

Farm Business Management Financial Performance Farm Programs

Agricultural Lenders Conference

West Presentation via Zoom

October 22, 2020

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NDSU

EXTENSION

Source of Information

North Dakota Farm Business Management
Education Programs

FFSC Recommended Financial Measures

Liquidity

1. Current Ratio
2. Working Capital
3. Working Capital/Gross Revenue Ratio

Solvency

4. Debt/Asset Ratio
5. Equity/Asset Ratio
6. Debt/Equity Ratio

Profitability

7. Rate of Return on Farm Assets
8. Rate of Return on Farm Equity
9. Operating Profit Margin Ratio
10. Net Farm Income
11. EBITDA

Repayment Capacity

12. Capital Debt Repayment Capacity
13. Capital Debt Repayment Margin
14. Replacement Margin
15. Term Debt and Capital Lease Coverage Ratio
16. Replacement Margin Coverage Ratio

Financial Efficiency

17. Asset Turnover Ratio
18. Operating Expense Ratio
19. Depreciation/Amortization Expense Ratio
20. Interest Expense Ratio
21. Net Farm Income from Operations Ratio

Net Farm Income

Cash Income

- Cash Expense

$\pm$ Inventory Change

- Depreciation

$\pm$ Gain/Loss on Capital Sales

North Central

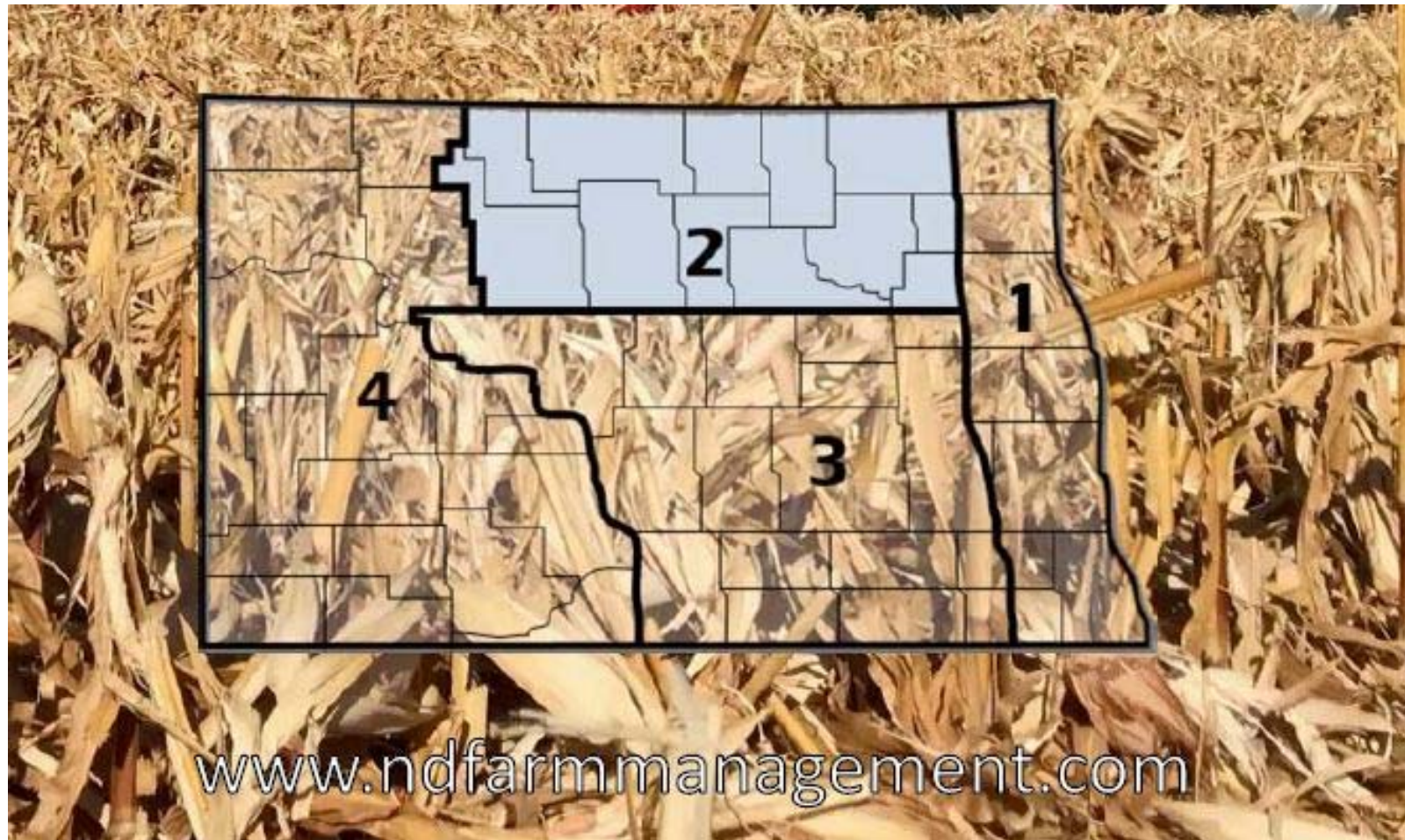


Figure 1. Gross Cash Income Per Farm

N.D. Farm Business Management Education Program – North Central Region

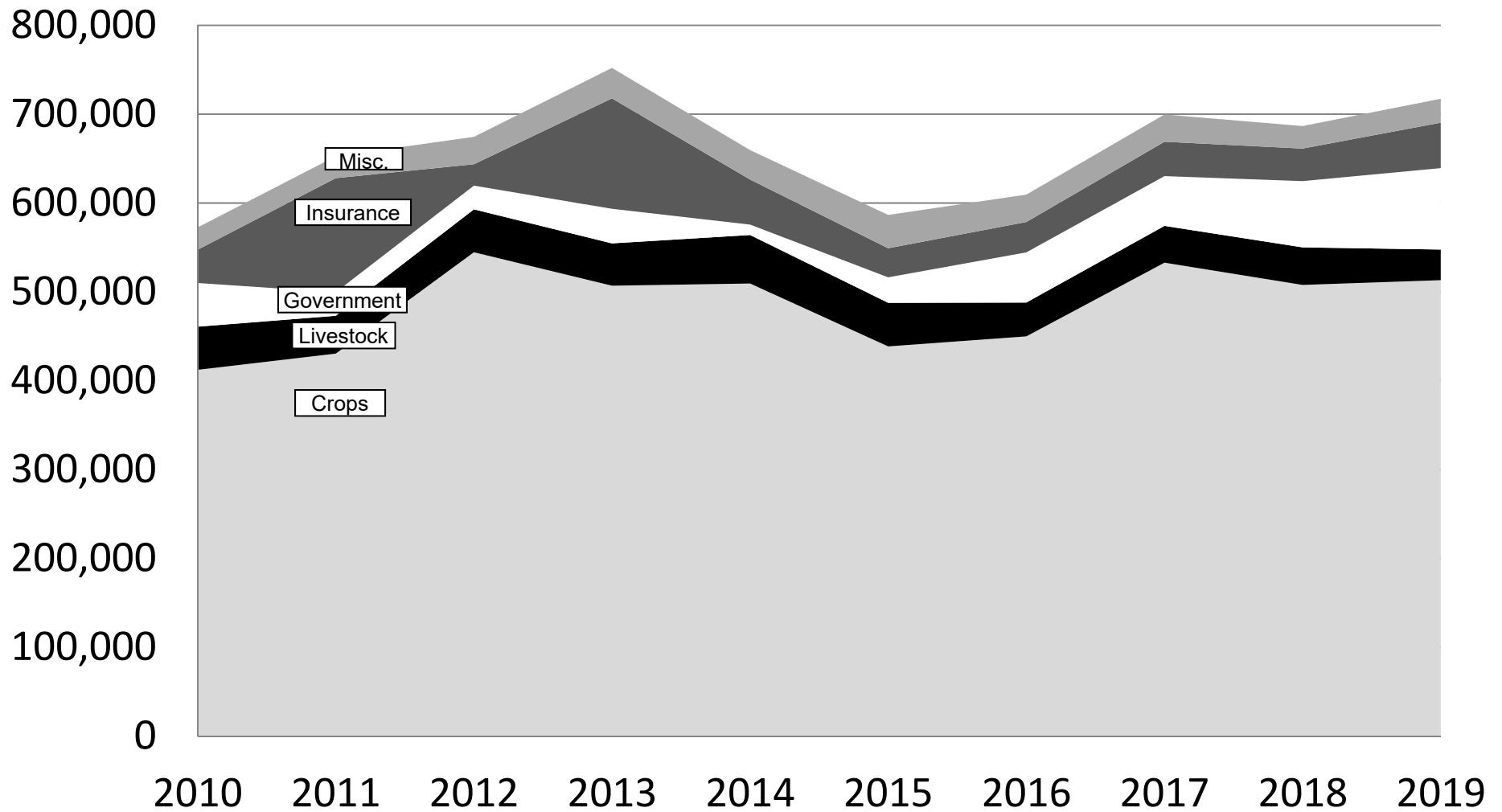


Figure 2. Net Farm Income (Accrual) Per Farm

N.D. Farm Business Management Education Program – North Central Region

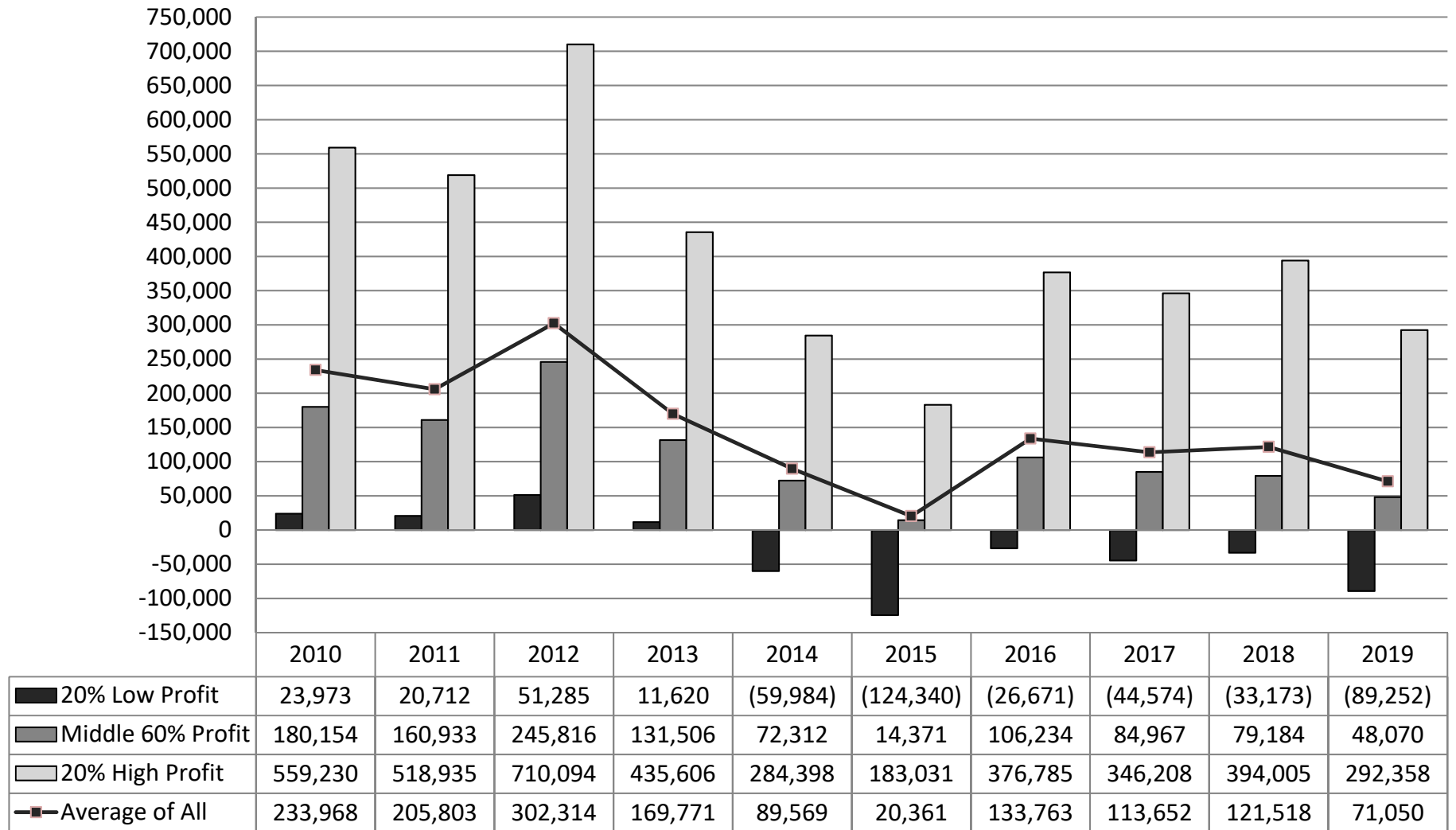
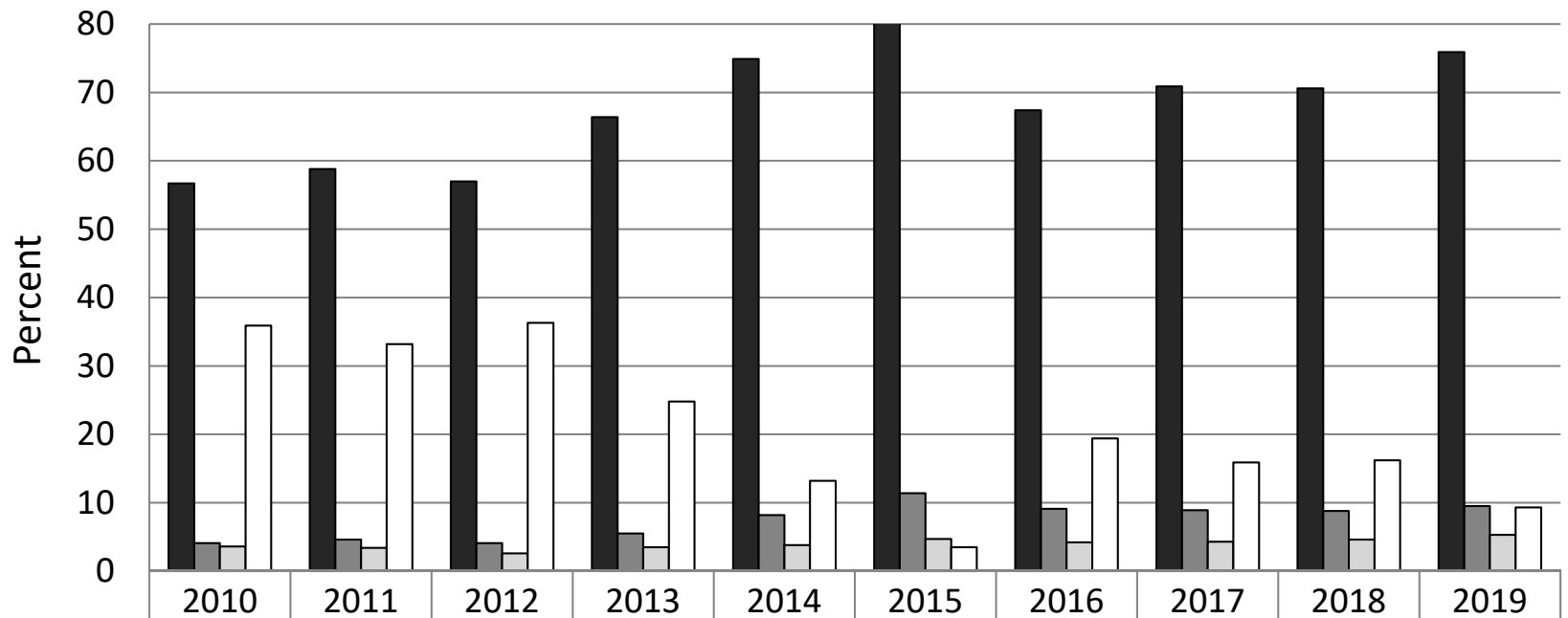


Figure 3. Financial Efficiency Measures (As Percent of Gross Revenue)

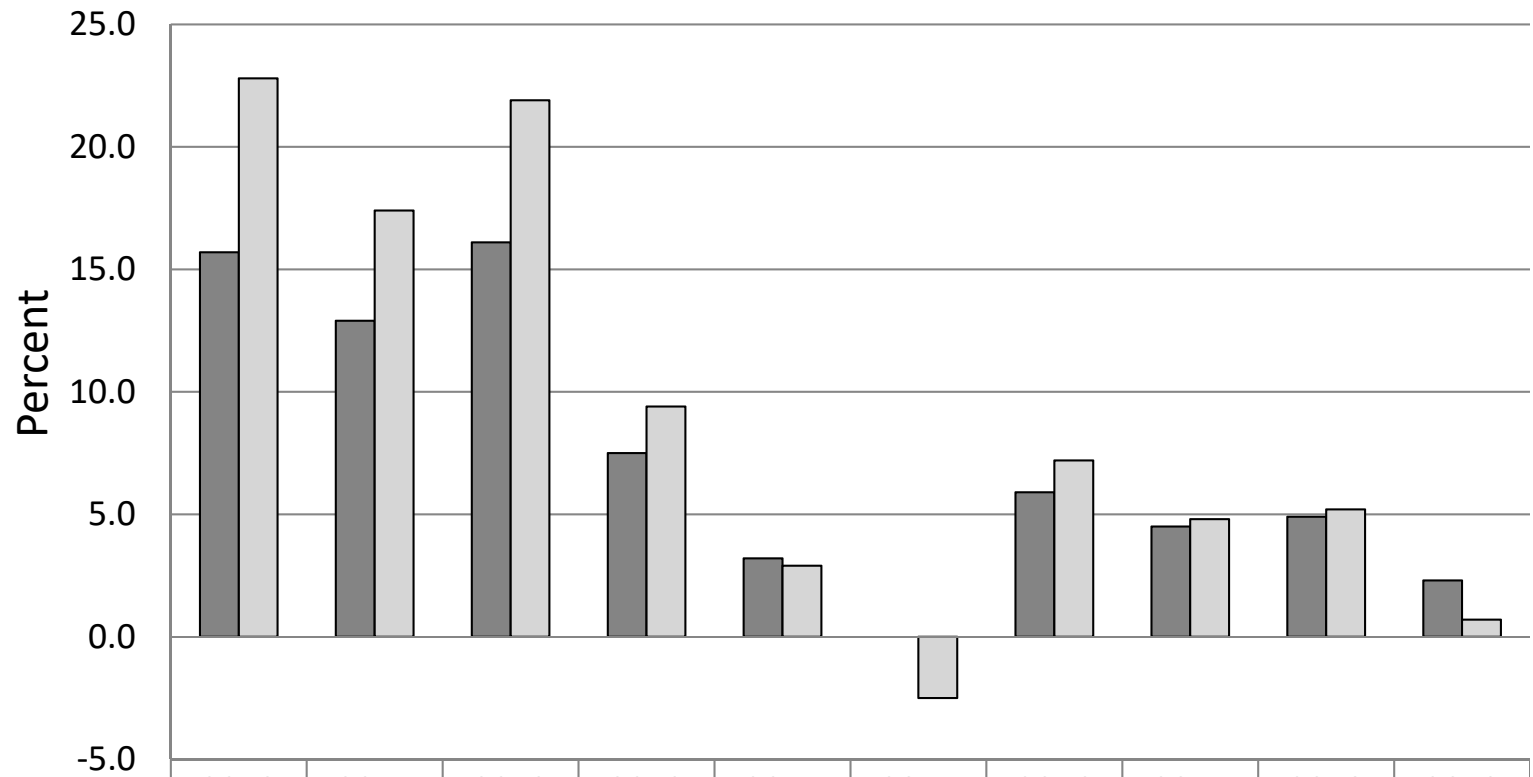
N.D. Farm Business Management Education Program – North Central Region



■ Operating Exp. %	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
■ Depreciation %	56.7	58.8	57	66.4	74.9	80.4	67.4	70.9	70.6	75.9
■ Interest Exp. %	4.1	4.6	4.1	5.5	8.2	11.4	9.1	8.9	8.8	9.5
■ Net Farm Inc. %	3.6	3.4	2.6	3.5	3.8	4.7	4.2	4.3	4.6	5.3
	35.9	33.2	36.3	24.8	13.2	3.5	19.4	15.9	16.2	9.3

Figure 4. Profitability Measures Per Farm

N.D. Farm Business Management Education Program – North Central Region



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
■ Rate of Return on Assets	15.7	12.9	16.1	7.5	3.2	0.0	5.9	4.5	4.9	2.3
□ Rate of Return on Equity	22.8	17.4	21.9	9.4	2.9	-2.5	7.2	4.8	5.2	0.7

Figure 5. Assets and Liabilities Per Farm, 2019

N.D. Farm Business Management Education Program – North Central Region

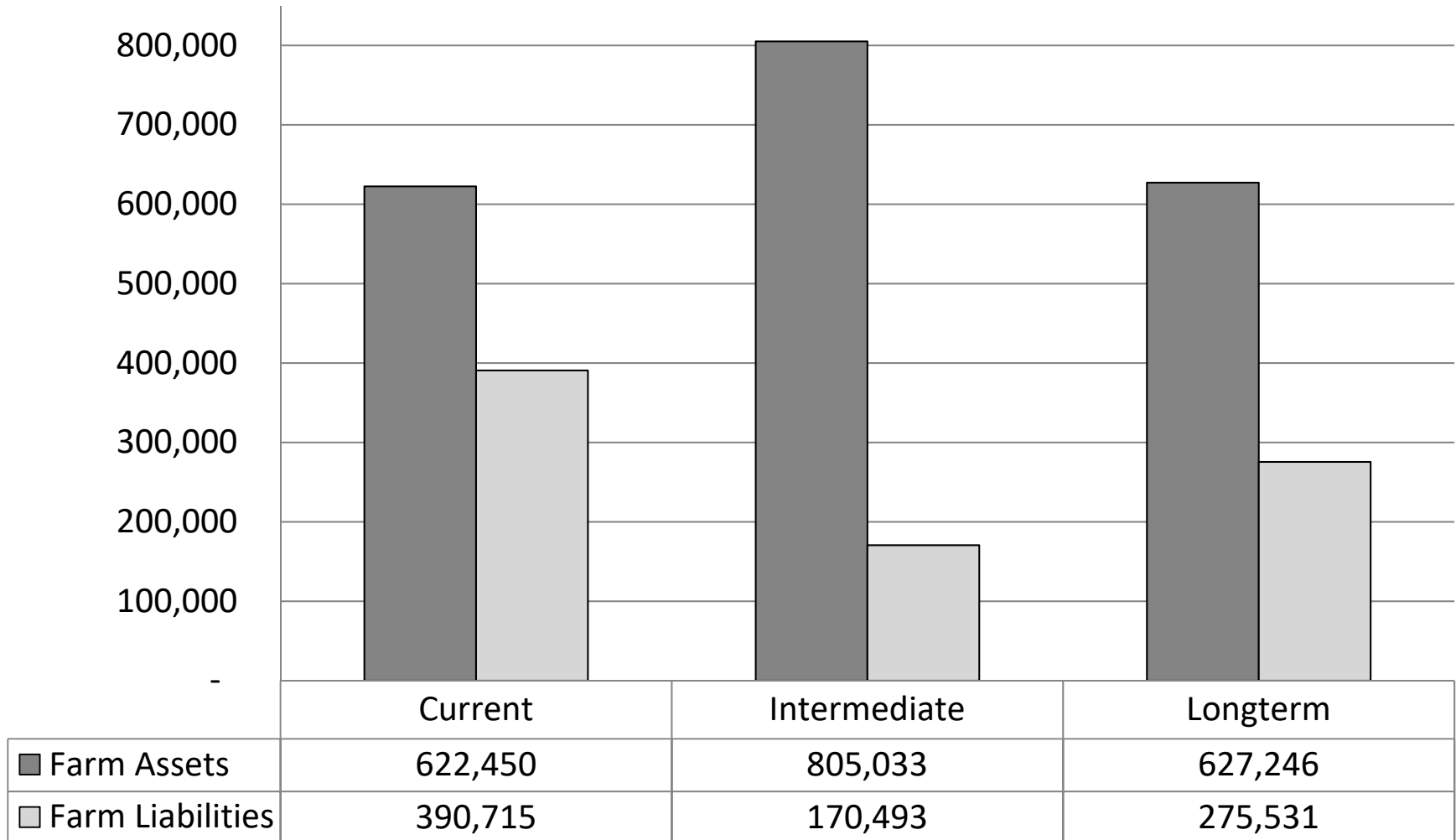


Figure 6. Total Farm Assets and Liabilities

N.D. Farm Business Management Education Program – North Central Region

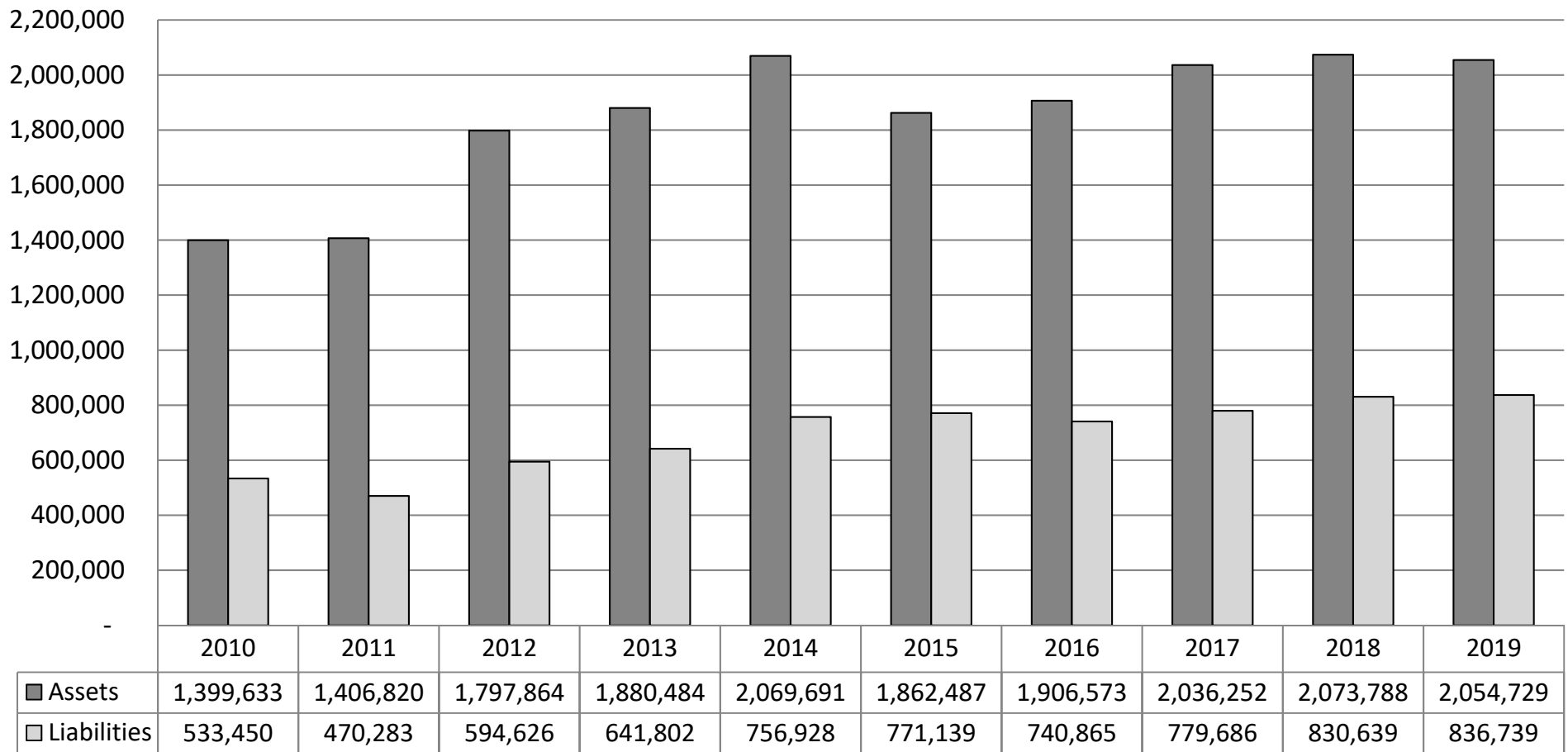
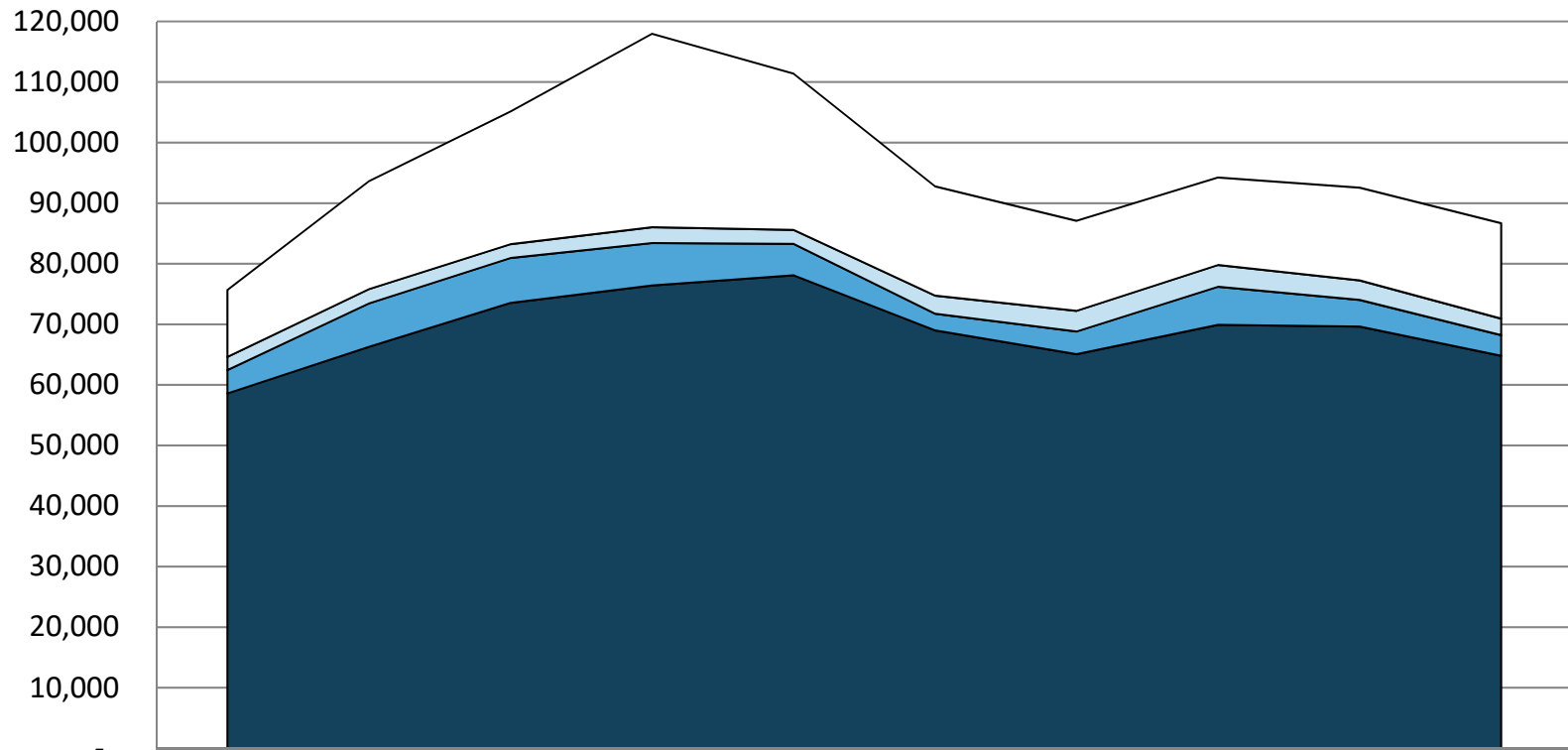


Figure 7. Household and Personal Expenses

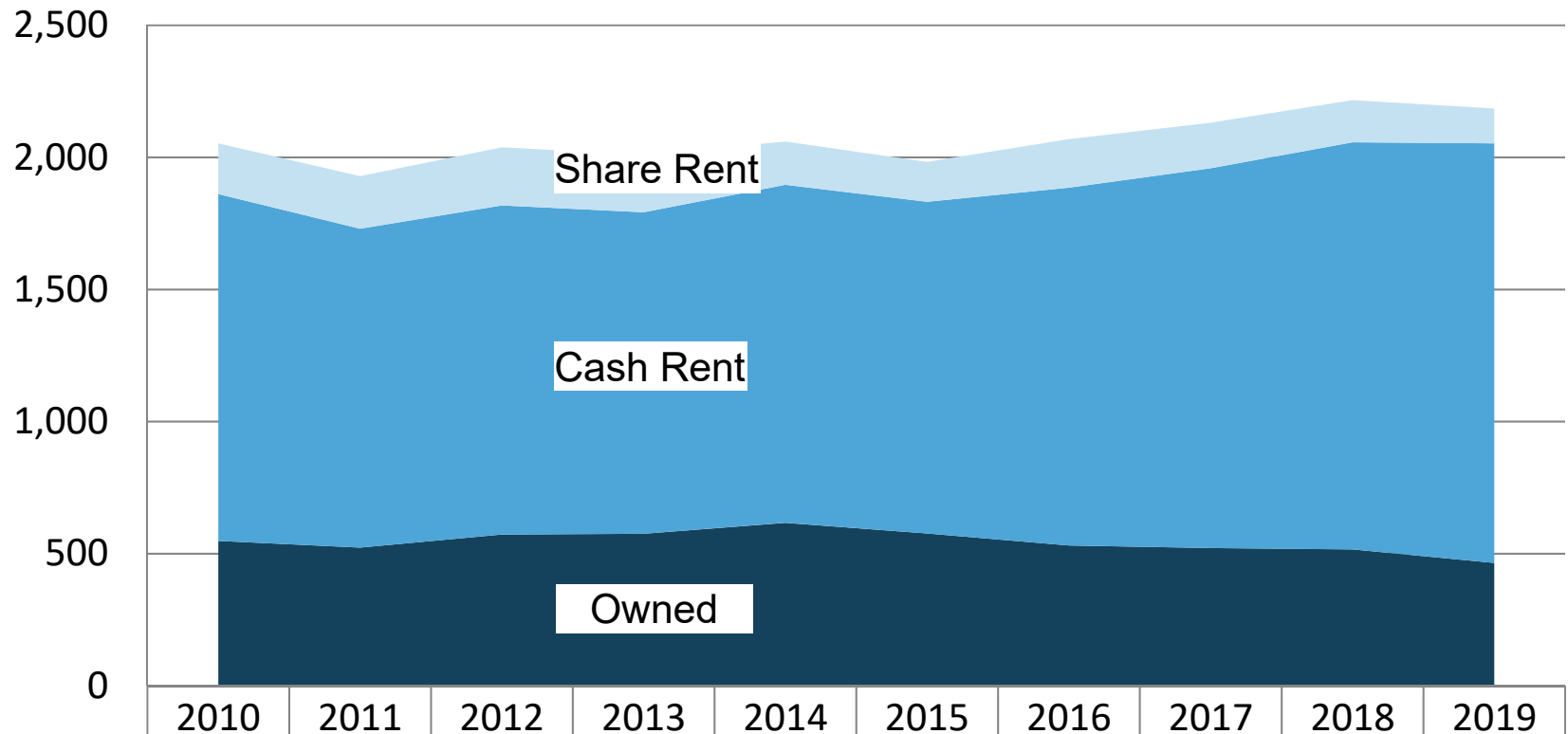
N.D. Farm Business Management Education Program – North Central Region



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Income Taxes	11,054	17,817	21,921	31,934	25,790	18,024	14,853	14,442	15,323	15,743
Life Insurance	2,177	2,364	2,279	2,609	2,307	2,985	3,408	3,580	3,226	2,712
Furnishings & Vehicle	3,852	7,184	7,407	7,014	5,189	2,764	3,749	6,288	4,398	3,405
Family Living	58,595	66,261	73,536	76,404	78,095	68,995	65,071	69,927	69,621	64,818

Figure 8. Crop Acreage Per Farm

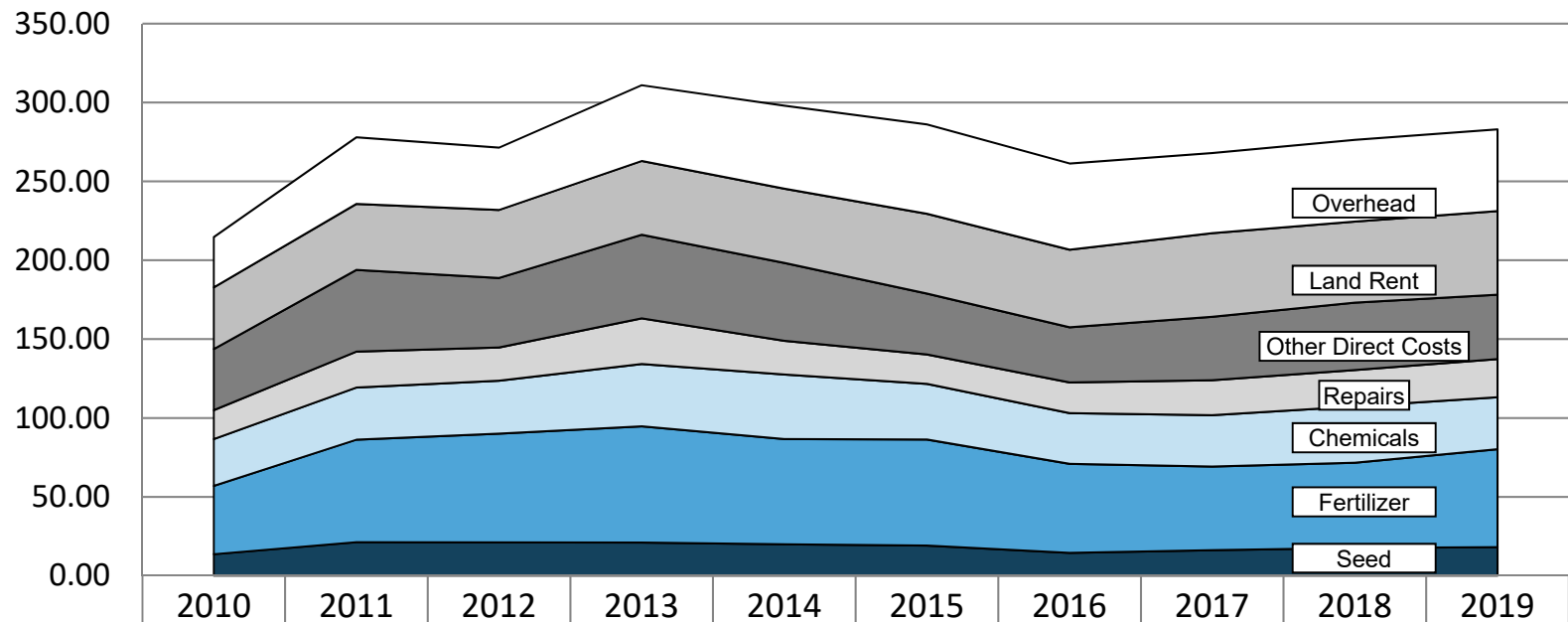
N.D. Farm Business Management Education Program – North Central Region



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Share Rent	192	199	220	218	164	151	184	172	160	132
Cash Rent	1,313	1,207	1,246	1,217	1,279	1,256	1,354	1,438	1,541	1,588
Owned	548	523	572	575	617	576	531	521	516	465

Figure 9. Spring Wheat Costs Per Acre

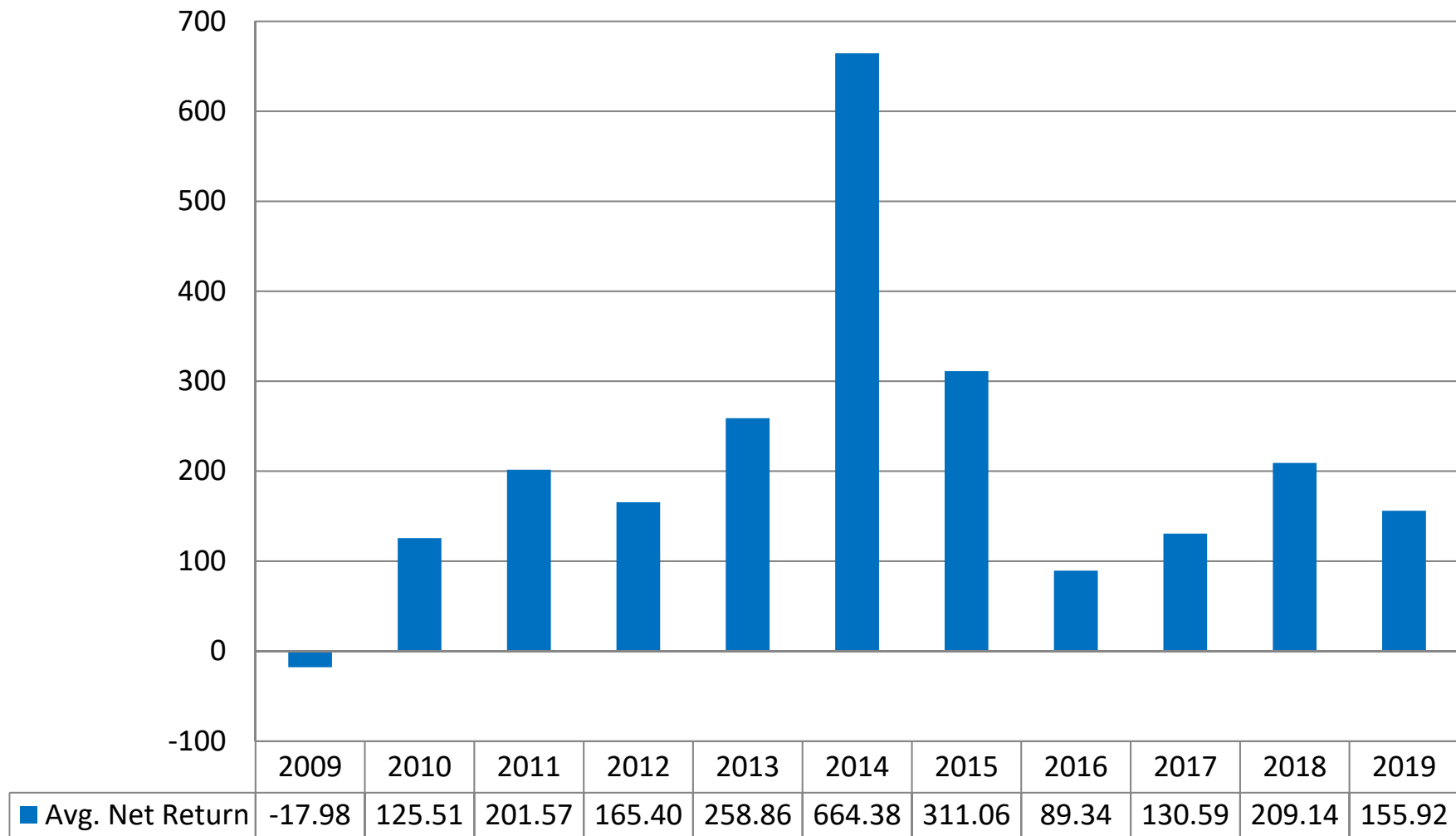
N.D. Farm Business Management Education Program – North Central Region



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Overhead	31.85	42.28	39.47	48.02	52.60	56.70	54.60	50.85	51.78	51.78
Land Rent	39.12	41.79	43.17	46.80	47.03	50.56	49.21	52.96	51.37	52.97
Other Direct Costs	38.74	51.83	44.01	52.98	49.35	38.60	34.91	40.20	42.69	40.83
Repairs	18.34	22.74	21.11	29.00	21.41	18.64	19.44	22.15	23.10	24.22
Chemicals	29.66	33.05	33.52	39.47	40.89	35.32	32.20	32.58	35.74	32.92
Fertilizer	43.29	64.99	68.99	73.63	66.78	67.21	56.43	53.08	53.95	62.08
Seed	13.65	21.27	21.13	21.07	19.90	19.11	14.48	16.15	17.65	18.14

Figure 10. Average Net Return Per Beef Cow

N.D. Farm Business Management Education Program – North Central Region



South Central

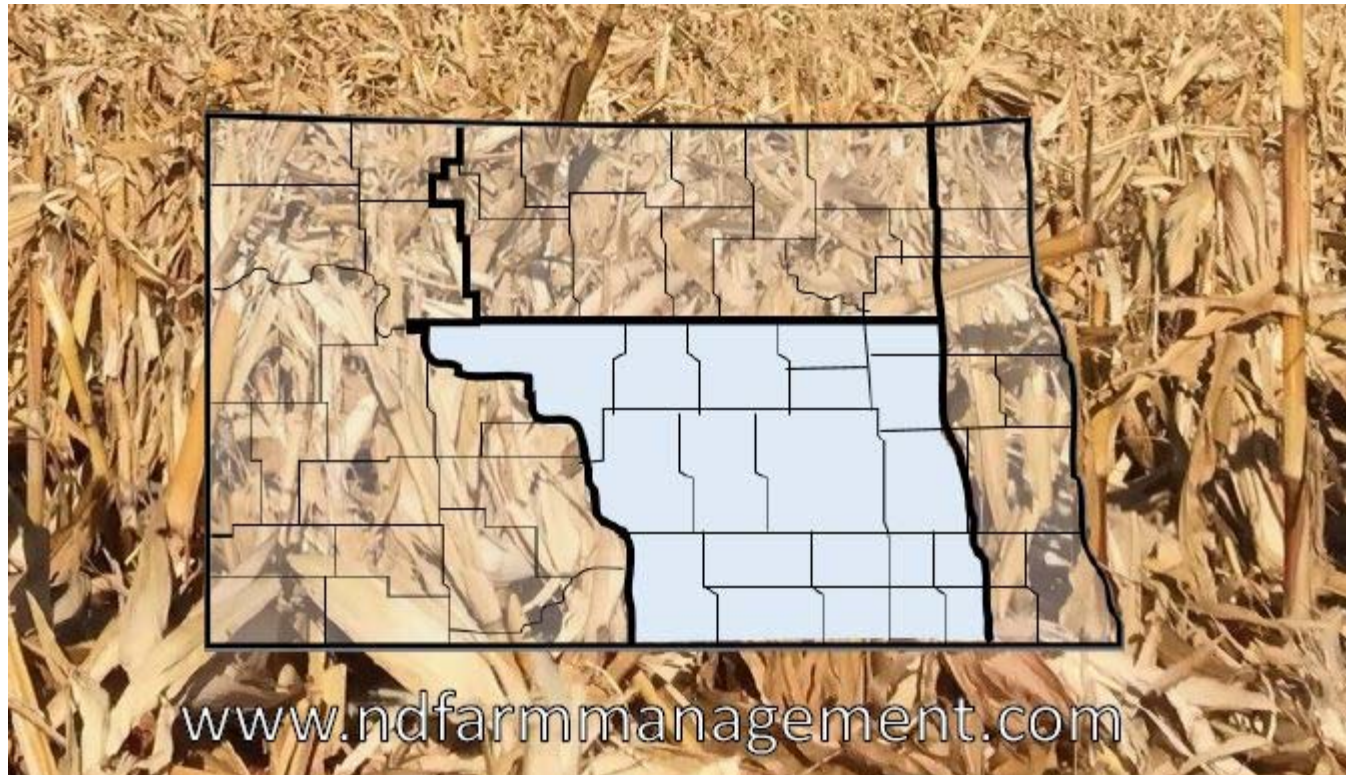
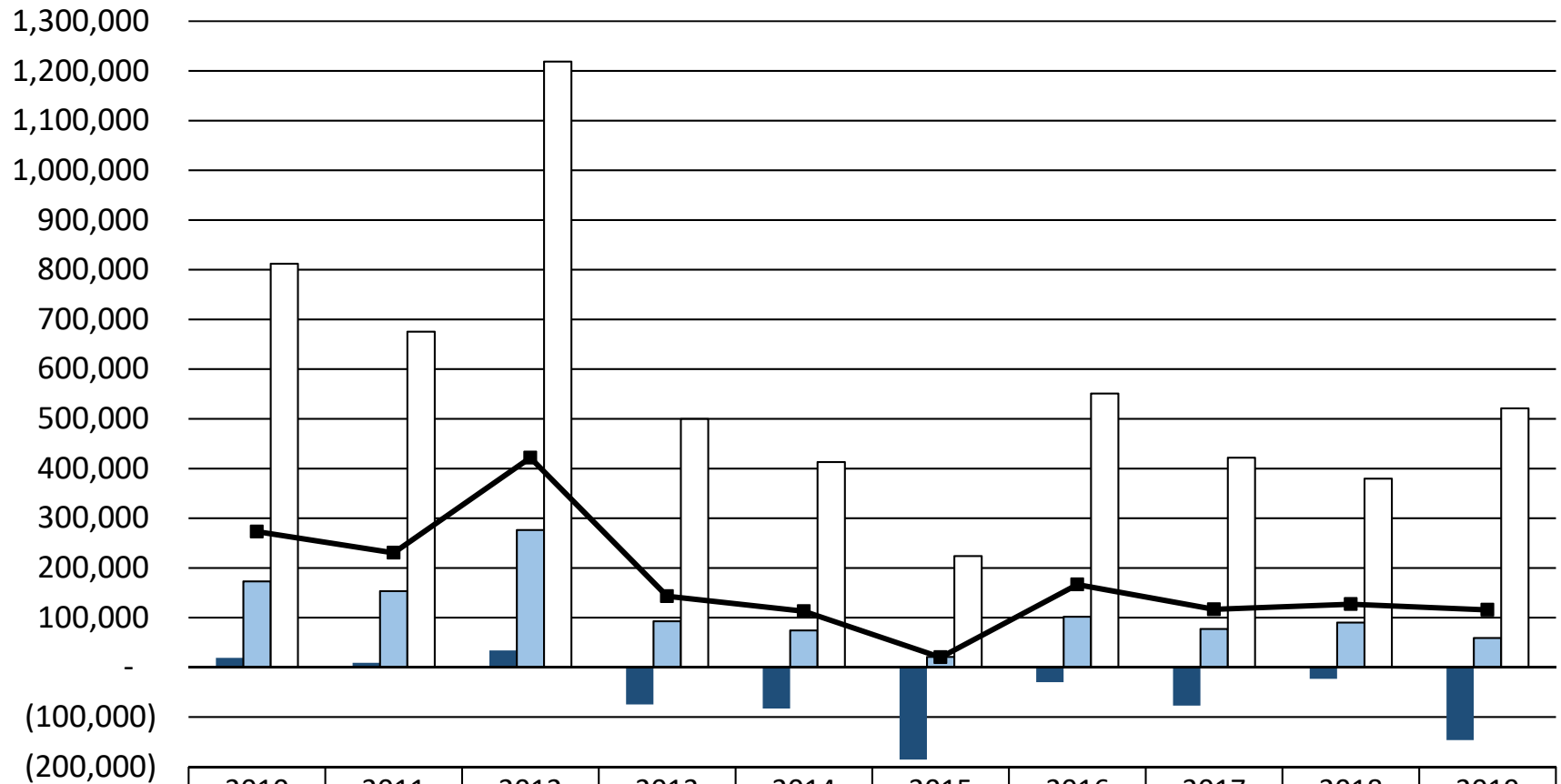


Figure 1. Net Farm Income (Accrual) Per Farm

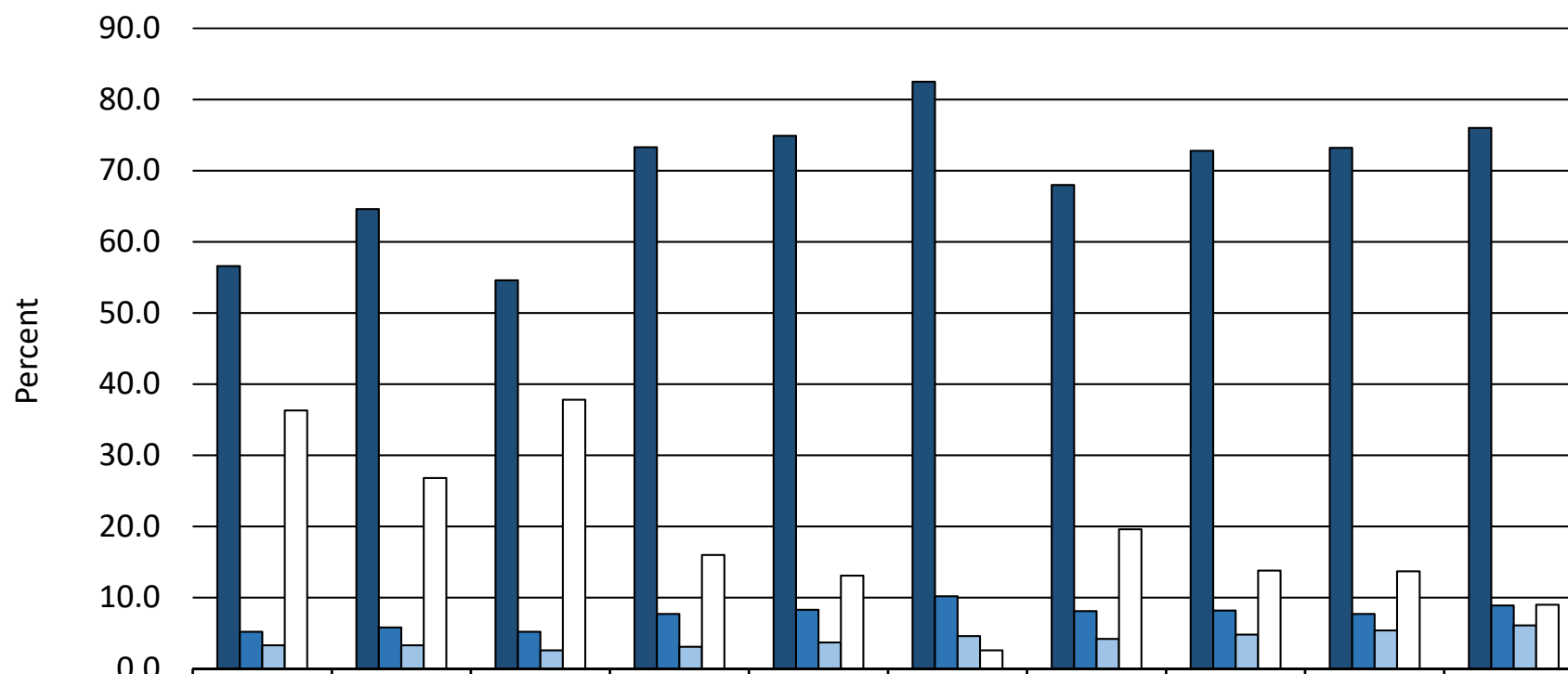
N.D. Farm Business Management Education Program – South Central Region



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
20% Low Profit	18,966	9,070	33,841	(74,624)	(82,920)	(185,675)	(29,894)	(77,071)	(23,274)	(146,513)
Middle 60% Profit	172,967	153,465	276,221	92,662	74,456	20,908	101,747	77,117	90,127	58,974
20% High Profit	812,055	675,386	1,218,68	499,860	413,037	223,916	550,974	421,964	379,822	520,986
Average of All	273,012	230,398	421,735	143,105	112,920	20,193	166,574	116,714	127,089	115,683

Figure 2. Financial Efficiency Measures (As Percent of Gross Revenue)

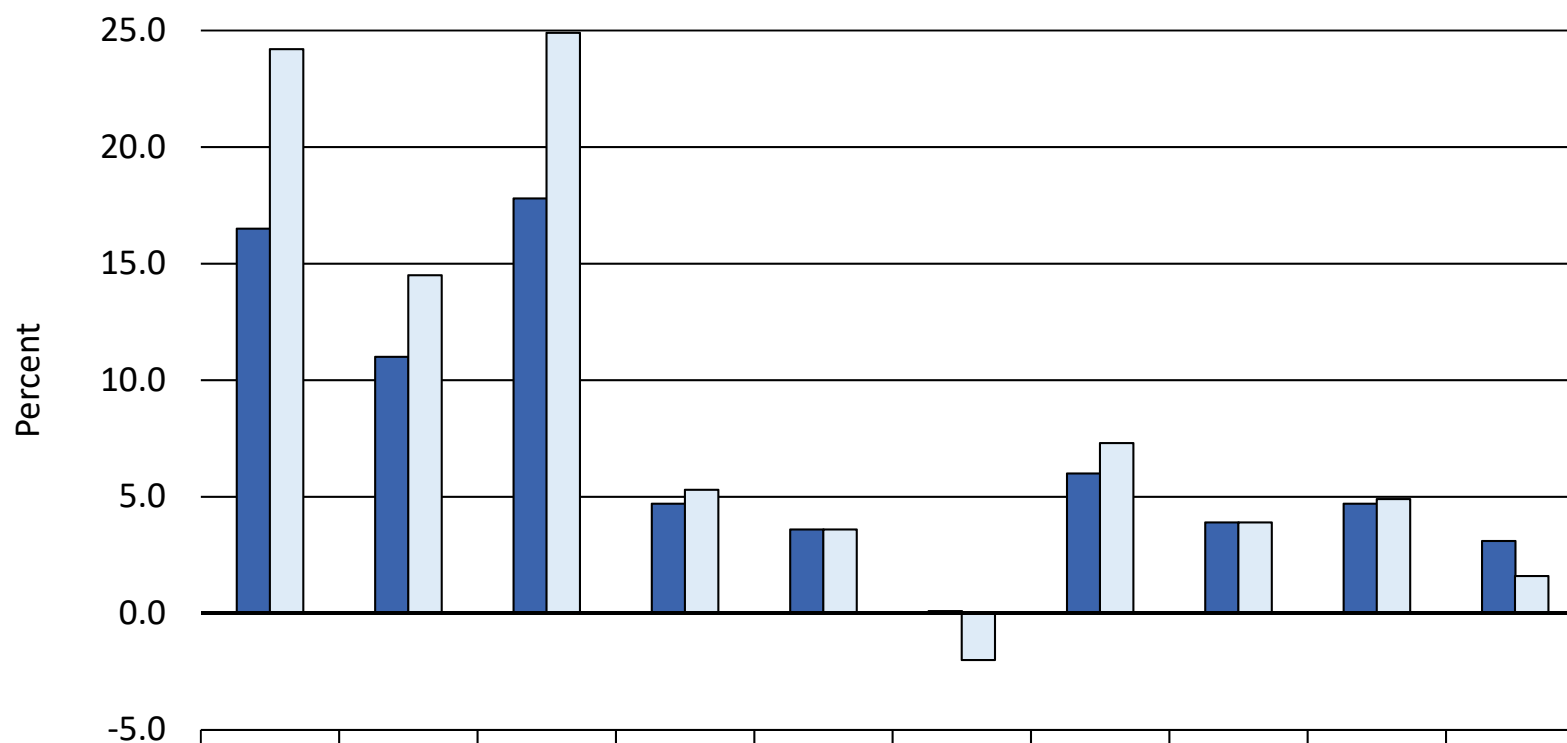
N.D. Farm Business Management Education Program – South Central Region



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Operating Exp. %	56.6	64.6	54.6	73.3	74.9	82.5	68.0	72.8	73.2	76.0
Depreciation %	5.2	5.8	5.2	7.7	8.3	10.2	8.1	8.2	7.7	8.9
Interest Exp. %	3.3	3.3	2.6	3.1	3.7	4.6	4.2	4.8	5.4	6.1
Net Farm Inc. %	36.3	26.8	37.8	16	13.1	2.6	19.6	13.8	13.7	9.0

Figure 3. Profitability Measures Per Farm

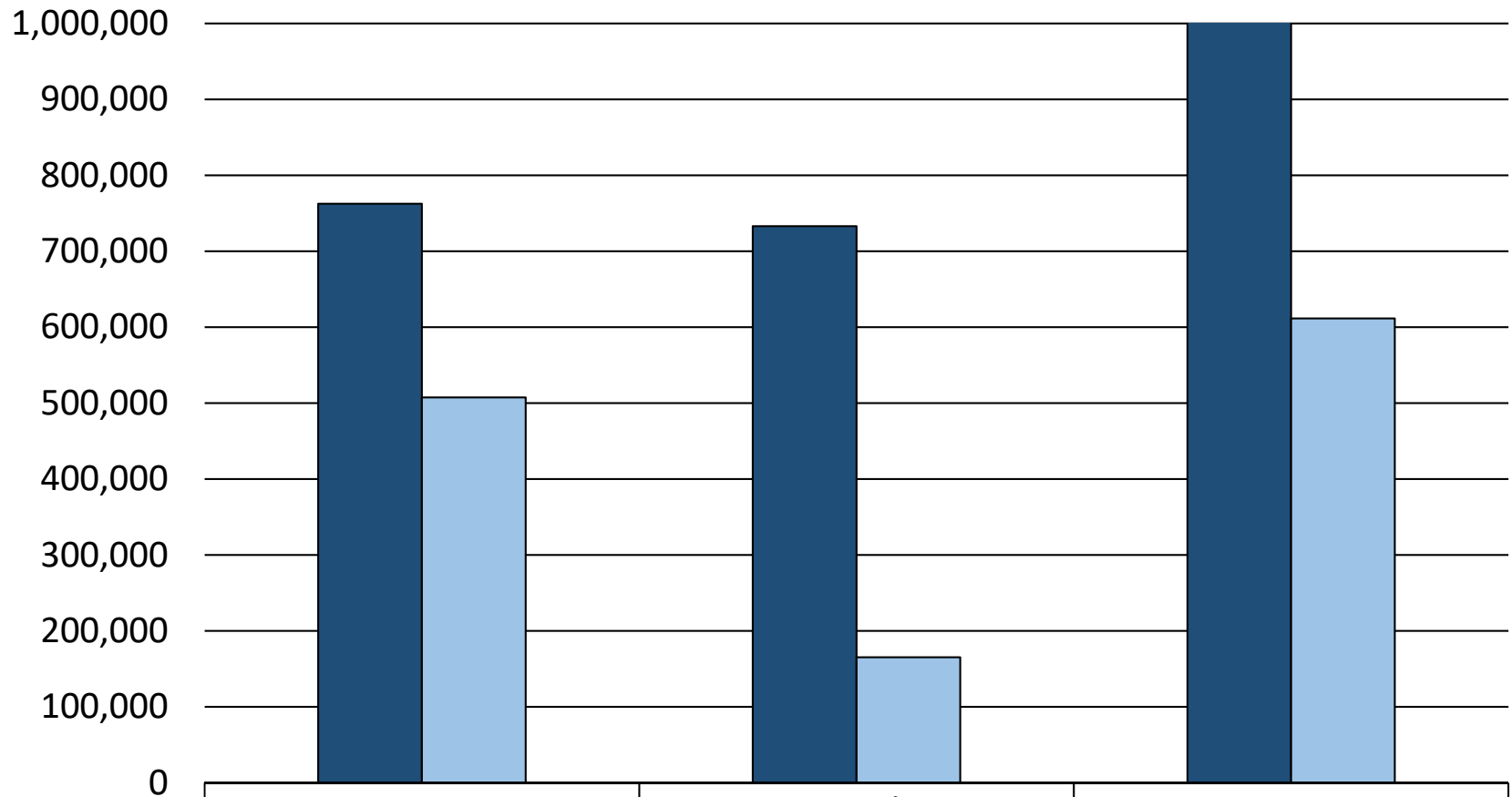
N.D. Farm Business Management Education Program – South Central Region



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
■ Rate of Return on Assets	16.5	11.0	17.8	4.7	3.6	0.1	6.0	3.9	4.7	3.1
□ Rate of Return on Equity	24.2	14.5	24.9	5.3	3.6	-2.0	7.3	3.9	4.9	1.6

Figure 4. Assets and Liabilities Per Farm, 2019

N.D. Farm Business Management Education Program – South Central Region



	Current	Intermediate	Longterm
■ Farm Assets	762,638	732,950	1,056,376
■ Farm Liabilities	507,565	165,253	611,449

Figure 5. Spring Wheat Costs Per Acre

N.D. Farm Business Management Education Program – South Central Region

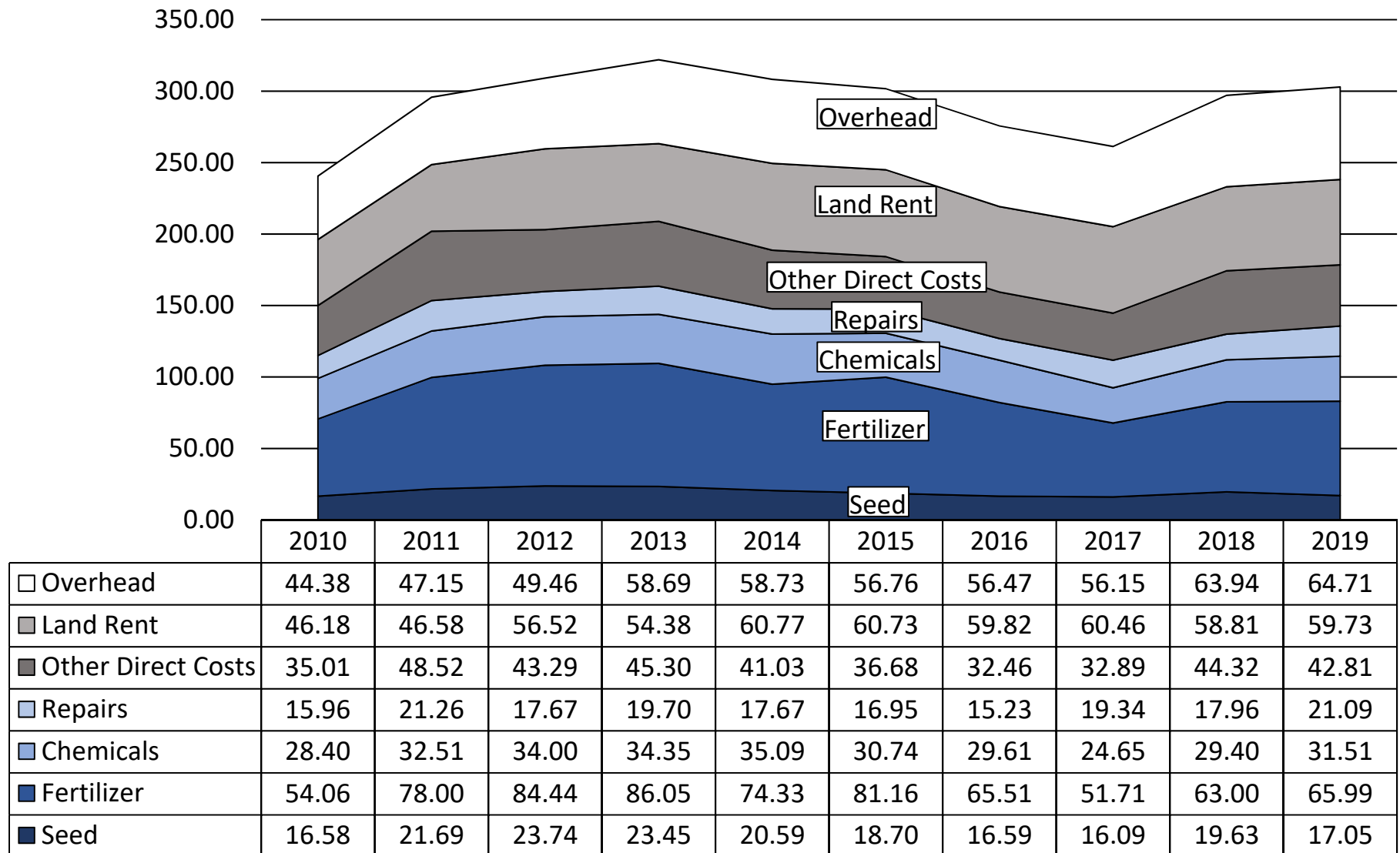
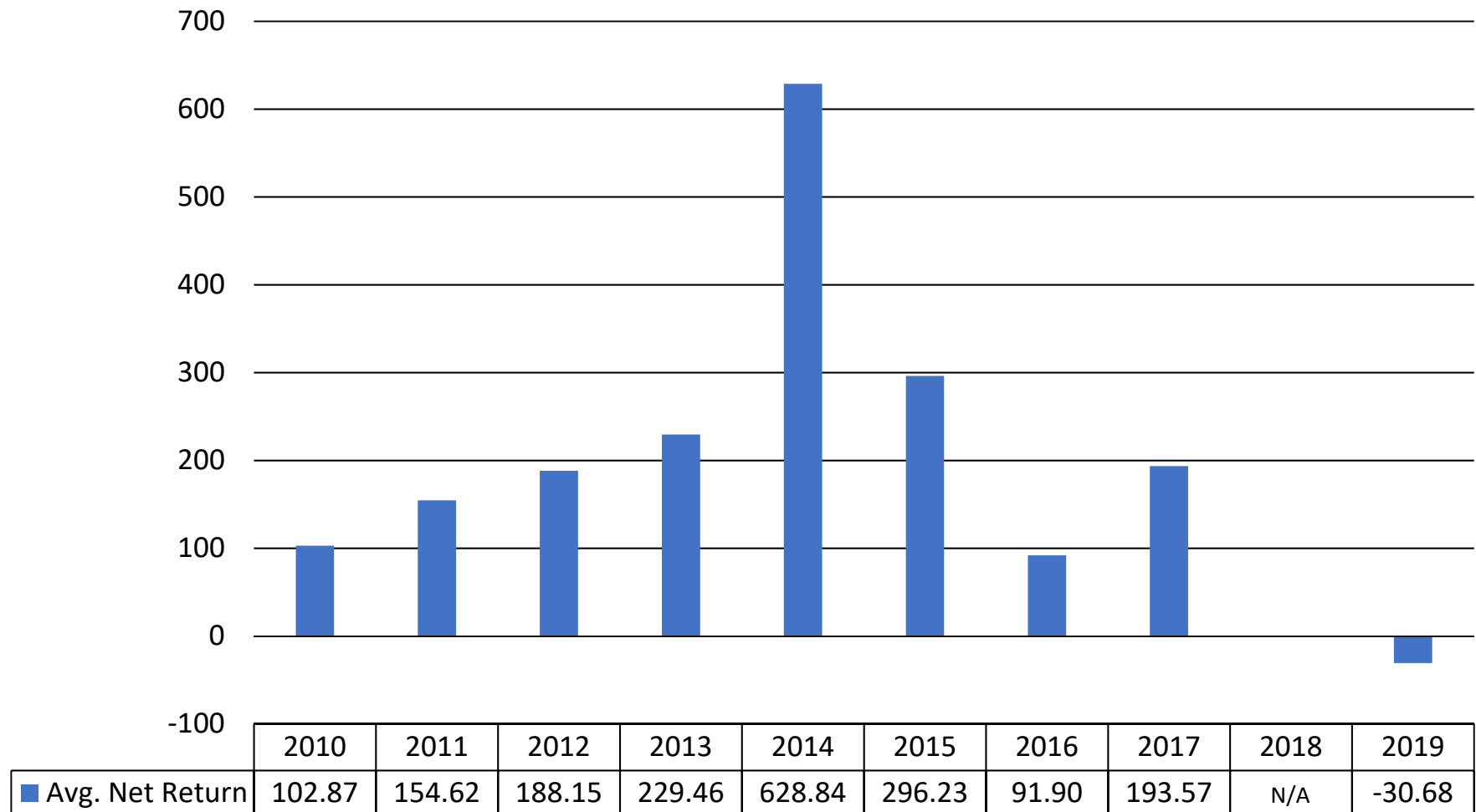


Figure 6. Average Net Return Per Beef Cow

N.D. Farm Business Management Education Program – South Central Region

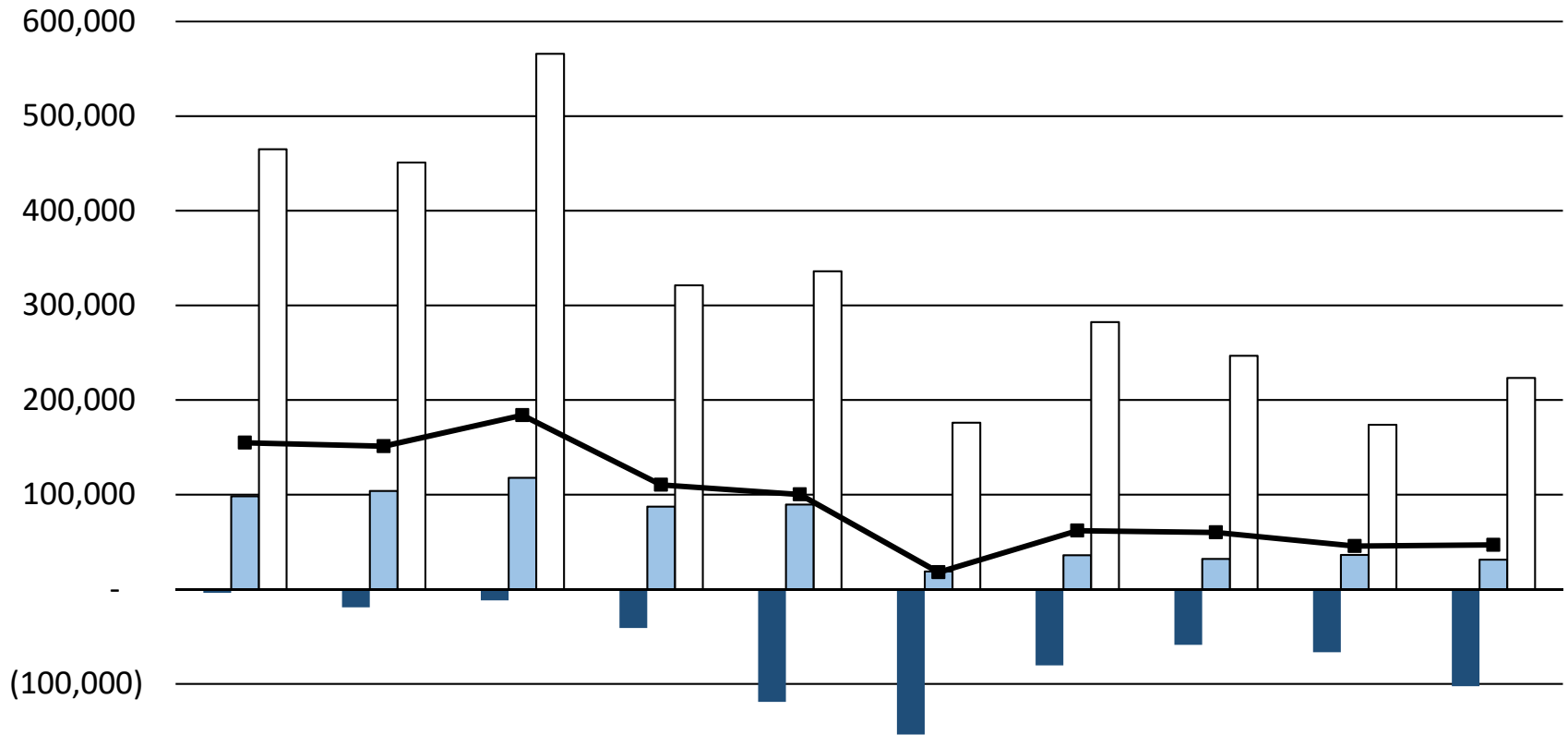


West



Figure 1. Net Farm Income (Accrual) Per Farm

N.D. Farm Business Management Education Program – West Region

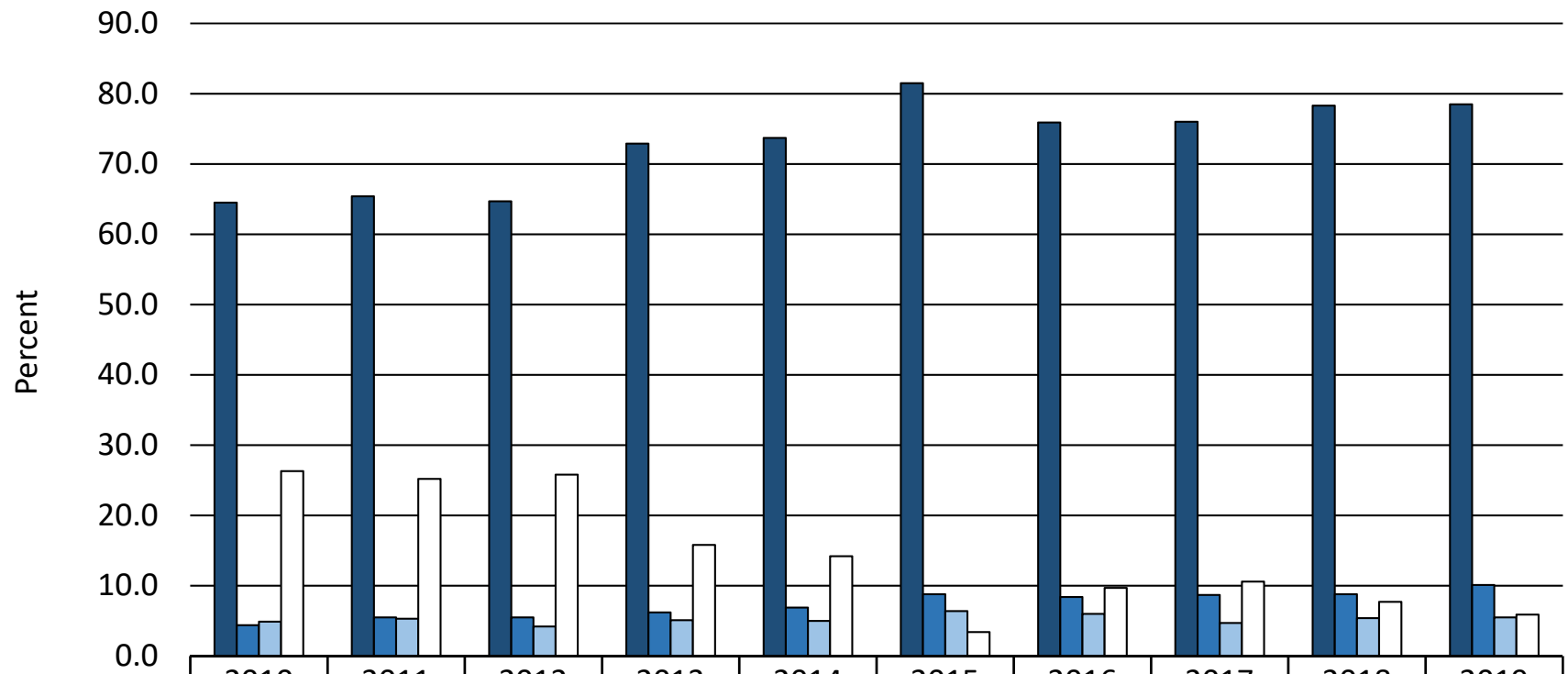


(200,000)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
20% Low Profit	(3,912)	(19,132)	(11,839)	(41,038)	(119,185)	(153,690)	(80,547)	(58,778)	(66,606)	(102,573)
Middle 60% Profit	98,236	103,851	117,677	87,315	89,422	18,780	35,876	32,102	36,217	31,200
20% High Profit	465,002	450,998	565,893	321,189	335,974	175,995	282,325	246,804	173,784	223,305
Average of All	154,809	151,100	183,863	110,311	100,155	17,838	61,881	60,043	45,544	46,789

Figure 2. Financial Efficiency Measures (As Percent of Gross Revenue)

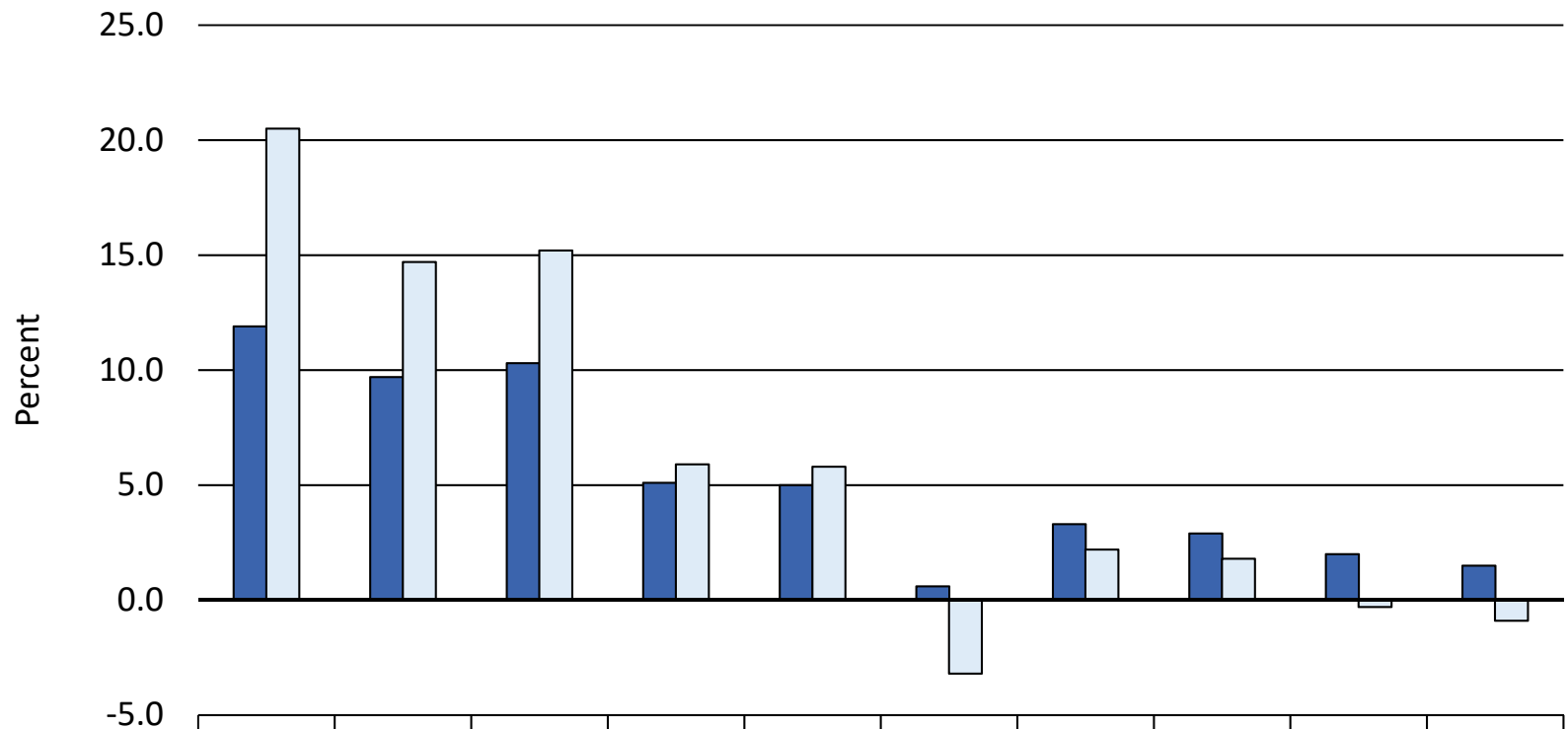
N.D. Farm Business Management Education Program – West Region



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Operating Exp. %	64.5	65.4	64.7	72.9	73.7	81.5	75.9	76	78.3	78.5
Depreciation %	4.4	5.5	5.5	6.2	6.9	8.8	8.4	8.7	8.8	10.1
Interest Exp. %	4.9	5.3	4.2	5.1	5	6.4	6	4.7	5.4	5.5
Net Farm Inc. %	26.3	25.2	25.8	15.8	14.2	3.4	9.7	10.6	7.7	5.9

Figure 3. Profitability Measures Per Farm

N.D. Farm Business Management Education Program – West Region



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
■ Rate of Return on Assets	11.9	9.7	10.3	5.1	5.0	0.6	3.3	2.9	2.0	1.5
□ Rate of Return on Equity	20.5	14.7	15.2	5.9	5.8	-3.2	2.2	1.8	-0.3	-0.9

Figure 4. Assets and Liabilities Per Farm, 2019

N.D. Farm Business Management Education Program – West Region

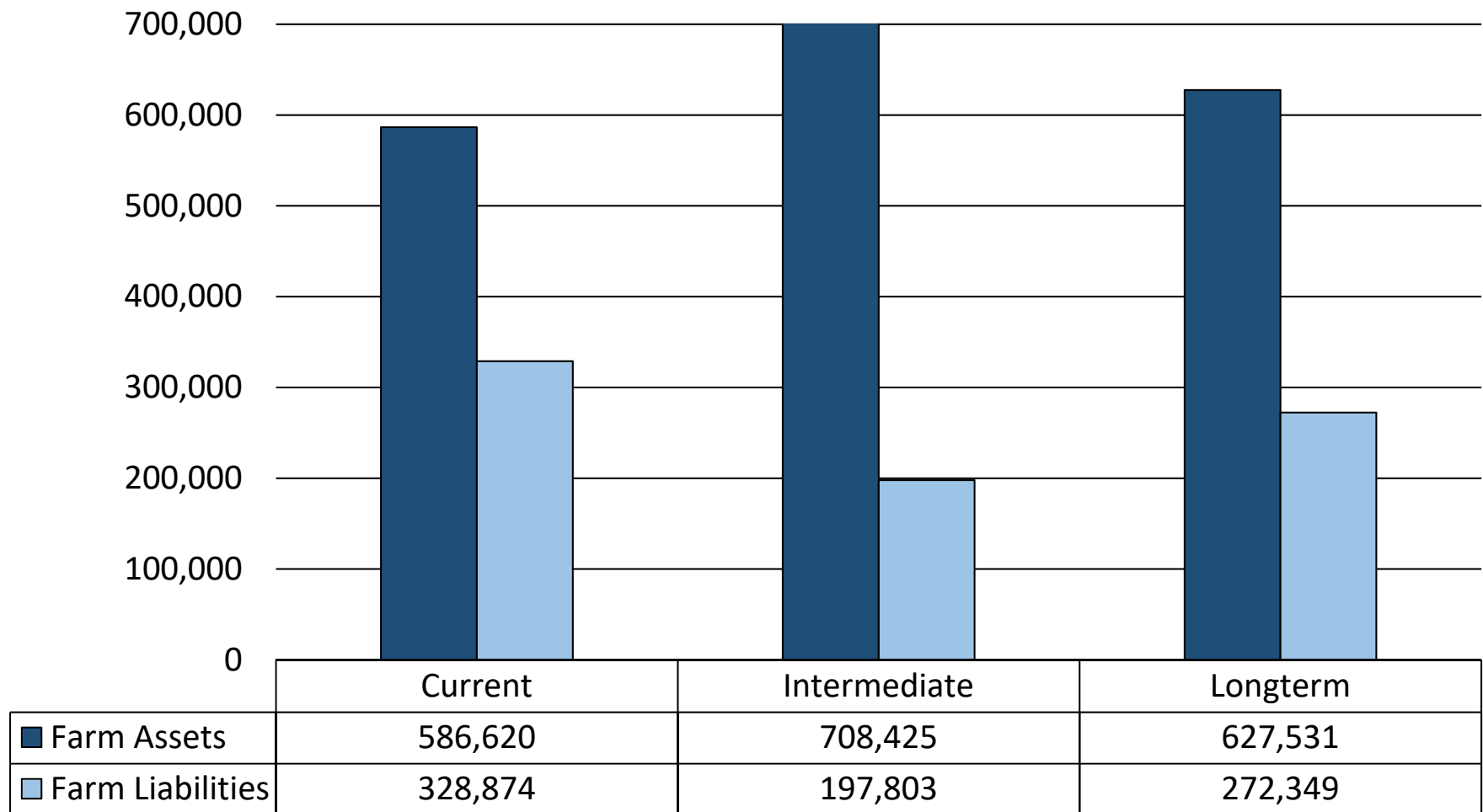
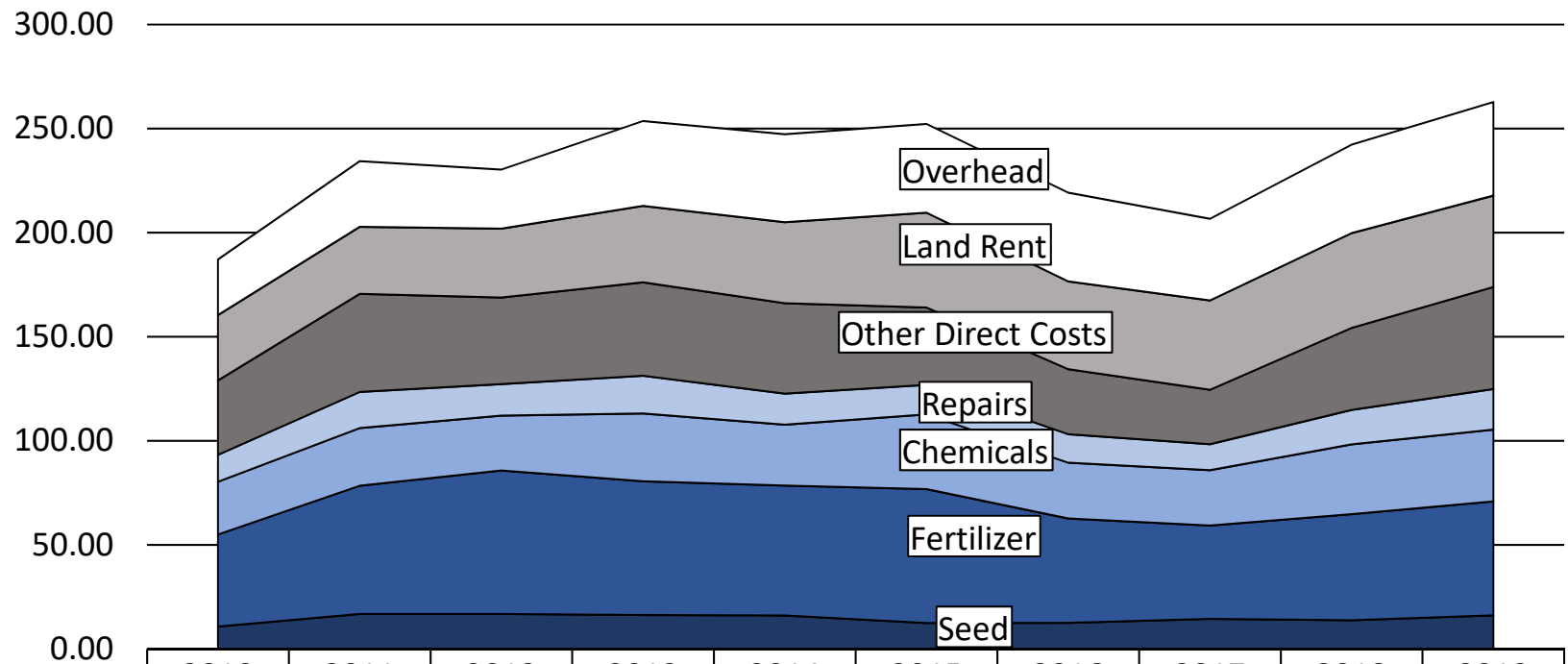


Figure 5. Spring Wheat Costs Per Acre

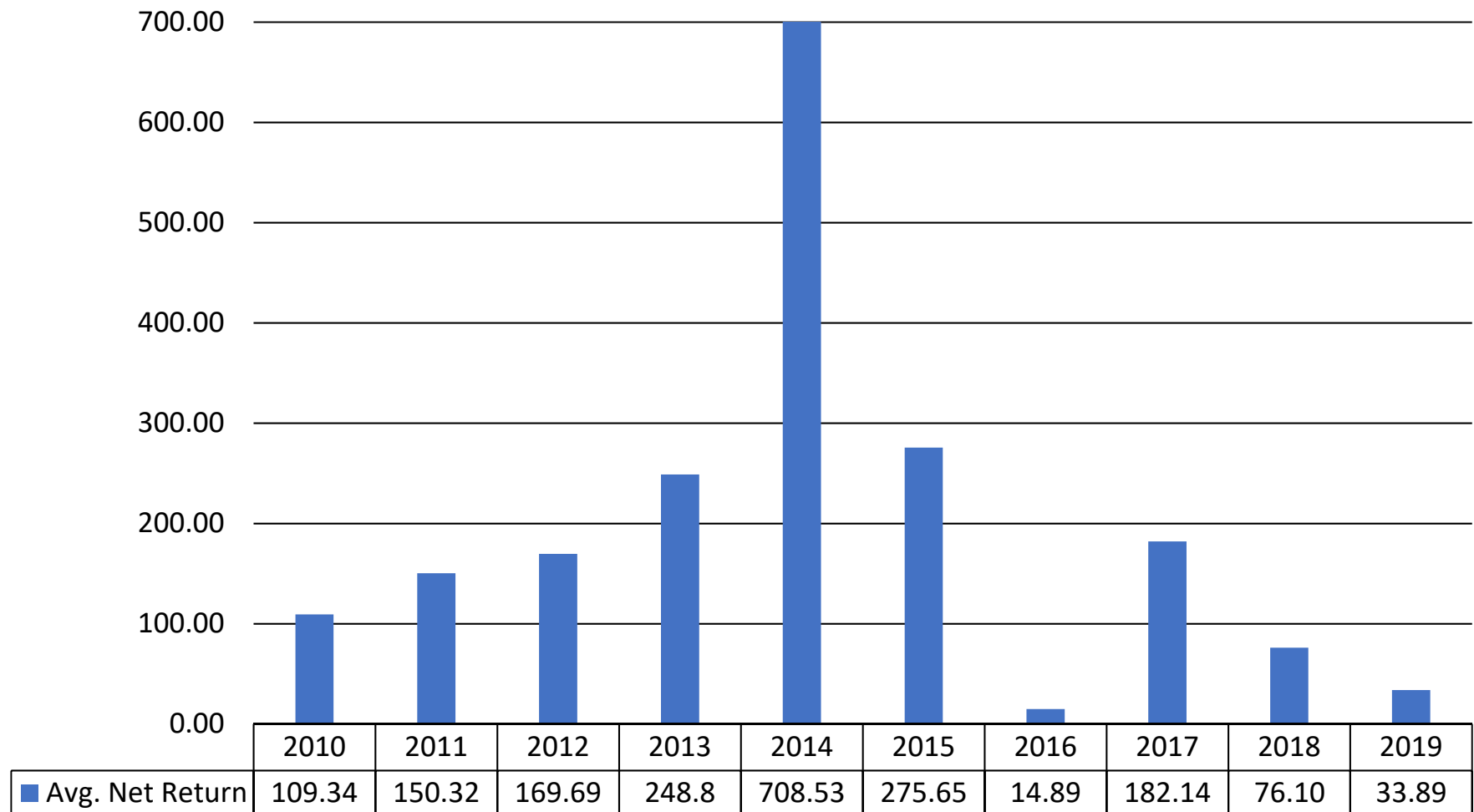
N.D. Farm Business Management Education Program – West Region



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Overhead	26.76	31.52	28.37	40.80	42.26	42.63	42.56	39.22	42.45	44.96
Land Rent	31.36	32.21	33.08	36.72	38.91	45.59	42.20	42.94	45.57	43.89
Other Direct Costs	35.77	47.15	41.61	44.88	43.40	37.16	31.22	26.19	39.39	49.00
Repairs	12.94	17.34	15.12	18.13	14.93	14.21	13.68	12.42	16.53	19.53
Chemicals	25.34	27.67	26.43	32.58	29.27	35.90	26.85	26.63	33.53	34.51
Fertilizer	44.22	61.63	68.87	64.24	62.44	64.33	50.14	44.85	51.01	54.67
Seed	10.77	16.82	16.84	16.31	16.07	12.44	12.53	14.44	13.79	16.19

Figure 6. Average Net Return Per Beef Cow

N.D. Farm Business Management Education Program – West Region



STATE AVERAGES

Figure 1. Gross Cash Income Per Farm

N.D. Farm Business Management Education Program

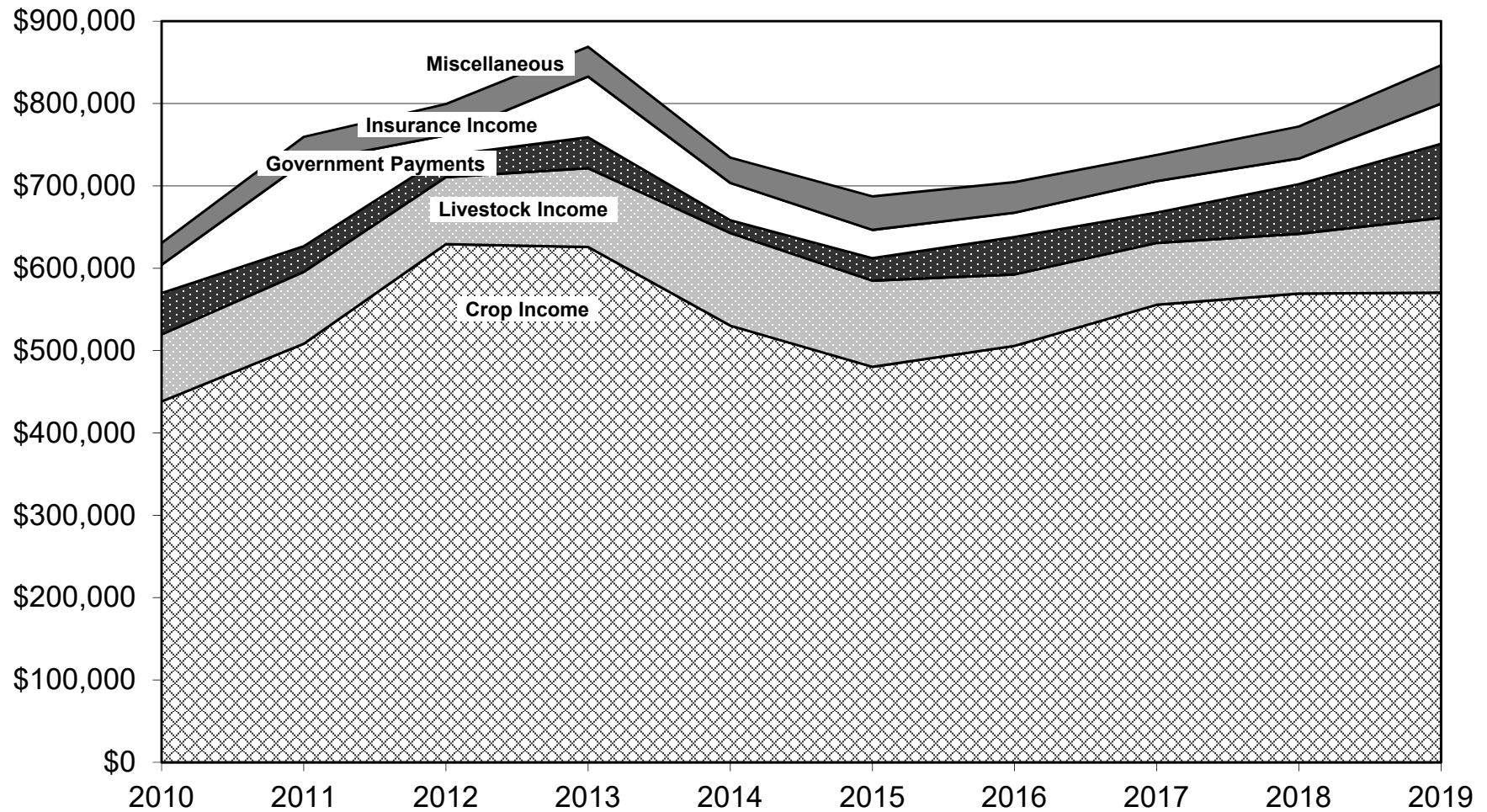
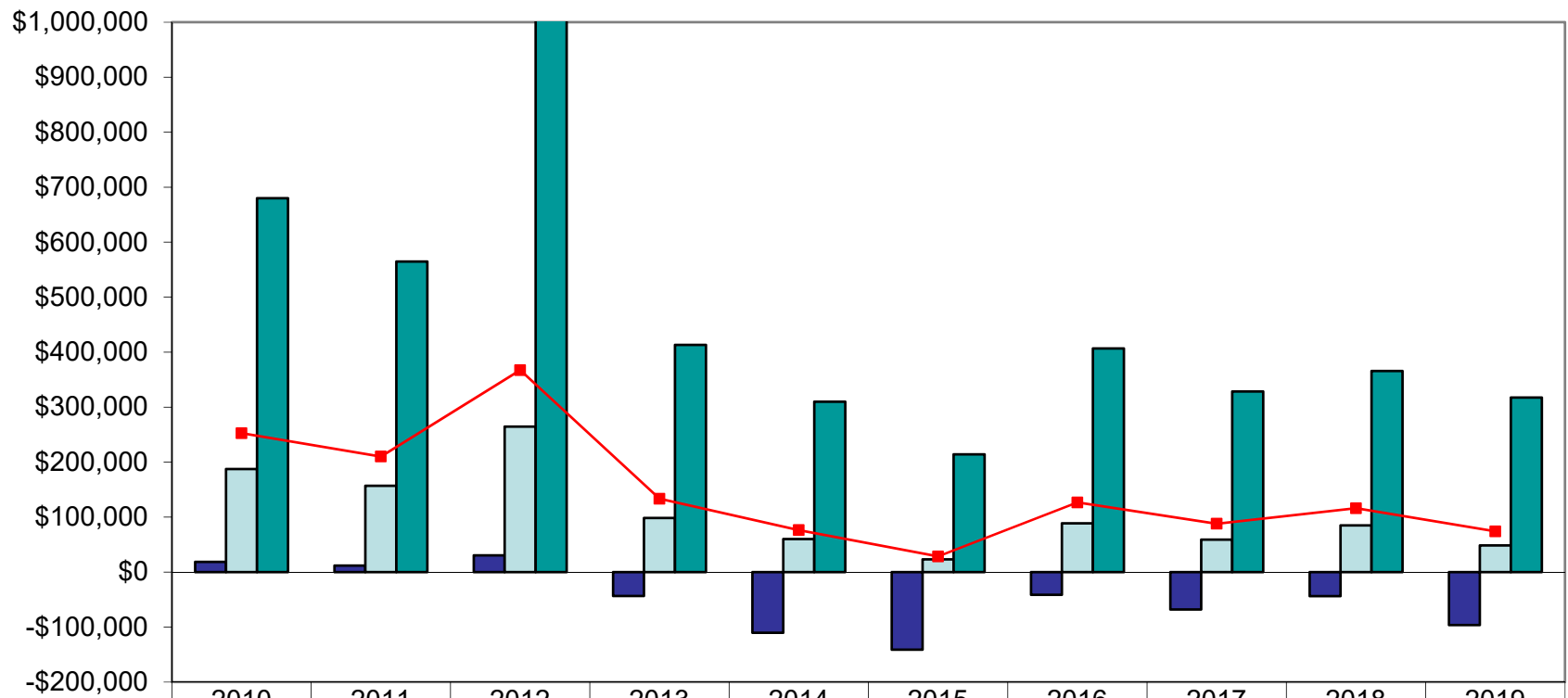


Figure 2. Net Farm Income (Accrual) Per Farm

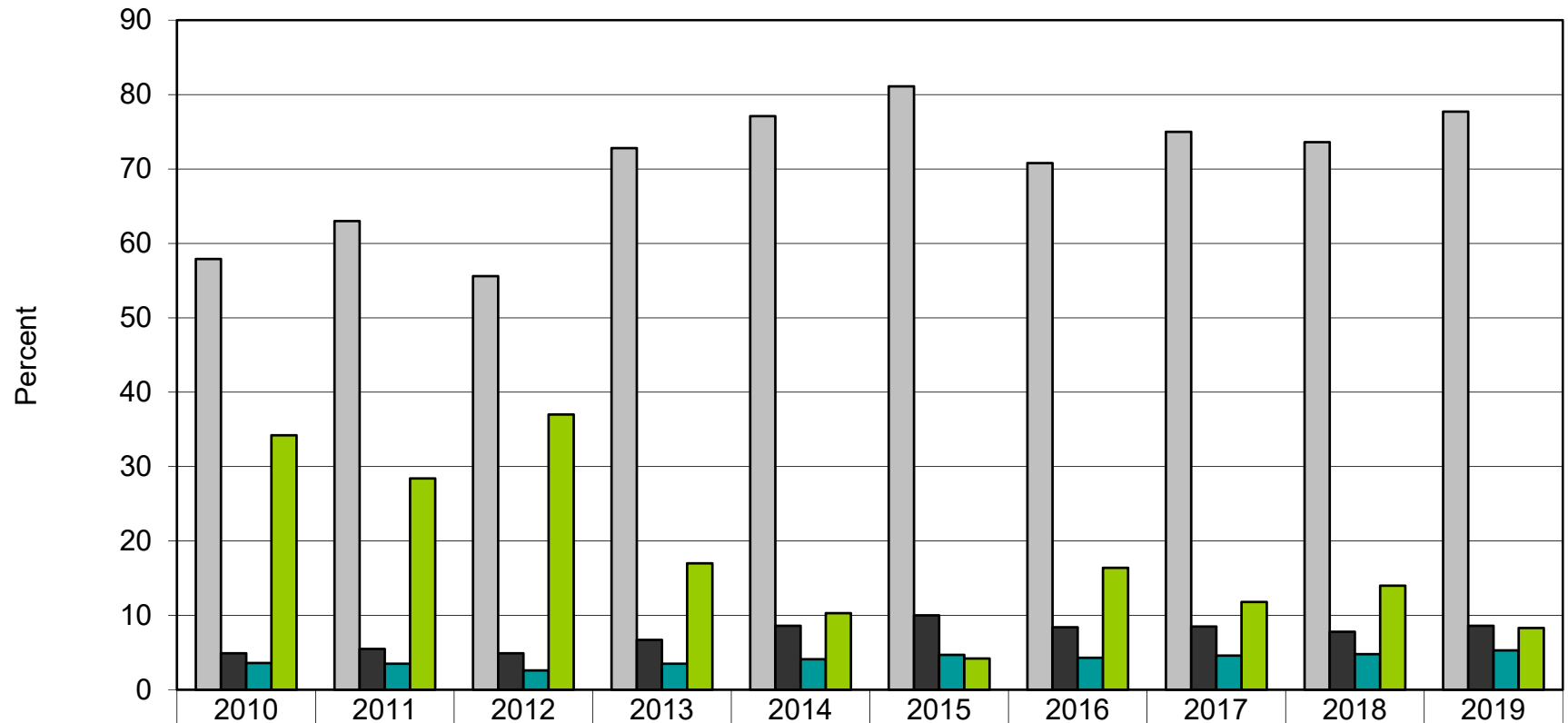
N.D. Farm Business Management Education Program



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
20% Low Profit	18,597	12,000	30,429	(43,383)	(110,282)	(141,049)	(41,364)	(68,031)	(43,700)	(96,157)
Middle 60% Profit	187,334	157,058	264,545	98,437	60,113	23,278	88,621	59,071	85,076	48,615
20% High Profit	679,943	564,694	1,007,498	413,074	310,010	214,214	406,621	328,621	365,638	317,478
Average All Farms	252,658	210,218	367,317	133,466	76,404	28,600	126,752	88,026	116,227	74,100

Figure 3. Financial Efficiency Measures (As Percent of Gross Revenue)

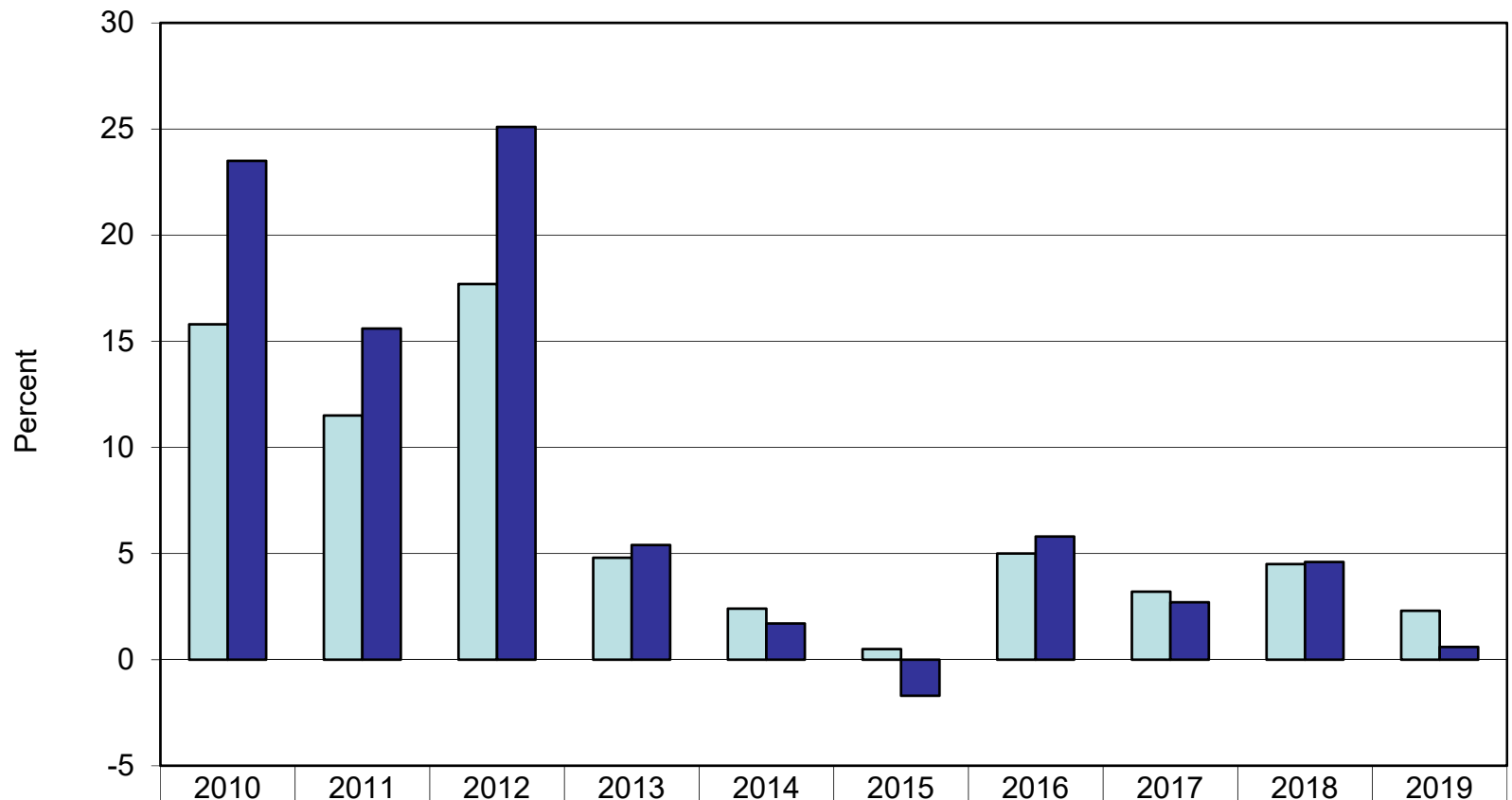
N.D. Farm Business Management Education Program



Operating Exp %	57.9	63	55.6	72.8	77.1	81.1	70.8	75	73.6	77.7
Depreciation %	4.9	5.5	4.9	6.7	8.6	10	8.4	8.5	7.8	8.6
Interest Exp. %	3.6	3.5	2.6	3.5	4.1	4.7	4.3	4.6	4.8	5.3
Net Farm Inc. %	34.2	28.4	37	17	10.3	4.2	16.4	11.8	14	8.3

Figure 4. Profitability Measures Per Farm

N.D. Farm Business Management Education Program



□ Rate of Return on Assets	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
■ Rate of Return on Equity	15.8	11.5	17.7	4.8	2.4	0.5	5	3.2	4.5	2.3
	23.5	15.6	25.1	5.4	1.7	-1.7	5.8	2.7	4.6	0.6

Figure 5. Assets and Liabilities Per Farm, 2019

N.D. Farm Business Management Education Program

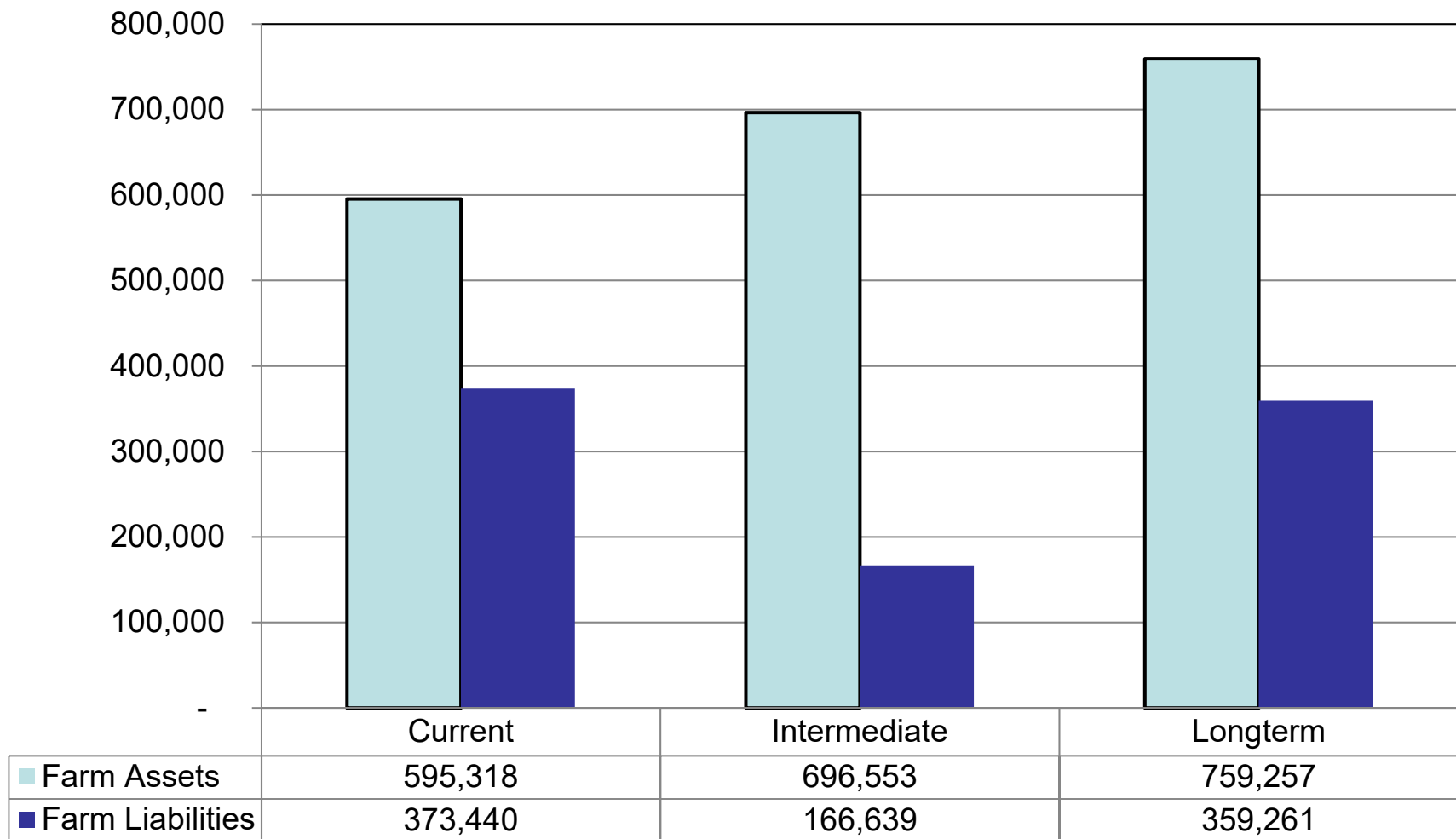


Figure 6. Total Farm Assets and Liabilities

N.D. Farm Business Management Education Program

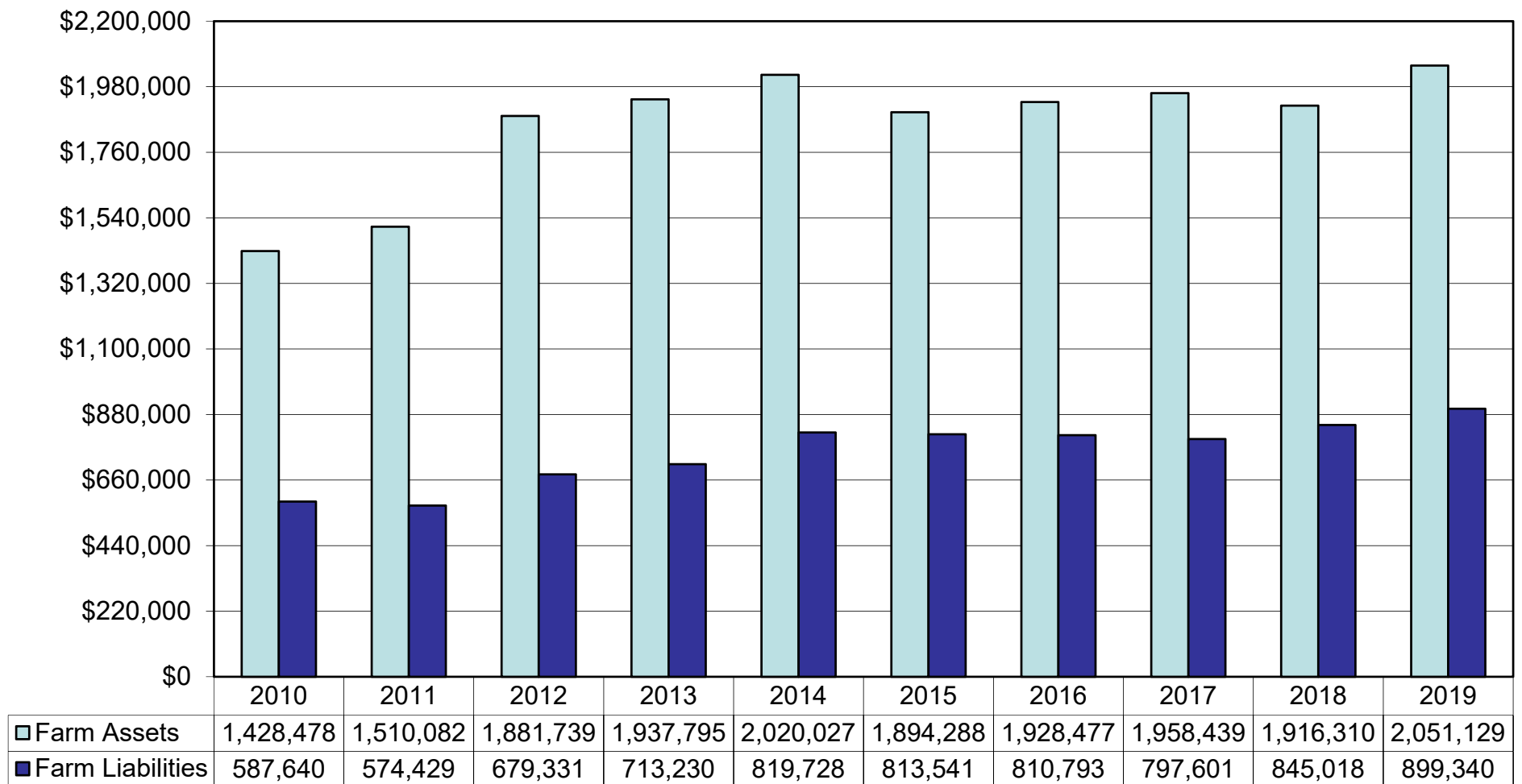
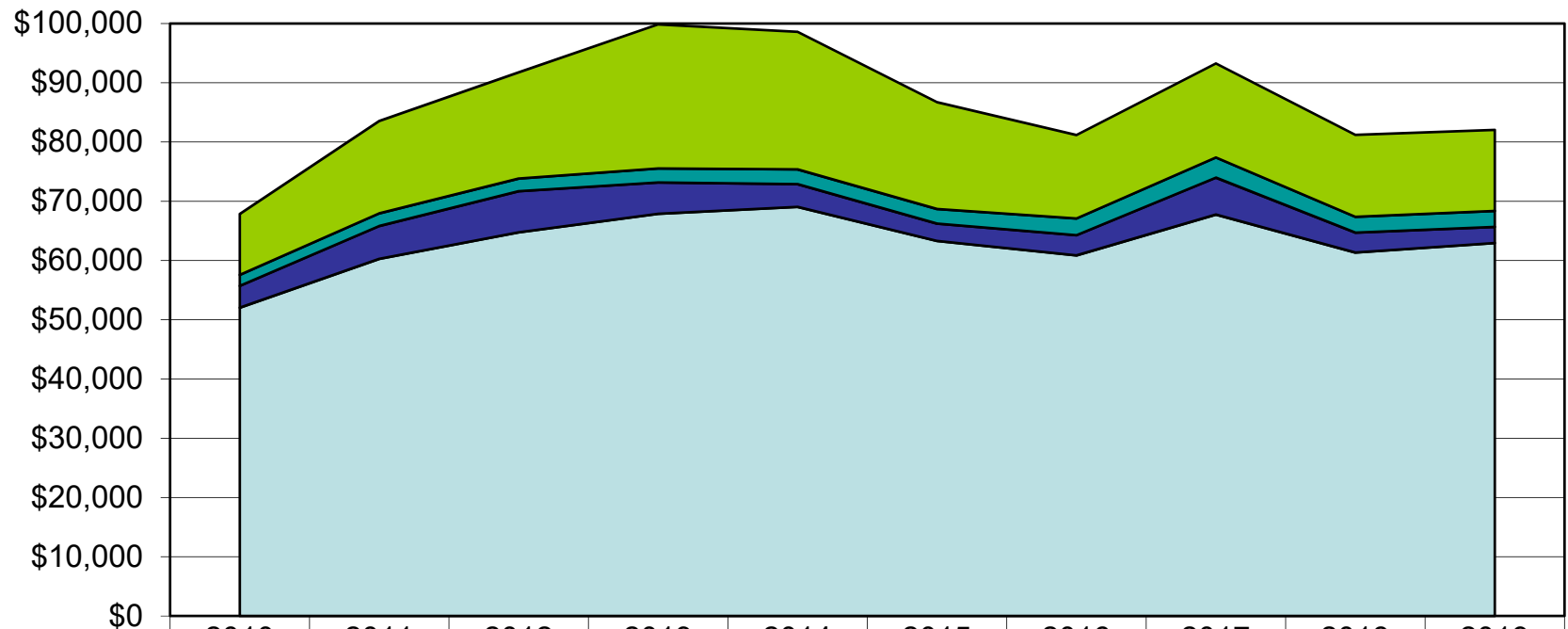


Figure 7. Household and Personal Expenses

N.D. Farm Business Management Education Program



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Income Taxes	10,283	15,594	17,926	24,311	23,221	18,015	14,097	15,869	13,835	13,667
Life Insurance	1,864	2,129	2,145	2,371	2,495	2,473	2,834	3,416	2,667	2,702
Furnishings & Vehicle	3,675	5,546	6,937	5,303	3,829	2,928	3,404	6,221	3,354	2,718
Family Living	52,039	60,274	64,751	67,870	69,056	63,300	60,857	67,762	61,352	62,951

Figure 8. Crop Acreage Per Farm

N.D. Farm Business Management Education Program

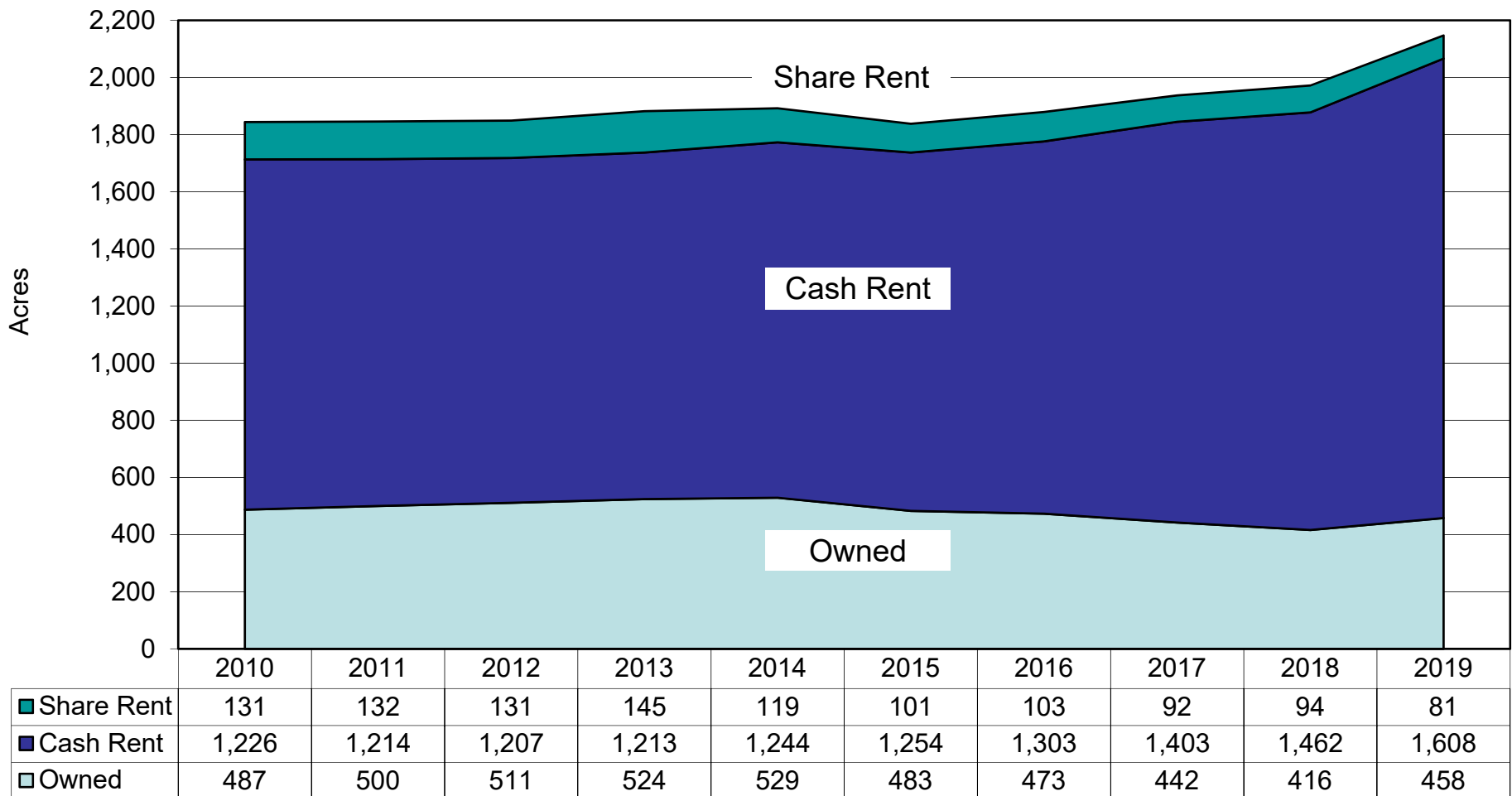
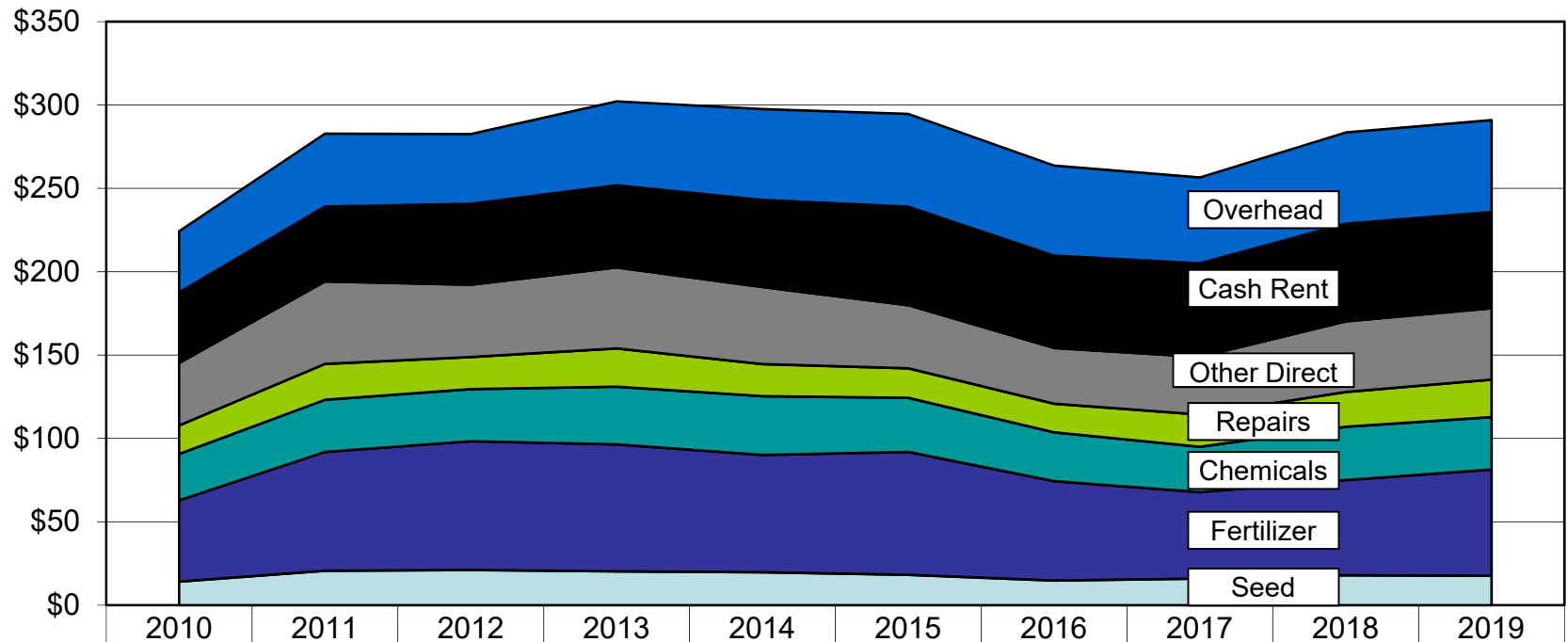


Figure 9. Spring Wheat Costs Per Acre

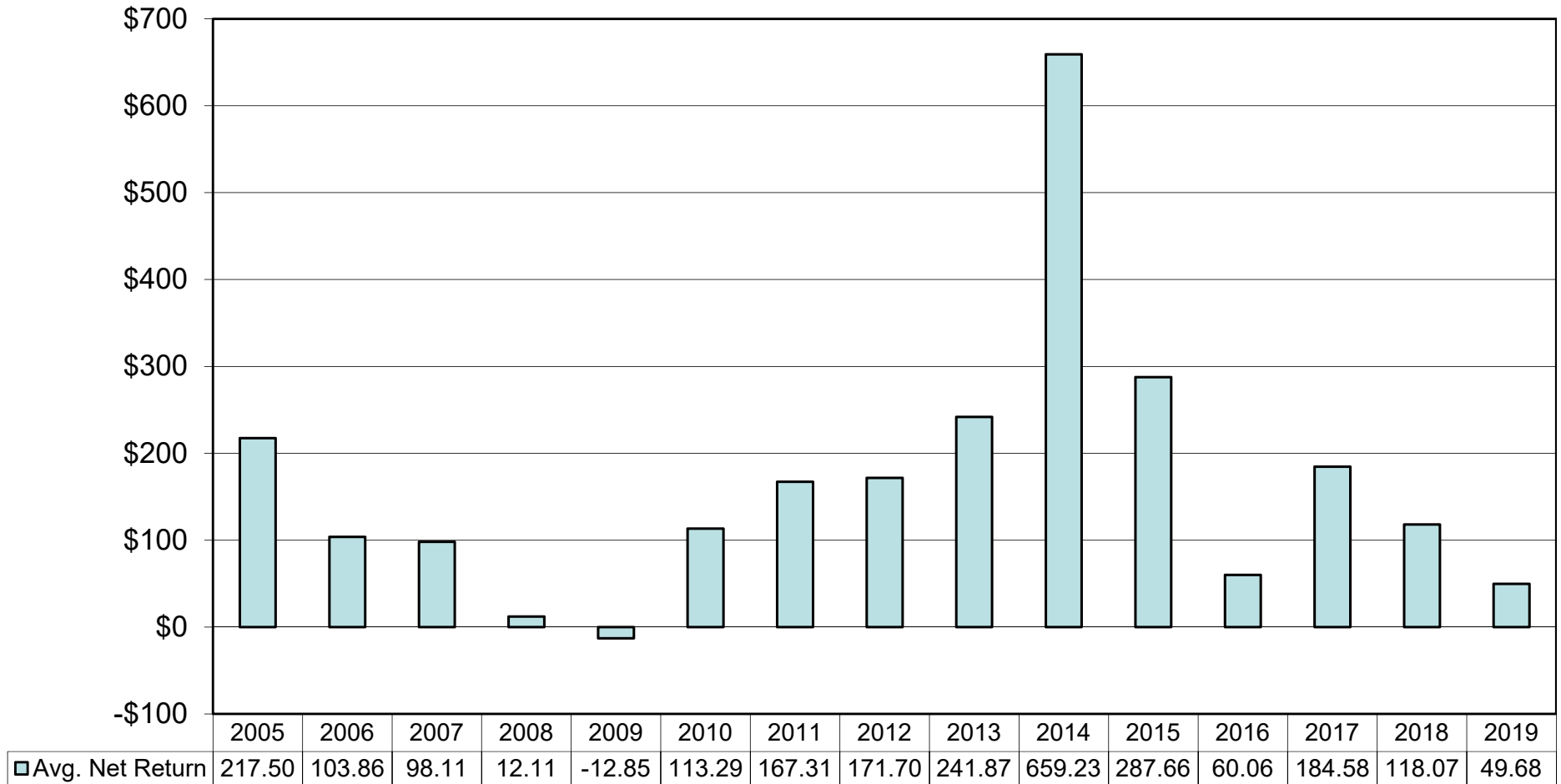
N.D. Farm Business Management Education Program



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Overhead	36.67	43.73	41.88	50.35	54.49	55.64	54.03	51.43	54.75	55.03
Cash Rent	42.32	44.91	48.48	49.24	52.24	59.12	55.43	56.17	58.54	57.79
Other Direct	37.54	49.47	43.35	48.60	46.18	37.81	33.41	34.61	42.32	42.77
Repairs	17.09	21.53	19.24	22.96	19.24	17.74	17.19	19.33	20.85	22.56
Chemicals	27.84	31.29	31.27	34.57	35.28	32.45	29.21	27.19	32.03	31.37
Fertilizer	48.70	71.29	77.24	76.15	70.37	73.68	59.63	51.87	57.08	63.70
Seed	14.14	20.59	21.09	20.30	19.72	18.22	14.79	15.89	17.92	17.67

Figure 10. Average Net Return Per Beef Cow

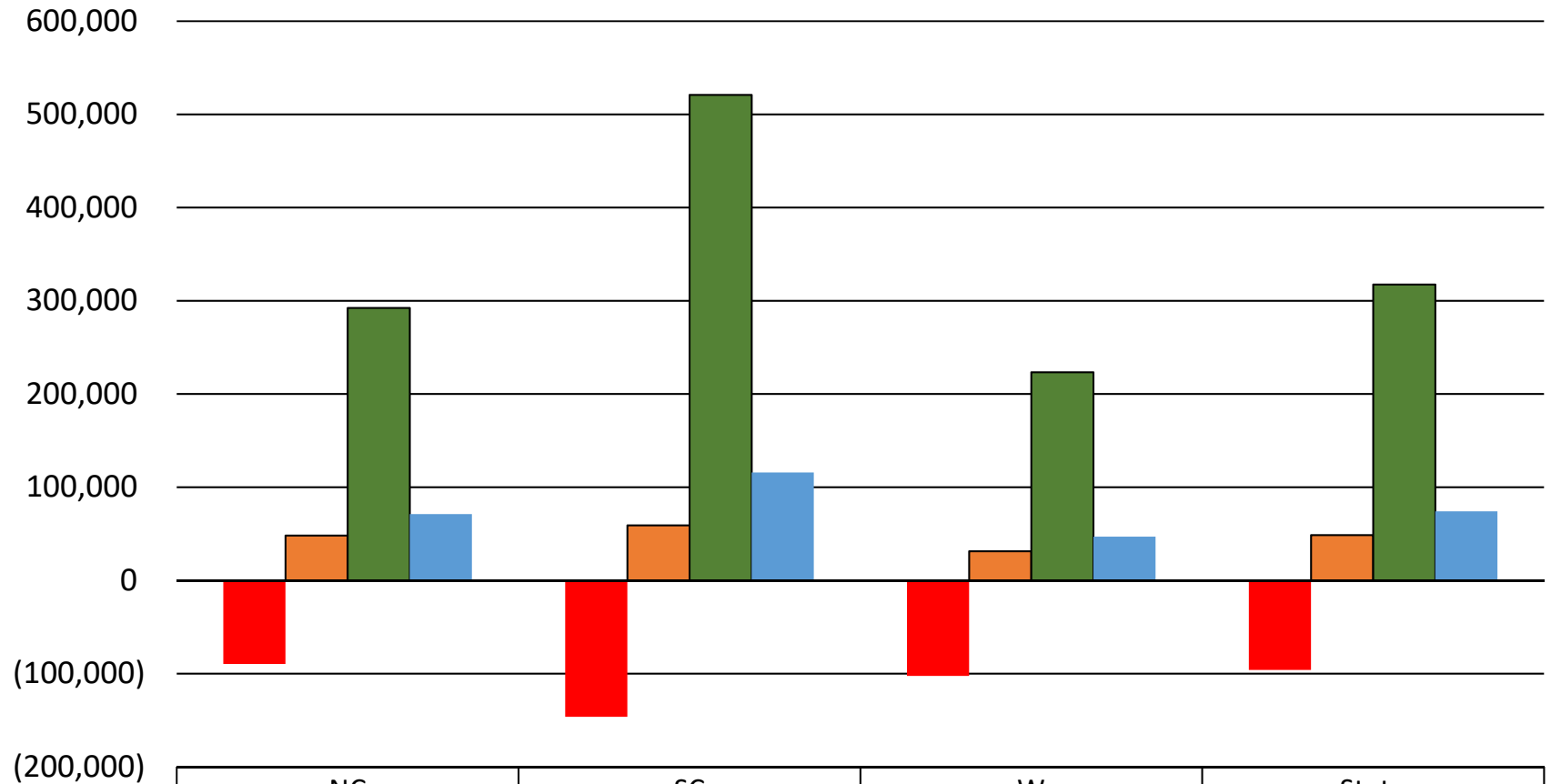
N.D. Farm Business Management Education Program



REGION COMPARISONS

Net Farm Income (Accrual) Per Farm

N.D. Farm Business Management Education Program – Region Comparison

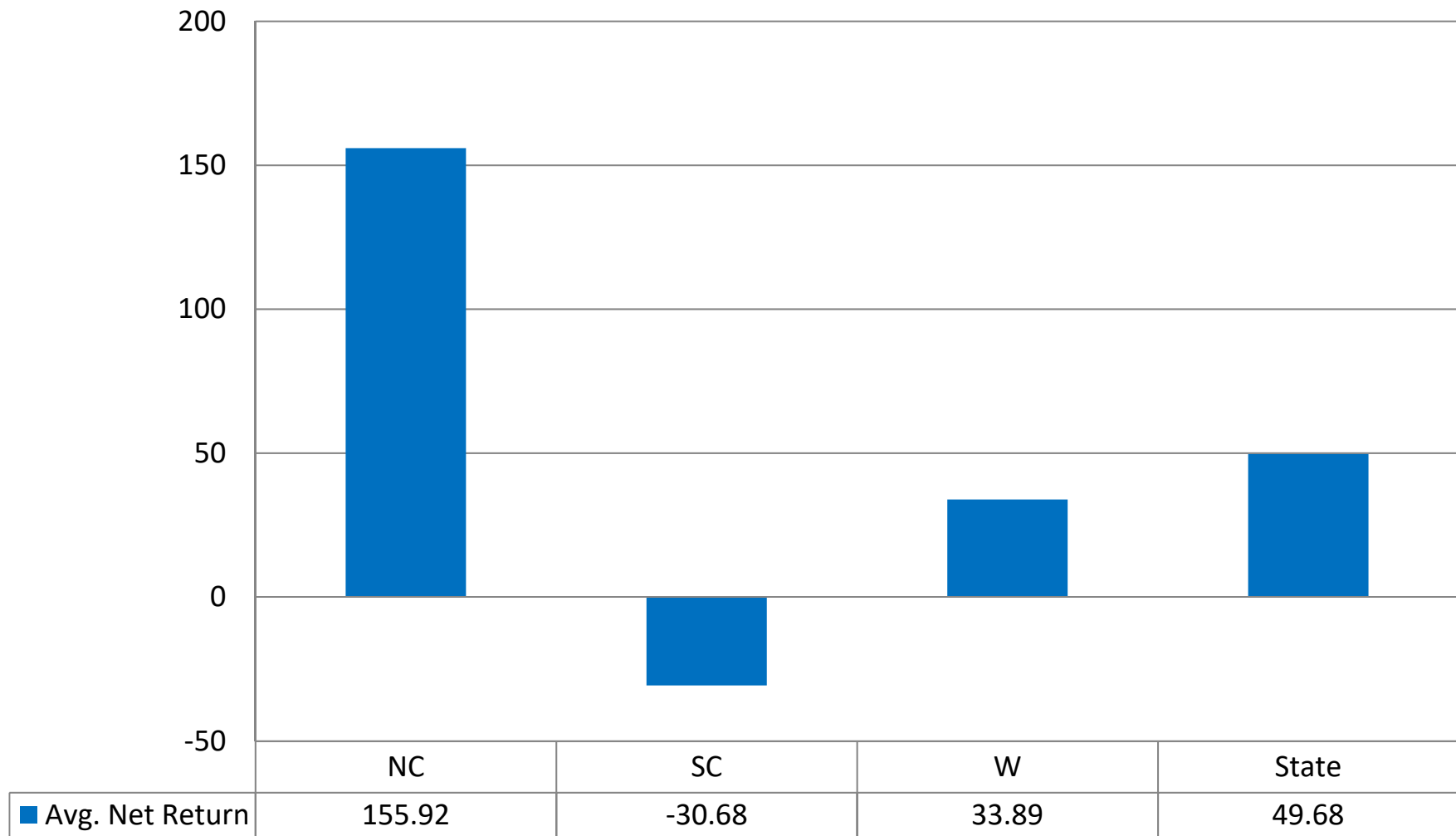


	NC	SC	W	State
20% Low Profit	(89,752)	(146,513)	(102,573)	(96,157)
Middle 60% Profit	48,070	58,974	31,200	48,615
20% High Profit	292,358	520,986	223,305	317,478
Average of All	71,050	115,683	46,789	74,100

	Beef Cow Calf: Average Per Cow 12	Beef Cow-Calf: Whole Herd w/ Backgrounding 16
Number of Farms		
Other Information		
Number of cows	299.4	185.3
Pregnancy percentage	95.7	97.3
Pregnancy loss percentage	1.8	1.0
Culling Percentage	12.4	15.0
Calving Percentage	94.0	96.3
Weaning Percentage	90.5	91.9
Calf death loss percent	4.1	4.5
Cow death loss percent	1.5	2.2
Average weaning weight	543	529
Lb weaned/exposed female	492	486
Avg wgt/beef calf sold	547	670
Avg price/cwt.	\$ 153.45	\$ 144.29
Feed cost per cow	\$ 349.00	\$ 479.32

2019 Average Net Return Per Beef Cow

N.D. Farm Business Management Education Program – Region Comparison



Government Farm Programs

Recap of 2020 farm payments

CFAP 1: payments made May 26, 2020 – Sept 11, 2020 (\$16 B projected, \$10 B paid)

CFAP 2: payments made Sept. 21 – Dec. 11, 2020 (\$13.2 B projected)

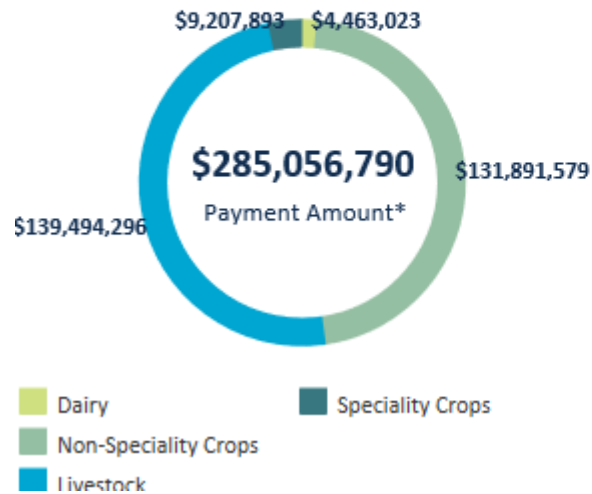
2018 Farm Bill Program ARC/PLC: payments made in early Oct. for 2019/2020 crop marketing year

CFAP 1.0

17,871

Approved Applications

PAYMENTS BY CATEGORY | Hover for details.



PAYMENTS BY COMMODITY

NORTH DAKOTA



Still taking applications

www.farmers.gov/cfap/data

NDSU | EXTENSION AGRIBUSINESS

PLC payments for 2019/2020

Crop	Marketing Year	2019/2020 MYA	PLC Payment Rate
Wheat	June 1, 2019- May 31, 2020	\$4.58	\$0.92
Corn	Sept. 1, 2019 – Aug. 31, 2020	\$3.56	\$0.14
Grain Sorghum	Sept. 1, 2019 – Aug. 31, 2020	\$3.34	\$0.61
Soybeans	Sept. 1, 2019 – Aug. 31, 2020	\$8.57	\$0.00

PLC payment = PLC Payment Rate

- * Established Farm Level Yield with FSA
- * 85% of base acres for that crop
- * 5.9% budget sequestration

ARC payments for 2019/2020

Crop	Marketing Year	2019/2020 MYA
Wheat	June 1, 2019- May 31, 2020	\$4.58
Corn	Sept. 1, 2019 – Aug. 31, 2020	\$3.56
Grain Sorghum	Sept. 1, 2019 – Aug. 31, 2020	\$3.34
Soybeans	Sept. 1, 2019 – Aug. 31, 2020	\$8.57

ARC payment = Guaranteed Revenue – Actual Revenue
= (86% of 5-year Olympic Avg. MYA Price and **County-level Yield**) – (2019/2020 MYA * 2019 **County Yield**)

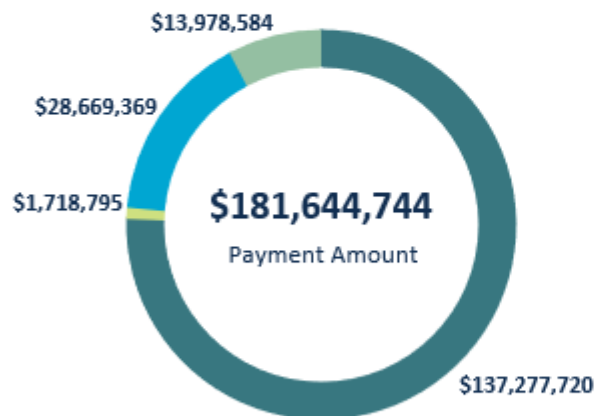
Coronavirus Food and Assistance Program (CFAP 2.0)

CFAP 2.0

APPROVED APPLICATIONS

7,302

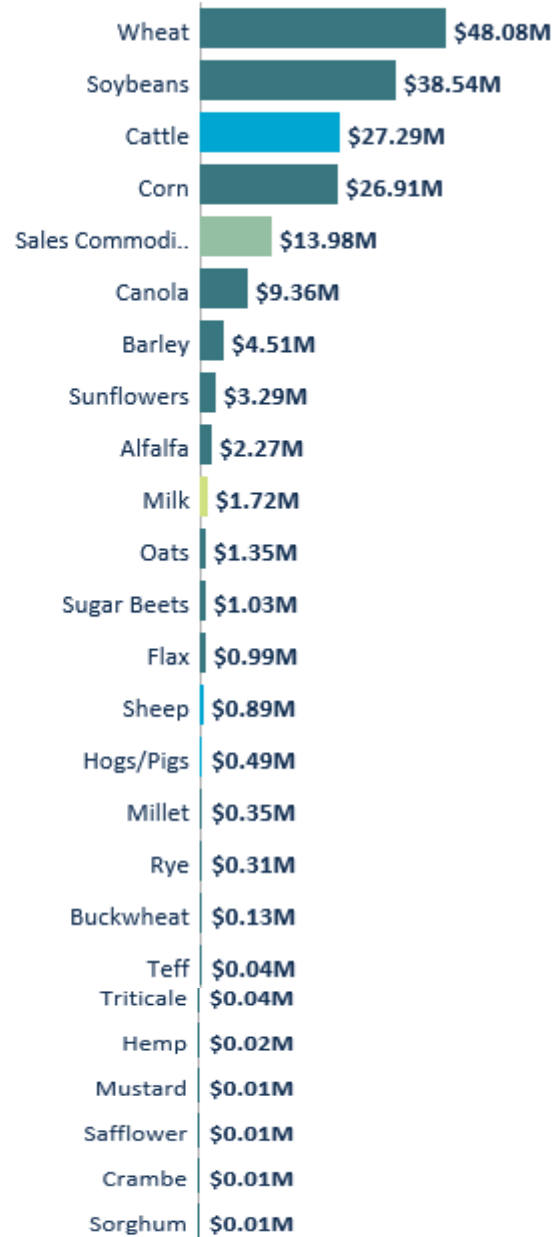
PAYMENTS BY CATEGORY | Hover for details



■ Acreage-Based ■ Livestock
■ Dairy ■ Sales Commodities
■ Eggs/Broilers

Data as of 10/18/2020 11:59 PM CST

PAYMENTS BY COMMODITY NORTH DAKOTA



www.farmers.gov/cfap/data

NDSU

EXTENSION AGRIBUSINESS

Price Trigger Commodities

Flat Rate Crops

Sales Commodities

CFAP Payments for Price Trigger Row Crops

Payments for eligible row crops included in the price trigger payment category will be equal to the greater of:

Eligible acres of the crop multiplied by a rate of \$15 per acre; **OR**

Eligible acres of the crop multiplied by a nationwide crop marketing percentage, multiplied by a crop-specific payment rate, and then by the producer's weighted 2020 Actual Production History (APH) approved yield.

If the APH is not available, 85 percent of the weighted 2019 Agriculture Risk Coverage-County Option (ARC-CO) benchmark yield for that crop will be used.

Commodity	Unit of Measure	Crop Marketing Percentage (%)	Payment Rate (\$/Unit)
Barley	Bushel	63	\$0.54
Corn	Bushel	40	\$0.58
Cotton, Upland	Pound	46	\$0.08
Sorghum	Bushel	55	\$0.56
Soybeans	Bushel	54	\$0.58
Sunflowers	Pound	44	\$0.02
Wheat (All Classes)	Bushel	73	\$0.54

CFAP Payments for Flat-Rate Row Crops

Payments for eligible row crops included in the flat-rate payment category will be equal to eligible acres of the crop multiplied by a rate of \$15 per acre. Eligible acres include the producer's share of the determined acres, or reported acres if determined acres are not present, excluding prevented planted and experimental acres.

Row crops eligible for CFAP 2 in the flat-rate payment category include: alfalfa, amaranth grain, buckwheat, canola, Extra Long Staple (ELS) cotton, crambe (colewort), einkorn, emmer, flax, guar, hemp, indigo, industrial rice, kenaf, khorasan, millet, mustard, oats, peanuts, quinoa, rapeseed, rice, sweet rice, wild rice, rye, safflower, sesame, speltz, sugar beets, sugarcane, teff, and triticale.

CFAP 2 Payments for Sales Specialty Crops (fruits and vegetables including dry beans)

The amount of the producer's eligible sales
in calendar year 2019, multiplied by

The payment rate for that range.

2019 Sales Range	Percent Payment Factor for the Producer's 2019 Sales of Eligible Commodities Falling in the Range
\$0 to \$49,999	10.6%
\$50,000 to \$99,999	9.9%
\$100,000 to \$499,999	9.7%
\$500,000 to \$999,999	9.0%
Sales over \$1 million	8.8%

CFAP 2 Payments for Livestock

For beef cattle, hogs and pigs, and lambs and sheep, payments will be equal to the highest owned inventory of eligible livestock, excluding breeding stock, on a date selected by the eligible producer from April 16, 2020, through August 31, 2020, multiplied by the CCC payment rate.

CFAP 2 Livestock

Payment Rates:

Beef Cattle \$55 per head

Hogs/Pigs \$23 per head

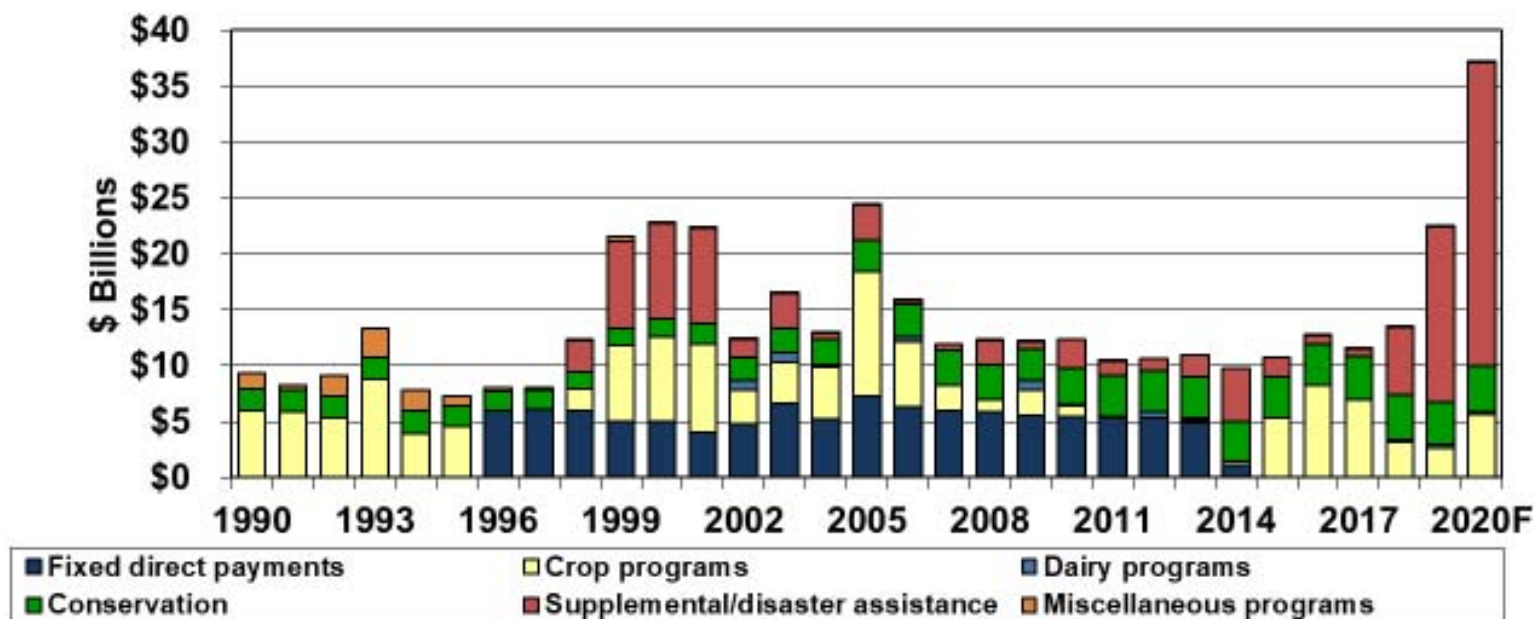
Sheep/Lambs \$27 per head

CFAP 2 Dairy

Payments for cow milk will be equal to the sum of the following:

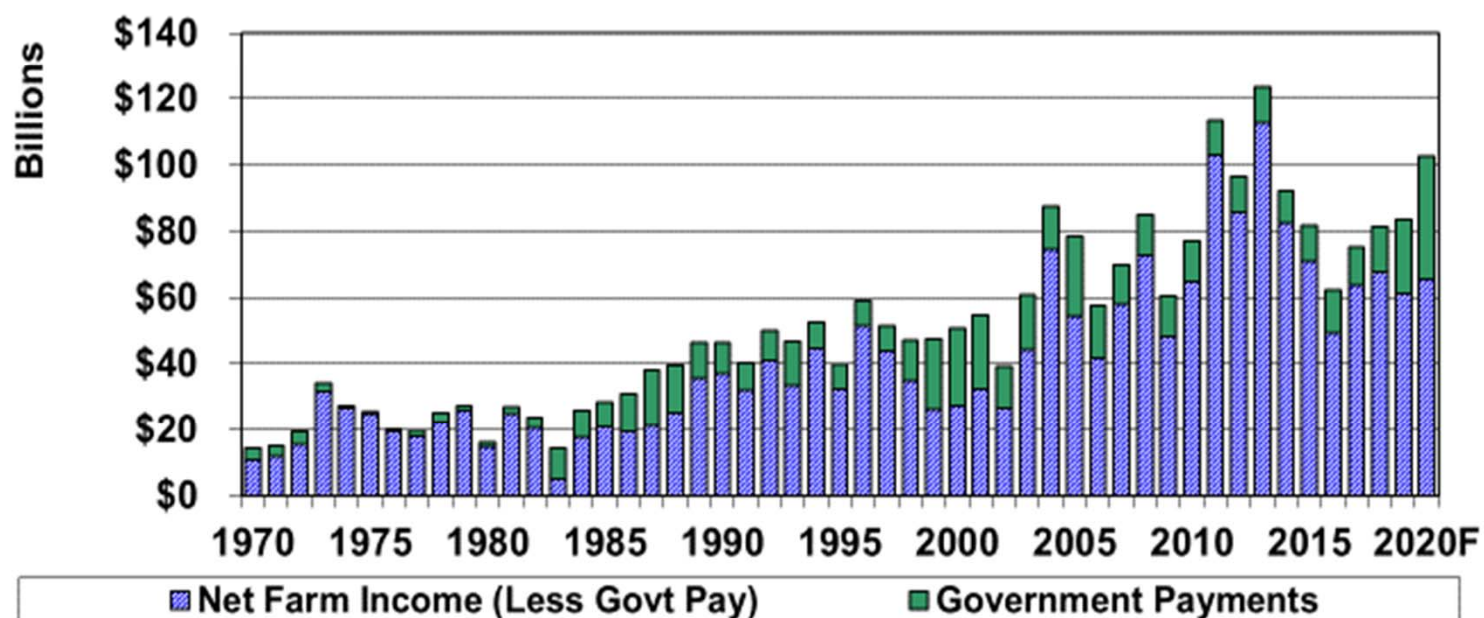
1. The producer's total actual milk production from April 1, 2020, to August 31, 2020, multiplied by the payment \$1.20 per hundredweight; and
2. The producer's estimated milk production from September 1, 2020, to December 31, 2020, based on the daily average production from April 1, 2020, through August 31, 2020, multiplied by 122, multiplied by a payment rate of \$1.20 per hundredweight.

U.S. Farm Program Payments



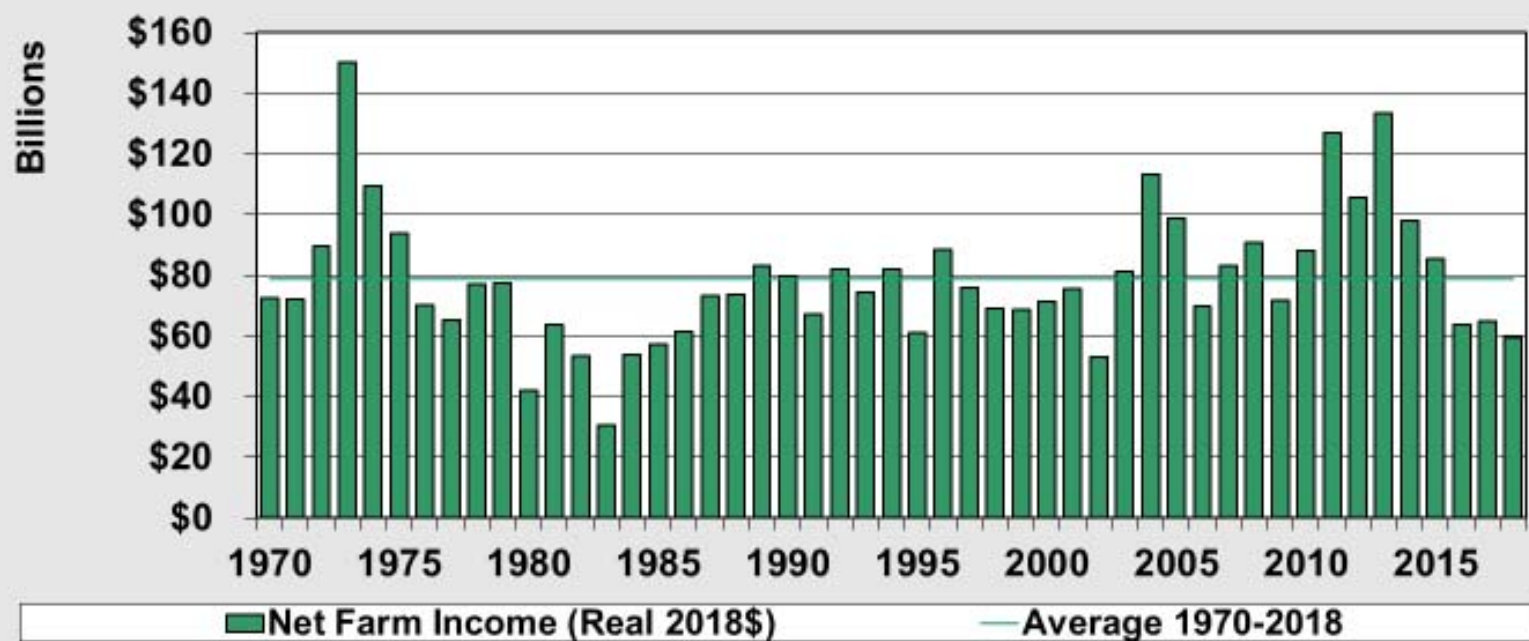
Sources: USDA-ERS and author calculations.

U.S. Net Farm Income



Sources: USDA-ERS and author calculations.

U.S. Net Farm Income



Sources: USDA-ERS and author calculations.

Thank you,
Any Questions?



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