.7	24.5	26.9	23.1	18.1
All sales classes	12.9	12.7	9.7	7.9	6.2	18.8	17.3	19.0	8.8

Source: USDA ARMS survey *Statistically unreliable due to sample size. **Data not available.

The stochastic approach

To simulate future farm financial performance, prices and production are estimated stochastically. That is, prices and yields for the commodity are randomly drawn 500 times from a distribution determined by historical price and production interactions. The values shown in the financial tables earlier in this report are the mean of the 500 simulations of price and production interactions.

Price estimates are based on FAPRI stochastic projections for the U.S. agricultural sector published in March 2005. For each rep farm, the stochastic national prices are adjusted to fit individual rep farm marketing opportunities.

With regard to production, unique distributions are developed for each rep farm. Projected crop yields, livestock sale weights, birth rates, and milk per cow are allowed to vary as they have locally for the past ten years. Some farms have greater variability in production and therefore greater risk. Think of the classic example of a dryland farm with highly variable yields versus an irrigated farm with a more narrow yield variation.

The figures illustrate the mechanisms of the stochastic analysis to reflect inherent uncertainty in commodity markets.

Assuming average weather, yields grow steadily in the deterministic baseline (top panel). Also shown are two of the 500 draws on wheat yields used to drive the stochastic analysis.

For each of the 500 alternative futures, price projections reflect the joint effects of all the random supply and demand factors (middle panel). Prices generally exceed the deterministic baseline when yields are below average. Random factors affecting demand also play an important role, so it is possible to have lower than average production and lower than average prices in the same year.

Panel three shows that in ten percent of the 500 alternative futures, the 2006 wheat price falls below \$2.86 per bushel.

In ten percent of the 500 alternative futures, the 2006 soybean price exceeds \$3.74 per bushel.

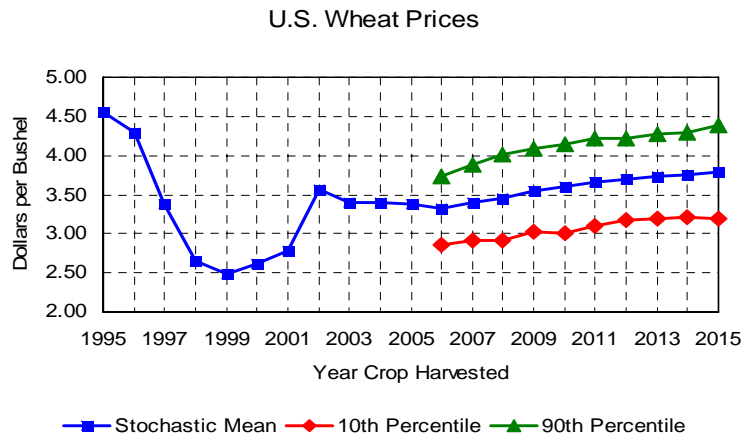
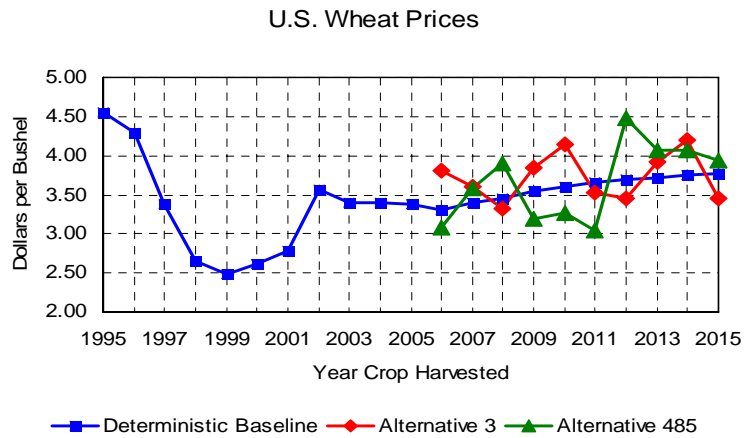
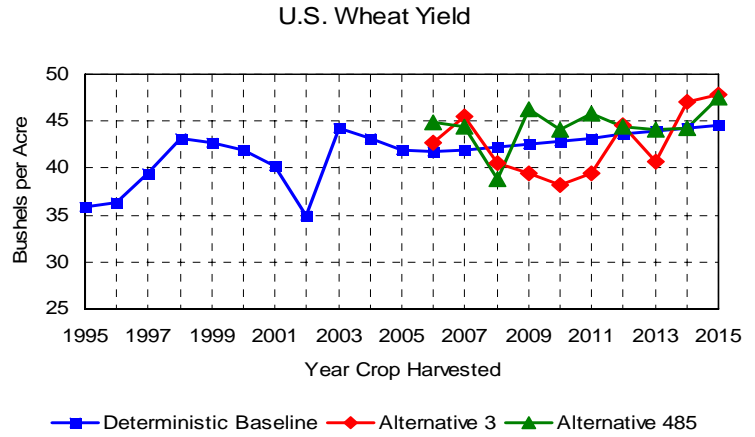


Figure A.1. Wheat price and yield projections: deterministic and potential futures.

Table A.5 Selected stochastic analysis results, FAPRI baseline, January 2006.

Year	2005	2006	2007	2008	2009	2010
	<i>dollars per bushel, crop year</i>					
Corn Price						
Deterministic Baseline	1.90	2.08	2.20	2.30	2.38	2.44
Stochastic Mean		2.10	2.20	2.30	2.37	2.43
10th Percentile		1.74	1.79	1.86	1.92	2.01
90th Percentile		2.51	2.64	2.77	2.87	2.93
Soybean Price						
Deterministic Baseline	5.40	4.96	5.25	5.45	5.48	5.52
Stochastic Mean		5.02	5.22	5.46	5.44	5.51
10th Percentile		3.84	4.01	4.19	4.15	4.25
90th Percentile		6.34	6.44	6.86	6.88	6.89
Wheat Price						
Deterministic Baseline	3.38	3.30	3.39	3.45	3.55	3.61
Stochastic Mean		3.32	3.40	3.45	3.55	3.60
10th Percentile		2.86	2.91	2.91	3.03	3.01
90th Percentile		3.74	3.88	4.02	4.08	4.15
	<i>dollars per hundredweight, calendar year</i>					
Nebraska Steer Price						
Deterministic Baseline	87.28	83.93	81.68	79.35	76.46	74.19
Stochastic Mean		84.13	81.78	79.38	76.54	74.11
10th Percentile		74.95	72.87	69.72	66.97	63.85
90th Percentile		93.03	91.76	88.67	86.11	85.13
Barrow and Gilt Price						
Deterministic Baseline	50.05	43.69	39.82	41.15	45.55	49.26
Stochastic Mean		43.79	39.87	41.21	45.65	49.30
10th Percentile		35.16	30.64	30.44	34.61	38.36
90th Percentile		55.30	51.48	53.31	58.81	62.42
Milk Price						
Deterministic Baseline	15.14	13.38	13.22	13.47	13.66	13.65
Stochastic Mean		13.49	13.31	13.48	13.60	13.64
10th Percentile		12.43	12.06	12.24	12.40	12.44
90th Percentile		14.64	14.64	14.74	14.81	14.96

APPENDIX B

Representative Farm Panel Members

The listing below includes over 200 active producers and panel facilitators for this set of rep farms, current as of the date of this report. For some of the rep farms, data has been developed in cooperation with producers not shown because they have since retired from farming or become inactive for other reasons. In a few instances, currently active panel members are not listed due to ongoing organizational changes in the farms to ensure proper representation within each panel. The county designation identifies the location of the main farming operation for each producer.

Feedgrain-soy farms

No. 1	2500 crop acres Brooks Hurst – Panel facilitator and Atchison County producer Samuel B. Graves – Atchison Steve Alexander – Nodaway	NWFG2500 Lyle Brown – Atchison Terry Ecker – Nodaway
No. 2	2300 crop acres Tom Waters – Panel facilitator and Ray County producer Dwight McMullen – Ray Max Hockemeier – Ray	NWFG2300 Steve Ewert – Clay
No. 3	2050 crop acres Parman Green – Panel facilitator, MU Extension Ag Business Specialist James Wheeler – Carroll Ron Linneman – Carroll Kyle Durham – Carroll Terry Reimer – Carroll	NCFG2050 Gerald Kitchen – Saline Jack Harriman – Saline Mike Ritchhart – Carroll Rob Korff – Carroll
No. 4	3630 crop acres Parman Green – Panel facilitator, MU Extension Ag Business Specialist Mike and Preston Hisle – Saline Glenn Kaiser – Carroll Mark Casner - Carroll	NCFG3630 Todd Gibson – Carroll Ronald Jenkins – Carroll Dennis Germann – Carroll
No. 5	2600 crop acres John Schaffer – Panel facilitator and Lewis County producer Jerry Ketsenburg – Ralls Bill Goldinger – Marion	NEFG2600 Earl Gard – Marion
No. 6	1300 crop acres Mary Sobba – Panel facilitator, MU Extension Ag Business Specialist Andy Adam - Audrain Ralph Windmann – Audrain Tom Becker – Audrain	NEFG1300 Jules Willott – Audrain Richard Primus – Audrain
No. 7	1800 crop acres Neil Bredehoeft – Panel facilitator and Lafayette County producer Ron Catlett – Saline Lynn Fahrmeier – Lafayette	WCFG1800 Ellis Dieckhoff – Lafayette Dennis Schneider – Lafayette
No. 8	1100 crop acres Don Lucietta – Barton Darrel Crockett - Vernon	SWFG1100 Dale Norwood – Barton Eric Lawrence - Barton

Cotton and Rice farms

No. 9	1600 crop acres Tate Castillo, former panel facilitator, MU Extension Agronomy Specialist Danny Davis – Dunklin Johnny Watkins – Pemiscot Brian Waldrop – Pemiscot	SECT1600 Rance Daniels – Dunklin Tony Watkins – Pemiscot
No. 10	2000 crop acres Bruce Beck – Panel facilitator, MU Extension Agronomy Specialist, Rice Floyd Page – Butler Will Spargo – Butler	SERC2000 Rick Spargo – Butler Tom Bonifield – Butler
No. 11	4000 crop acres Bruce Beck – Panel facilitator, MU Extension Agronomy Specialist-rice C.P. Johnson – Butler Rodney Eaker – Butler Rusty Eaker – Butler	SERC4000 Frank Smody – Butler Jim Bieller – Butler

Crop-beef farms

No. 12	1850 crop acres + 200 beef cows Mike Killingsworth, Panel facilitator, Killingsworth Ag Services Jack Baldwin – Nodaway Gary Ecker – Nodaway	NWCB1850 Kevin Rosenbohm – Nodaway Roger Vest – Nodaway
No. 13	1485 crop acres + 100 beef cows Kevin Hansen, Panel facilitator, MU Extension Ag Business Specialist Greg Cooper – Carroll Jim Schreiner - Livingston	NWCB1485 John Cramer - Livingston David Williams - Livingston
No. 14	1460 crop acres + 80 beef cows Darren Hoffman, Panel facilitator, NRCS Micah Lehenbauer – Ralls Phillip Thompson – Ralls Tony Griffin – Ralls	NECB1460 Tuley Elliott – Ralls Danny Benson – Ralls
No. 15	500 crop acres + 50 beef cows Mary Sobba – Panel facilitator, MU Extension Ag Business Specialist Rodney Willingham – Audrain Henry Borgmeyer – Audrain	NECB500 Adam Blaue – Montgomery John Houston – Audrain
No. 16	1400 crop acres + 150 beef cows + finishing steers Al Decker, Panel facilitator, MU Extension Livestock Specialist Doug Cox - Bates Lonny Duckworth - Bates	WCCB1400 Jerrell Fischer – St. Clair Kyle Fischer - Bates
No. 17	380 crop acres + 40 beef cows Frank Wideman and Roy Hibbard, Panel facilitators, MU Extension Dean Lukefahr – Perry Greg Haertling – Perry	ECCB380 Brian and Dianna Koenig – Perry Kevin Bachmann – Perry
No. 18	240 crop acres + 250 beef cows Brian Gillen, Panel facilitator, Lockwood High school Vo-Ag Chuck Daniel – Dade James Nivens – Lawrence	SWCB240 Randall Erisman – Dade Gary Wolf – Lawrence Steve Allison – Dade
No. 19	1800 acres crops + 150 beef cows Rose Ann & Rodney Overman – Barton Jerry Schnelle – Barton	SWCB1800 Mark Whittle – Barton Russ Massa – Barton

Pork-crop farms

No. 20	1500 sows farrow-to-finish Jim Fisher – Montgomery Jerry Epperson – Montgomery	NEH1500 Scott Hays – Monroe Kathy Chinn – Shelby
No. 21	550 acres crop acres + 70 beef cows + 2 contract nursery pig units Wayne Prewitt, Panel facilitator, MU Extension Ag Business Specialist Gary Waltz – Jasper Lawrence Tally – Vernon (retired) Bill Handly – Vernon	WCHBC550 Ronnie Means – Barton Tommy Wait – Vernon
No. 22	250 crop acres + 125 beef cows + 200 sows farrow-to-finish Jeremia Markway, Panel facilitator, Fatima High school Adult Ag Instructor Leo Brandt – Osage Luke Deeken – Osage	CTHBC250 John Muenks – Osage Doug Luebbering – Cole
No. 23	1250 sows, farrow-to-finish Don Nicodim, Panel facilitator, Executive Vice President, Missouri Pork Association Paul Benedick – Saline Marty Phillips – Cass Leroy Vollmer – Cooper	CTH1250 Phil Howerton – Johnson Brent Sandidge – Saline

Beef farms

No. 24	1560 forage acres + 400 beef cows Ted Cunningham, Panel facilitator, MU Extension Livestock Specialist Ken Lenox – Phelps George Barnitz – Dent	CTBF400 Paul Heithold – Dent Doug & Pat Black – Phelps
No. 25	735 forage acres + 200 beef cows Tony Rickard, Panel facilitator, MU Extension Dairy Specialist Eugene Miekley – Barry Larry Henbest – Barry Jerry Davis - Barry	SWBF200 Basil Ferguson – Newton Kent Arnaud – Barry
No. 26	935 forage acres + 260 beef cows + backgrounding Eldon Cole, Panel facilitator, MU Extension Livestock Specialist Rod Lewis – Lawrence Nolan Kleiboeker - Newton	SWBF260 Ben Kaal – Lawrence Steve Parker – Lawrence
No. 27	1850 forage acres + 350 beef cows Stacy Hambleton, Panel facilitator, MU Extension Ag Business Specialist Calvin Crawford – Oregon Wilbur Spreutels – Oregon	SCBF350 Carol Grimes – Oregon Don Johnson – Oregon
No. 28	650 forage acres + 150 beef cows Randy Saner, Panel facilitator, MU Extension Livestock Specialist Cindy Ulm – Howell Becky Day – Howell Al Vance – Howell	SCBF150 Don Proffitt – Howell Charlie Rymer – Howell

Dairy farms

- No. 29 150 cows + 350 forage acres + 240 acres crops ECDY150
Matt Herring, Panel facilitator, MU Extension Agronomy Specialist
Bob Riegel – Franklin Daryl Rademacher – Gasconade
Charles Rademacher – Gasconade Eugene Scheer – Franklin
Roy Koelling, Jr. – Gasconade
- No. 30 85 cows + 340 forage acres SWDY85
Stacey Hamilton, Panel facilitator, MU Extension Dairy Specialist
Herb and Deann Dighero - Lawrence Doug and Marcia Owen – Webster
Robert Hensley – Polk
- No. 31 110 cows + 245 forage acres SWDY110
Tony Rickard, Panel facilitator, MU Extension Dairy Specialist
Rex Henderson – Barry Robert Pointer - Barry
Phil Schad – Barry Steve Chapman – Barry
Jerry Varner – Barry
- No. 32 400 cows + 600 forage acres SWDY400
Stacey Hamilton, Panel facilitator, MU Extension Dairy Specialist
Daryl Davis – Greene Wayne Whitehead – Webster
Steve Gallivan – Dallas Freddie Martin – Hickory
- No. 33 230 cows + 350 forage acres SWDY230
Stacey Hamilton, Panel facilitator, MU Extension Dairy Specialist
Bernie VanDalfsen – Jasper Jeff Buckner – Cedar
Charles Fletcher – Barry Gene Fletcher – Barry
Dale Carter – Wright Brian Patton – Dade
Kevin Patton – Dade
- No. 34 150 cows + 420 forage acres + backgrounding dairy steers SCDY150
Ted Probert, Panel facilitator, MU Extension Dairy Specialist
David Hutsell – Wright Nathan Roth – Wright
David and Rhonda Gray – Wright Ted and Barbara Sheppard - Texas

Broiler-beef Farms

- No. 35 4 broiler house + 50 beef cows SWBRBF4
Jim Durham, Panel facilitator, Simmons Foods
Jerry Evans – Newton Bill Wilson – McDonald
Murphy Biglow – McDonald
- No. 36 6 broiler houses + 50 beef cows SWBRBF6
Mike Lucareillo, Panel facilitator, Tyson Foods
David Brittenham – Lawrence Cliff Fitchpatrick – Newton
Ron Campbell – Lawrence Roger Schnake – Lawrence

APPENDIX C

Panel Updates

Since publication of the most recent baseline outlook in April of 2005, on-site interviews have been conducted with the following panels to update the database. Farm panels meet on a two-year schedule to review alignment of the rep farm with their own operations and adjust and/or revalidate simulation prices, production, practices, and costs. Several rep farms were adjusted to reflect structural changes made by panel members. Farms are removed from the database when it can not be confirmed that the rep farm reflects the panel, often due to the time interval between interviews. Removal from the database may be temporary.

Farm Number	Farm Code	Region	Farm Type	Updates
Farms with structural changes*				
1	NWFG2500	Northwest	Feedgrain	Increased acreage from 2350 to 2500
3	NCFG2050	North Central	Feedgrain	Increased acreage from 1700 to 2050
5	NEFG2600	Northeast	Feedgrain	Increased acreage from 2240 to 2600
18	SWCB240	Southwest	Crop-Beef	Increased cow herd from 150 to 250 cows
24	CTBF400	Central	Beef	Increased cow herd from 350 to 400 cows
Farms re-validating model data (prices, production, costs, etc.)				
2	NWFG2300	Northwest	Feedgrain	
4	NCFG3630	North Central	Feedgrain	
6	NEFG1300	Northeast	Feedgrain	
12	NWCB1850	Northwest	Crop-Beef	
13	NCCB1485	North Central	Crop-Beef	
15	NECB500	Northeast	Crop-Beef	
30	SWDY85	Southwest	Dairy	
32	SWDY400	Southwest	Dairy	
33	SWDY230	Southwest	Dairy	
Farms removed from this baseline				
	NEFG1165	Northeast	Feedgrain	
	SERC2500	Southeast	Rice	
	SERC4500	Southeast	Rice	
	EHC1500	East Central	Pork-Crop	

* Farms making major structural changes are not comparable to previous baselines.

APPENDIX D
Missouri Yield History
 USDA-NASS data

Corn, bu	2001	2002	2003	2004	2005	Avg.
Northwest	126.2	91.2	94.7	163.3	136.7	122.4
North Central	129.2	114.4	97.4	161.5	109.9	122.5
Northeast	123.3	95.2	113.6	168.6	67.8	113.7
West	127.6	99.4	79.3	155.4	115.6	115.5
Central	136.5	107.5	95.1	167.6	92.7	119.9
East	130.5	89.4	116.7	152.9	95.8	117.1
Southwest	144.0	117.0	108.8	144.9	91.1	121.2
South Central	119.7	103.8	117.1	137.9	120.5	119.8
Southeast	158.8	145.0	151.8	161.5	143.7	152.2
State Total	133.0	105.0	108.0	162.0	111.0	123.8

Sorghum, bu

Northwest	76.8	90.0	60.0	87.1	84.6	79.7
North Central	89.0	92.9	60.0	104.0	85.7	86.3
Northeast	105.9	107.4	91.0	126.9	74.0	101.0
West	85.3	63.2	61.3	100.9	76.1	77.4
Central	98.3	86.9	62.1	106.6	67.0	84.2
East	100.6	80.6	78.3	109.5	74.9	88.8
Southwest	101.7	82.8	75.7	105.2	66.0	86.3
South Central	73.5	81.7	60.0	61.5	68.7	69.1
Southeast	88.0	80.2	84.7	95.0	83.3	86.2
State Total	94.0	85.0	77.0	108.0	76.0	88.0

Soybeans, bu

Northwest	39.0	31.6	25.7	47.8	45.0	37.8
North Central	35.6	37.4	24.9	46.0	37.1	36.2
Northeast	41.1	38.7	32.1	49.3	33.5	38.9
West	36.1	26.2	21.9	46.8	37.6	33.7
Central	41.2	36.2	28.0	48.7	33.4	37.5
East	42.8	35.7	34.1	46.9	35.8	39.1
Southwest	32.9	21.9	26.9	40.0	30.8	30.5
South Central	35.7	31.5	31.9	38.6	36.0	34.7
Southeast	34.6	34.8	39.2	42.6	38.2	37.9
State Total	38.0	34.0	29.5	46.7	37.7	37.2

Wheat, bu

Northwest	44.8	47.7	62.3	53.0	49.8	51.5
North Central	50.3	52.0	65.1	50.0	50.6	53.6
Northeast	53.8	53.1	68.2	57.0	57.9	58.0
West	55.7	41.4	62.9	49.0	50.2	51.8
Central	51.7	43.2	62.7	48.0	50.2	51.2
East	50.6	42.5	55.9	47.0	49.5	49.1
Southwest	52.5	37.8	61.3	47.0	49.1	49.5
South Central	47.1	32.9	47.0	48.0	57.3	46.5
Southeast	56.0	46.9	56.3	57.0	59.2	55.1
State Total	54.0	44.0	61.0	52.0	54.0	53.0

Cotton, lb	834.0	796.0	862.0	1054.0	970.0	903.2
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Rice, cwt	60.0	60.5	61.3	68.0	66.0	63.2
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