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Representative Farms Economic Outlook for the August 2016 FAPRI/AFPC Baseline

Briefing Paper 16-2

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Agricultural and Food Policy Center

AFPC

**REPRESENTATIVE FARMS ECONOMIC
OUTLOOK FOR THE AUGUST 2016
FAPRI/AFPC BASELINE**

AFPC Briefing Paper 16-2

James W. Richardson
Joe L. Outlaw
George M. Knapek
J. Marc Raulston
Brian K. Herbst
David P. Anderson
Steven L. Klose

EXECUTIVE SUMMARY

The Agricultural and Food Policy Center (AFPC) at Texas A&M University develops and maintains data to simulate 95 representative crop, dairy, and livestock operations in major production areas in 29 states. The chief purpose of this analysis is to project the economic viability of those farms by region and commodity for 2016 through 2020. The data necessary to simulate the economic activity of these operations is developed through ongoing cooperation with panels of agricultural producers in selected states. The Food and Agricultural Policy Research Institute (FAPRI) provided projected prices, policy variables, and input inflation rates in their August 2016 Baseline.

Under the August 2016 Baseline, 13 of the 64 crop farms are considered in good liquidity condition (less than a 25 percent chance of negative ending cash by 2020). Twelve crop farms have between a 25 percent and a 50 percent likelihood of negative ending cash, and the remaining 39 crop farms have greater than a 50 percent chance of negative ending cash. Additionally, 23 of the 64 crop farms are considered in good equity position (less than a 25 percent chance of decreasing real net worth during the study period). Six crop farms have between a 25 percent and 50 percent likelihood of losing real net worth, and 35 crop farms have greater than a 50 percent probability of decreasing real net worth by 2020. The following discussion provides an overall evaluation by commodity considering both liquidity and equity measures.

- FEEDGRAIN FARMS: Six of the 23 feedgrain farms are in good overall financial condition. Six farms are classified in marginal condition, and eleven are in poor condition.

- WHEAT FARMS: Three representative wheat farms are classified in good overall financial condition, none are in marginal condition, and eight are in poor condition.

- COTTON FARMS: Four of the 15 cotton farms are classified in good condition, three are in marginal condition, and eight are in poor condition.

- RICE FARMS: Four of the 15 rice farms are projected to be in good financial condition. Two rice farms are projected to be in marginal condition; nine are in poor condition.

- DAIRY FARMS: Eleven of the 20 dairies are in good overall financial condition. Five are classified in marginal condition, and four are in poor condition.

- BEEF CATTLE RANCHES: Two of the 11 cattle ranches are classified in good financial condition, six are in marginal condition, and three are projected to be in poor condition.

REPRESENTATIVE FARMS ECONOMIC OUTLOOK FOR THE AUGUST 2016 FAPRI/AFPC BASELINE

The farm level economic impacts of the FAPRI August 2016 Baseline on representative crop and livestock operations are projected in this report, assuming provisions of the 2014 Farm Bill continue throughout the 2014-2020 study period. Crop farms are assumed to have elected ARC or PLC on a crop by crop basis that resulted in the highest projected ending cash reserves at the end of the period. Based on interviews with a sample of producers, farms are currently assumed to not purchase SCO/STAX. The analysis was conducted over the 2014-2020 planning horizon using FLIPSIM, AFPC's whole farm simulation model. Data to simulate farming operations in the nation's major production regions came from two sources:

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

- Projected prices, policy variables, and input inflation rates from the Food and Agricultural Policy Research Institute (FAPRI) August 2016 Baseline.

The FLIPSIM policy simulation model incorporates the historical risk faced by farmers for prices and production. This report presents the results of the August 2016 Baseline in a risk context using selected simulated probabilities and ranges for annual net cash farm income values. The probability of a farm experiencing negative ending cash reserves and the probability of a farm losing real net worth are included as indicators of the cash flow and equity risks facing farms through the year 2020.

DEFINITIONS OF VARIABLES IN THE SUMMARY TABLES

- **Overall Financial Position, 2016-2020** -- As a means of summarizing the representative farms' economic efficiency, liquidity, and solvency position, AFPC classifies each farm as being in either a good (green), marginal (yellow) or poor (red) position. AFPC defines a farm to be in a good financial position when it has less than a 25 percent chance each of a negative ending cash position and less than a 25 percent chance of losing real net worth through 2020. If the probabilities of these events are between 25 and 50 percent the farm is classified as marginal. A probability greater than 50 percent places the farm in a poor financial position.
- **Receipts** -- 2016-2020 average cash receipts from all farm related sources, including market sales, PLC/ARC payments, marketing loan gains/LDPs, crop insurance indemnities, and other receipts.
- **Payments** -- 2016-2020 average annual PLC or ARC payments and marketing loan gains/LDPs for crop farms.
- **NCFI** -- 2016-2020 average net cash farm income equals average total receipts minus average total cash expenses.
- **Reserve 2020** -- equals total cash on hand at the end of year 2020. Ending cash equals beginning cash reserves plus net cash farm income and interest earned on cash reserves less principal payments, federal taxes (income and self employment), state income taxes, family living withdrawals, and actual machinery replacement costs (not depreciation).
- **Net Worth 2020** -- equity equals total assets including land minus total debt from all sources and is reported at the end of 2020.
- **CRNW** -- annualized percentage change in the operator's real net worth from January 1, 2016 through December 31, 2020, after adjusting for inflation.

Table 1. FAPRI August 2016 Baseline Projections of Crop and Livestock Prices, 2014-2020.

	2014	2015	2016	2017	2018	2019	2020
Crop Prices							
Corn ($/bu.)	3.70	3.60	3.19	3.57	3.80	3.87	3.86
Wheat ($/bu.)	5.99	4.89	3.74	4.52	5.02	5.28	5.34
Cotton ($/lb.)	0.6130	0.5800	0.6227	0.5941	0.6151	0.6219	0.6199
Sorghum ($/bu.)	4.03	3.30	3.00	3.26	3.49	3.57	3.57
Soybeans ($/bu.)	10.10	8.95	9.29	9.44	9.64	9.94	9.93
Barley ($/bu.)	5.30	5.52	4.58	4.52	4.74	4.90	4.94
Oats ($/bu.)	3.21	2.12	1.94	2.17	2.29	2.35	2.37
Rice ($/cwt.)	13.40	12.30	11.07	11.21	11.60	11.60	11.74
Soybean Meal ($/ton)	351.47	309.99	307.38	316.37	328.63	335.97	334.93
All Hay ($/ton)	172.00	148.00	134.20	148.43	157.79	163.03	164.19
Peanuts ($/ton)	440.00	386.00	373.49	374.74	380.08	391.21	395.50
Cattle Prices							
Feeder Cattle ($/cwt)	225.07	226.52	160.60	150.53	141.38	135.04	134.94
Fed Cattle ($/cwt)	154.56	148.12	126.42	119.23	114.02	111.09	110.90
Culled Cows ($/cwt)	104.09	99.76	77.95	72.41	70.36	67.71	67.28
Milk Price							
U.S. All Milk Price ($/cwt)	24.07	17.21	16.09	16.86	17.85	18.16	18.15

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

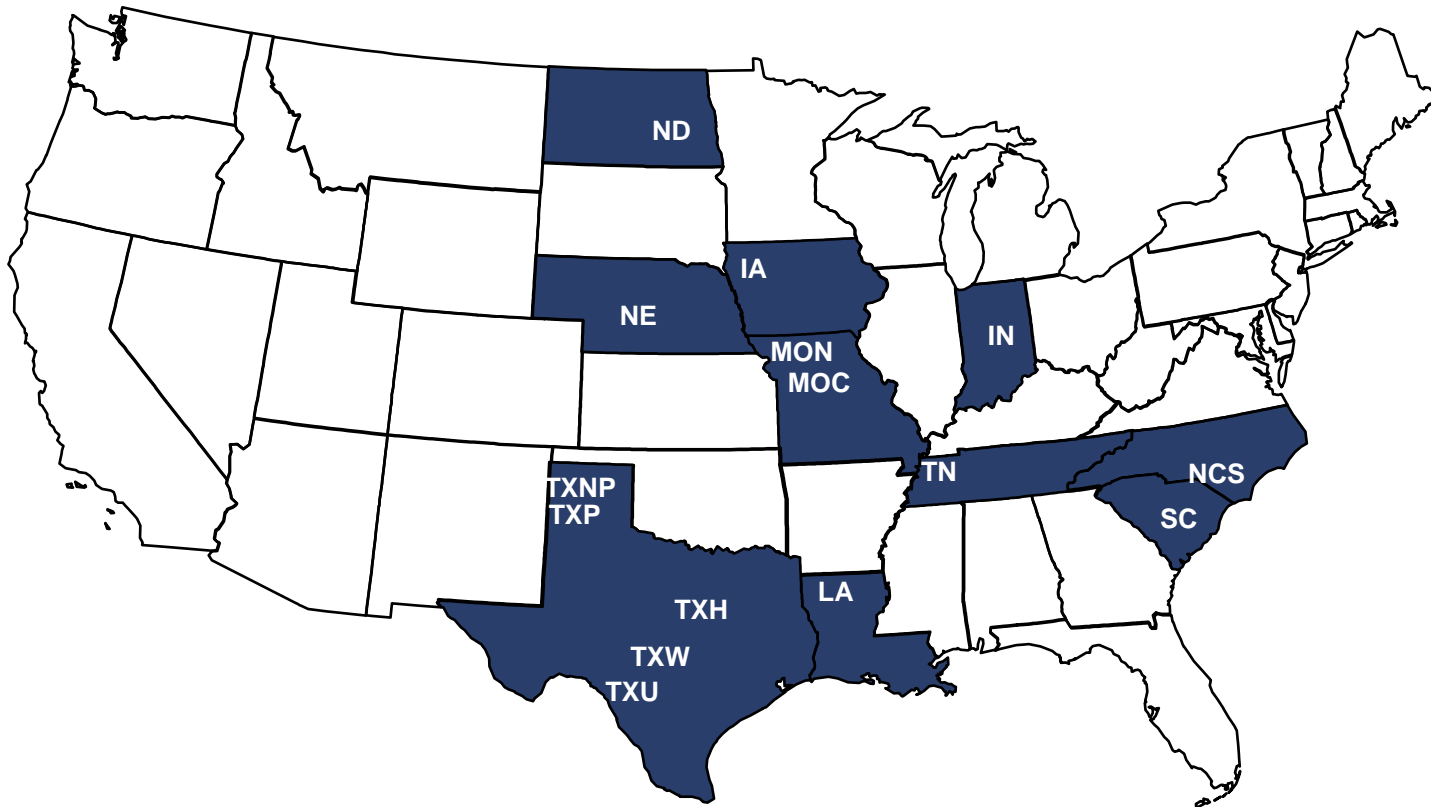**Table 2. FAPRI August 2016 Baseline Assumed Rates of Change in Input Prices and Annual Changes in Land Values, 2015-2020.**

	2015	2016	2017	2018	2019	2020
Annual Rate of Change for Input Prices Paid						
Seed Prices (%)	0.00	-1.97	-1.17	-0.38	1.05	2.12
All Fertilizer Prices (%)	-10.96	-14.86	5.79	4.68	2.76	2.40
Herbicide Prices (%)	-2.10	2.99	-4.23	2.55	4.70	5.44
Insecticide Prices (%)	-4.37	1.75	-2.48	2.17	4.03	4.43
Fuel and Lube Prices (%)	-35.14	-13.39	14.17	7.87	8.60	9.12
Machinery Prices (%)	2.32	-0.27	0.76	3.45	4.05	3.63
Wages (%)	3.61	2.06	3.06	3.24	3.32	3.29
Supplies (%)	0.19	0.08	1.68	1.59	1.85	1.96
Repairs (%)	0.09	-0.66	3.66	2.65	2.71	2.67
Services (%)	4.22	2.52	1.12	3.05	3.29	3.20
Taxes (%)	6.28	3.88	-1.05	2.10	2.08	0.75
PPI Items (%)	-3.16	-4.05	0.26	1.02	2.07	2.53
PPI Total (%)	-2.03	-3.14	0.31	1.38	2.30	2.56
Annual Change in Consumer Price Index (%)	0.12	1.22	2.36	2.39	2.45	2.56
Annual Rate of Change for U.S. Land Prices (%)	2.37	-0.33	-2.15	-0.62	-0.04	0.55

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

Representative Farm: Feed Grains

- Overall, six feed grain farms are characterized as good, six are marginal, and eleven are in poor condition.

- Thirteen of the twenty-three farms will be under severe cash flow stress; eleven farms have high likelihoods (greater than a 50 percent chance) of losing real net worth.

Characteristics of Panel Farms Producing Feed Grains, 2015.

	Cropland	Assets	Debt/Asset	Gross Receipts	Feed Grains
	(acres)	($1,000)	(ratio)	($1,000)	(acres)
IAG1350	1,350	3,584.00	0.23	1,036.70	1,350
IAG3400	3,400	12,493.00	0.18	2,188.80	3,400
NEG2400	2,400	6,190.00	0.23	2,125.50	2,400
NEG4300	4,300	20,173.00	0.21	3,341.80	4,000
NDG3000	3,000	4,181.00	0.24	1,120.40	2,500
NDG8000	8,000	24,532.00	0.21	3,221.50	6,250
ING1000	1,000	3,588.00	0.19	547.00	1,000
ING2200	2,200	10,121.00	0.22	1,309.80	2,200
MOCG2300	2,300	12,748.00	0.19	994.40	2,300
MOCG4200	4,200	16,988.00	0.16	1,759.30	4,200
MONG2300	2,300	10,818.00	0.16	1,642.10	2,250
LAG2640	2,640	1,896.00	0.45	1,602.80	2,244
LANG2500	2,500	8,441.00	0.18	1,857.80	1,750
TNG900	900	2,577.00	0.31	443.00	900
TNG2200	2,200	5,164.00	0.33	955.90	2,200
NCSP1800	1,800	4,885.00	0.40	1,021.40	1,440
SCG3500	3,500	11,774.00	0.23	2,275.10	2,625
TXNP3450	3,450	8,148.00	0.05	1,945.20	1,775
TXNP10640	10,640	16,362.00	0.16	7,221.60	6,105
TXPG2500	2,500	5,415.00	0.25	1,580.90	1,453
TXHG2500	2,500	2,835.00	0.49	612.20	1,700
TXWG1600	1,600	1,605.00	0.31	534.50	1,050
TXUG1600	1,600	578.00	0.21	1,411.50	150

Representative Farm: Feed Grains

Economic Viability of Representative Farms over the 2016-2020 Period

Farm Name	Overall Ranking		P(Negative Ending Cash)	P(Real Net Worth Declines)
6/6/11	2016	2020	2016-2020	2016-2020
IAG1350			99-99	99-99
IAG3400			56-42	37-35
NEG2400			76-73	66-60
NEG4300			88-85	80-77
NDG3000			81-71	63-63
NDG8000			61-37	78-32
ING1000			82-62	31-9
ING2200			99-95	83-56
MOCG2300			24-1	1-1
MOCG4200			1-1	1-1
MONG2300			27-27	4-3
LAG2640			90-76	84-68
LANG2500			84-32	42-5
TNG900			99-97	94-82
TNG2200			99-98	98-84
NCSP1800			99-99	99-99
SCG3500			93-72	35-27
TXNP3450			1-1	1-1
TXNP10640			1-1	15-1
TXPG2500			85-28	25-3
TXHG2500			99-99	99-99
TXWG1600			99-99	99-99
TXUG1600			27-47	23-25

1 Viability is classified as good (green), moderate (yellow), and poor (red) based on the probabilities:

<25	25-50	>50

2 P(NegativeEnding Cash) is the probability that the farm will have a cash flow deficit. Reported values represent the probabilities for 2016 and 2020.

3 P(Real Net Worth Decline) is the probability that the farm will have a loss in real net worth relative to the beginning net worth. Reported values represent the probabilities for losing real net worth from 2014 to 2016 and from 2014 to 2020.

Implications of the August 2016 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Feed Grains and Oilseeds

	Receipts	Payments	NCFI	Reserve 2020	Net Worth 2020	CRNW
	($1,000)	($1,000)	($1,000)	($1,000)	($1,000)	(%)
IAG1350	874.50	28.74	(57.01)	(1,310.77)	1,714.88	(6.28)
IAG3400	1,944.66	65.27	364.54	165.34	10,488.31	0.35
NEG2400	1,986.49	49.38	234.14	(564.02)	4,632.71	(0.50)
NEG4300	3,515.66	82.76	391.47	(1,810.20)	15,334.88	(0.87)
NDG3000	1,172.25	47.73	173.60	(292.00)	3,065.37	(0.77)
NDG8000	3,507.42	104.64	887.02	533.00	21,136.19	1.18
ING1000	598.29	30.74	199.16	(56.05)	3,121.33	1.21
ING2200	1,439.05	69.89	281.73	(961.49)	8,048.54	0.39
MOCG2300	1,431.47	58.77	676.94	910.55	12,221.56	2.33
MOCG4200	2,550.12	63.10	1,305.24	3,397.13	18,217.94	3.66
MONG2300	1,574.08	66.40	407.36	273.07	9,587.15	1.26
LAG2640	1,743.18	95.06	144.89	(656.83)	972.51	(2.61)
LANG2500	1,943.99	189.35	438.10	222.78	7,752.16	2.14
TNG900	465.82	12.01	97.08	(511.48)	1,647.68	(1.06)
TNG2200	1,000.52	37.77	171.98	(1,212.82)	3,244.13	(0.76)
NCSP1800	1,120.50	106.68	(48.23)	(2,264.43)	1,810.30	(6.94)
SCG3500	2,309.74	167.33	346.77	(477.61)	9,450.48	0.81
TXNP3450	2,251.63	138.05	814.72	3,011.23	10,188.92	4.36
TXNP10640	6,767.33	371.29	1,675.55	5,756.51	18,785.73	5.44
TXPG2500	1,696.93	124.34	438.76	272.45	4,915.72	3.85
TXHG2500	679.80	83.25	(82.75)	(2,054.68)	269.49	(15.53)
TXWG1600	533.99	52.07	(17.34)	(996.48)	465.61	(10.38)
TXUG1600	1,332.31	93.00	184.62	31.03	577.46	5.75

1 Receipts are average annual total cash receipts including government payments, 2016-2020 ($1,000)

2 Payments are average annual total government payments, 2016-2020 ($1,000)

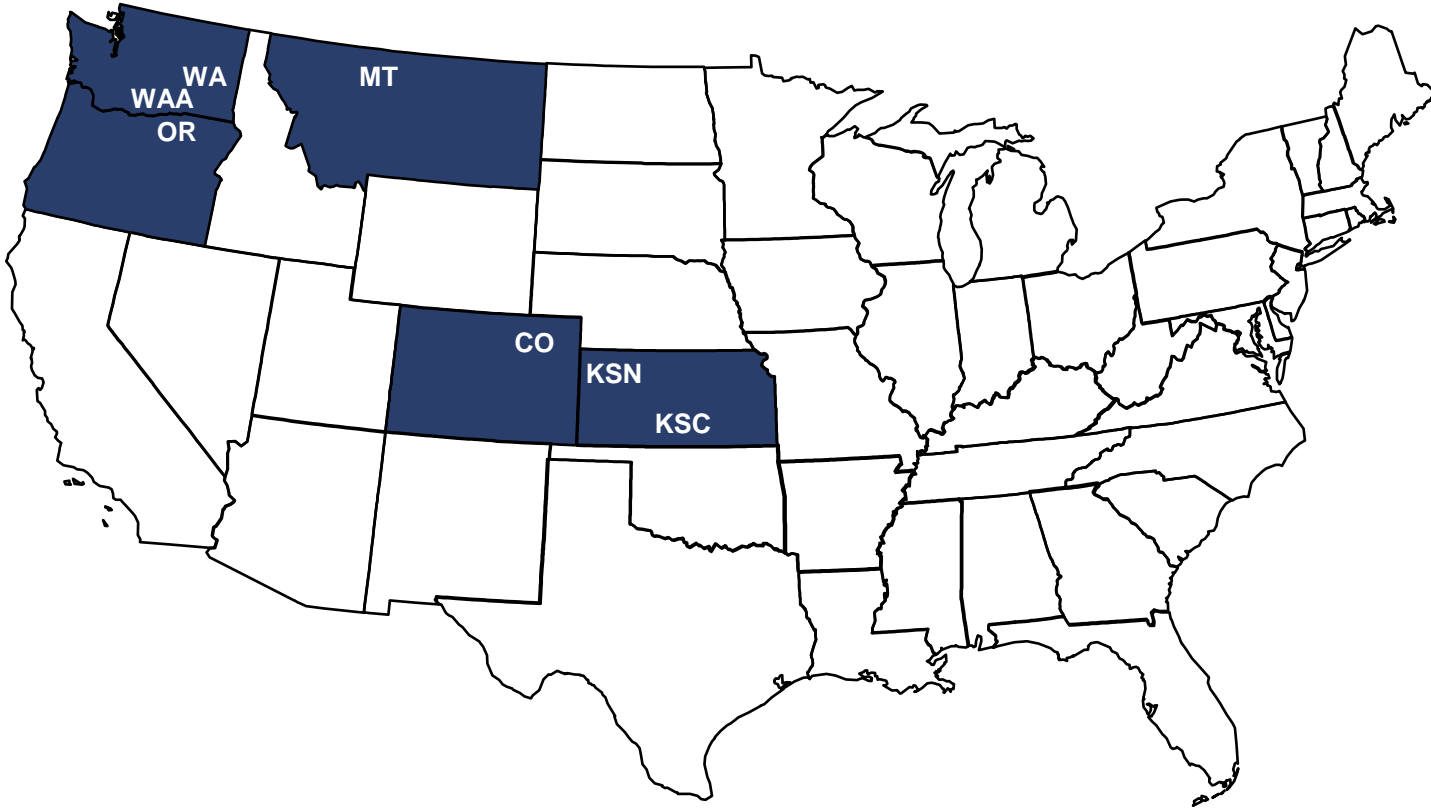3 NCFI is average annual net cash farm income, 2016-2020 ($1,000)

4 Reserve 2020 is average ending cash reserves, 2020 ($1,000)

5 Net Worth 2020 is average nominal ending net worth, 2020 ($1,000)

6 CRNW is average percentage change in real net worth over 2016-2020 period, (%)

Representative Farm: Wheat

- Three wheat farms are projected to be in good overall financial condition and eight are in poor condition; none are in marginal condition.

- Eight of the eleven wheat farms are expected to feel significant liquidity pressure over the period; those same farms also all have a greater than 50 percent chance of losing real equity.

Characteristics of Panel Farms Producing Wheat, 2015.

	Cropland	Assets	Debt/Asset	Gross Receipts	Wheat
	(acres)	($1,000)	(ratio)	($1,000)	(acres)
WAW2000	2,000	2,234.00	0.15	622.40	1,320
WAW8000	8,000	11,376.00	0.26	2,489.10	4,950
WAAW4500	4,000	2,325.00	0.29	419.50	2,000
ORW4100	4,100	1,952.00	0.22	378.20	1,950
MTW7000	7,000	6,489.00	0.21	994.80	4,200
KSCW2000	2,000	2,799.00	0.28	482.40	1,000
KSCW5300	5,300	5,215.00	0.19	1,125.50	3,445
KSNW4000	4,000	4,827.00	0.26	754.50	1,500
KSNW5980	5,980	10,251.00	0.27	1,307.10	1,820
COW3000	3,000	4,141.00	0.17	343.40	1,013
COW5640	5,640	4,247.00	0.27	684.10	1,900

Representative Farm: Wheat

Economic Viability of Representative Farms over the 2016-2020 Period

Farm Name	Overall Ranking		P(Negative Ending Cash)	P(Real Net Worth Declines)
3/0/8	2016	2020	2016-2020	2016-2020
WAW2000			13-2	1-1
WAW8000			99-80	98-69
WAAW4500			99-99	99-99
MTW7000			22-1	2-1
ORW4100			99-76	91-75
KSCW2000			99-98	96-89
KSCW5300			43-14	1-5
KSNW4000			99-97	97-85
KSNW5980			99-99	99-99
COW3000			86-90	3-55
COW5640			99-99	99-97

1 Viability is classified as good (green), moderate (yellow), and poor (red) based on the probabilities:

<25	25-50	>50

2 P(NegativeEnding Cash) is the probability that the farm will have a cash flow deficit. Reported values represent the probabilities for 2016 and 2020.

3 P(Real Net Worth Decline) is the probability that the farm will have a loss in real net worth relative to the beginning net worth. Reported values represent the probabilities for losing real net worth from 2014 to 2016 and from 2014 to 2020.

Implications of the August 2016 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Wheat

	Receipts	Payments	NCFI	Reserve 2020	Net Worth 2020	CRNW
	($1,000)	($1,000)	($1,000)	($1,000)	($1,000)	(%)
WAW2000	770.84	36.31	274.57	552.71	2,375.08	4.26
WAW8000	3,295.40	137.92	430.89	(1,318.23)	8,411.70	0.33
WAAW4500	413.18	29.48	(29.56)	(1,018.85)	950.82	(7.15)
ORW4100	412.95	45.16	99.83	(161.06)	1,395.93	(0.56)
MTW7000	1,133.87	143.37	485.47	978.07	6,083.27	3.40
KSCW2000	472.74	22.26	73.99	(606.95)	1,726.69	(2.03)
KSCW5300	1,085.31	60.19	331.53	566.54	4,870.18	2.86
KSNW4000	803.14	74.91	130.28	(742.80)	3,318.38	(0.74)
KSNW5980	1,373.80	107.44	5.79	(2,442.50)	6,145.60	(2.87)
COW3000	364.51	32.01	99.98	(176.61)	3,349.88	(0.59)
COW5640	709.35	65.95	79.87	(1,138.11)	2,583.77	(2.37)

1 Receipts are average annual total cash receipts including government payments, 2016-2020 ($1,000)

2 Payments are average annual total government payments, 2016-2020 ($1,000)

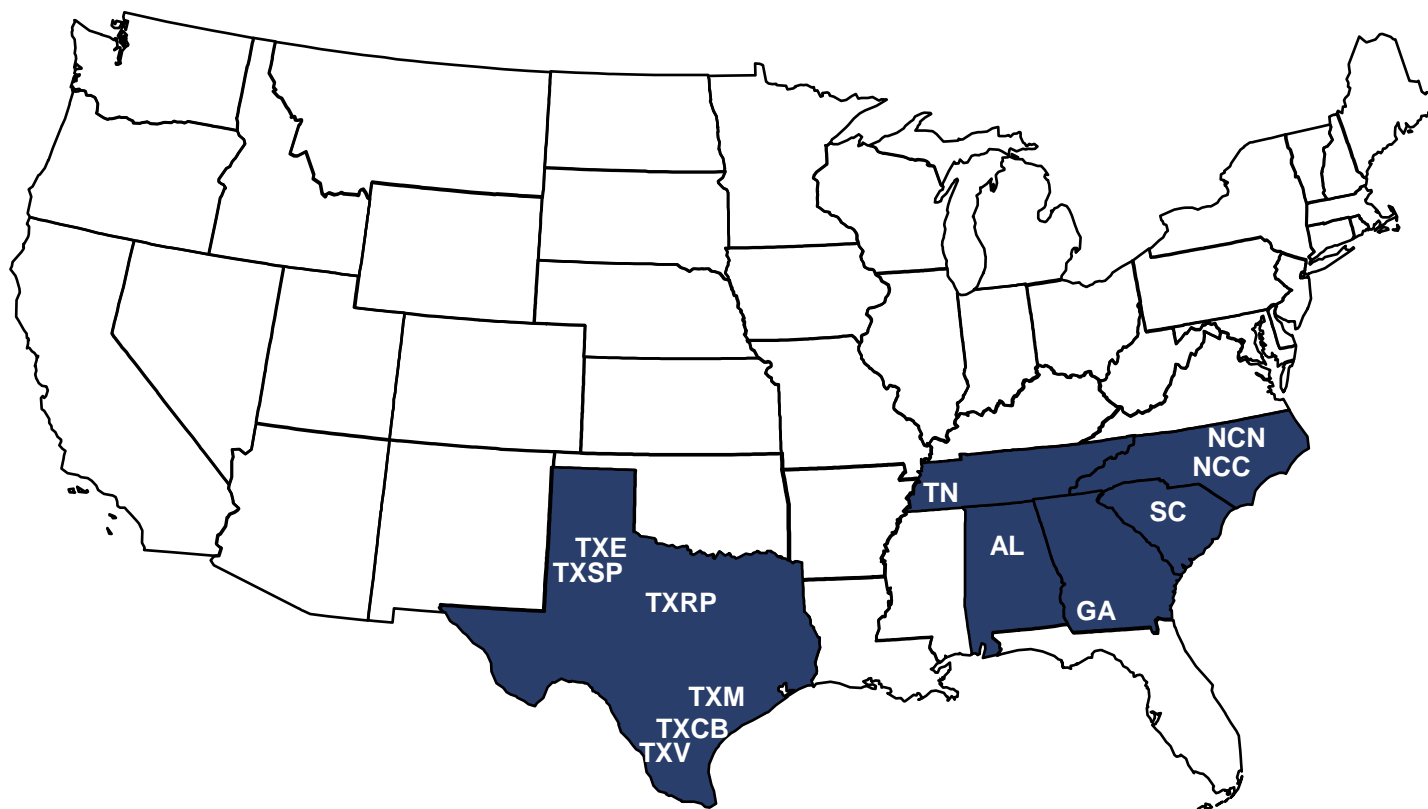3 NCFI is average annual net cash farm income, 2016-2020 ($1,000)

4 Reserve 2020 is average ending cash reserves, 2020 ($1,000)

5 Net Worth 2020 is average nominal ending net worth, 2020 ($1,000)

6 CRNW is average percentage change in real net worth over 2016-2020 period, (%)

Representative Farm: Cotton

- Four of the fifteen cotton farms are characterized in good overall financial condition over the 2016-2020 period, three are in marginal condition, and eight are in poor condition.

- Nine of the farms are projected to experience severe cash flow problems (having a greater than 50 percent chance of a cash flow deficit); eight of those farms are also expected to have a greater than 50 percent chance of losing real equity over the period.

Characteristics of Panel Farms Producing Cotton, 2015.

	Cropland	Assets	Debt/Asset	Gross Receipts	Cotton
	(acres)	($1,000)	(ratio)	($1,000)	(acres)
TXSP2500	2,500	1,228.00	0.27	876.60	1,298
TXSP4500	4,500	3,011.00	0.26	1,955.80	4,047
TXEC5000	5,000	4,105.00	0.28	1,972.90	4,150
TXRP2500	2,500	1,252.00	0.29	445.60	1,000
TXMC1800	1,800	1,582.00	0.30	677.40	810
TXCB3000	3,000	2,499.00	0.18	1,268.20	1,350
TXCB9200	9,200	5,487.00	0.24	4,326.50	3,680
TXVC4500	4,500	6,072.00	0.15	1,841.20	1,395
TNC2500	2,500	2,030.00	0.10	1,309.80	250
TNC4050	4,050	6,795.00	0.28	2,453.00	2,025
ALC3000	3,000	2,315.00	0.57	1,508.50	1,050
GAC2300	2,300	9,969.00	0.27	2,430.30	1,200
SCC1800	1,800	4,175.00	0.31	1,324.30	900
NCC1700	1,700	2,673.00	0.30	950.30	225
NCNP1500	1,500	3,539.00	0.37	949.80	375

Representative Farm: Cotton

Economic Viability of Representative Farms over the 2016-2020 Period

Farm Name	Overall Ranking		P(Negative Ending Cash)	P(Real Net Worth Declines)
4/3/8	2016	2020	2016-2020	2016-2020
TXSP2500			28-29	16-11
TXSP4500			21-20	7-6
TXEC5000			55-26	2-1
TXRP2500			99-99	99-99
TXMC1800			94-90	87-84
TXCB3000			28-34	19-19
TXCB9200			78-78	70-73
TXVC4500			24-9	9-5
TNC2500			3-2	1-2
TNC4050			98-89	81-65
ALC3000			99-99	99-99
GAC2300			98-91	97-74
SCC1800			91-76	64-44
NCC1700			99-98	97-94
NCNP1500			99-99	99-99

1 Viability is classified as good (green), moderate (yellow), and poor (red) based on the probabilities:

<25	25-50	>50

2 P(NegativeEnding Cash) is the probability that the farm will have a cash flow deficit. Reported values represent the probabilities for 2016 and 2020.

3 P(Real Net Worth Decline) is the probability that the farm will have a loss in real net worth relative to the beginning net worth. Reported values represent the probabilities for losing real net worth from 2014 to 2016 and from 2014 to 2020.

Implications of the August 2016 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Cotton

	Receipts	Payments	NCFI	Reserve 2020	Net Worth 2020	CRNW
	($1,000)	($1,000)	($1,000)	($1,000)	($1,000)	(%)
TXSP2500	911.50	192.07	251.46	234.06	1,431.59	6.66
TXSP4500	1,965.43	152.21	476.71	685.22	3,248.22	5.22
TXEC5000	2,203.14	161.28	473.49	321.80	3,926.30	3.32
TXRP2500	414.34	42.41	39.33	(406.60)	621.48	(5.54)
TXMC1800	924.67	93.20	82.81	(483.78)	854.75	(3.72)
TXCB3000	1,124.91	134.12	194.27	176.46	2,093.79	1.23
TXCB9200	3,840.87	377.83	276.42	(1,366.04)	3,051.47	(3.64)
TXVC4500	1,977.99	210.47	411.42	801.83	5,890.60	2.08
TNC2500	1,367.10	50.10	325.55	961.21	2,631.55	6.23
TNC4050	2,612.52	194.78	201.87	(897.08)	4,913.50	0.00
ALC3000	1,569.96	104.39	(43.21)	(2,611.36)	(497.08)	(41.52)
GAC2300	2,536.54	377.85	321.52	(727.17)	7,571.94	0.42
SCC1800	1,408.55	165.62	203.78	(411.37)	3,095.45	0.97
NCC1700	995.15	34.43	84.00	(837.90)	1,420.79	(3.98)
NCNP1500	1,009.94	137.44	13.36	(1,833.40)	1,329.56	(7.30)

1 Receipts are average annual total cash receipts including government payments, 2016-2020 ($1,000)

2 Payments are average annual total government payments, 2016-2020 ($1,000)

3 NCFI is average annual net cash farm income, 2016-2020 ($1,000)

4 Reserve 2020 is average ending cash reserves, 2020 ($1,000)

5 Net Worth 2020 is average nominal ending net worth, 2020 ($1,000)

6 CRNW is average percentage change in real net worth over 2016-2020 period, (%)

Representative Farm: Rice

- Four of the fifteen representative rice farms are projected to be in good overall financial condition, two are in marginal condition, and nine are in poor condition.

- Nine of the rice farms are expected to face severe cash flow problems; eight of those farms also have high likelihoods of losing real equity.

Characteristics of Panel Farms Producing Rice, 2015.

| | Cropland | Assets | Debt/Asset | Gross Receipts | Rice |
	(acres)	($1,000)	(ratio)	($1,000)	(acres)
CAR550	550	3,592.00	0.23	790.00	500
CAR3000	3,000	12,176.00	0.20	4,759.10	3,000
CABR1300	1,300	8,479.00	0.18	2,002.20	1,200
CACR800	800	5,421.00	0.15	1,322.00	800
TXR1500	1,500	2,319.00	0.18	865.80	600
TXR3000	3,000	1,511.00	0.13	1,874.40	1,500
TXBR1800	1,800	1,134.00	0.18	1,013.70	1,200
TXER3200	3,200	2,651.00	0.34	1,361.90	1,067
LASR2000	2,000	2,416.00	0.37	1,356.10	1,000
ARMR6500	6,500	11,526.00	0.53	3,573.50	325
ARSR3240	3,240	5,696.00	0.30	1,987.20	1,296
ARWR2500	2,500	7,591.00	0.23	1,689.50	1,250
ARHR4000	4,000	8,896.00	0.19	2,732.00	2,400
MSDR5000	5,000	17,987.00	0.18	3,354.80	1,667
MOBR4000	4,000	10,104.00	0.30	2,131.90	1,320

Representative Farm: Rice

Economic Viability of Representative Farms over the 2016-2020 Period

Farm Name	Overall Ranking		P(Negative Ending Cash)	P(Real Net Worth Declines)
4/2/9	2016	2020	2016-2020	2016-2020
CAR550			99-99	99-99
CAR3000			74-64	42-33
CABR1300			2-1	1-1
CACR800			26-13	34-22
TXR1500			44-33	16-4
TXR3000			20-40	23-19
TXBR1800			1-1	1-1
TXER3200			99-99	98-99
LASR2000			96-89	77-52
ARMR6500			99-99	99-99
ARSR3240			99-93	97-87
ARWR2500			99-99	85-76
ARHR4000			93-90	67-81
MSDR5000			22-35	3-4
MOBR4000			99-99	99-99

1 Viability is classified as good (green), moderate (yellow), and poor (red) based on the probabilities:

< 25	25-50	>50

2 P(NegativeEnding Cash) is the probability that the farm will have a cash flow deficit. Reported values represent the probabilities for 2016 and 2020.

3 P(Real Net Worth Decline) is the probability that the farm will have a loss in real net worth relative to the beginning net worth. Reported values represent the probabilities for losing real net worth from 2014 to 2016 and from 2014 to 2020.

Implications of the August 2016 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Rice

	Receipts	Payments	NCFI	Reserve 2020	Net Worth 2020	CRNW
	($1,000)	($1,000)	($1,000)	($1,000)	($1,000)	(%)
CAR550	754.27	69.72	68.29	(879.24)	2,176.24	(3.61)
CAR3000	4,440.88	346.34	406.53	(633.41)	9,513.63	0.10
CABR1300	1,912.33	167.48	555.57	1,570.07	8,124.51	2.79
CACR800	1,238.03	110.77	203.22	99.79	4,552.92	0.10
TXR1500	829.15	119.94	204.06	63.13	2,079.10	1.97
TXR3000	1,652.27	196.02	247.43	94.88	1,300.69	3.03
TXBR1800	996.90	131.15	280.64	1,010.21	1,622.28	12.25
TXER3200	1,647.86	189.43	27.24	(1,129.51)	1,092.55	(7.14)
LASR2000	1,271.76	142.99	169.38	(443.17)	1,516.34	1.73
ARMR6500	3,889.35	283.01	(879.62)	(11,917.63)	(1,959.24)	(31.49)
ARSR3240	1,975.82	189.57	212.79	(1,135.26)	3,503.66	(1.47)
ARWR2500	1,638.30	184.83	211.31	(1,277.31)	5,620.15	(0.40)
ARHR4000	2,704.28	300.78	282.54	(932.04)	6,863.66	(1.36)
MSDR5000	3,477.40	228.59	957.72	491.01	16,213.21	1.49
MOBR4000	2,333.49	177.49	127.19	(3,158.54)	5,814.36	(3.05)

1 Receipts are average annual total cash receipts including government payments, 2016-2020 ($1,000)

2 Payments are average annual total government payments, 2016-2020 ($1,000)

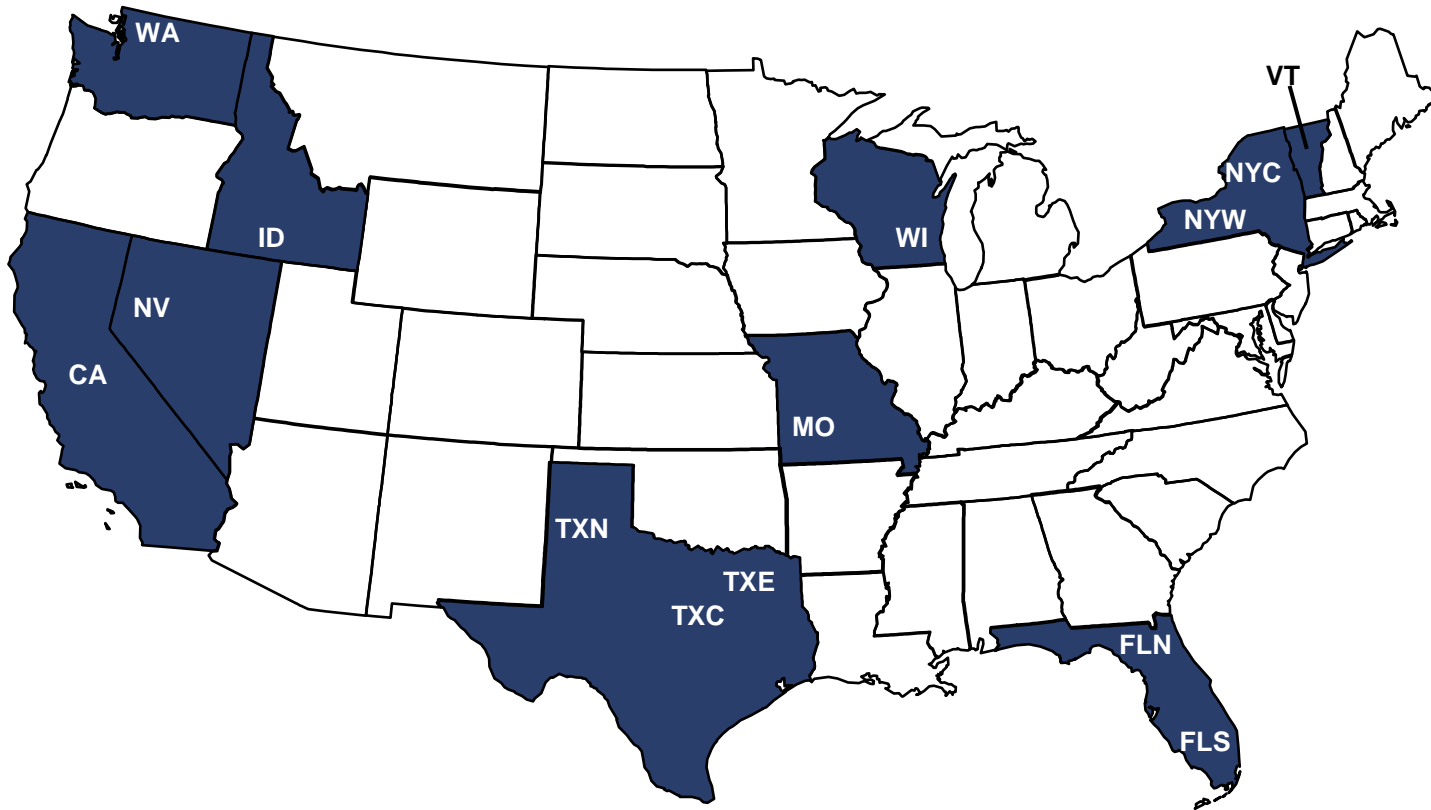3 NCFI is average annual net cash farm income, 2016-2020 ($1,000)

4 Reserve 2020 is average ending cash reserves, 2020 ($1,000)

5 Net Worth 2020 is average nominal ending net worth, 2020 ($1,000)

6 CRNW is average percentage change in real net worth over 2016-2020 period, (%)

Representative Farm: Dairy

- Eleven of the twenty dairy operations are in good overall financial condition. Five dairies are classified in marginal condition, and four are in poor condition.

- Four of the dairies are projected to experience both severe liquidity pressure and a greater than 50 percent chance of losing real equity.

Characteristics of Panel Farms Producing Milk, 2015.

	Cropland	Assets	Debt/Asset	Gross Receipts	Cows
	(acres)	($1,000)	(ratio)	($1,000)	(number)
CAD2000	1,200	27,010.00	0.21	9,360.50	2,000
WAD300	250	4,387.00	0.13	1,192.20	300
WAD850	605	12,385.00	0.20	4,309.20	850
IDD3000	1,500	34,139.00	0.17	14,780.40	3,000
NVD1000	200	8,997.00	0.16	5,066.10	1,000
TXND3800	1,920	33,611.00	0.22	17,612.80	3,800
TXCD1500	616	10,839.00	0.17	6,538.80	1,500
TXED400	950	3,227.00	0.22	1,233.70	400
WID145	600	3,696.00	0.25	841.40	145
WID1000	2,000	12,781.00	0.21	5,845.40	1,000
NYWD500	1,000	6,515.00	0.18	2,793.30	500
NYWD1200	2,100	17,025.00	0.20	6,340.80	1,200
NYCD180	400	3,999.00	0.22	863.80	180
NYCD675	1,500	13,284.00	0.17	3,424.20	675
VTD160	260	2,070.00	0.24	740.80	160
VTD400	1,000	6,924.00	0.23	2,343.50	400
MOGD550	0	3,987.00	0.19	1,495.60	550
MOGD180	0	1,324.00	0.19	542.00	180
FLND550	600	4,678.00	0.18	2,806.90	550
FLSD1750	400	14,177.00	0.17	8,630.60	1,750

Representative Farm: Dairy

Economic Viability of Representative Farms over the 2016-2020 Period

Farm Name	Overall Ranking		P(Negative Ending Cash)	P(Real Net Worth Declines)
11/5/4	2016	2020	2016-2020	2016-2020
CAD2000			1-4	1-2
WAD300			25-69	62-77
WAD850			7-3	1-1
IDD3000			25-43	10-26
NVD1000			1-1	1-1
TXND3800			1-23	3-17
TXCD1500			53-64	15-51
TXED400			98-98	93-97
WID145			49-44	1-6
WID1000			11-5	3-3
NYWD500			1-1	1-1
NYWD1200			1-1	1-1
NYCD180			17-27	1-1
NYCD675			1-1	1-1
VTD160			99-99	98-99
VTD400			8-11	1-2
MOGD550			1-1	1-1
MOGD180			1-1	1-1
FLND550			18-29	3-13
FLSD1750			25-35	10-29

1 Viability is classified as good (green), moderate (yellow), and poor (red) based on the probabilities:

<25	25-50	>50

2 P(NegativeEnding Cash) is the probability that the farm will have a cash flow deficit. Reported values represent the probabilities for 2016 and 2020.

3 P(Real Net Worth Decline) is the probability that the farm will have a loss in real net worth relative to the beginning net worth. Reported values represent the probabilities for losing real net worth from 2014 to 2016 and from 2014 to 2020.

Implications of the August 2016 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Milk

	Receipts	Payments	NCFI	Reserve 2020	Net Worth 2020	CRNW
	($1,000)	($1,000)	($1,000)	($1,000)	($1,000)	(%)
CAD2000	9,731.15	0.65	1,539.19	3,594.66	22,885.91	2.06
WAD300	1,240.93	3.28	75.34	(235.36)	3,361.18	(1.55)
WAD850	4,501.88	2.38	877.72	2,515.88	11,375.25	3.55
IDD3000	14,535.26	0.69	1,167.93	883.03	26,751.98	0.11
NVD1000	5,037.96	0.00	752.40	2,458.42	8,242.11	2.97
TXND3800	17,721.95	0.49	1,765.81	2,954.08	25,475.34	0.69
TXCD1500	6,600.04	0.00	221.40	(777.41)	7,050.73	(2.50)
TXED400	1,215.55	0.00	(23.19)	(916.75)	1,420.48	(6.10)
WID145	835.10	2.92	203.83	40.79	2,793.21	0.71
WID1000	5,888.42	9.40	951.48	2,653.13	11,267.46	3.50
NYWD500	2,886.80	8.08	819.17	3,267.10	7,332.53	6.75
NYWD1200	6,543.10	1.70	1,425.93	5,237.61	16,479.59	4.08
NYCD180	882.95	0.00	198.84	99.74	3,179.52	0.47
NYCD675	3,522.01	0.00	933.76	2,276.95	12,708.54	2.83
VTD160	773.69	0.28	31.88	(528.69)	1,056.82	(4.26)
VTD400	2,408.46	1.32	405.32	551.17	5,370.24	1.85
MOGD550	1,500.85	0.00	645.77	1,865.27	4,605.69	7.59
MOGD180	548.04	0.00	206.38	452.89	1,366.19	5.71
FLND550	2,786.53	0.00	297.89	375.84	3,765.77	1.03
FLSD1750	8,614.65	0.00	484.23	856.17	10,850.74	(0.12)

1 Receipts are average annual total cash receipts including government payments, 2016-2020 ($1,000)

2 Payments are average annual total government payments, 2016-2020 ($1,000)

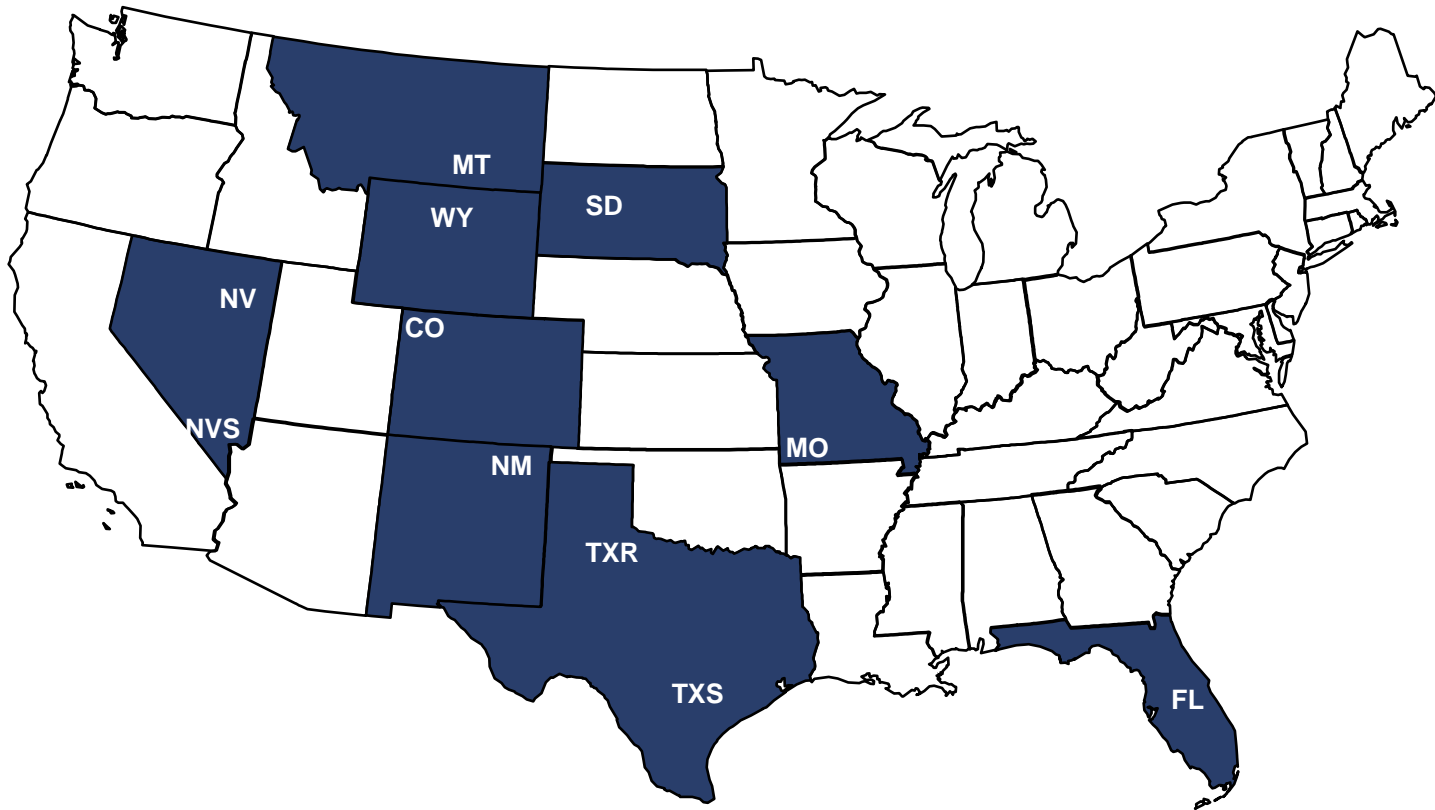3 NCFI is average annual net cash farm income, 2016-2020 ($1,000)

4 Reserve 2020 is average ending cash reserves, 2020 ($1,000)

5 Net Worth 2020 is average nominal ending net worth, 2020 ($1,000)

6 CRNW is average percentage change in real net worth over 2016-2020 period, (%)

Representative Farm: Cow/Calf

- Two of eleven cow-calf operations are projected to be in good overall financial condition, six are in marginal condition, and three are in poor condition.

- Only three of the operations will face significant liquidity pressure over the period; however, nine of the operations face a severe threat of losing real equity.

Characteristics of Panel Farms Producing Beef Cattle, 2015.

	Cropland	Assets	Debt/Asset	Gross Receipts	Cows
	(acres)	($1,000)	(ratio)	($1,000)	(number)
NVB650	1,300	8,671.00	0.02	812.60	650
NVSB550	125	3,157.00	0.05	737.80	550
MTB600	0	8,820.00	0.02	676.30	600
WYB475	330	3,327.00	0.05	618.60	475
COB275	650	14,907.00	0.02	406.70	275
NMB240	0	7,738.00	0.01	345.60	240
SDB375	1,150	8,381.00	0.01	456.90	375
MOB250	280	3,463.00	0.03	469.50	250
TXRB400	0	9,265.00	0.01	643.10	400
TXSB275	0	5,479.00	0.02	350.60	275
FLB1155	5,400	26,548.00	0.01	1,194.90	1,155

Representative Farm: Cow/Calf

Economic Viability of Representative Farms over the 2016-2020 Period

Farm Name	Overall Ranking		P(Negative Ending Cash)	P(Real Net Worth Declines)
2/6/3	2016	2020	2016-2020	2016-2020
NVB650			1-1	97-99
NVSB550			1-1	2-1
MTB600			1-7	46-99
WYB475			1-99	93-99
COB275			1-1	99-99
NMB240			1-2	17-99
SDB375			1-73	25-99
MOB250			1-1	4-17
TXRB400			1-3	39-99
TXSB275			35-99	86-99
FLB1155			1-1	5-91

1 Viability is classified as good (green), moderate (yellow), and poor (red) based on the probabilities:

<25	25-50	>50

2 P(NegativeEnding Cash) is the probability that the farm will have a cash flow deficit. Reported values represent the probabilities for 2016 and 2020.

3 P(Real Net Worth Decline) is the probability that the farm will have a loss in real net worth relative to the beginning net worth. Reported values represent the probabilities for losing real net worth from 2014 to 2016 and from 2014 to 2020.

Implications of the August 2016 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Beef Cattle

	Receipts	Payments	NCFI	Reserve 2020	Net Worth 2020	CRNW
	($1,000)	($1,000)	($1,000)	($1,000)	($1,000)	(%)
NVB650	571.28	0.00	169.77	503.03	7,911.50	(0.76)
NVSB550	529.65	0.00	217.11	820.71	2,938.97	0.91
MTB600	432.04	0.00	91.82	130.35	7,839.36	(1.25)
WYB475	433.78	0.00	23.25	(290.51)	2,179.50	(4.63)
COB275	251.69	0.00	73.17	202.97	13,995.92	(0.83)
NMB240	243.33	0.00	106.17	100.51	7,180.26	(1.00)
SDB375	296.48	0.00	81.74	(37.43)	7,594.45	(1.15)
MOB250	359.45	6.76	176.35	388.07	3,258.64	(0.15)
TXRB400	436.66	0.00	105.21	135.79	8,447.99	(1.11)
TXSB275	242.79	0.00	51.87	(190.05)	4,836.60	(1.50)
FLB1155	811.23	0.00	265.09	1,087.61	25,428.53	(0.52)

1 Receipts are average annual total cash receipts including government payments, 2016-2020 ($1,000)

2 Payments are average annual total government payments, 2016-2020 ($1,000)

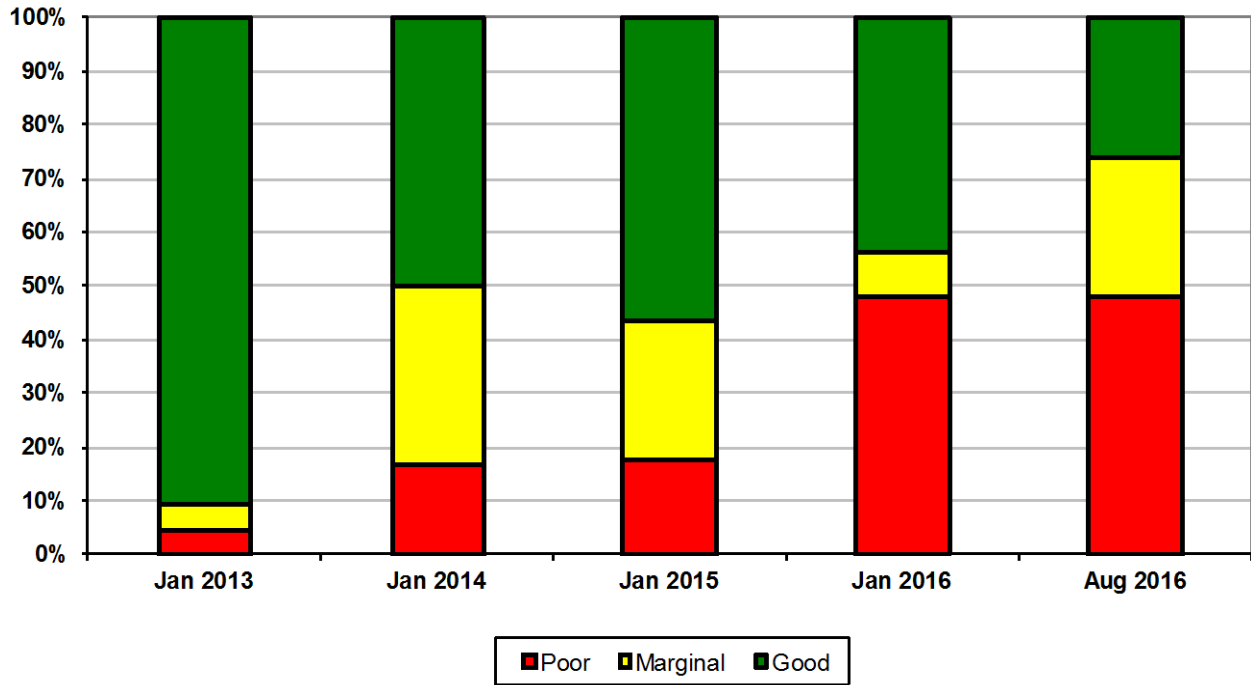3 NCFI is average annual net cash farm income, 2016-2020 ($1,000)

4 Reserve 2020 is average ending cash reserves, 2020 ($1,000)

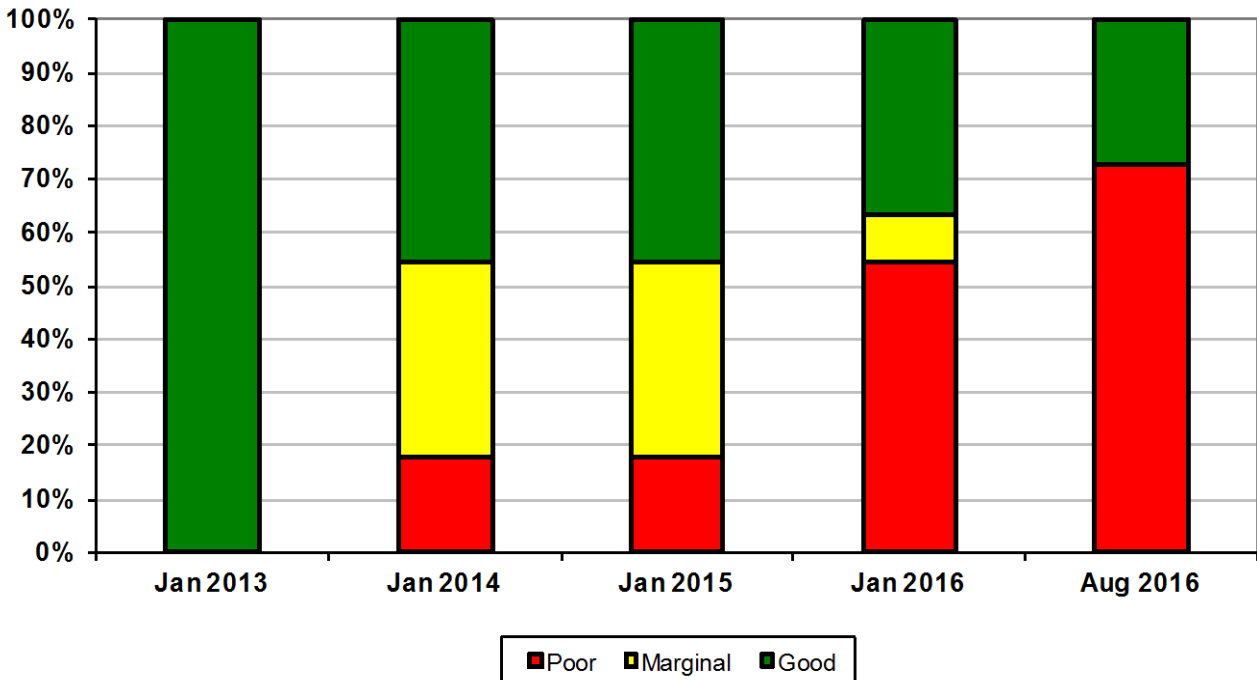5 Net Worth 2020 is average nominal ending net worth, 2020 ($1,000)

6 CRNW is average percentage change in real net worth over 2016-2020 period, (%)

Comparison of Projected Overall Economic Viability of AFPC Representative Farms, Dairies, and Ranches Between Previous January Baselines and the August 2016 FAPRI/AFPC Baseline
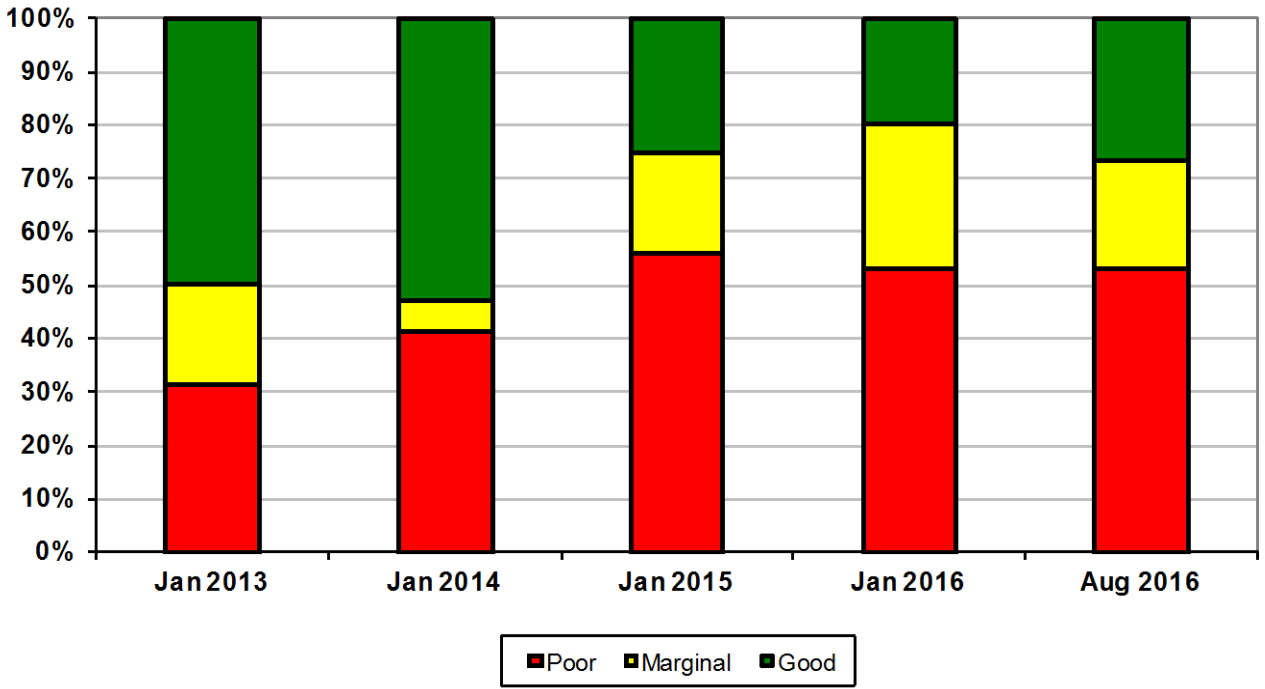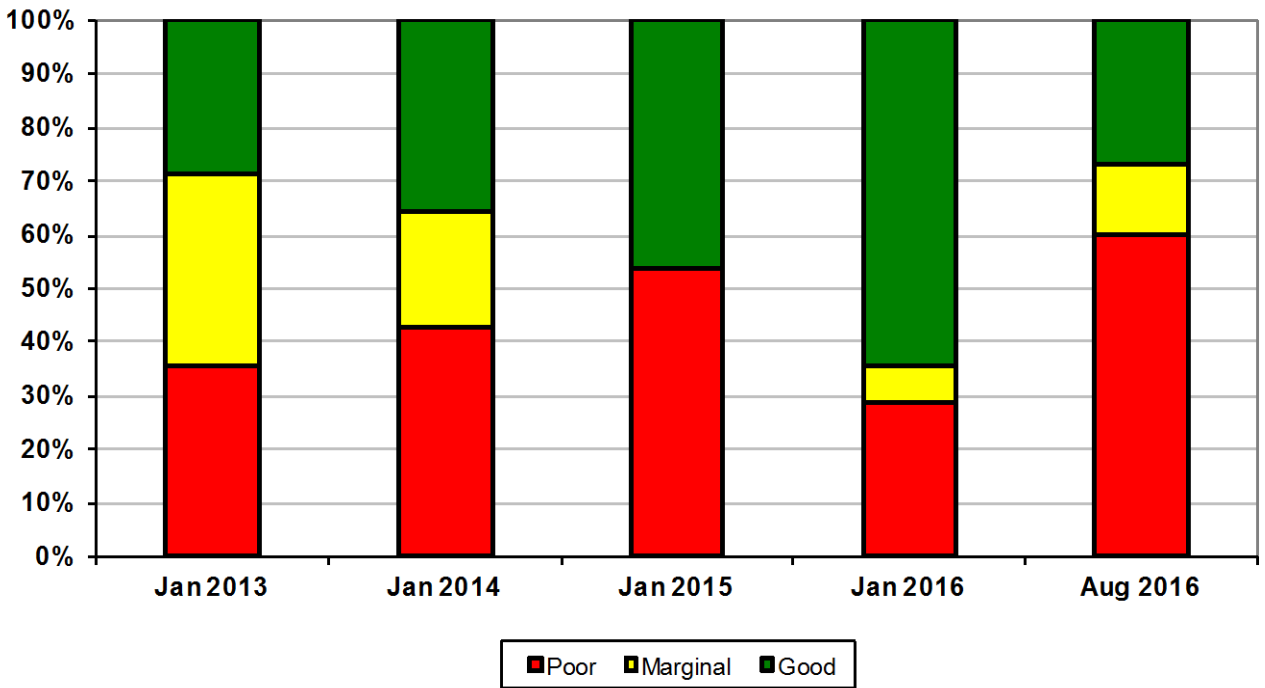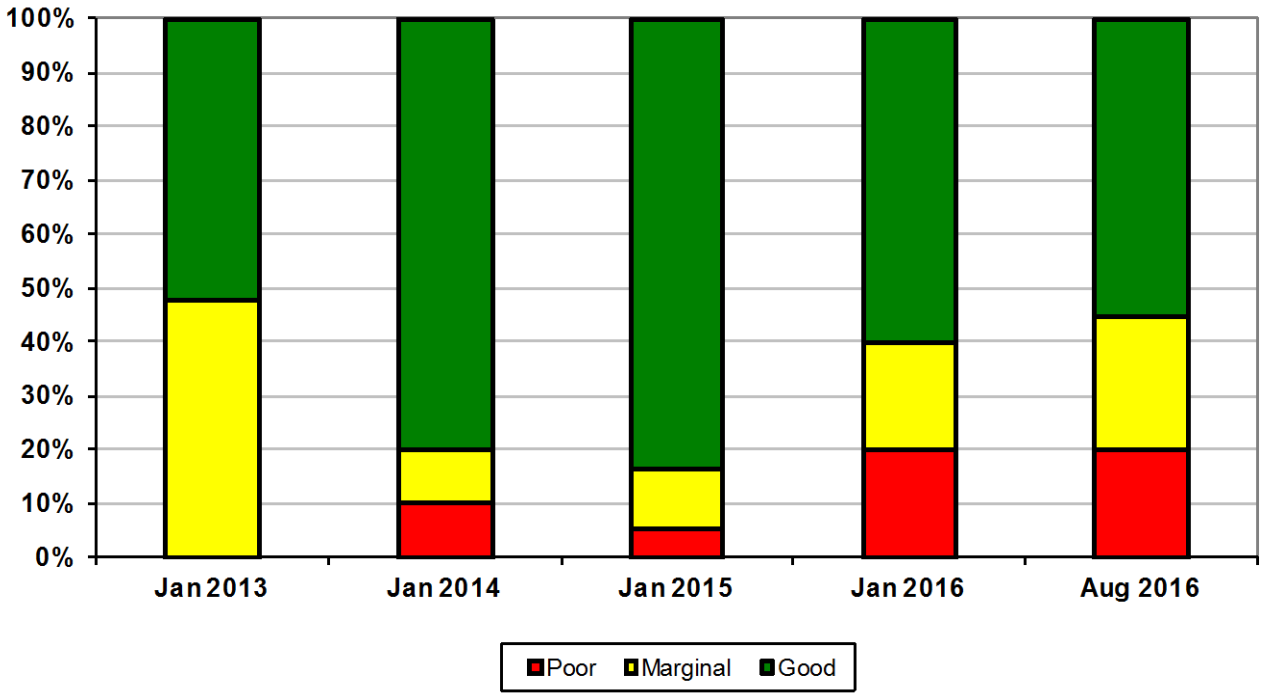
Feedgrain Farms

Legend: ■Poor ■Marginal ■Good

Wheat Farms

Legend: ■Poor ■Marginal ■Good

Cotton Farms

	Jan 2013	Jan 2014	Jan 2015	Jan 2016	Aug 2016

Legend: Poor (red), Marginal (yellow), Good (green)

Rice Farms

	Jan 2013	Jan 2014	Jan 2015	Jan 2016	Aug 2016

Legend: Poor (red), Marginal (yellow), Good (green)

Dairies

Ranches

AFPC Briefing Series

The briefing series is designed to facilitate presentation by AFPC related to requests for specific policy impact analyses. The materials included in this package are intended only as visual support for an oral presentation. The user is cautioned against drawing extraneous conclusions from the material. In most instances, an AFPC Working Paper will follow the briefing series. AFPC welcomes comments and discussions of these results and their implications. Address such comments to:

Agricultural and Food Policy Center
Department of Agricultural Economics
Texas A&M University
College Station, TX 77843-2124

or call 979-845-5913.