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Research Report

Representative Farms Economic Outlook for the January 2018 FAPRI/AFPC Baseline

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Representative Farms Economic Outlook for the January 2018 FAPRI/AFPC Baseline

Briefing Paper 18-1

March 2018



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**REPRESENTATIVE FARMS ECONOMIC
OUTLOOK FOR THE JANUARY 2018
FAPRI/AFPC BASELINE**

AFPC Briefing Paper 18-1

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EXECUTIVE SUMMARY

The Agricultural and Food Policy Center (AFPC) at Texas A&M University develops and maintains data to simulate 94 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 2018 through 2023. The data necessary to simulate the economic activity of these operations are cultivated 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 preliminary baseline.

Under the January 2018 Baseline, 22 of the 63 crop farms are in good liquidity condition (less than a 25 percent chance of negative ending cash by 2023). Five crop farms have between a 25 percent and a 50 percent likelihood of negative ending cash, and the remaining 36 crop farms have greater than a 50 percent chance of negative ending cash. Additionally, 36 of the 63 crop farms are in good equity position (less than a 25 percent chance of decreasing real net worth during the study period). Four crop farms have between a 25 percent and 50 percent likelihood of losing real net worth, and 23 crop farms have greater than a 50 percent probability of decreasing real net worth by 2023. The following discussion provides an overall evaluation by commodity considering both liquidity and equity measures.

- **FEEDGRAIN FARMS:** Eleven of the 23 feedgrain farms are in good overall financial condition. Five farms are classified in marginal condition, and seven are in poor condition.
- **WHEAT FARMS:** Four representative wheat farms are classified in good overall financial condition, four are in marginal condition, and three are in poor condition.
- **COTTON FARMS:** Seven of the 14 cotton farms are classified in good condition, one is in marginal condition, and six are in poor condition.
- **RICE FARMS:** None of the 15 rice farms are projected to be in good financial condition. Four rice farms are projected to be in marginal condition; eleven are in poor condition.
- **DAIRY FARMS:** Thirteen of the 20 dairies are in good overall financial condition. Two dairies are classified in marginal condition, and five are in poor condition.
- **BEEF CATTLE RANCHES:** Two of the 11 cattle ranches are classified in good financial condition, two are in marginal condition, and seven are projected to be in poor condition.

REPRESENTATIVE FARMS ECONOMIC OUTLOOK FOR THE JANUARY 2018 FAPRI/AFPC BASELINE

The farm level economic impacts of the FAPRI January 2018 Baseline on representative crop and livestock operations are projected in this report, assuming provisions of the 2014 Farm Bill continue throughout the 2018-2023 study period. Crop farms elected either ARC-CO or PLC for covered commodities based on the prevailing elections made by panel members on each of our representative farms. Farms were assumed to be allowed to change their ARC/PLC program election beginning with the 2019 crop year. Additionally, eligible farms are assumed to enroll seed cotton base acres in PLC beginning with the 2018 crop. Seed cotton assumptions are based on AFPC interpretation of provisions set forth in the supplemental disaster spending bill signed into law in February 2018. The analysis was conducted using whole farm simulation models developed by AFPC with necessary data sourced from:

- Producer panel cooperation to develop economic information to describe and simulate representative crop, livestock, and dairy farms, and
- Projected prices, policy variables, and input inflation rates from the Food and Agricultural Policy Research Institute (FAPRI) January 2018 Baseline.

The simulations incorporate historical risk faced by farmers for prices and production. This report presents the results of the January 2018 Baseline in a risk context using selected simulated probabilities and ranges for annual financial measures. 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 2023.

DEFINITIONS OF VARIABLES IN THE SUMMARY TABLES

- **Overall Financial Position, 2018-2023** -- 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 2023. 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** -- 2018-2023 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** -- 2018-2023 average annual PLC or ARC payments and marketing loan gains/LDPs for crop farms.
- **NCFI** -- 2018-2023 average net cash farm income equals average total receipts minus average total cash expenses.
- **Reserve 2023** -- equals total cash on hand at the end of year 2023. 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 2023** -- equity equals total assets including land minus total debt from all sources and is reported at the end of 2023.
- **CRNW** -- annualized percentage change in the operator's real net worth from January 1, 2018 through December 31, 2023, after adjusting for inflation.

Table 1. FAPRI January 2018 Baseline Projections of Crop and Livestock Prices, 2016-2023.

	2016	2017	2018	2019	2020	2021	2022	2023
Crop Prices								
Corn (\$/bu.)	3.36	3.23	3.55	3.76	3.77	3.76	3.73	3.68
Wheat (\$/bu.)	3.89	4.68	4.86	4.89	4.98	4.99	4.98	4.93
Cotton (\$/lb.)	0.6800	0.6883	0.6392	0.7014	0.6984	0.6978	0.7033	0.7018
Sorghum (\$/bu.)	2.79	3.05	3.39	3.47	3.46	3.46	3.44	3.43
Soybeans (\$/bu.)	9.47	9.22	9.30	9.63	9.68	9.63	9.50	9.44
Barley (\$/bu.)	4.96	4.53	4.93	5.05	4.95	4.92	4.89	4.80
Oats (\$/bu.)	2.06	2.48	2.40	2.41	2.40	2.41	2.40	2.38
Rice (\$/cwt.)	10.40	12.31	11.58	11.51	11.46	11.48	11.43	11.49
Soybean Meal (\$/ton)	302.24	296.29	301.75	315.68	314.95	316.75	314.47	311.42
All Hay (\$/ton)	129.00	139.33	151.78	156.78	158.66	158.22	157.53	156.90
Peanuts (\$/ton)	394.00	426.46	363.42	365.33	378.44	385.07	385.93	386.58
Cattle Prices								
Feeder Cattle (\$/cwt)	153.44	155.69	147.63	143.65	139.41	143.95	151.77	161.17
Fed Cattle (\$/cwt)	120.86	121.52	115.15	112.87	110.39	111.68	115.50	119.92
Culled Cows (\$/cwt)	71.45	66.95	64.97	64.02	62.27	63.30	66.45	70.14
Milk Price								
U.S. All Milk Price (\$/cwt)	16.34	17.73	16.11	16.58	17.31	17.74	18.20	18.42

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

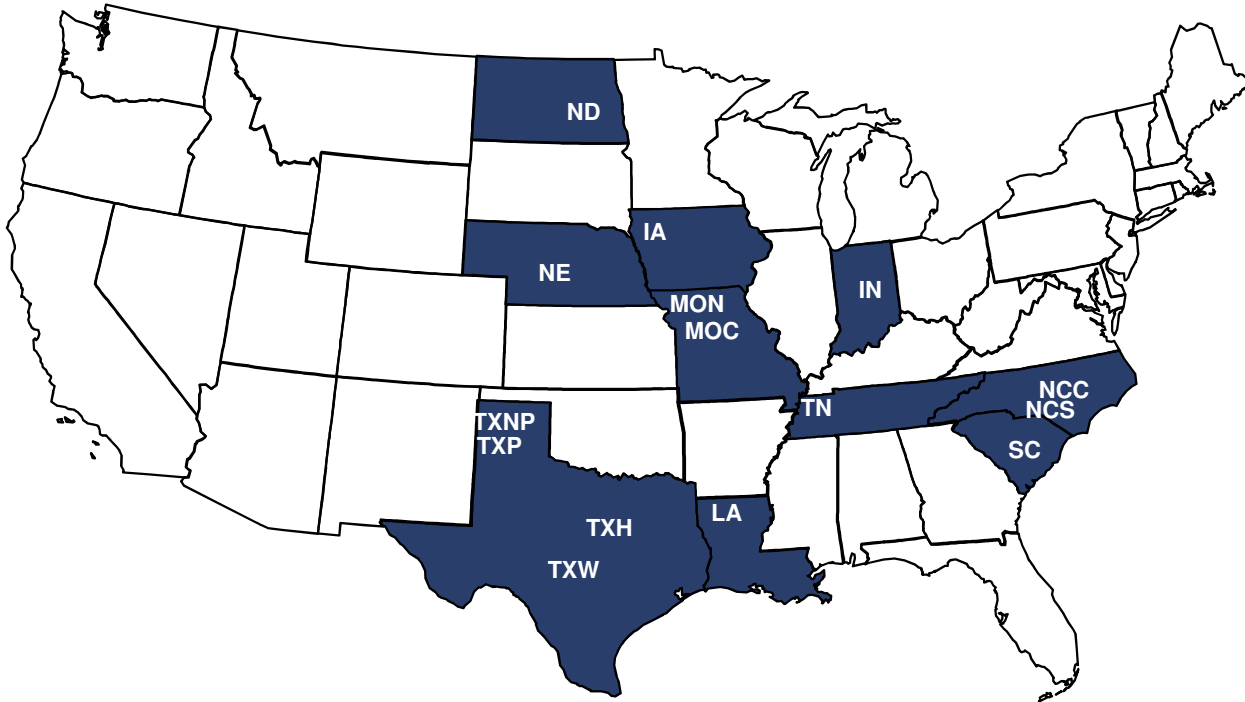
Table 2. FAPRI January 2018 Baseline Assumed Rates of Change in Input Prices and Annual Changes in Land Values, 2017-2023.

	2017	2018	2019	2020	2021	2022	2023
Annual Rate of Change for Input Prices Paid							
Seed Prices (%)	-0.81	-1.21	0.31	1.56	1.82	1.47	1.20
All Fertilizer Prices (%)	-4.54	-1.31	1.79	6.13	1.61	0.31	1.43
Herbicide Prices (%)	-0.26	-0.39	3.26	4.90	3.49	3.55	3.44
Insecticide Prices (%)	-1.29	-0.71	2.83	4.10	2.78	2.58	2.47
Fuel and Lube Prices (%)	18.45	-0.45	2.03	11.82	7.23	6.34	5.20
Machinery Prices (%)	2.15	1.71	3.39	3.61	3.11	2.74	2.65
Wages (%)	2.74	2.78	3.14	3.46	3.50	3.46	3.41
Supplies (%)	1.11	1.70	1.62	1.78	1.72	1.81	1.88
Repairs (%)	1.83	2.37	2.38	2.52	2.47	2.60	2.63
Services (%)	2.66	2.33	3.08	3.36	3.24	3.08	3.03
Taxes (%)	0.00	2.43	3.71	1.84	0.83	1.72	2.80
PPI Items (%)	1.25	0.20	1.50	2.07	2.13	2.15	2.11
PPI Total (%)	1.54	0.63	1.85	2.24	2.22	2.25	2.25
Annual Change in Consumer Price Index (%)	2.13	1.67	1.95	2.83	2.61	2.40	2.44
Annual Rate of Change for U.S. Land Prices (%)	-0.48	-1.01	-2.18	-1.07	-0.10	0.06	0.09

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

Representative Farm: Feed Grains

- Overall, eleven feed grain farms are characterized as good, five are marginal, and seven are in poor condition.
- Eleven of the twenty-three farms will be under severe cash flow stress; seven of these farms also have high likelihoods (greater than a 50 percent chance) of losing real net worth.



Characteristics of Panel Farms Producing Feed Grains, 2017.

	Cropland (acres)	Assets (\$1,000)	Debt/Asset (ratio)	Gross Receipts (\$1,000)	Feed Grains (acres)
IAG1350	1,350	3,299.00	0.32	850.10	1,350
IAG3400	3,400	11,422.00	0.22	1,885.30	3,400
NEG2400	2,400	5,448.00	0.22	1,890.20	2,400
NEG4300	4,300	18,563.00	0.26	3,113.10	4,000
NDG3000	3,000	3,651.00	0.26	1,090.90	2,500
NDG8000	8,000	22,921.00	0.21	3,168.90	6,000
ING1000	1,000	2,579.00	0.19	573.70	1,000
ING3250	3,250	9,579.00	0.21	2,033.40	3,250
MOCG2300	2,300	11,389.00	0.20	1,096.60	2,300
MOCG4200	4,200	14,865.00	0.20	1,956.60	4,200
MONG2300	2,300	10,506.00	0.19	1,447.80	2,250
LANG2500	2,500	3,435.00	0.31	1,675.70	1,625
TNG2500	2,500	3,033.00	0.20	1,187.20	2,500
TNG4500	4,500	8,473.00	0.18	2,789.10	3,375
NCS2000	2,000	3,938.00	0.23	1,353.40	1,600
NCC2030	2,030	2,173.00	0.12	1,196.10	1,700
SCC2000	2,000	3,171.00	0.18	1,486.90	1,250
SCG3500	3,500	5,864.00	0.20	2,758.20	1,800
TXNP3450	3,450	7,892.00	0.18	2,052.30	1,775
TXNP10640	10,640	13,803.00	0.16	6,458.70	6,105
TXPG2500	2,500	5,547.00	0.22	1,744.10	1,183
TXHG2700	2,700	1,654.00	0.33	779.20	1,700
TXWG1600	1,600	1,420.00	0.26	560.70	1,100

Representative Farm: Feed Grains

Economic Viability of Representative Farms over the 2018-2023 Period

Farm Name	Overall Ranking		P(Negative Ending Cash)	P(Real Net Worth Declines)
	2018	2023	2018-2023	2018-2023
11/5/7				
IAG1350			98-99	91-94
IAG3400			86-80	31-3
NEG2400			49-62	37-17
NEG4300			94-95	67-60
NDG3000			87-89	49-52
NDG8000			30-19	1-1
ING1000			31-14	18-1
ING3250			23-20	13-1
MOCG2300			39-40	12-1
MOCG4200			10-1	2-1
MONG2300			9-13	1-1
LANG2500			96-98	57-82
TNG2500			47-59	22-17
TNG4500			11-6	2-1
NCSP2000			96-99	87-96
NCC2030			1-1	1-1
SCC2000			1-1	1-1
SCG3500			6-1	2-1
TXNP3450			1-1	1-1
TXNP10640			1-1	1-1
TXPG2500			26-55	8-4
TXHG2700			97-96	49-69
TXWG1600			91-97	41-50

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

<25	25-50	>50
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2 P(Negative Ending Cash) is the probability that the farm will have a cash flow deficit. Reported values represent the probabilities for 2018 and 2023.

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 2016 to 2018 and from 2016 to 2023.

Implications of the January 2018 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Feed Grains and Oilseeds

	Receipts	Payments	NCFI	Reserve 2023	Net Worth 2023	CRNW
	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(%)
IAG1350	947.76	32.54	(1.30)	(1,372.78)	1,273.25	(7.26)
IAG3400	2,090.71	69.60	473.32	(819.65)	9,372.39	2.80
NEG2400	2,059.90	63.58	302.01	(223.61)	4,400.52	2.64
NEG4300	3,427.56	96.89	217.37	(3,288.61)	11,924.62	(0.41)
NDG3000	1,187.99	44.36	177.78	(665.65)	2,326.67	(0.45)
NDG8000	3,535.71	113.32	914.80	1,359.14	20,347.28	4.05
ING1000	646.64	22.49	222.10	216.73	2,347.20	4.05
ING3250	2,265.80	68.28	526.26	582.26	8,290.71	3.55
MOCG2300	1,263.62	46.13	477.79	199.00	9,657.14	2.90
MOCG4200	2,236.51	56.68	958.11	1,988.12	13,889.35	4.62
MONG2300	1,611.18	53.83	552.01	459.90	9,448.39	3.85
LANG2500	1,768.07	149.55	61.21	(1,381.73)	1,430.31	(6.09)
TNG2500	1,298.65	40.21	229.65	(105.36)	2,557.58	2.78
TNG4500	3,077.28	78.59	693.35	1,420.76	8,584.96	5.69
NCSP2000	1,456.59	112.77	(26.99)	(2,069.21)	1,491.54	(9.36)
NCC2030	1,339.91	76.20	515.47	1,421.46	3,344.50	11.99
SCC2000	1,593.58	110.16	384.36	871.61	3,365.16	6.37
SCG3500	3,018.82	142.86	622.65	1,633.55	6,088.37	6.51
TXNP3450	2,194.77	121.21	703.36	1,732.09	8,375.12	6.40
TXNP10640	6,860.15	324.64	1,378.20	4,854.22	15,958.05	7.60
TXPG2500	1,888.82	120.71	297.69	(84.15)	4,607.90	2.99
TXHG2700	820.55	75.32	77.65	(679.34)	780.58	(3.80)
TXWG1600	609.43	53.75	81.49	(477.40)	895.30	(0.62)

1 Receipts are average annual total cash receipts including government payments, 2018-2023 (\$1,000)

2 Payments are average annual total government payments, 2018-2023 (\$1,000)

3 NCFI is average annual net cash farm income, 2018-2023 (\$1,000)

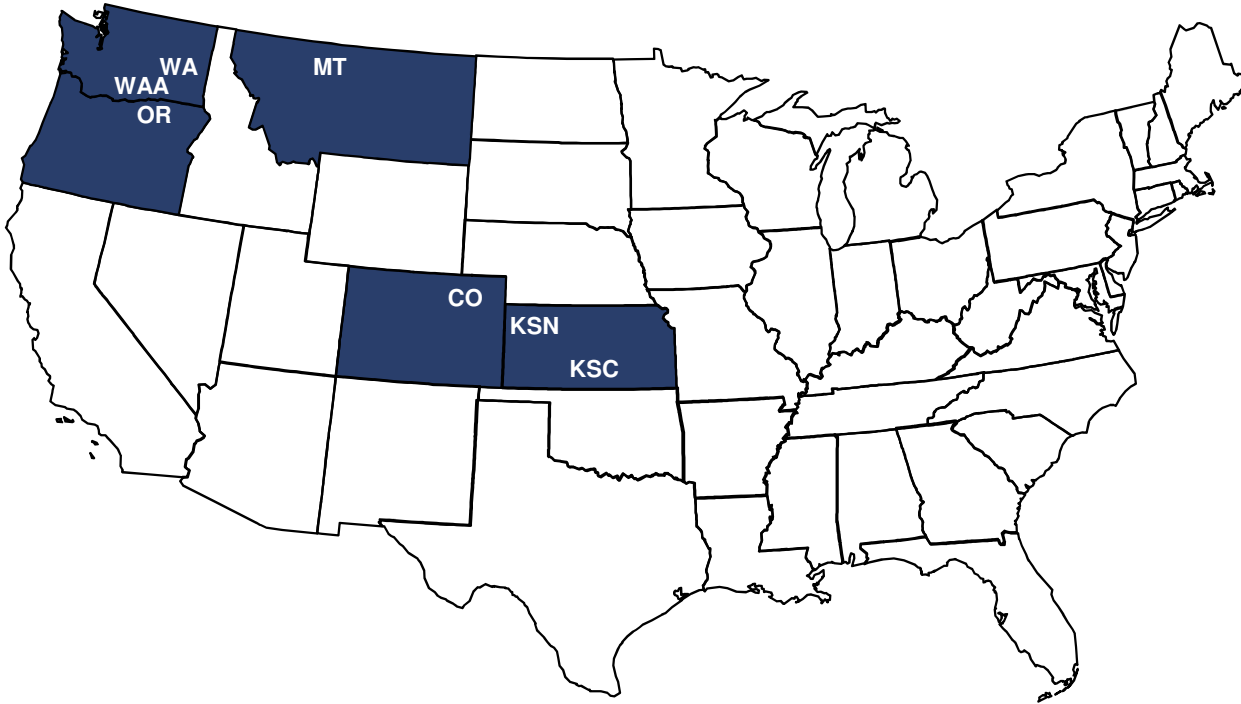
4 Reserve 2023 is average ending cash reserves, 2023 (\$1,000)

5 Net Worth 2023 is average nominal ending net worth, 2023 (\$1,000)

6 CRNW is average percentage change in real net worth over 2018-2023 period, (%)

Representative Farm: Wheat

- Four wheat farms are projected to be in good overall financial condition, four are in marginal condition, and three are in poor condition.
- Five of the eleven wheat farms are expected to feel significant liquidity pressure over the period; three of those five farms also have a greater than 50 percent chance of losing wealth.



Characteristics of Panel Farms Producing Wheat, 2017.

	Cropland (acres)	Assets (\$1,000)	Debt/Asset (ratio)	Gross Receipts (\$1,000)	Wheat (acres)
WAW2000	2,000	2,166.00	0.16	796.10	1,320
WAW8000	8,000	10,621.00	0.18	3,335.70	4,950
WAAW5000	5,000	2,162.00	0.18	565.60	2,300
ORW4100	4,100	1,300.00	0.28	454.00	2,150
MTW8000	8,000	6,204.00	0.20	1,451.80	3,840
KSCW2000	2,000	2,631.00	0.16	756.00	800
KSCW5300	5,300	5,547.00	0.18	1,844.30	2,385
KSNW4000	4,000	3,772.00	0.19	767.10	1,200
KSNW7000	7,000	7,244.00	0.21	1,643.40	1,700
COW3000	3,000	3,781.00	0.22	364.90	1,013
COW6000	6,000	5,972.00	0.25	820.20	2,000

Representative Farm: Wheat

Economic Viability of Representative Farms over the 2018-2023 Period

Farm Name	Overall Ranking		P(Negative Ending Cash)	P(Real Net Worth Declines)
	2018	2023	2018-2023	2018-2023
4/4/3				
WAW2000			1-1	1-1
WAW8000			47-48	8-2
WAAW5000			64-97	61-72
ORW4100			99-99	65-74
MTW8000			1-1	1-1
KSCW2000			1-1	1-1
KSCW5300			2-2	3-1
KSNW4000			60-75	23-11
KSNW7000			37-35	18-6
COW3000			98-90	5-1
COW6000			99-99	92-96

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

<25

25-50

>50

2 P(Negative Ending Cash) is the probability that the farm will have a cash flow deficit. Reported values represent the probabilities for 2018 and 2023.

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 2016 to 2018 and from 2016 to 2023.

Implications of the January 2018 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Wheat

	Receipts	Payments	NCFI	Reserve 2023	Net Worth 2023	CRNW
	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(%)
WAW2000	848.97	58.05	343.43	846.70	2,615.04	8.43
WAW8000	3,592.73	205.03	741.58	(2.04)	9,868.68	4.17
WAAW5000	603.13	49.48	87.73	(560.63)	1,346.79	(2.52)
ORW4100	490.02	36.78	101.71	(619.22)	659.51	(3.72)
MTW8000	1,498.24	117.36	723.67	1,875.36	6,912.76	7.76
KSCW2000	852.40	30.05	264.94	650.28	2,598.18	4.75
KSCW5300	2,088.83	80.44	592.30	1,603.20	5,921.21	6.54
KSNW4000	871.30	56.37	209.22	(201.92)	3,014.59	1.79
KSNW7000	1,892.25	73.97	414.46	260.87	6,092.86	3.09
COW3000	399.73	27.37	130.53	(204.06)	2,892.03	1.69
COW6000	879.07	61.41	27.21	(2,174.24)	3,087.58	(4.11)

1 Receipts are average annual total cash receipts including government payments, 2018-2023 (\$1,000)

2 Payments are average annual total government payments, 2018-2023 (\$1,000)

3 NCFI is average annual net cash farm income, 2018-2023 (\$1,000)

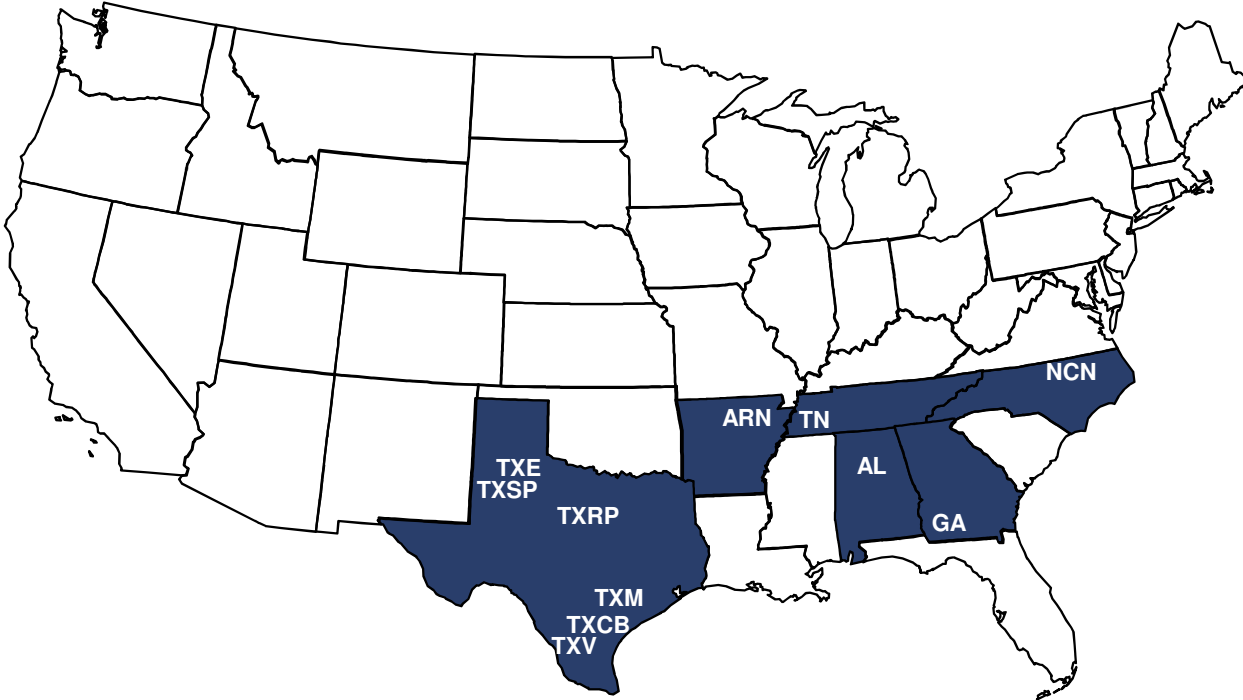
4 Reserve 2023 is average ending cash reserves, 2023 (\$1,000)

5 Net Worth 2023 is average nominal ending net worth, 2023 (\$1,000)

6 CRNW is average percentage change in real net worth over 2018-2023 period, (%)

Representative Farm: Cotton

- Seven of the fourteen cotton farms are characterized in good overall financial condition over the 2018-2023 period, one is in marginal condition, and six are in poor condition.
- Six of the farms are projected to experience severe cash flow problems (having a greater than 50 percent chance of a cash flow deficit); five of these six 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, 2017.

	Cropland (acres)	Assets (\$1,000)	Debt/Asset (ratio)	Gross Receipts (\$1,000)	Cotton (acres)
TXSP2500	2,500	1,353.00	0.16	852.60	1,298
TXSP4500	4,500	3,103.00	0.17	1,821.40	3,717
TXEC5000	5,000	3,671.00	0.17	2,106.00	4,400
TXRP2500	2,500	1,477.00	0.16	536.70	1,500
TXMC1800	1,800	1,475.00	0.43	864.30	756
TXCB3750	3,750	2,820.00	0.19	1,917.90	1,688
TXCB10000	10,000	8,449.00	0.18	5,823.40	4,500
TXVC5500	5,500	6,653.00	0.19	2,998.50	1,890
ARNC5000	5,000	9,780.00	0.17	3,997.60	2,500
TNC3000	3,000	2,084.00	0.15	1,701.70	825
TNC4050	4,050	5,921.00	0.17	2,480.80	1,500
ALC3500	3,500	4,153.00	0.21	2,377.30	1,050
GAC2500	2,500	9,784.00	0.19	3,129.70	1,250
NCNP1600	1,600	3,488.00	0.25	1,093.20	560

Representative Farm: Cotton

Economic Viability of Representative Farms over the 2018-2023 Period

Farm Name	Overall Ranking		P(Negative Ending Cash)	P(Real Net Worth Declines)
	2018	2023	2018-2023	2018-2023
7/1/6				
TXSP2500			8-93	9-60
TXSP4500			22-27	27-6
TXEC5000			20-9	29-4
TXRP2500			27-85	63-86
TXMC1800			96-99	84-96
TXCB3750			44-93	48-88
TXCB10000			4-53	7-31
TXVC5500			4-5	4-1
ARNC5000			7-1	4-1
TNC3000			2-1	4-1
TNC4050			16-10	12-1
ALC3500			1-1	1-1
GAC2500			1-1	1-1
NCNP1600			98-99	69-89

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

<25	25-50	>50
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2 P(NegativeEnding Cash) is the probability that the farm will have a cash flow deficit. Reported values represent the probabilities for 2018 and 2023.

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 2016 to 2018 and from 2016 to 2023.

Implications of the January 2018 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Cotton

	Receipts	Payments	NCFI	Reserve 2023	Net Worth 2023	CRNW
	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(%)
TXSP2500	787.16	77.81	85.29	(482.66)	828.14	(3.07)
TXSP4500	2,002.31	128.32	416.26	392.94	3,186.82	5.61
TXEC5000	2,357.04	202.82	551.85	1,326.03	4,170.90	7.49
TXRP2500	555.90	39.81	2.94	(358.77)	740.95	(6.39)
TXMC1800	937.55	77.39	(24.15)	(1,534.04)	(175.77)	(71.54)
TXCB3750	1,530.78	113.51	(26.94)	(1,209.60)	946.30	(11.73)
TXCB10000	4,338.59	394.08	274.32	(67.45)	5,929.19	(0.65)
TXVC5500	3,216.49	220.01	574.93	1,475.30	6,678.45	5.63
ARNC5000	4,332.58	357.74	1,185.23	2,887.87	11,023.44	7.39
TNC3000	1,962.68	132.31	504.60	1,564.60	3,127.13	12.07
TNC4050	2,762.42	212.13	558.15	986.52	5,836.53	5.02
ALC3500	2,702.32	155.46	795.26	2,523.40	5,615.55	11.42
GAC2500	3,091.46	347.31	678.42	2,019.66	9,453.61	4.91
NCNP1600	1,151.44	125.56	51.44	(1,359.52)	1,841.69	(3.91)

1 Receipts are average annual total cash receipts including government payments, 2018-2023 (\$1,000)

2 Payments are average annual total government payments, 2018-2023 (\$1,000)

3 NCFI is average annual net cash farm income, 2018-2023 (\$1,000)

4 Reserve 2023 is average ending cash reserves, 2023 (\$1,000)

5 Net Worth 2023 is average nominal ending net worth, 2023 (\$1,000)

6 CRNW is average percentage change in real net worth over 2018-2023 period, (%)

Representative Farm: Rice

- None of the fifteen representative rice farms are projected to be in good overall financial condition, four are in marginal condition, and eleven are in poor condition.
- Fourteen of the rice farms are expected to face severe cash flow problems; eight of those farms also have high likelihoods of declining real net worth.



Characteristics of Panel Farms Producing Rice, 2017.

	Cropland (acres)	Assets (\$1,000)	Debt/Asset (ratio)	Gross Receipts (\$1,000)	Rice (acres)
CAR1200	1,200	3,561.00	0.20	1,696.00	1,200
CAR3000	3,000	13,346.00	0.24	4,789.70	3,000
CABR1000	1,000	5,516.00	0.21	1,512.40	1,000
CACR800	800	3,322.00	0.30	1,194.50	800
TXR1500	1,500	2,012.00	0.18	979.30	600
TXR3000	3,000	1,010.00	0.26	1,956.70	1,500
TXBR1800	1,800	752.00	0.18	1,120.20	600
TXER3200	3,200	2,253.00	0.30	1,509.50	1,067
LASR2000	2,000	1,941.00	0.29	1,623.10	1,000
ARMR6500	6,500	7,642.00	0.23	4,506.90	650
ARSR3240	3,240	4,884.00	0.22	2,462.40	1,458
ARWR2500	2,500	7,409.00	0.22	1,769.90	1,250
ARHR4000	4,000	6,866.00	0.19	2,944.40	2,400
MSDR5000	5,000	17,407.00	0.21	3,410.10	1,667
MOBR4000	4,000	9,358.00	0.27	2,323.30	1,320

Representative Farm: Rice

Economic Viability of Representative Farms over the 2018-2023 Period

Farm Name	Overall Ranking		P(Negative Ending Cash)	P(Real Net Worth Declines)
	2018	2023	2018-2023	2018-2023
0/4/11				
CAR1200			63-95	14-41
CAR3000			96-99	28-95
CABR1000			98-99	23-89
CACR800			99-99	92-99
TXR1500			78-99	27-95
TXR3000			57-99	19-76
TXBR1800			47-98	30-83
TXER3200			99-99	81-99
LASR2000			21-74	7-21
ARMR6500			51-54	21-20
ARSR3240			49-81	23-43
ARWR2500			95-99	13-25
ARHR4000			24-80	9-20
MSDR5000			28-47	4-2
MOBR4000			87-98	48-75

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

<25	25-50	>50
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2 P(NegativeEnding Cash) is the probability that the farm will have a cash flow deficit. Reported values represent the probabilities for 2018 and 2023.

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 2016 to 2018 and from 2016 to 2023.

Implications of the January 2018 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Rice

	Receipts	Payments	NCFI	Reserve 2023	Net Worth 2023	CRNW
	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(%)
CAR1200	1,562.84	158.57	182.73	(481.96)	2,382.16	(1.01)
CAR3000	4,387.16	487.01	(139.06)	(4,906.76)	6,328.68	(5.63)
CABR1000	1,393.32	132.23	54.67	(1,546.80)	3,143.78	(3.33)
CACR800	1,106.66	109.34	(168.64)	(2,147.65)	467.82	(20.93)
TXR1500	829.00	116.45	42.63	(923.78)	943.93	(7.00)
TXR3000	1,790.07	210.86	93.01	(1,145.37)	88.76	(21.91)
TXBR1800	1,026.69	132.52	91.58	(508.77)	230.31	(12.74)
TXER3200	1,458.07	187.08	(180.60)	(2,505.34)	(489.24)	(1,034.56)
LASR2000	1,397.54	144.87	138.61	(196.03)	1,173.53	(0.61)
ARMR6500	4,892.69	377.40	611.56	(301.83)	6,442.37	3.49
ARSR3240	2,391.04	226.58	179.89	(762.13)	3,245.40	(0.71)
ARWR2500	1,676.71	175.75	180.58	(1,516.02)	5,153.39	0.13
ARHR4000	2,785.81	314.33	256.46	(539.18)	5,041.90	0.23
MSDR5000	3,466.94	217.40	808.55	54.84	14,249.13	2.58
MOBR4000	2,306.22	166.36	75.69	(2,169.47)	5,394.76	(1.95)

1 Receipts are average annual total cash receipts including government payments, 2018-2023 (\$1,000)

2 Payments are average annual total government payments, 2018-2023 (\$1,000)

3 NCFI is average annual net cash farm income, 2018-2023 (\$1,000)

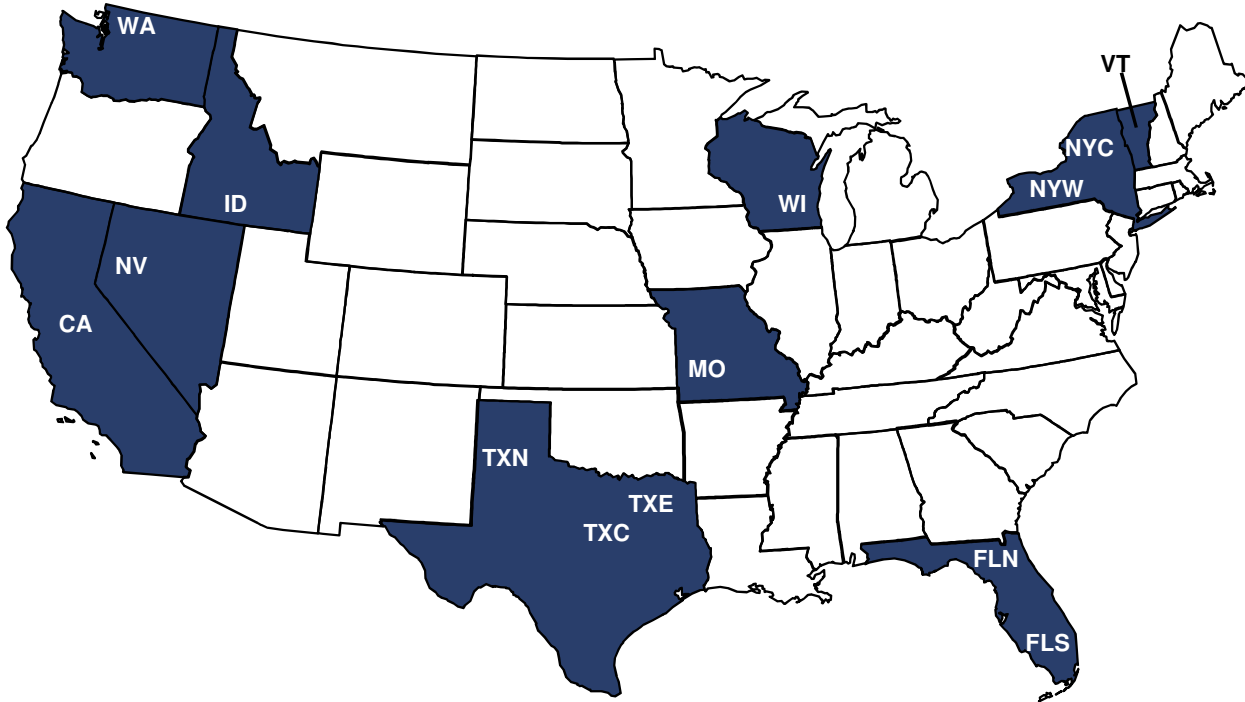
4 Reserve 2023 is average ending cash reserves, 2023 (\$1,000)

5 Net Worth 2023 is average nominal ending net worth, 2023 (\$1,000)

6 CRNW is average percentage change in real net worth over 2018-2023 period, (%)

Representative Farm: Dairy

- Thirteen of the twenty dairy operations are in good overall financial condition. Two dairies are classified in marginal condition, and five are in poor condition.
- Six of the dairies are projected to experience severe cash flow stress; additionally, four of these six are also projected to face a 50 percent or greater chance of losing real net worth by 2023.



Characteristics of Panel Farms Producing Milk, 2017.

	Cropland (acres)	Assets (\$1,000)	Debt/Asset (ratio)	Gross Receipts (\$1,000)	Cows (number)
CAD2000	1,200	25,276.00	0.21	9,956.20	2,000
WAD300	250	4,522.00	0.30	1,308.50	300
WAD1200	605	13,480.00	0.28	6,378.20	1,200
IDD3000	1,500	30,923.00	0.19	15,179.10	3,000
NVD1000	500	7,789.00	0.19	4,691.80	1,000
TXND3800	1,920	27,337.00	0.20	17,973.60	3,800
TXCD1500	616	10,908.00	0.23	6,505.30	1,500
TXED400	950	2,823.00	0.35	1,224.60	400
WID145	600	3,660.00	0.26	844.40	145
WID1000	2,000	11,315.00	0.22	5,996.80	1,000
NYWD500	1,000	5,764.00	0.19	2,811.10	500
NYWD1200	2,100	14,926.00	0.22	6,358.20	1,200
NYCD180	400	3,926.00	0.26	856.50	180
NYCD675	1,500	12,233.00	0.19	3,408.60	675
VTD160	220	1,984.00	0.31	749.10	160
VTD400	1,000	6,280.00	0.24	2,334.90	400
MOGD550	0	3,362.00	0.21	1,102.30	550
MOGD400	0	2,335.00	0.19	1,073.00	400
FLND550	600	3,875.00	0.22	2,793.10	550
FLSD1750	400	11,599.00	0.18	8,637.40	1,750

Representative Farm: Dairy

Economic Viability of Representative Farms over the 2018-2023 Period

Farm Name	Overall Ranking		P(Negative Ending Cash)	P(Real Net Worth Declines)
	2018	2023	2018-2023	2018-2023
13/2/5				
CAD2000			1-7	1-1
WAD300			99-99	99-79
WAD1200			1-2	99-3
IDD3000			99-30	1-9
NVD1000			1-11	1-2
TXND3800			1-46	1-8
TXCD1500			99-99	99-98
TXED400			99-99	99-97
WID145			99-53	1-5
WID1000			1-4	1-1
NYWD500			1-1	1-1
NYWD1200			1-2	1-1
NYCD180			99-91	1-35
NYCD675			99-5	1-1
VTD160			99-99	99-99
VTD400			99-26	1-1
MOGD550			99-16	1-6
MOGD400			1-1	1-1
FLND550			99-20	1-7
FLSD1750			99-15	1-4

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 2018 and 2023.

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 2016 to 2018 and from 2016 to 2023.

Implications of the January 2018 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Milk

	Receipts	Payments	NCFI	Reserve 2023	Net Worth 2023	CRNW
	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(%)
CAD2000	10,171.38	45.49	1,765.04	4,328.64	24,991.99	3.55
WAD300	1,340.63	2.84	45.23	(1,252.66)	2,751.94	(1.88)
WAD1200	6,540.61	11.06	1,341.85	3,882.72	14,263.23	6.75
IDD3000	15,524.53	17.68	1,873.98	2,926.38	30,016.86	2.81
NVD1000	4,835.22	0.00	690.99	1,757.65	8,396.77	4.67
TXND3800	18,421.51	55.27	2,036.18	747.28	26,859.41	3.22
TXCD1500	6,696.05	0.00	(645.37)	(6,800.15)	2,743.37	(9.66)
TXED400	1,258.71	0.00	(27.08)	(1,518.65)	979.18	(6.73)
WID145	853.72	2.79	189.27	(24.88)	2,933.70	1.08
WID1000	6,041.33	33.92	1,136.25	3,480.26	12,736.74	6.18
NYWD500	2,879.18	17.05	727.94	2,777.93	7,127.53	7.34
NYWD1200	6,511.92	25.61	1,139.40	3,161.99	15,159.38	4.24
NYCD180	879.77	5.88	149.17	(331.58)	2,837.44	(0.46)
NYCD675	3,504.71	19.18	791.16	1,431.89	11,933.93	2.93
VTD160	773.39	2.51	(9.22)	(924.89)	781.01	(6.11)
VTD400	2,441.42	8.41	371.98	336.99	5,556.40	2.22
MOGD550	1,136.28	0.00	276.93	331.89	3,226.36	3.03
MOGD400	1,106.20	0.00	319.99	790.55	2,742.30	6.28
FLND550	2,899.26	0.00	368.63	582.78	3,883.46	3.96
FLSD1750	8,976.08	0.00	1,052.08	2,745.54	13,321.21	5.67

1 Receipts are average annual total cash receipts including government payments, 2018-2023 (\$1,000)

2 Payments are average annual total government payments, 2018-2023 (\$1,000)

3 NCFI is average annual net cash farm income, 2018-2023 (\$1,000)

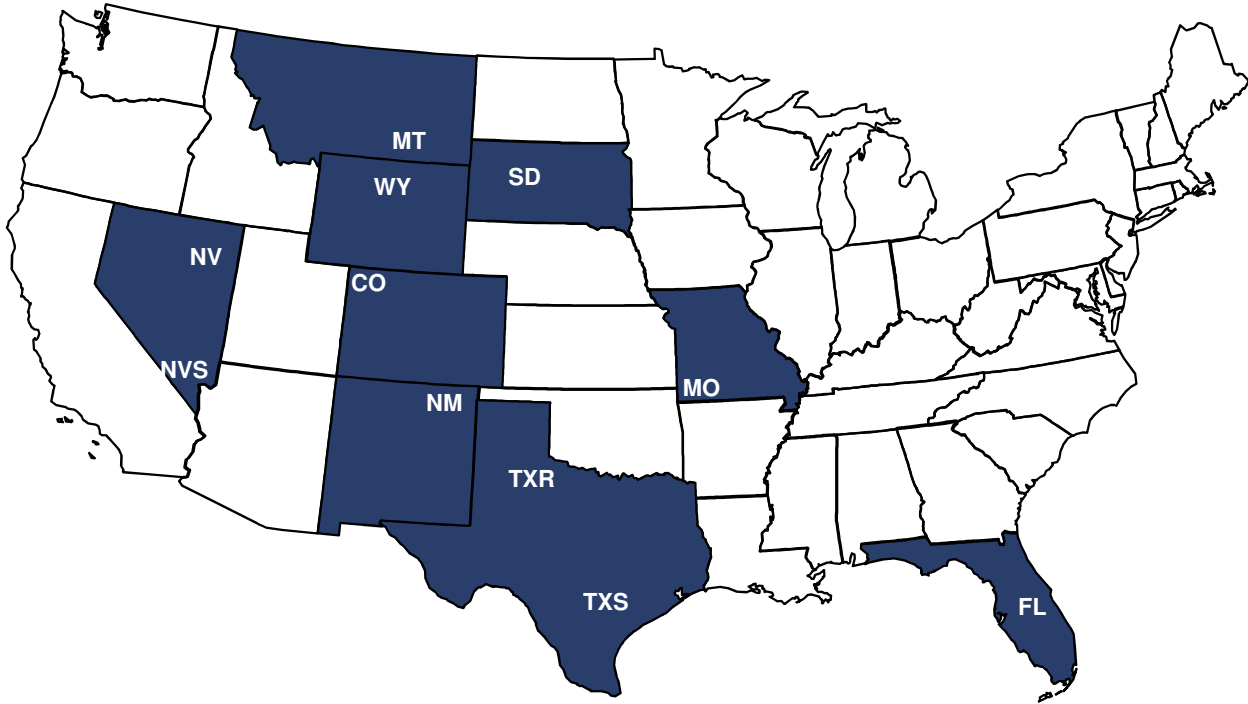
4 Reserve 2023 is average ending cash reserves, 2023 (\$1,000)

5 Net Worth 2023 is average nominal ending net worth, 2023 (\$1,000)

6 CRNW is average percentage change in real net worth over 2018-2023 period, (%)

Representative Farm: Cow/Calf

- Two of eleven cow-calf operations are projected to be in good overall financial condition, two are in marginal condition, and seven are in poor condition.
- Although only seven ranches face the threat of severe cash flow stress, all ranches with the exception of two (NVS550 and MOB250) face a significant chance of losing real wealth.



Characteristics of Panel Farms Producing Beef Cattle, 2017.

	Cropland (acres)	Assets (\$1,000)	Debt/Asset (ratio)	Gross Receipts (\$1,000)	Cows (number)
NVB650	1,300	8,434.00	0.02	596.40	650
NVSB550	125	2,643.00	0.07	545.60	550
MTB600	0	8,031.00	0.02	455.20	600
WYB475	330	2,690.00	0.10	450.50	475
COB275	650	14,339.00	0.01	257.20	275
NMB240	0	7,140.00	0.02	253.70	240
SDB500	1,150	7,940.00	0.04	358.10	500
MOB250	280	3,158.00	0.03	366.10	250
TXRB400	0	8,423.00	0.01	460.80	400
TXSB300	0	5,692.00	0.01	248.20	300
FLB1155	5,400	24,663.00	0.01	847.90	1,155

Representative Farm: Cow/Calf

Economic Viability of Representative Farms over the 2018-2023 Period

Farm Name	Overall Ranking		P(Negative Ending Cash)	P(Real Net Worth Declines)
	2018	2023	2018-2023	2018-2023
2/2/7				
NVB650			1-13	1-58
NVSB550			1-1	1-1
MTB600			99-99	99-99
WYB475			99-99	99-99
COB275			1-96	99-99
NMB240			99-99	99-99
SDB500			99-99	99-99
MOB250			1-1	1-14
TXRB400			99-97	99-99
TXSB300			1-99	99-99
FLB1155			1-1	99-99

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

<25

25-50

>50

2 P(Negative Ending Cash) is the probability that the farm will have a cash flow deficit. Reported values represent the probabilities for 2018 and 2023.

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 2016 to 2018 and from 2016 to 2023.

Implications of the January 2018 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Beef Cattle

	Receipts	Payments	NCFI	Reserve 2023	Net Worth 2023	CRNW
	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(%)
NVB650	575.86	0.00	145.27	117.14	8,068.06	(0.41)
NVSB550	534.07	0.00	202.26	527.49	2,894.19	2.41
MTB600	434.39	0.00	56.80	(429.51)	7,319.34	(1.07)
WYB475	438.29	0.00	(36.89)	(1,149.28)	1,443.41	(5.76)
COB275	257.63	0.00	59.38	(132.40)	13,464.96	(0.71)
NMB240	244.66	0.00	92.46	(193.16)	6,604.07	(0.82)
SDB500	340.58	0.00	(51.10)	(1,349.85)	6,415.02	(2.35)
MOB250	363.17	5.63	175.70	189.40	3,144.47	0.30
TXRB400	442.85	0.00	83.22	(220.67)	7,805.78	(0.89)
TXSB300	237.37	0.00	44.70	(186.82)	5,374.60	(0.68)
FLB1155	815.44	0.00	245.57	718.95	24,032.51	(0.21)

1 Receipts are average annual total cash receipts including government payments, 2018-2023 (\$1,000)

2 Payments are average annual total government payments, 2018-2023 (\$1,000)

3 NCFI is average annual net cash farm income, 2018-2023 (\$1,000)

4 Reserve 2023 is average ending cash reserves, 2023 (\$1,000)

5 Net Worth 2023 is average nominal ending net worth, 2023 (\$1,000)

6 CRNW is average percentage change in real net worth over 2018-2023 period, (%)

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