

Examining the Ohio Farm Economy

Crop Margins, Land Economics, Tax

Ohio Grain Farmers Symposium

December 18, 2018

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CFAES

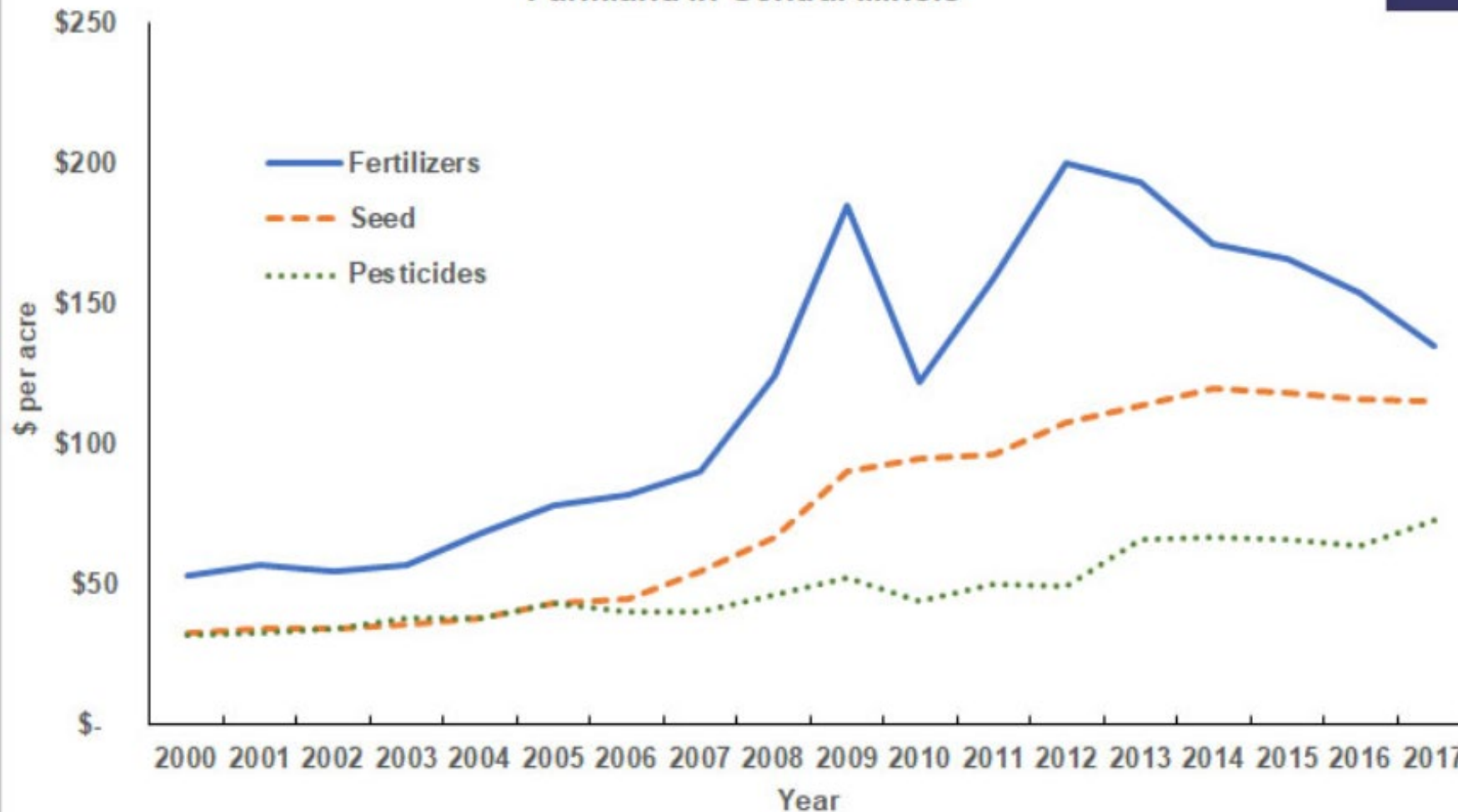


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Figure 2. Fertilizer, Seed, and Pesticide Costs on High-Productivity Farmland in Central Illinois

fdd



How much does it cost for corn seed technologies? Where is the breakeven point?

Cost (\$/A) matrix of corn seed sold at a premium (i.e. technology fee)

Yield Increase (bu/A)	<u>\$20 Bag difference</u>			<u>\$40 Bag difference</u>			<u>\$60 Bag difference</u>		
	<u>Corn Price</u>			<u>Corn Price</u>			<u>Corn Price</u>		
	\$3.50	\$4.00	\$4.50	\$3.50	\$4.00	\$4.50	\$3.50	\$4.00	\$4.50
0	\$-8	\$-8	\$-8	\$-17	\$-17	\$-17	\$-25	\$-25	\$-25
2	\$-1	\$0	\$1	\$-10	\$-9	\$-8	\$-18	\$-17	\$-16
4	\$6	\$8	\$10	\$-3	\$-1	\$1	\$-11	\$-9	\$-7
6	\$13	\$16	\$19	\$4	\$7	\$10	\$-4	\$-1	\$2
8	\$20	\$24	\$28	\$11	\$15	\$19	\$3	\$7	\$11
10	\$27	\$32	\$37	\$18	\$23	\$28	\$10	\$15	\$20
12	\$34	\$40	\$46	\$25	\$31	\$37	\$17	\$23	\$29

Assume: 80,000 seeds/bag planted at 33,000 seeds/A for final population of 30,000 plants/A

Source: J. Lauer, Univ. of Wisconsin (Update by P. Thomison, 2015)

Economic Considerations for 2018 Corn Comparisons Near South Charleston, Ohio

Economic Considerations - 2018 Corn Comparisons South Charleston, OH

Corn Type	Yield (bu/ac) under optimal conditions	\$/A gross at December corn price	Estimated \$ cost/unit seed	Seed cost/A	Value/A in \$
Modern traited	242.5	\$856	\$350	\$158	\$699
Modern non-traited	219.6	\$775	\$250	\$113	\$663
Open pollinated	142.7	\$504	\$75	\$34	\$470
Reid's yellow dent	85.5	\$302	\$39	\$9	\$293

Current Ohio Fertilizer Prices / Annual Change

Source: DTN Fertilizer Index

• NH3	\$550	+24%
• UAN(28%)	\$275	+16%
• Urea	\$400	+19%
• MAP	\$545	+12%
• Potash	\$355	+7.5%

Energy Outlook

December 2018 Estimates EIA

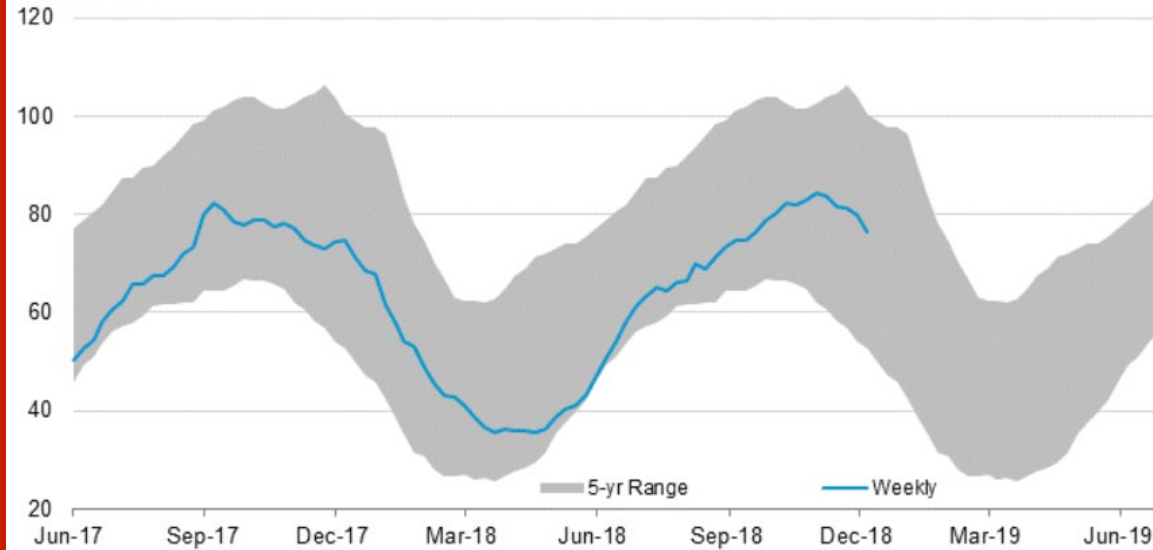
	2017	2018	2019	'18-'19	'17-'19
WTI Crude (\$/brl)	50.79	65.18	54.19	-20.3%	6.7%
Brent Crude (\$/brl)	54.15	71.40	61.00	-17.0%	12.7%
Gasoline (\$/gal)	2.42	2.73	2.50	-9.2%	3.3%
Diesel (\$/gal)	2.65	3.17	2.95	-7.5%	11.3%
Nat. Gas (\$/mcf)	10.86	10.84	11.24	3.6%	3.5%

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Propane Stocks/Wholesale Price

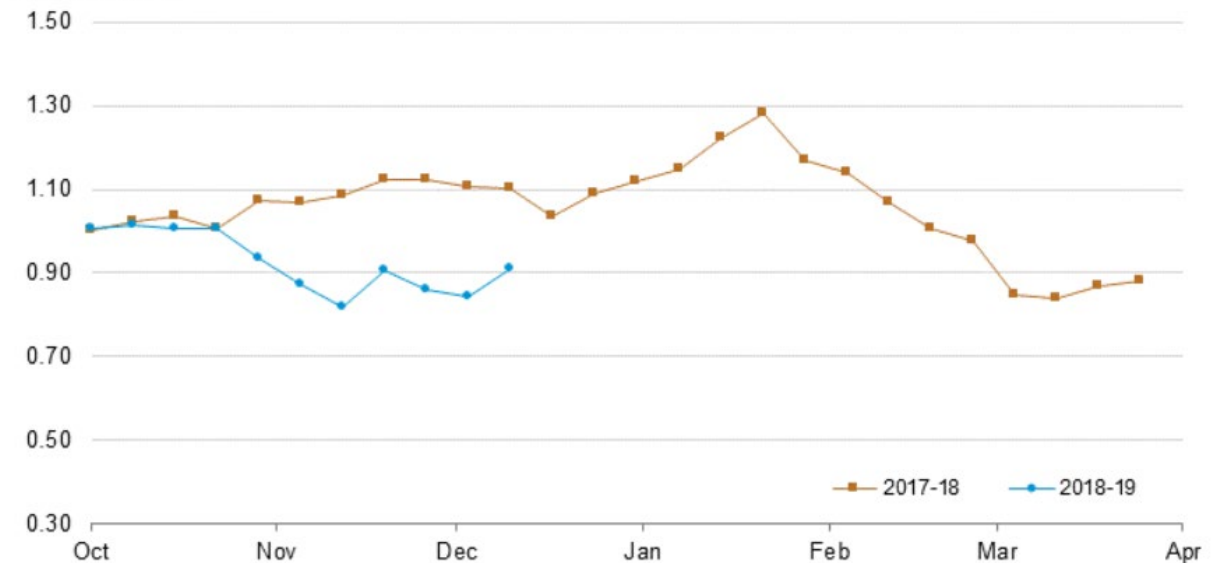
October 2018 Estimates EIA

U.S. propane/propylene stocks
million barrels



Source: U.S. Energy Information Administration

U.S. wholesale propane prices
dollars per gallon



Source: U.S. Energy Information Administration, Oil Price Information Service

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Crop Input Costs

Energy – Modestly Lower

Fertilizer – Mostly Higher

Seed – Flat to Modestly Higher

Chemical – Prices: Flat to Modestly Higher

– Costs: Higher

Machinery/Equipment Depreciation – Modestly Higher

Labor – Modestly higher

CORN SELECTED BUDGET STATS - 2019

Item	Input	Yield in bushels/acre	
Receipts		170	204
Corn Price	\$3.80 /bushel	\$646.76	\$775.96
ARC/PLC		\$0.00	\$0.00

Variable Costs			
Seed Cost	\$280 /bag	\$112.00	\$119.00
Nitrogen (NH ₃)	\$550 /ton	\$68.51	\$84.02
P ₂ O ₅ (MAP)	\$545 /ton	\$33.00	\$39.59
K ₂ O (Potash)	\$355 /ton	\$13.59	\$16.31
Chemicals		\$43.93	\$43.93
Fuel/Diesel	\$2.50 /gallon	\$13.56	\$13.56
Breakeven Cost / Bu		\$2.42	\$2.23

Fixed Costs			
Labor and Management		\$69.84	\$76.30
Machinery Cost		\$66.07	\$66.07
Land Rent		\$187.00	\$235.00
Breakeven Cost / Bu		\$4.45	\$4.19

Returns			
Return to Total Costs		-\$110.37	-\$79.00
Return to Variable Costs		\$235.64	\$321.47
Return to Land		\$76.63	\$156.00

SOYBEAN SELECTED BUDGET STATS - 2019

Item	Input	Yield in bushels/acre	
Receipts		52	62
Soybean Price	\$9.20 /bushel	\$473.80	\$568.56
ARC/PLC		\$0.00	\$0.00

Variable Costs			
Seed Cost	\$0.43 /1000 seeds	\$72.76	\$72.76
P ₂ O ₅ (MAP)	\$545 /ton	\$21.59	\$25.91
K ₂ O (Potash)	\$355 /ton	\$21.33	\$25.60
Chemicals		\$39.30	\$39.30
Fuel/Diesel	\$2.50 /gallon	\$11.58	\$11.58
Breakeven Cost / Bu		\$4.36	\$3.67

Fixed Costs			
Labor and Management		\$46.19	\$50.93
Machinery Cost		\$51.60	\$51.60
Land Rent		\$187.00	\$235.00
Breakeven Cost / Bu		\$10.17	\$9.12

Returns			
Return to Total Costs		-\$50.18	-\$19.25
Return to Variable Costs		\$249.52	\$333.18
Return to Land		\$136.82	\$215.75

WHEAT SELECTED BUDGET STATS - 2019

Item	Input	Yield in bushels/acre	
Receipts		75	90
Wheat Price	\$5.20 /bushel	\$391.56	\$470.08
ARC/PLC		\$0.00	\$0.00

Variable Costs

Seed Cost	0.031 /1000 seeds	\$43.40	\$43.40
N (UAN)	275	\$24.86	\$54.36
P ₂ O ₅ (MAP)	545 /ton	\$24.86	\$29.85
K ₂ O (Potash)	355 /ton	\$14.16	\$15.81
Chemicals		\$13.25	\$13.25
Fuel/Diesel	\$2.50 /gallon	\$12.05	\$12.05

Breakeven Cost / Bu

\$2.87

\$2.65

Fixed Costs

Labor and Management	\$42.08	\$46.00
Machinery Cost	\$51.78	\$51.78
Land Rent	\$187.00	\$235.00

Breakeven Cost / Bu

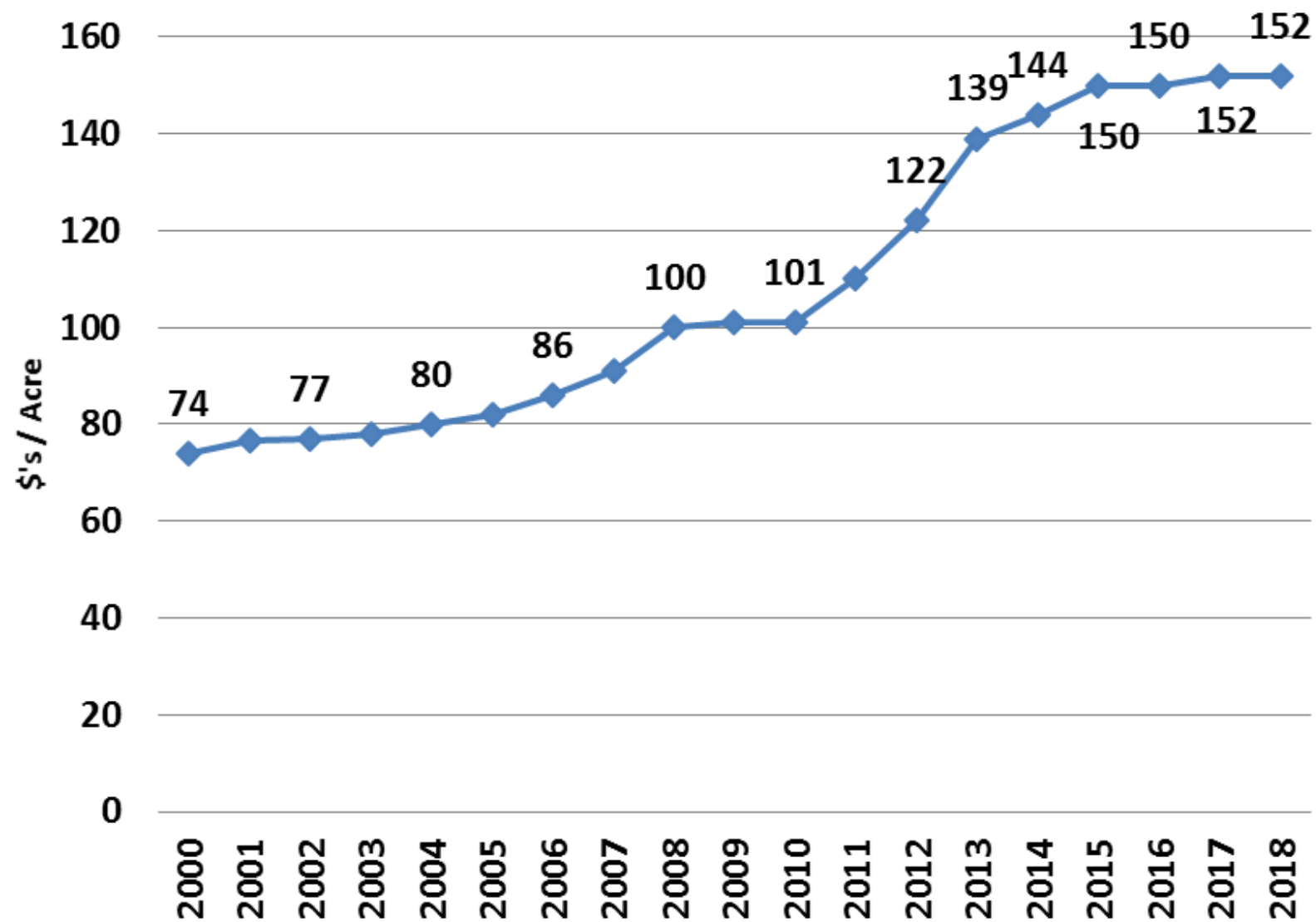
\$7.76

\$7.25

Returns

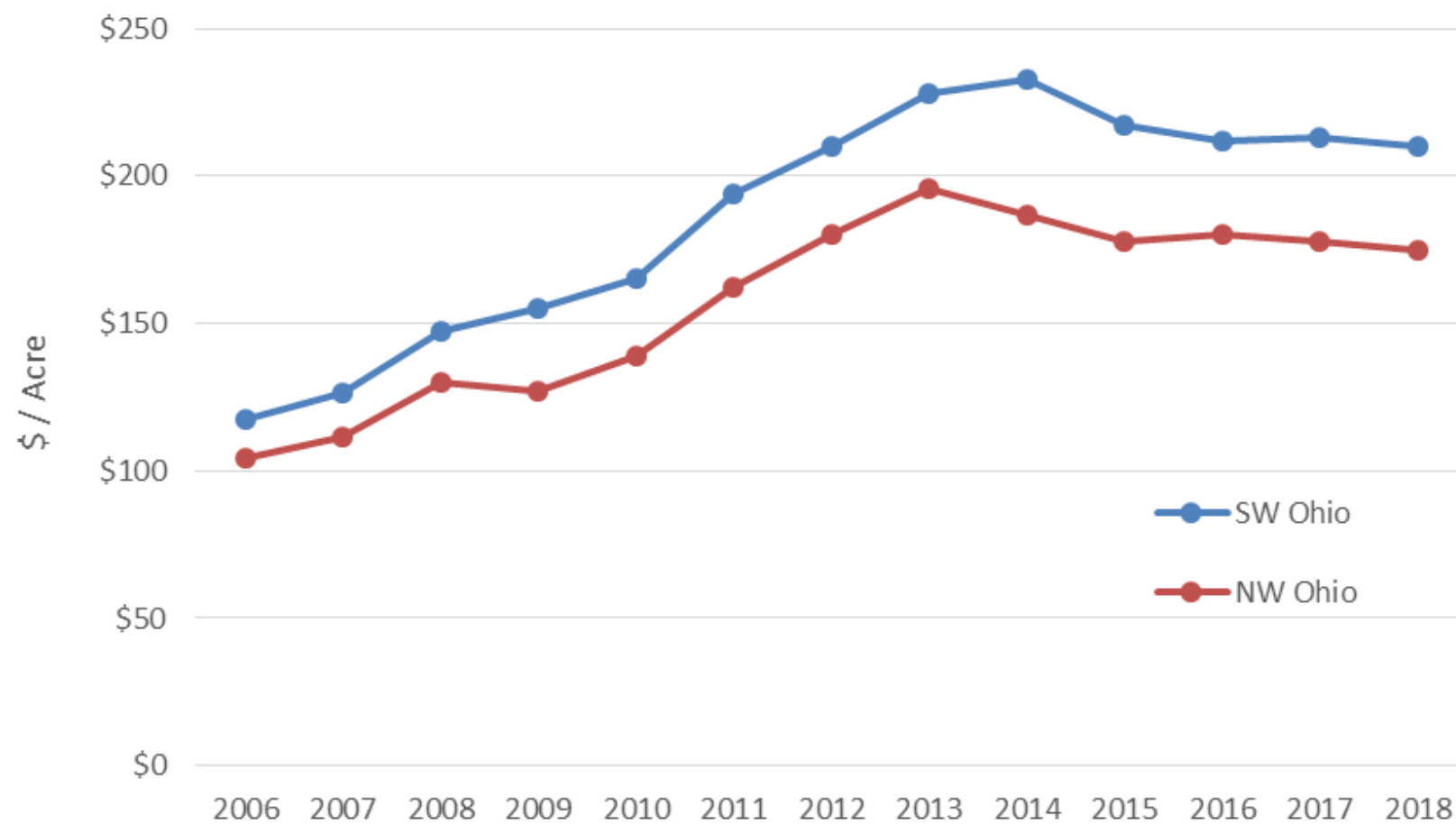
Return to Total Costs	-\$117.84	-\$117.84
Return to Variable Costs	\$175.76	\$230.76
Return to Land	-\$11.24	-\$4.24

Ohio Cash Rent - NASS



Western Ohio Cropland Cash Rents

Average Cropland





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**Table 2: Ohio Cropland Values and Cash Rents
Northwest Ohio Results**

Land Class		Average		Std	Range*	
Average	Avg Corn Yield (b/a)		172.3	12.5	184.8	159.7
	Avg Soybean Yield (b/a)		51.2	4.4	55.6	46.8
	Market Value per Acre	2017	\$6,922	\$887	\$7,809	\$6,035
		2018	\$6,691	\$923	\$7,614	\$5,768
	Rent per Acre	2017	\$178	\$23	\$201	\$155
		2018	\$175	\$23	\$199	\$152
Top	Avg Corn Yield (b/a)		208.3	19.4	227.7	188.9
	Avg Soybean Yield (b/a)		64.0	7.6	71.6	56.4
	Market Value per Acre	2017	\$8,710	\$1,303	\$10,013	\$7,406
		2018	\$8,460	\$1,344	\$9,805	\$7,116
	Rent per Acre	2017	\$227	\$33	\$260	\$195
		2018	\$223	\$33	\$256	\$191
Poor	Avg Corn Yield (b/a)		140.3	18.3	158.6	121.9
	Avg Soybean Yield (b/a)		37.9	6.1	44.0	31.8
	Market Value per Acre	2017	\$5,365	\$986	\$6,351	\$4,379
		2018	\$5,173	\$1,043	\$6,216	\$4,130
	Rent per Acre	2017	\$137	\$26	\$163	\$111
		2018	\$134	\$27	\$161	\$107

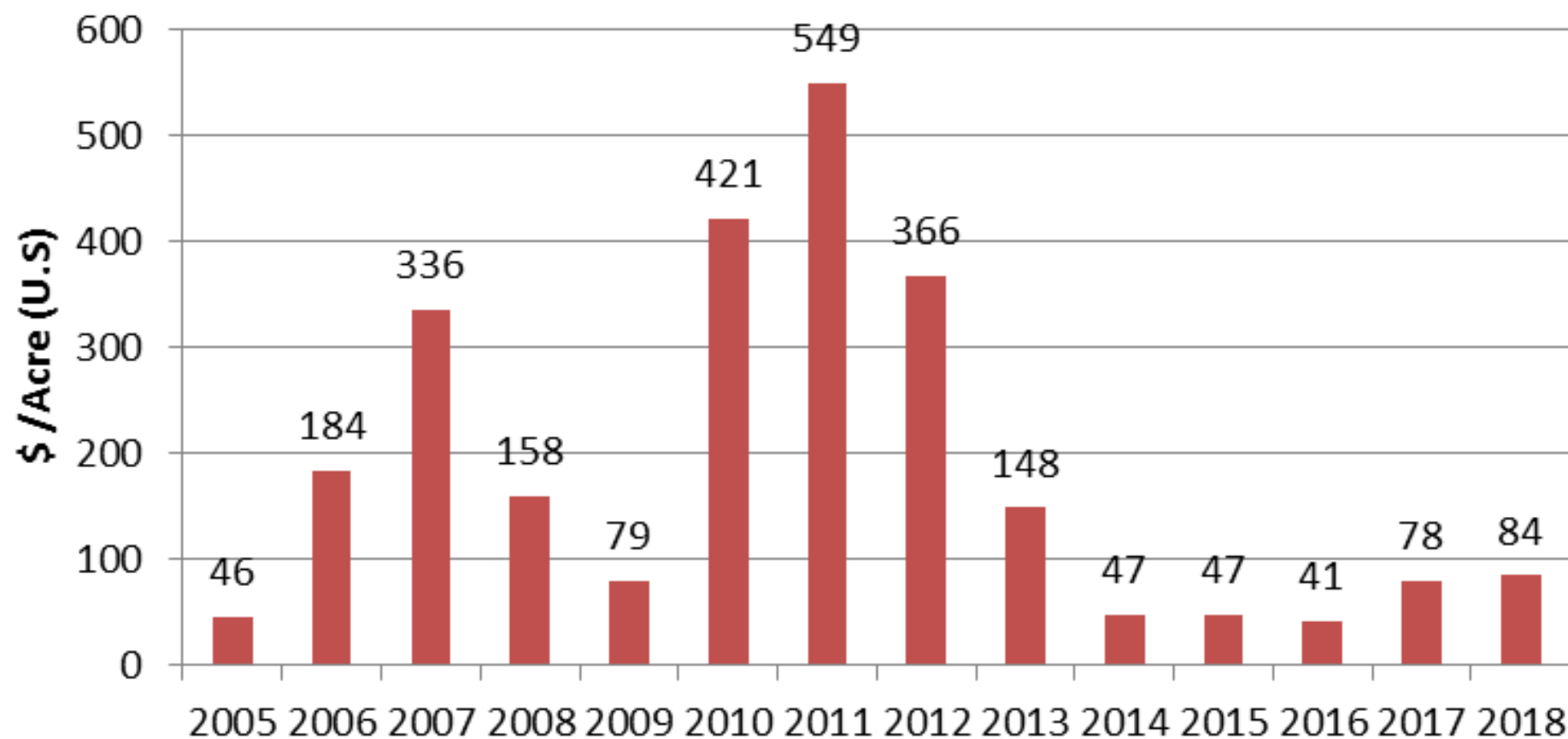


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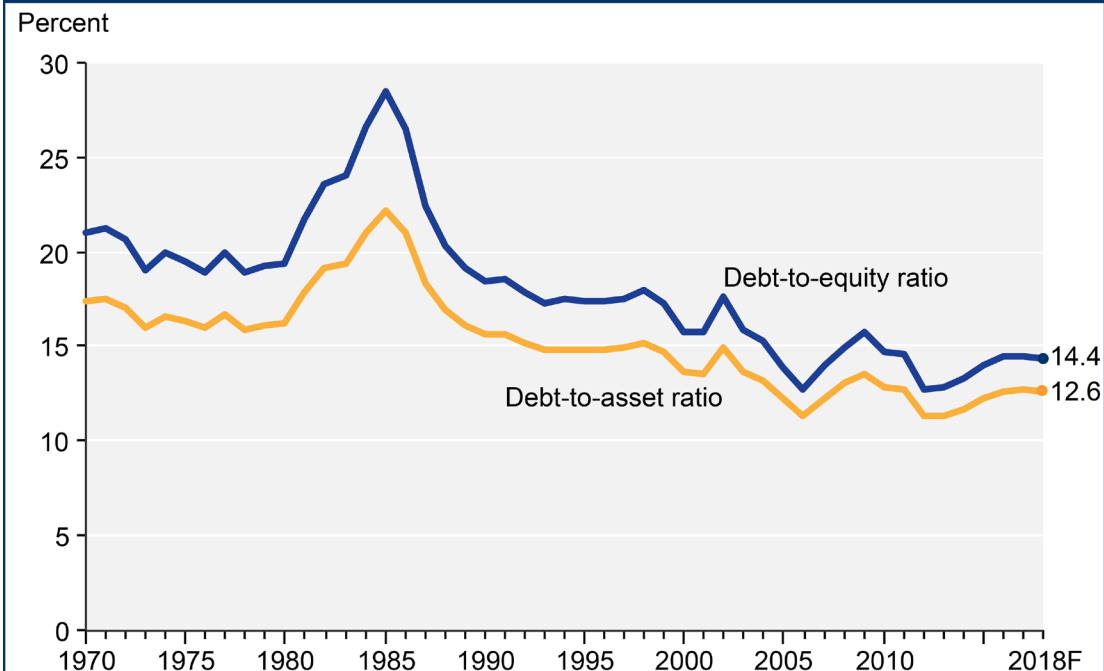
Table 3: Ohio Cropland Values and Cash Rents
Southwest Ohio Results

Land Class		Average		Std	Range*	
Average		Avg Corn Yield (bu/a)	185.0	18.0	203.0	167.0
		Avg Soybean Yield (bu/a)	55.3	6.8	62.2	48.5
	Market Value per Acre	2017	\$7,839	\$1,102	\$8,941	\$6,738
		2018	\$7,709	\$1,068	\$8,777	\$6,642
	Rent per Acre	2017	\$213	\$33	\$246	\$179
		2018	\$210	\$33	\$243	\$176
Top		Avg Corn Yield (bu/a)	214.6	17.7	232.3	196.8
		Avg Soybean Yield (bu/a)	66.3	6.3	72.6	60.0
	Market Value per Acre	2017	\$9,208	\$1,561	\$10,768	\$7,647
		2018	\$9,030	\$1,475	\$10,505	\$7,555
	Rent per Acre	2017	\$263	\$41	\$305	\$222
		2018	\$255	\$41	\$296	\$214
Poor		Avg Corn Yield (bu/a)	153.7	20.6	174.3	133.0
		Avg Soybean Yield (bu/a)	44.8	8.5	53.3	36.3
	Market Value per Acre	2017	\$6,298	\$1,092	\$7,390	\$5,206
		2018	\$6,106	\$1,130	\$7,236	\$4,976
	Rent per Acre	2017	\$168	\$28	\$196	\$140
		2018	\$166	\$29	\$195	\$137

Ohio Corn - Returns to Land

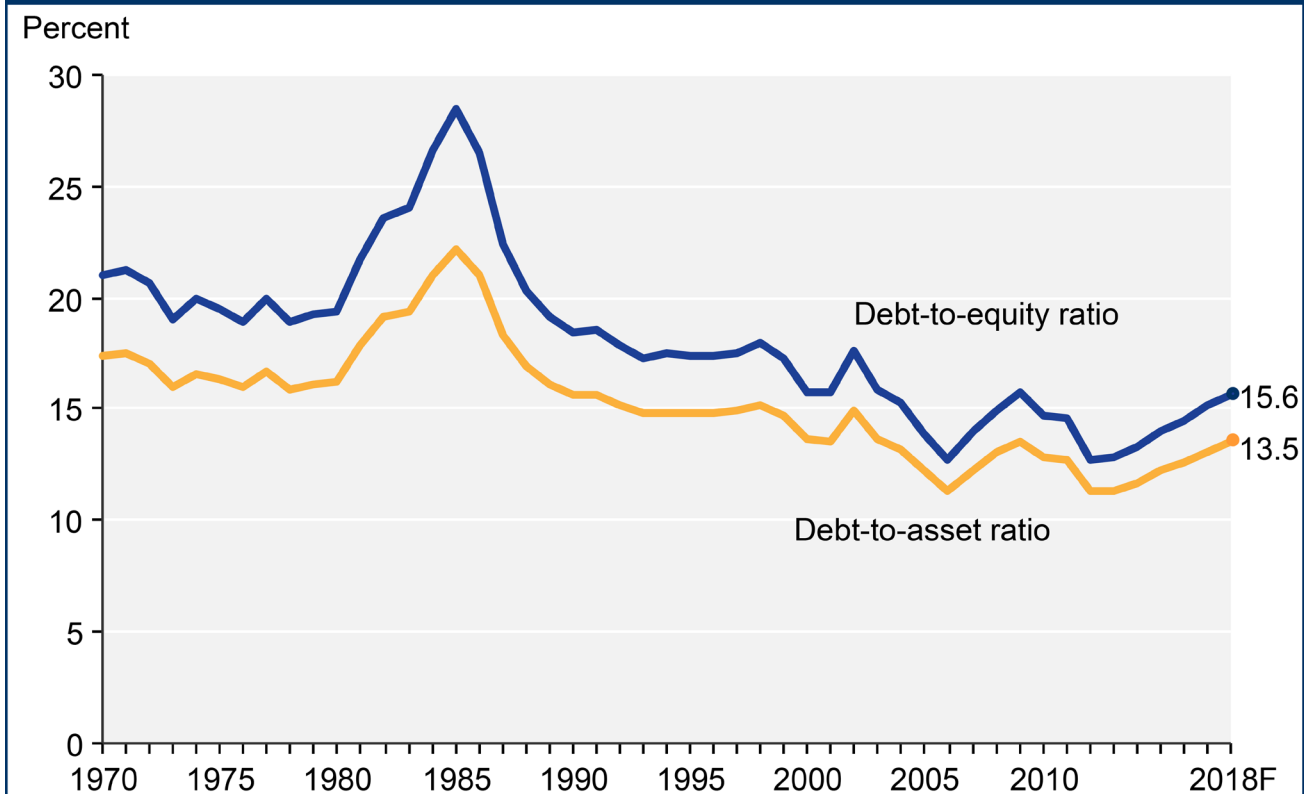


Farm sector solvency ratios, 1970-2018F



Note: F = forecast; data for 2016 and 2017 are forecasts.
 Source: USDA, Economic Research Service, Farm Income and Wealth Statistics.
 Data as of February 7, 2018.

Farm sector solvency ratios, 1970-2018F



Note: F = forecast.
 Source: USDA, Economic Research Service, Farm Income and Wealth Statistics.
 Data as of November 30, 2018.

Rental Rates: Outlook

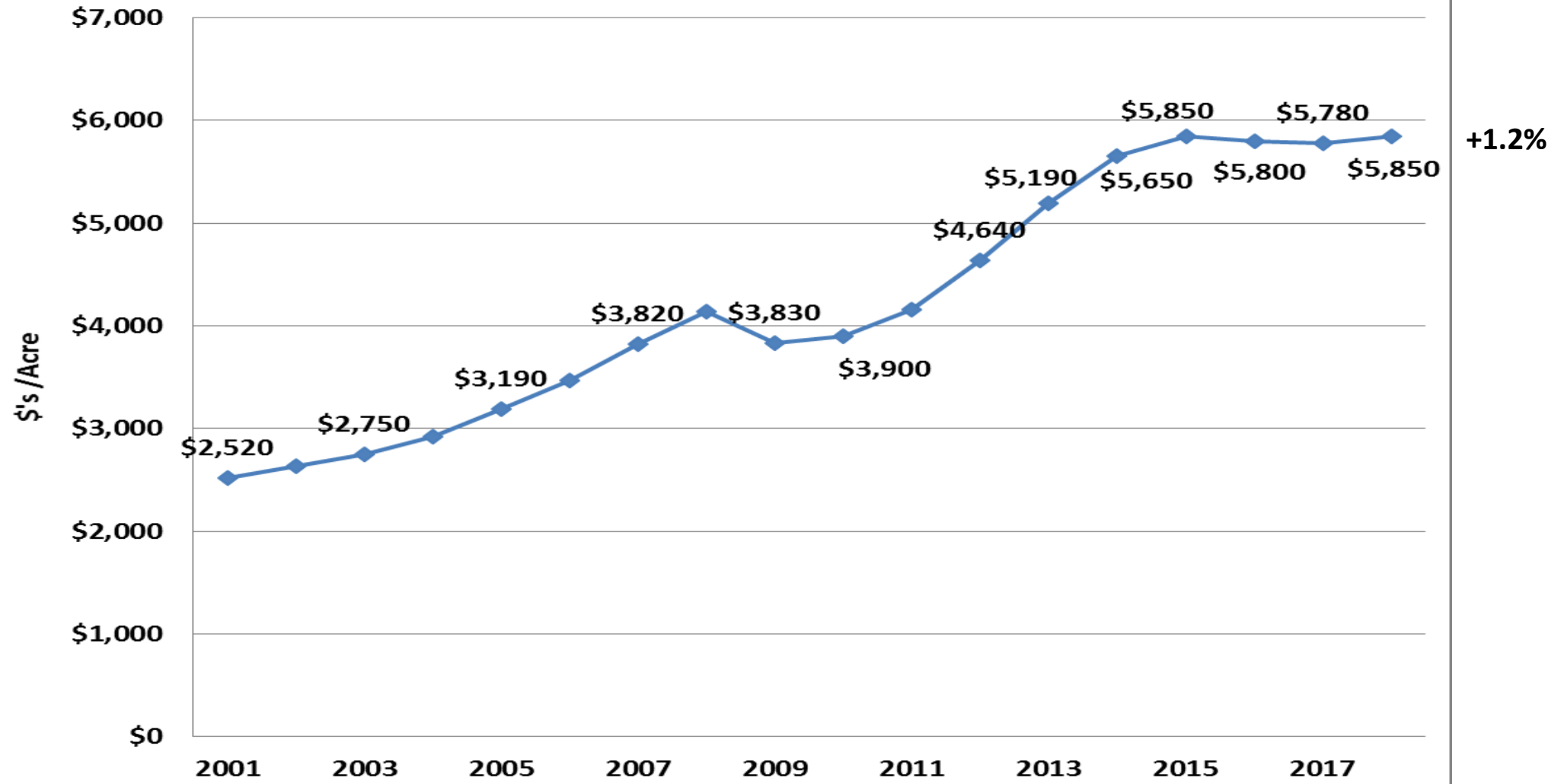
Competing Fundamentals:

- Crop Net Income will again be low
- Farmer equity positions are healthy but weakening
- ARC/PLC payments in 2018 low/zero
- CAUV/Property Taxes lower in many counties

versus

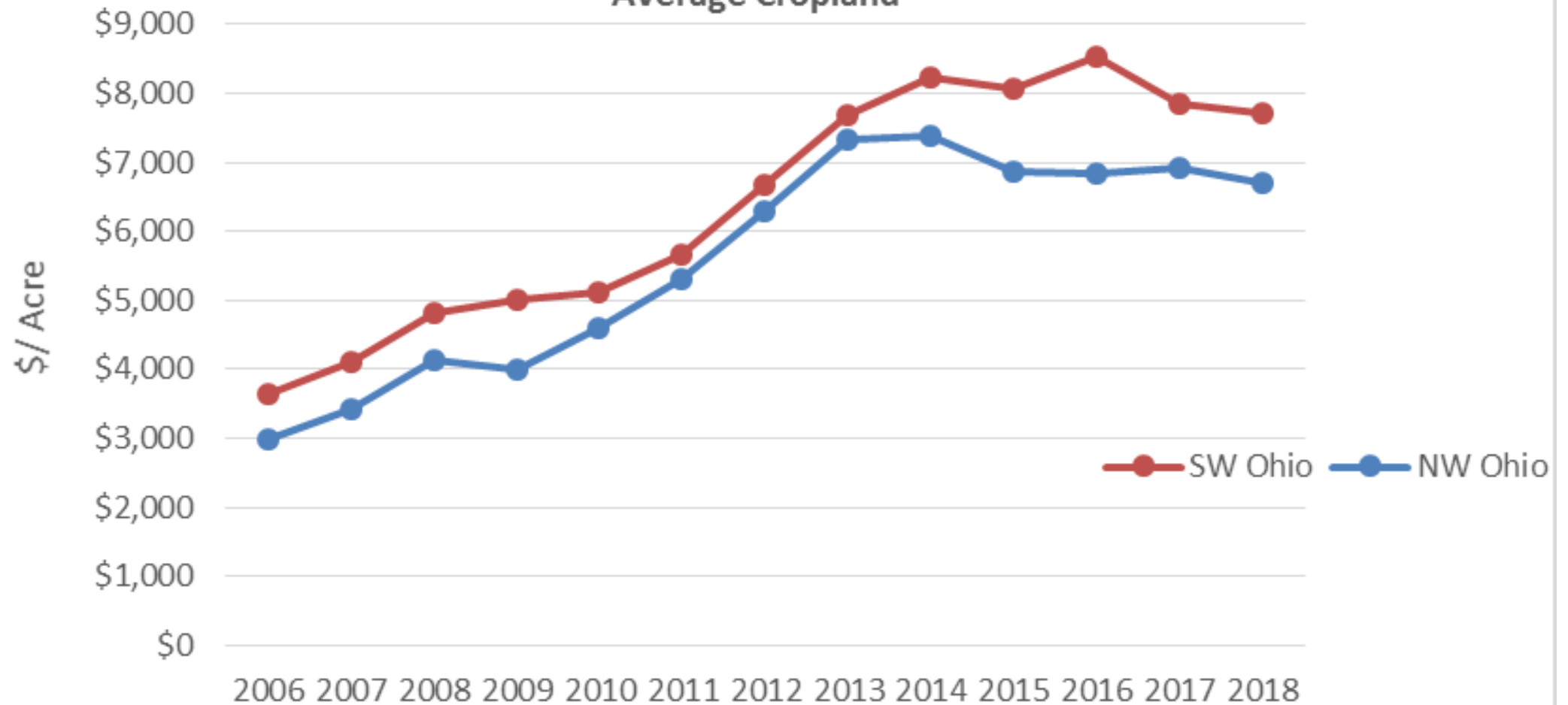
- Farmer equity positions are healthy in an historical context
- Market Facilitation Program Payments
- Yields were good 2017 and 2018
- CAUV/Property Taxes still on landowner minds

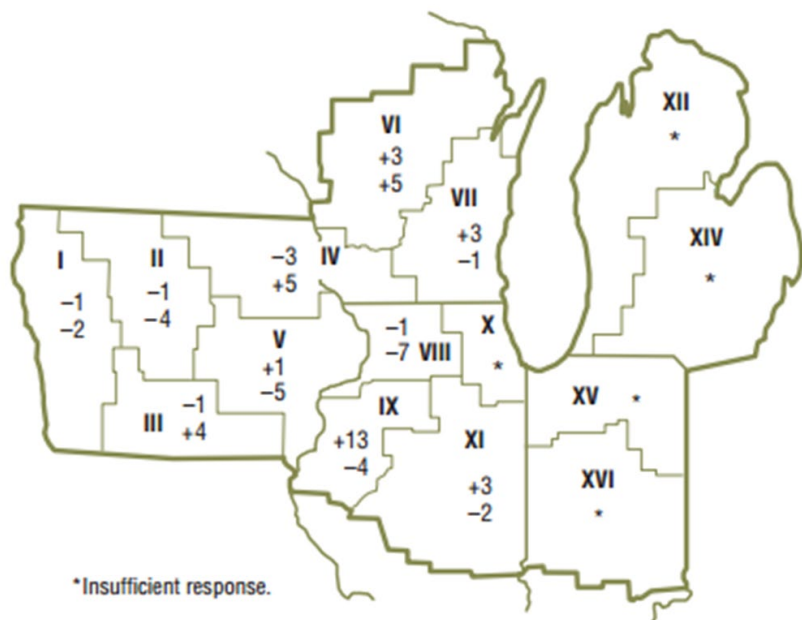
Ohio Bare Cropland Values - NASS



Western Ohio Cropland Values

Average Cropland





Chicago Fed (October 1, 2018)

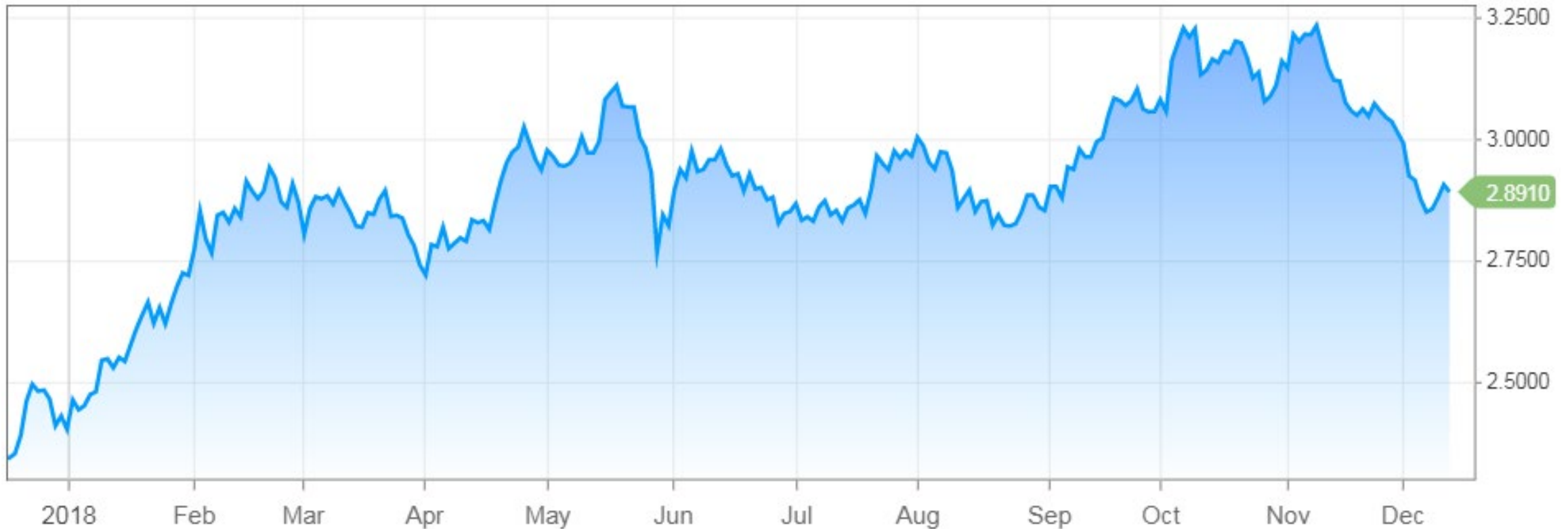
Indiana - Northern 3/4 – “Good” Farmland

Yearly (Oct 1, '17 – Oct 1, '18) +1% (District 7, +1%)

2nd Qtr. Change -2% (District 7, -1%)

U.S. Treasuries – 10 Year T- Bills

Source: CNBC



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Interest Rates - Fed

- Target Rate (2.0 – 2.25%)....(3.0-3.25%)?
 - Full employment (~4.0% Unemployment)
 - Economic growth – 3.5% growth in 3rd Qtr
 - Inflation Indicators
 - CPI-U 2.2% “Core” CPI 2.2%
- Fed Actions – One more rate increase in 2018 and two - four in 2019?

Interest Rates

>>Strong Dollar

>>Resilient demand for U.S. treasuries

>>Federal debt prospects

>>Trade disputes

Credit Conditions at 7th District Agricultural Banks

		Operating Loans	Feeder Cattle	Real Estate
		percent	percent	percent
2018	Jan–Mar	5.53	5.62	5.14
	Apr–June	5.69	5.75	5.28
	July–Sept	5.86	5.93	5.46

Farmland Values: Outlook

Competing Fundamentals:

- Crop Net Income will again be low
- Farmer equity positions are healthy but weakening
- ARC/PLC payments in 2018
- Livestock/Dairy income mixed*
- Higher interest rates*

versus

- Farmer equity positions are healthy in an historical context
- Market Facilitation Program Payments
- Yields were good 2017 and 2018
- Limited supply of land for sale
- Phosphorous regulations*
- Development pressure - housing*
- Estate taxes mostly inconsequential

Act to provide for reconciliation pursuant to titles II and V of the concurrent resolution on the budget for fiscal year 2018 (AtPfRPtTIIaVotCRotBfFY2018)

Also known as the: “Tax Cuts and Jobs Act”
(TCJA)

Signed into law on December 22nd, 2017

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Tax Cuts and Jobs Act 2017

- Farm Equipment Depreciation
- Bonus First-Year Depreciation
- Section 179 Expensing
- Like Kind Exchanges
- Net Operating Loss
- Estate & Gift Tax Update
- Qualified Business Income Deduction

Corporate Tax – TCJA 2017

Corporate Tax Rate

- Flat tax at 21%
 - For those previously in the 15% bracket it is an increase of 40%
- Small C-Corps converting to S-Corps? Implications?

New § 199A Deduction for Qualified Business Income (QBI)

QBI Deduction

- A deduction in the amount of 20% is allowed for “pass through entities” - sole proprietorships, partnerships, and S corporations (LLCs are included) from qualified business income from what is termed a “qualified trade or business”.
- The deduction is claimed on the individual’s tax returns whether an individual itemizes or does not itemize.
- It reduces taxable income (not AGI) and is 20% of “qualifying business income” (or 20% of taxable ordinary income).

New § 199A Deduction for Qualified Business Income (QBI)

- *Things to remember if nothing else....*
- The very large majority of farmers will be eligible for the entire 20% deduction!
- Qualified Business Income from sales to cooperatives will need to be tracked separately
- Cash rent income to cash rent landlords may not qualify.....

New § 199A Deduction for Qualified Business Income (QBI)

QBI Deduction Phase-out Thresholds

- I. For individuals with taxable income of less than \$157,500 for single filers and \$315,000 for joint filers.
 - The deductible amount for EACH qualified trade or business is 20% of the taxpayers qualified business income (QBI) with respect to each trade or business
 - More precisely the lesser of 20% of QBI or taxable ordinary income

New § 199A Deduction for Qualified Business Income (QBI)

QBI Deduction Phase-out Thresholds

- I. High Income Taxpayers Need Wages and/or Property
- II. For individuals with taxable income of more than \$157,500 for single filers and \$315,000 for joint filers.
 - Phase out ranges: \$50,000 for single filers and \$100,000 for joint filers
 - Phase out range for single filers: \$157,000 - \$207,000
 - Phase out range for joint filers: \$315,000 - \$415,000

New § 199A Deduction for Qualified Business Income (QBI)

QBI Deduction Phase-out Thresholds

- Once filers exceed the phase out ranges (\$207,500 for single filers and \$415,000 for joint filers) the calculations are simple (relatively):
- The deduction is the greater of:
 - 50% of the W-2 wages paid by the business or
 - The sum of 25% of the W-2 wages with respect to the trade or business and 2.5% of the depreciable property.

New § 199A Deduction for Qualified Business Income (QBI)

Sales to Cooperatives:

- Step 1: First, patrons calculate the 20 percent QBI deduction that would apply if they had sold the commodity to a non-cooperative
- Step 2: The patron must then subtract from that initial 199A deduction amount whichever of the following is **smaller**:
 - 9 percent of net income attributable to cooperative sale(s) OR
 - 50 percent of W-2 wages they paid to earn that income from the cooperative
- Step 3: Add back in cooperative's qualified production activities income (QPAI) attributable to that patron's sales.

New § 199A Deduction for Qualified Business Income (QBI)

- **Landlords:**
- Crop share landlords filing a Schedule F are eligible
- Cash rent landlords filing a Schedule E may not be eligible pending final regs (although there is some disagreement)
- Crop share landlords filing Form 4835 may qualify (if they are materially participating they likely will)
 - Landlords will likely have to pass as a trade or business according to IRC Section 162

New § 199A Deduction for Qualified Business Income (QBI)

- **Farms with Multiple Entities:**
- Proposed regulations indicate that common ownership of business entities allows the farmer to combine the rent income with the farm income – an advantage
- **Section 1231 Capital Gain Income:**
- Will not qualify as QBI if the gain is treated as a capital gain – likely not good for dairy producers (raised breeding livestock)



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