



Crop Net Return Prospects

Michael Langemeier

Department of Agricultural Economics

Purdue University

Outline

- Ag Economy Barometer
- Expected Crop Prices
- Net Return Projections
- Profitability, Cash Rents, and Land Values

Ag Economy Barometer

Ag Economy Barometer

Survey Details

- **Monthly survey of 400 U.S. agricultural producers, focused on major crop and livestock enterprises**
 - Corn and Soybeans: 53%
 - Wheat: 14%
 - Cotton: 3%
 - Beef: 19%
 - Swine: 6%
 - Dairy: 5%

Ag Economy Barometer Survey Details (continued)

- Respondents value of farm production is greater than \$500,000.
- Do not survey the same producers each month, but characteristics of survey sample are held constant from month to month.

Ag Economy Barometer: November 2019



Ag Economy Barometer

Index Value

170

160

150

140

130

120

110

100

90

80

70

11/15

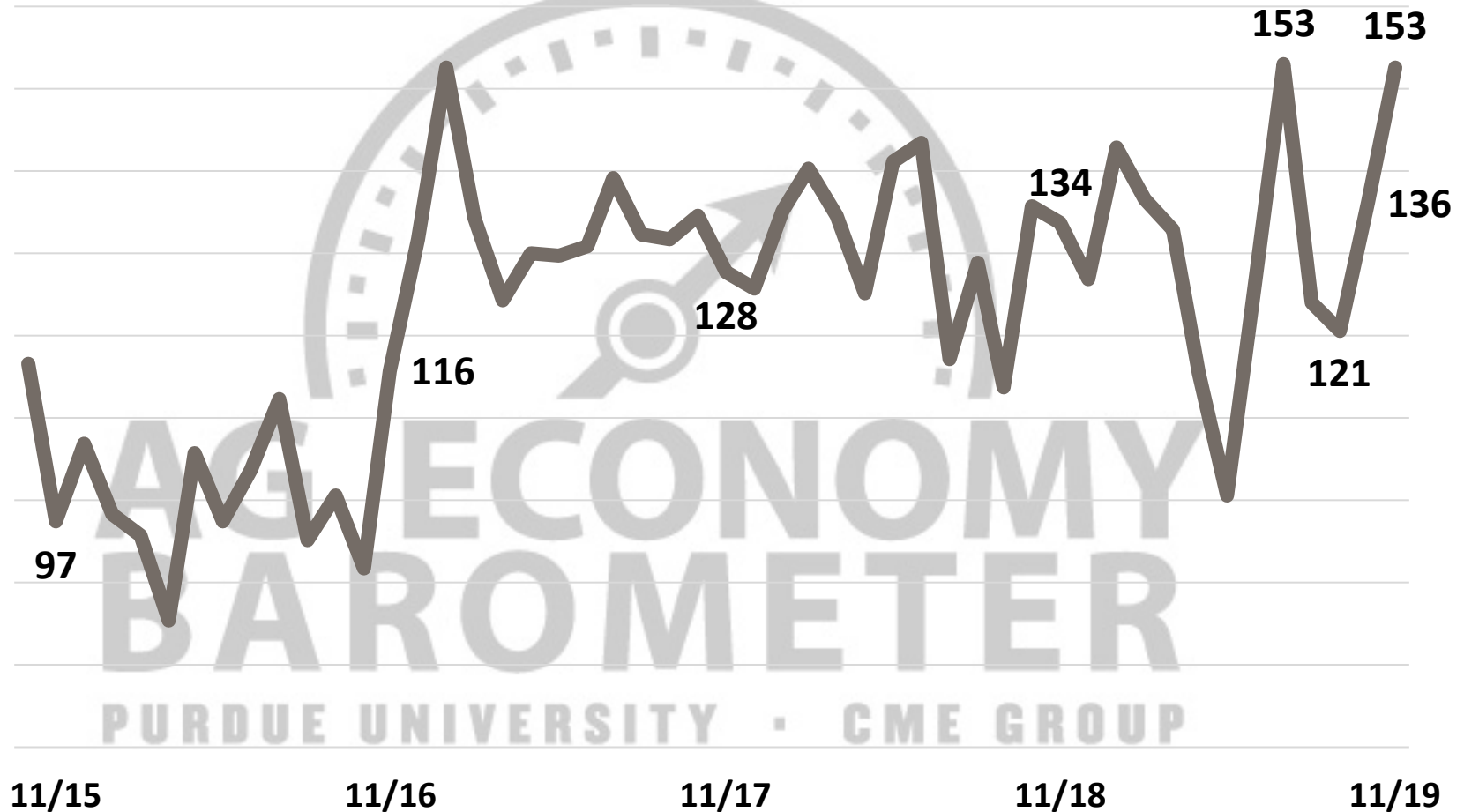
11/16

11/17

11/18

11/19

Month & Year



Source: Purdue University Center for Commercial Agriculture, Producer Survey, November 2019

Indices of Current Conditions and Future Expectations

Index Value

190

170

150

130

110

90

70

Index of Current Conditions

Index of Future Expectations

11/15

11/16

11/17

11/18

11/19

Month & Year

153

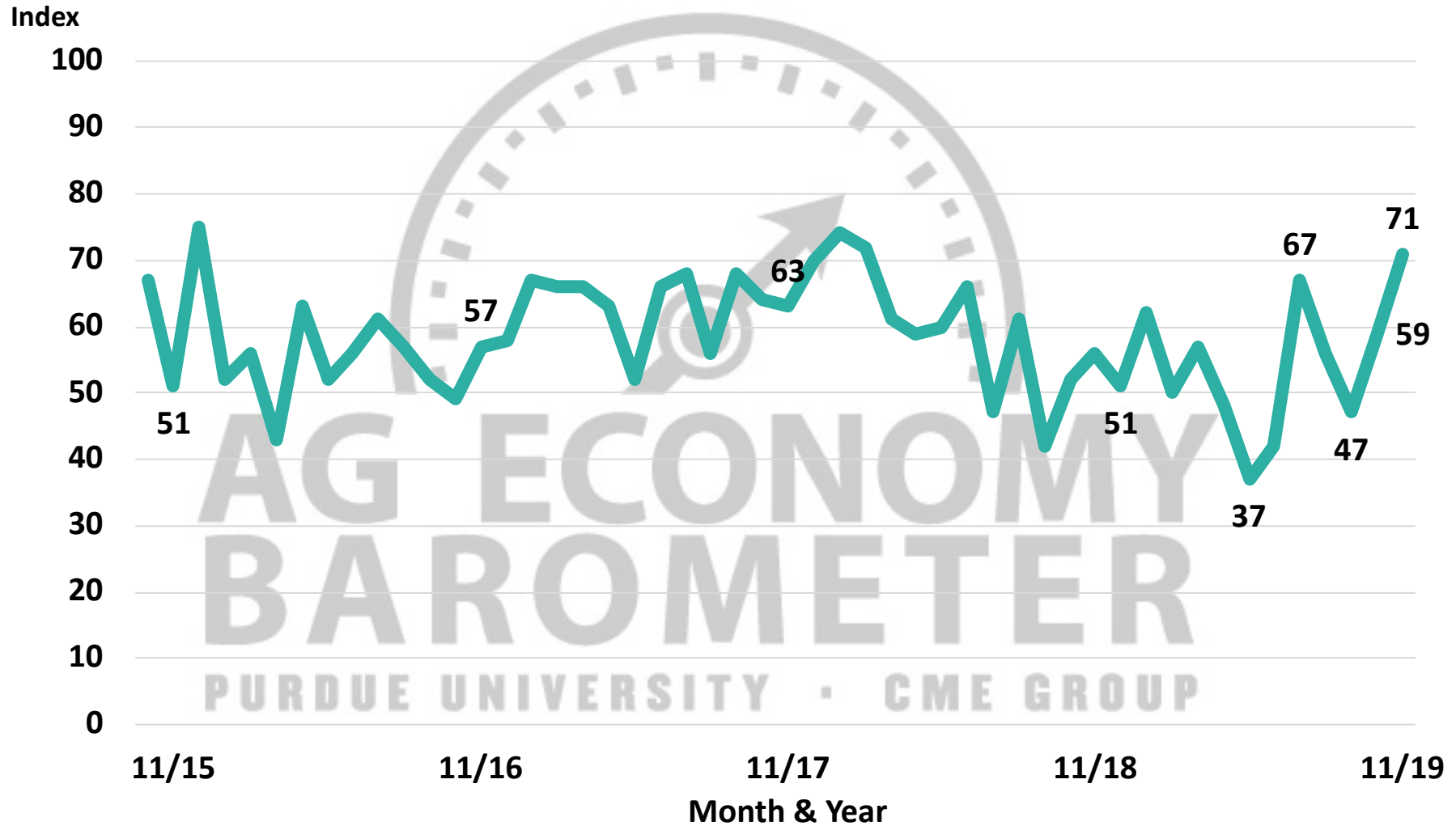
115

100

AGRICULTURE
ECONOMY
BAROMETER
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Source: Purdue University Center for Commercial Agriculture, Producer Survey, November 2019

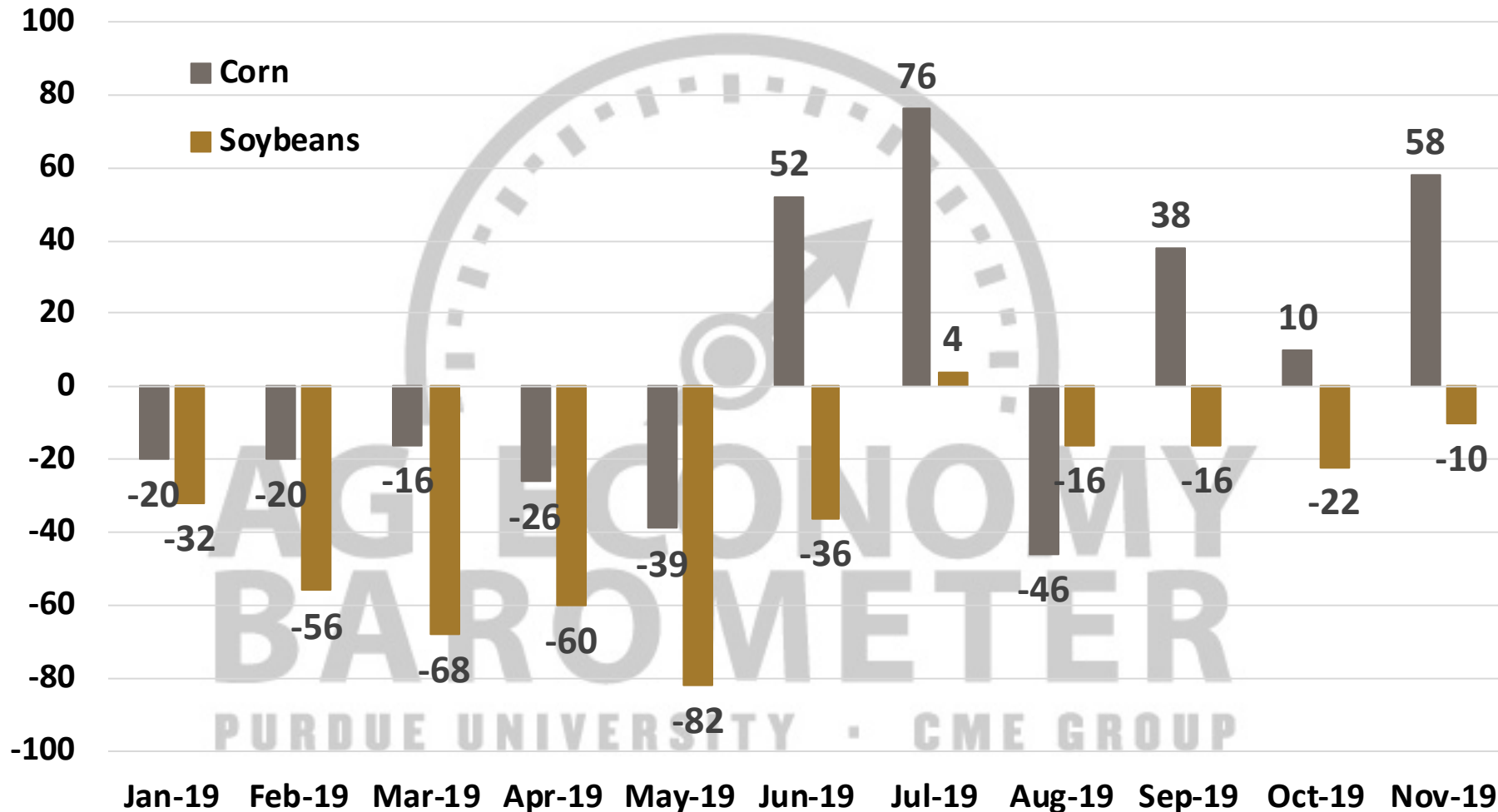
Farm Capital Investment Index



Source: Purdue University Center for Commercial Agriculture, Producer Survey, November 2019

Producers' Corn & Soybean Commodity Price Expectation Indices Bullish

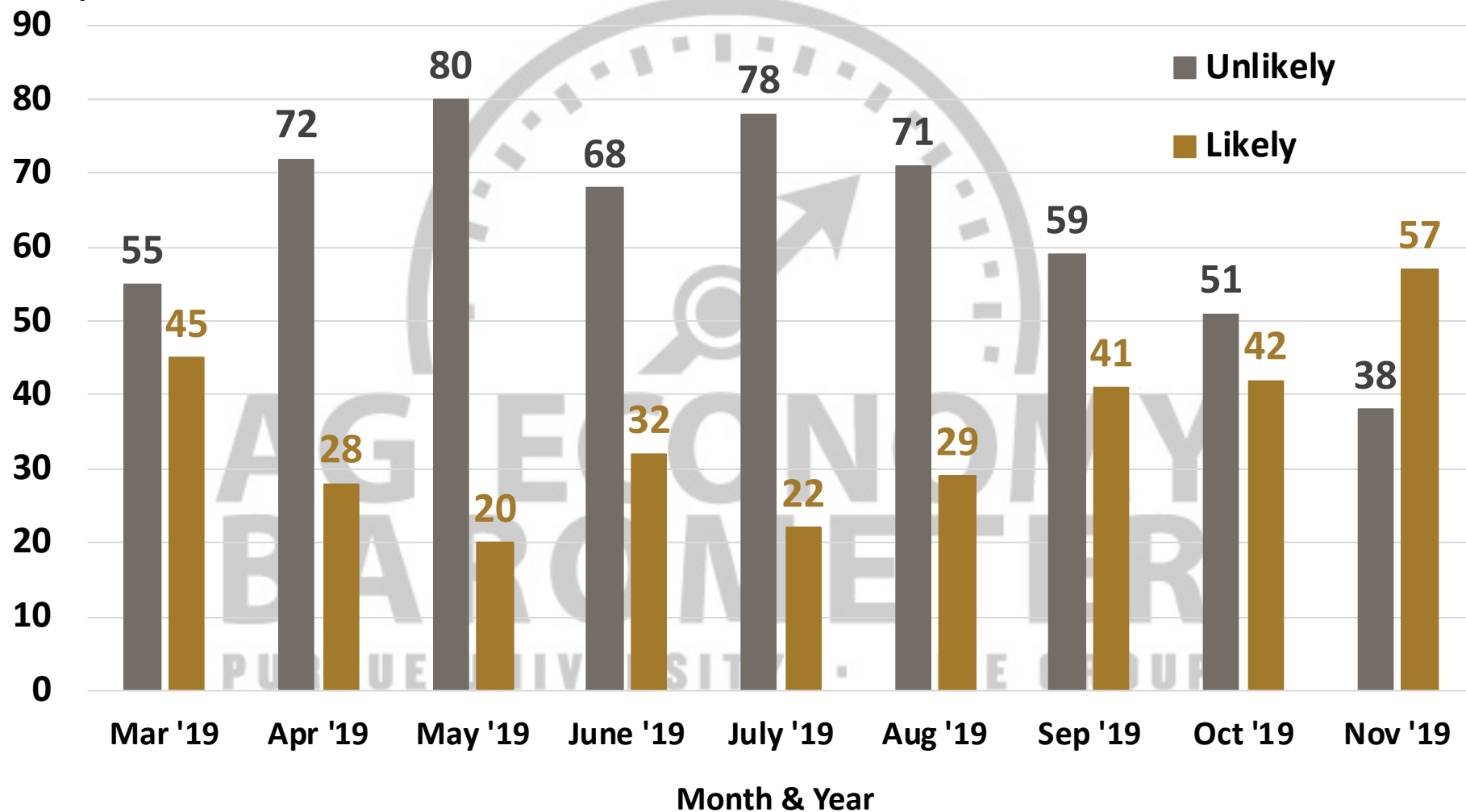
Index > 0, Bearish Index < 0, Neutral Index = 0



Source: Purdue University Center for Commercial Agriculture, Producer Survey, November 2019

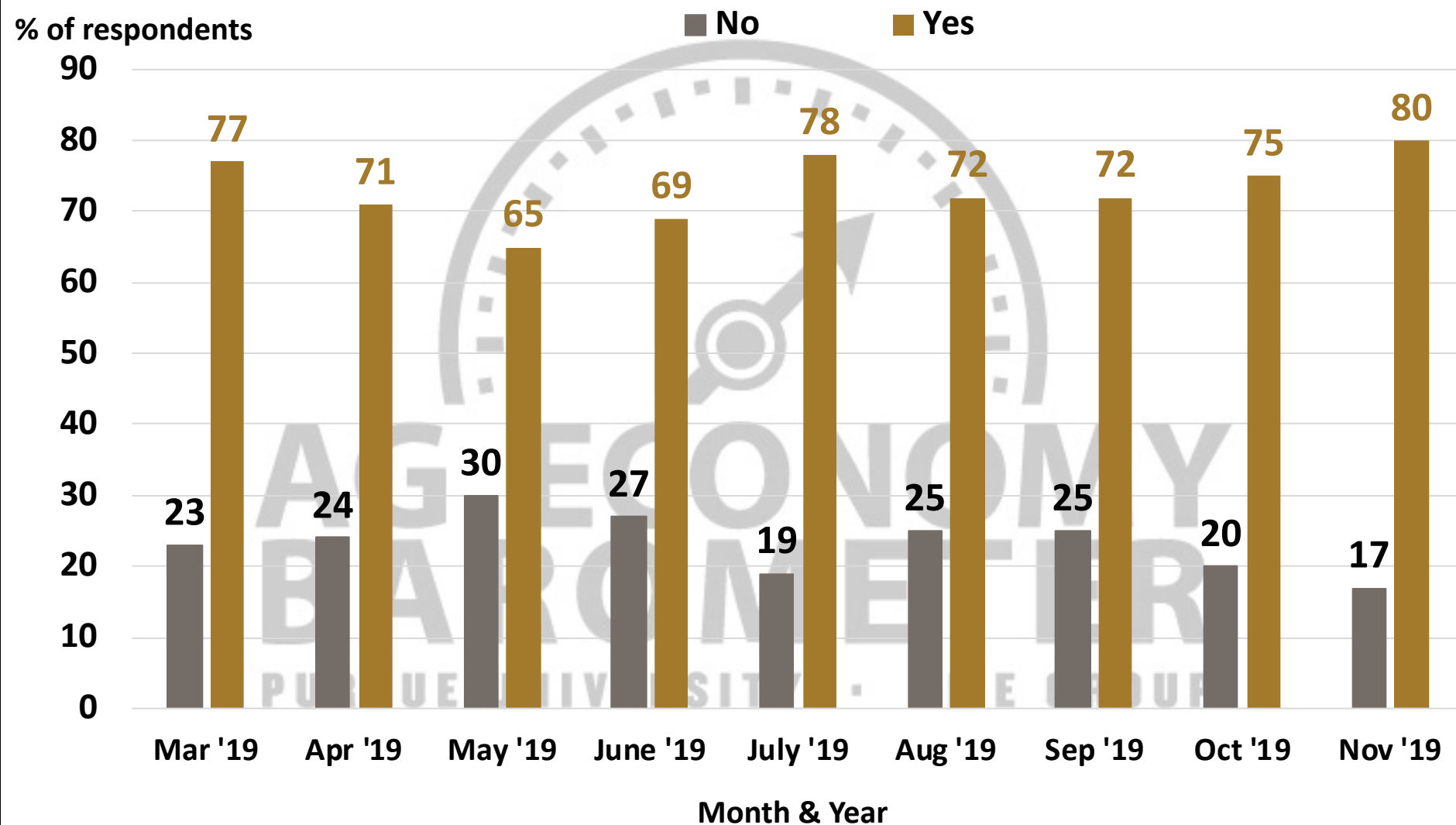
Do you think it is likely or unlikely that the soybean trade dispute with China will be settled soon?

% of respondents



Source: Purdue Center for Commercial Agriculture, Producer Survey, November 2019

Do You Think the Trade Dispute with China Will Ultimately Be Resolved in a Way That Benefits U.S. Agriculture?



Source: Purdue Center for Commercial Agriculture, Producer Survey, November 2019

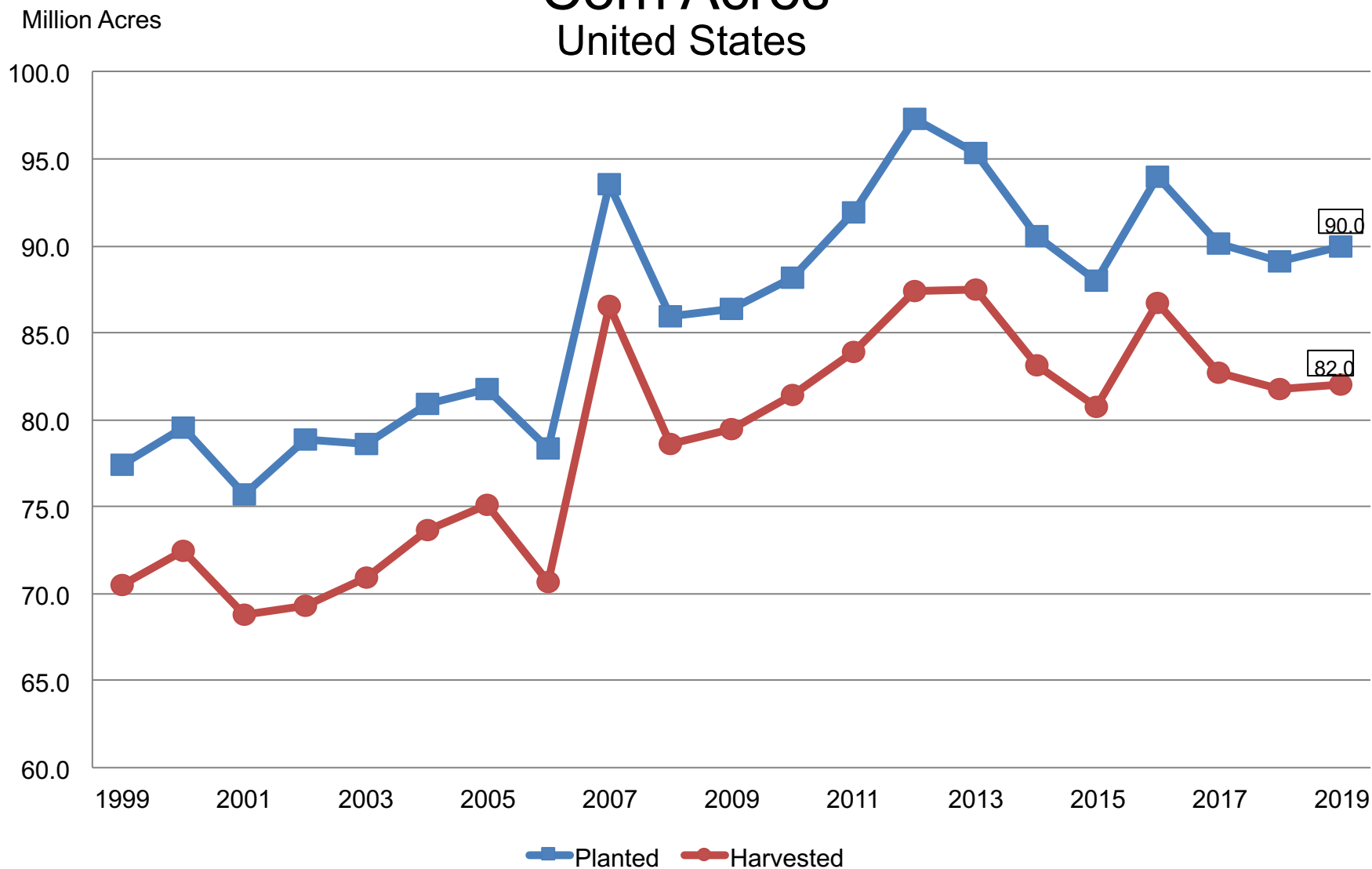
Expected Crop Prices

U.S. Acreage Estimates for 2019

Source: USDA

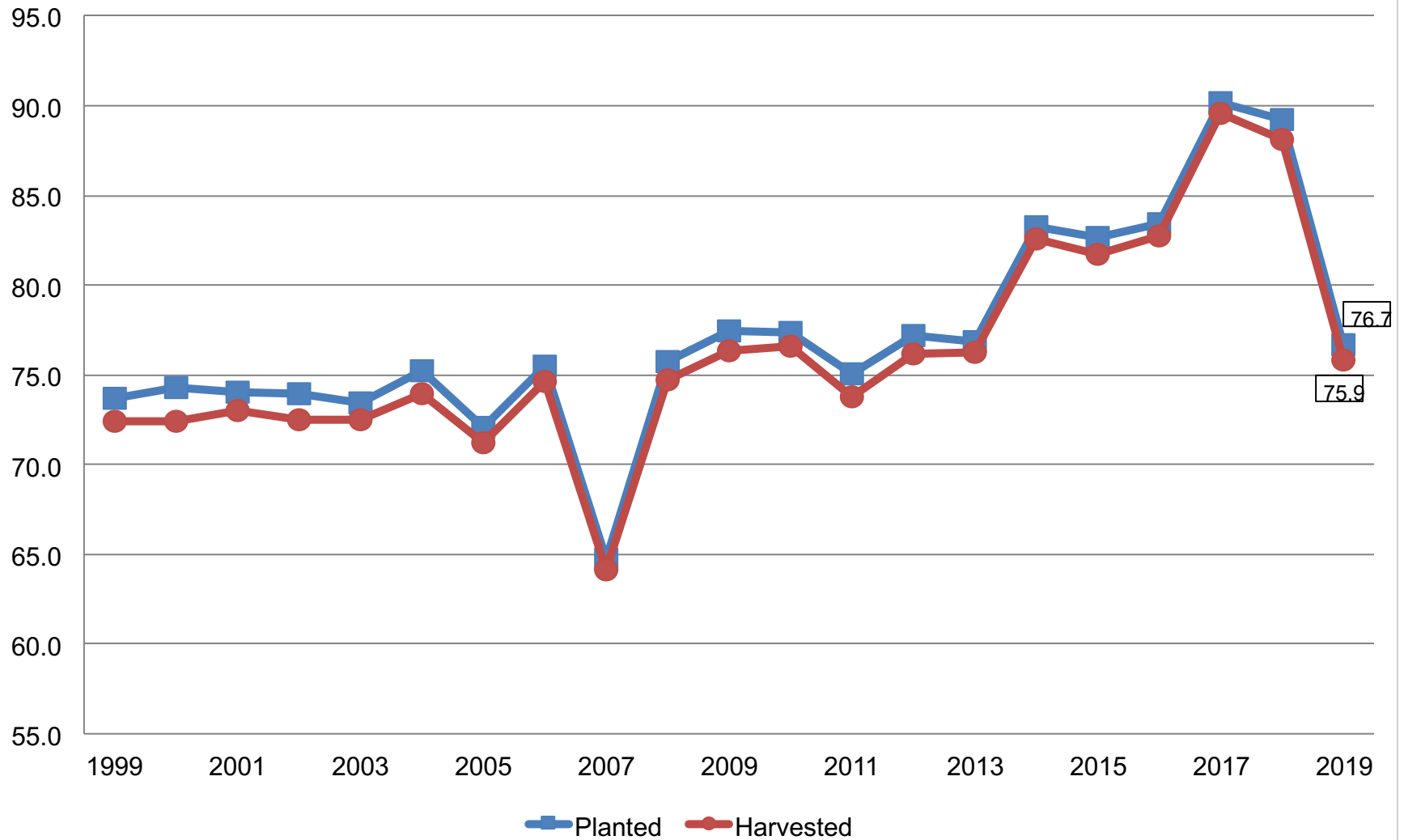
Estimate	Corn (millions)	Soybeans (millions)
March Planting Intentions	92.8	84.6
June Crop Report	91.4	80.0
August Crop Report	90.0	76.7
October Crop Report	89.9	76.5

Corn Acres United States



Soybean Acres United States

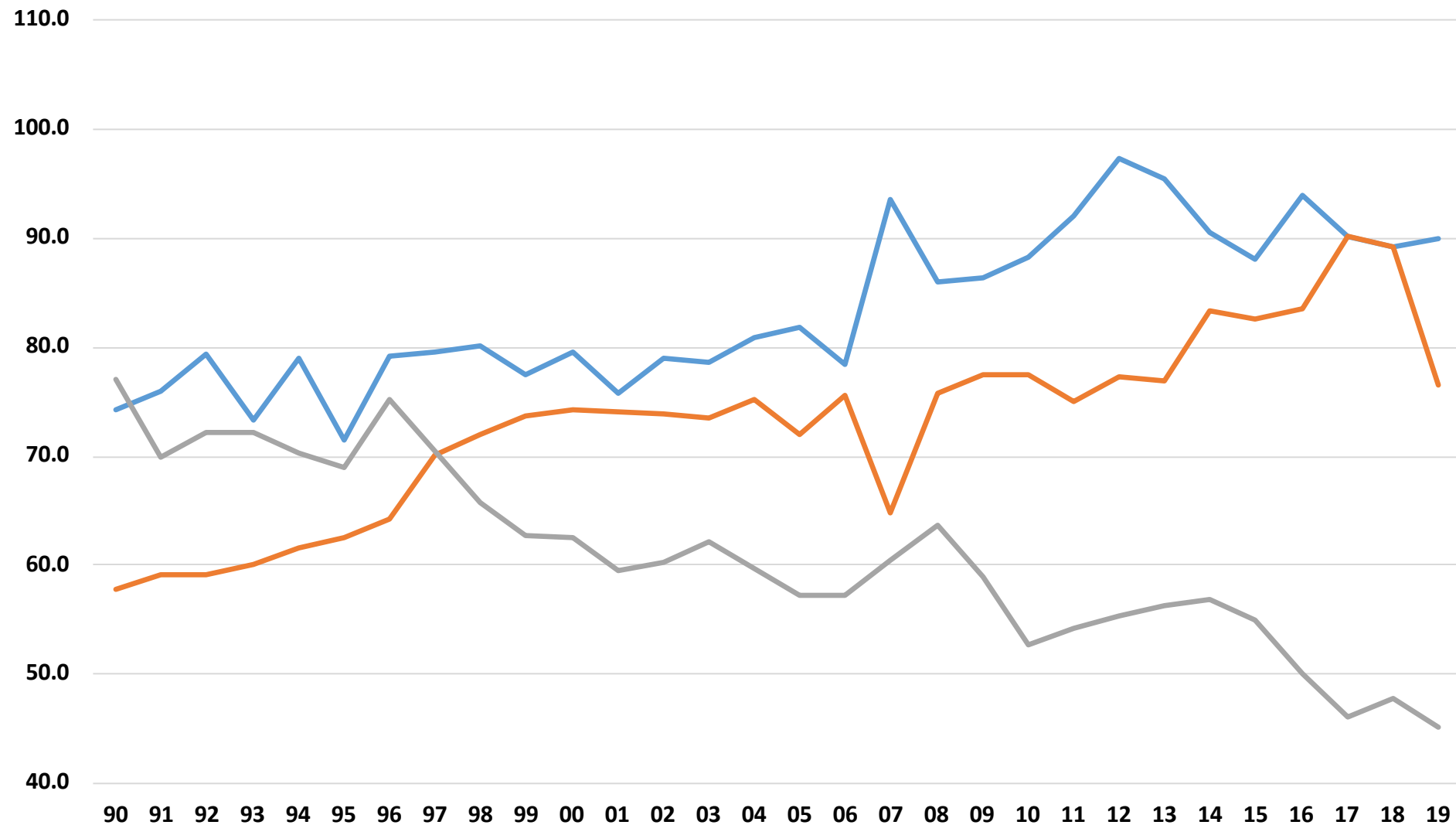
Million Acres



U.S. Corn, Soybean, and Wheat Acres (millions)

Source: USDA-NASS, Quick Stats

Corn Soybeans Wheat





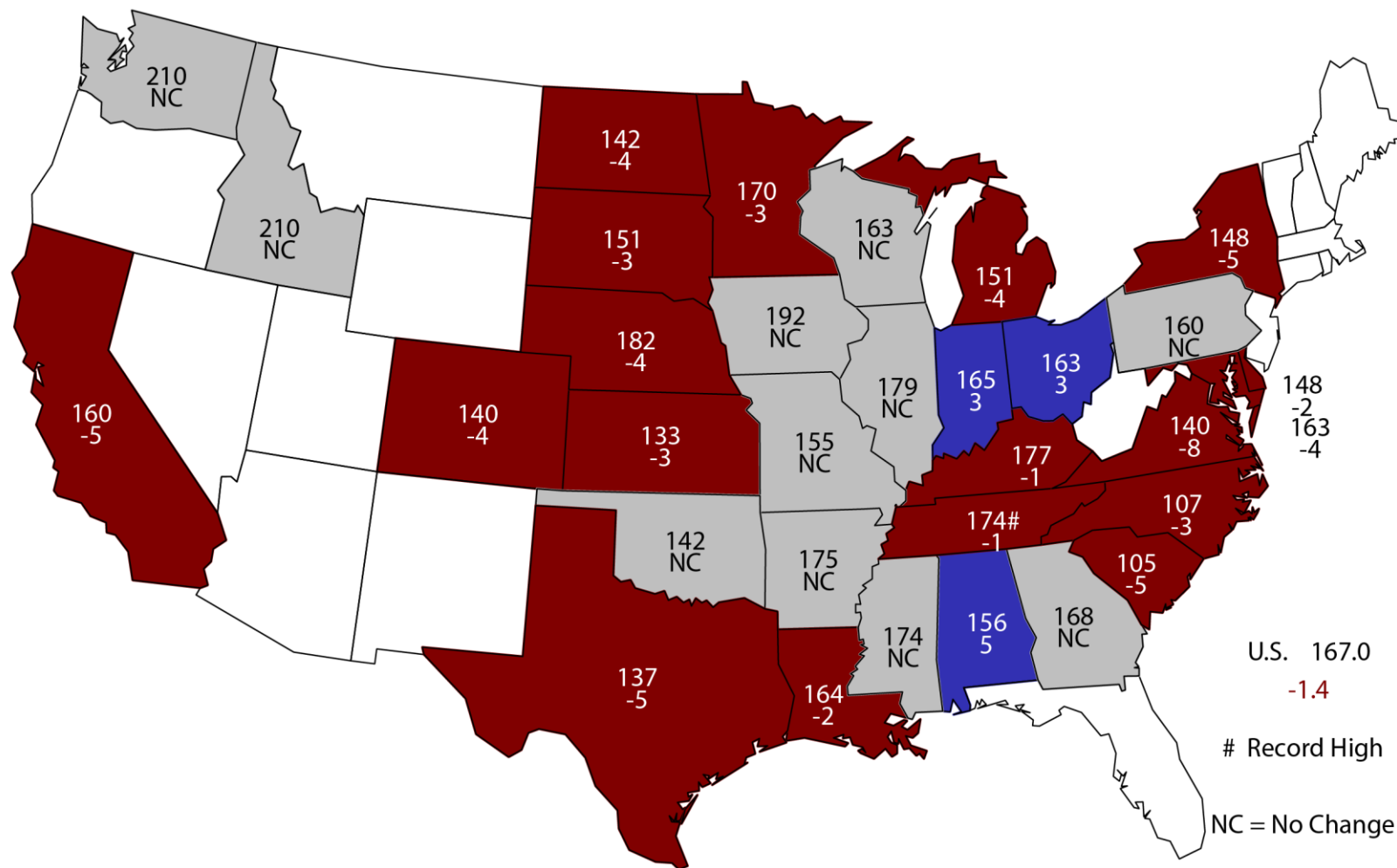
U.S. Yield Estimates for 2019

Sources: USDA

Estimate	Corn	Soybeans
May WASDE Report	176.0	49.5
July WASDE Report	166.0	48.5
August WASDE Report	169.5	48.5
November WASDE Report	167.0	46.9

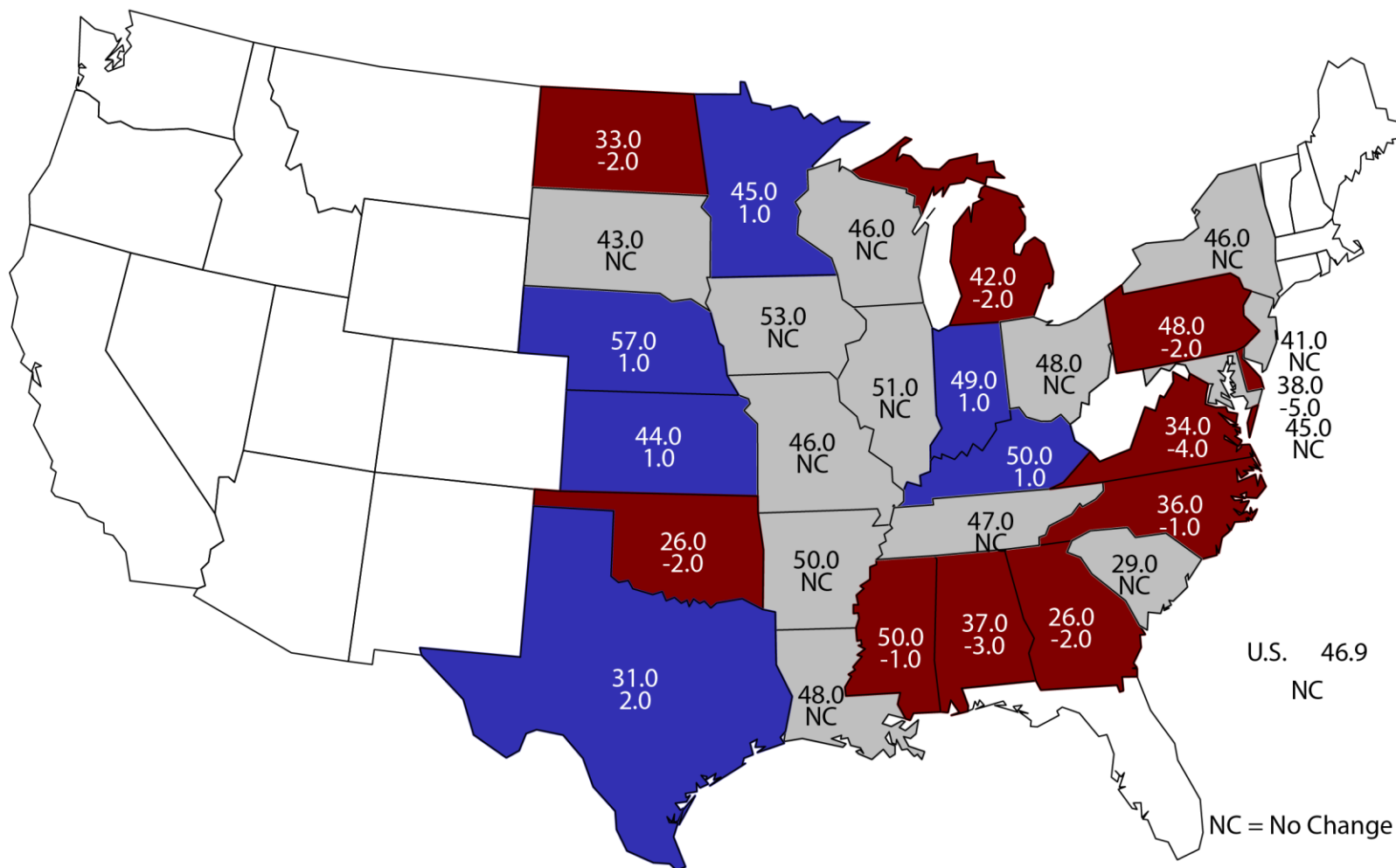
November 1, 2019 Corn Yield

Bushels and Change From Previous Forecast



November 1, 2019 Soybean Yield

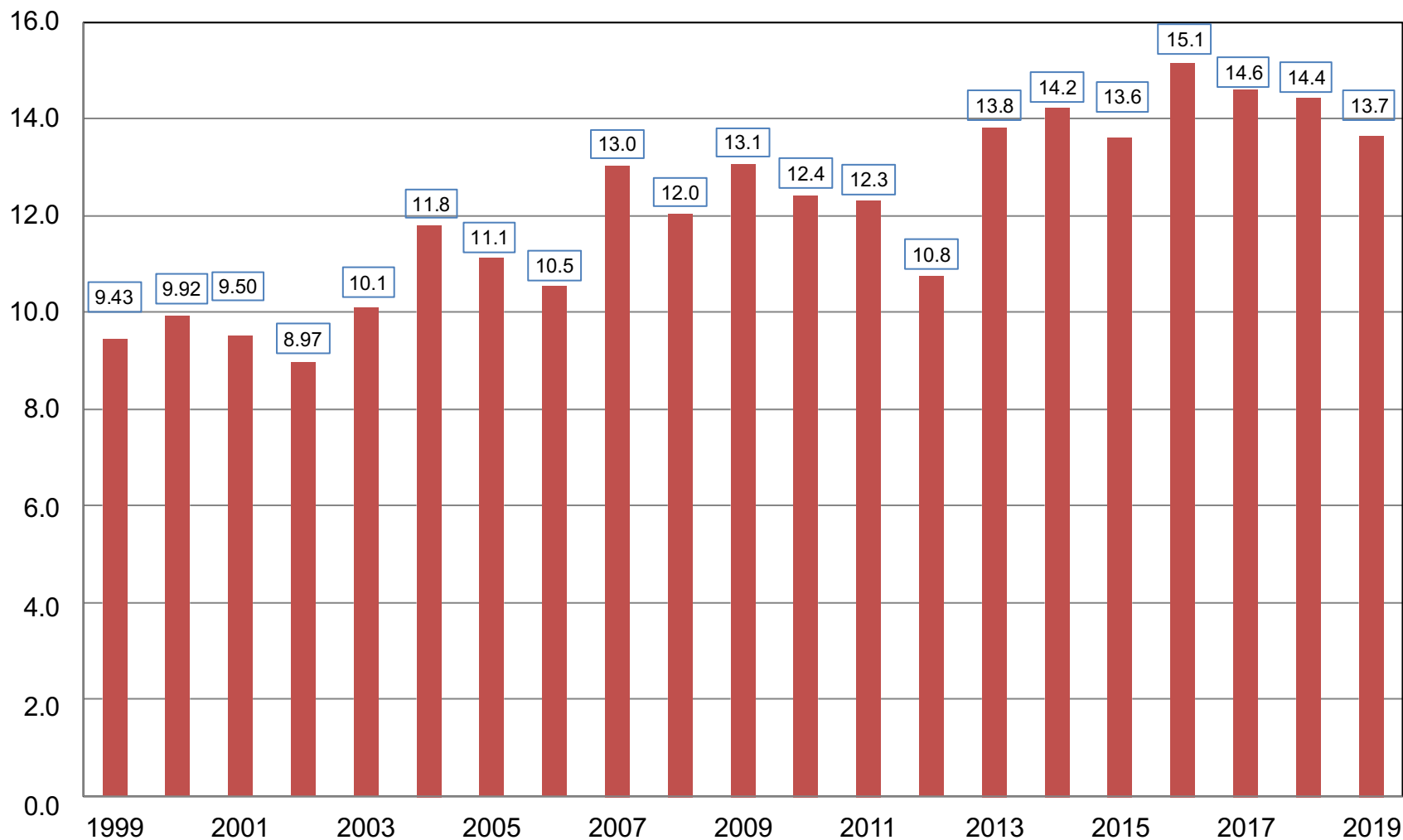
Bushels and Change From Previous Forecast



Corn for Grain Production

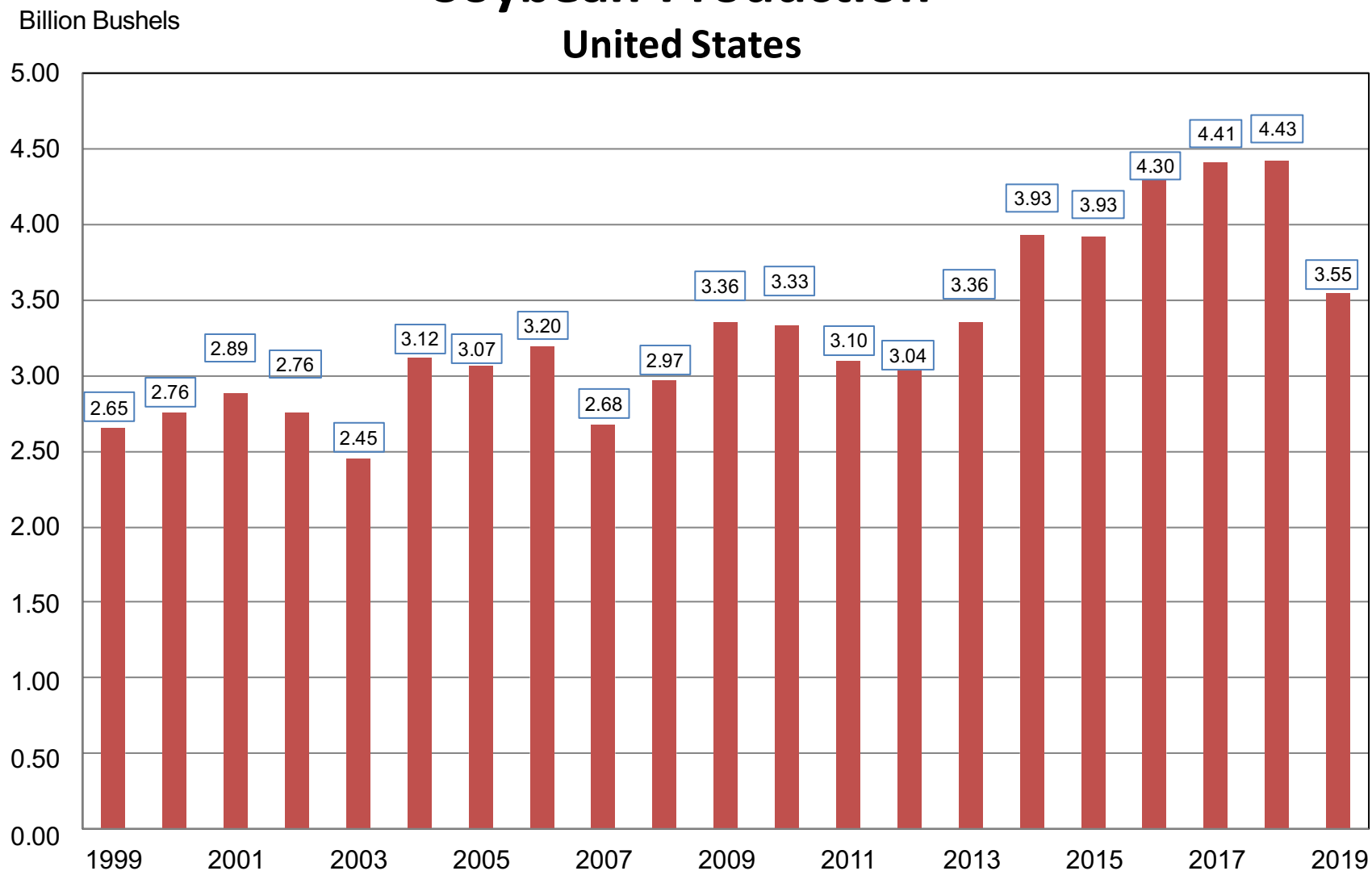
United States

Billion Bushels



Soybean Production

United States



U.S. Marketing Year Average Prices

Source: USDA-NASS

Marketing Year	Corn	Soybeans
15/16	3.61	8.95
16/17	3.36	9.47
17/18	3.36	9.33
18/19	3.61	8.48
19/20 Projected	3.85	8.85

Fall 2020 Futures Prices (12/17)

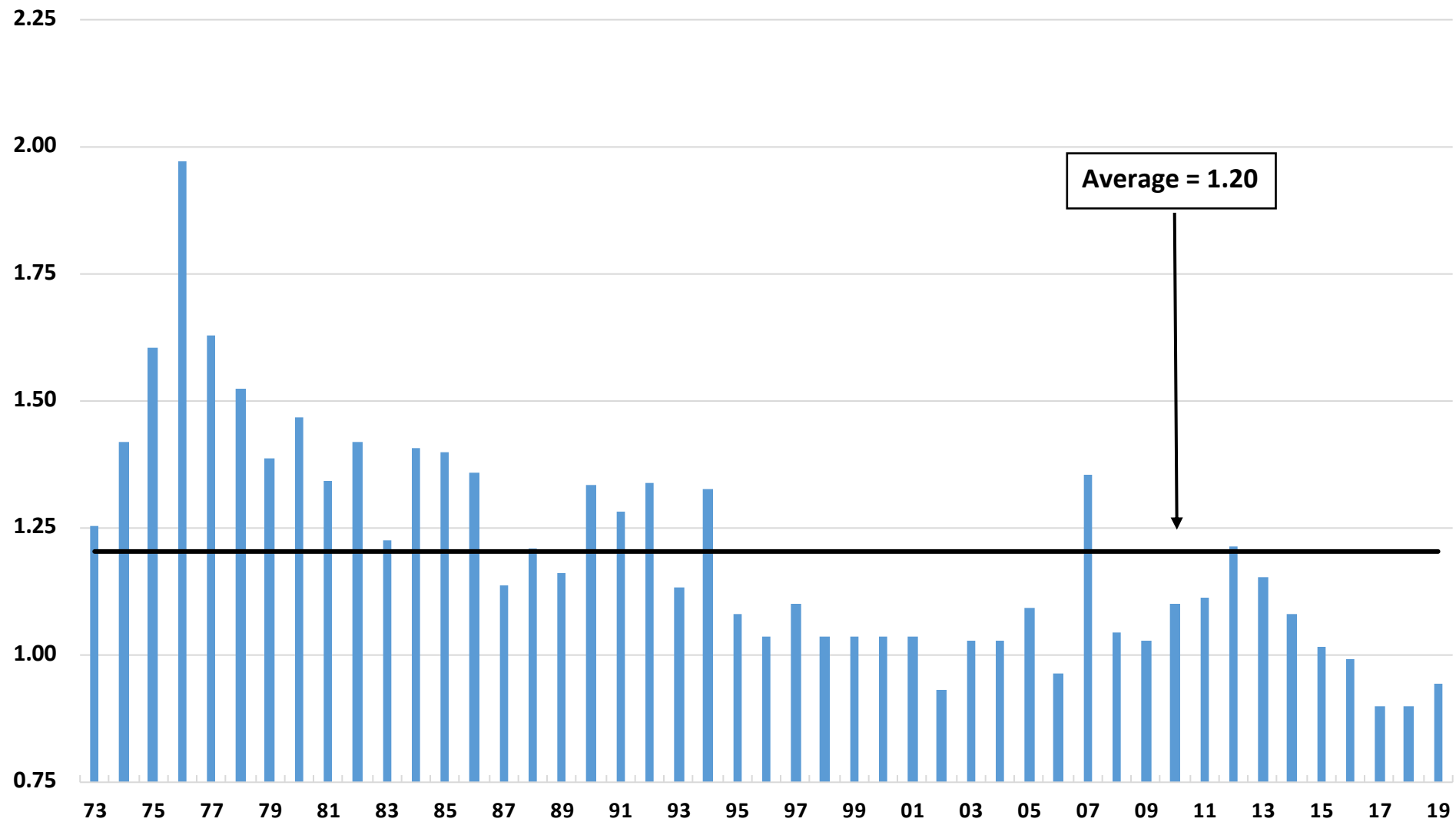
Source: iFarm Price Distribution Tool

At Expiration Probability Below	Corn	Soybeans
25%	3.51	8.78
50%	3.94	9.56
75%	4.42	10.41

Ratio of Corn to Soybean Acreage in Indiana

Source: USDA-NASS, Quick Stats

■ Annual — Average



Ratio of Corn to Soybean Acreage in the U.S. Corn Belt Iowa, Illinois, and Indiana

Source: USDA-NASS, Quick Stats

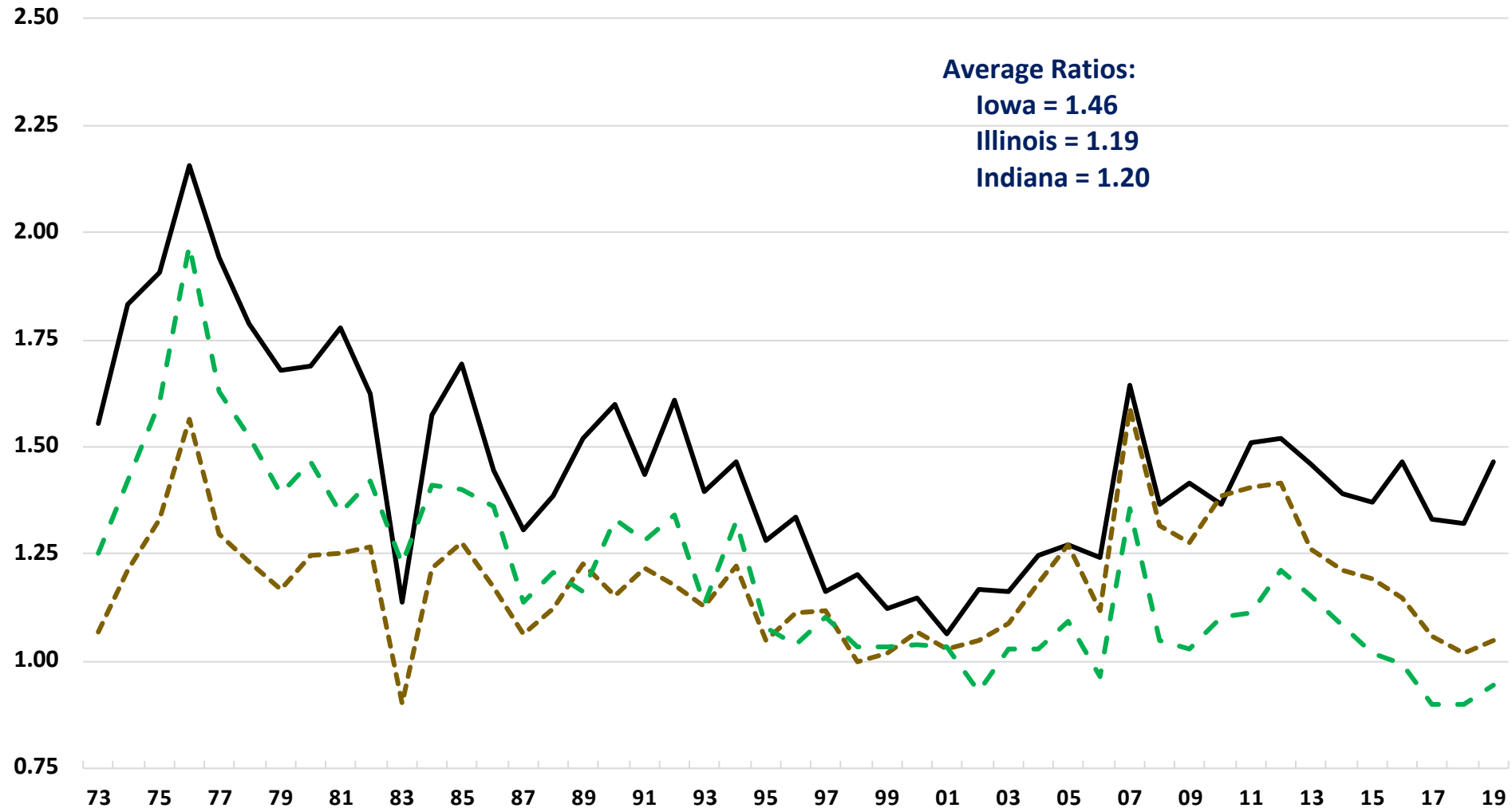
Iowa Illinois Indiana

Average Ratios:

Iowa = 1.46

Illinois = 1.19

Indiana = 1.20



Net Return Projections

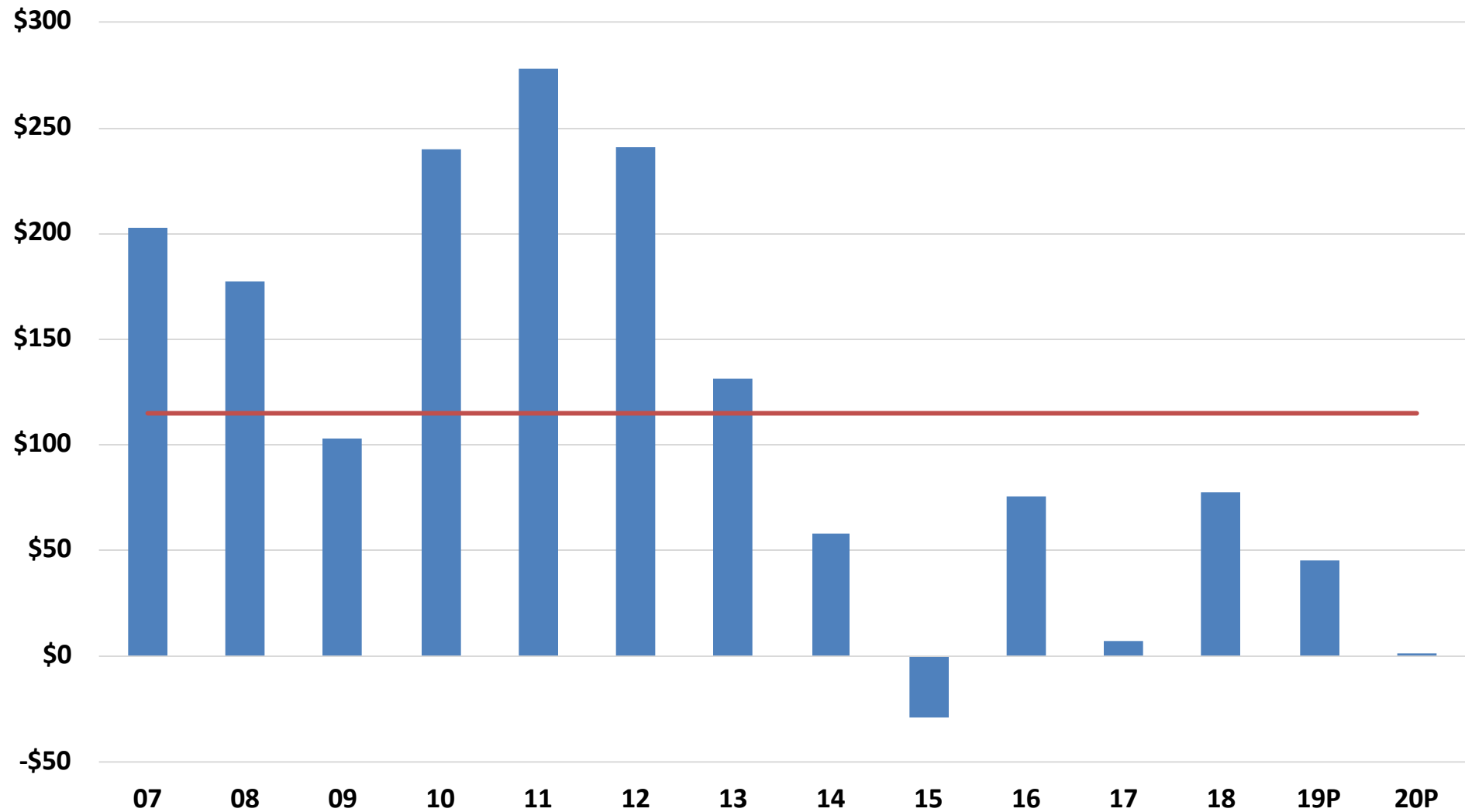
Definitions

- Net Farm Income
 - Gross revenue minus cash expenses and depreciation; excludes operator and family labor, and opportunity costs
- Net Return to Land
 - Gross revenue minus cash expenses (except rent), depreciation, and opportunity costs (except opportunity cost on owned land)
- Earnings
 - Gross revenue minus cash expenses, depreciation, and opportunity costs

Net Farm Income, Corn/Soybean Rotation (\$ per Acre)

West Central Indiana Case Farm

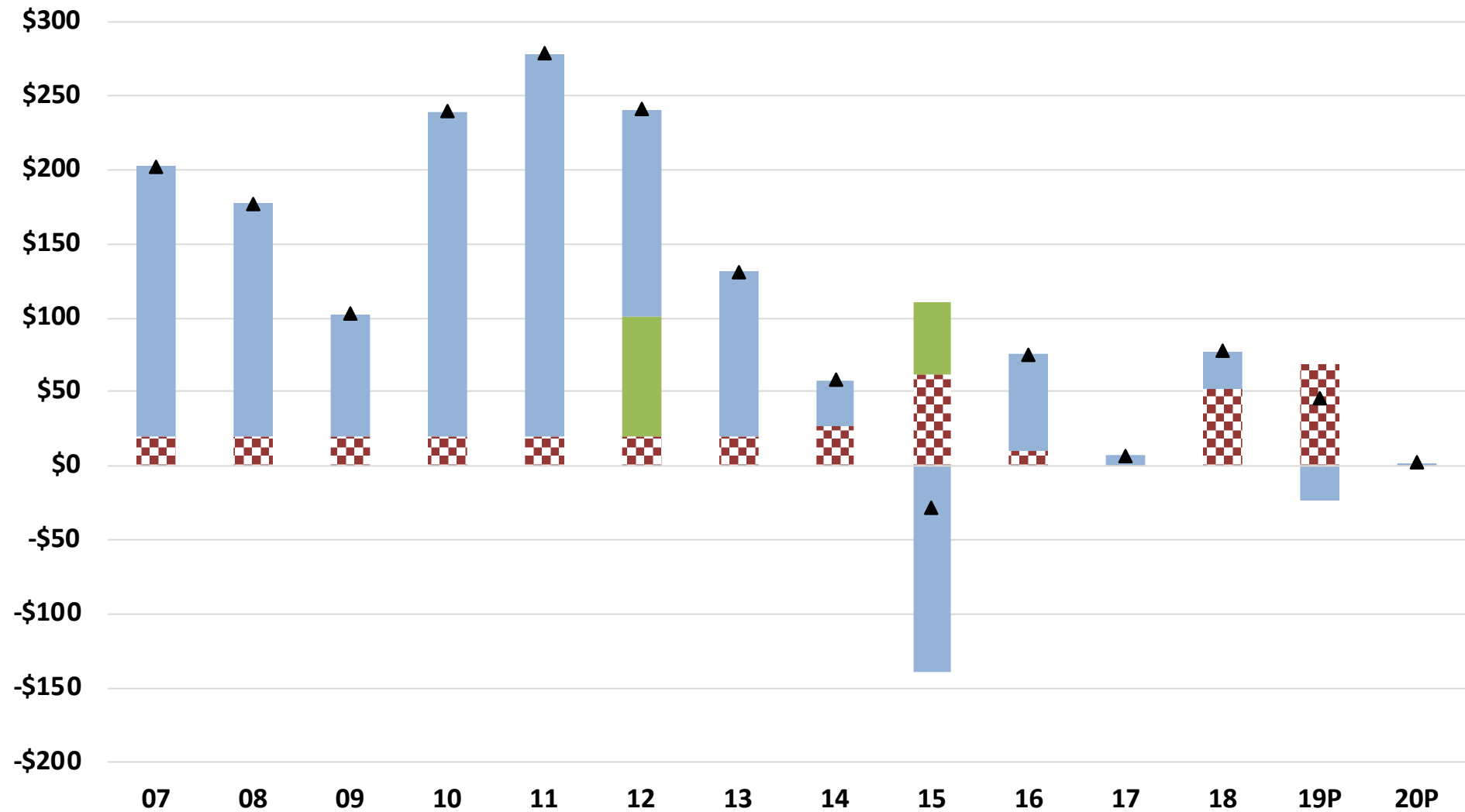
■ Annual — Average



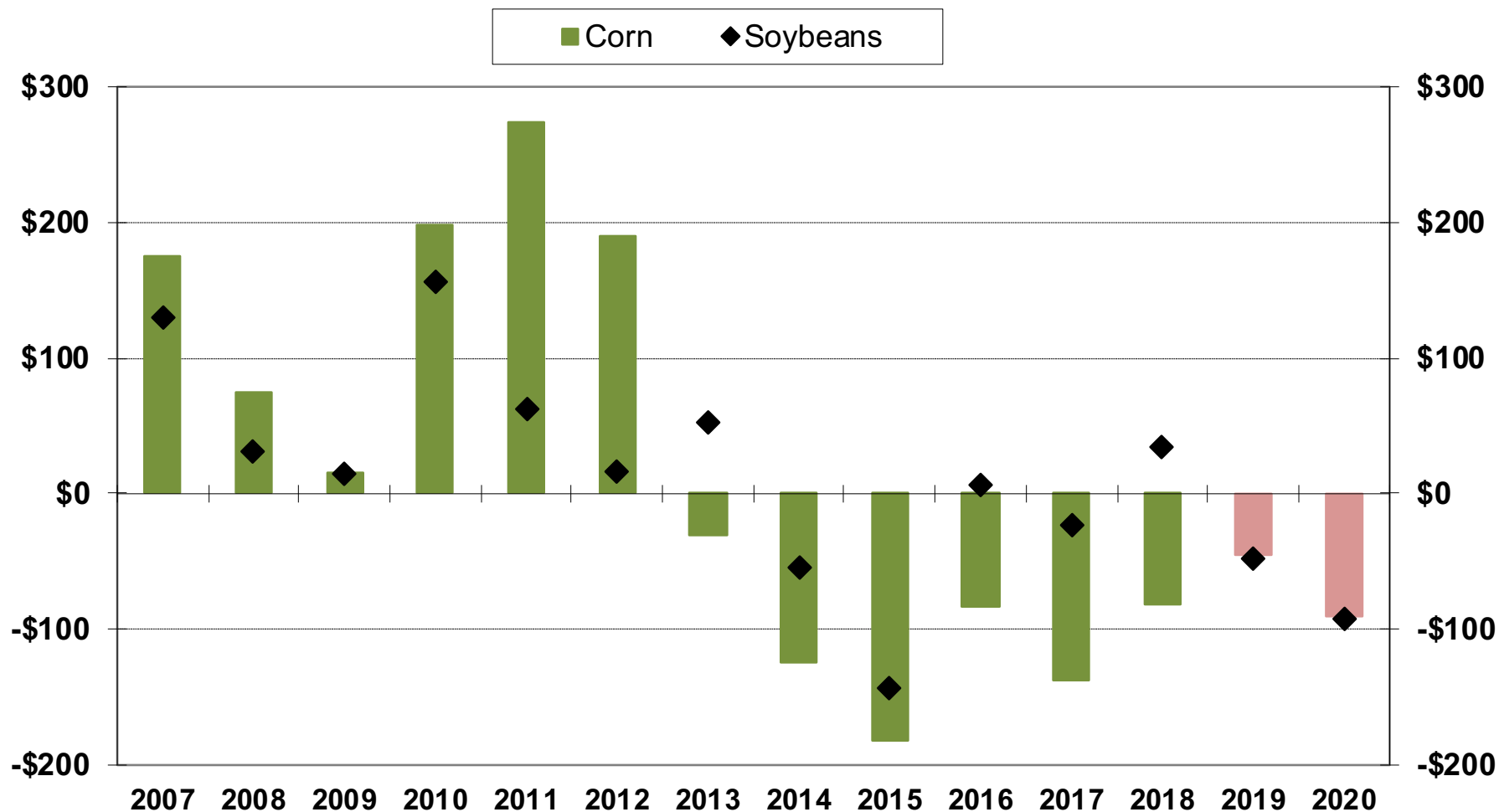
Net Farm Income Sources, Corn/Soybean Rotation (\$ per Acre)

West Central Indiana Case Farm

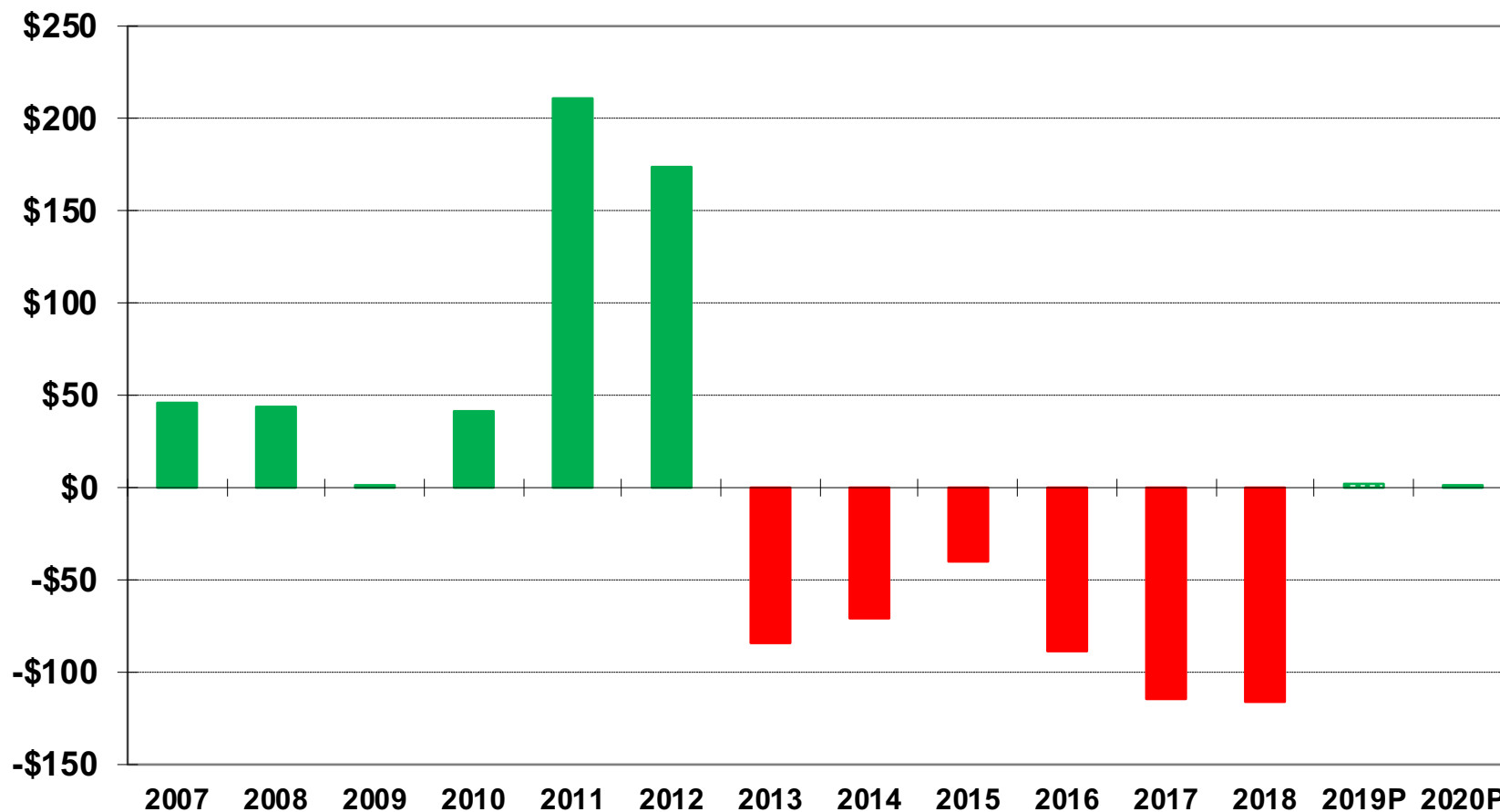
Government Payments Crop Insurance Crop Net Returns Net Farm Income



Historical and Projected Earnings per Acre for Corn and Soybeans in West Central Indiana



Difference in Earnings per Acre West Central Indiana (Corn Minus Soybeans)



Current Prices Favor Soybeans Over Continuous Corn

Corn Prices Required to Produce Per Acre Returns Equivalent to Soybeans

Soybean Price	Low Productivity (C=133; SB=44)	Avg. Productivity (C=165; SB=54)	High Productivity (C=198; SB=65)
\$7.50	\$3.71	\$3.63	\$3.48
\$8.00	\$3.88	\$3.79	\$3.64
\$8.50	\$4.05	\$3.96	\$3.81
\$9.00	\$4.21	\$4.12	\$3.97
\$9.50	\$4.38	\$4.28	\$4.13
\$10.00	\$4.54	\$4.45	\$4.30

Soybeans Versus Rotation Corn?

Corn Prices Required to Produce Per Acre Returns Equivalent to Soybeans

Soybean Price	Low Productivity (C=141; SB=44)	Avg. Productivity (C=176; SB=54)	High Productivity (C=211; SB=65)
\$7.50	\$3.40	\$3.31	\$3.19
\$8.00	\$3.55	\$3.47	\$3.34
\$8.50	\$3.71	\$3.62	\$3.50
\$9.00	\$3.87	\$3.77	\$3.65
\$9.50	\$4.02	\$3.93	\$3.80
\$10.00	\$4.18	\$4.08	\$3.96

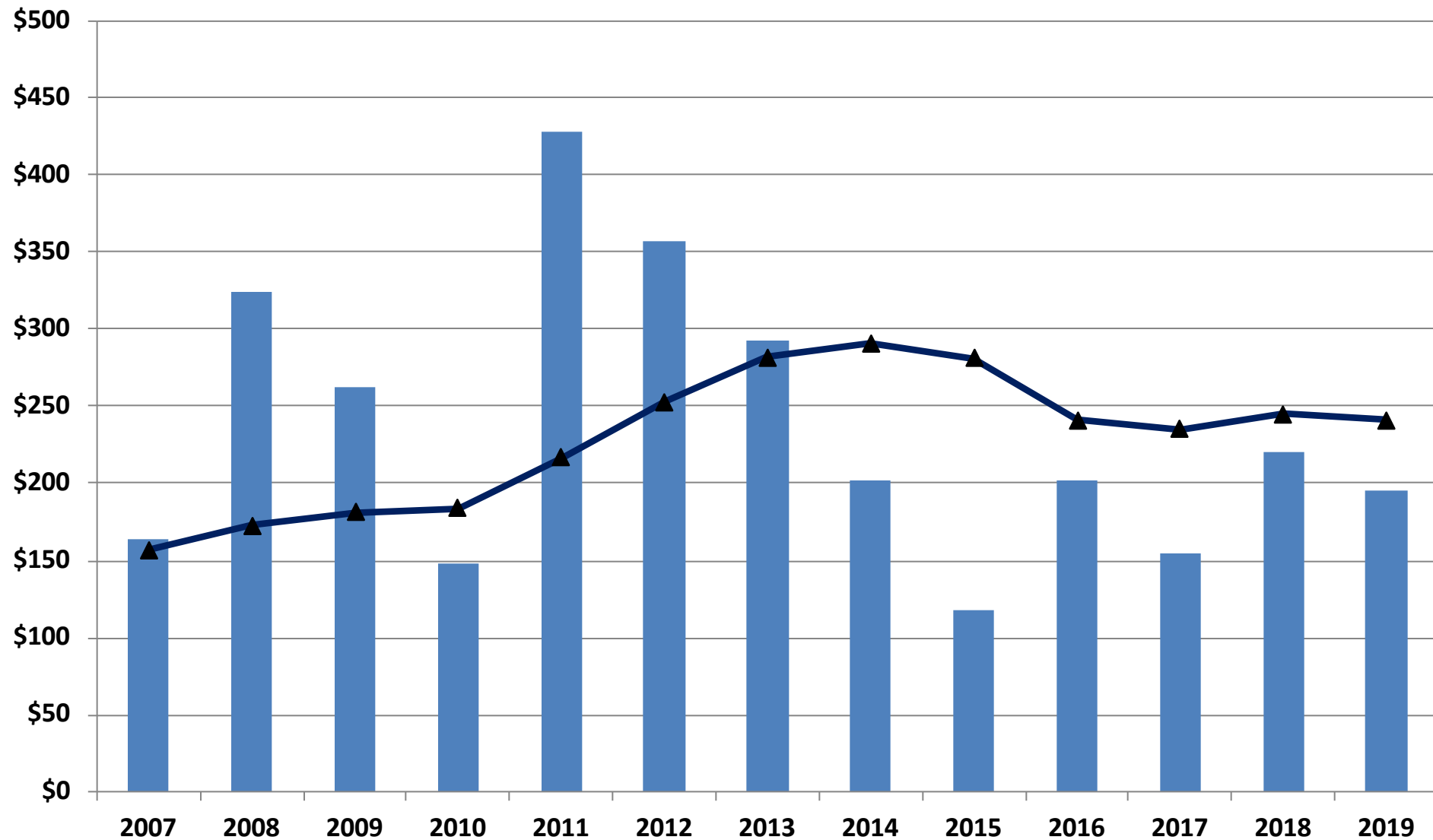
Profitability, Cash Rents, and Land Values

Cash Rents and Land Values

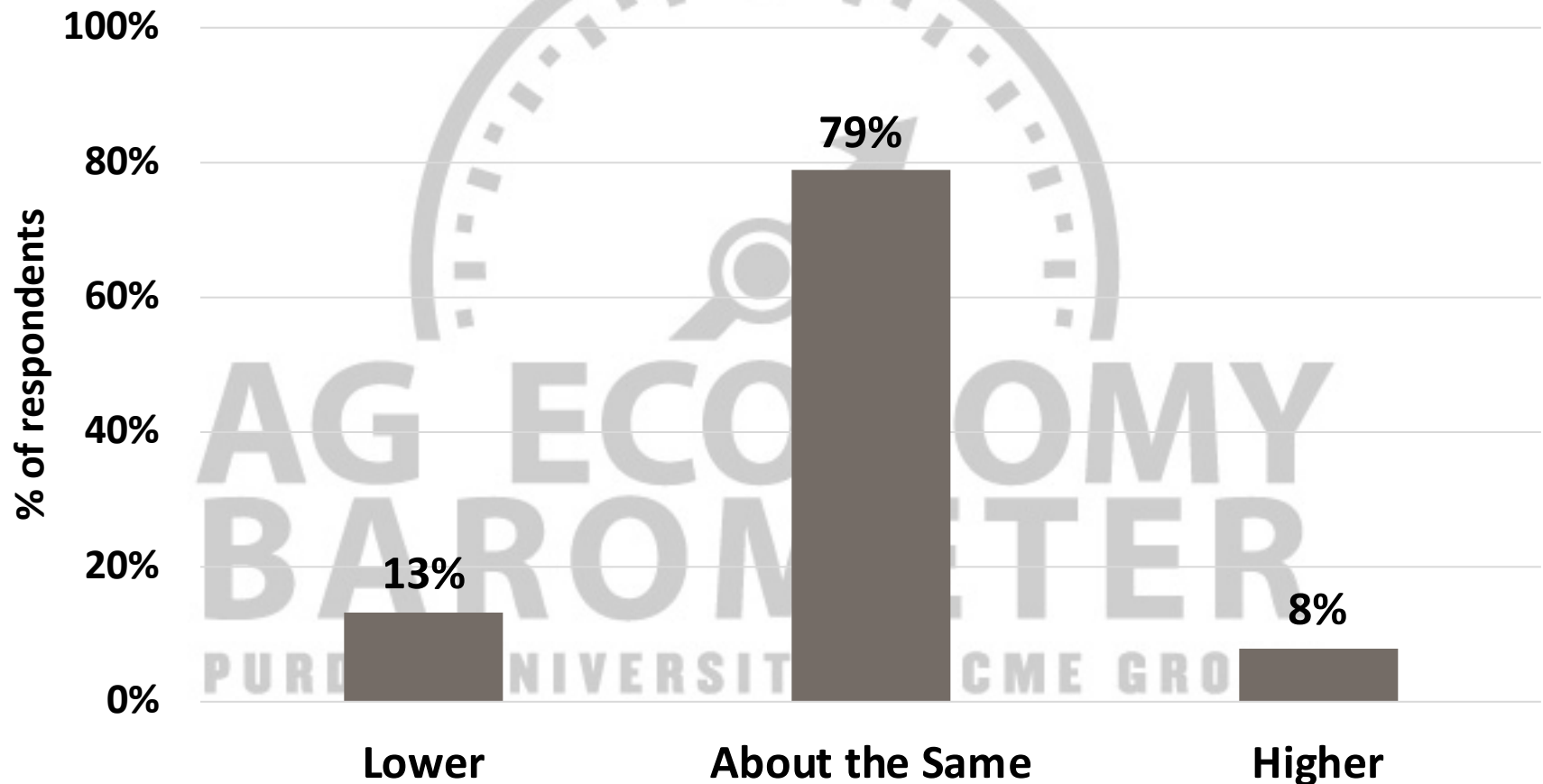
- Cash Rents
 - Net Return to Land
- Land Values
 - Cash Rents
 - Interest Rates

Cash Rent and Net Return to Land, West Central Indiana

Net Return to Land Cash Rents

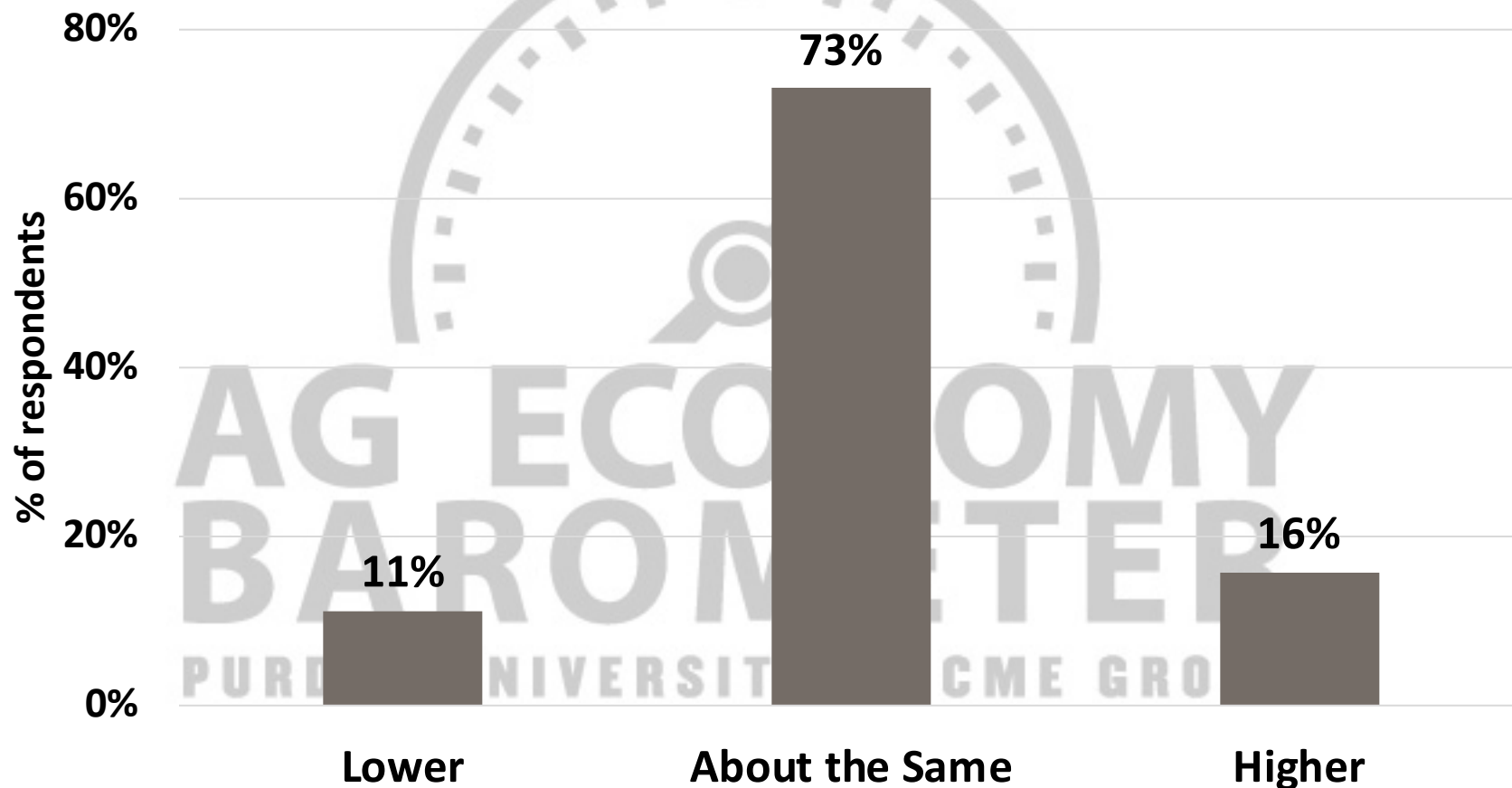


Compared to today, what are your expectations for cash rents in your area 12 months from now? Higher, lower, or about the same?



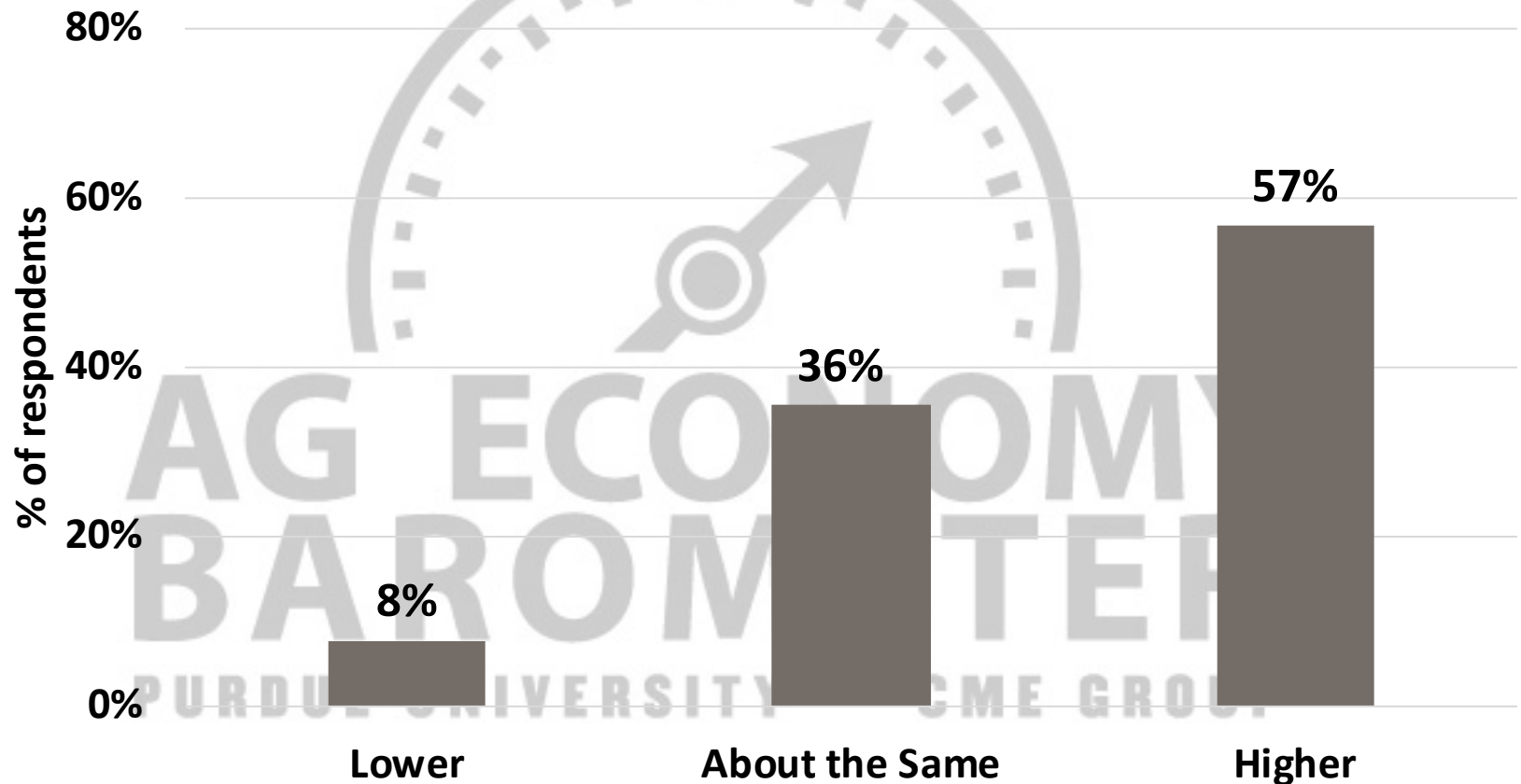
Source: Purdue Center for Commercial Agriculture, Producer Survey, November 2019

Compared to today, what are your expectations for farmland prices in your area 12 months from now? Higher, lower, or about the same?



Source: Purdue Center for Commercial Agriculture, Producer Survey, November 2019

Thinking long-term, what are your expectations for farmland prices in your area 5 years from now? Higher, lower, or about the same?



Source: Purdue Center for Commercial Agriculture, Producer Survey, November 2019

Questions, Comments

www.ag.purdue.edu/commercialag

