

Richardson, James W. et al.

**Research Report**

## Representative Farms Economic Outlook for the January 2017 FAPRI/AFPC Baseline

AFPC Briefing Paper, No. 17-1

**Provided in Cooperation with:**

The Agricultural & Food Policy Center (AFPC), Texas A&M University

*Suggested Citation:* Richardson, James W. et al. (2017) : Representative Farms Economic Outlook for the January 2017 FAPRI/AFPC Baseline, AFPC Briefing Paper, No. 17-1, Texas A&M University, The Agricultural & Food Policy Center (AFPC), College Station, TX

This Version is available at:

<https://hdl.handle.net/10419/168409>

**Standard-Nutzungsbedingungen:**

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

**Terms of use:**

*Documents in EconStor may be saved and copied for your personal and scholarly purposes.*

*You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.*

*If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.*

---

# *Representative Farms Economic Outlook for the January 2017 FAPRI/AFPC Baseline*

---

**Briefing Paper 17-1**

**March 2017**



## **Agricultural and Food Policy Center**

# **AFPC**

Department of Agricultural Economics  
Texas AgriLife Research  
Texas AgriLife Extension Service  
Texas A&M University

College Station, Texas 77843-2124  
Telephone: (979) 845-5913  
Fax: (979) 845-3140  
<http://www.afpc.tamu.edu>

**REPRESENTATIVE FARMS ECONOMIC  
OUTLOOK FOR THE JANUARY 2017  
FAPRI/AFPC BASELINE**

AFPC Briefing Paper 17-1

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



**Agricultural and Food Policy Center  
The Texas A&M University System**

Agricultural and Food Policy Center  
Department of Agricultural Economics  
Texas A&M AgriLife Research  
Texas A&M AgriLife Extension Service  
Texas A&M University

March 2017

College Station, Texas 77843-2124  
Telephone: (979) 845-5913  
Fax: (979) 845-3140  
Web Site: [www.afpc.tamu.edu](http://www.afpc.tamu.edu)

## 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 2017 through 2021. 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 January 2017 Baseline.

Under the January 2017 Baseline, 19 of the 63 crop farms are considered in good liquidity condition (less than a 25 percent chance of negative ending cash by 2021). Nine crop farms have between a 25 percent and a 50 percent likelihood of negative ending cash, and the remaining 35 crop farms have greater than a 50 percent chance of negative ending cash. Additionally, 25 of the 63 crop farms are considered 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 34 crop farms have greater than a 50 percent probability of decreasing real net worth by 2021. The following discussion provides an overall evaluation by commodity considering both liquidity and equity measures.

- **FEEDGRAIN FARMS:** Seven of the 22 feedgrain farms are in good overall financial condition. Four 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:** Five of the 15 cotton farms are classified in good condition, three are in marginal condition, and seven are in poor condition.
- **RICE FARMS:** Three of the 15 rice farms are projected to be in good financial condition. Four rice farms are projected to be in marginal condition; eight are in poor condition.
- **DAIRY FARMS:** Sixteen of the 20 dairies are in good overall financial condition. One dairy is classified in marginal condition, and three are in poor condition.
- **BEEF CATTLE RANCHES:** One of the 11 cattle ranches is classified in good financial condition, four are in marginal condition, and six are projected to be in poor condition.

## REPRESENTATIVE FARMS ECONOMIC OUTLOOK FOR THE JANUARY 2017 FAPRI/AFPC BASELINE

The farm level economic impacts of the FAPRI January 2017 Baseline on representative crop and livestock operations are projected in this report, assuming provisions of the 2014 Farm Bill continue throughout the 2014-2021 study period. Crop farms are assumed to have elected ARC-CO or PLC for program crops based on the prevailing elections made by panel members on each of our representative farms. These interviews also led to the assumption that the farms are currently not purchasing SCO or STAX. The analysis was conducted over the 2014-2021 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) January 2017 Baseline.

The FLIPSIM policy simulation model incorporates the historical risk faced by farmers for prices and production. This report presents the results of the January 2017 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 2021.

### DEFINITIONS OF VARIABLES IN THE SUMMARY TABLES

- **Overall Financial Position, 2017-2021** -- 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 2021. 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** -- 2017-2021 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** -- 2017-2021 average annual PLC or ARC payments and marketing loan gains/LDPs for crop farms.
- **NCFI** -- 2017-2021 average net cash farm income equals average total receipts minus average total cash expenses.
- **Reserve 2021** -- equals total cash on hand at the end of year 2021. 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 2021** -- equity equals total assets including land minus total debt from all sources and is reported at the end of 2021.
- **CRNW** -- annualized percentage change in the operator's real net worth from January 1, 2017 through December 31, 2021, after adjusting for inflation.

**Table 1. FAPRI January 2017 Baseline Projections of Crop and Livestock Prices, 2014-2021.**

	2014	2015	2016	2017	2018	2019	2020	2021
<b>Crop Prices</b>								
Corn (\$/bu.)	3.70	3.61	3.38	3.59	3.73	3.74	3.70	3.69
Wheat (\$/bu.)	5.99	4.89	3.79	4.43	4.85	5.11	5.17	5.18
Cotton (\$/lb.)	0.6130	0.6120	0.6666	0.6312	0.6483	0.6414	0.6383	0.6390
Sorghum (\$/bu.)	4.03	3.31	2.82	3.23	3.39	3.42	3.40	3.39
Soybeans (\$/bu.)	10.10	8.95	9.46	9.55	9.77	9.82	9.72	9.53
Barley (\$/bu.)	5.30	5.52	4.87	4.64	4.73	4.87	4.91	4.89
Oats (\$/bu.)	3.21	2.12	2.00	2.18	2.27	2.31	2.32	2.32
Rice (\$/cwt.)	13.40	12.10	10.23	11.43	11.61	11.47	11.68	11.92
Soybean Meal (\$/ton)	351.47	309.57	302.36	298.87	301.55	298.17	289.73	286.48
All Hay (\$/ton)	172.00	145.00	131.74	146.19	149.90	151.03	150.74	149.85
Peanuts (\$/ton)	440.00	386.00	374.78	367.75	363.13	362.49	362.63	362.61
<b>Cattle Prices</b>								
Feeder Cattle (\$/cwt)	225.07	226.52	153.72	134.29	128.07	127.83	131.54	138.88
Fed Cattle (\$/cwt)	154.56	148.12	120.86	110.61	106.03	105.59	105.98	109.10
Culled Cows (\$/cwt)	104.09	99.76	71.45	63.80	62.49	62.33	62.98	65.65
<b>Milk Price</b>								
U.S. All Milk Price (\$/cwt)	24.07	17.21	16.20	17.68	18.17	18.46	18.52	18.55

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

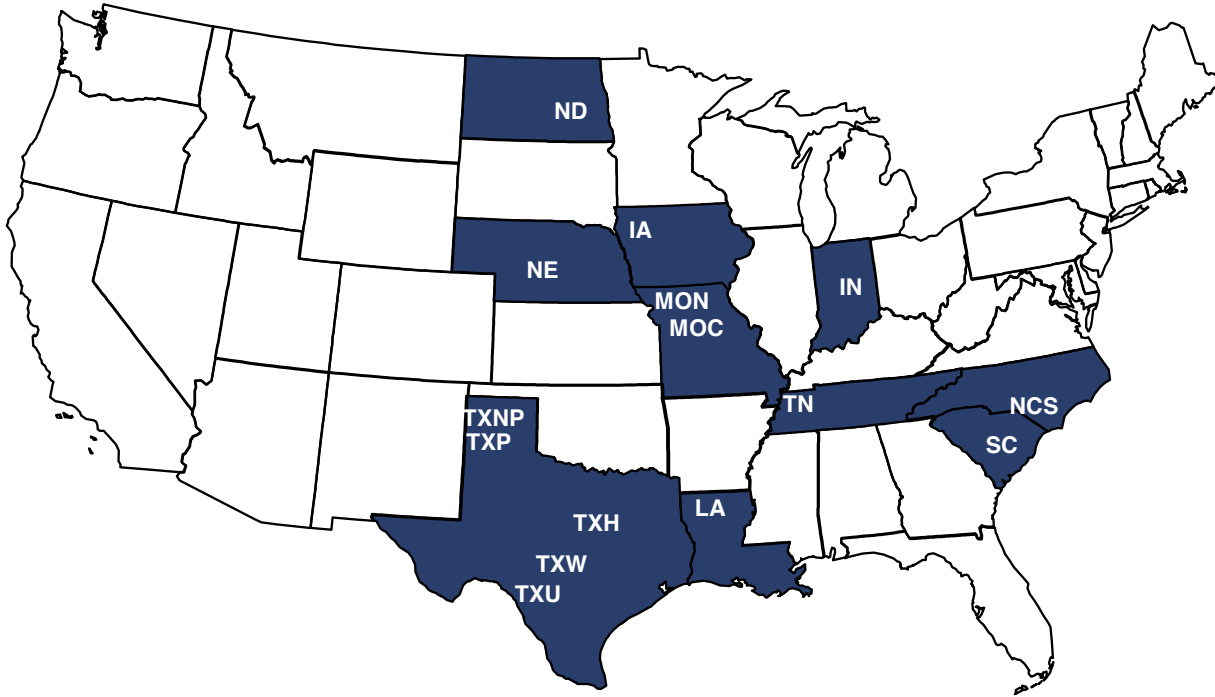
**Table 2. FAPRI January 2017 Baseline Assumed Rates of Change in Input Prices and Annual Changes in Land Values, 2015-2021.**

	2015	2016	2017	2018	2019	2020	2021
<b>Annual Rate of Change for Input Prices Paid</b>							
Seed Prices (%)	0.70	-2.48	-0.74	-0.28	0.61	1.24	1.32
All Fertilizer Prices (%)	-10.86	-21.49	0.77	3.68	-1.55	-0.06	1.04
Herbicide Prices (%)	-2.10	2.17	0.52	0.67	3.56	4.42	3.32
Insecticide Prices (%)	-4.37	0.92	0.40	0.72	2.91	3.43	2.43
Fuel and Lube Prices (%)	-35.14	-11.51	12.36	3.46	8.10	9.01	8.29
Machinery Prices (%)	2.32	0.02	2.19	3.10	3.53	3.28	2.88
Wages (%)	3.61	3.53	2.50	3.16	3.48	3.53	3.54
Supplies (%)	0.19	0.19	1.42	1.38	1.66	1.73	1.79
Repairs (%)	0.09	0.18	2.07	2.34	2.67	2.64	2.66
Services (%)	4.22	2.57	2.35	2.96	3.25	3.24	3.15
Taxes (%)	6.28	3.88	3.30	1.96	0.93	1.26	1.73
PPI Items (%)	-3.24	-5.56	0.15	1.23	1.67	1.92	2.15
PPI Total (%)	-2.12	-4.31	0.58	1.57	1.94	2.09	2.25
<b>Annual Change in Consumer Price Index (%)</b>	0.12	1.28	2.46	2.09	2.45	2.67	2.68
<b>Annual Rate of Change for U.S. Land Prices (%)</b>	2.37	-0.33	-3.16	-2.55	-1.58	-1.82	-1.21

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

# Representative Farm: Feed Grains

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



**Characteristics of Panel Farms Producing Feed Grains, 2016.**

	Cropland (acres)	Assets (\$1,000)	Debt/Asset (ratio)	Gross Receipts (\$1,000)	Feed Grains (acres)
IAG1350	1,350	3,613.00	0.33	799.50	1,350
IAG3400	3,400	12,102.00	0.17	1,774.20	3,400
NEG2400	2,400	6,034.00	0.24	1,818.90	2,400
NEG4300	4,300	20,142.00	0.24	3,207.30	4,000
NDG3000	3,000	4,082.00	0.27	1,007.00	2,500
NDG8000	8,000	24,517.00	0.22	2,944.30	6,250
ING1000	1,000	3,518.00	0.17	536.30	1,000
ING2200	2,200	10,002.00	0.22	1,287.60	2,200
MOCG2300	2,300	12,551.00	0.17	1,085.00	2,300
MOCG4200	4,200	16,807.00	0.14	1,929.10	4,200
MONG2300	2,300	10,673.00	0.17	1,460.80	2,250
LANG2500	2,500	3,804.00	0.42	1,460.80	1,625
TNG2500	2,500	3,587.00	0.25	1,199.70	2,500
TNG4500	4,500	8,955.00	0.19	2,900.50	3,375
NCS2000	2,000	5,162.00	0.25	1,477.90	1,600
SCG3500	3,500	6,239.00	0.27	2,595.40	1,800
TXNP3450	3,450	8,205.00	0.03	1,868.60	1,775
TXNP10640	10,640	16,451.00	0.13	6,319.50	6,105
TXPG2500	2,500	5,386.00	0.23	1,511.60	1,453
TXHG2700	2,700	2,077.00	0.57	581.40	1,700
TXWG1600	1,600	1,668.00	0.40	520.30	1,050
TXUG1600	1,600	518.00	0.14	1,299.10	150

# Representative Farm: Feed Grains

## Economic Viability of Representative Farms over the 2017-2021 Period

Farm Name	Overall Ranking		P(Negative Ending Cash)	P(Real Net Worth Declines)
	2017	2021	2017-2021	2017-2021
7/4/11				
IAG1350			99-98	99-98
IAG3400			25-41	51-57
NEG2400			62-69	65-65
NEG4300			94-89	97-90
NDG3000			84-72	80-72
NDG8000			58-42	92-61
ING1000			68-62	37-40
ING2200			98-94	95-83
MOCG2300			14-2	2-1
MOCG4200			1-1	1-1
MONG2300			9-24	8-10
LANG2500			99-99	99-99
TNG2500			75-53	57-42
TNG4500			1-2	1-1
NCSP2000			99-98	92-98
SCG3500			28-5	9-1
TXNP3450			1-1	1-1
TXNP10640			1-1	1-1
TXPG2500			48-34	9-5
TXHG2700			99-99	99-99
TXWG1600			99-99	99-99
TXUG1600			4-33	4-18

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 2017 and 2021.

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 2017 and from 2014 to 2021.

## Implications of the January 2017 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Feed Grains and Oilseeds

	Receipts	Payments	NCFI	Reserve 2021	Net Worth 2021	CRNW
	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(%)
IAG1350	875.63	13.25	(62.86)	(1,445.90)	1,392.11	(8.07)
IAG3400	1,945.14	29.85	372.01	236.67	9,994.27	(0.44)
NEG2400	1,987.78	21.12	229.02	(583.72)	4,399.57	(1.59)
NEG4300	3,511.04	35.49	330.44	(2,636.52)	13,688.91	(1.98)
NDG3000	1,183.17	32.26	179.45	(378.62)	2,829.99	(1.54)
NDG8000	3,549.66	63.00	926.84	376.54	19,947.93	0.53
ING1000	604.26	26.44	210.79	(56.25)	2,948.93	0.08
ING2200	1,453.35	60.46	288.18	(1,082.29)	7,476.81	(0.57)
MOCG2300	1,447.50	49.43	699.17	900.41	11,621.25	1.64
MOCG4200	2,580.00	46.40	1,347.71	3,690.59	17,757.48	2.96
MONG2300	1,565.88	57.26	413.85	340.49	9,267.30	0.86
LANG2500	1,730.68	136.46	18.15	(2,232.76)	1,042.06	(10.38)
TNG2500	1,301.92	22.81	249.61	(55.96)	2,956.13	1.19
TNG4500	3,130.72	116.56	794.10	2,095.93	9,531.61	4.34
NCSP2000	1,476.82	115.57	28.65	(1,636.85)	2,686.30	(5.98)
SCG3500	2,944.23	172.82	669.56	1,784.90	6,701.67	6.33
TXNP3450	2,272.67	120.75	840.95	3,409.08	10,154.78	3.50
TXNP10640	6,854.41	406.54	1,786.48	7,274.04	19,973.64	4.77
TXPG2500	1,722.98	123.92	446.14	240.31	4,811.58	2.50
TXHG2700	852.71	85.75	86.87	(973.48)	650.58	(6.26)
TXWG1600	538.02	53.85	(29.71)	(1,164.63)	280.89	(13.52)
TXUG1600	1,349.14	98.57	191.39	182.51	769.20	5.48

1 Receipts are average annual total cash receipts including government payments, 2017-2021 (\$1,000)

2 Payments are average annual total government payments, 2017-2021 (\$1,000)

3 NCFI is average annual net cash farm income, 2017-2021 (\$1,000)

4 Reserve 2021 is average ending cash reserves, 2021 (\$1,000)

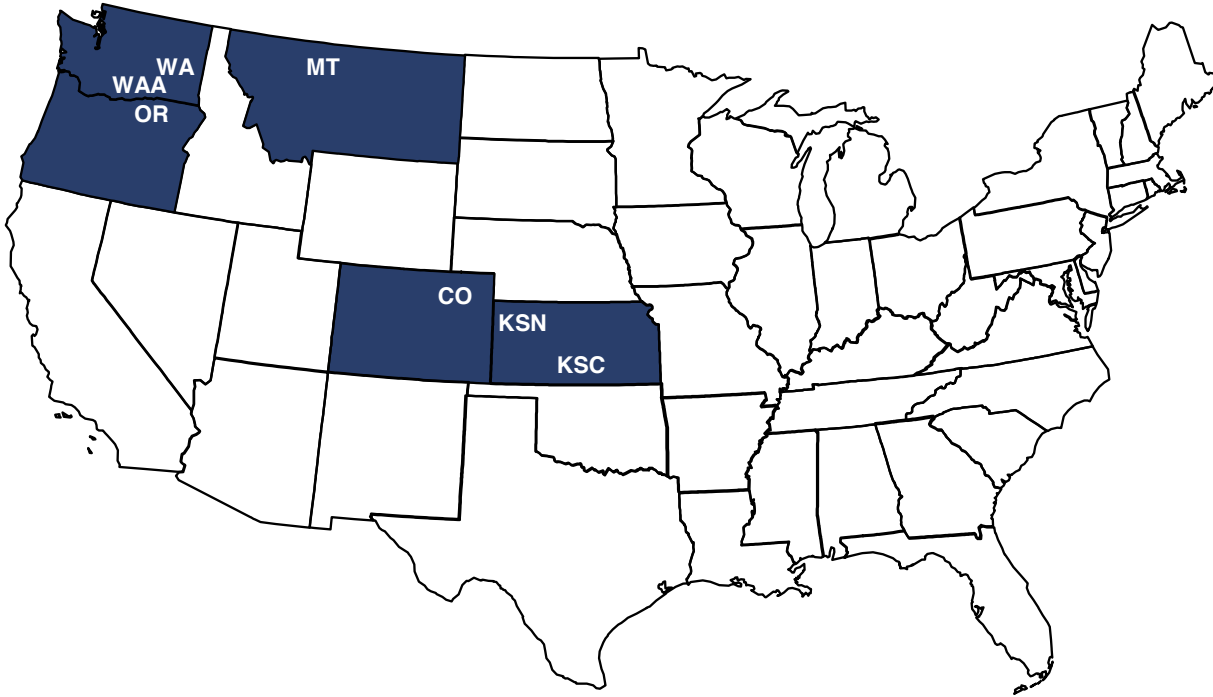
5 Net Worth 2021 is average nominal ending net worth, 2021 (\$1,000)

6 CRNW is average percentage change in real net worth over 2017-2021 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 eight farms also have a greater than 50 percent chance of losing real equity.



## Characteristics of Panel Farms Producing Wheat, 2016.

	Cropland (acres)	Assets (\$1,000)	Debt/Asset (ratio)	Gross Receipts (\$1,000)	Wheat (acres)
WAW2000	2,000	2,180.00	0.13	621.10	1,320
WAW8000	8,000	11,258.00	0.28	2,700.30	4,950
WAAW4500	4,000	2,291.00	0.36	322.00	2,000
ORW4100	4,100	1,894.00	0.25	317.50	1,950
MTW7000	7,000	6,293.00	0.19	835.20	4,200
KSCW2000	2,000	2,931.00	0.36	386.90	1,000
KSCW5300	5,300	5,028.00	0.17	895.30	3,445
KSNW4000	4,000	4,767.00	0.28	657.10	1,500
KSNW5980	5,980	10,094.00	0.29	1,165.80	1,820
COW3000	3,000	4,107.00	0.18	293.60	1,013
COW5640	5,640	4,144.00	0.28	601.50	1,900

# Representative Farm: Wheat

## Economic Viability of Representative Farms over the 2017-2021 Period

Farm Name	Overall Ranking		P(Negative Ending Cash)	P(Real Net Worth Declines)
	2017	2021	2017-2021	2017-2021
3/0/8				
WAW2000			1-1	1-1
WAW8000			99-65	96-62
WAAW4500			99-99	99-99
MTW7000			1-1	1-1
ORW4100			97-80	94-83
KSCW2000			99-98	99-92
KSCW5300			3-12	1-8
KSNW4000			99-96	98-93
KSNW5980			99-99	99-99
COW3000			92-94	85-97
COW5640			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(Negative Ending Cash) is the probability that the farm will have a cash flow deficit. Reported values represent the probabilities for 2017 and 2021.

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 2017 and from 2014 to 2021.

## Implications of the January 2017 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Wheat

	Receipts	Payments	NCFI	Reserve 2021	Net Worth 2021	CRNW
	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(%)
WAW2000	815.92	31.55	325.90	807.84	2,564.02	4.82
WAW8000	3,488.43	120.42	620.69	(694.65)	8,695.76	1.01
WAAW4500	425.35	26.73	(36.61)	(1,223.33)	668.17	(10.23)
ORW4100	429.63	47.29	110.56	(205.79)	1,303.38	(1.40)
MTW7000	1,178.00	146.08	550.91	1,120.88	5,951.53	2.50
KSCW2000	484.45	19.59	79.22	(664.41)	1,581.95	(2.78)
KSCW5300	1,116.81	54.27	367.55	728.65	4,837.93	2.17
KSNW4000	830.91	77.76	152.56	(833.36)	3,029.59	(2.07)
KSNW5980	1,408.18	104.69	34.14	(2,669.52)	5,413.60	(4.24)
COW3000	378.63	32.87	110.27	(261.08)	3,028.37	(1.66)
COW5640	731.05	67.71	78.94	(1,372.42)	2,220.97	(4.26)

1 Receipts are average annual total cash receipts including government payments, 2017-2021 (\$1,000)

2 Payments are average annual total government payments, 2017-2021 (\$1,000)

3 NCFI is average annual net cash farm income, 2017-2021 (\$1,000)

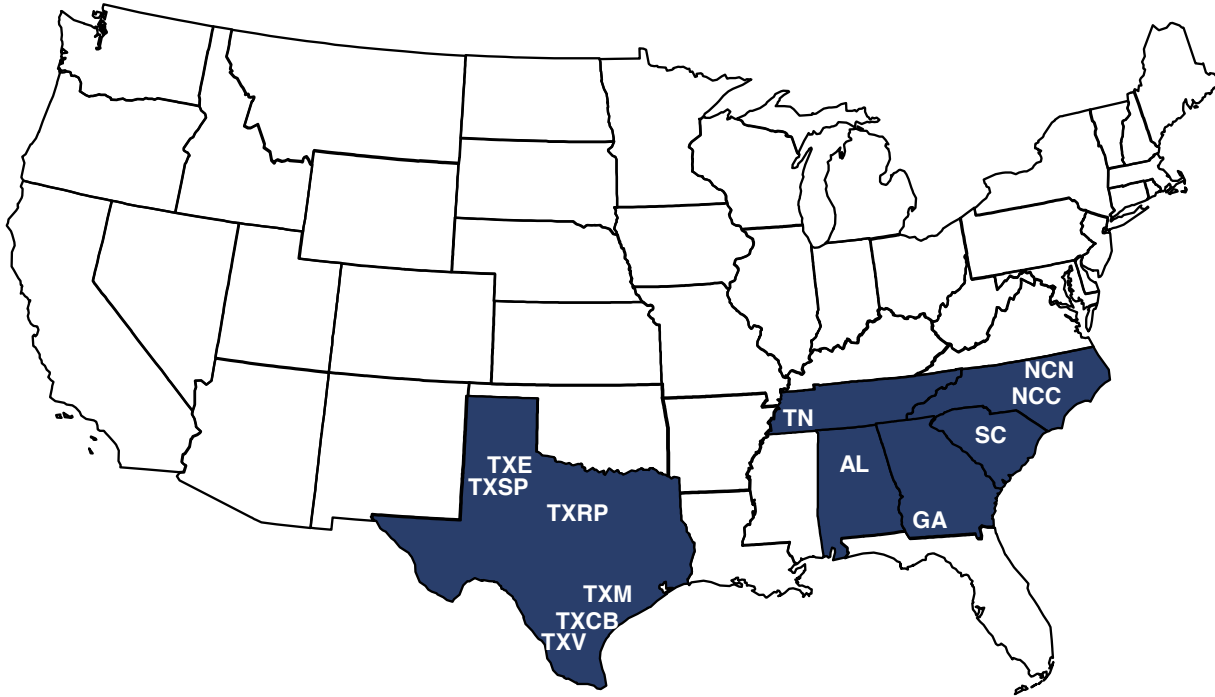
4 Reserve 2021 is average ending cash reserves, 2021 (\$1,000)

5 Net Worth 2021 is average nominal ending net worth, 2021 (\$1,000)

6 CRNW is average percentage change in real net worth over 2017-2021 period, (%)

# Representative Farm: Cotton

- Five of the fifteen cotton farms are characterized in good overall financial condition over the 2017-2021 period, three are in marginal condition, and seven are in poor condition.
- Seven of the farms are projected to experience severe cash flow problems (having a greater than 50 percent chance of a cash flow deficit), and 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, 2016.**

	Cropland (acres)	Assets (\$1,000)	Debt/Asset (ratio)	Gross Receipts (\$1,000)	Cotton (acres)
TXSP2500	2,500	1,308.00	0.19	884.30	1,298
TXSP4500	4,500	3,110.00	0.19	1,941.30	3,717
TXEC5000	5,000	4,345.00	0.29	2,084.90	4,150
TXRP2500	2,500	1,203.00	0.31	447.10	1,000
TXMC1800	1,800	1,718.00	0.41	855.90	756
TXCB3000	3,000	2,451.00	0.16	1,043.70	1,350
TXCB9200	9,200	5,433.00	0.25	3,649.50	3,680
TXVC4500	4,500	6,097.00	0.14	1,778.40	1,395
TNC2500	2,500	2,118.00	0.07	1,225.40	250
TNC4050	4,050	6,689.00	0.27	2,514.40	2,025
ALC3000	3,000	3,530.00	0.25	1,563.10	300
GAC2300	2,300	9,730.00	0.26	2,410.60	1,200
SCC2000	2,000	3,796.00	0.27	1,408.50	350
NCC1700	1,700	2,754.00	0.37	937.30	225
NCNP1600	1,600	3,976.00	0.39	1,066.60	560

# Representative Farm: Cotton

## Economic Viability of Representative Farms over the 2017-2021 Period

Farm Name	Overall Ranking		P(Negative Ending Cash)	P(Real Net Worth Declines)
	2017	2021	2017-2021	2017-2021
5/3/7				
TXSP2500			16-28	7-9
TXSP4500			5-20	1-3
TXEC5000			36-37	1-9
TXRP2500			99-99	99-99
TXMC1800			92-88	87-84
TXCB3000			1-19	1-12
TXCB9200			43-55	39-51
TXVC4500			1-4	3-5
TNC2500			1-1	1-2
TNC4050			92-79	77-68
ALC3000			7-40	1-24
GAC2300			95-76	98-78
SCC2000			34-8	14-3
NCC1700			99-98	98-96
NCNP1600			99-99	93-99

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 2017 and 2021.

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 2017 and from 2014 to 2021.

## Implications of the January 2017 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Cotton

	Receipts	Payments	NCFI	Reserve 2021	Net Worth 2021	CRNW
	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(%)
TXSP2500	913.89	201.31	232.99	235.63	1,459.95	4.57
TXSP4500	1,976.53	163.38	452.34	786.97	3,408.81	3.78
TXEC5000	2,207.48	164.53	425.49	282.57	3,891.83	2.70
TXRP2500	413.51	39.76	23.05	(512.19)	463.09	(7.59)
TXMC1800	934.09	98.28	84.09	(561.12)	760.84	(5.33)
TXCB3000	1,135.97	143.32	199.06	355.15	2,209.90	0.06
TXCB9200	3,954.22	473.44	402.87	(240.02)	4,065.73	(1.51)
TXVC4500	1,999.85	232.80	428.58	980.51	5,894.62	1.52
TNC2500	1,380.75	38.41	351.40	1,163.58	2,792.54	5.82
TNC4050	2,644.01	192.73	229.95	(707.25)	4,756.89	(0.73)
ALC3000	1,848.25	47.84	236.99	329.31	2,774.57	(0.29)
GAC2300	2,559.88	406.55	349.14	(452.41)	7,349.45	0.10
SCC2000	1,601.83	125.56	416.90	871.64	3,847.35	5.38
NCC1700	1,009.68	33.04	75.54	(966.29)	1,226.15	(5.41)
NCNP1600	1,139.23	155.05	29.46	(1,892.80)	1,560.49	(6.80)

1 Receipts are average annual total cash receipts including government payments, 2017-2021 (\$1,000)

2 Payments are average annual total government payments, 2017-2021 (\$1,000)

3 NCFI is average annual net cash farm income, 2017-2021 (\$1,000)

4 Reserve 2021 is average ending cash reserves, 2021 (\$1,000)

5 Net Worth 2021 is average nominal ending net worth, 2021 (\$1,000)

6 CRNW is average percentage change in real net worth over 2017-2021 period, (%)

# Representative Farm: Rice

- Three of the fifteen representative rice farms are projected to be in good overall financial condition, four are in marginal condition, and eight are in poor condition.
- Nine of the rice farms are expected to face severe cash flow problems; eight farms also have high likelihoods of losing real equity.



## Characteristics of Panel Farms Producing Rice, 2016.

	Cropland (acres)	Assets (\$1,000)	Debt/Asset (ratio)	Gross Receipts (\$1,000)	Rice (acres)
CAR550	550	3,520.00	0.24	689.80	500
CAR3000	3,000	12,014.00	0.20	4,141.50	3,000
CABR1300	1,300	8,794.00	0.19	1,742.80	1,200
CACR800	800	5,349.00	0.14	1,150.80	800
TXR1500	1,500	2,329.00	0.17	728.20	600
TXR3000	3,000	1,505.00	0.10	1,445.00	1,500
TXBR1800	1,800	1,081.00	0.26	890.00	1,200
TXER3200	3,200	2,631.00	0.39	1,484.80	1,067
LASR2000	2,000	2,341.00	0.36	1,148.50	1,000
ARMR6500	6,500	8,873.00	0.33	4,056.60	650
ARSR3240	3,240	5,459.00	0.27	1,975.60	1,458
ARWR2500	2,500	7,742.00	0.26	1,460.70	1,250
ARHR400J	4,000	8,833.00	0.20	2,393.20	2,400
MSDR5000	5,000	17,962.00	0.18	3,108.40	1,667
MOBR4000	4,000	10,399.00	0.36	2,049.60	1,320

# Representative Farm: Rice

## Economic Viability of Representative Farms over the 2017-2021 Period

Farm Name	Overall Ranking		P(Negative Ending Cash)	P(Real Net Worth Declines)
	2017	2021	2017-2021	2017-2021
3/4/8				
CAR550			99-99	99-99
CAR3000			23-29	24-26
CABR1300			1-1	1-1
CACR800			7-12	38-71
TXR1500			4-16	2-2
TXR3000			2-22	2-5
TXBR1800			35-53	21-36
TXER3200			99-99	99-99
LASR2000			81-66	37-24
ARMR6500			79-62	86-62
ARSR3240			80-62	60-57
ARWR2500			99-96	80-80
ARHR4000			81-88	79-89
MSDR5000			12-30	4-9
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 2017 and 2021.

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 2017 and from 2014 to 2021.

## Implications of the January 2017 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Rice

	Receipts	Payments	NCFI	Reserve 2021	Net Worth 2021	CRNW
	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(%)
CAR550	771.66	80.69	65.05	(1,023.40)	1,898.62	(5.03)
CAR3000	4,590.50	458.63	516.62	119.31	9,782.91	(0.02)
CABR1300	1,954.98	193.85	580.34	1,933.35	8,091.31	1.96
CACR800	1,265.66	128.20	218.80	247.40	4,369.73	(0.69)
TXR1500	860.53	138.82	228.21	215.87	2,207.71	1.30
TXR3000	1,710.14	227.10	285.79	383.19	1,718.63	1.93
TXBR1800	1,066.95	151.79	155.65	(40.47)	852.82	(0.83)
TXER3200	1,702.44	218.53	47.95	(1,360.08)	818.72	(9.65)
LASR2000	1,310.31	161.94	206.76	(149.00)	1,765.38	2.51
ARMR6500	4,760.14	269.06	581.50	(982.09)	6,439.41	0.62
ARSR3240	2,406.21	248.50	275.02	(358.69)	3,986.59	(0.61)
ARWR2500	1,681.39	202.51	237.56	(1,176.52)	5,448.89	(1.05)
ARHR4000	2,805.10	353.40	324.18	(1,132.48)	6,401.54	(2.22)
MSDR5000	3,543.92	242.71	990.39	628.94	15,769.06	0.89
MOBR4000	2,386.84	194.87	130.65	(3,630.79)	5,102.99	(4.22)

1 Receipts are average annual total cash receipts including government payments, 2017-2021 (\$1,000)

2 Payments are average annual total government payments, 2017-2021 (\$1,000)

3 NCFI is average annual net cash farm income, 2017-2021 (\$1,000)

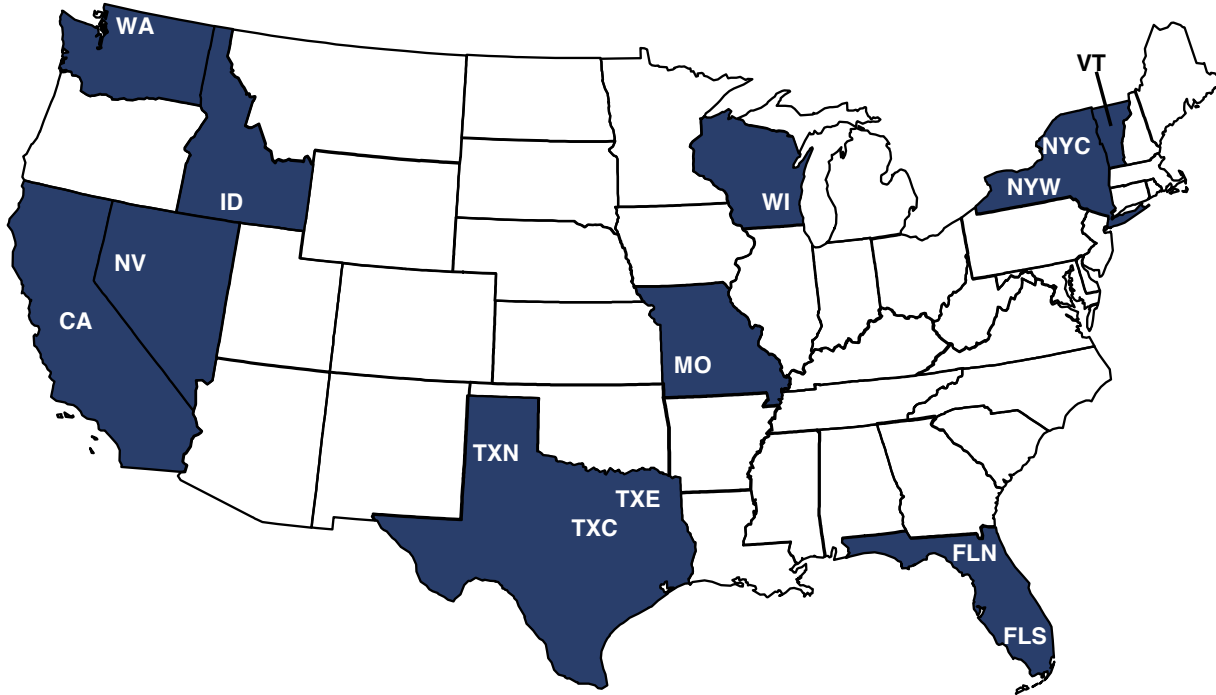
4 Reserve 2021 is average ending cash reserves, 2021 (\$1,000)

5 Net Worth 2021 is average nominal ending net worth, 2021 (\$1,000)

6 CRNW is average percentage change in real net worth over 2017-2021 period, (%)

# Representative Farm: Dairy

- Sixteen of the twenty dairy operations are in good overall financial condition. One dairy is classified in marginal condition, and three are in poor condition.
- Three of the dairies are projected to experience both severe liquidity pressure and to have a greater than 50 percent chance of losing real equity.



## Characteristics of Panel Farms Producing Milk, 2016.

	Cropland (acres)	Assets (\$1,000)	Debt/Asset (ratio)	Gross Receipts (\$1,000)	Cows (number)
CAD2000	1,200	24,943.00	0.19	8,919.40	2,000
WAD300	250	3,984.00	0.13	1,103.30	300
WAD850	605	11,715.00	0.19	4,023.60	850
IDD3000	1,500	31,103.00	0.15	13,896.10	3,000
NVD1000	200	8,126.00	0.12	4,664.10	1,000
TXND3800	1,920	30,468.00	0.21	16,195.90	3,800
TXCD1500	616	9,002.00	0.13	6,037.40	1,500
TXED400	950	2,763.00	0.29	1,109.20	400
WID145	600	3,399.00	0.23	765.70	145
WID1000	2,000	11,690.00	0.19	5,396.10	1,000
NYWD500	1,000	6,271.00	0.15	2,573.00	500
NYWD1200	2,100	16,160.00	0.17	5,801.90	1,200
NYCD180	400	3,860.00	0.21	785.50	180
NYCD675	1,500	12,747.00	0.15	3,117.50	675
VTD160	220	1,902.00	0.33	688.10	160
VTD400	1,000	6,124.00	0.21	2,147.40	400
MOGD550	0	3,471.00	0.14	1,031.90	550
MOGD400	0	2,608.00	0.11	1,000.50	400
FLND550	600	4,082.00	0.14	2,514.80	550
FLSD1750	400	12,371.00	0.14	7,768.90	1,750

# Representative Farm: Dairy

## Economic Viability of Representative Farms over the 2017-2021 Period

Farm Name	Overall Ranking		P(Negative Ending Cash)	P(Real Net Worth Declines)
	2017	2021	2017-2021	2017-2021
16/1/3				
CAD2000			1-1	2-1
WAD300			51-62	91-76
WAD850			2-1	3-1
IDD3000			11-8	11-6
NVD1000			1-1	1-1
TXND3800			2-6	8-5
TXCD1500			48-42	38-32
TXED400			96-92	99-94
WID145			25-22	3-10
WID1000			2-1	2-1
NYWD500			1-1	1-1
NYWD1200			1-1	1-1
NYCD180			12-21	1-8
NYCD675			1-1	1-1
VTD160			99-99	99-99
VTD400			8-4	7-2
MOGD550			8-7	4-4
MOGD400			1-1	1-1
FLND550			16-9	9-4
FLSD1750			24-10	21-9

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 2017 and 2021.

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 2017 and from 2014 to 2021.

## Implications of the January 2017 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Milk

	Receipts	Payments	NCFI	Reserve 2021	Net Worth 2021	CRNW
	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(%)
CAD2000	10,193.77	45.54	2,034.92	5,879.53	24,260.91	3.67
WAD300	1,307.04	2.10	154.46	(130.36)	3,348.59	(0.19)
WAD850	4,745.30	7.88	1,254.49	4,083.98	12,623.41	6.12
IDD3000	16,129.41	10.89	2,869.54	7,461.46	32,516.31	4.38
NVD1000	5,320.49	0.00	1,033.87	3,911.90	9,534.54	6.29
TXND3800	18,923.17	57.46	2,953.70	7,977.22	30,128.79	4.77
TXCD1500	7,011.54	0.00	563.68	393.45	8,103.50	1.45
TXED400	1,291.80	0.00	72.55	(658.05)	1,603.91	(2.45)
WID145	880.23	1.98	246.14	210.28	2,858.33	1.52
WID1000	6,256.03	34.20	1,444.51	4,744.86	13,007.95	6.82
NYWD500	2,992.35	10.79	917.11	4,059.97	7,986.73	7.94
NYWD1200	6,809.76	17.79	1,656.01	6,619.77	17,475.64	5.29
NYCD180	914.05	0.00	226.03	166.89	3,108.19	0.82
NYCD675	3,655.50	0.00	1,047.35	2,835.29	12,922.63	3.48
VTD160	798.81	0.14	44.66	(600.28)	940.90	(3.87)
VTD400	2,475.29	0.61	475.22	813.51	5,477.15	2.72
MOGD550	1,189.65	0.00	350.98	663.01	3,507.79	3.48
MOGD400	1,162.91	0.00	394.31	1,289.95	3,200.25	6.45
FLND550	2,918.86	0.00	463.05	975.02	4,281.61	4.91
FLSD1750	9,036.70	0.00	1,132.34	3,358.92	13,020.05	4.89

1 Receipts are average annual total cash receipts including government payments, 2017-2021 (\$1,000)

2 Payments are average annual total government payments, 2017-2021 (\$1,000)

3 NCFI is average annual net cash farm income, 2017-2021 (\$1,000)

4 Reserve 2021 is average ending cash reserves, 2021 (\$1,000)

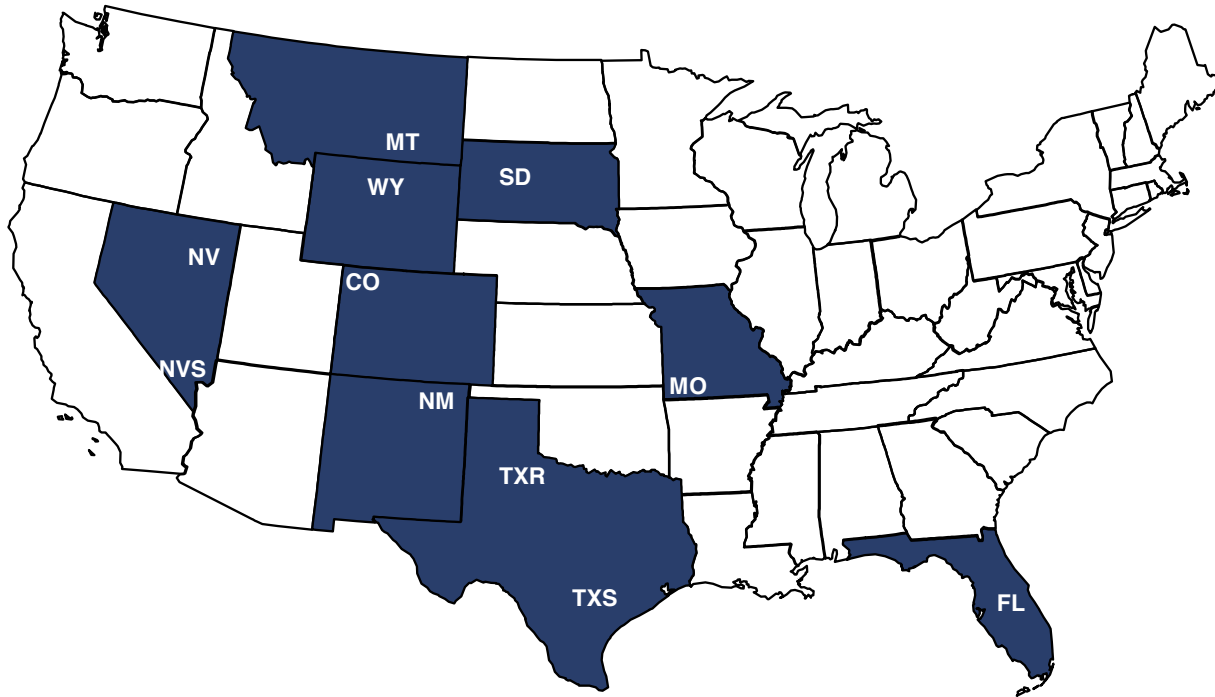
5 Net Worth 2021 is average nominal ending net worth, 2021 (\$1,000)

6 CRNW is average percentage change in real net worth over 2017-2021 period, (%)



# Representative Farm: Cow/Calf

- One of eleven cow-calf operations is projected to be in good overall financial condition, four are in marginal condition, and six are in poor condition.
- Only four of the operations will face significant liquidity pressure over the period; however, ten ranches face a severe threat of losing real equity.



**Characteristics of Panel Farms Producing Beef Cattle, 2016.**

	Cropland (acres)	Assets (\$1,000)	Debt/Asset (ratio)	Gross Receipts (\$1,000)	Cows (number)
NVB650	1,300	8,198.00	0.02	596.50	650
NVSB550	125	2,880.00	0.05	545.40	550
MTB600	0	8,291.00	0.01	456.00	600
WYB475	330	2,795.00	0.04	453.10	475
COB275	650	14,548.00	0.02	252.20	275
NMB240	0	7,516.00	0.01	252.10	240
SDB500	1,500	7,961.00	0.01	362.80	500
MOB250	280	3,311.00	0.03	357.90	250
TXRB400	0	8,862.00	0.01	458.50	400
TXSB275	0	5,213.00	0.02	255.20	275
FLB1155	5,400	25,944.00	0.01	848.70	1,155

# Representative Farm: Cow/Calf

## Economic Viability of Representative Farms over the 2017-2021 Period

Farm Name	Overall Ranking		P(Negative Ending Cash)	P(Real Net Worth Declines)
	2017	2021	2017-2021	2017-2021
1/4/6				
NVB650			1-1	99-99
NVSB550			1-1	28-6
MTB600			1-66	99-99
WYB475			64-99	99-99
COB275			1-1	99-99
NMB240			1-45	99-99
SDB500			76-99	99-99
MOB250			1-1	67-79
TXRB400			1-34	99-99
TXSB275			93-99	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 2017 and 2021.

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 2017 and from 2014 to 2021.

## Implications of the January 2017 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Beef Cattle

	Receipts	Payments	NCFI	Reserve 2021	Net Worth 2021	CRNW
	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(%)
NVB650	529.66	0.00	121.13	350.56	7,268.91	(1.23)
NVSB550	493.86	0.00	171.91	736.91	2,801.96	1.11
MTB600	389.19	0.00	42.57	(46.17)	7,159.08	(1.64)
WYB475	391.21	0.00	(41.43)	(651.99)	1,705.97	(5.74)
COB275	230.37	0.00	48.05	123.83	12,887.37	(1.49)
NMB240	225.97	0.00	87.00	7.77	6,579.81	(1.60)
SDB500	301.51	0.00	(46.83)	(713.26)	6,465.28	(2.96)
MOB250	342.41	6.12	163.07	374.96	3,086.28	(0.32)
TXRB400	402.40	0.00	65.80	27.35	7,766.14	(1.60)
TXSB275	224.37	0.00	27.76	(306.92)	4,412.27	(2.00)
FLB1155	744.09	0.00	199.60	991.05	23,572.06	(1.05)

1 Receipts are average annual total cash receipts including government payments, 2017-2021 (\$1,000)

2 Payments are average annual total government payments, 2017-2021 (\$1,000)

3 NCFI is average annual net cash farm income, 2017-2021 (\$1,000)

4 Reserve 2021 is average ending cash reserves, 2021 (\$1,000)

5 Net Worth 2021 is average nominal ending net worth, 2021 (\$1,000)

6 CRNW is average percentage change in real net worth over 2017-2021 period, (%)

## **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.

Mention of a trademark or a proprietary product does not constitute a guarantee or a warranty of the product by the Texas A&M AgriLife Research or Texas A&M AgriLife Extension Service and does not imply its approval to the exclusion of other products that also may be suitable.

The members of Texas A&M AgriLife will provide equal opportunities in programs and activities, education, and employment to all persons regardless of race, color, sex, religion, national origin, age, disability, genetic information, veteran status, sexual orientation or gender identity and will strive to achieve full and equal employment opportunity throughout Texas A&M AgriLife.