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Trends in Co-Products & Their Impact on Plant Profitability

Fuel Ethanol Workshop 2015
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Biofuels Benchmarking™

- Developed by C&A and started in 2003
- Dedicated team for Program
- Program Participation = About 30% of ethanol plants annually
- Purpose
  - Tool for producers
  - Data for industry
- Measures 90+ financial and operational factors each quarter
- Provides comparability and identifies strengths & challenges

Grind Margin Calculation

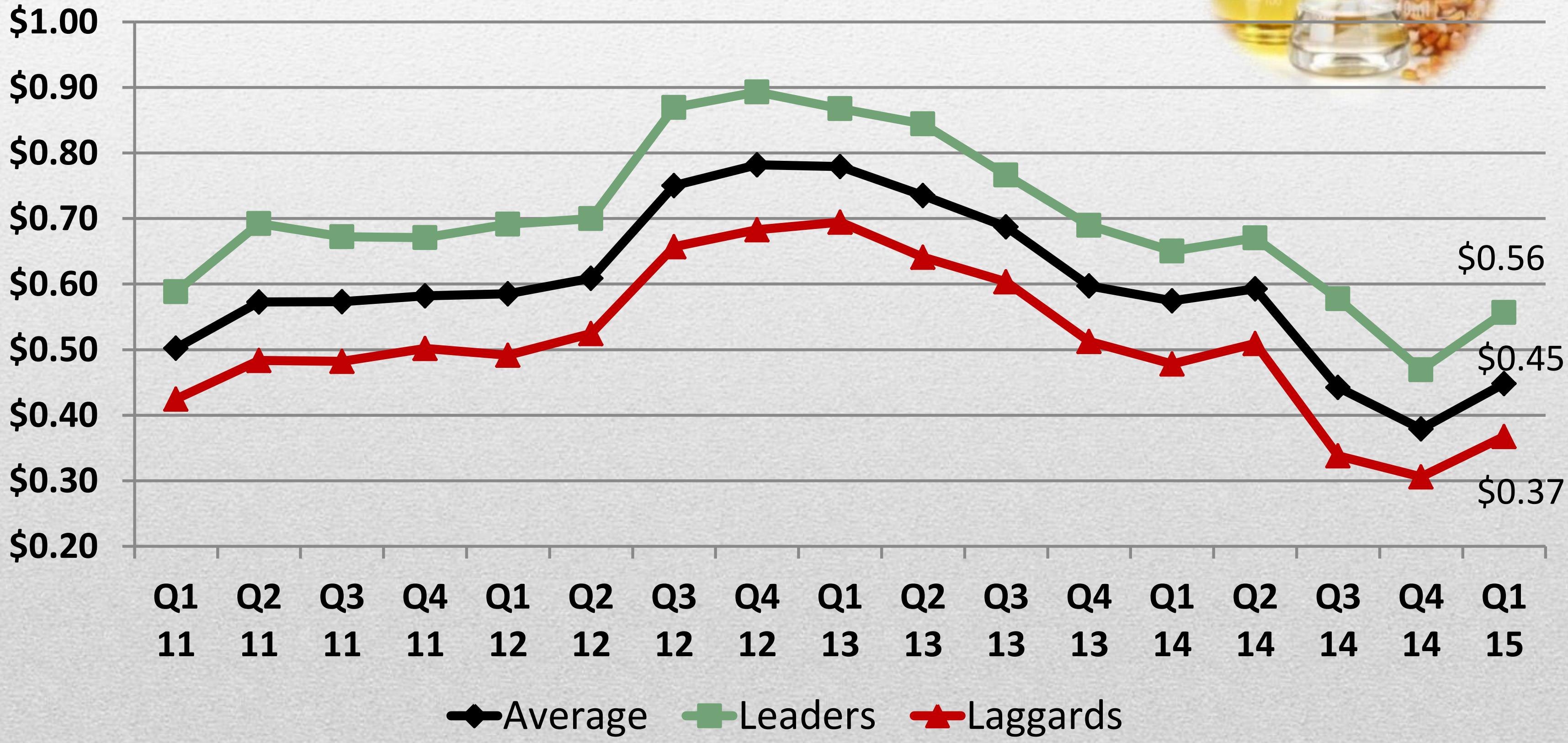
Using Benchmarking Annual Averages

	2011		2012		2013		2014		Q1 2015	
Ethanol Netback*	$2.45	81%	$2.15	76%	$2.21	76%	$2.00	80%	$1.33	75%
Co-Products	$.56	19%	$.68	24%	$.70	24%	$.49	20%	$.45	25%
Grind Revenue	$3.01		$2.83		$2.91		$2.49		$1.78	
Feedstock	$2.37	93%	$2.49	95%	$2.24	93%	$1.47	89%	$1.33	90%
Energy	$.17	7%	$.14	5%	$.16	7%	$.19	11%	$.15	10%
Grind Expense	$2.54		$2.63		$2.40		$1.66		$1.48	
Grind Margin	$.47		$.20		$.51		$.83		$.30	

*Net denaturant cost

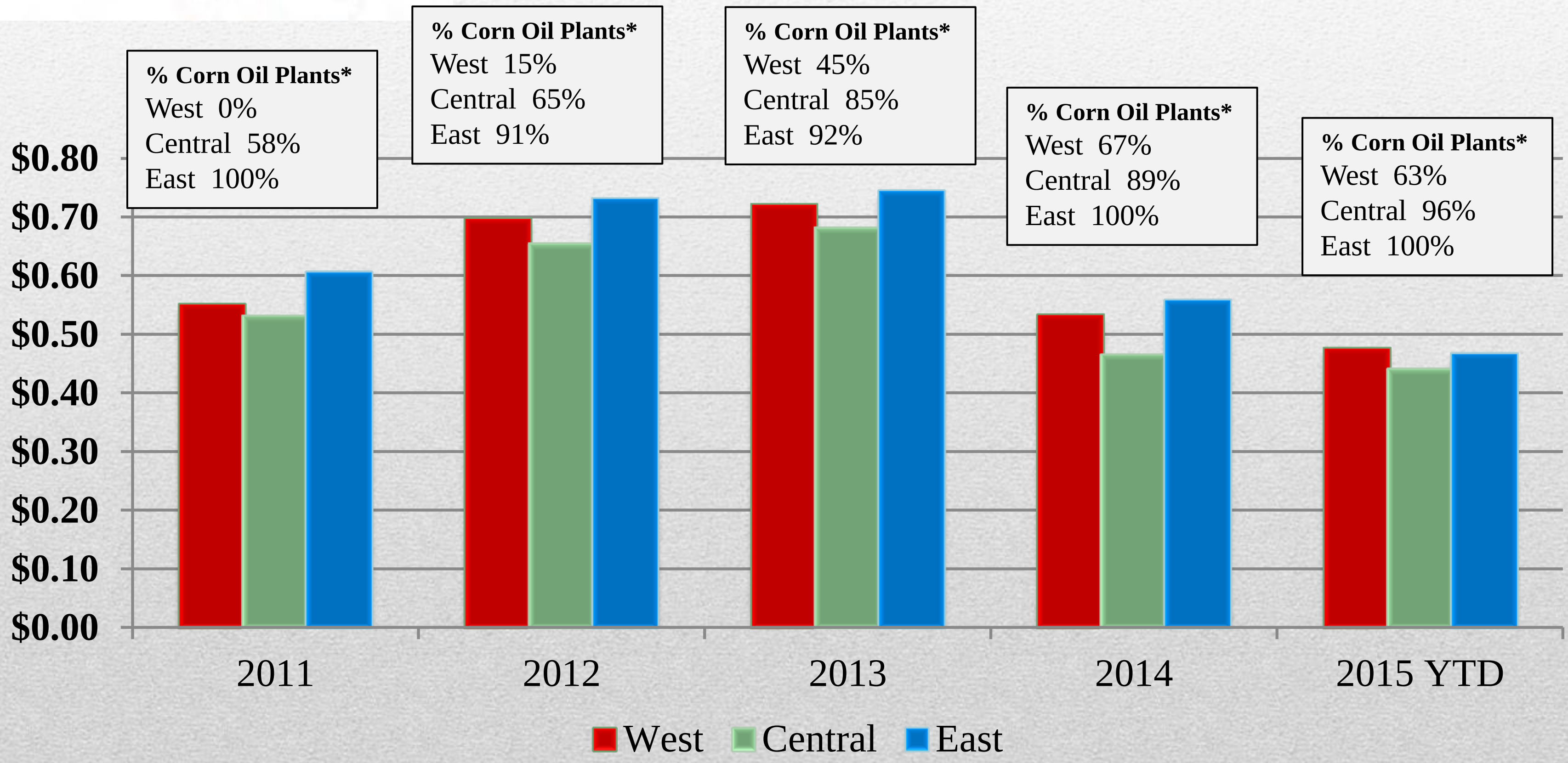
Co-Product Netback

$ / Ethanol Sales Gallon



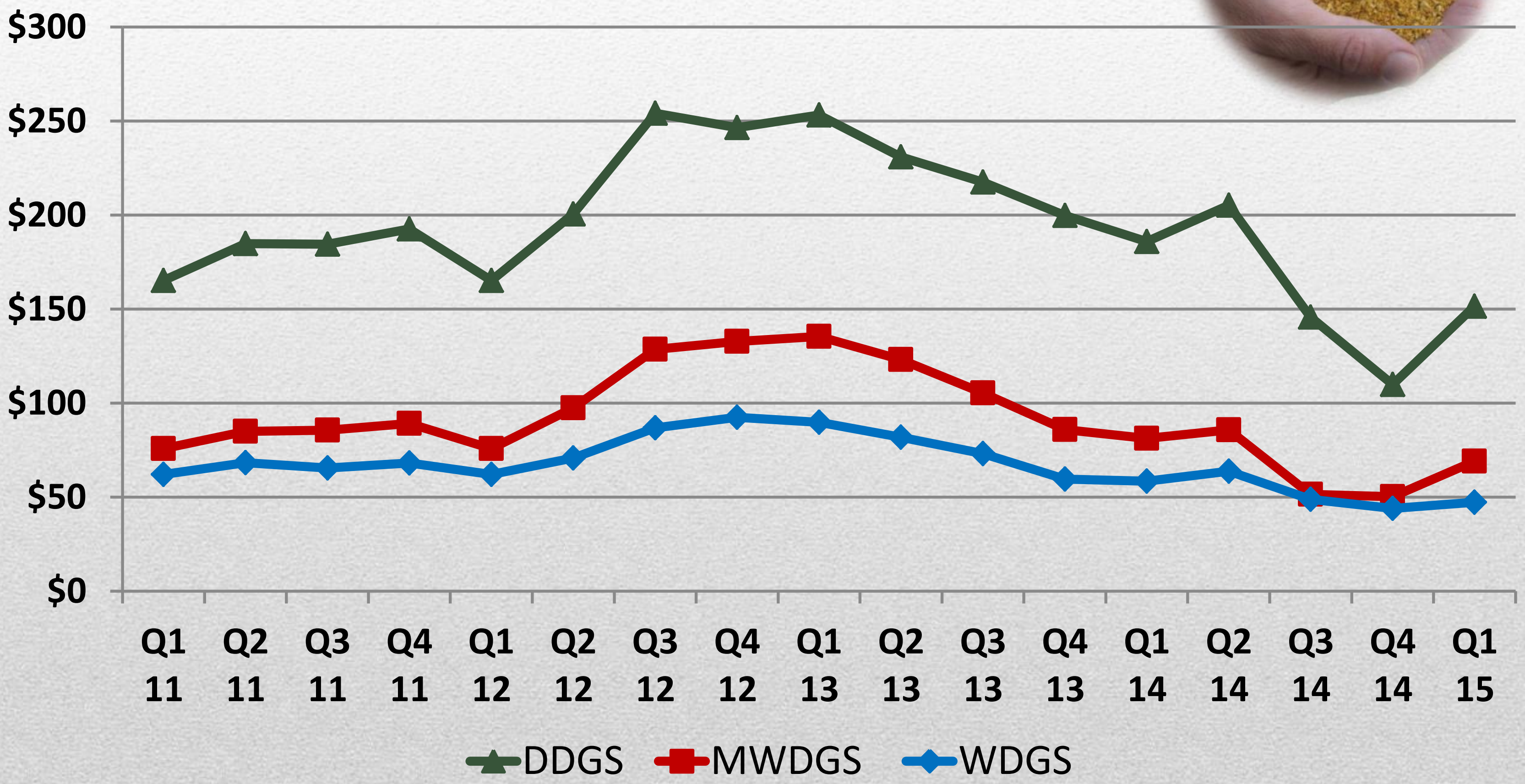
Annual Co-Product Netback

$/Ethanol Sales Gallon

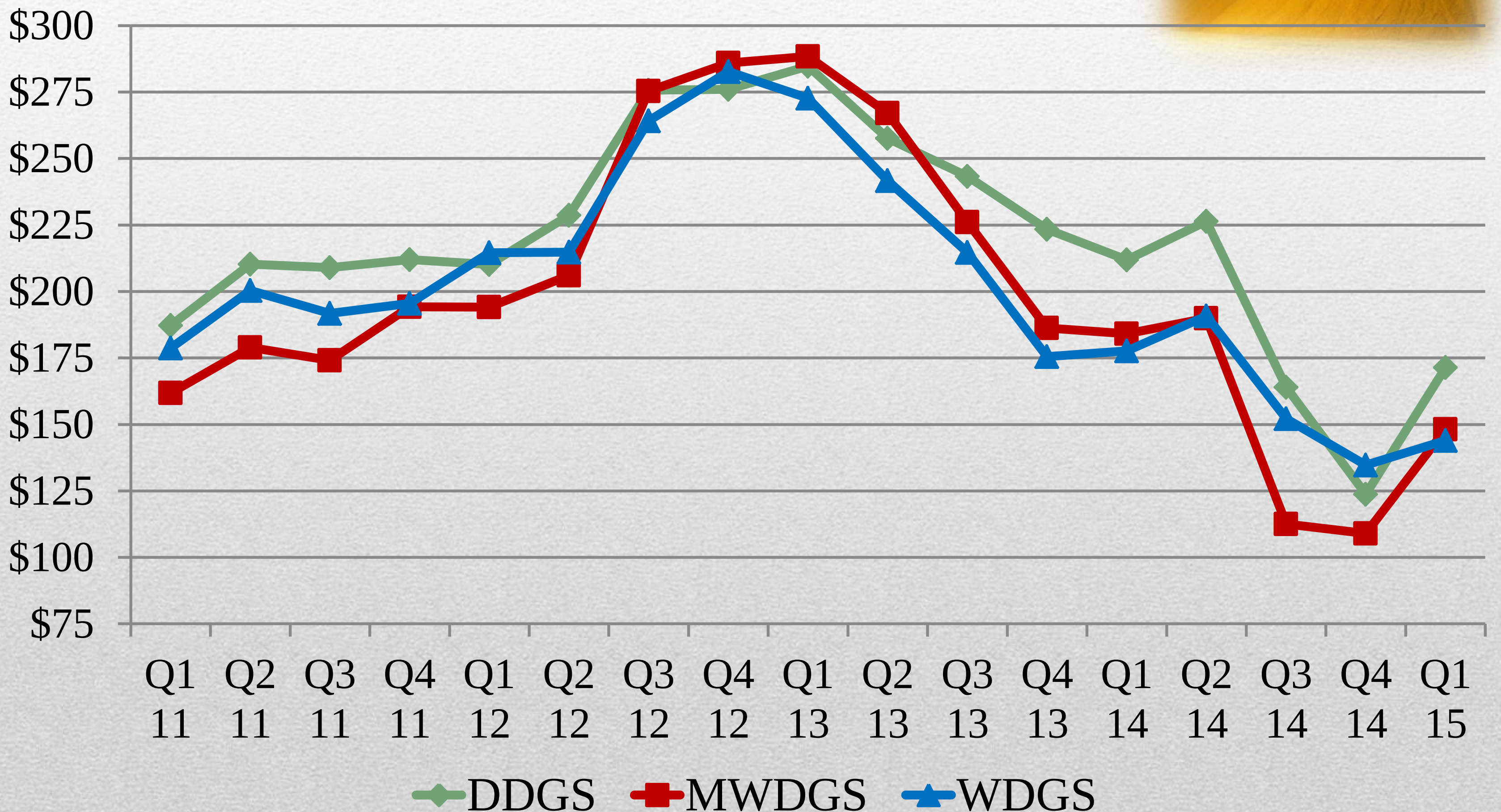


***Based on Biofuels Benchmarking Program plant participants**

Distillers Netbacks
$ / Sales Ton

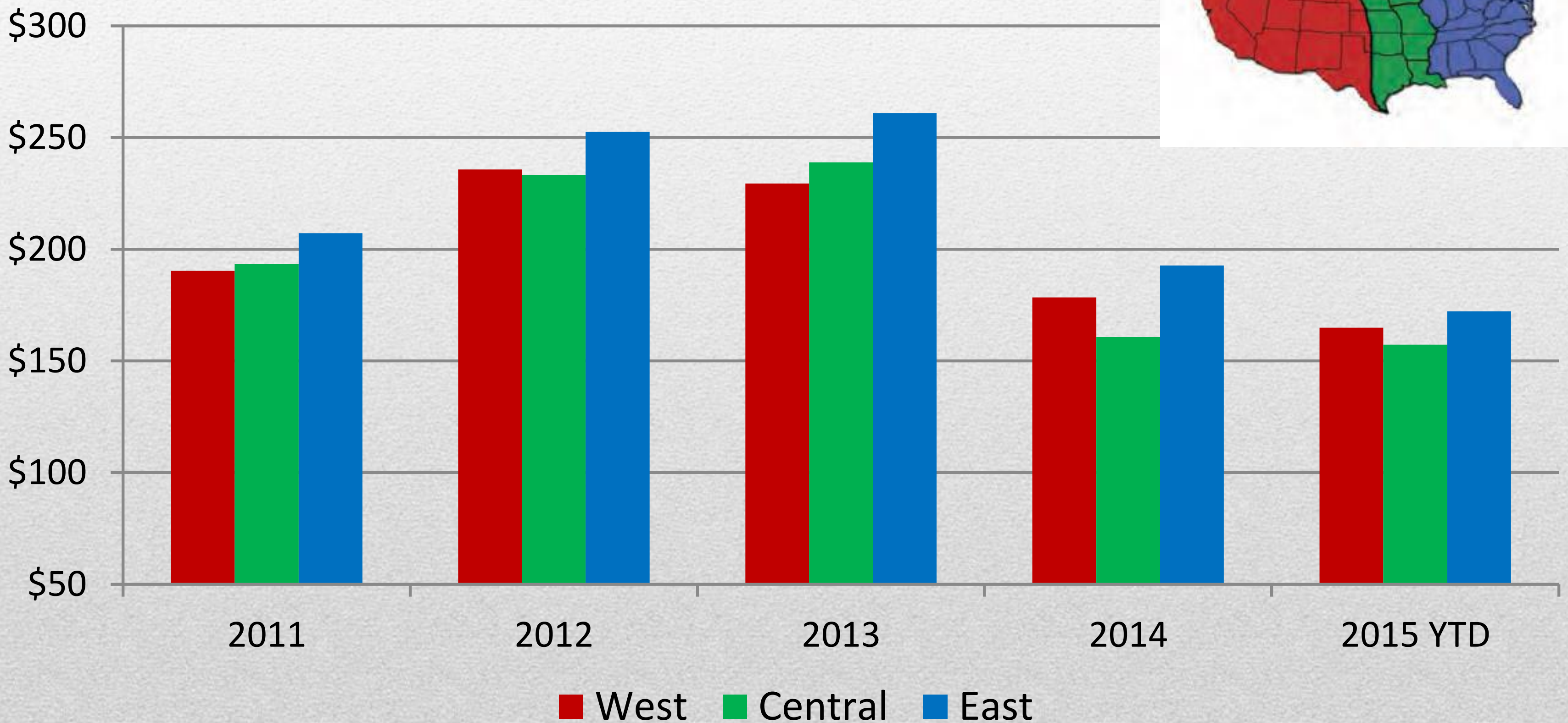


Dry Matter Distillers Netback
($ / Sales Ton)



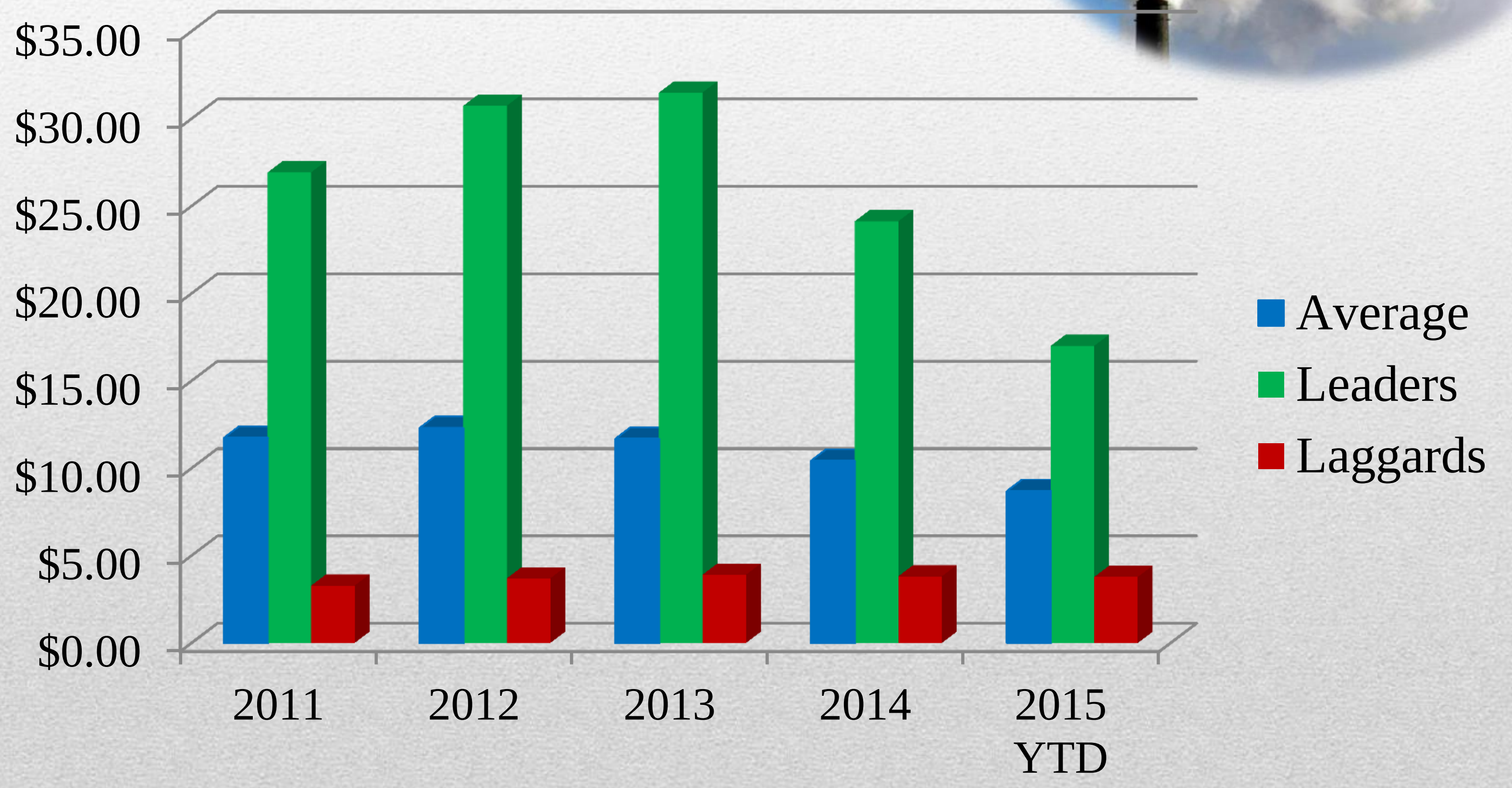
Distillers Equivalent Netback by Region

$ / Sales Ton



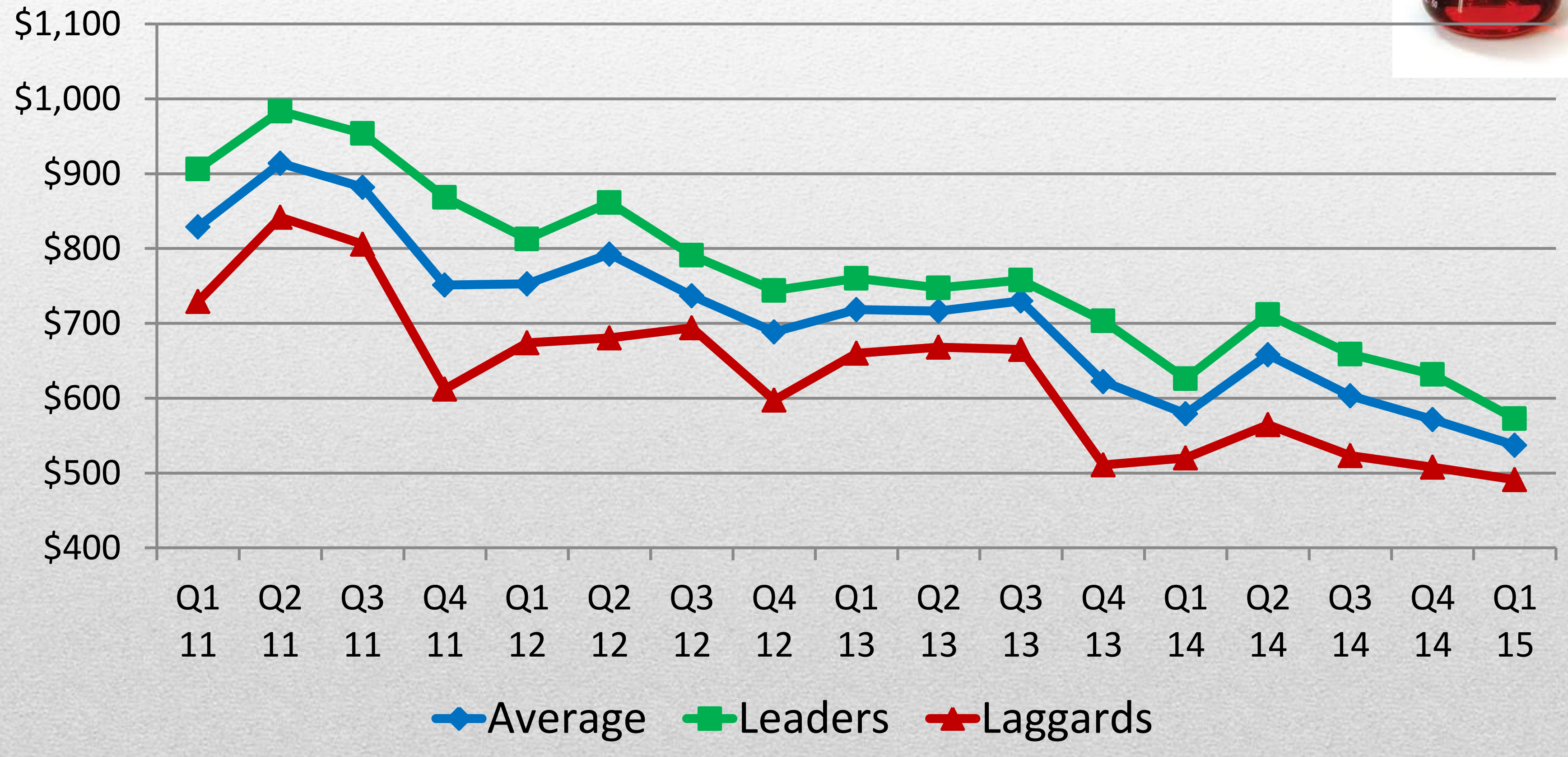
CO2 Netback

$ / Sales Ton



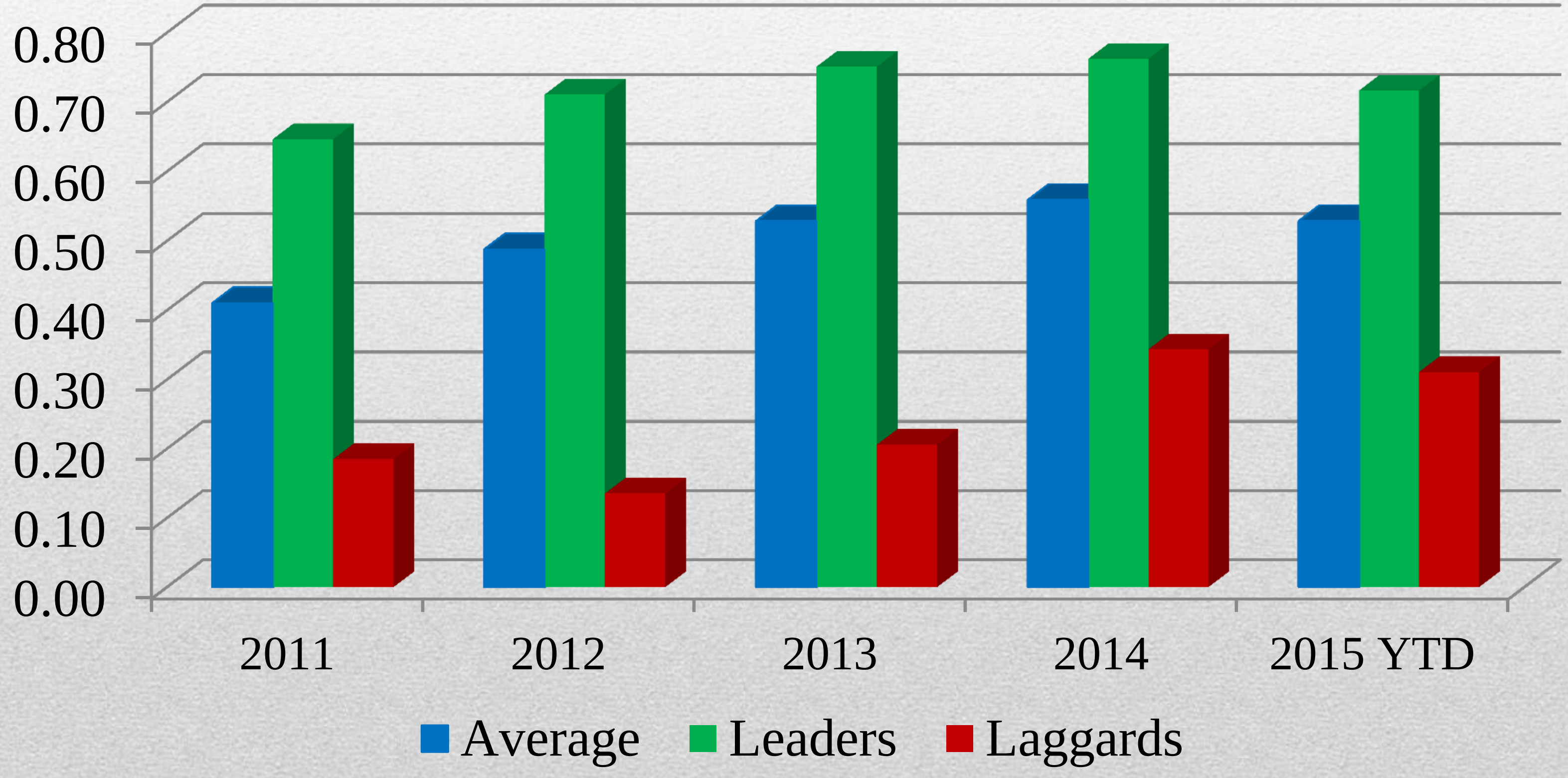
Corn Oil Netback

$ / Sales Tons

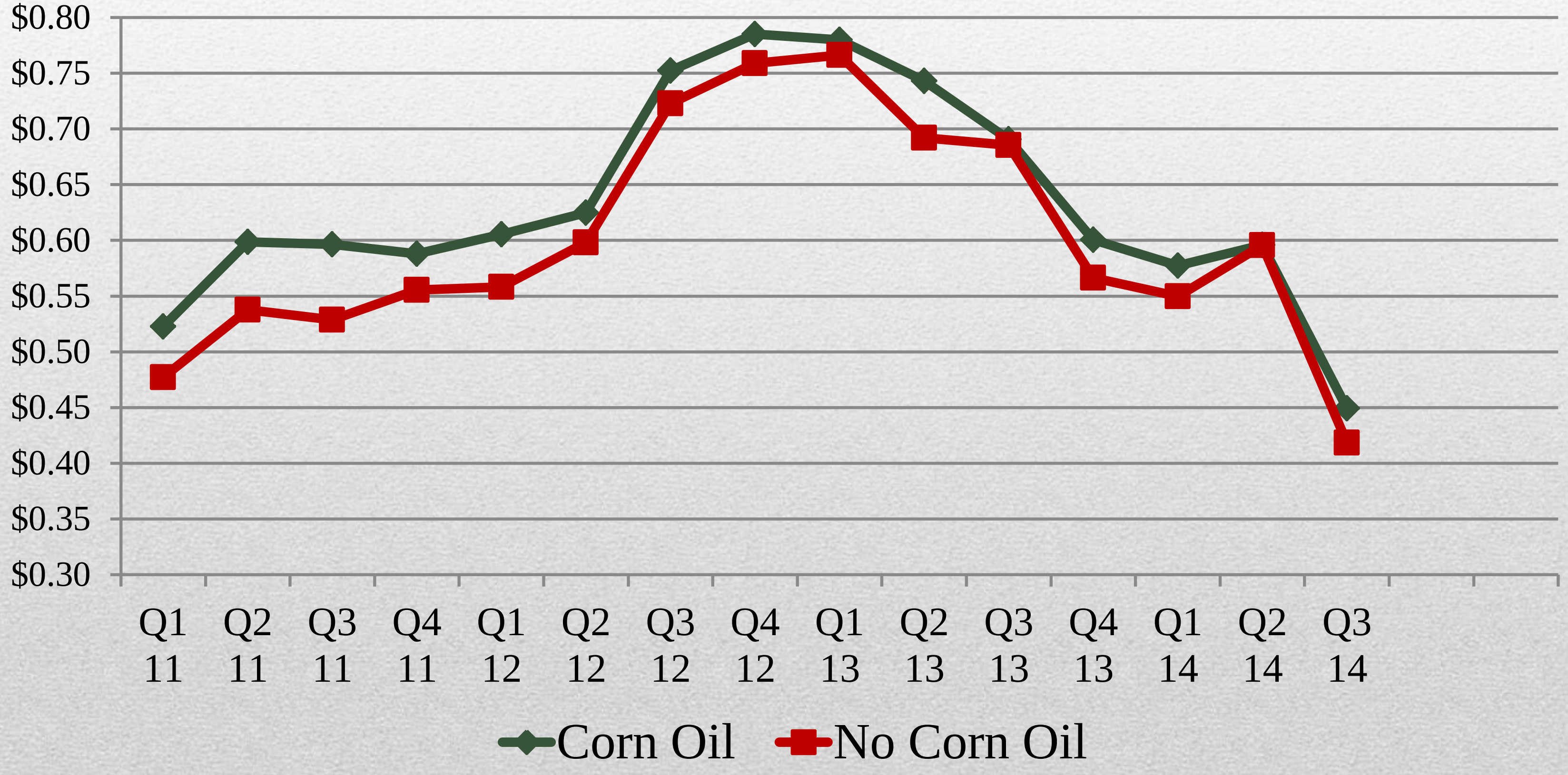


Corn Oil Yield

Pounds/Bushel

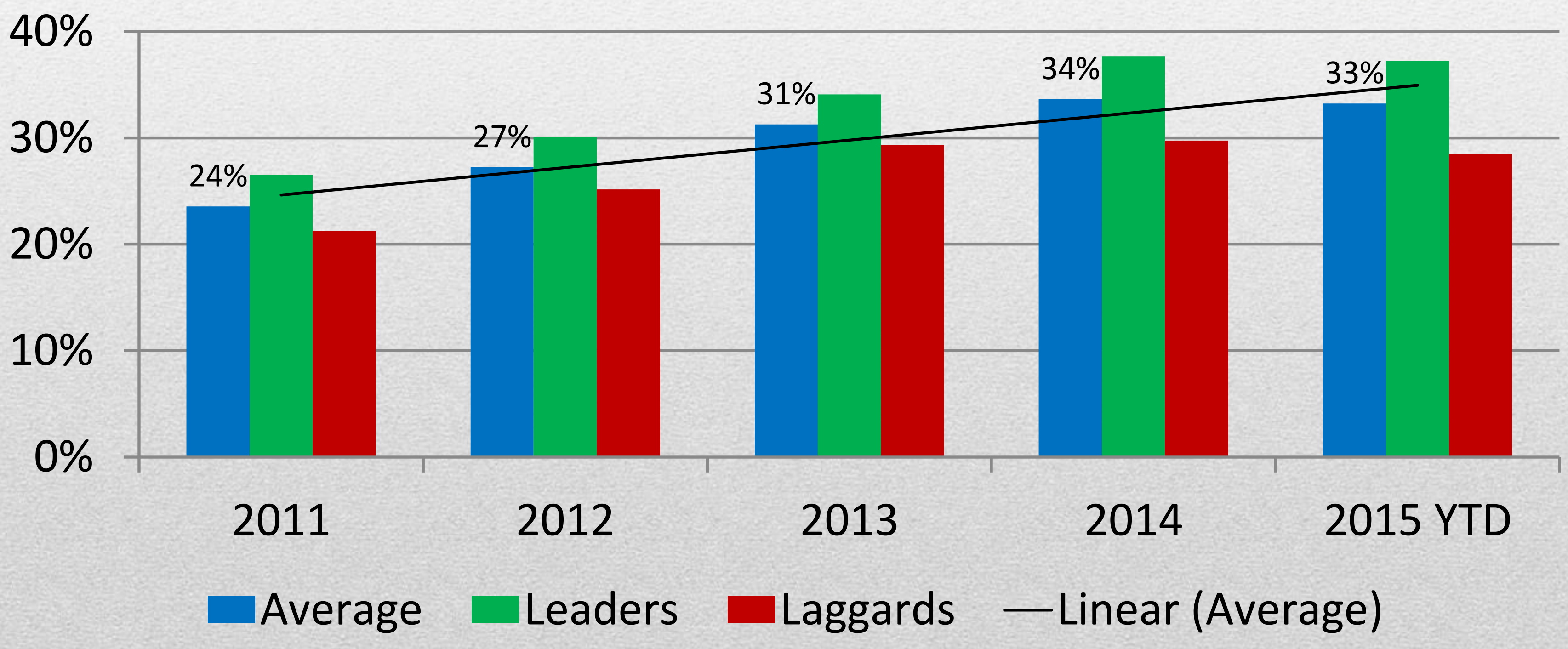


Corn Oil Extraction Analysis
Plants Producing vs. Not (Sales $/Gallon)



Corn Recapture Percentage

Co-Product Sales $ / Feedstock Purchases $



Co-Product Impact on Profitability
Conclusions

- Distillers Grains value is experiencing a rebound early in 2015

- Corn oil production has leveled off; plants which stand to profit have already implemented technology. While still profitable, plants are watching markets carefully and finding ways to add value.

- Co-product market is maturing:
    - Co-product value is heavily contingent on local conditions
    - Industry is driving value with innovation and technology
    - Co-products continue to balance revenue in times of volatility for various markets

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