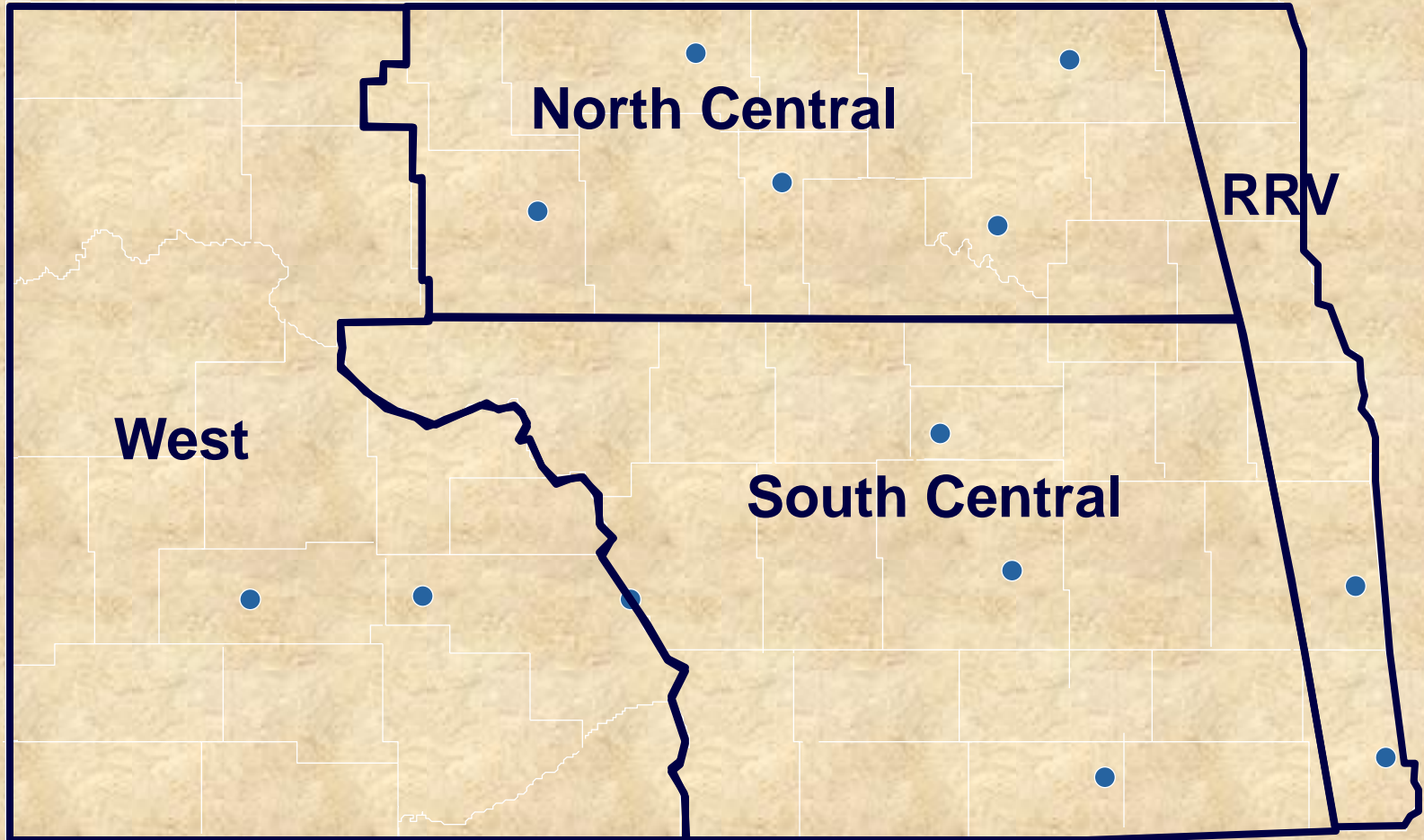




ND Farm & Ranch Business Management 2016 Region 3 Annual Report

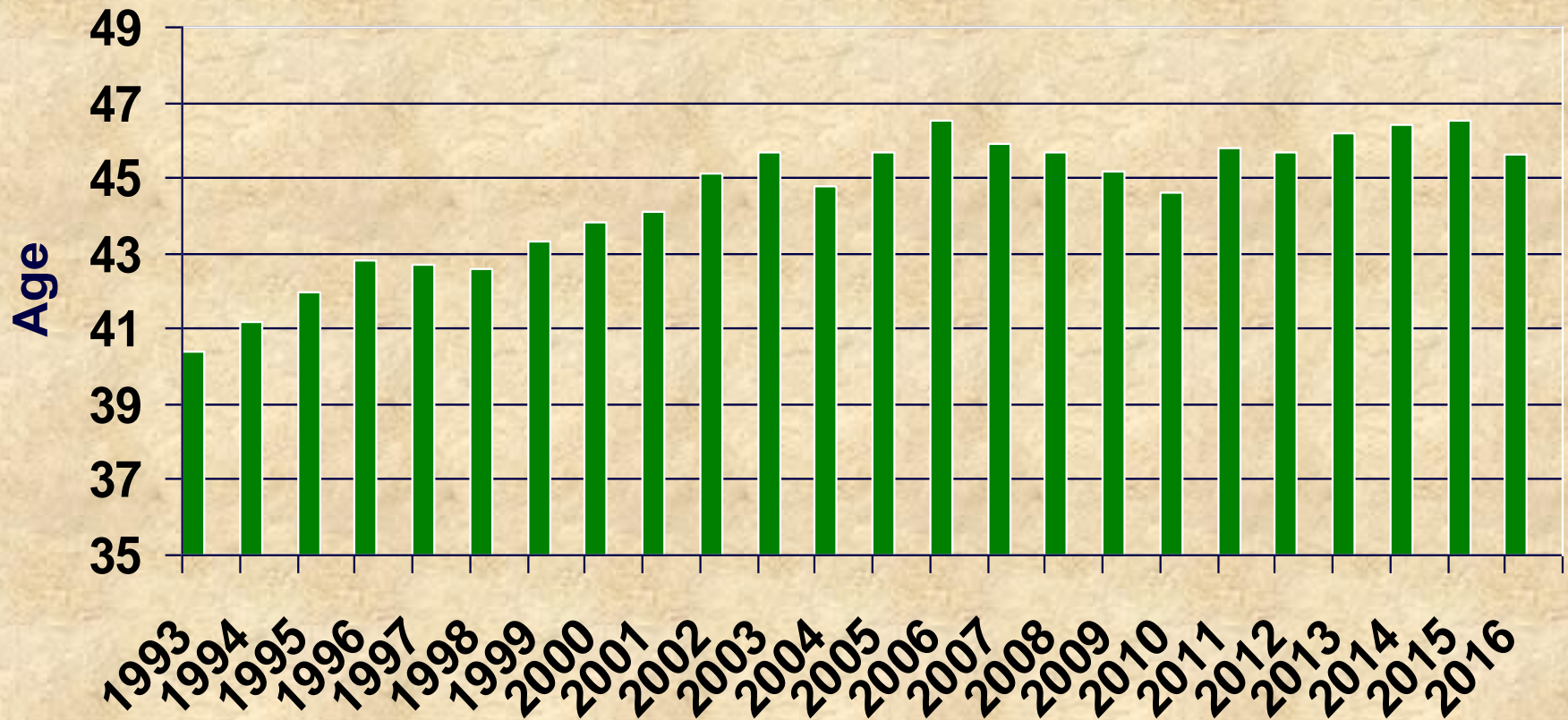
**Steve Metzger
Carrington Research Extension Center and
Carrington Public Schools
Carrington, ND**

**Region 3 includes data from FBM Programs located in
Bismarck(BSC), Carrington, Fargo(NDSCS),
Jamestown(JVCTC), Oakes(JVCTC) and Wahpeton(NDSCS).**

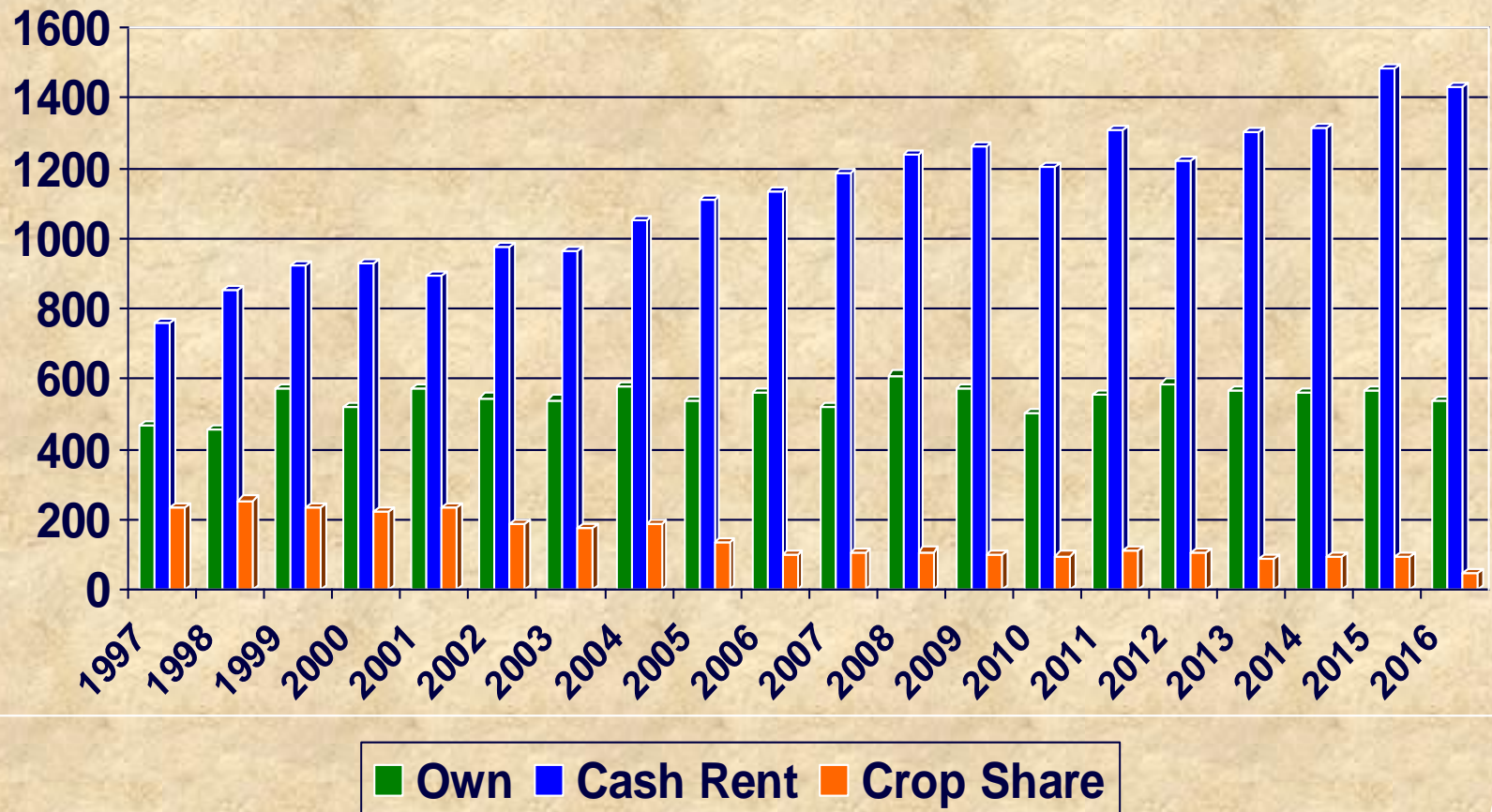


**WHAT TYPE OF FARMS
MAKE UP THE
BASE OF INFORMATION?**

Average Farmer Age in Region III



**Crop acres totaled 2,013 in 2016,
Increasing 220 acres or 12% since 2006 but
6% or 135 acres less than in 2015.**



Comparing 2006 to 2016

Farm Structure

- Crop land acres, including hay lands, have increased 220 acres per farm, up 12%
- Owned crop land acres have decreased slightly from 560 to 535 acres, or 4.5%
- Pasture acres have decreased by 12% or 75 acres per farm.
- Cash rented crop land acres have increased by 26% or 297 acres per farm.
- Share crop acres decreased by 51% from 101 to 49 acres per farm.
- Total acreage change of 6% or 145 acres, including pasture, since 2006.

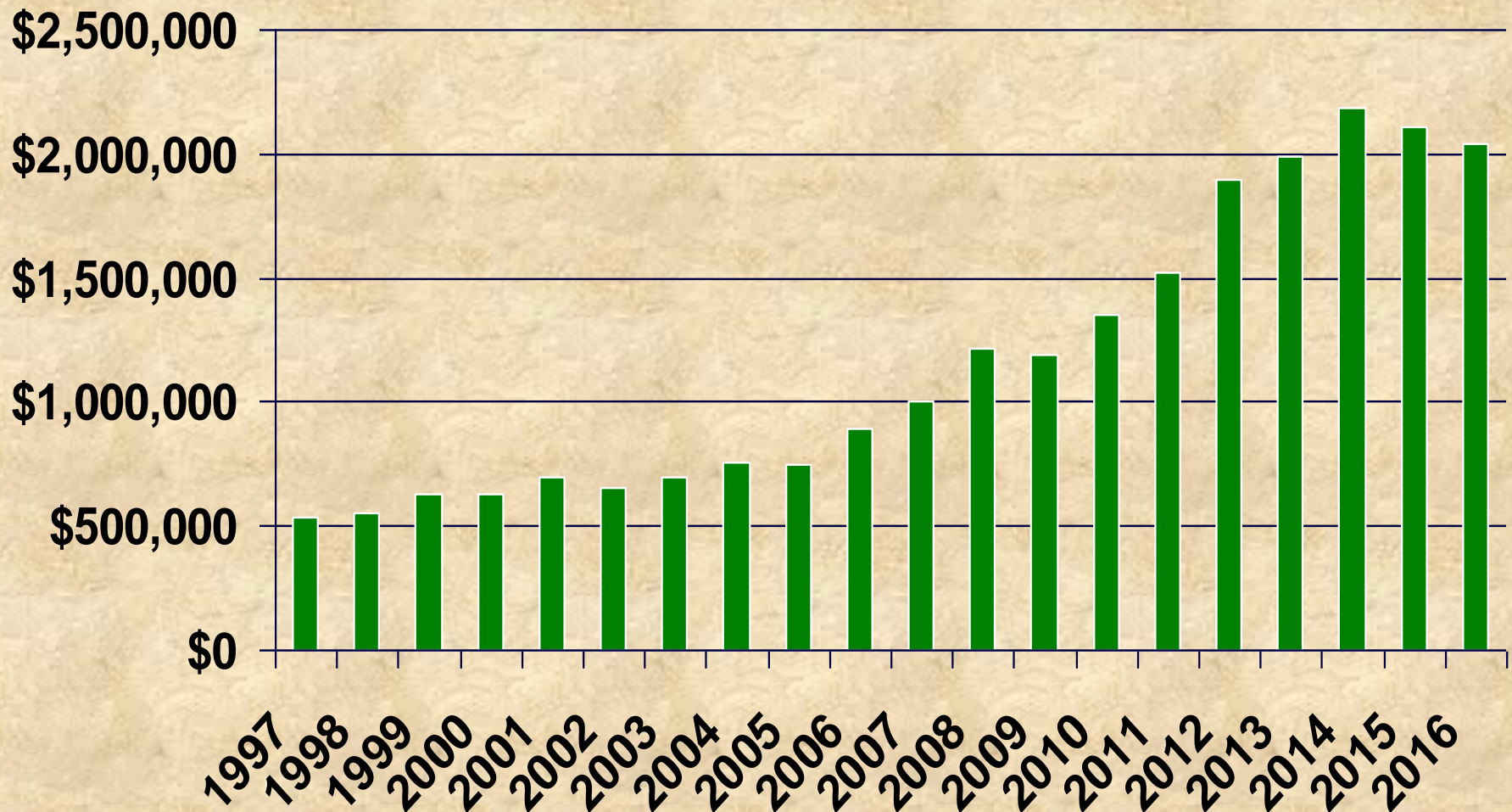
Total Farm Assets, Cost Basis

**Total farm assets per farm decreased 3.3% or \$68,963 from last year. Assets increased 129% in the last 10 years. (Single proprietors only)
Crop acres on all farms increased by 220 acres or 12% on average during that same time.**

● 2006	\$892,986
● 2007	\$1,007,440
● 2008	\$1,218,736
● 2009	\$1,188,358
● 2010	\$1,355,383
● 2011	\$1,521,843
● 2012	\$1,897,306
● 2013	\$1,987,640
● 2014	\$2,183,535
● 2015	\$2,112,291
● 2016	\$2,043,328



Farm Asset Growth in Region 3, Cost Basis, Crop acres grew 12% since 2006 while assets grew by 129%. Average farms in 2016 had 40 less owned acres than in 2006 and 75 less pasture acres.



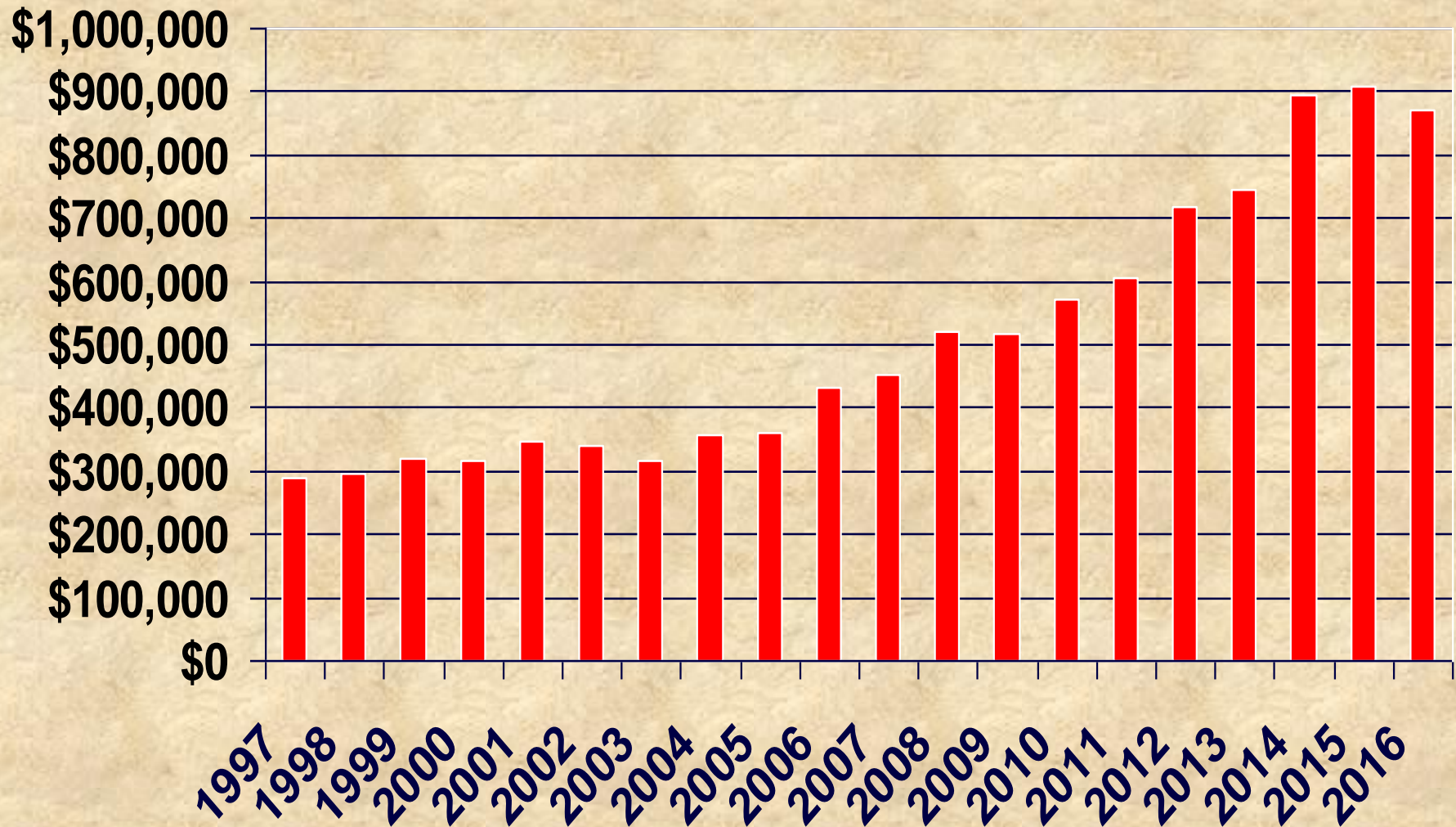
Total Farm Liabilities

Total average farm liabilities on Single Proprietor farms decreased \$38,725 or 4.3% from last year. \$869,578 is an increase of 101% or \$437,468 since 2006. Last decreases were in 2009 and in 2014.

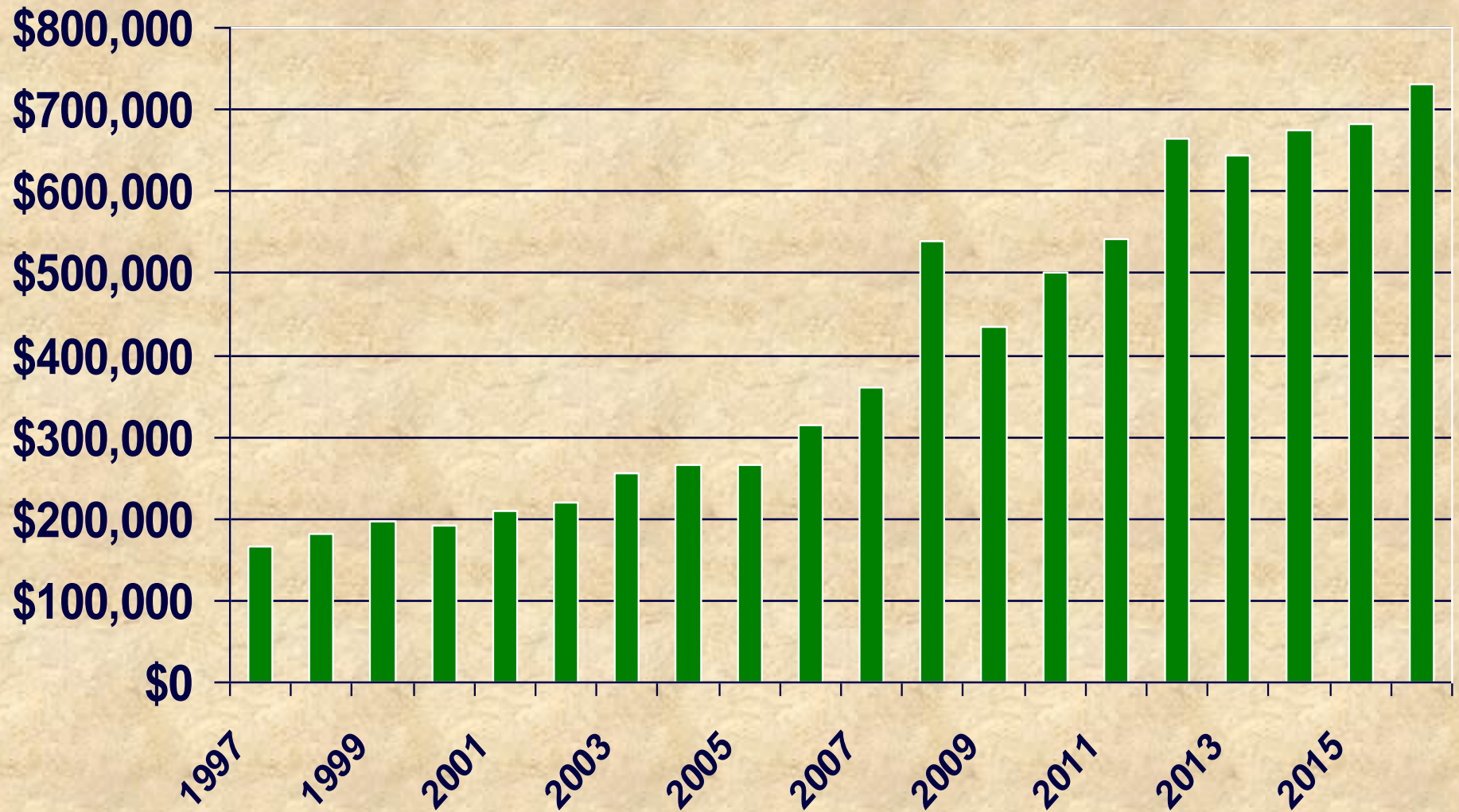
● 2006	\$ 432,110
● 2007	\$ 453,700
● 2008	\$ 521,883
● 2009	\$ 517,110
● 2010	\$ 573,080
● 2011	\$ 605,746
● 2012	\$ 718,437
● 2013	\$ 744,591
● 2014	\$ 894,163
● 2015	\$ 908,303
● 2016	\$ 869,578



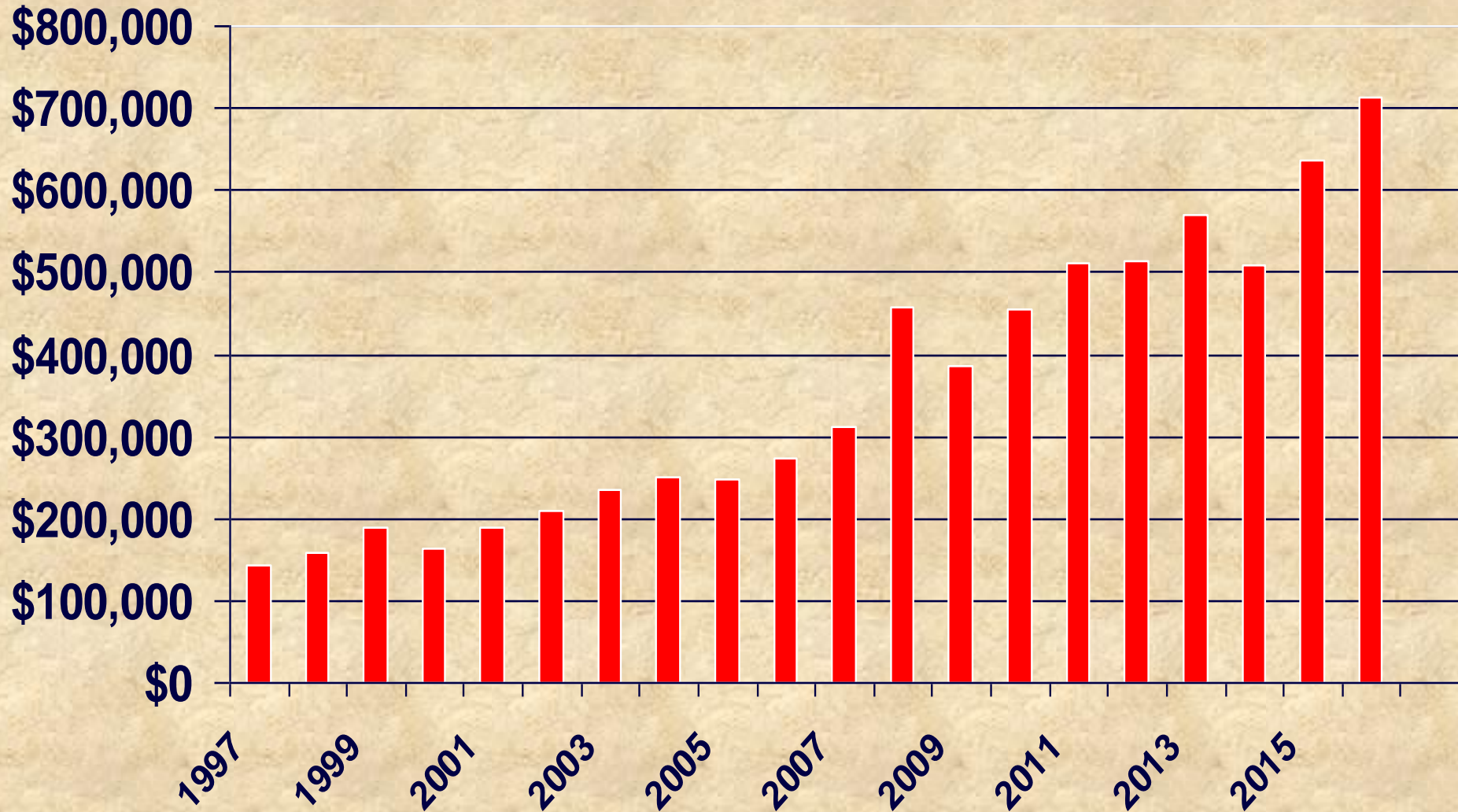
Growth of Average Farm Liabilities Region 3, An increase of \$437,468 or 101% since 2006.



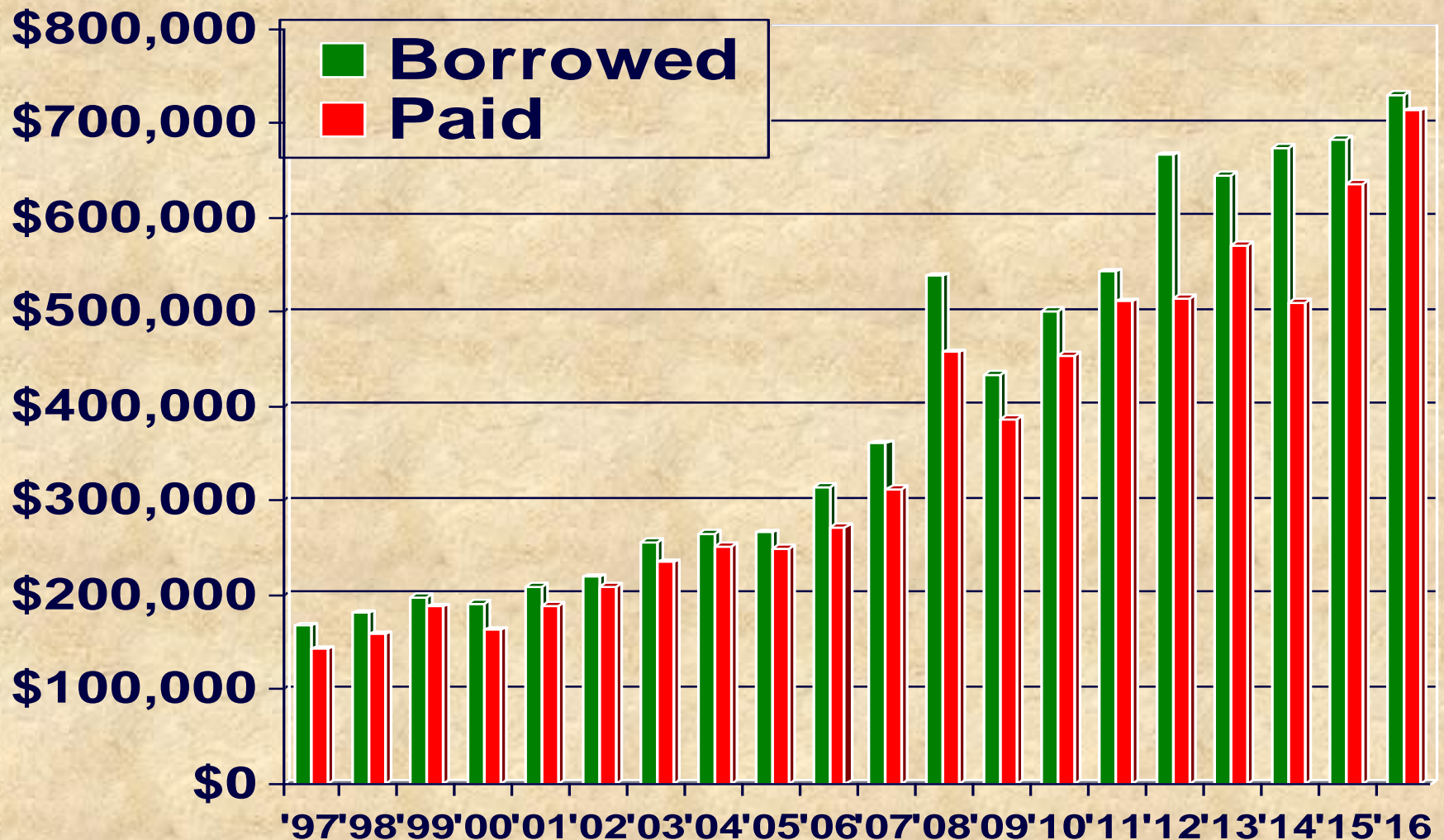
Money Borrowed per Farm Region 3



Principal Paid Per Farm Region 3

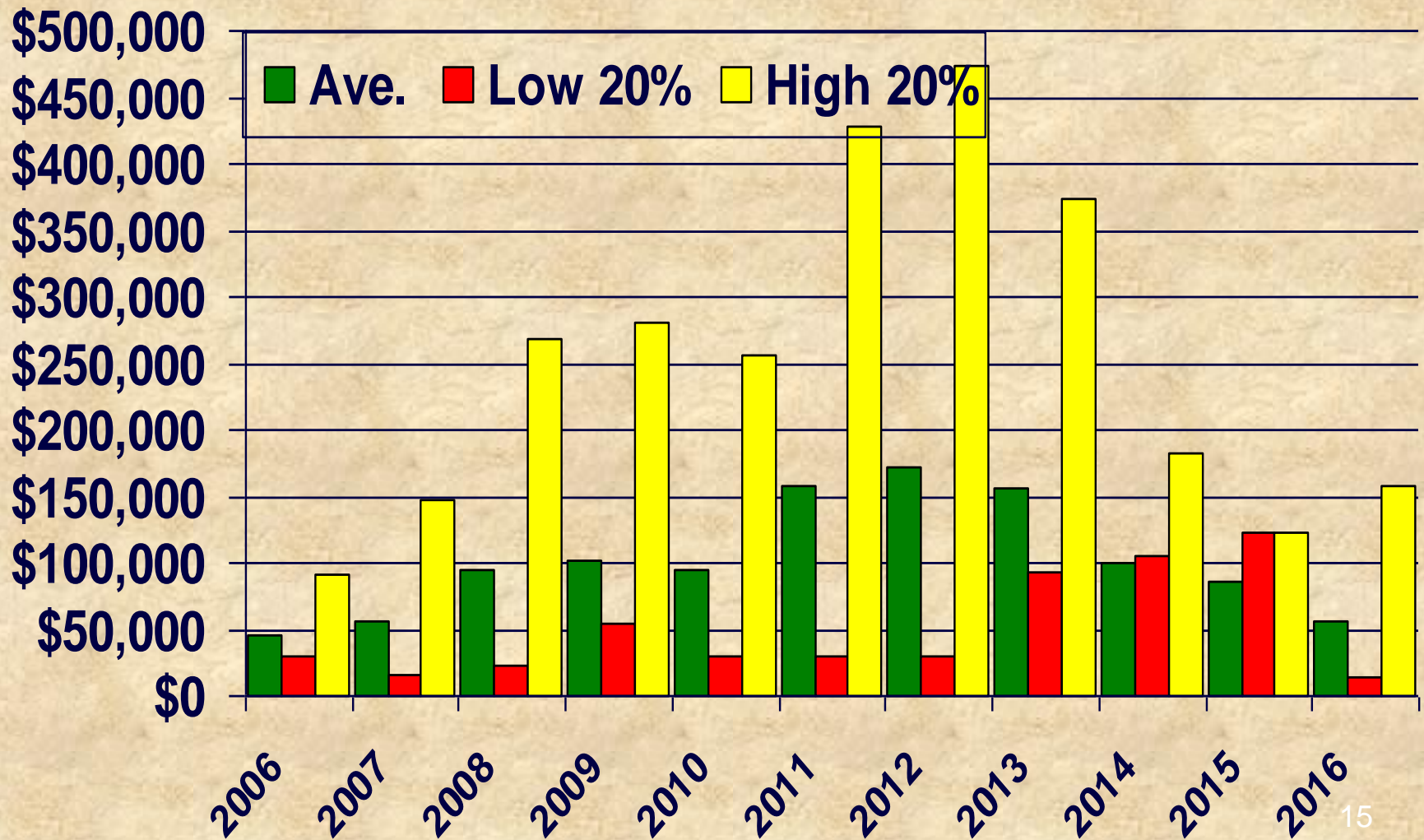


Money Borrowed & Repaid, Region 3

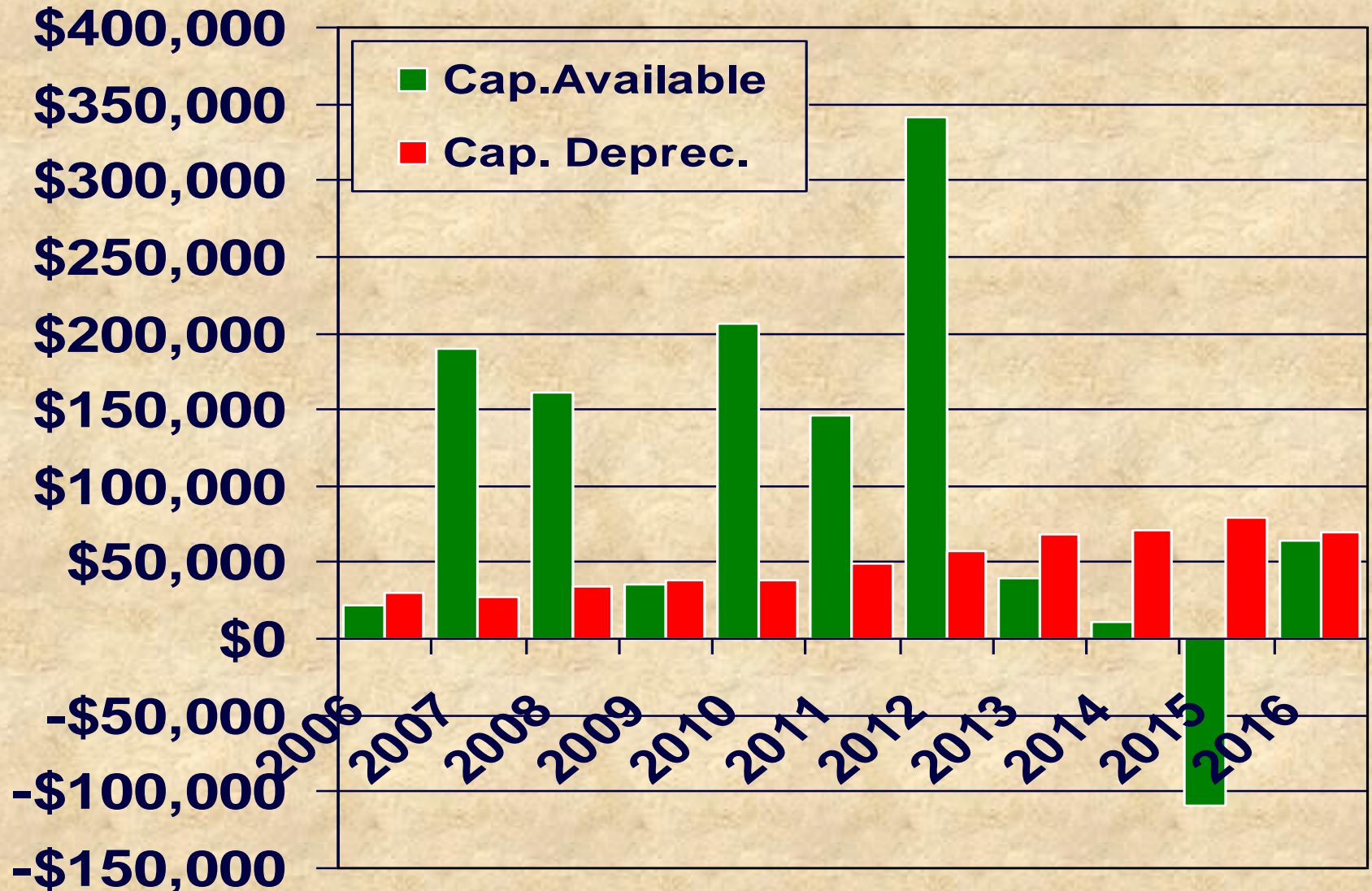


CAPITAL ASSETS, REPLACEMENT and DEPRECIATION

Capital Purchases of Machinery, Equipment & Farm Vehicles



Capital Replacement Margin compared to Depreciation/Capital Adjustment



Net Worth Change

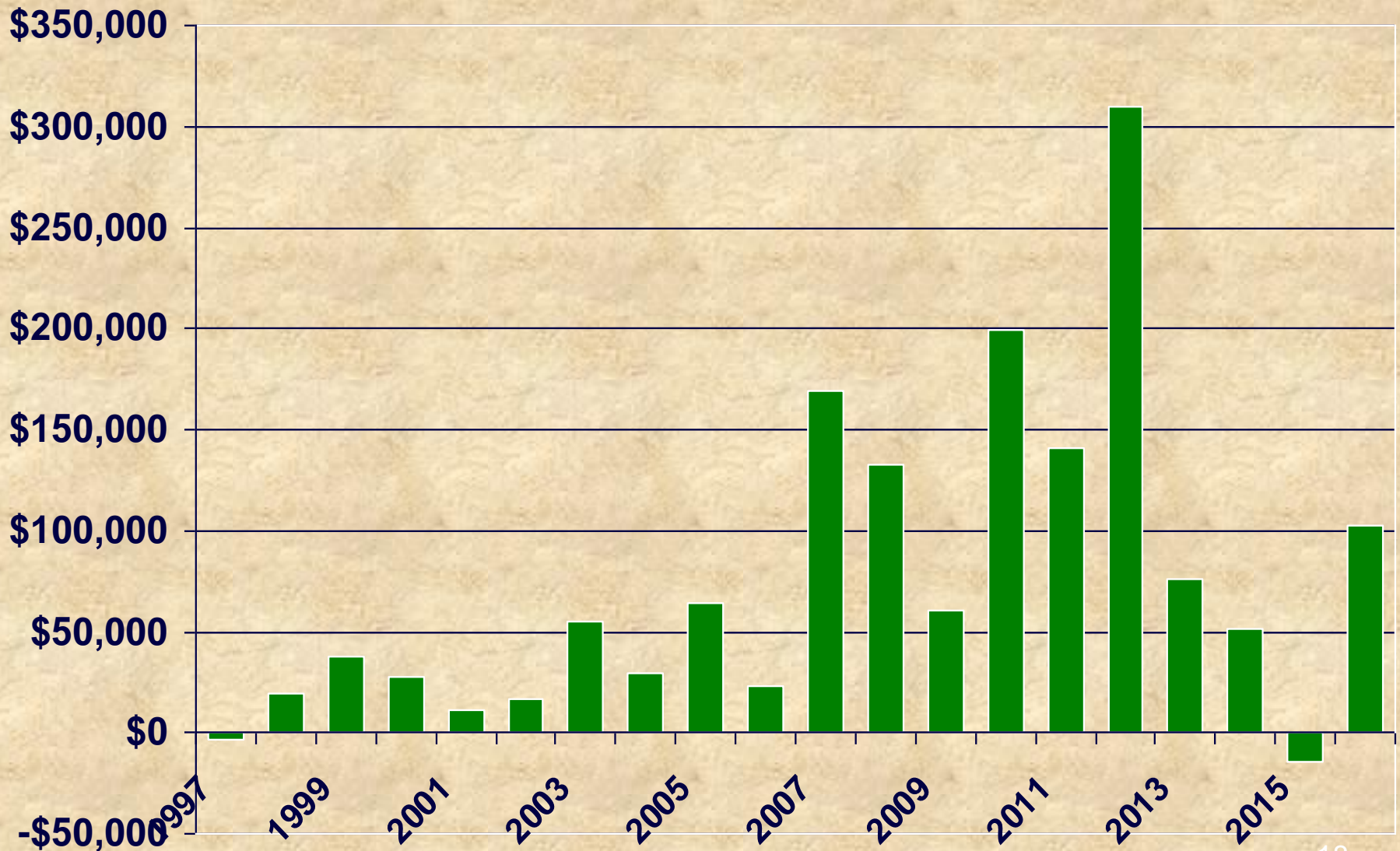
(Change in Retained Earnings)

- This year we saw a positive change in retained earnings of \$102,283 as measured on a cost basis balance sheet. (Sole Prop.)

● 2006	\$ 23,452
● 2007	\$ 169,317
● 2008	\$ 132,714
● 2009	\$ 60,577
● 2010	\$ 199,176
● 2011	\$ 141,287
● 2012	\$ 310,126
● 2013	\$ 76,053
● 2014	\$ 51,620
● 2015	\$ -14,112
● 2016	\$ 102,283



Net Worth Change on a Cost Basis, (Retained Earnings Change) Region III



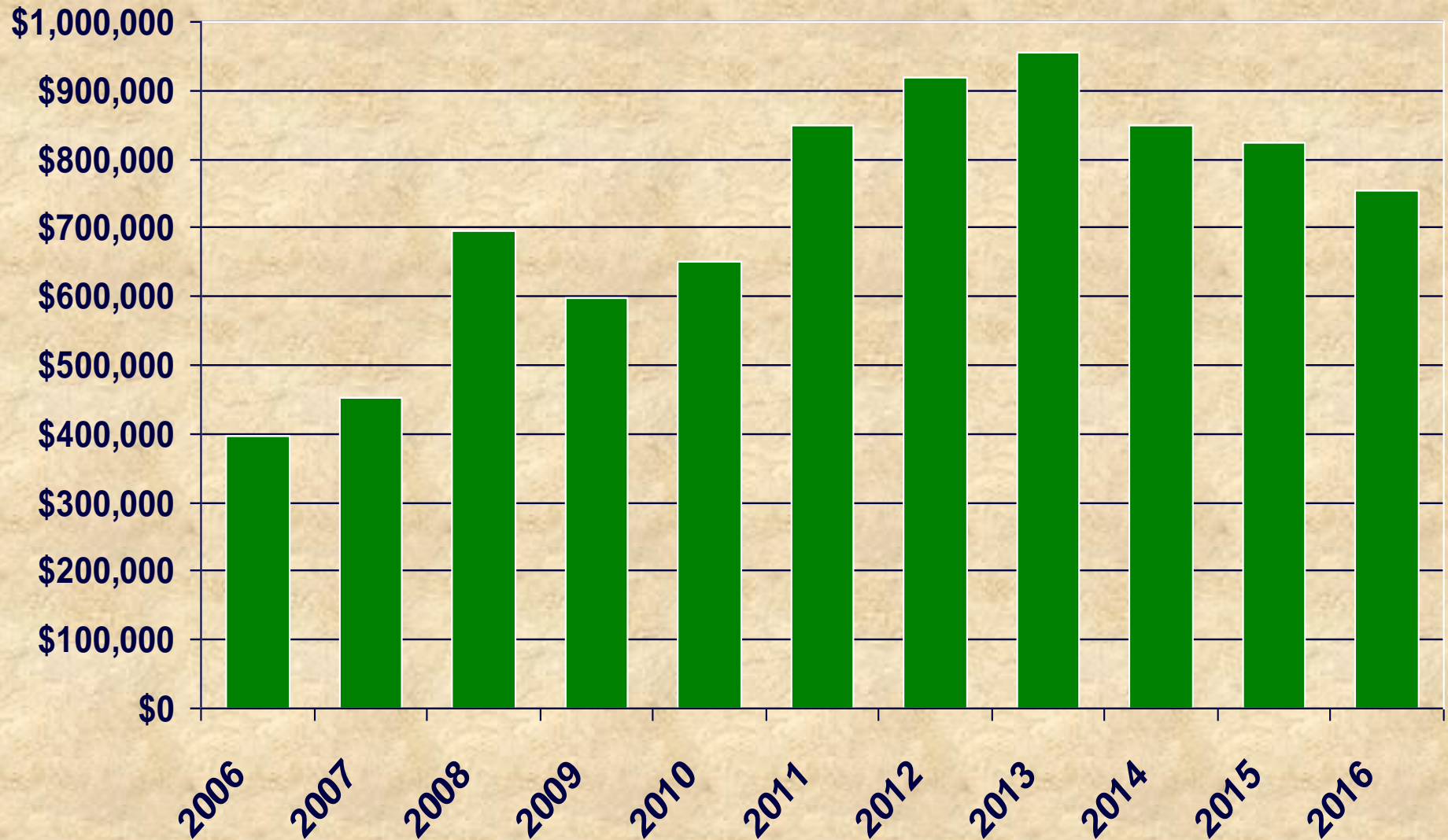
Cash Farm Receipts

**Average Cash Farm Receipts decreased
\$69,234 from 2015 to 2016.**

● 2006	\$ 395,617	+	3.5%
● 2007	\$ 452,249	+	14.3%
● 2008	\$ 694,575	+	53.6%
● 2009	\$ 597,240	-	14.0%
● 2010	\$ 650,382	+	8.9%
● 2011	\$ 848,141	+	30.4%
● 2012	\$ 918,165	+	8.3%
● 2013	\$ 955,323	+	4.0%
● 2014	\$ 849,976	-	11.0%
● 2015	\$ 823,293	-	3.1%
● 2016	\$ 754,059	-	8.4%

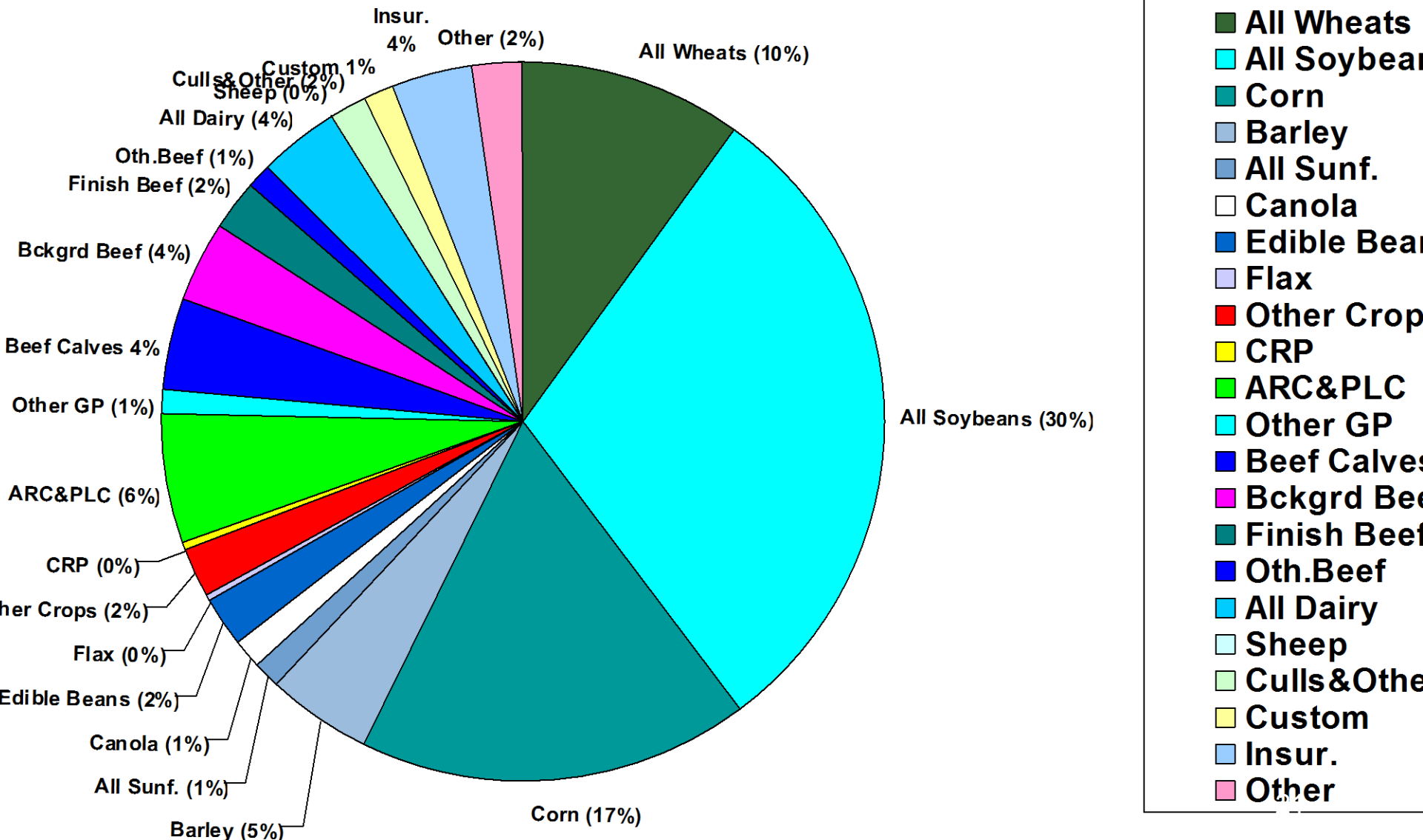
Total Change '06 to '16 = + 91%

Cash Farm Receipts, Region 3



Where did the money come from?

\$754,059 Cash Income for 2016



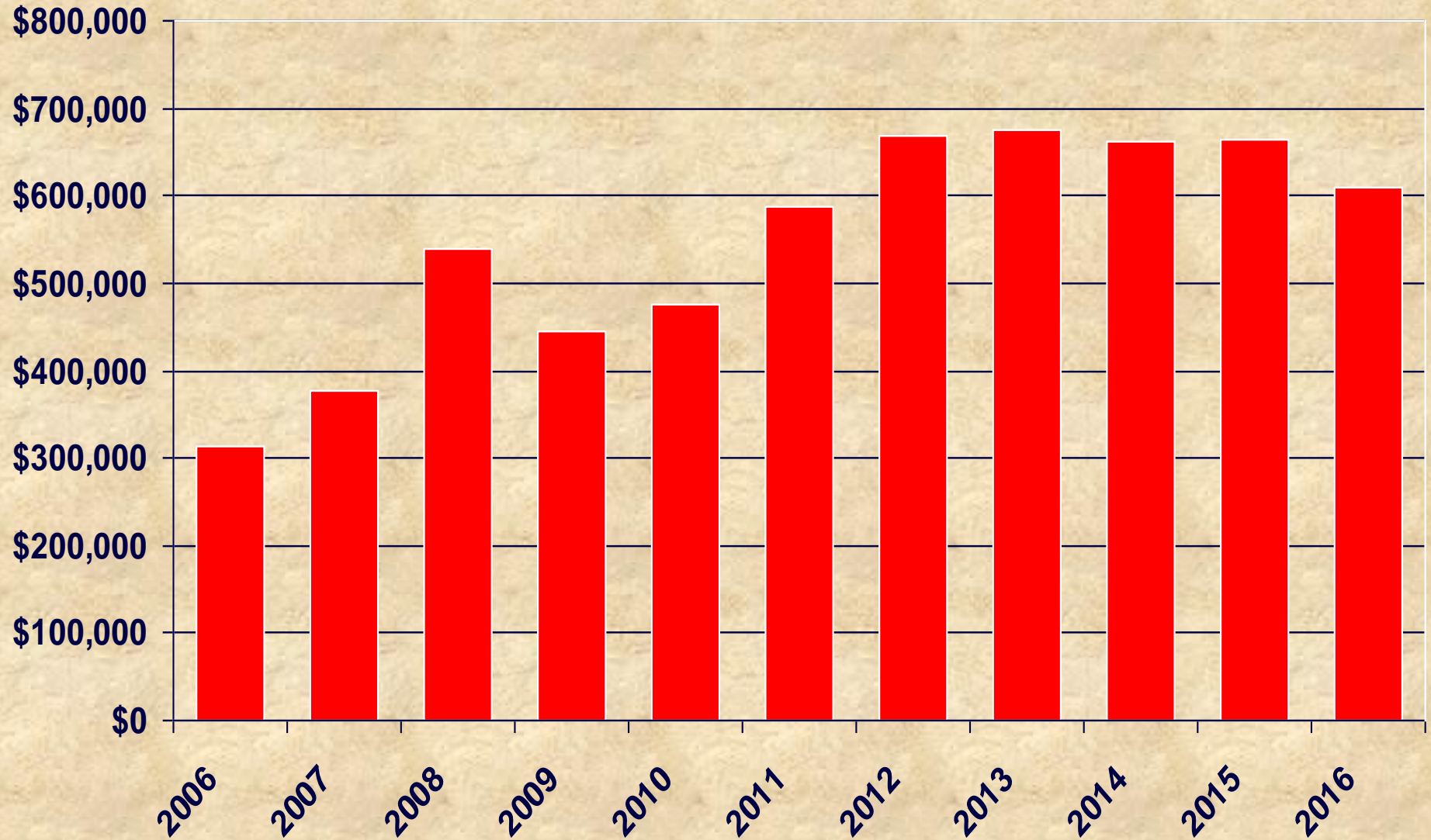
Cash Farm Expenses

**Average cash farm expenses decreased
\$54,463 from 2015 to 2016**

● 2006	\$ 314,372	+ 2.9%
● 2007	\$ 376,242	+ 19.7%
● 2008	\$ 540,226	+ 43.6%
● 2009	\$ 444,962	- 17.6%
● 2010	\$ 475,020	+ 9.8%
● 2011	\$ 586,337	+ 23.4%
● 2012	\$ 668,792	+ 14.1%
● 2013	\$ 674,927	+ 0.9%
● 2014	\$ 662,965	- 1.8%
● 2015	\$ 664,589	+ 0.2%
● 2016	\$ 610,126	- 8.2%

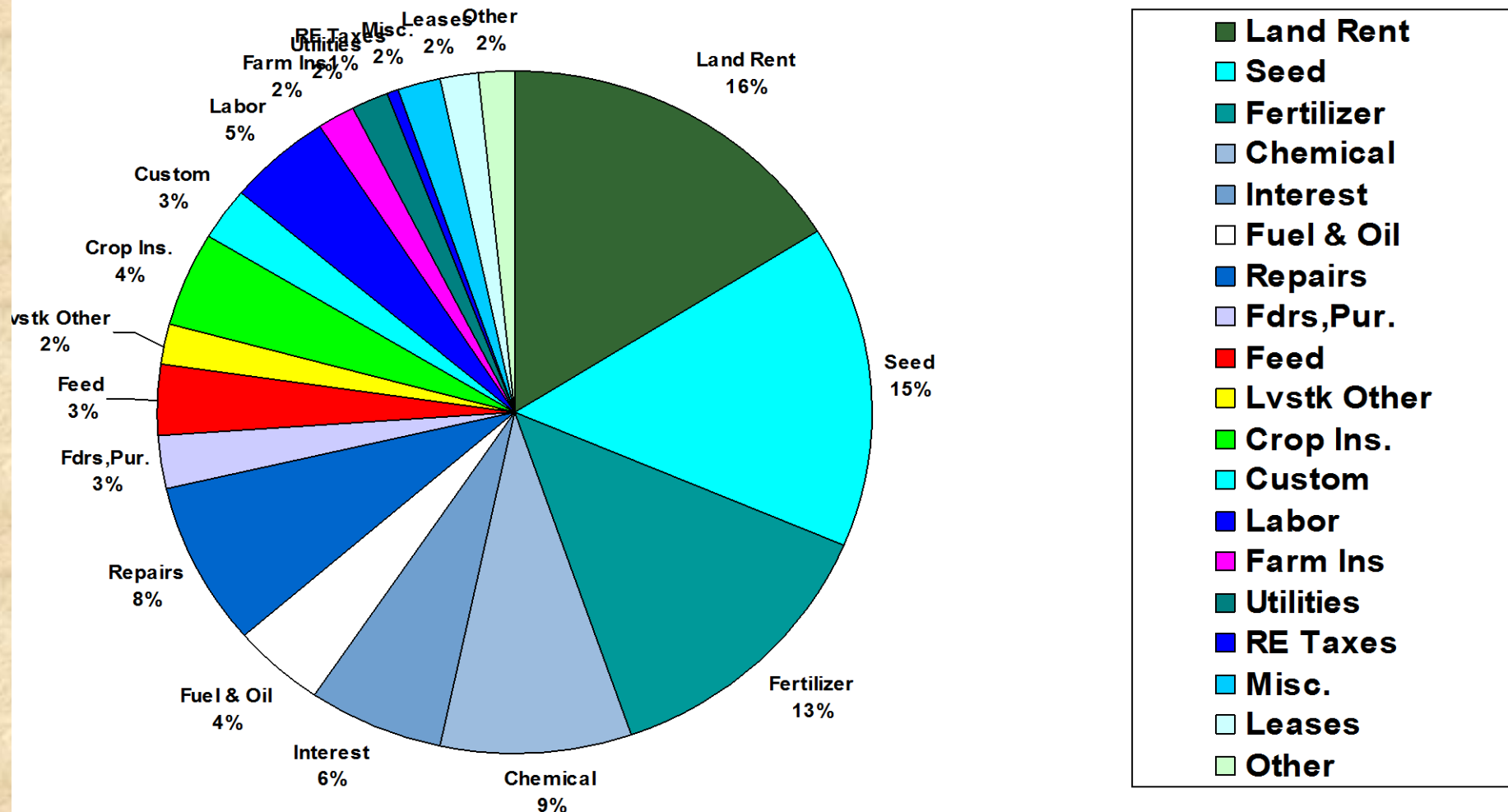
Total increase '06 to '16 = + 94%

Cash Farm Expenses Region 3

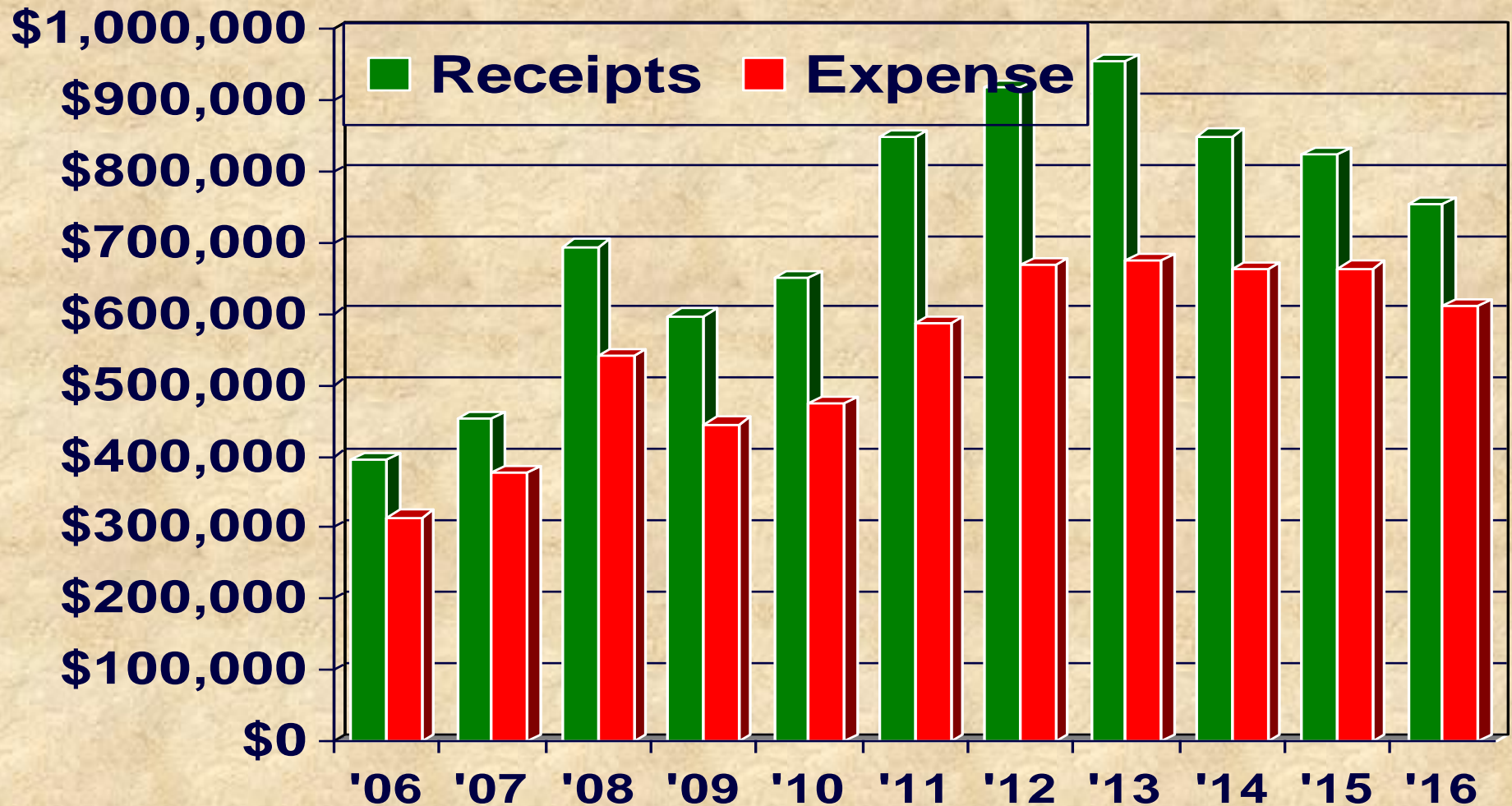


Where was the money spent ?

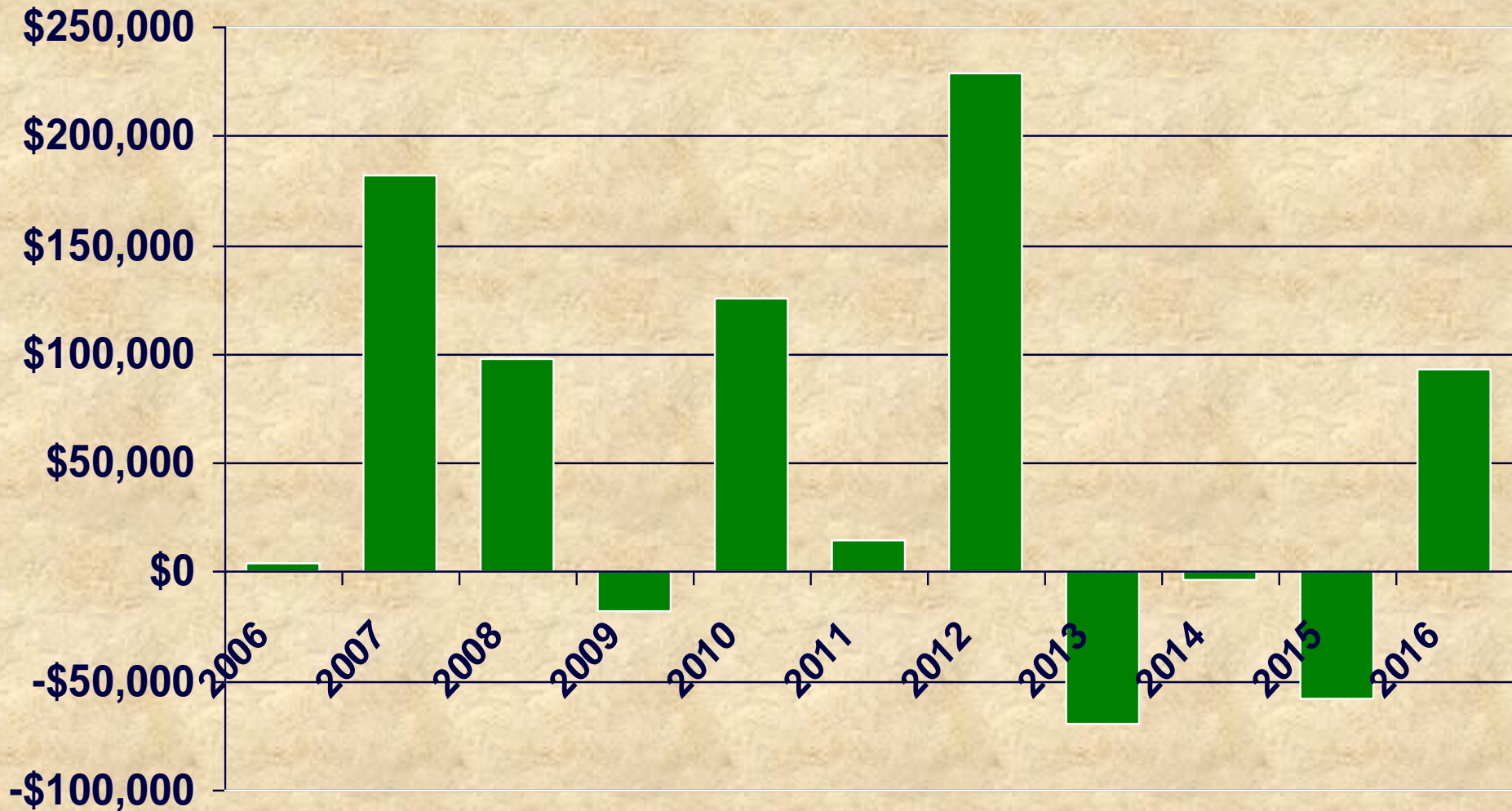
Cash Expenses of \$610,126 in 2016



Gross Cash Income and Cash Expenses



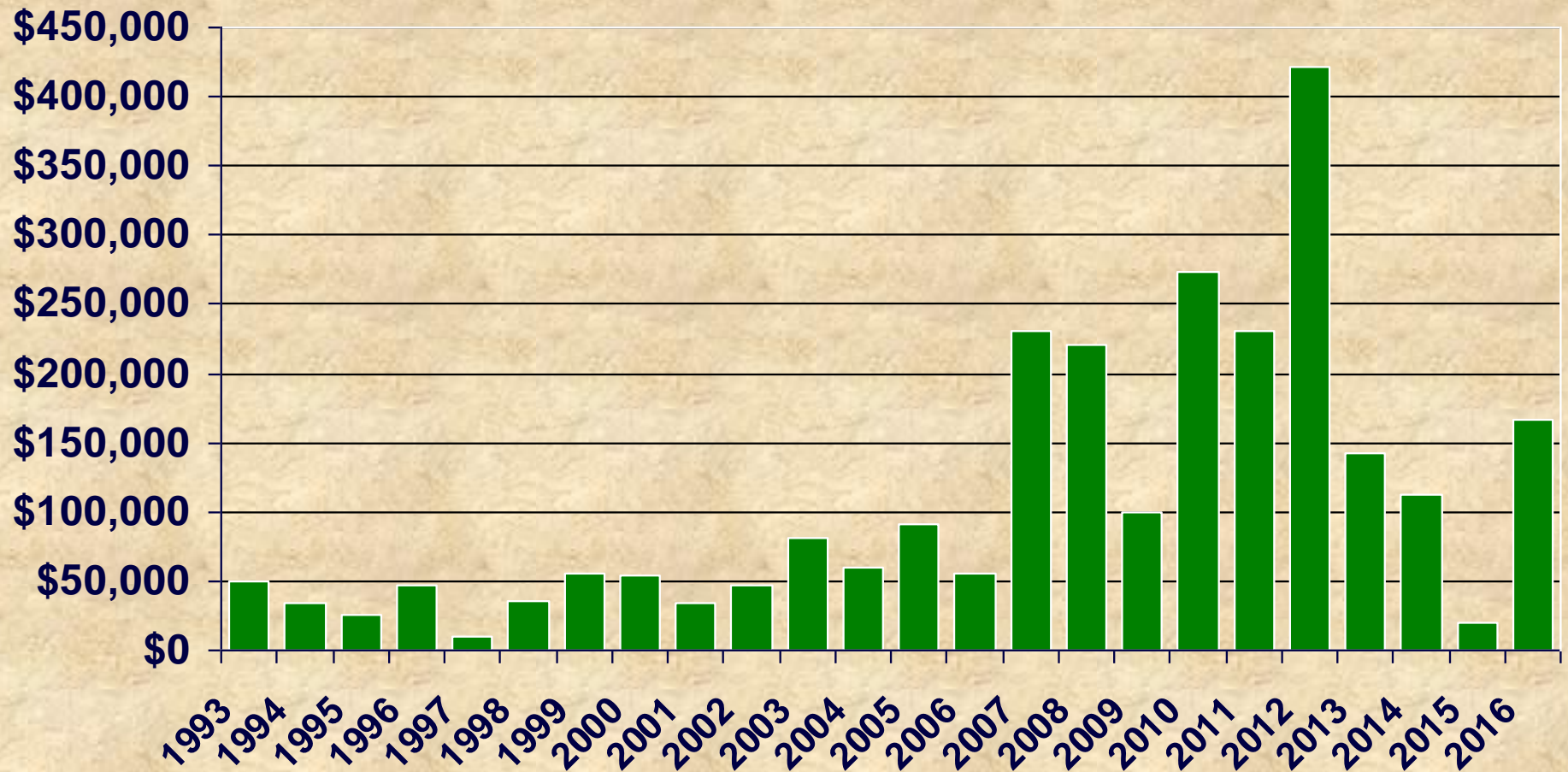
Total Inventory Change per farm, Region 3



Net Farm Income

- This is the net cash farm income after being adjusted first for inventory change and then for depreciation.
- This is the calculated profit for the year
- If more money than indicated on net farm income is spent on family living, personal taxes, and new investments, it must be taken from inventory sales, the capital replacement dollars, new borrowings, or from off farm income. It is also calculated under the cost balance sheet to avoid the effects of inflation or deflation of asset values.

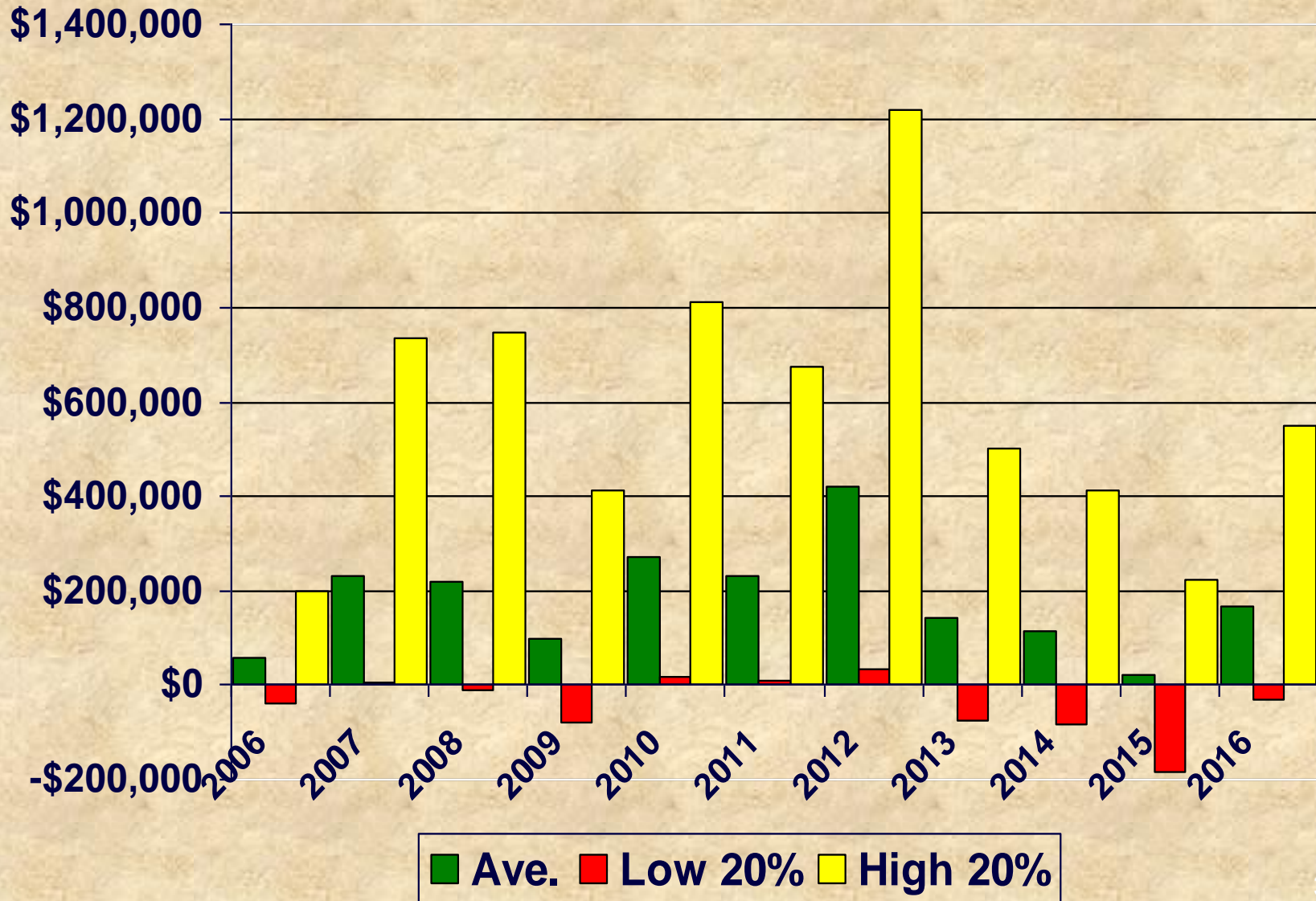
Average Net Farm Income



Net Farm Income For Region III

- **2016 Net farm income for farms in Region III averaged \$166,574. (Up \$146,381 from \$20,193 in 2015).**
- **Net farm income for the low profit 20% of the farms was negative and averaged (\$29,894) (Increased by \$155,781 from 2015, from (\$185,675)).**
- **Net farm income for the high profit 20% of the farms averaged \$550,974 (Increased by \$327,058 from 2015, averaging \$223,916 in 2015).**

Net Farm Income by Profitability Groups

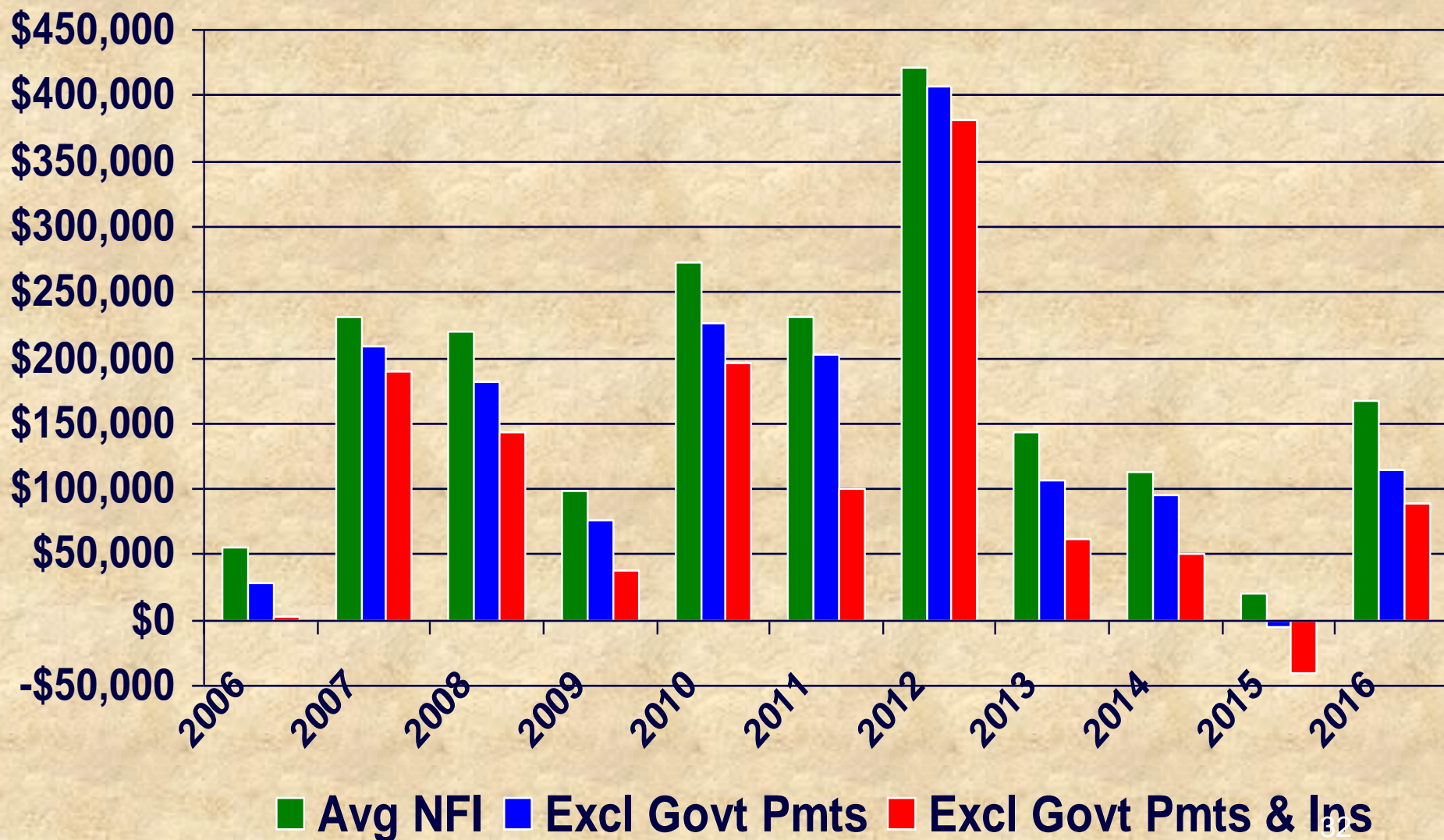


Profitability Based on Crop Acres Only, including cash crop lands & haylands.

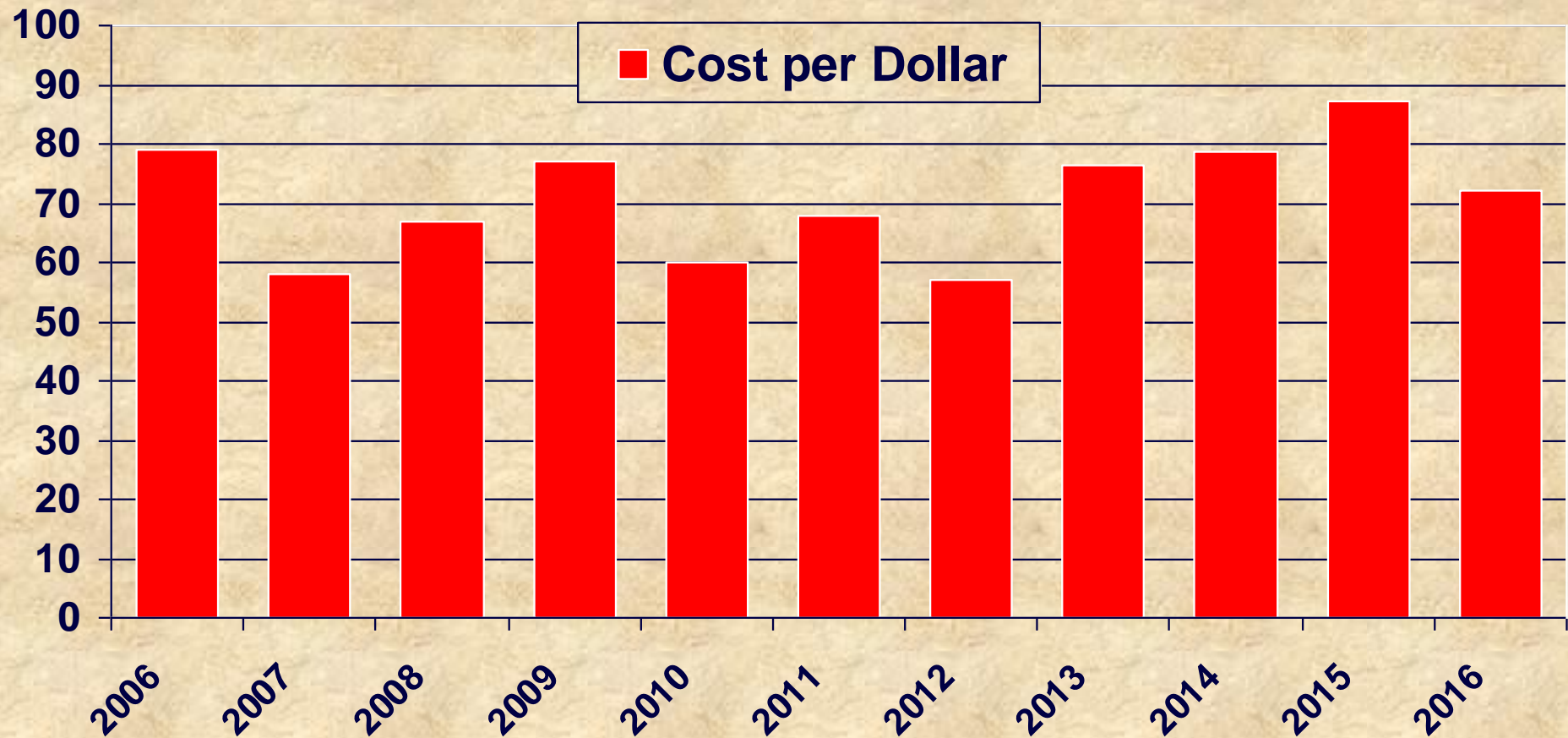
- **Average Profit on 149 farms, based on 2,013 crop acres was \$82.75 per acre. \$9.40 in 2015 based on 2,148 acres.**
- **Low Profit 20%, based on 777 acres was (\$38.47) per acre. (\$58.94) in 2015 on 3,150 acres.**
- **Mid Profit (40%-60%), \$90,610 from 1,130 acres was a profit of \$80.19 per acre. \$12.51 in 2015, on 1,427 acres.**
- **High Profit 20%, based on 4,854 acres was \$113.51 per acre. \$57.81 in 2015 on 3,873 acres.**

Average Net Farm Income


ND Farm Business Management, Region 3



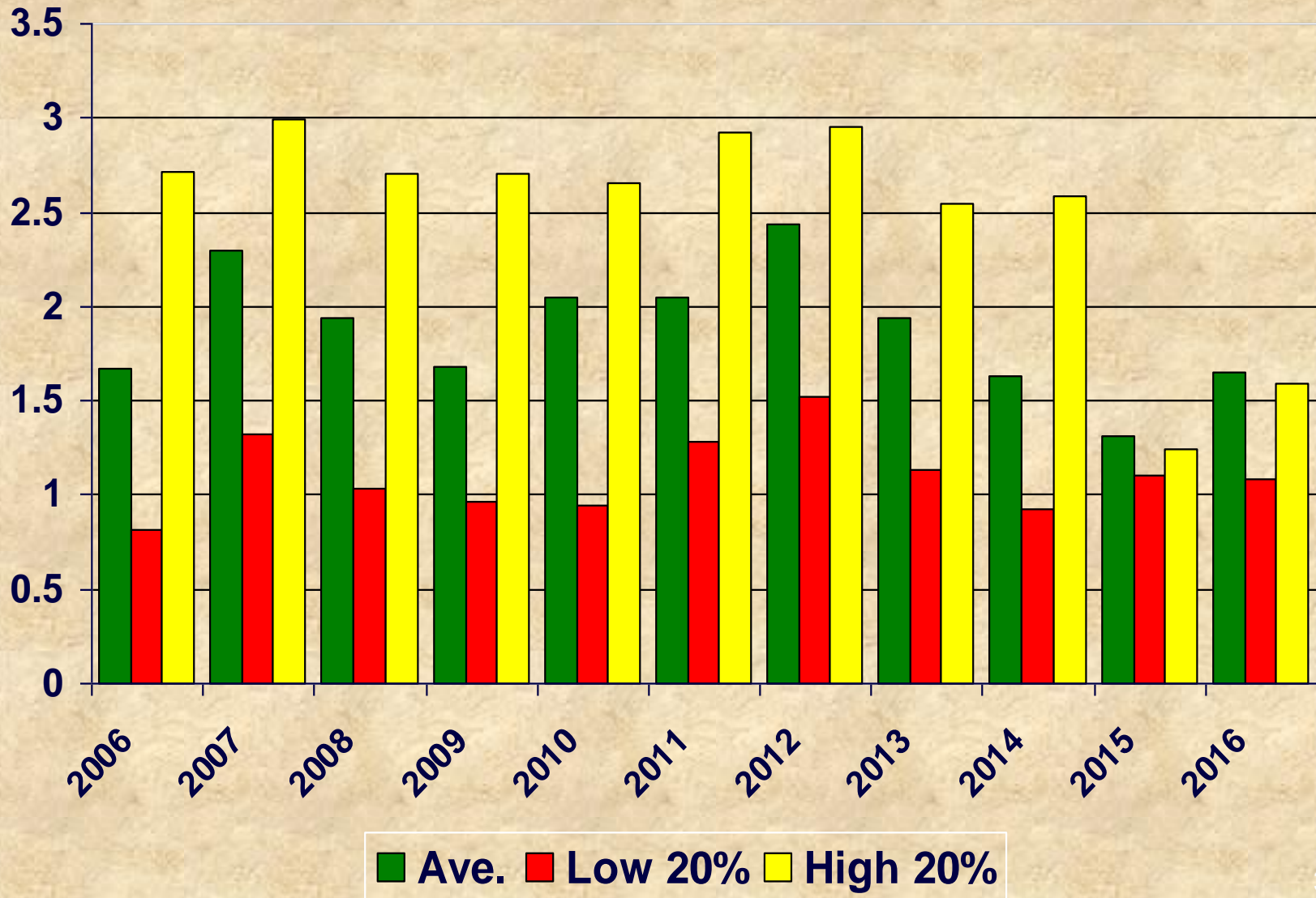
Average Cost per Dollar of Income



Cost to produce \$1.00 of Accrued Income

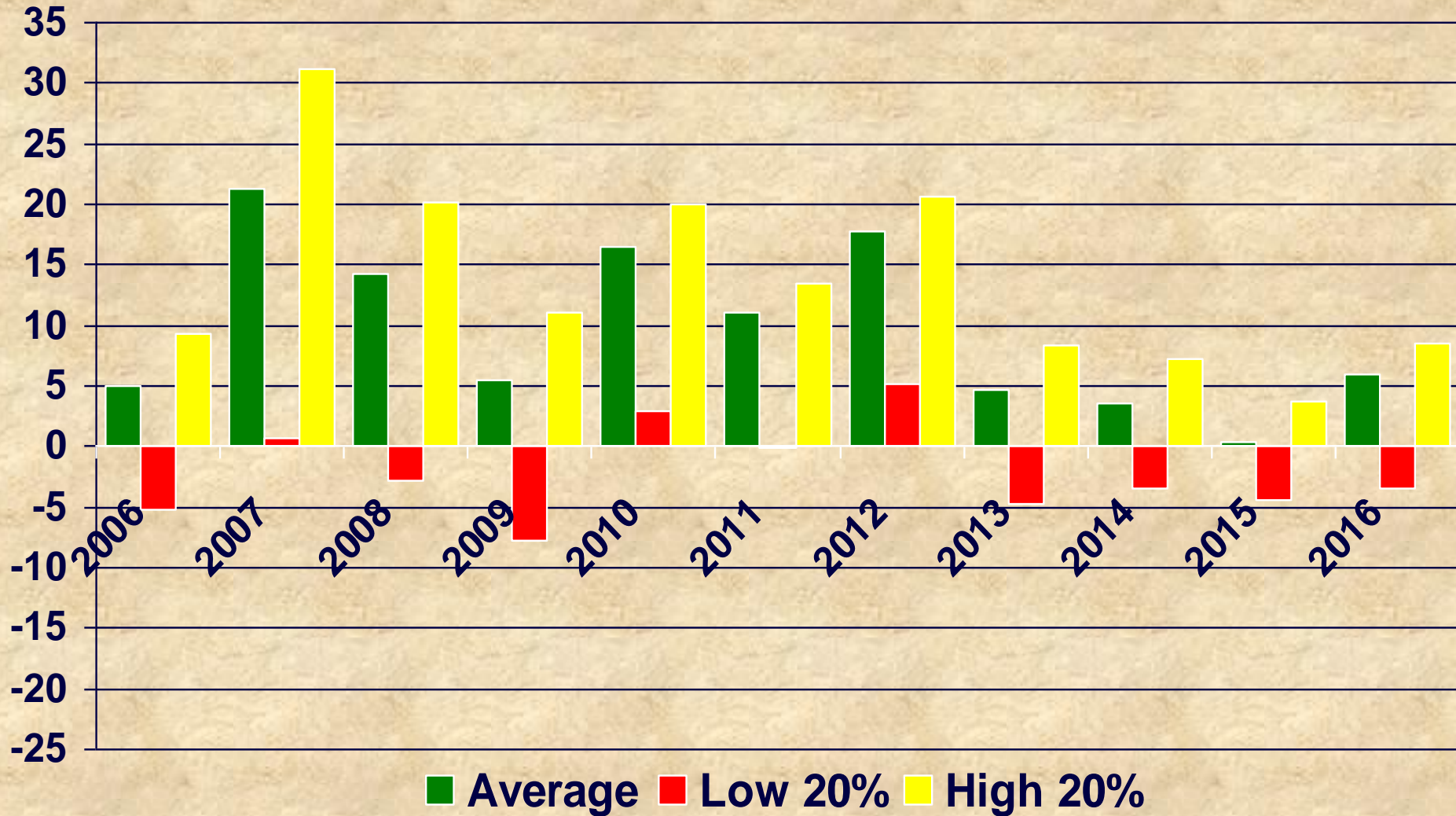
- This year it cost an average Region 3 farmer \$.72 (accrual) to produce a dollar's worth of income, compared to \$.87 last year. (2016 Oper. Expense \$.68 + Interest of \$.042) Depreciation \$.06-\$.09 not included.
- High profit farms created a dollar of income for \$.65 down from \$.75 in 2015.
- Low profit farms created a dollar of income for \$1.02 of expenses, including interest, down from \$1.04 in 2015.
- Mid-Range farms created a dollar for \$.74 which was down from \$.88 in 2015.

Current Ratio by Profitability Group, Current assets divided by Current Liabilities

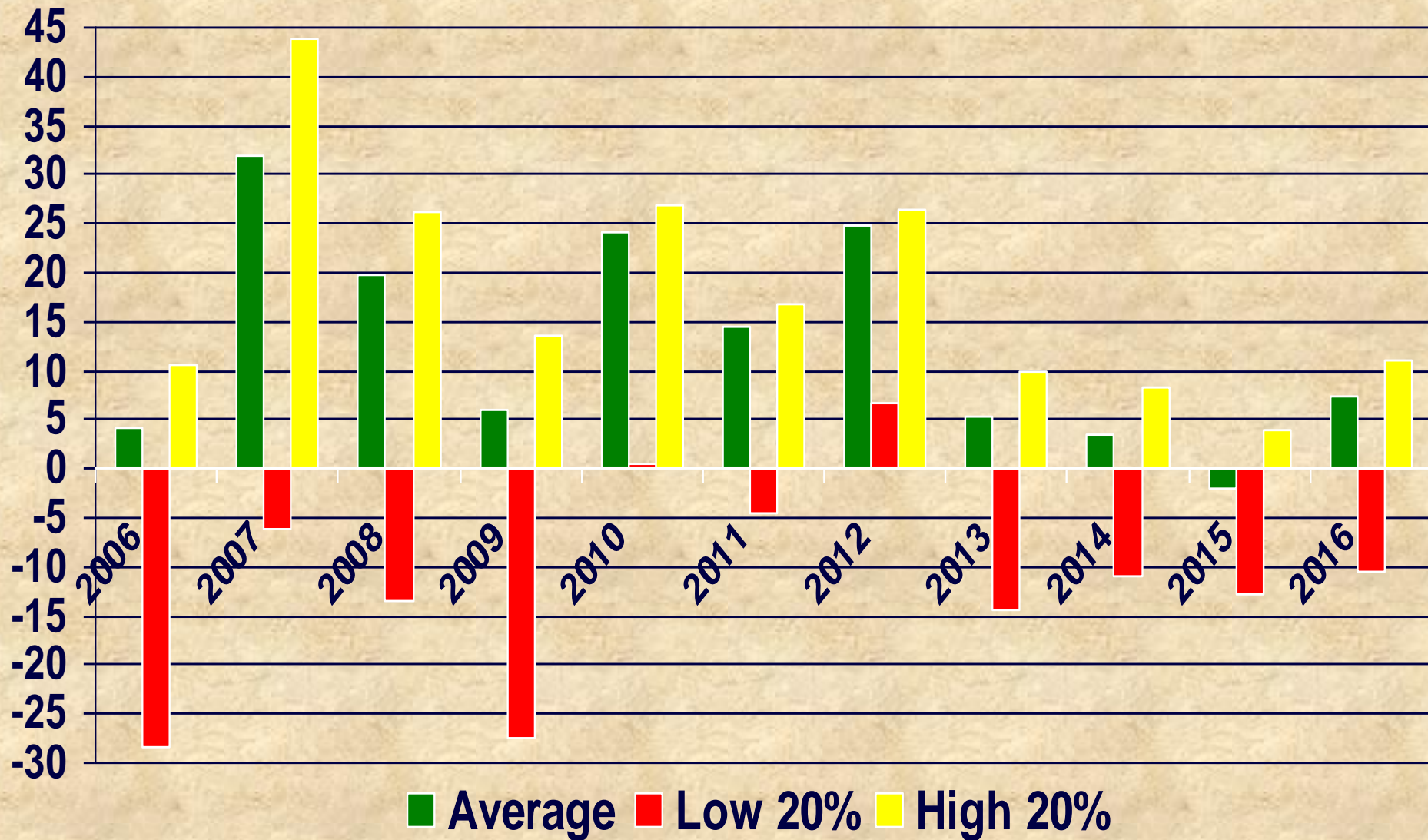


% Return on Assets, Cost Basis

ND Farm Business Management, Region 3



% Return on Equity, Cost Basis

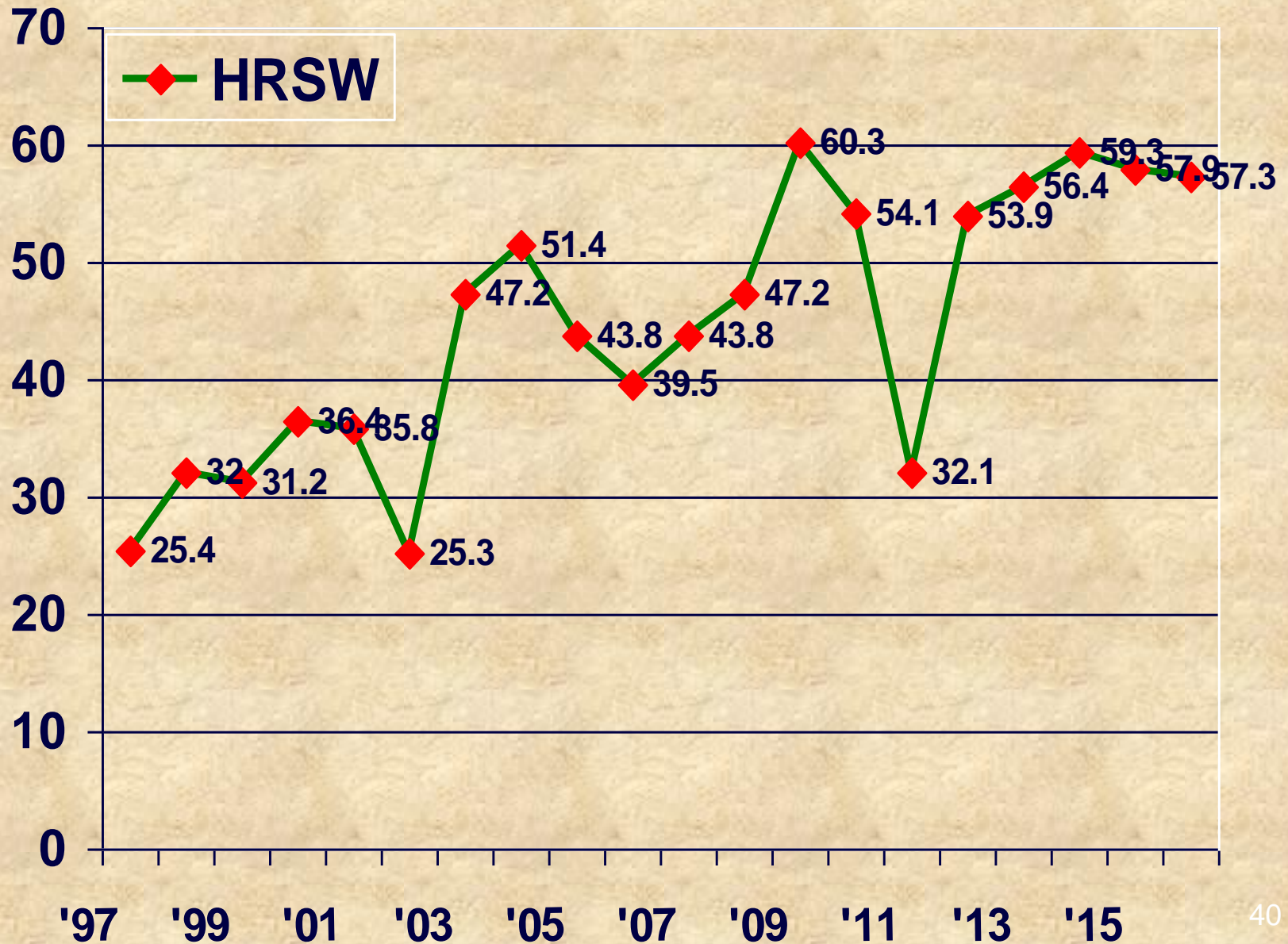


Crop Yields, Costs and Returns for 2016

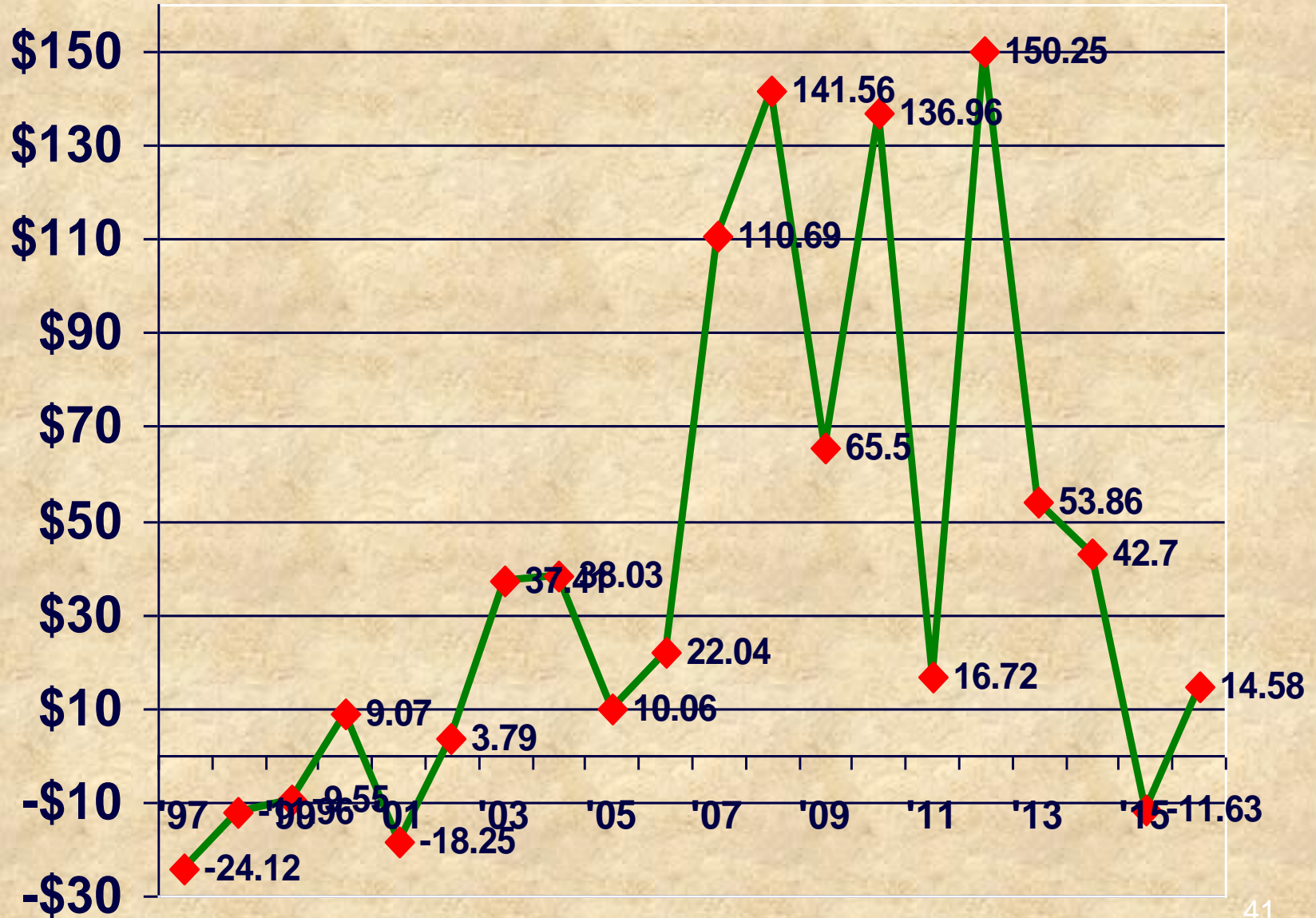
Net Return for Crops

- Does not include Direct or Counter-Cyclical Government Payments.
- Does include LDP and Insurance which shows up in the price of the commodity and the other crop income

All HRSW Average Yields, Region 3



HRSW Average Net Return per Acre on Cash Rented Land, Avg. Rent \$59.82

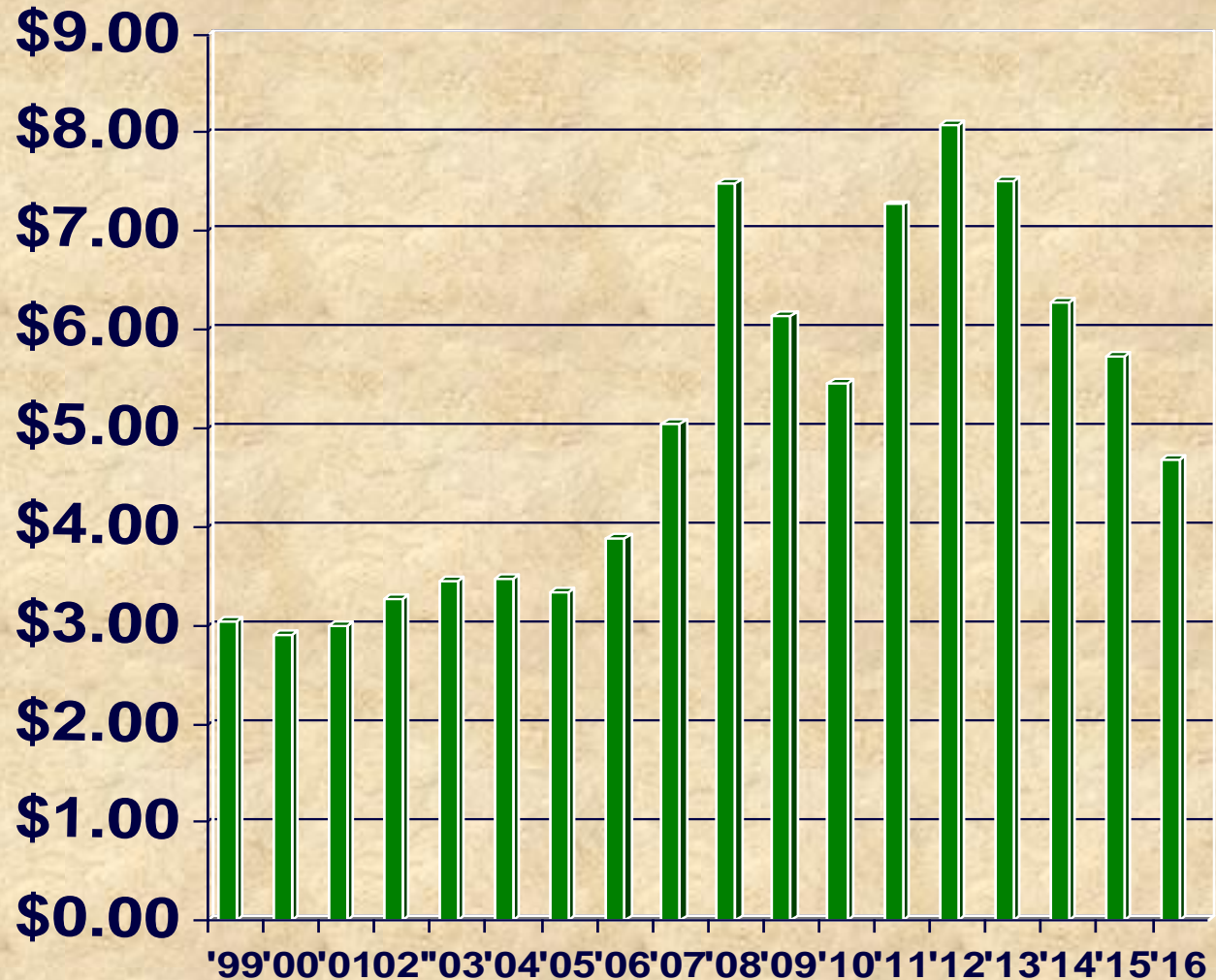


Spring Wheat Net Return/Acre on Cash Rented Land, 2016

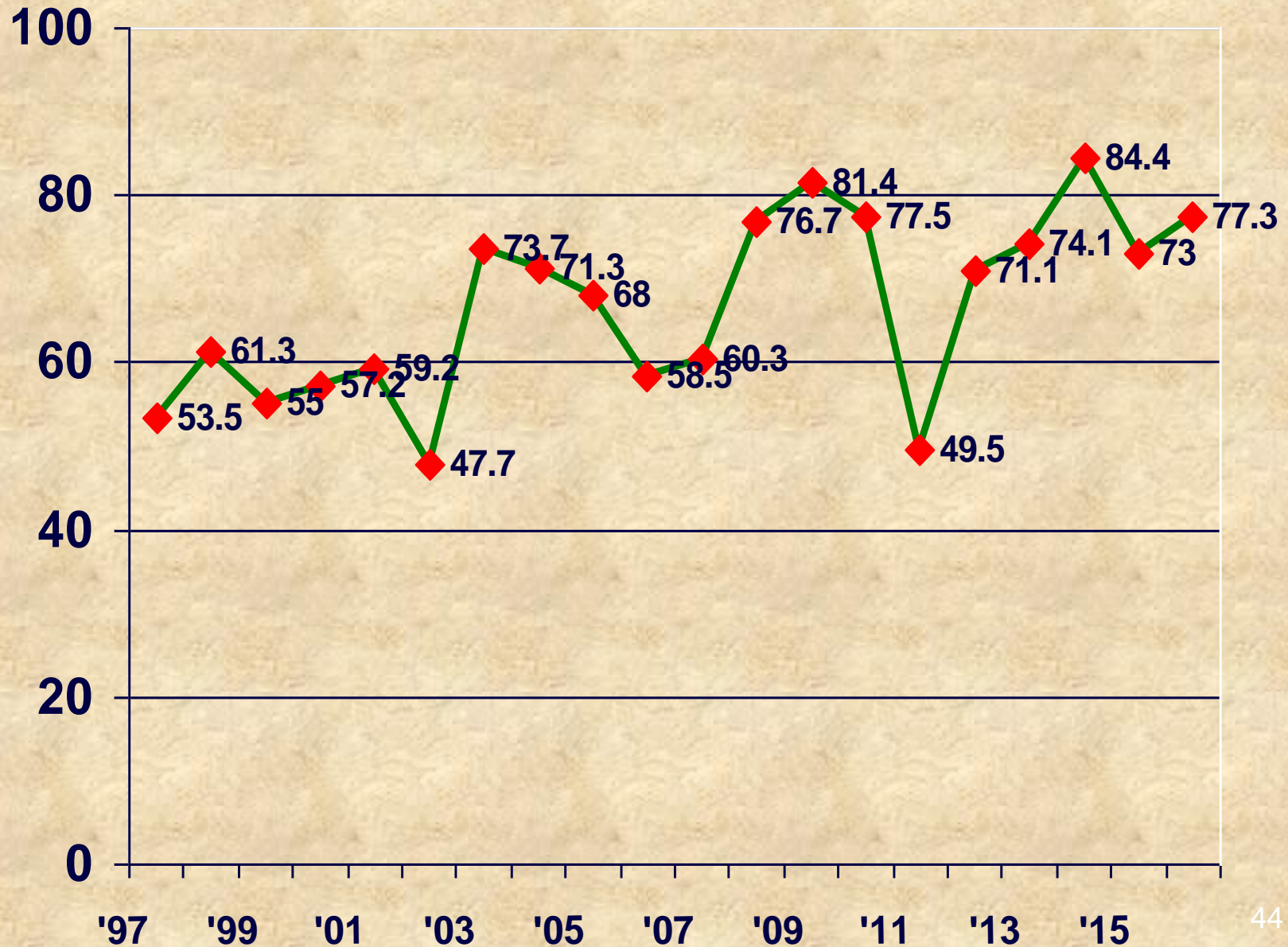
● Average	\$ 14.58 at 58.4 Bu.
High 20%	\$ 70.76 at 65.3 Bu.
Low 20%	\$ -76.25 at 40.0 Bu.

Average Price Received, Cash Sales

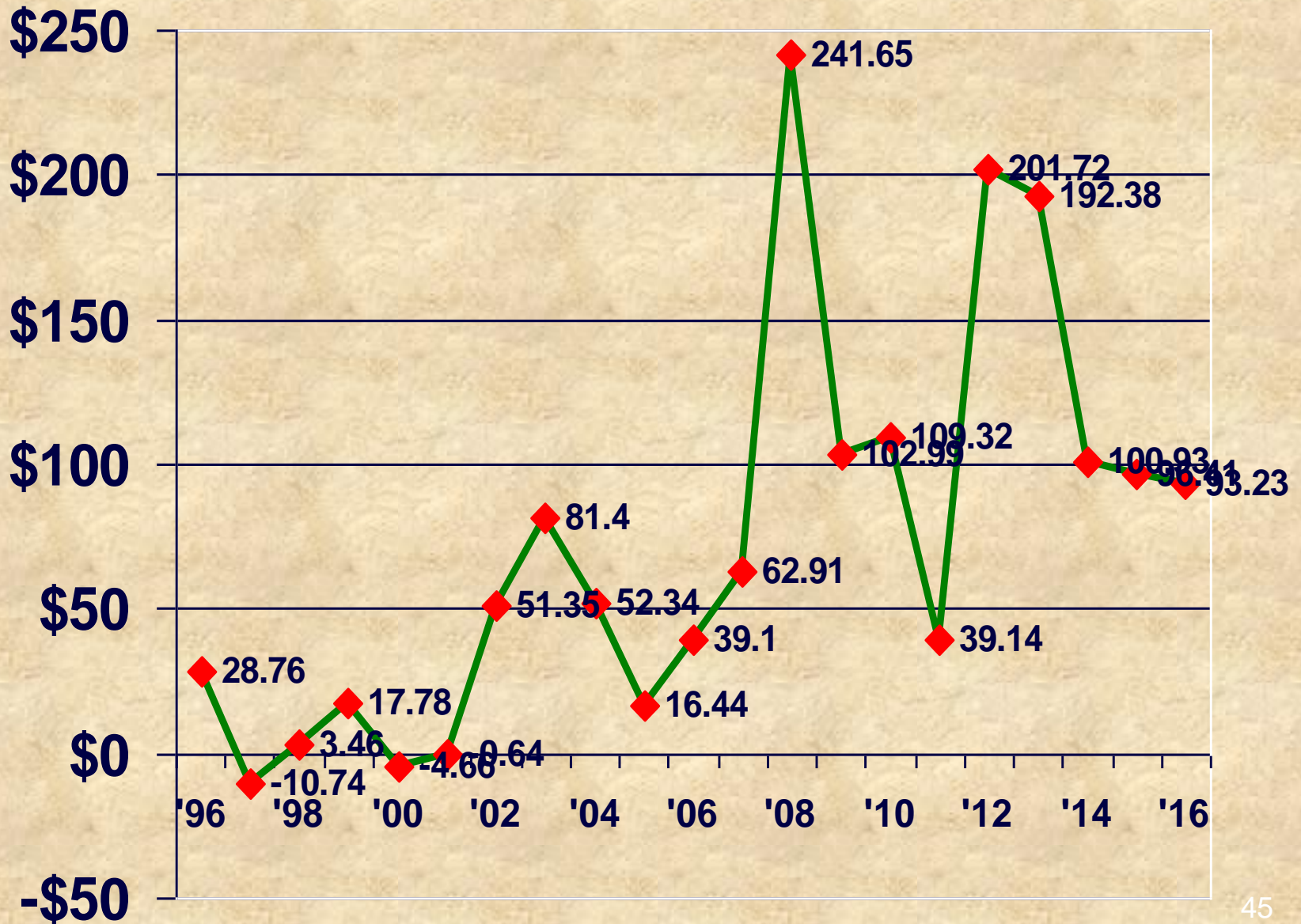
• 1999	3.05
• 2000	2.90
• 2001	2.99
• 2002	3.26
• 2003	3.46
• 2004	3.48
• 2005	3.34
• 2006	3.89
• 2007	5.05
• 2008	7.48
• 2009	6.14
• 2010	5.45
• 2011	7.27
• 2012	8.08
• 2013	7.51
• 2014	6.28
• 2015	5.73
• 2016	4.68



All Barley Average Yields, Region 3

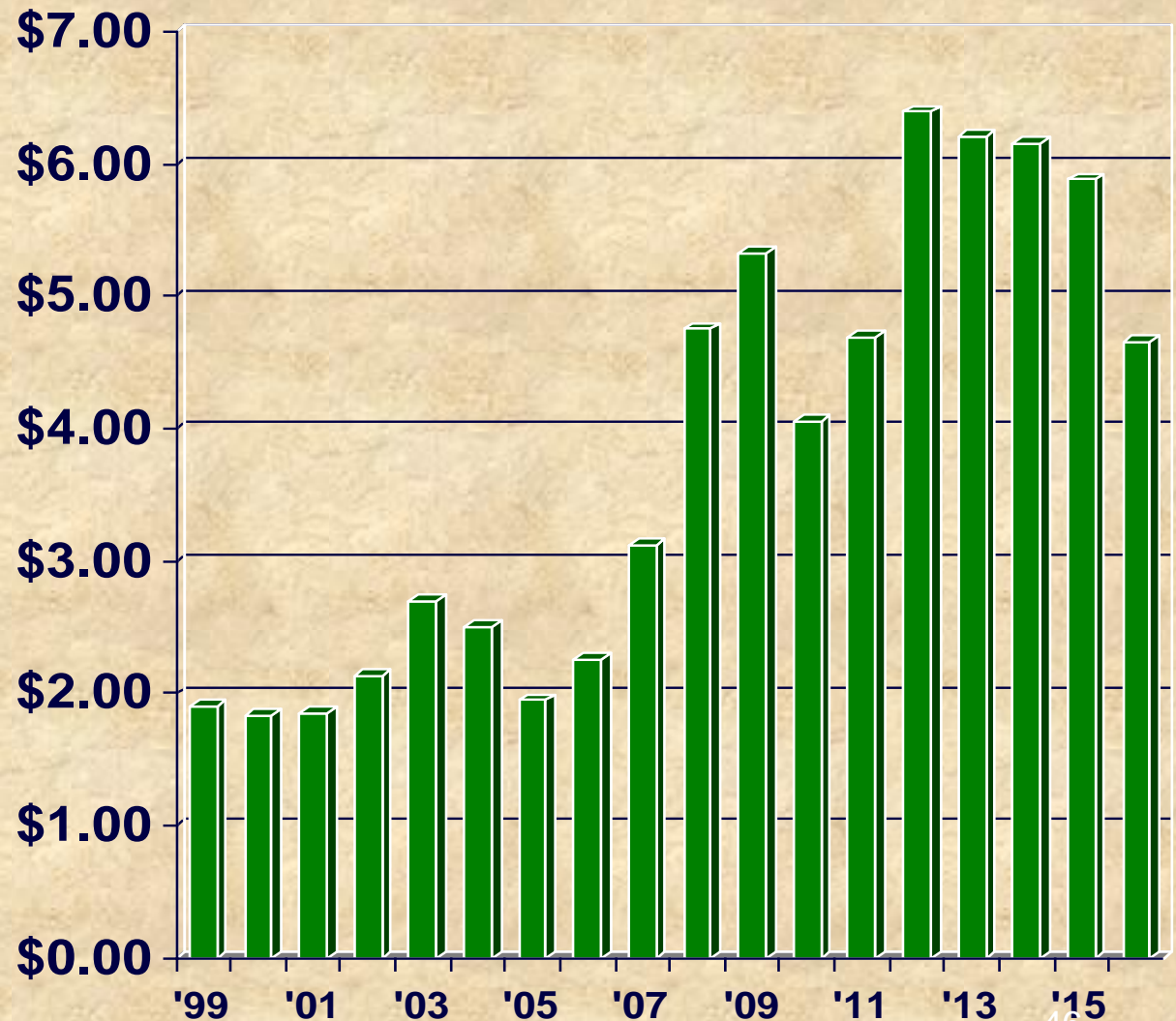


Barley Net Return per Acre on Cash Rented Land, Avg. Rent \$66.18



Average Received for Barley Cash Sales

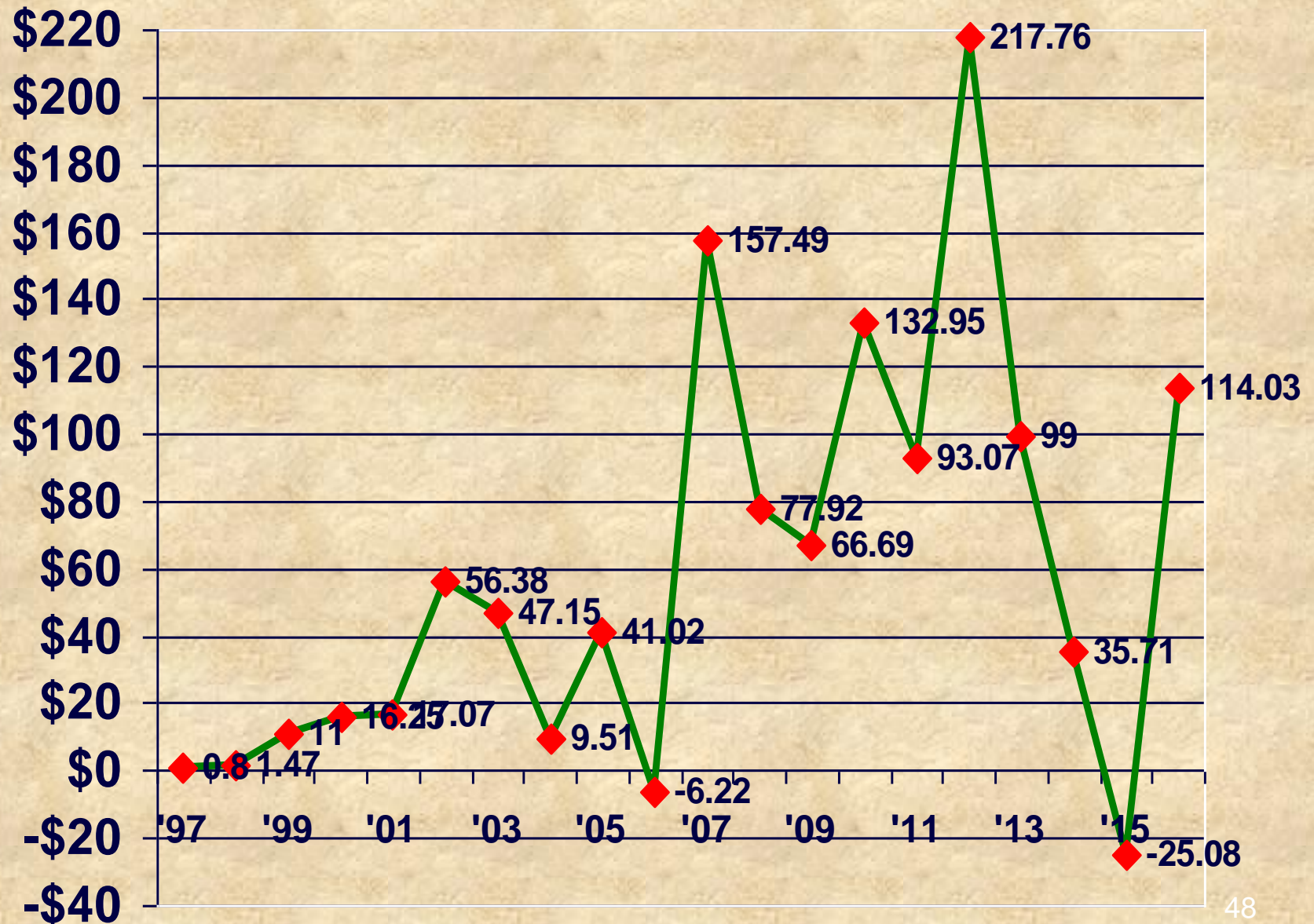
● 1999	1.91
● 2000	1.83
● 2001	1.85
● 2002	2.14
● 2003	2.70
● 2004	2.50
● 2005	1.95
● 2006	2.26
● 2007	3.12
● 2008	4.75
● 2009	5.32
● 2010	4.05
● 2011	4.69
● 2012	6.39
● 2013	6.20
● 2014	6.16
● 2015	5.88
● 2016	4.65



All Soybeans Average Yields, Region 3



Soybean Net Return per Acre on Cash Rented Land, Avg. Rent \$69.62

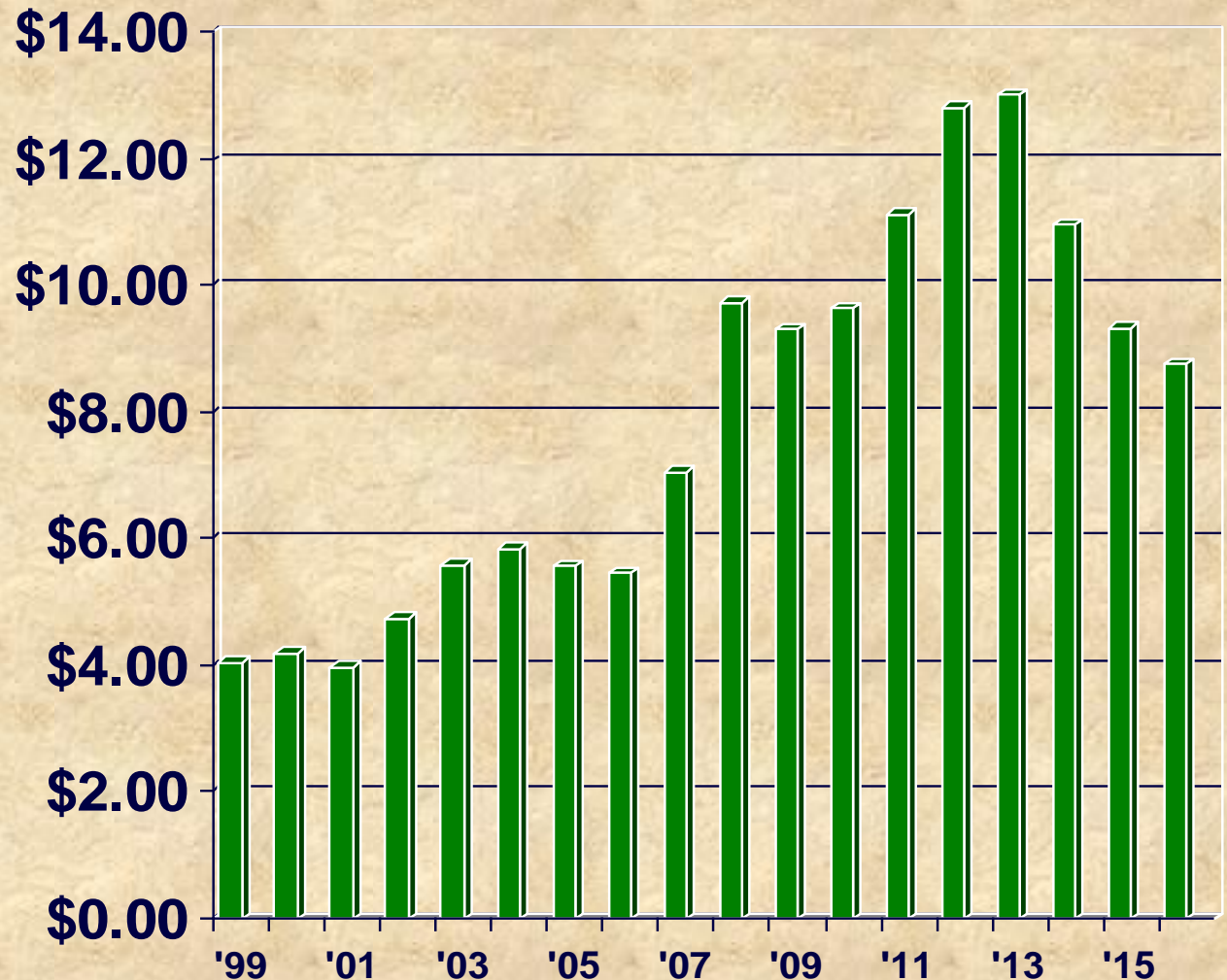


Soybeans Net Return per Acre on Cash Rented Land, 2016

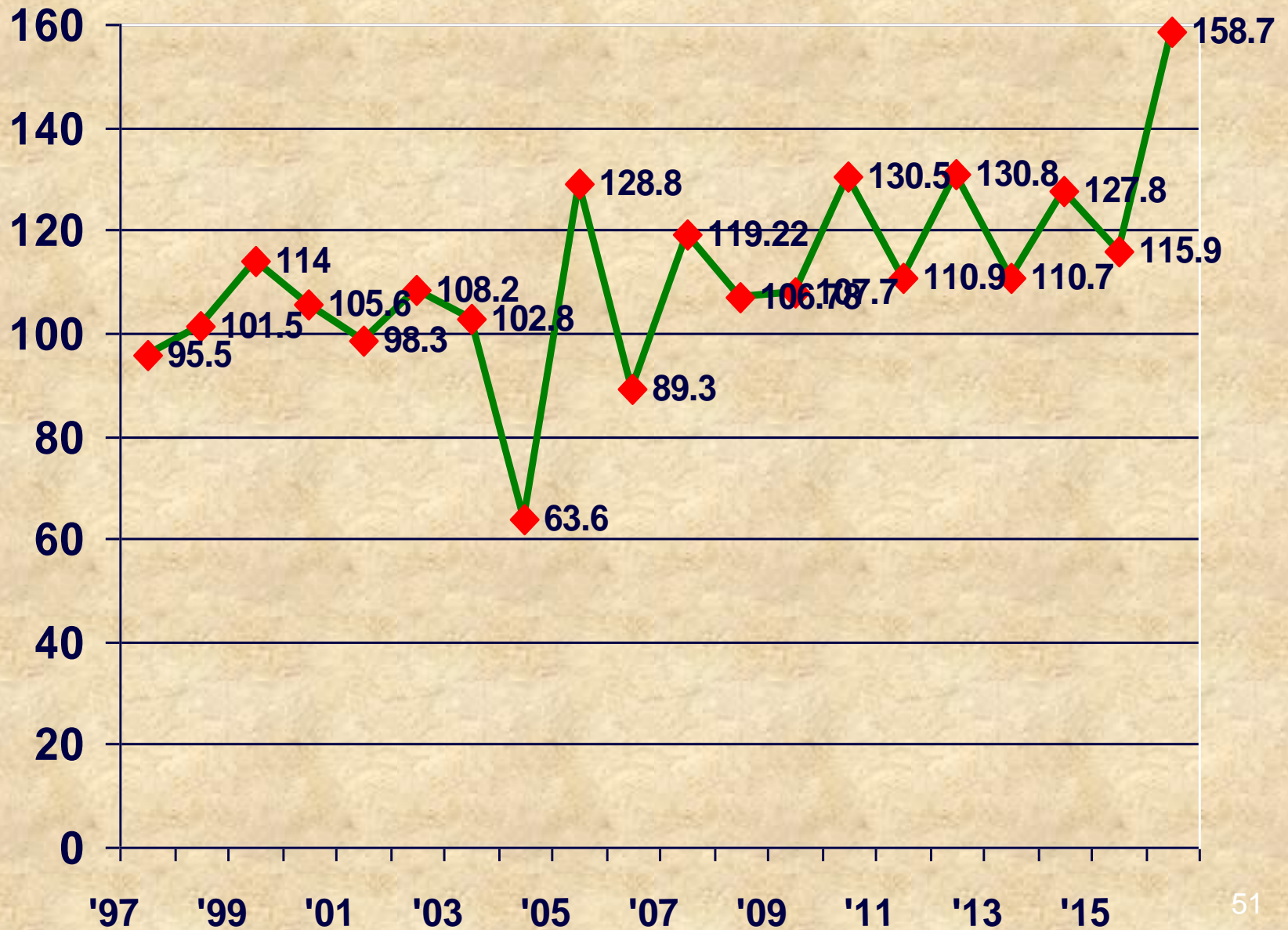
Average	\$ 114.03 at 42.7 Bu.
High 20%	\$ 183.16 at 47.4 Bu.
Low 20%	\$ 16.02 at 37.9 Bu.

Average Price Received for Cash Sales

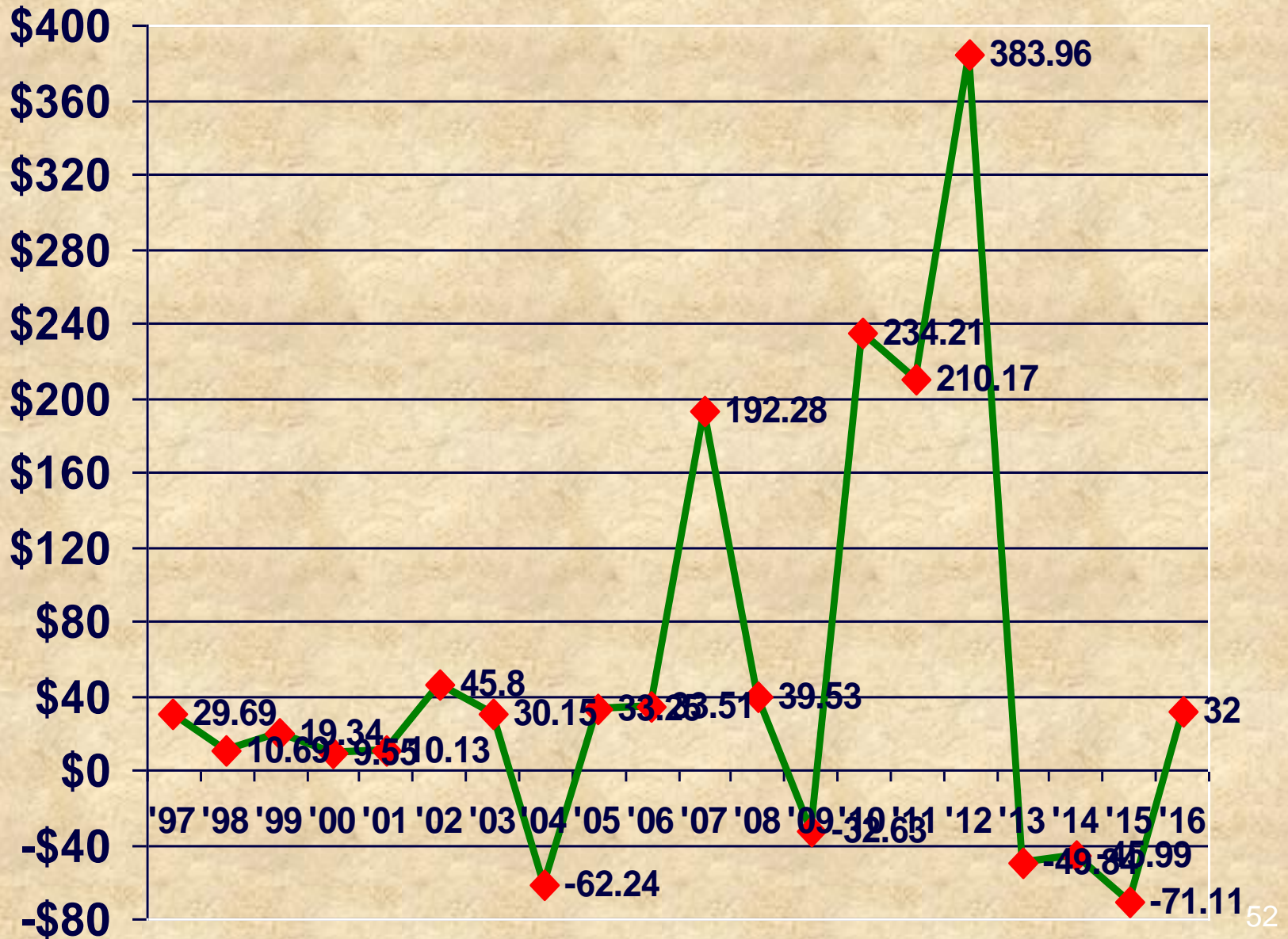
● 1999	4.05
● 2000	4.19
● 2001	3.97
● 2002	4.75
● 2003	5.59
● 2004	5.84
● 2005	5.56
● 2006	5.45
● 2007	7.06
● 2008	9.73
● 2009	9.30
● 2010	9.64
● 2011	11.13
● 2012	12.81
● 2013	13.02
● 2014	10.97
● 2015	9.33
● 2016	8.75



All Corn Average Yields, Region 3



Corn Net Return per Acre on Cash Rented Land, Avg. Rent \$77.95



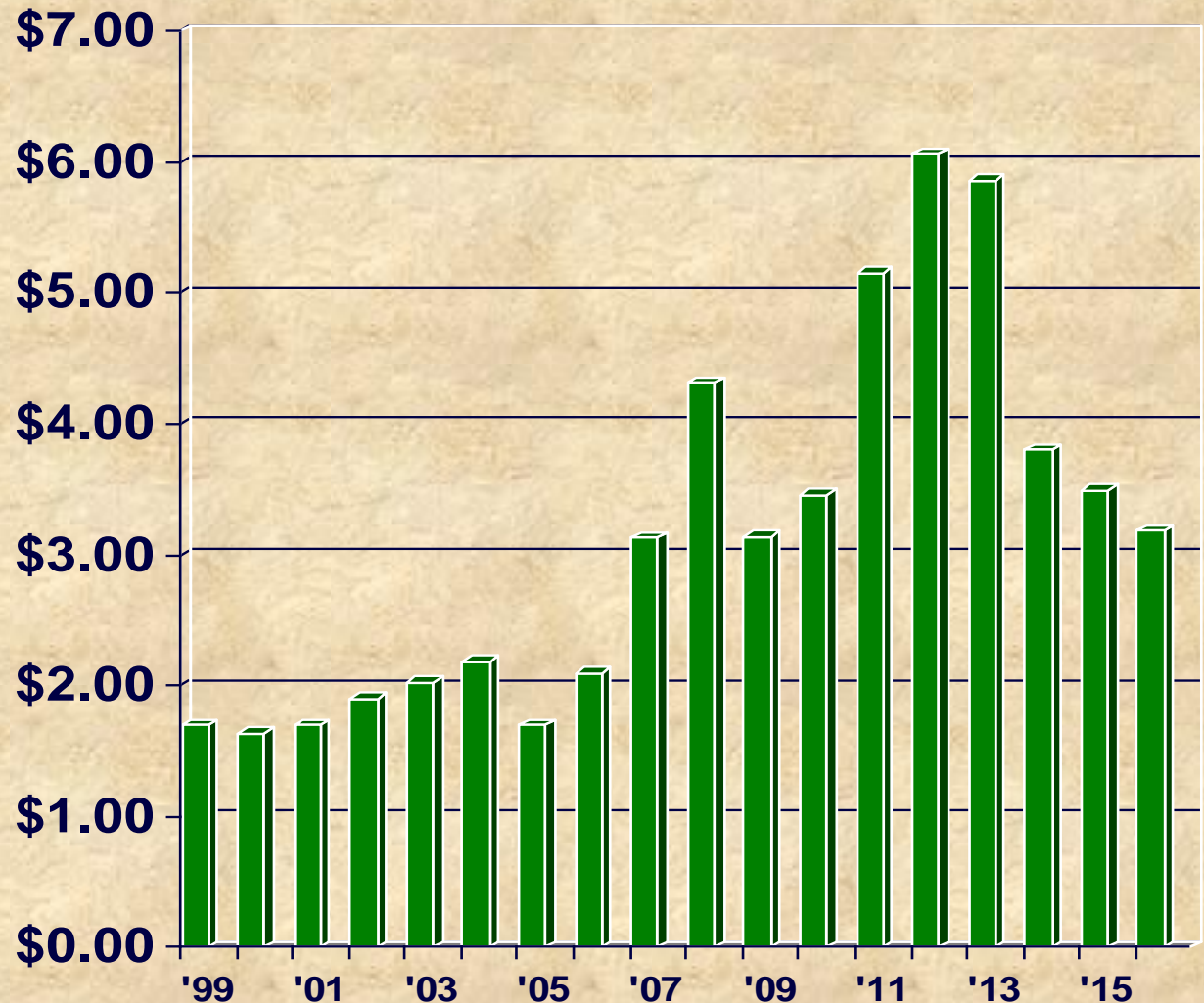
Corn Net Return/Acre on Cash Rented Land, 2016

Average	\$ 32.00 at 158.2 Bu.
Low 20%	\$ -55.67 at 143.9 Bu.
High 20%	\$ 164.30 at 171.4 Bu.

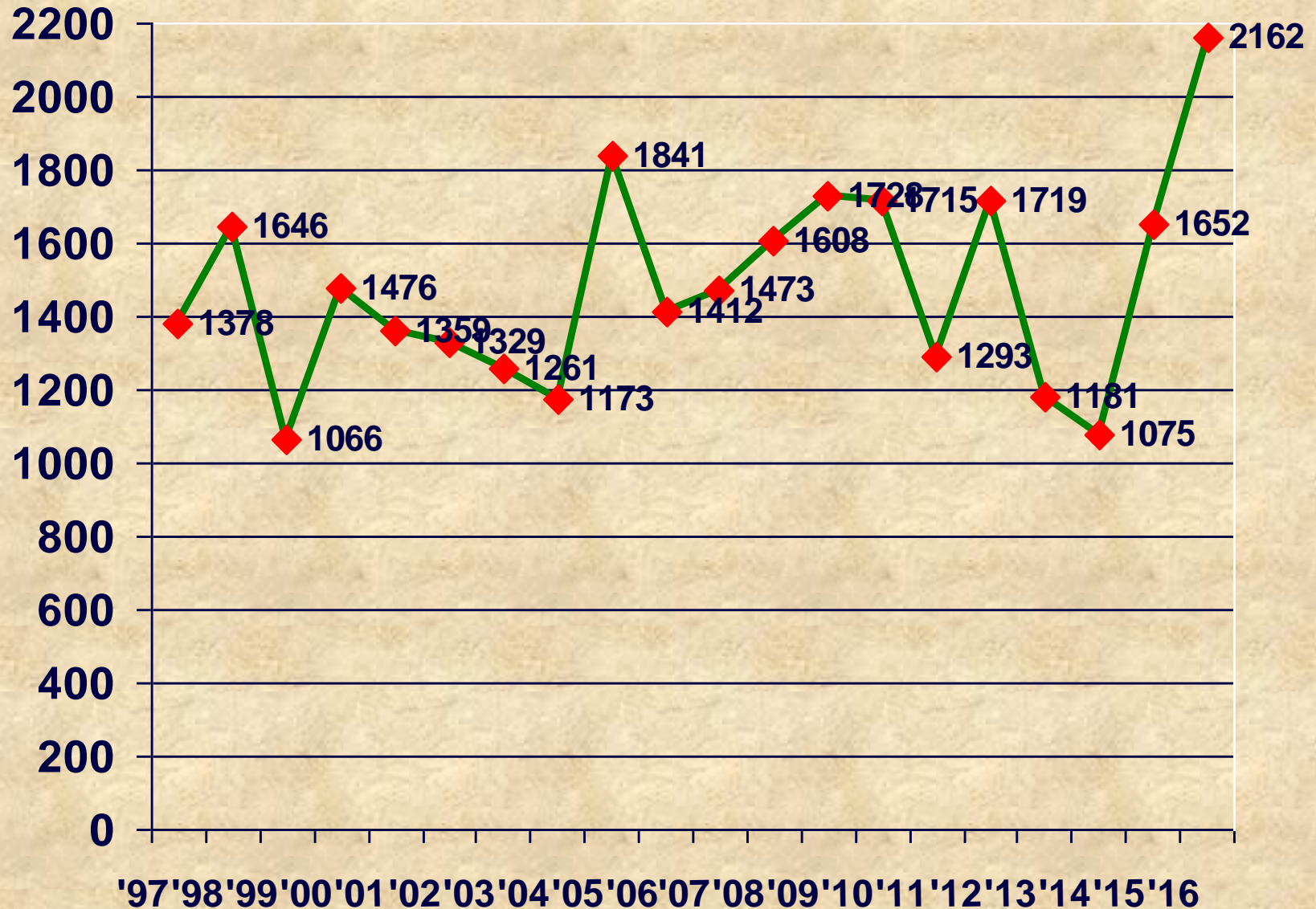


Average Price Received Cash Sales

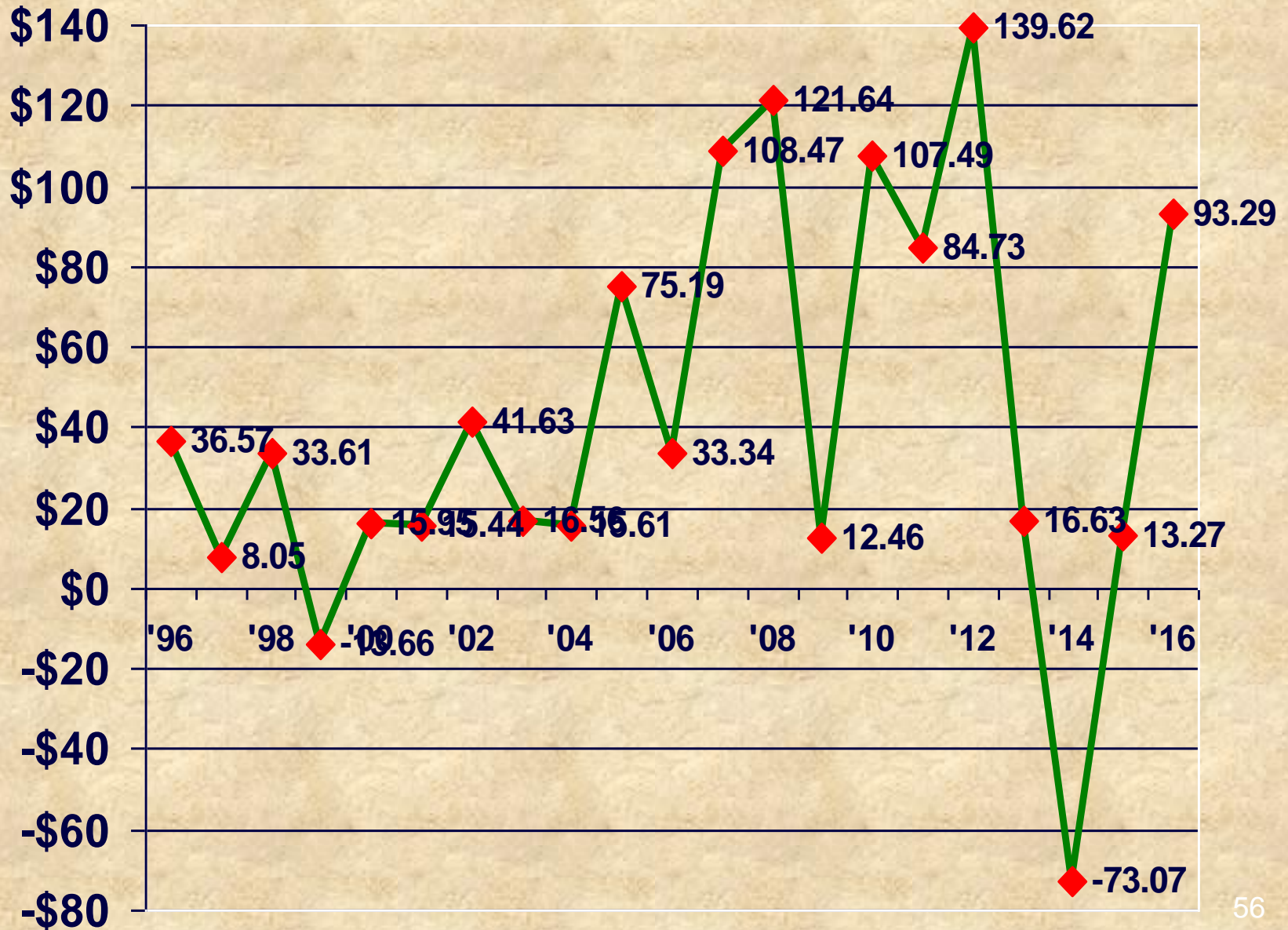
Corn		
●	1999	1.70
●	2000	1.64
●	2001	1.70
●	2002	1.90
●	2003	2.03
●	2004	2.18
●	2005	1.70
●	2006	2.09
●	2007	3.13
●	2008	4.31
●	2009	3.14
●	2010	3.46
●	2011	5.15
●	2012	6.06
●	2013	5.86
●	2014	3.80
●	2015	3.49
●	2016	3.18



All Sunflower Average Yields, Region 3



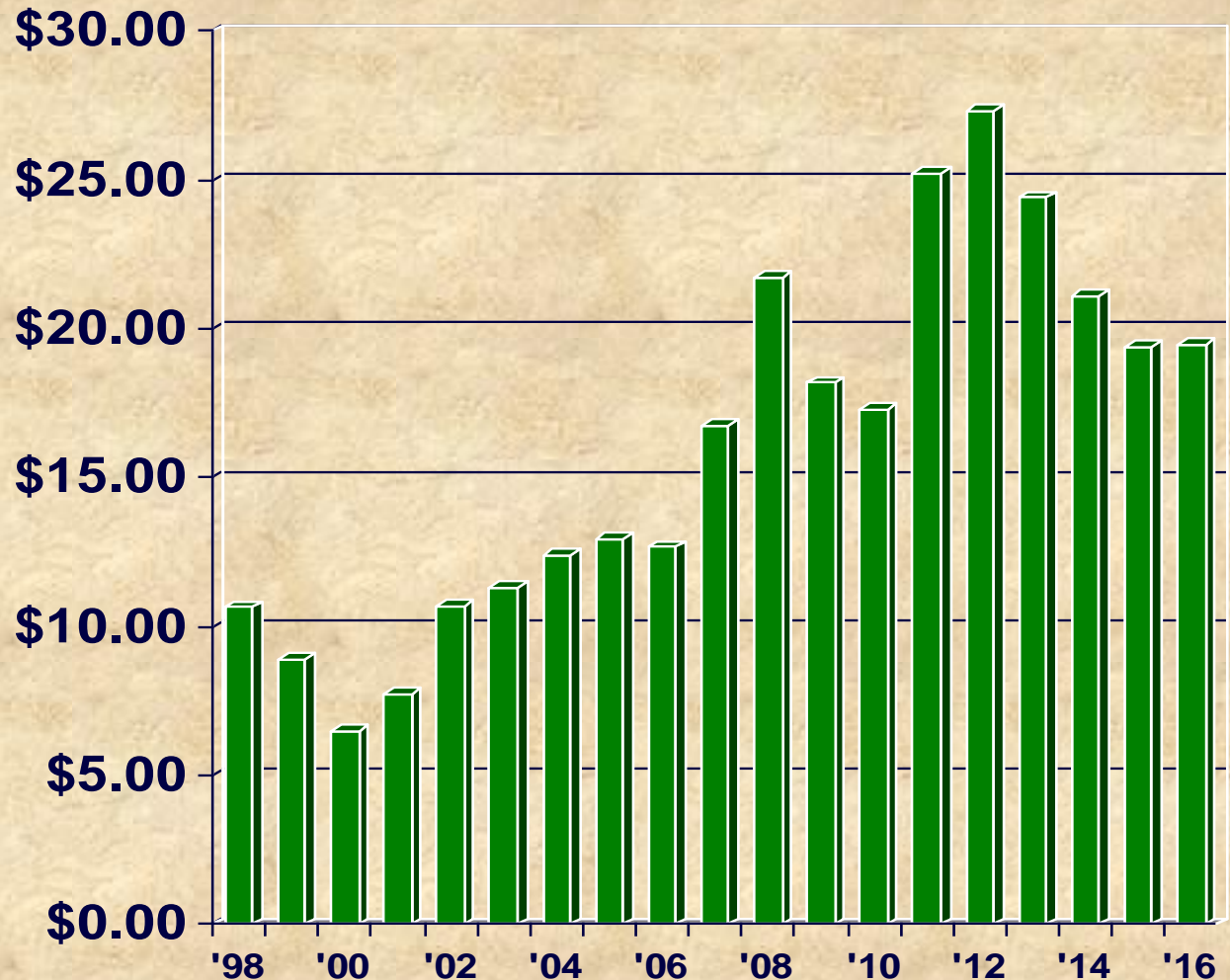
Sunflower Net Return per Acre on Cash Rented Land, Avg. Rent \$58.80



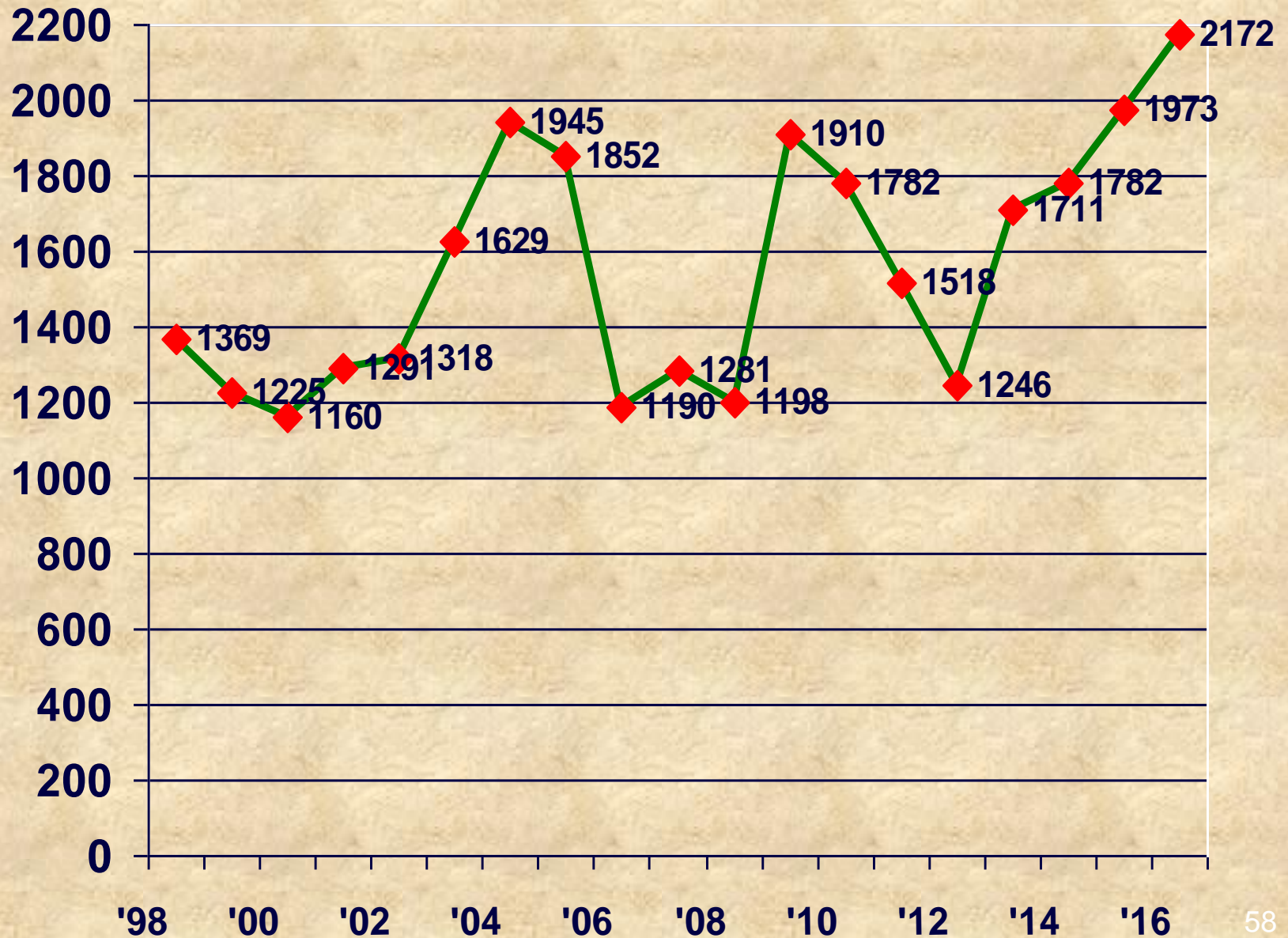
Average Price Received Cash Sales

Oil Sunflowers

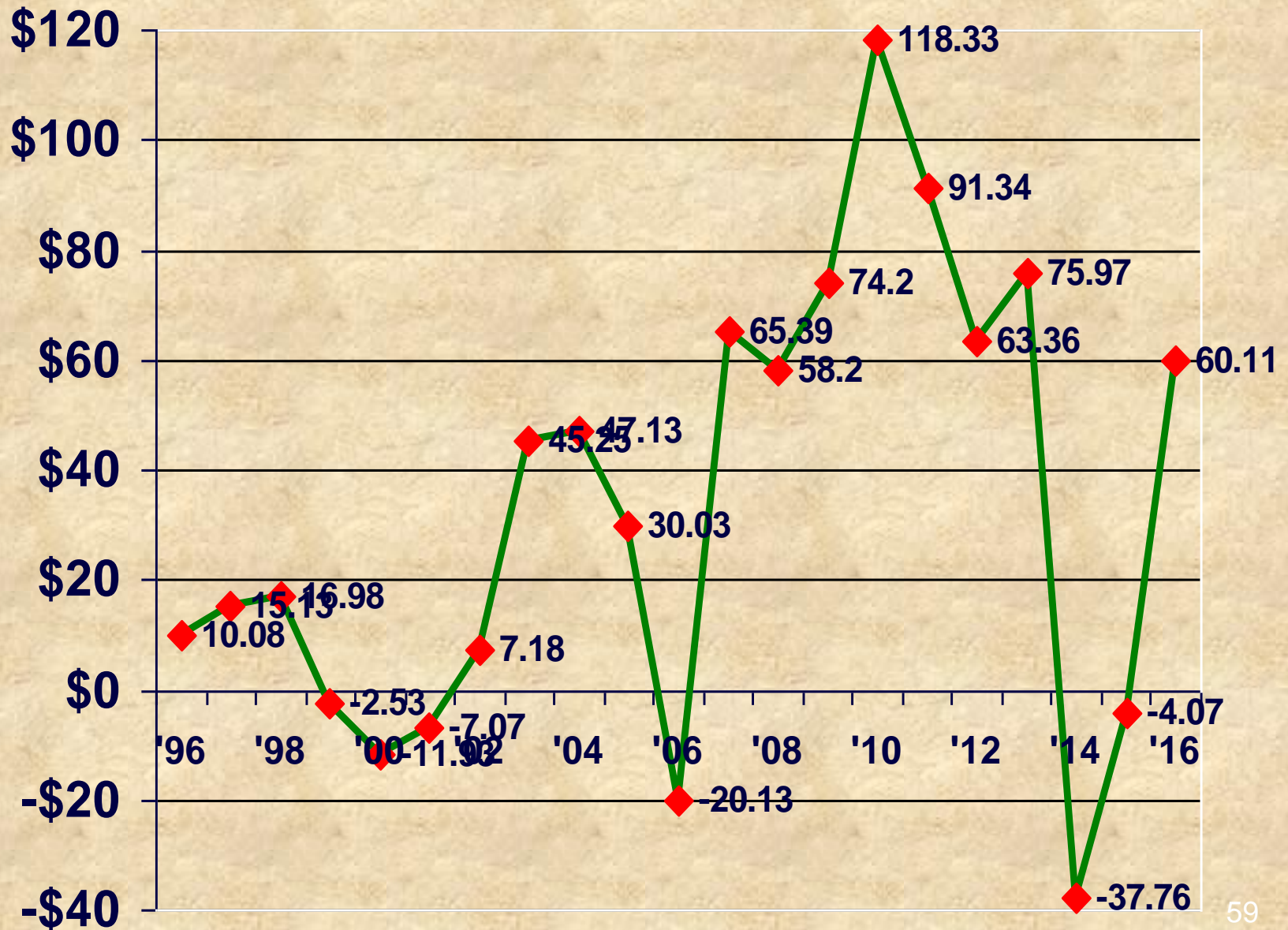
● 1999	8.90
● 2000	6.50
● 2001	7.73
● 2002	10.71
● 2003	11.32
● 2004	12.41
● 2005	12.94
● 2006	12.68
● 2007	16.74
● 2008	21.74
● 2009	18.18
● 2010	17.32
● 2011	25.19
● 2012	27.30
● 2013	24.40
● 2014	21.12
● 2015	19.38
● 2016	19.46



All Canola Average Yields, Region 3



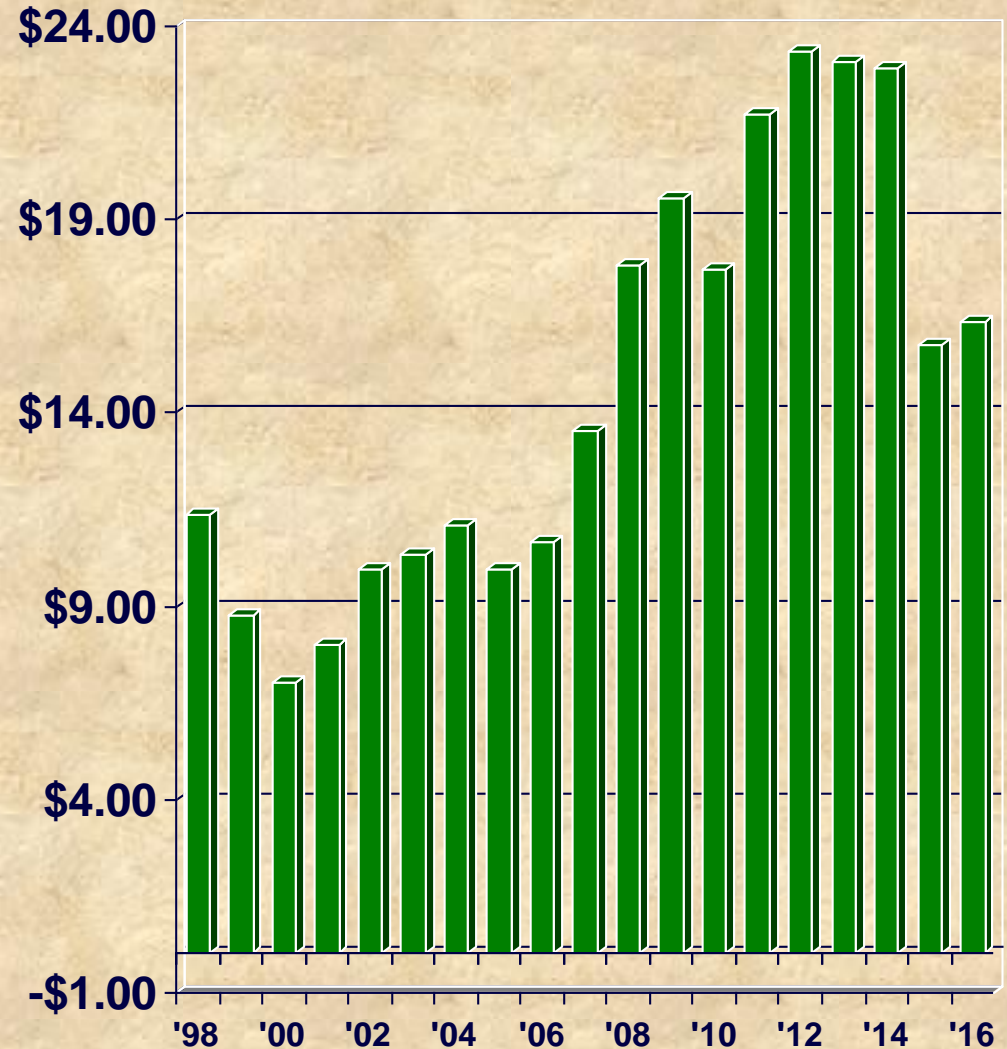
Canola Net Return per Acre on Cash Rented Land, Avg. Rent \$47.95



Average Price Received Cash Sales

Canola

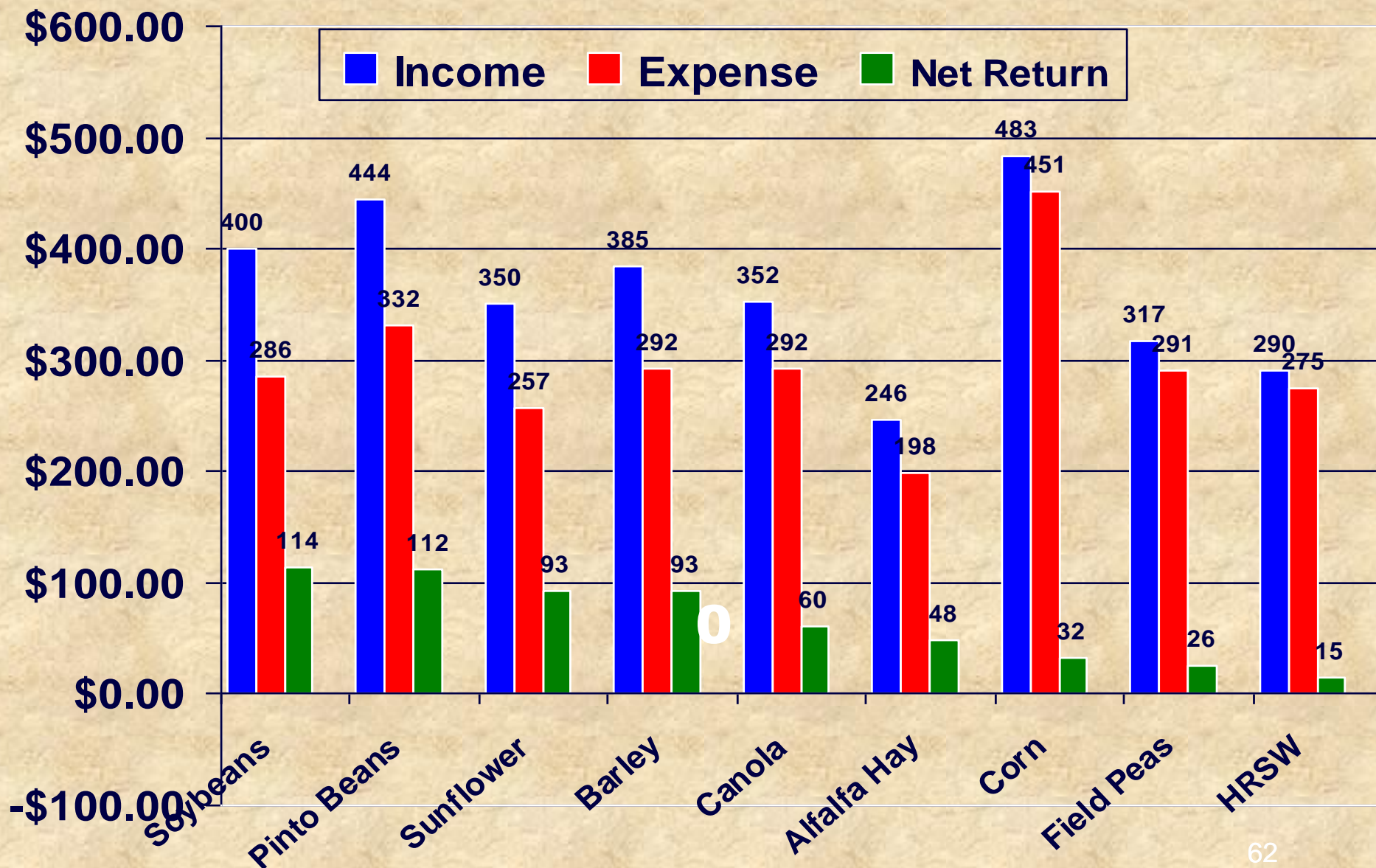
• 1999	8.78
• 2000	7.03
• 2001	7.98
• 2002	9.97
• 2003	10.34
• 2004	11.10
• 2005	9.95
• 2006	10.68
• 2007	13.52
• 2008	17.85
• 2009	19.57
• 2010	17.71
• 2011	21.76
• 2012	23.39
• 2013	23.10
• 2014	22.95
• 2015	15.75
• 2016	16.37



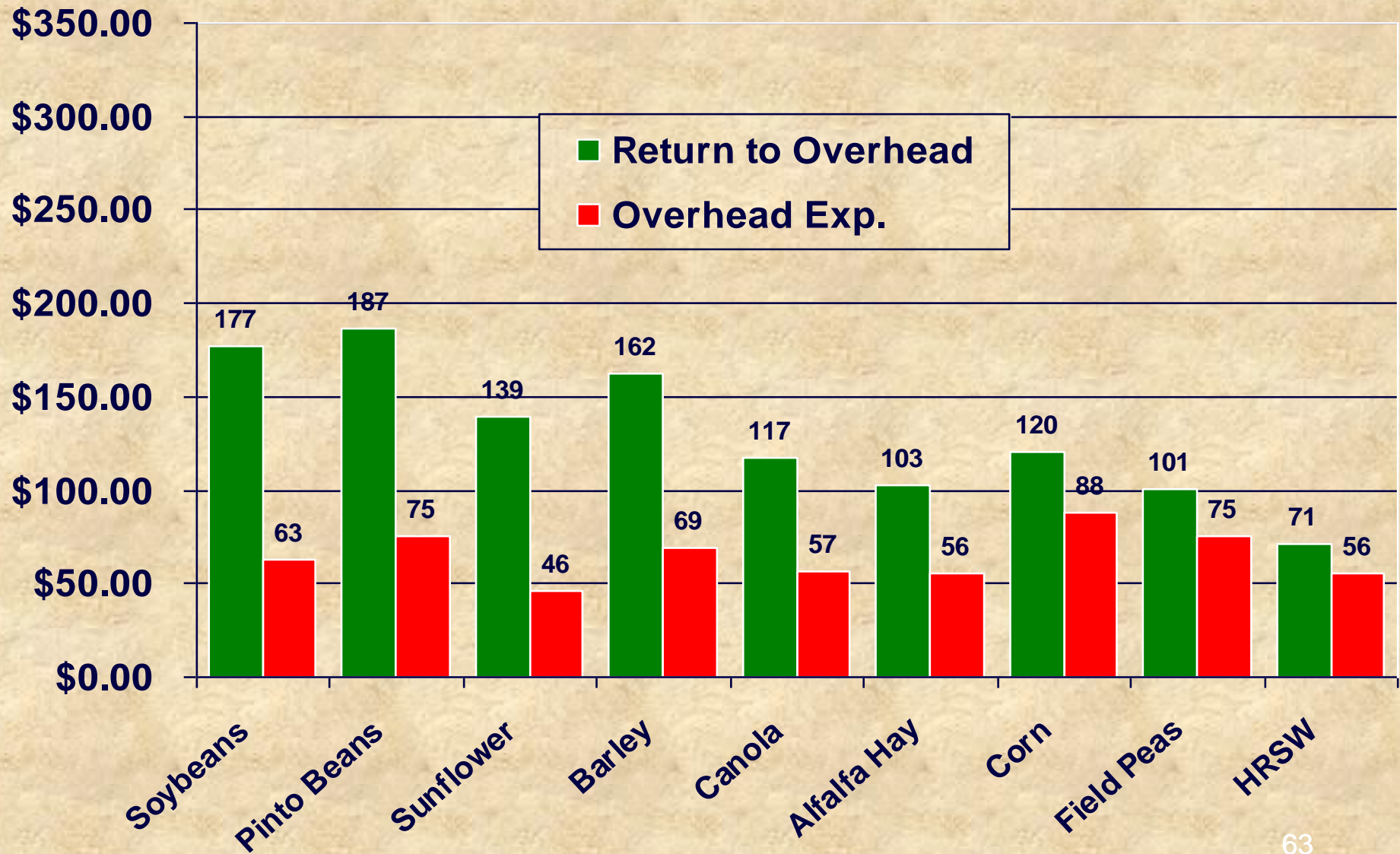
Comparing Crop Profitability

2016 Income, Expenses & Net Return/Acre on Cash Rented.

Does not include ARC or PLC payments.

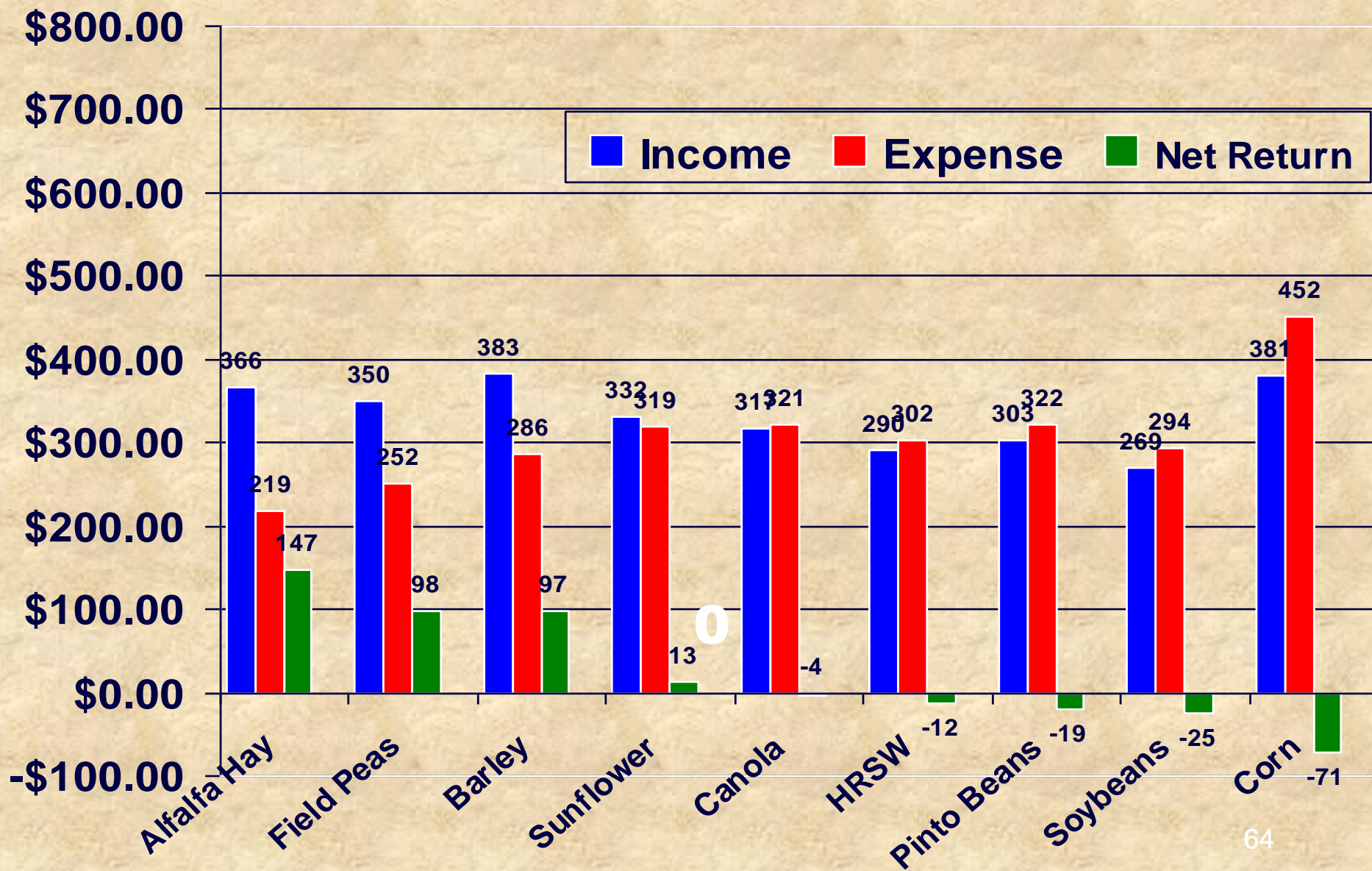


Return to Overhead per Cash Rented Acre without ARC or PLC Payments, Region 3, 2016

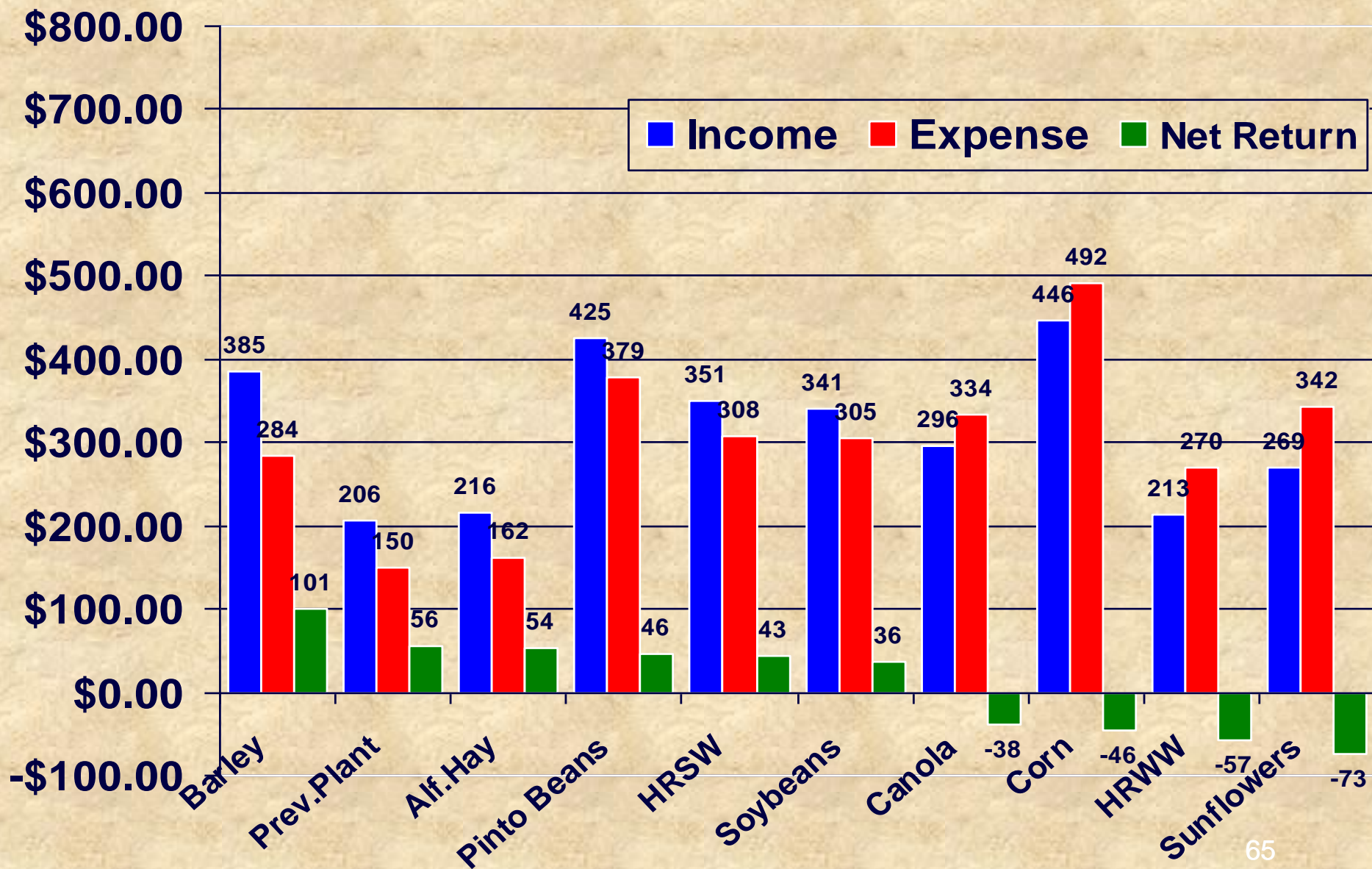


2015 Income, Expenses & Net Return/Acre on Cash Rented.

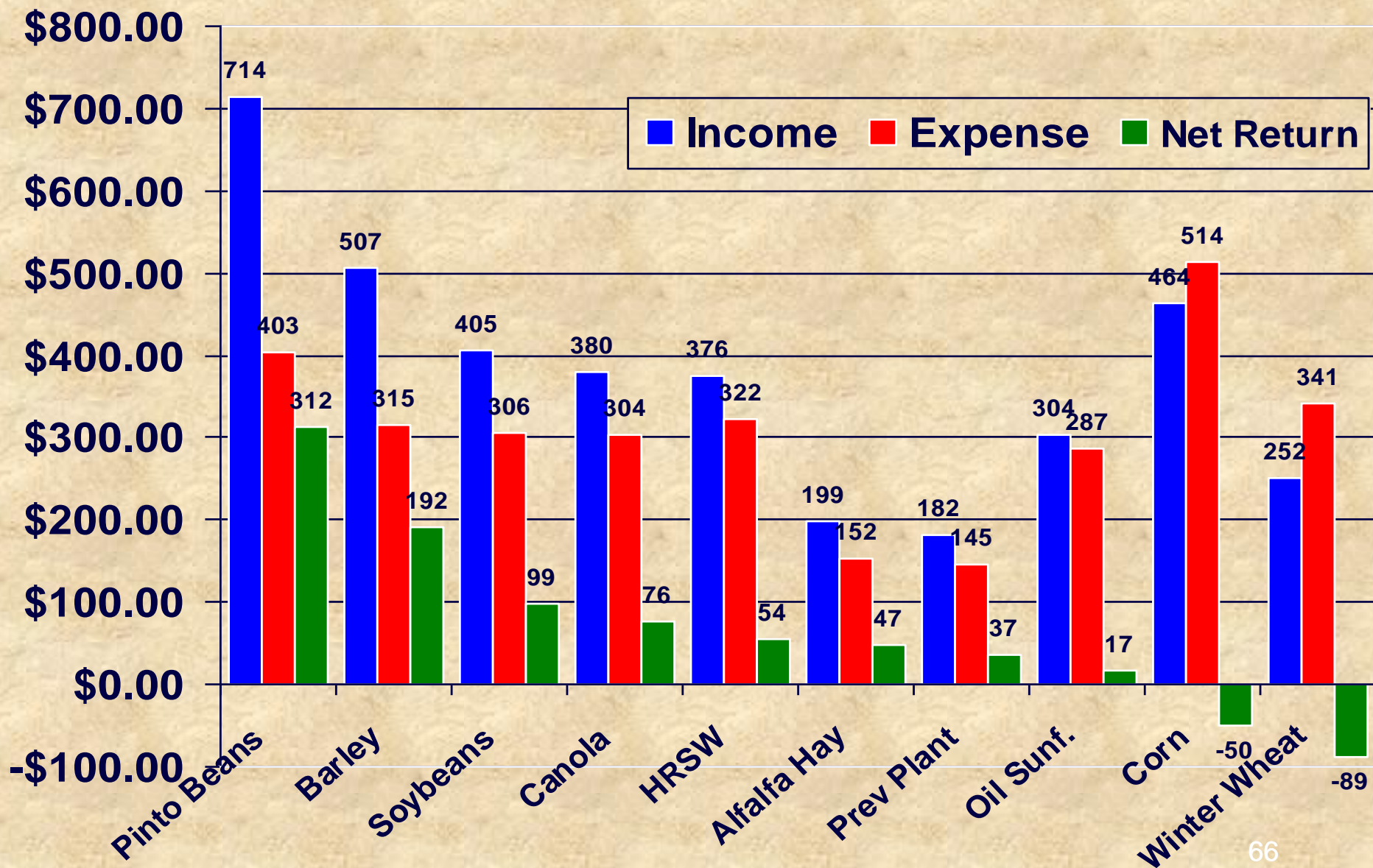
Does not include ARC or PLC payments.



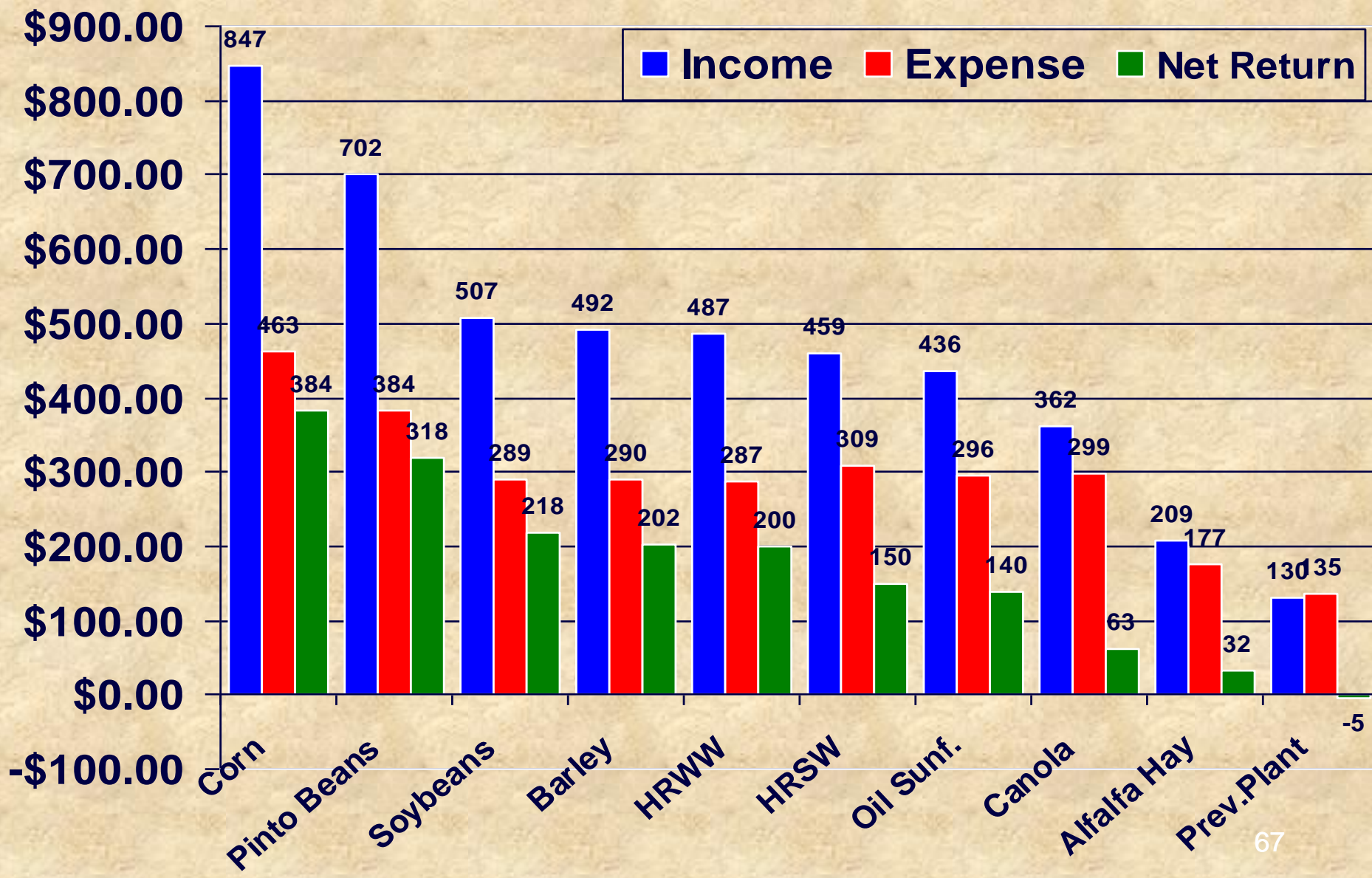
2014 Income, Expenses & Net Return/Acre on Cash Rented, Does not included direct or co.-cyc., ARC or PLC payments.



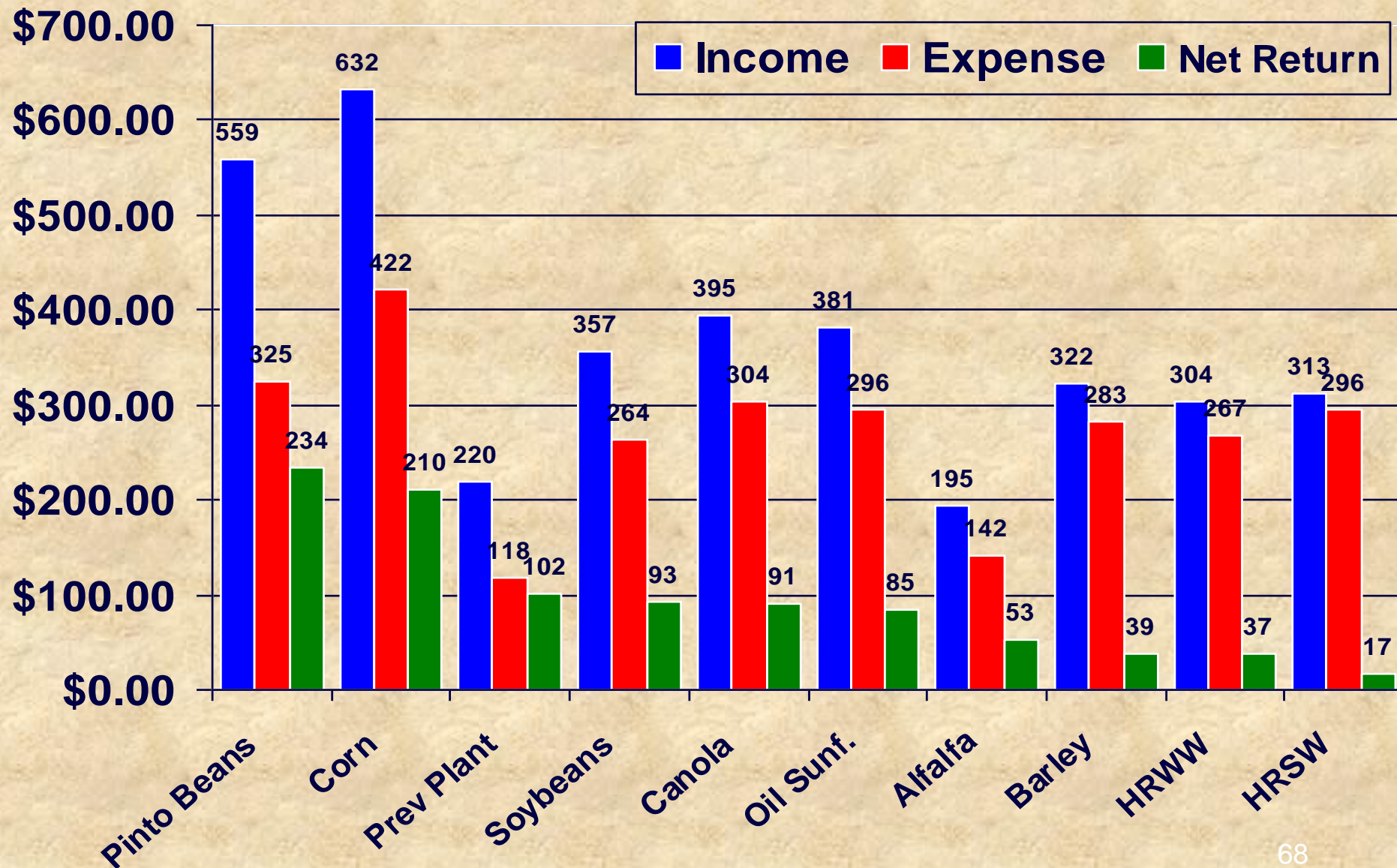
2013 Income, Expenses & Net Return/Acre on Cash Rented, Does not included direct or counter-cyclical payments.



2012 Income, Expenses & Net Return/Acre on Cash Rented, Does not included direct or counter-cyclical payments.



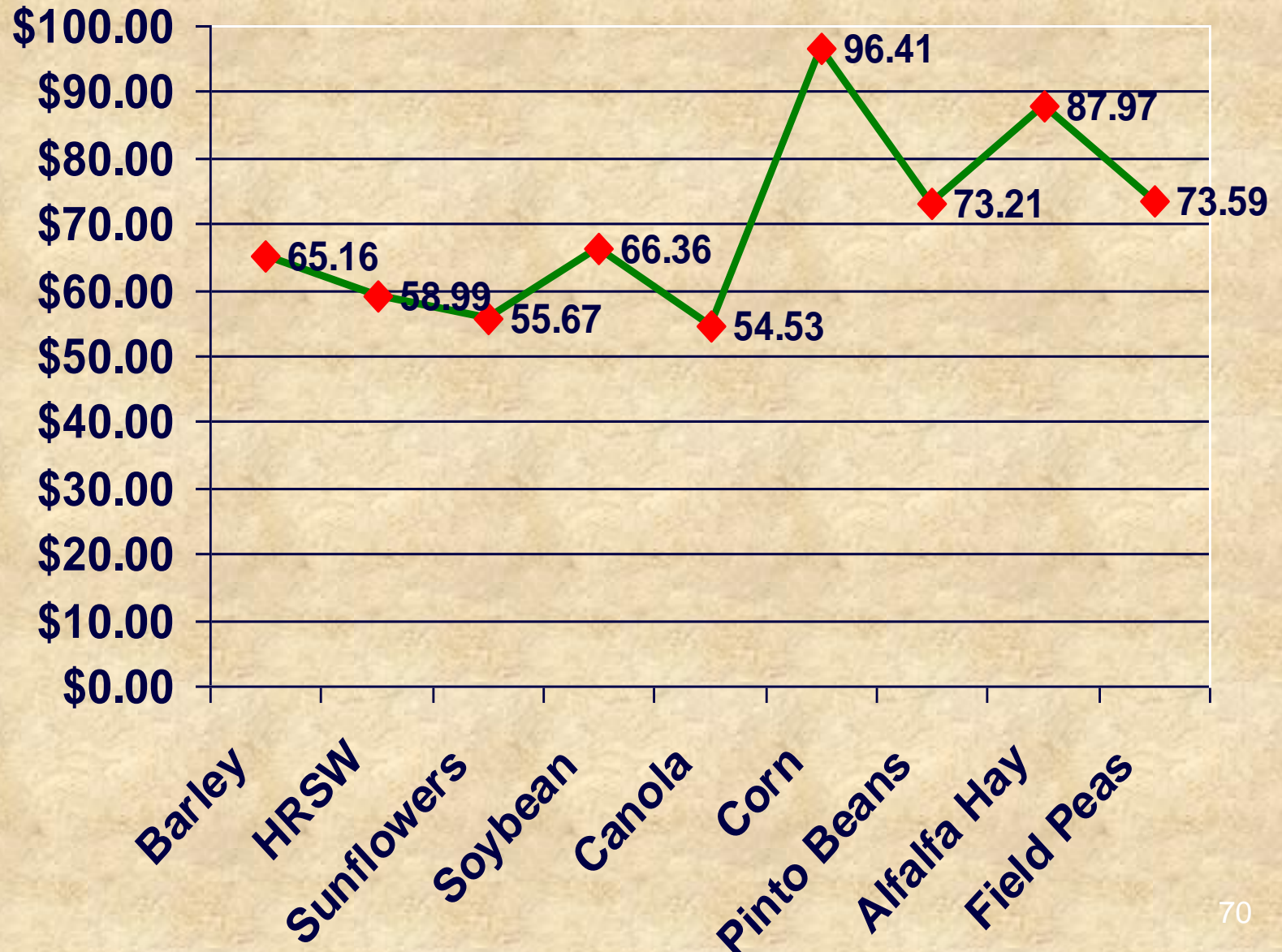
2011 Income, Expenses & Net Return/Acre on Cash Rented, Does not included direct or counter-cyclical payments.



Machinery Costs per Acre

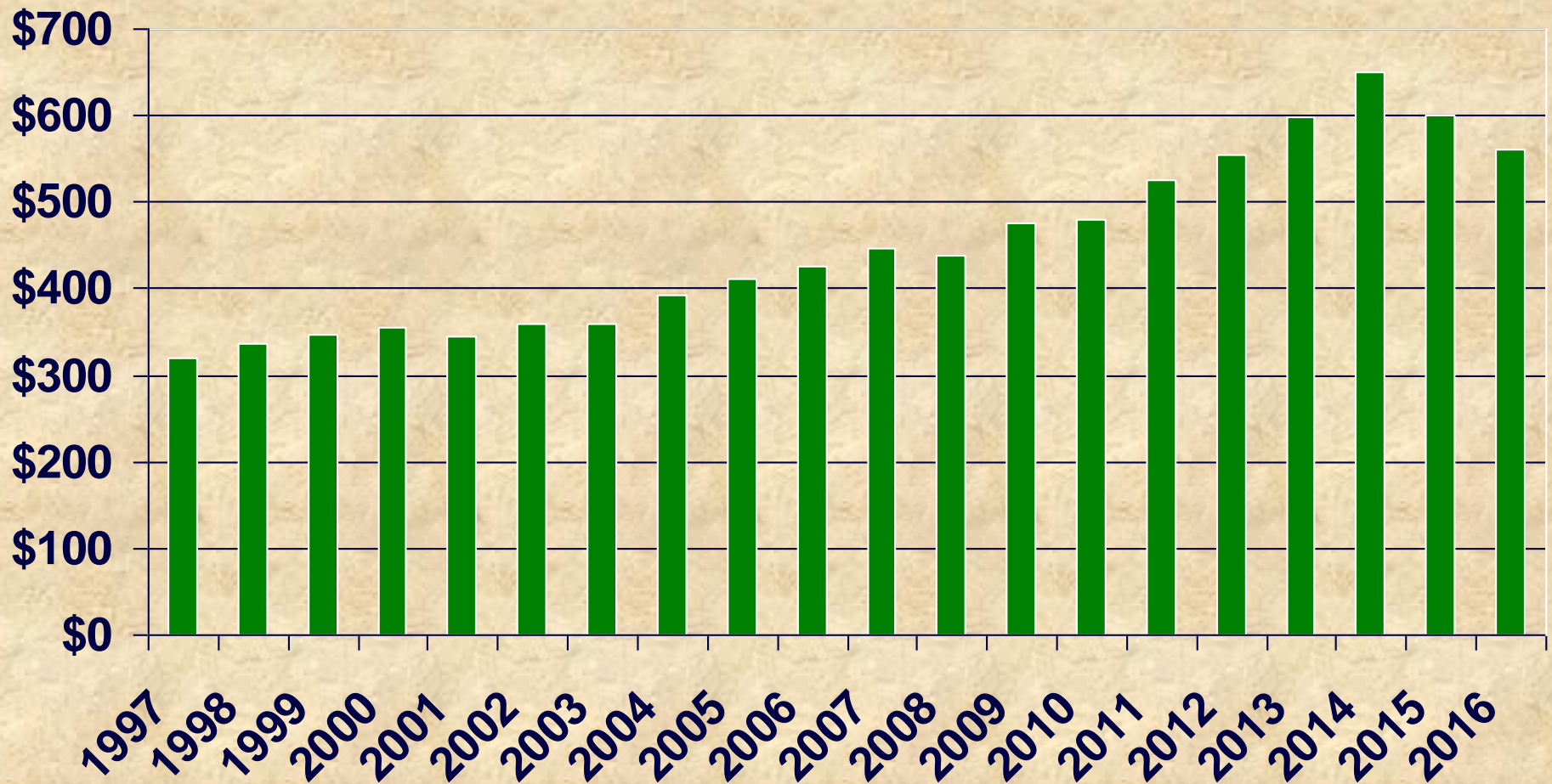
- Fuel
- Repairs
- Custom Hire
- Equipment Leases
- Interest on Intermediate Debt (Machinery portion)
- Machinery Depreciation (Crop portion only)
- Small Grains at \$55-\$70, Row Crops \$75-\$100

2016 Machinery Costs per acre, Cash Rented Cropping Systems



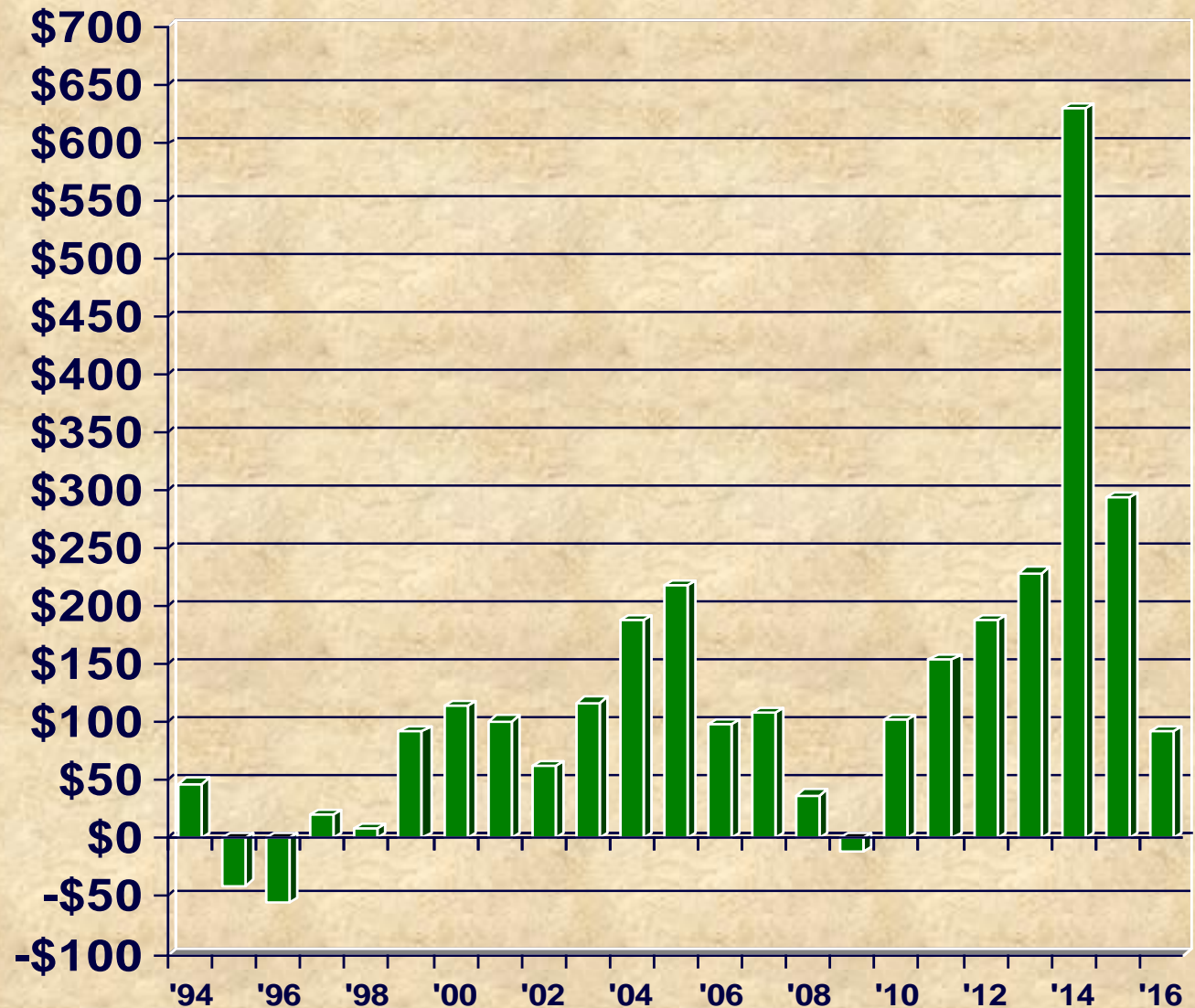
Beef Production in 2016

Direct & Overhead Expenses per Cow, does not include net inventory change. Net Inventory change was \$54.64 in 2016.



Net Return per Cow, Beef Cow Calf

● 1999	92.51
● 2000	114.80
● 2001	101.03
● 2002	62.82
● 2003	117.38
● 2004	187.63
● 2005	217.72
● 2006	98.40
● 2007	108.46
● 2008	37.75
● 2009	-11.35
● 2010	102.87
● 2011	154.62
● 2012	188.15
● 2013	229.46
● 2014	628.84
● 2015	293.43
● 2016	91.90



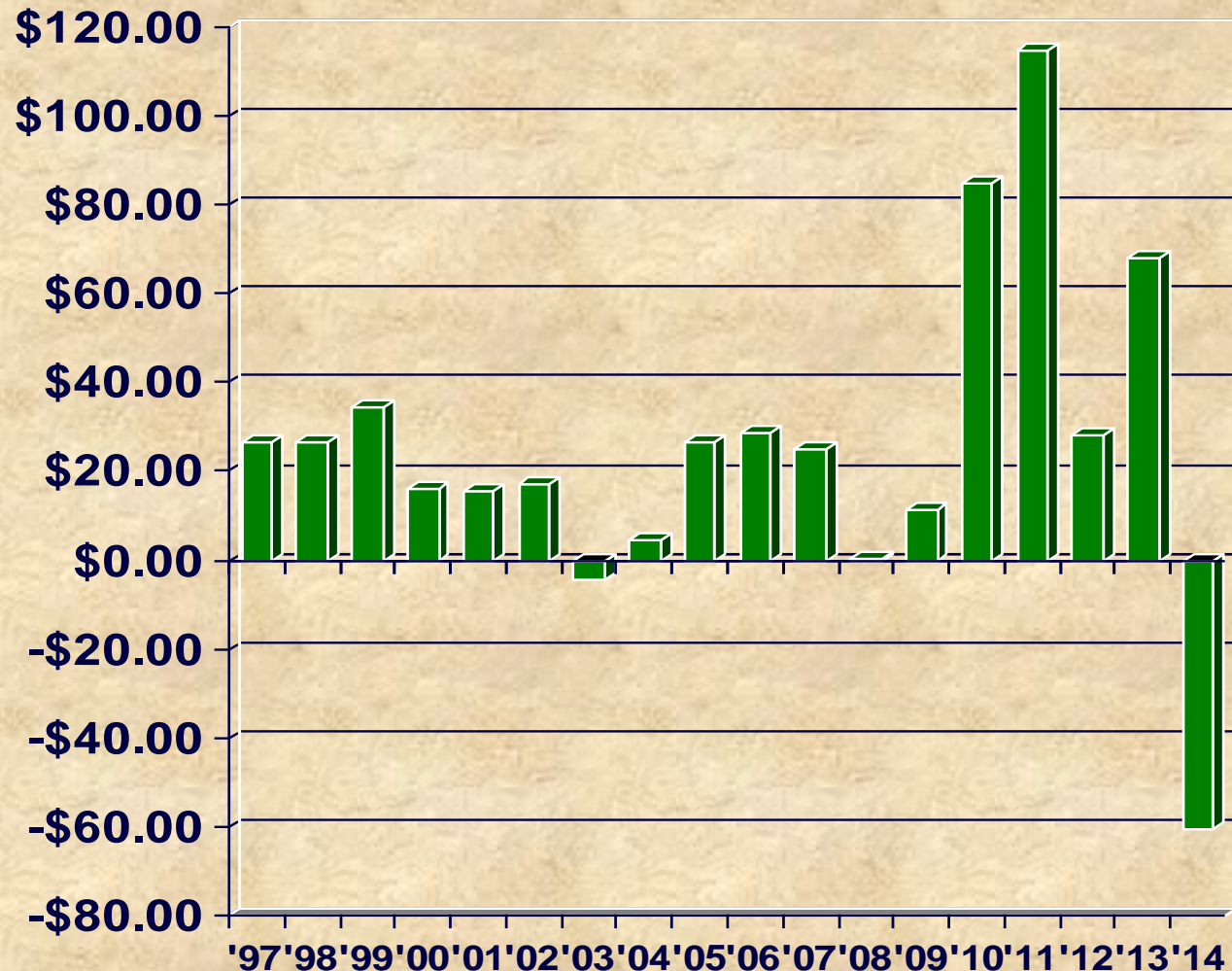
Other Beef Cow Items:

- Total average of **all costs** are \$615.45 per cow.
- Average Profit per cow at \$91.90
- Avg. weaning wt. 569 lbs.
- Pounds weaned per exposed female 513 lbs.
- Avg. feed cost per cow of \$351.73
- Avg. range or pasture cost per cow \$135.40
- Avg. cost per AUM was \$18.51 for rented pasture.
- Avg. cost to produce a ton of grass hay \$54.84
- Avg. cost to produce a ton of alfalfa hay \$54.66
- Avg. cost to produce a ton of corn silage \$26.73 wet, or approximately \$70-80/ton for 90% dry matter.

Beef Backgrounding, Net Return/Head

Per Calf

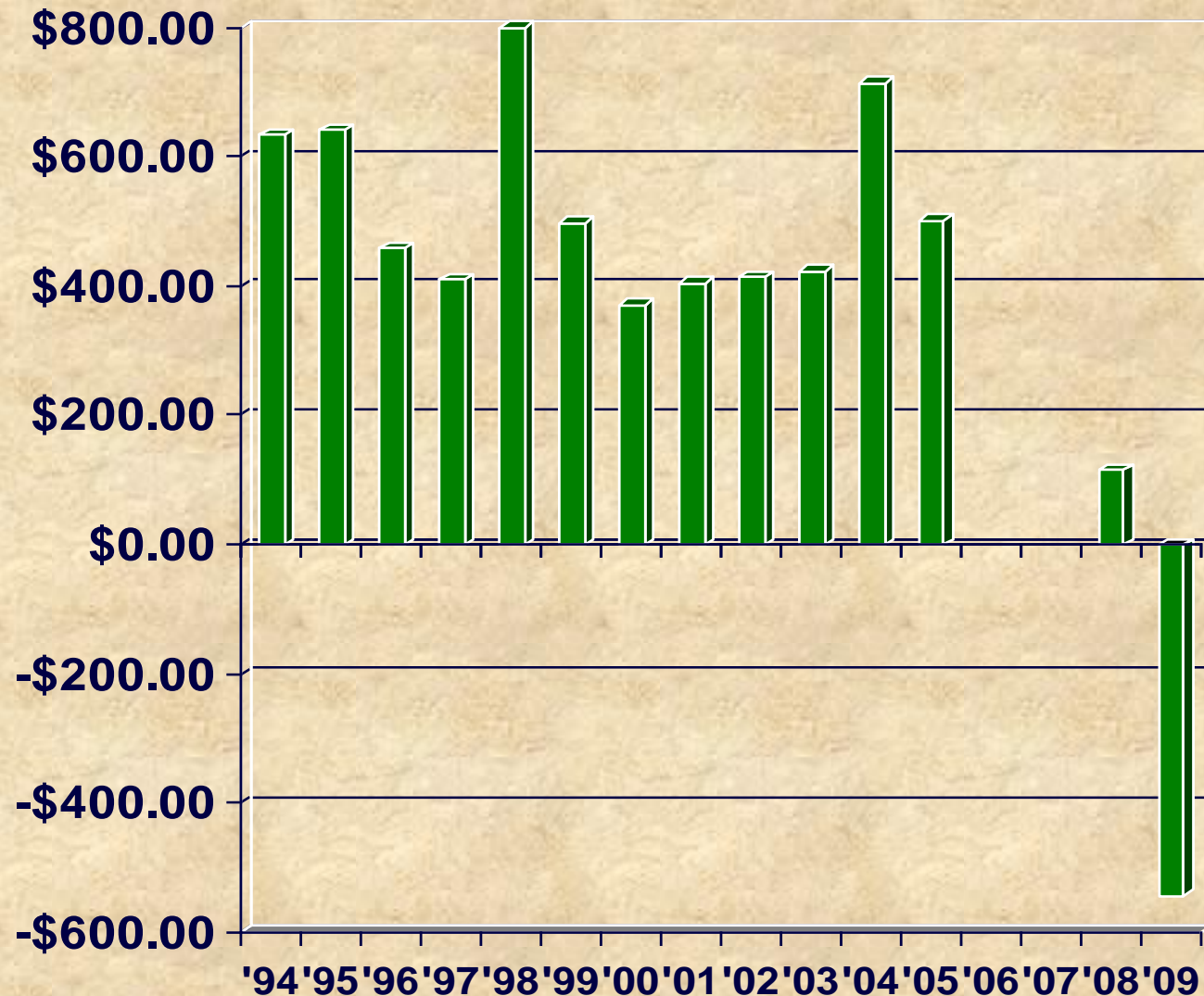
● 1997	26.71
● 1998	26.62
● 1999	34.56
● 2000	16.23
● 2001	15.52
● 2002	17.37
● 2003	-4.35
● 2004	4.29
● 2005	26.62
● 2006	28.90
● 2007	24.74
● 2008	.49
● 2009	11.54
● 2010	84.63
● 2011	114.85
● 2012	27.96
● 2013	68.19
● 2014	-60.39



Net Return per Dairy Cow, No data for 2010-2016

Dairy Cow

● 1994	634.22
● 1995	640.49
● 1996	457.99
● 1997	409.67
● 1998	799.50
● 1999	497.41
● 2000	370.63
● 2001	403.94
● 2002	413.60
● 2003	422.63
● 2004	713.67
● 2005	501.60
● 2006	
● 2007	
● 2008	115.65
● 2009	-543.74

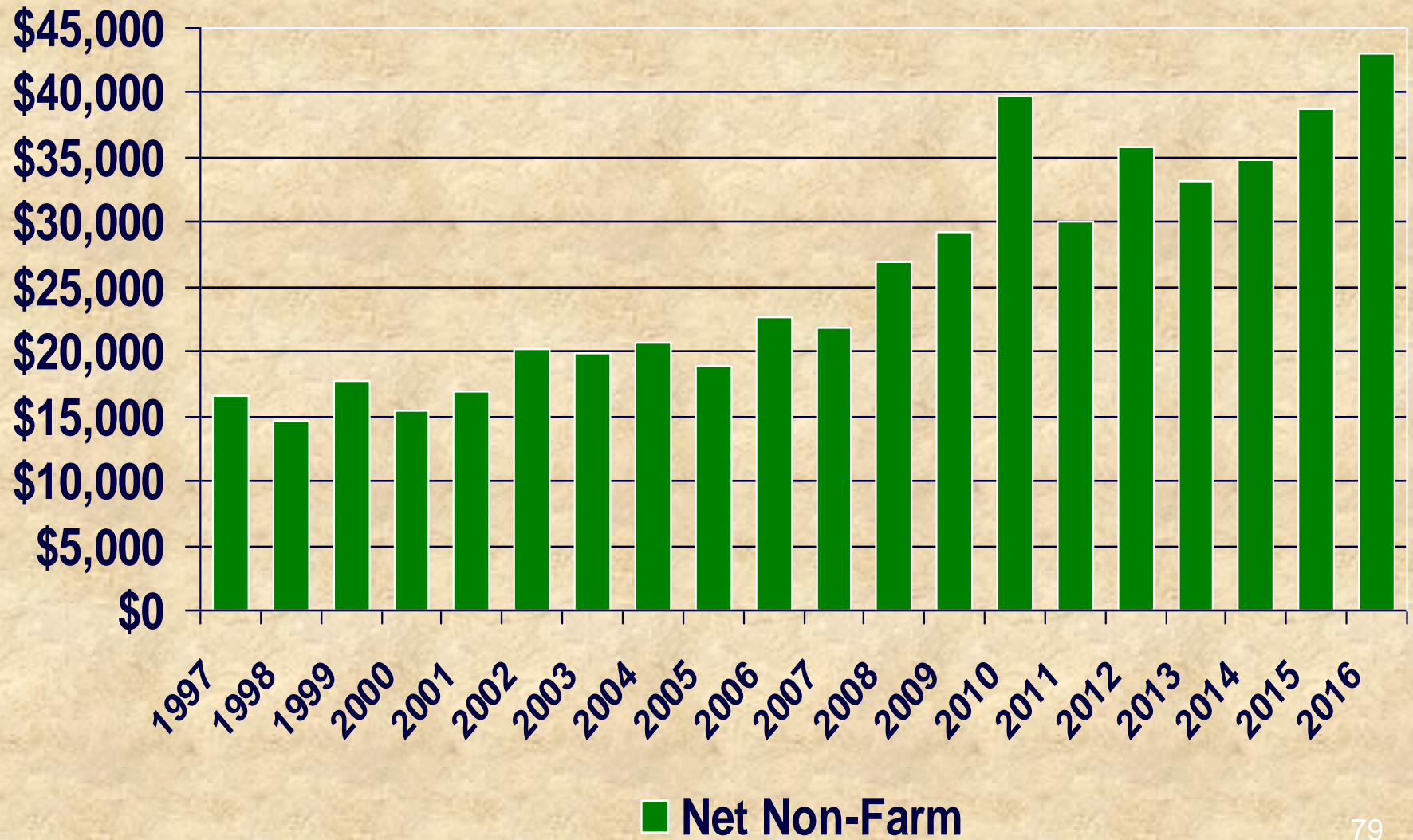


Beef producer's greatest fear!

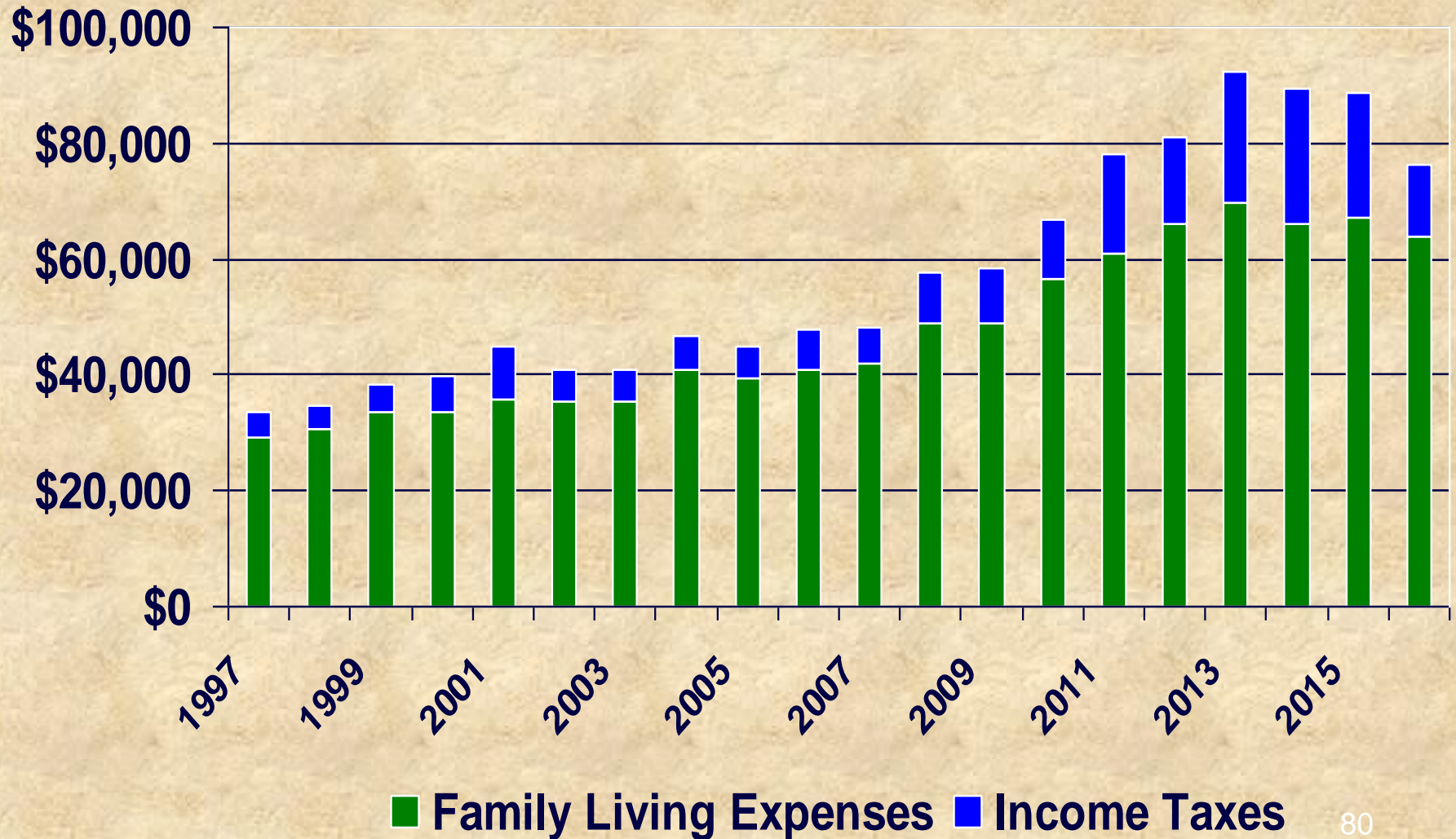


Non-Farm Income and Family Living Information

Non-Farm Income Per Farm



Average Reported Family Living Expenditures and Income Taxes per farm.



Family Living Expenses, 2.8 members, Based on itemization from 42 Farms

● Food & Meals	\$ 7,886	● Utilities	\$ 3,052
● Medical Care	\$ 4,217	● Veh. Exp.	\$ 2,419
● Health Insur.	\$ 7,029	● Household Rep	\$ 2,166
● Donations	\$ 2,167	● NF Interest	\$ 264
● Household	\$ 5,936	● Life Insurance	\$ 1,446
● Clothing	\$ 1,511	● Miscellaneous	\$ 1,079
● Personal	\$ 5,292	● Recreation	\$ 3,479
● Child Care	\$ 162	● Prop. Insurance	\$ 220
● Gifts	\$ 1,430	● Other Items	\$ 620
● Education	\$ 1,225	● Total of all	\$51,600

ND FARM MANAGEMENT EDUCATION

**The North Dakota Farm Business Management Education
Program is sponsored by the
North Dakota Department of
Career and Technical Education**



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