



Current Business Climate

Michael Langemeier

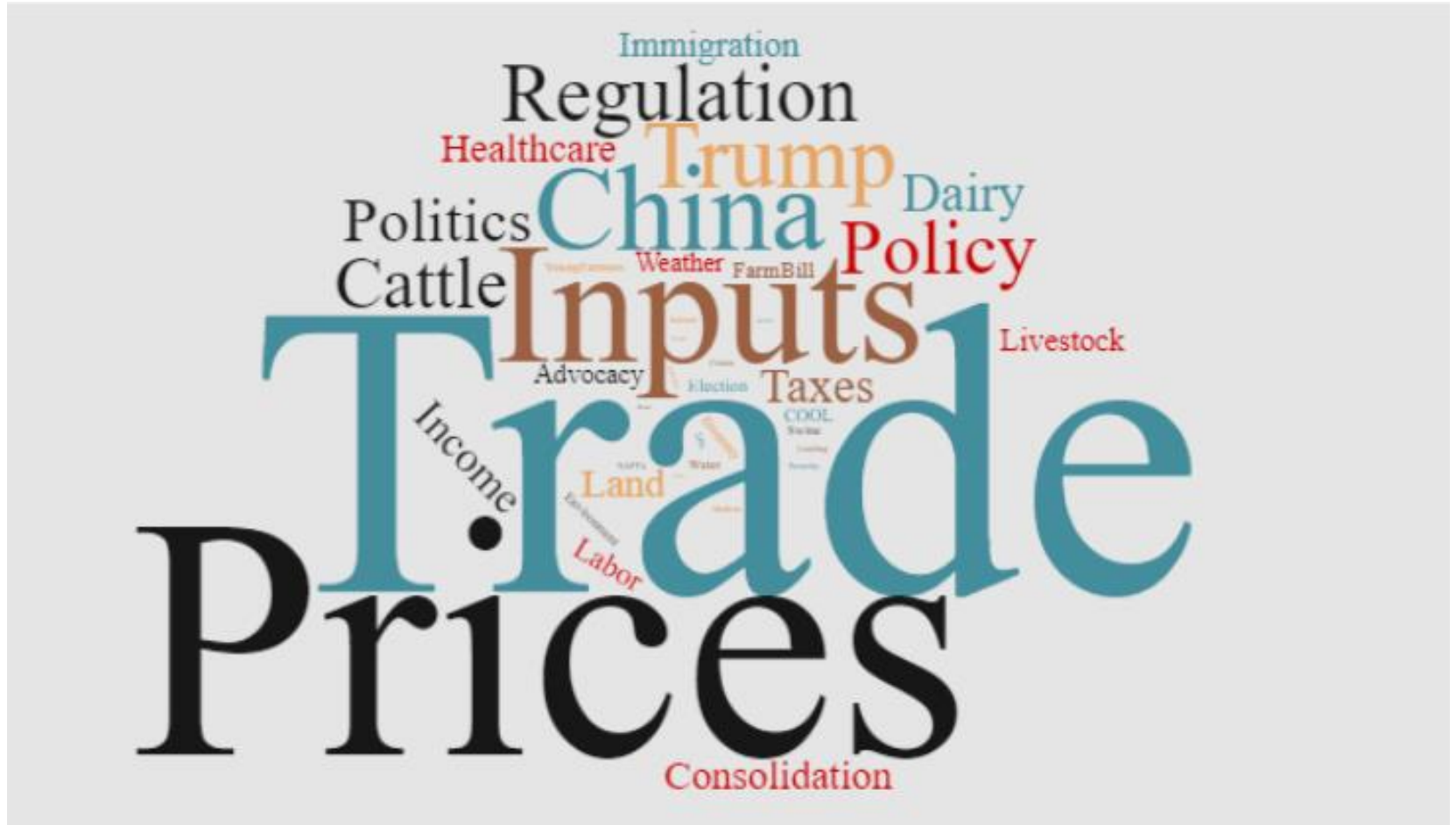
Department of Agricultural Economics

Purdue University

Outline

- Expected Crop Prices
 - Corn
 - Soybeans
- 2019 Production Costs
- Relative Profitability of Corn and Soybeans

Ag Economy Barometer: October 2018



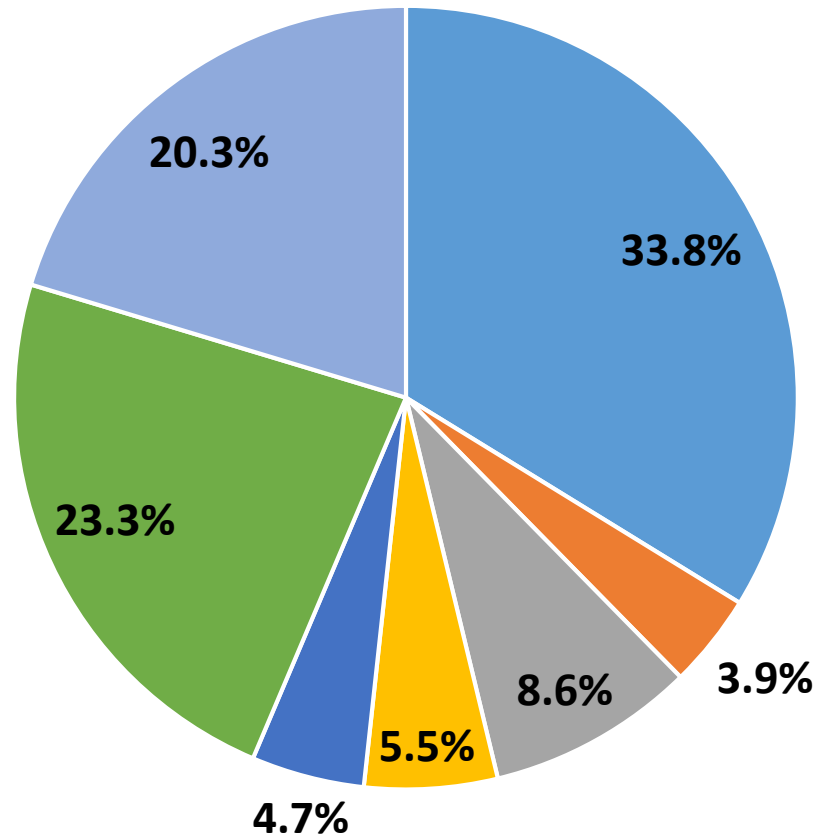
Expected Crop Prices

Corn

World Corn Production Shares: Forecasts 2018/19

Source: WASDE, December 2018

■ United States ■ Argentina ■ Brazil ■ European Union ■ FSU-12 ■ China ■ Others



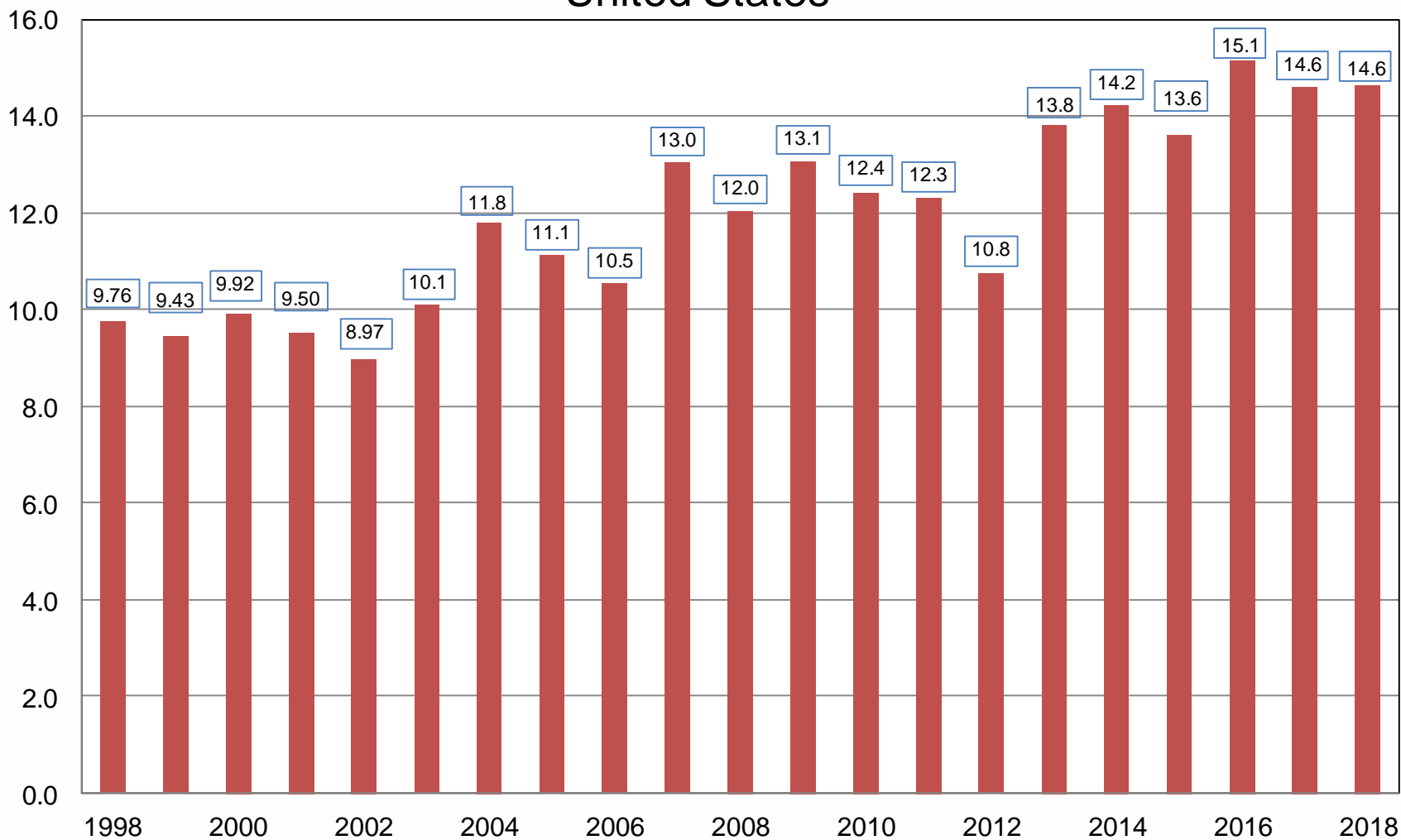
U.S. Corn Supply and Demand (WASDE, December 2018)

Country or Region	2017/18 Estimate	2018/19 Forecast	Δ from 2017/18
Planted Acres (million acres)	90.2	89.1	-1.2%
Harvest Acres (million acres)	82.7	81.8	-1.1%
Yield (bushels per acre)	176.6	178.9	1.3%
	million bushels		
Beginning Stocks	2,293	2,140	-6.7%
Production	14,604	14,626	0.2%
Imports	36	45	25.0%
Total Supply	16,934	16,811	-0.7%
Feed and Residual	5,298	5,500	3.8%
Food, Seed, and Industrial	7,058	7,080	0.3%
Ethanol	5,605	5,600	-0.1%
Domestic Use	12,355	12,580	1.8%
Exports	2,438	2,450	0.5%
Total Use	14,793	15,030	1.6%
Ending Stocks	2,140	1,781	-16.8%
Stocks to Use Ratio	14.5%	11.8%	
Average Market Price	3.36	3.25/3.95	



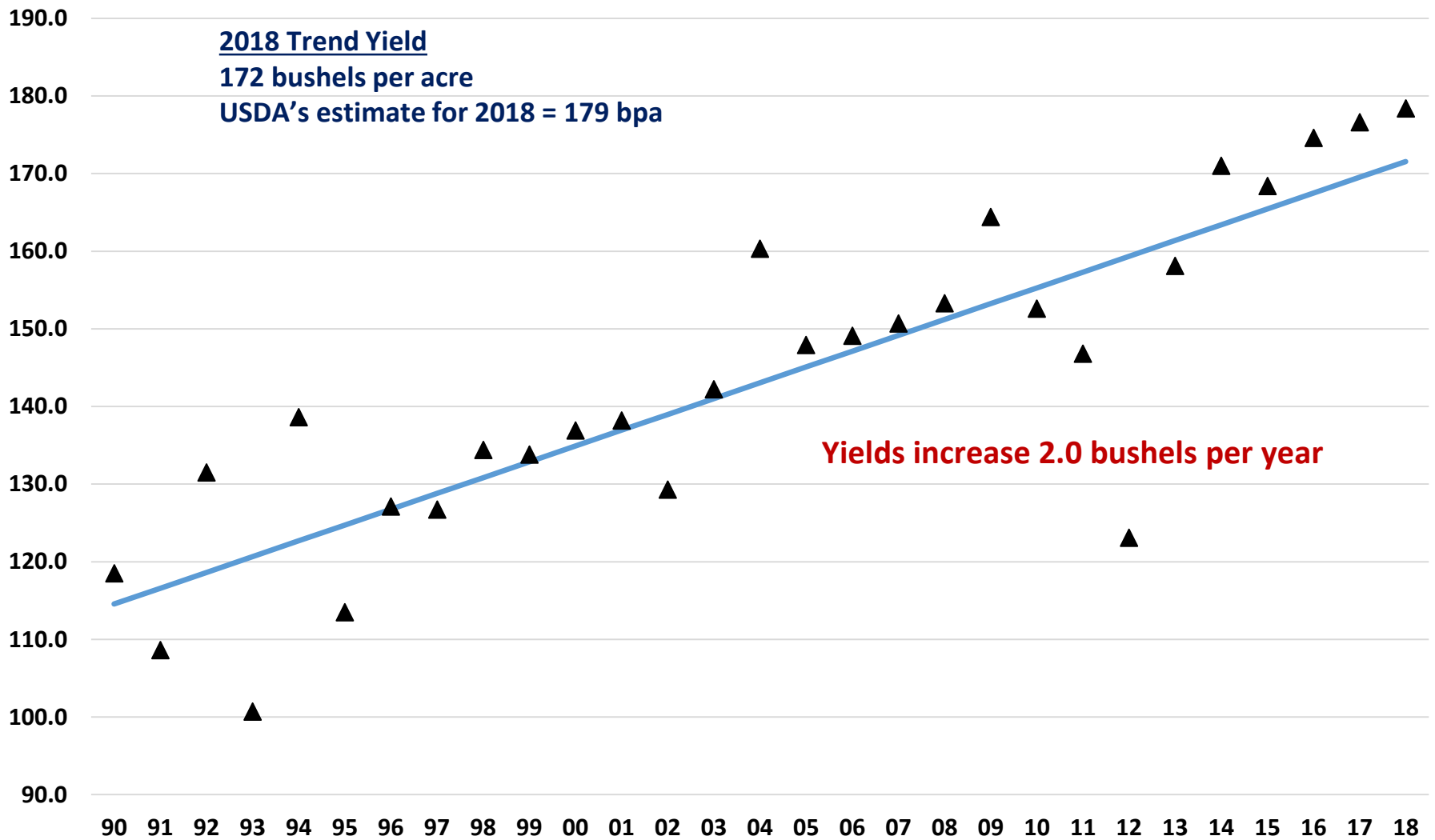
Corn for Grain Production United States

Billion Bushels



U.S. Corn Yield (bushels per acre)

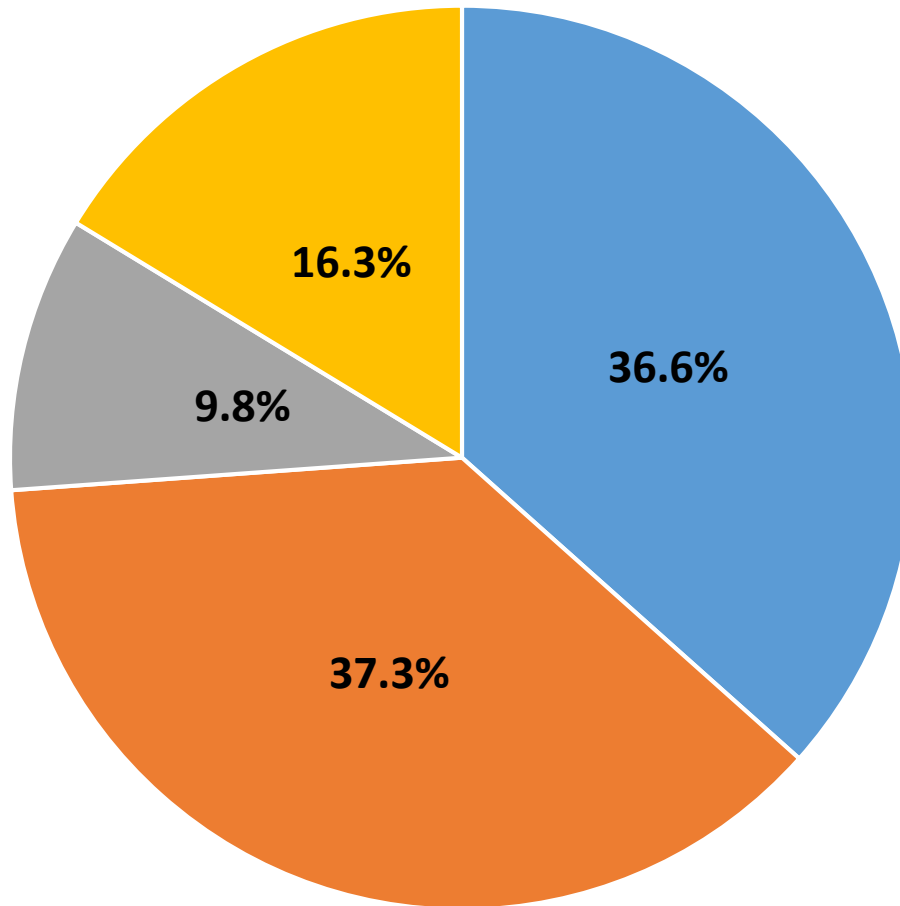
Source: USDA-NASS, Quick Stats



U.S. Corn Use: Forecasts 2018/19

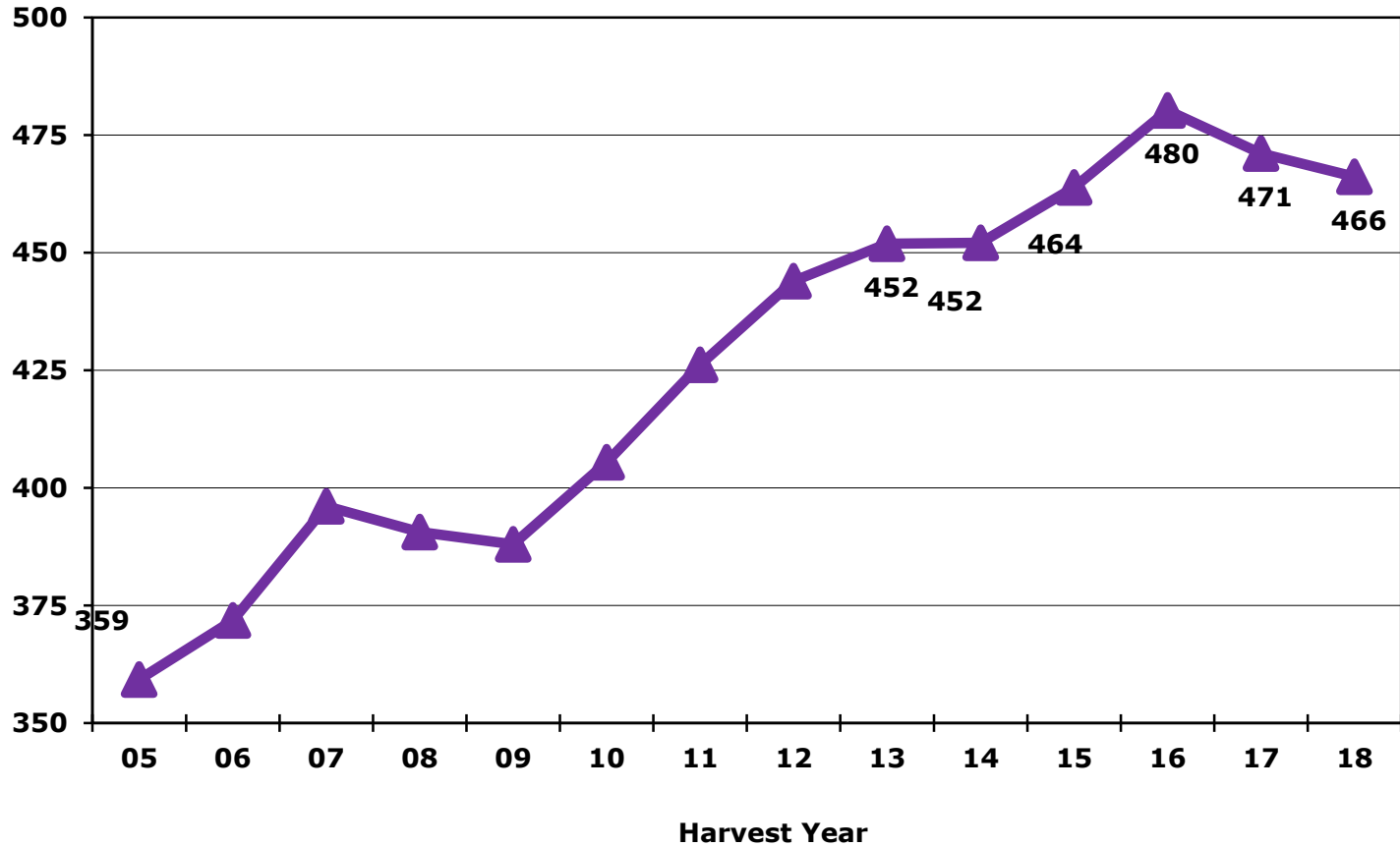
Source: WASDE, December 2018

■ Feed ■ Ethanol ■ Other Industrial ■ Exports



World Corn Harvested Acreage

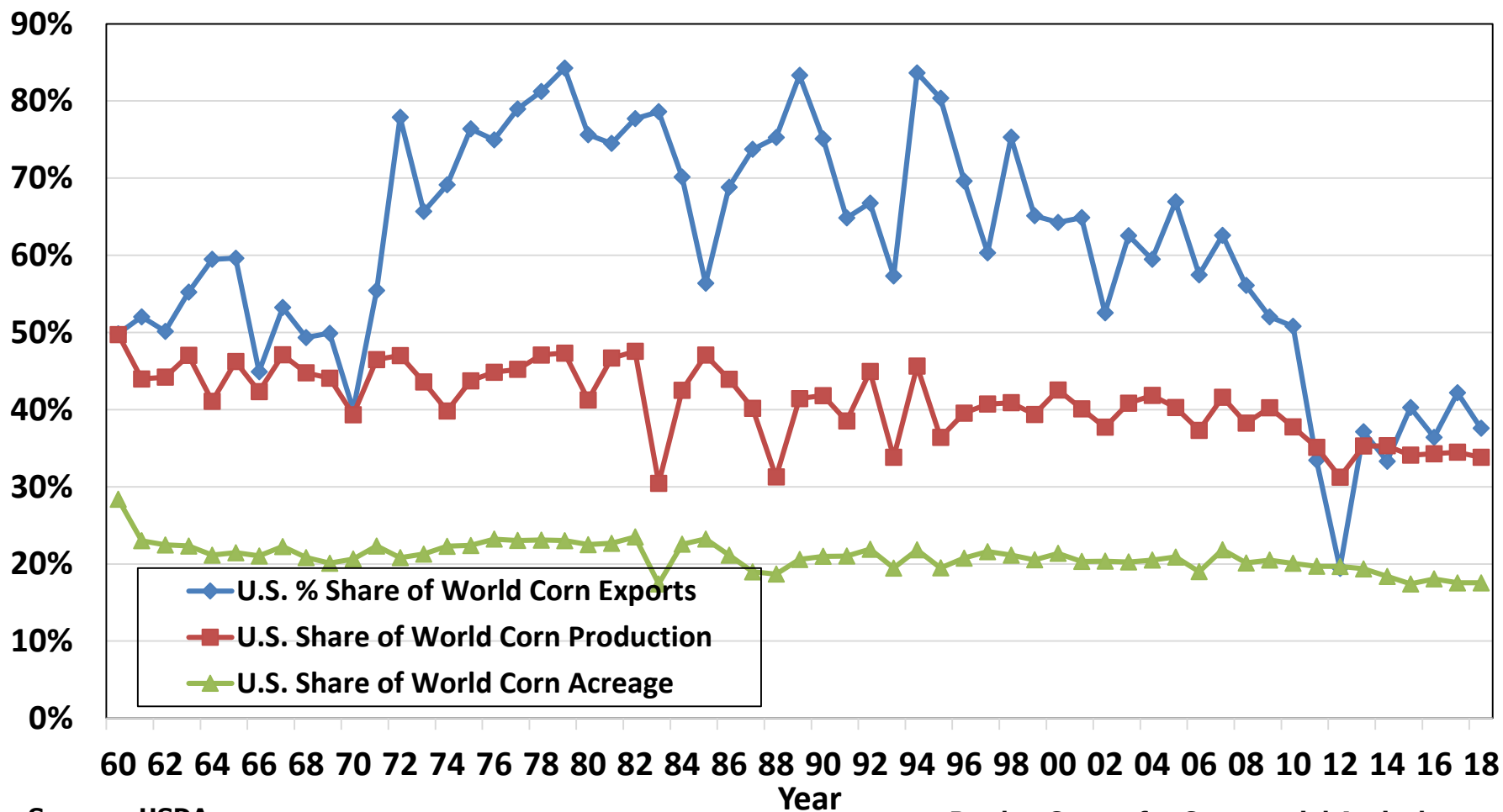
Million Acres



Source: USDA

Purdue Center for Commercial Agriculture

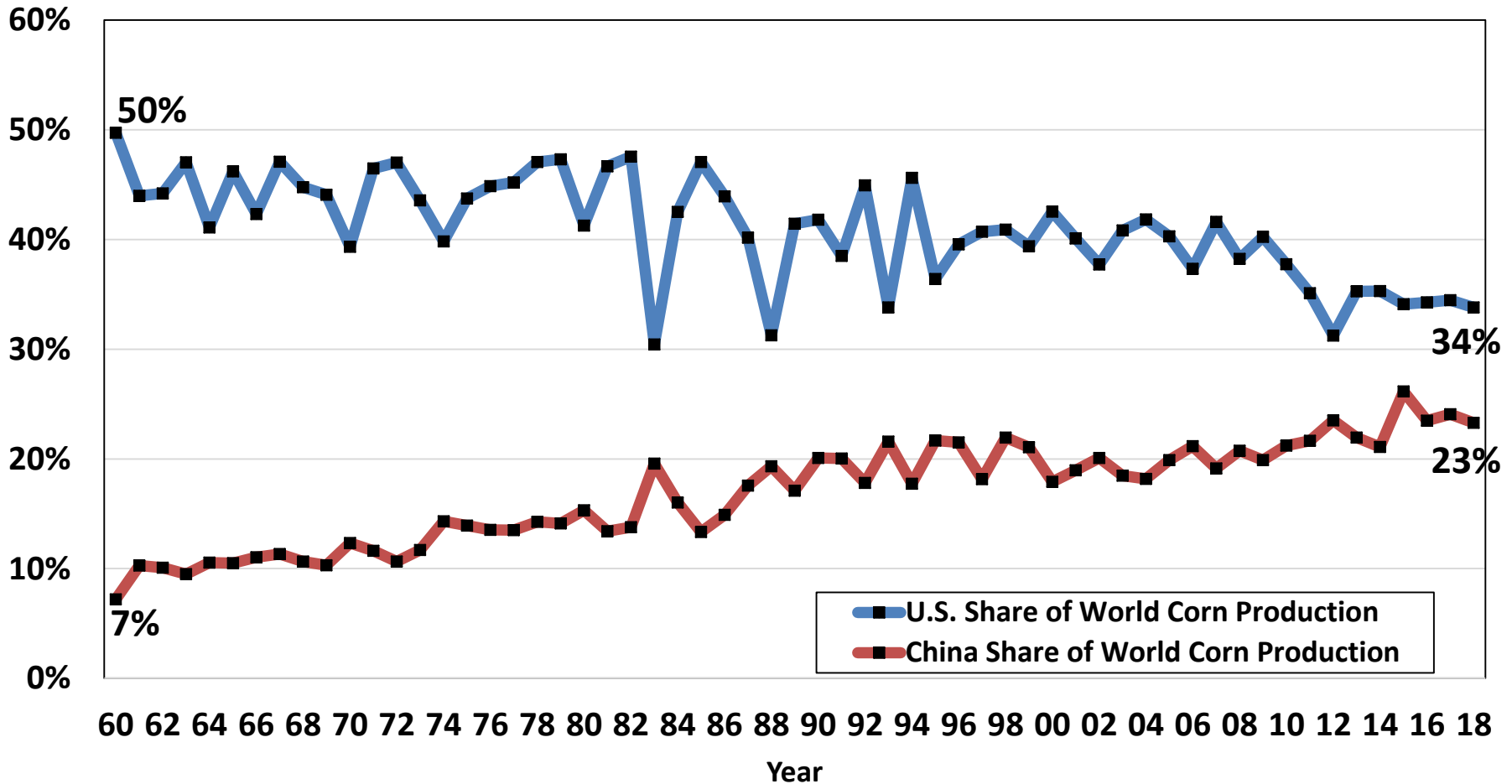
World Corn Exports, Acreage, and Production U.S. Share



Source: USDA

Purdue Center for Commercial Agriculture

World Corn Production U.S. and China Shares



Source: USDA

Purdue Center for Commercial Agriculture

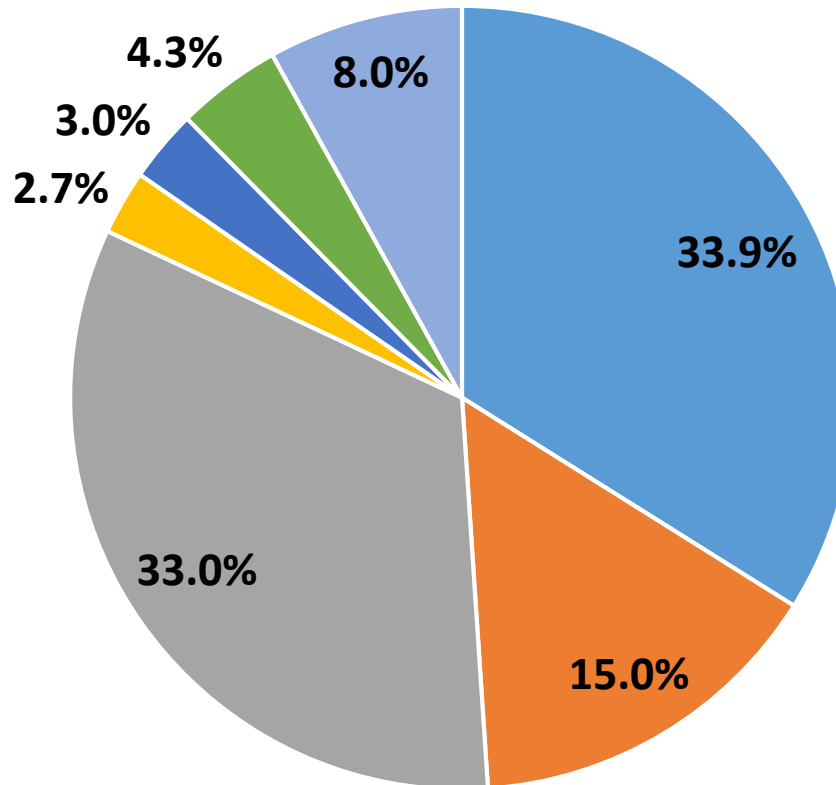
Expected Crop Prices

Soybeans

World Soybean Production Shares: Forecasts 2018/19

Source: WASDE, December 2018

■ United States ■ Argentina ■ Brazil ■ Paraguay ■ India ■ China ■ Others



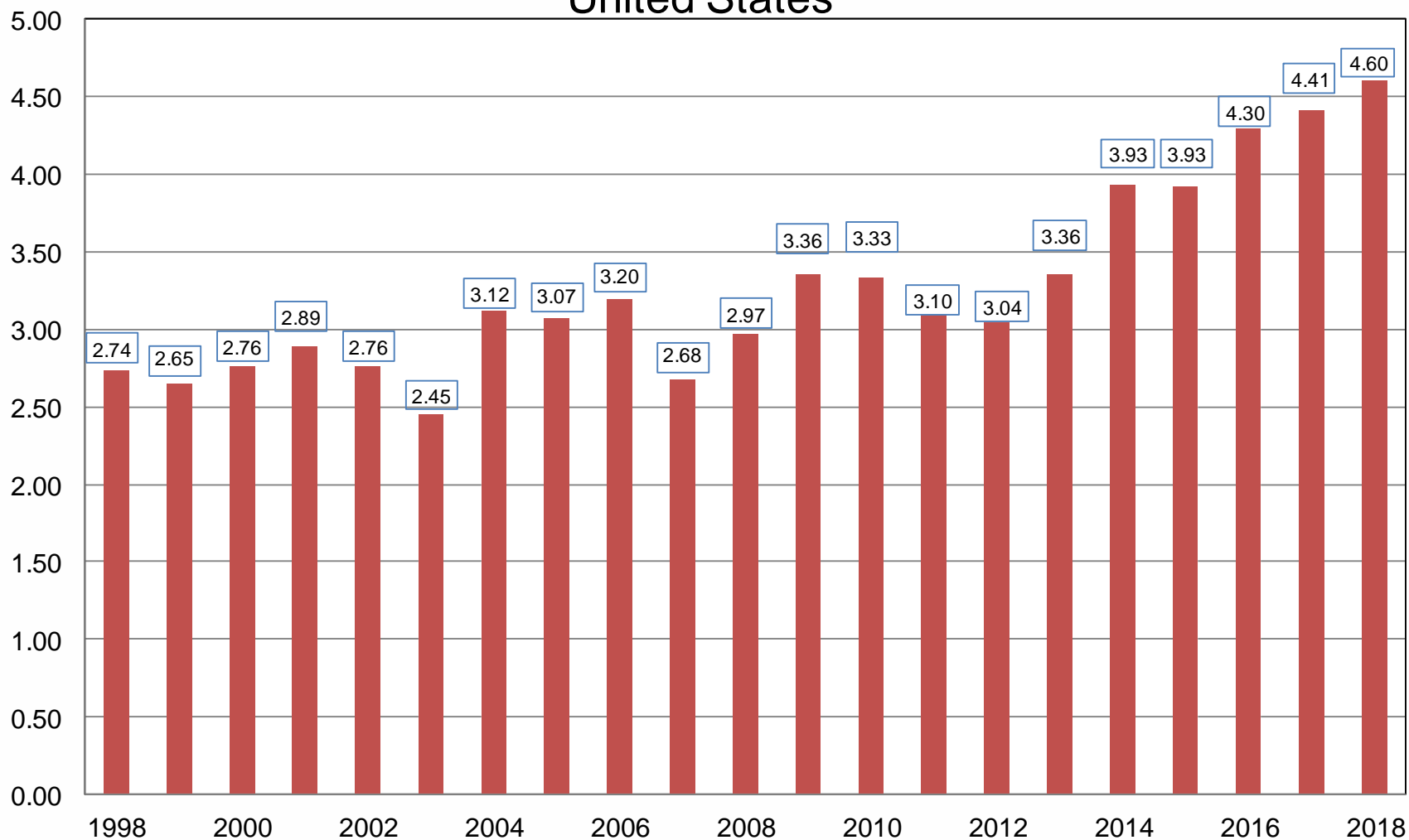
U.S. Soybean Supply and Demand (WASDE, December 2018)

Country or Region	2017/18 Estimate	2018/19 Forecast	Δ from 2017/18
Planted Acres (million acres)	90.1	89.1	-1.1%
Harvest Acres (million acres)	89.5	88.3	-1.3%
Yield (bushels per acre)	49.3	52.1	5.7%
	million bushels		
Beginning Stocks	302	438	45.0%
Production	4,411	4,600	4.3%
Imports	22	25	13.6%
Total Supply	4,734	5,063	6.9%
Crush	2,055	2,080	1.2%
Seed and Residual	112	127	13.4%
Domestic Use	2,167	2,207	1.8%
Exports	2,129	1,900	-10.8%
Total Use	4,296	4,107	-4.4%
Ending Stocks	438	955	118.0%
Stocks to Use Ratio	10.2%	23.3%	
Average Market Price	9.33	7.85/9.35	



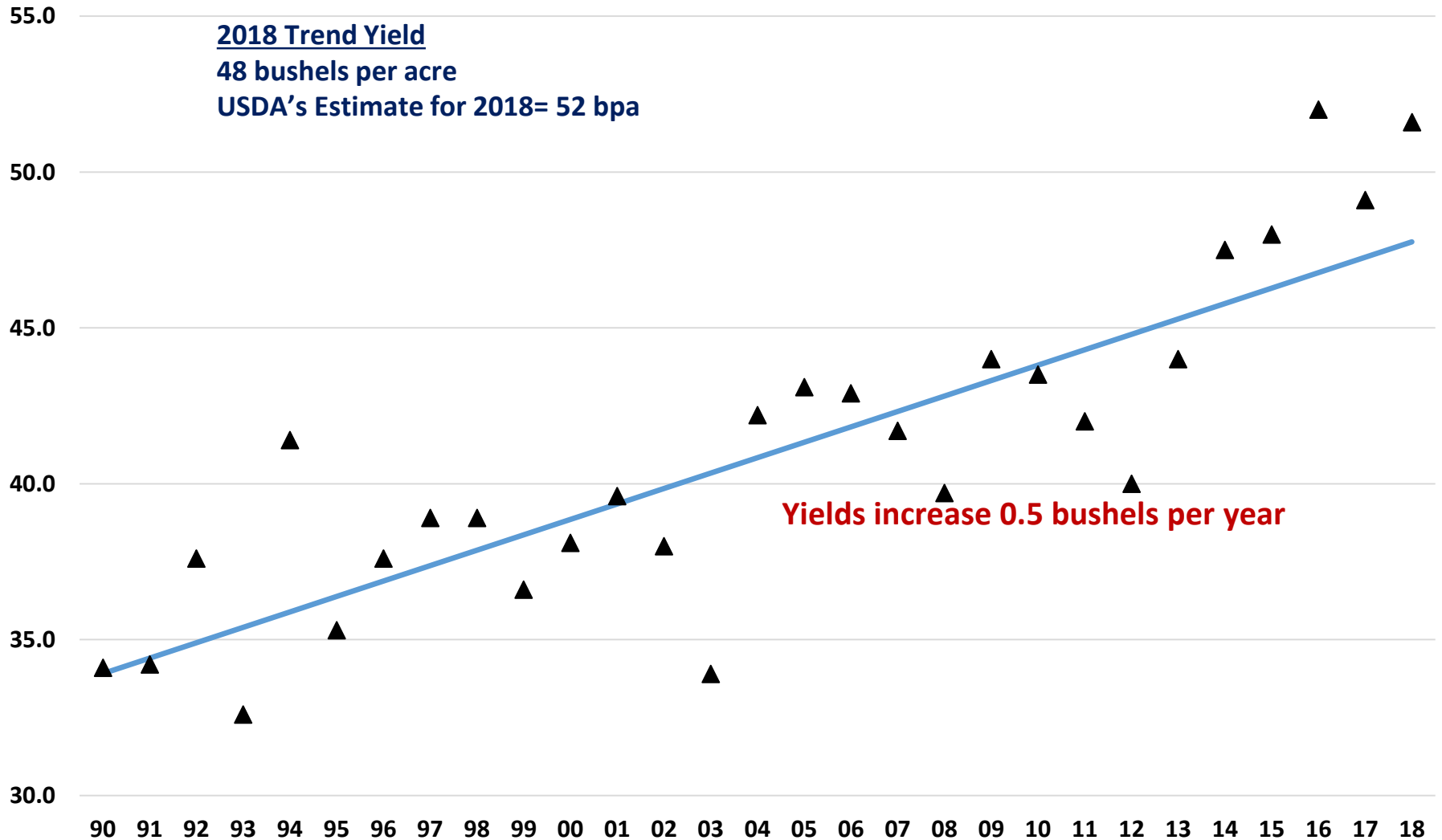
Soybean Production United States

Billion Bushels



U.S. Soybean Yield (bushels per acre)

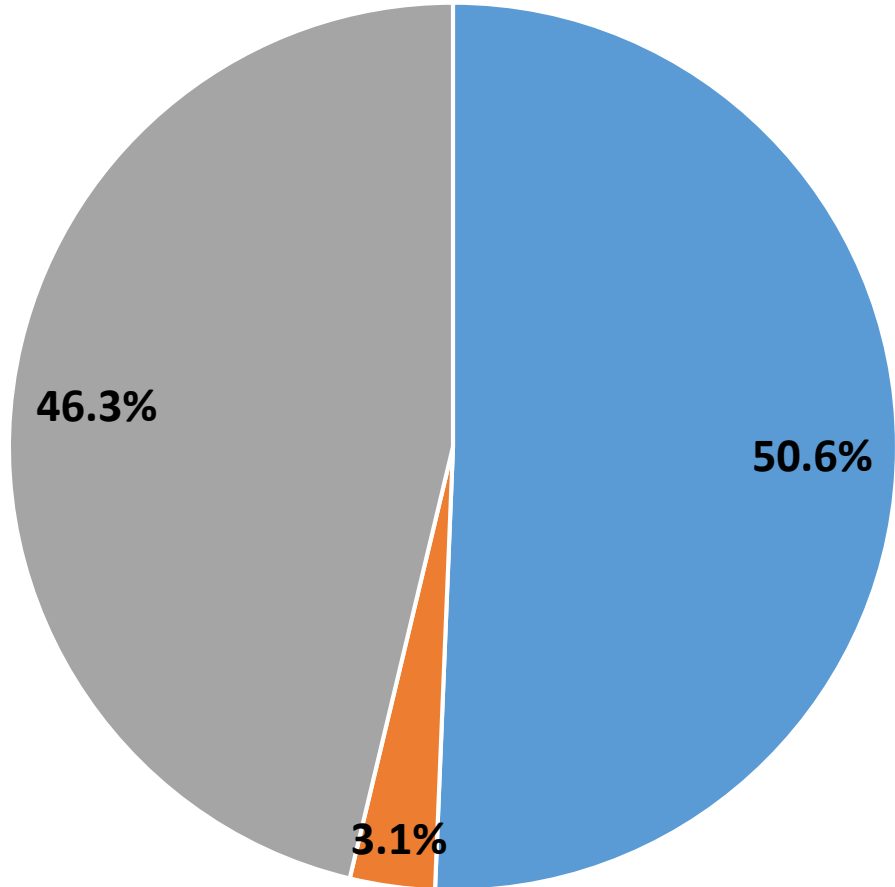
Source: USDA-NASS, Quick Stats



U.S. Soybean Use: Forecasts 2017/18

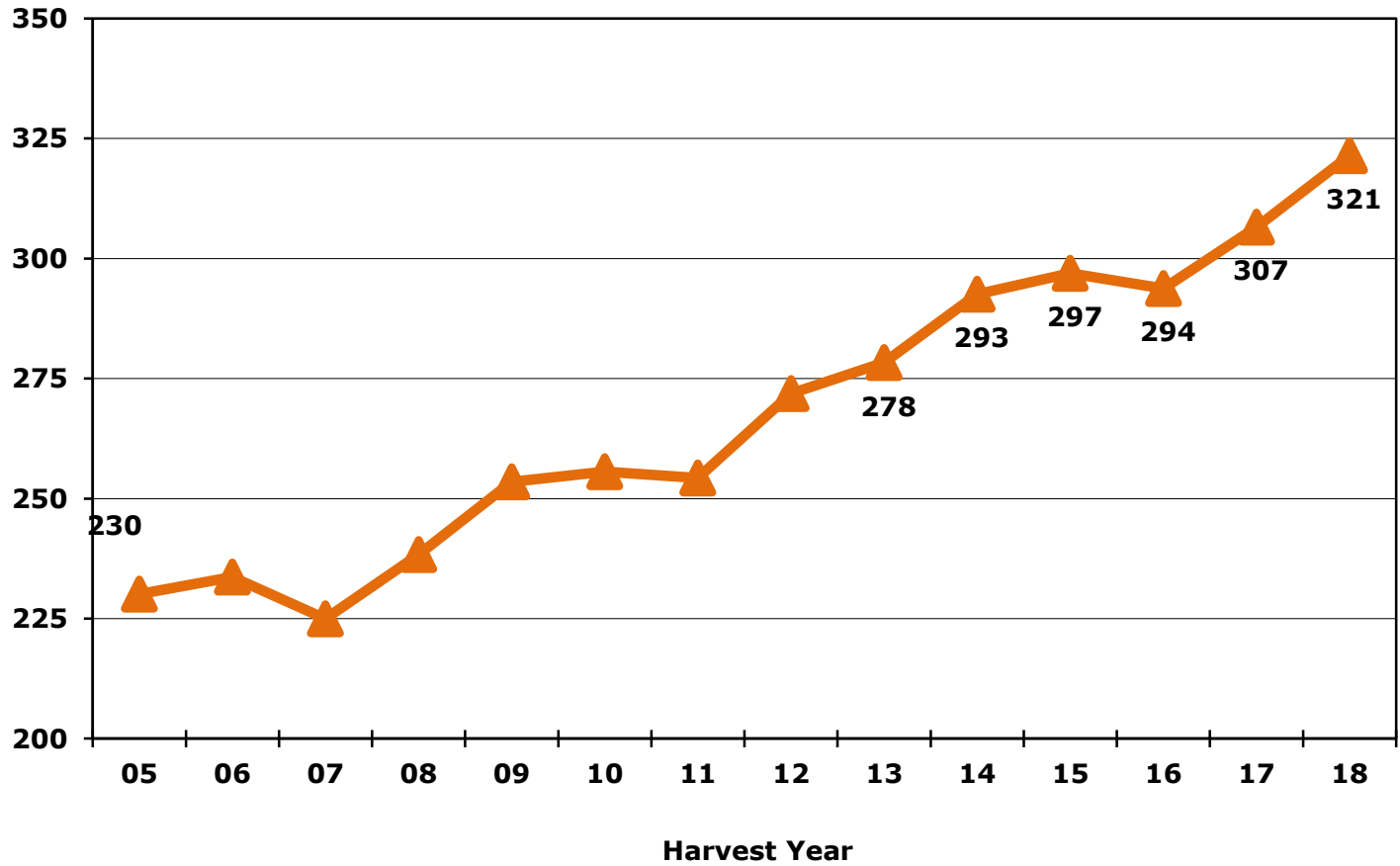
Source: WASDE, December 2018

■ Crush ■ Seed and Residual ■ Exports



Million Acres

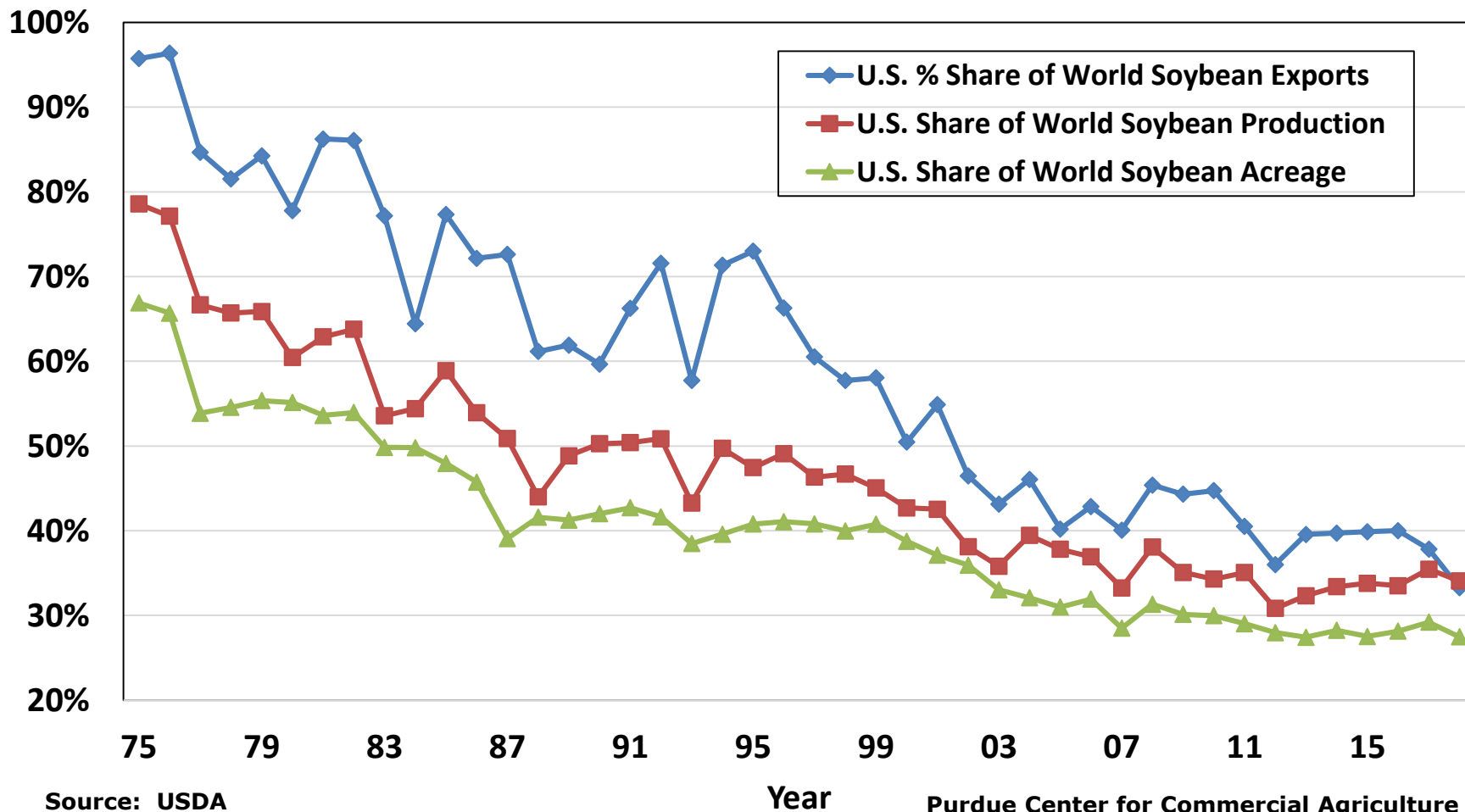
World Soybean Harvested Acreage



Source: USDA

Purdue Center for Commercial Agriculture

World Soybean Exports, Acreage, and Production U.S. Share

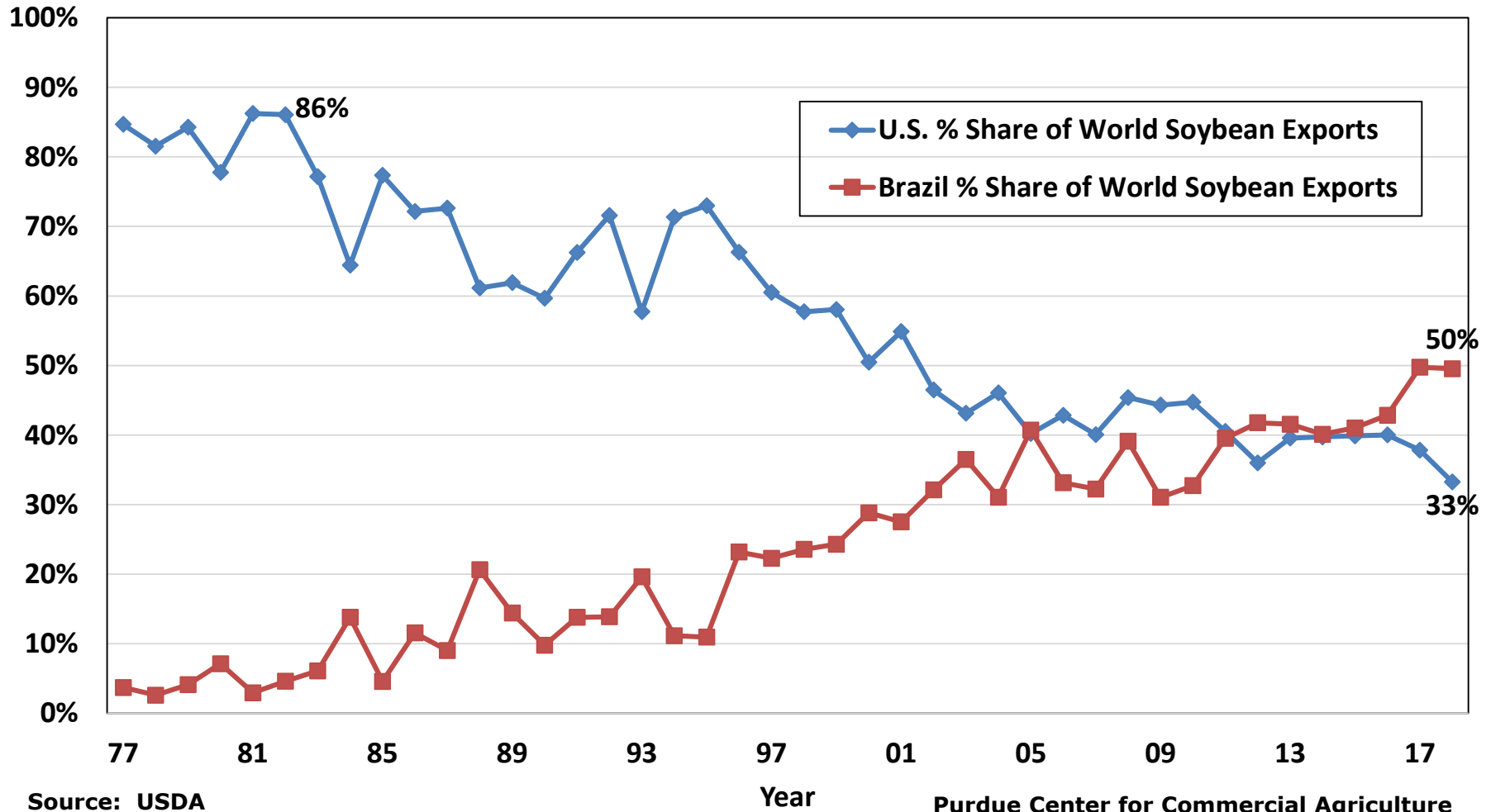


Source: USDA

Year

Purdue Center for Commercial Agriculture

World Soybean Export Shares U.S. and Brazil



Source: USDA

Year

Purdue Center for Commercial Agriculture

2019 Production Costs

Reducing Per Unit Costs

(Variable Cost + Fixed Cost) ÷ Yield = Total Cost per Bushel

- **Reduce cost by:**
 - Reducing variable cost without impacting yield
 - Reducing fixed cost (lowers fixed cost per bushel)
 - Improving yield without increasing variable or fixed cost

What is My Cost of Production?

Illustrated Below: High Productivity Soil

Cost Category	Rotation Corn	Rotation Soybeans
Land (Fixed)	\$1.26	\$4.06
Fertilizer (Variable)	\$0.65	\$0.92
Machinery (Var. and Fixed)	\$0.58	\$1.69
Seed (Variable)	\$0.53	\$1.03
Pesticides (Variable)	\$0.28	\$0.77
Labor (Fixed)	\$0.20	\$0.63
Sub-Total	\$3.50	\$9.11
Total Cost per Bushel	\$4.02	\$9.85

Purdue Land Value Survey

State of Indiana

Land Type; Soil Productivity	Non-Irrigated Low	Non-Irrigated Average	Non-Irrigated High	Irrigated Average
Cash Rent	168	210	261	294
Land Value	5,407	7,072	8,668	9,264
Corn Yield	141	173	204	238
Cash Rent per Bushel	1.19	1.21	1.28	1.24
P/rent	32.2	33.7	33.2	31.5

Relative Profitability of Corn and Soybeans in Indiana

Current Prices Favor Soybeans Over Continuous Corn

Corn Prices Required to Produce Per Acre Returns Equivalent to Soybeans

Soybean Price	Low Productivity (C=131; SB=43)	Avg. Productivity (C=164; SB=54)	High Productivity (C=196; SB=65)
\$7.50	\$3.83	\$3.74	\$3.61
\$8.00	\$3.99	\$3.91	\$3.78
\$8.50	\$4.16	\$4.07	\$3.95
\$9.00	\$4.32	\$4.24	\$4.11
\$9.50	\$4.48	\$4.40	\$4.28
\$10.00	\$4.65	\$4.57	\$4.44

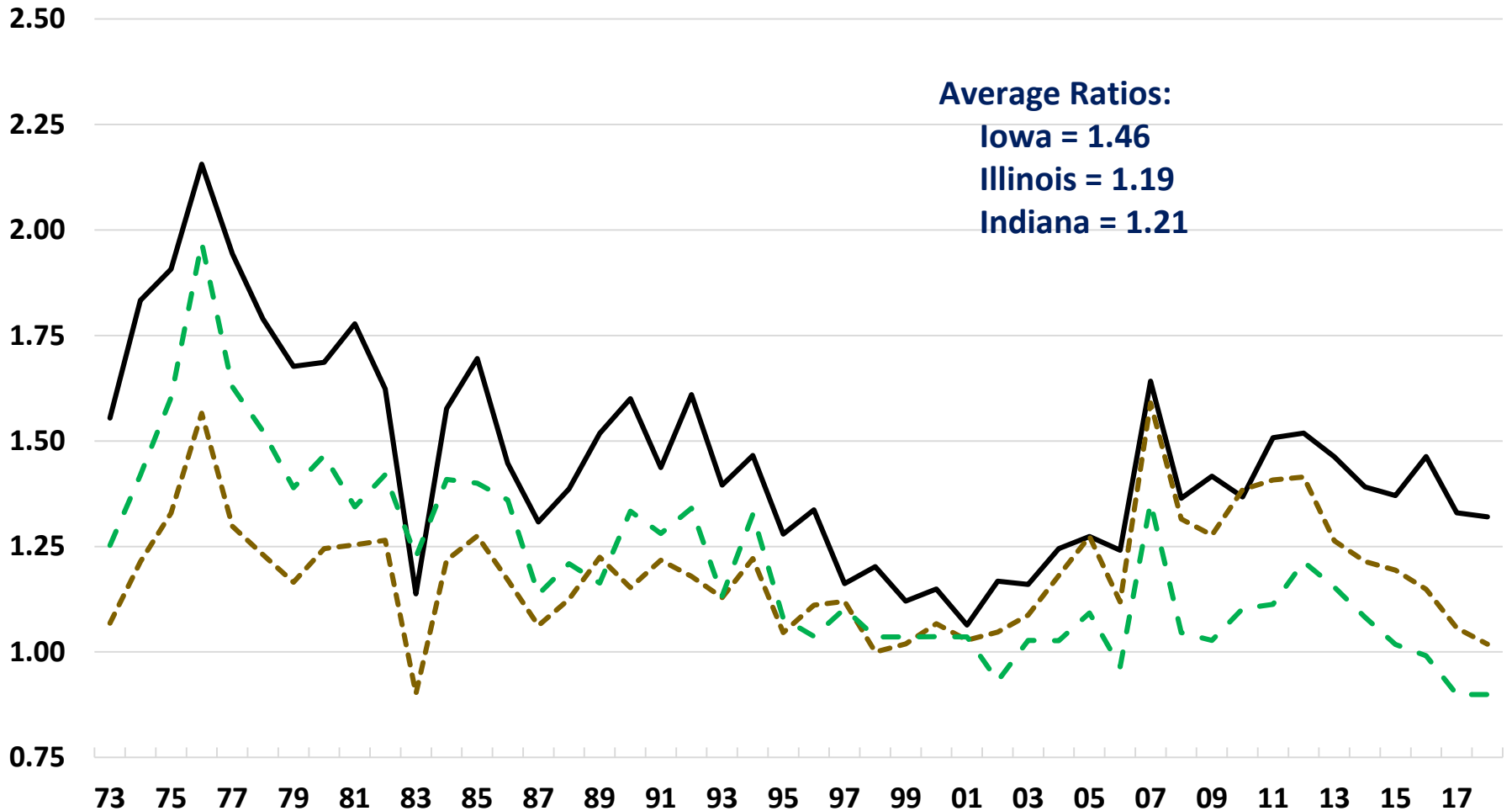
Soybeans Versus Rotation Corn?

Corn Prices Required to Produce Per Acre Returns Equivalent to Soybeans

Soybean Price	Low Productivity (C=139; SB=43)	Avg. Productivity (C=174; SB=54)	High Productivity (C=209; SB=65)
\$7.50	\$3.49	\$3.43	\$3.29
\$8.00	\$3.64	\$3.58	\$3.45
\$8.50	\$3.79	\$3.74	\$3.61
\$9.00	\$3.95	\$3.89	\$3.76
\$9.50	\$4.10	\$4.05	\$3.92
\$10.00	\$4.26	\$4.20	\$4.07

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

— Iowa — Illinois — Indiana



Ag Economy Barometer Survey

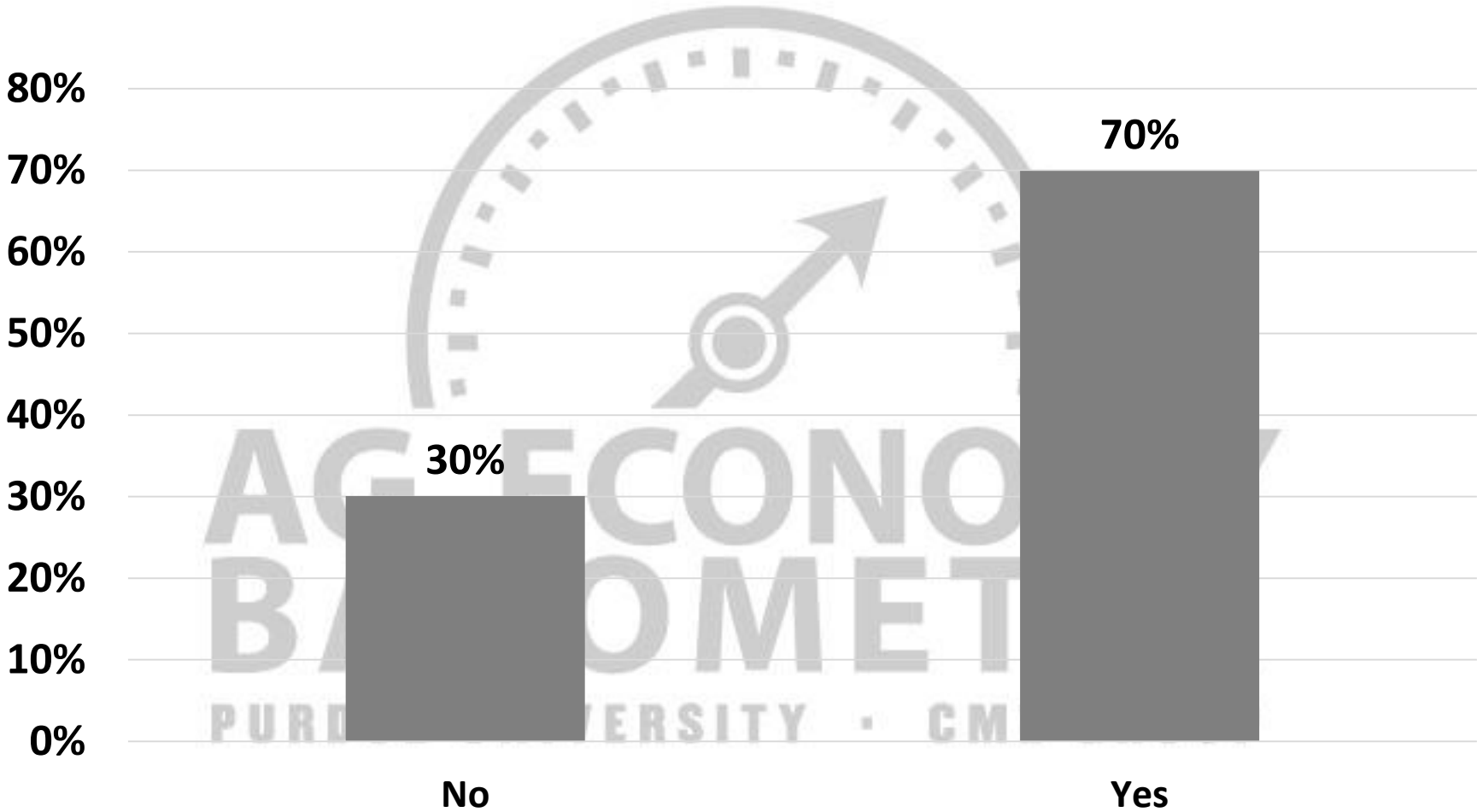
Details

- **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)

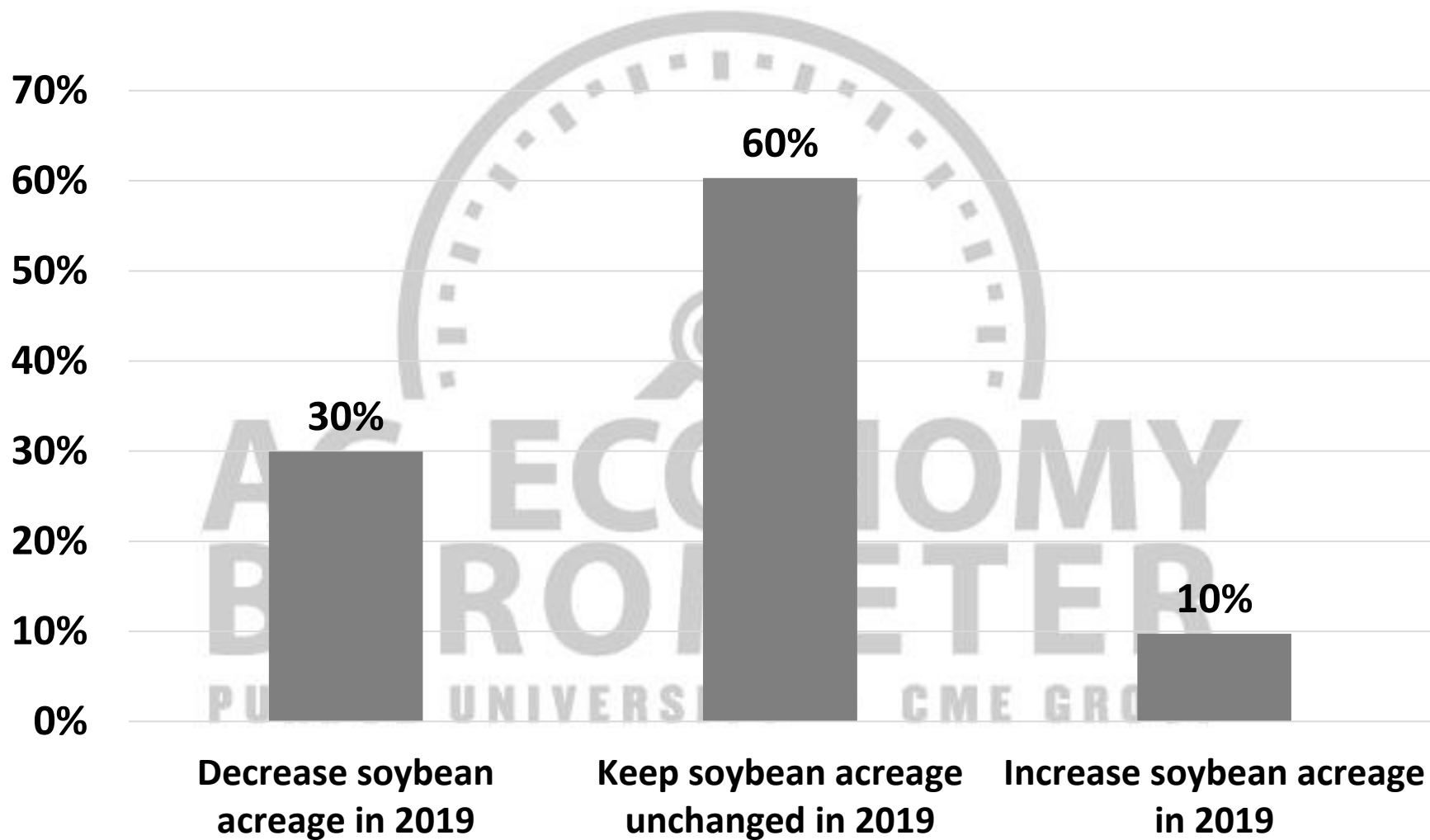
- Respondents value of farm production is greater than \$500,000.
- Do not survey the same producers each month, but characteristics of survey sample are held constant from month to month.

Did you plant soybeans in 2018?



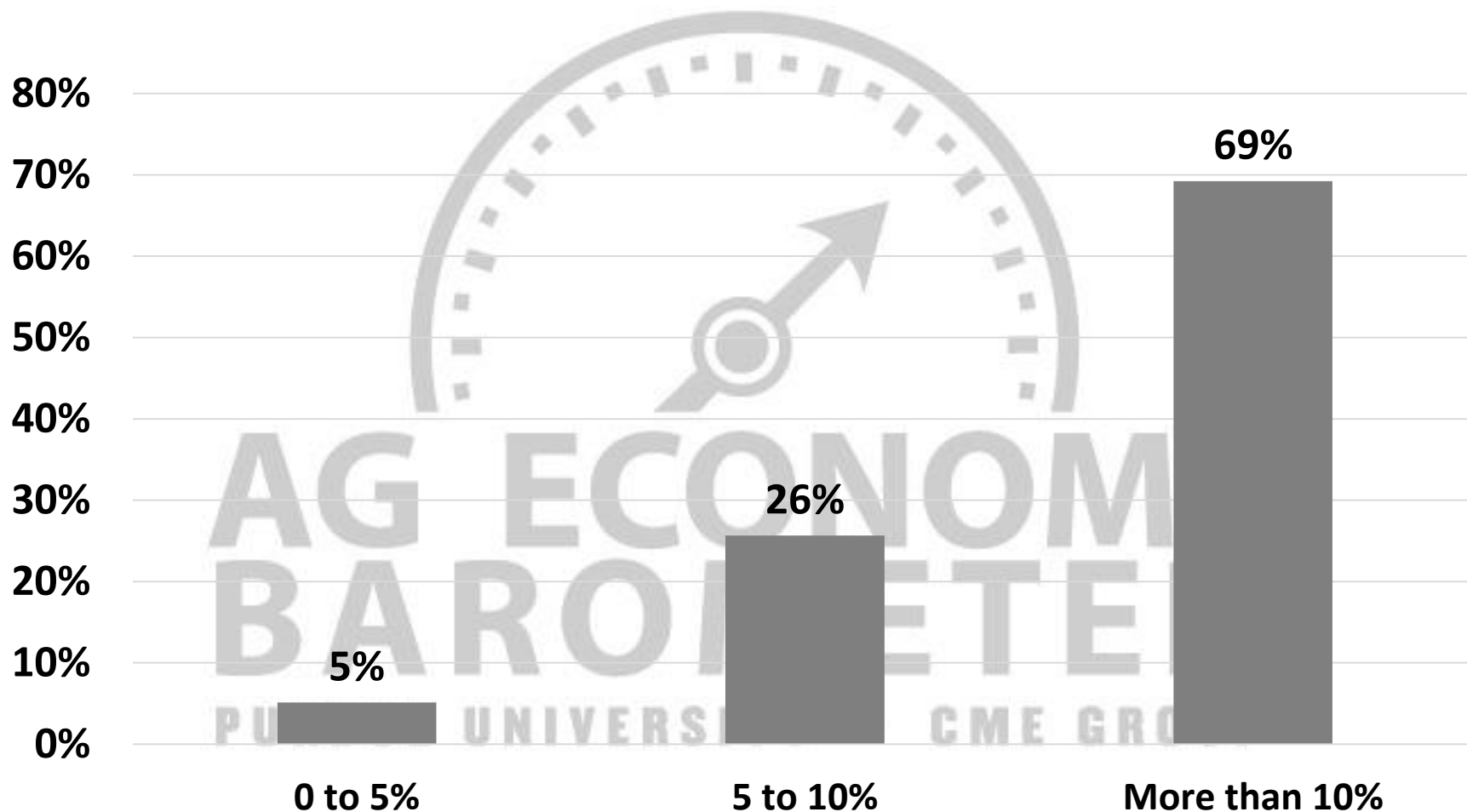
Source: Purdue Center for Commercial Agriculture, Producer Survey, November 2018

Compared to 2018, what are your plans with respect to planting soybeans in 2019?



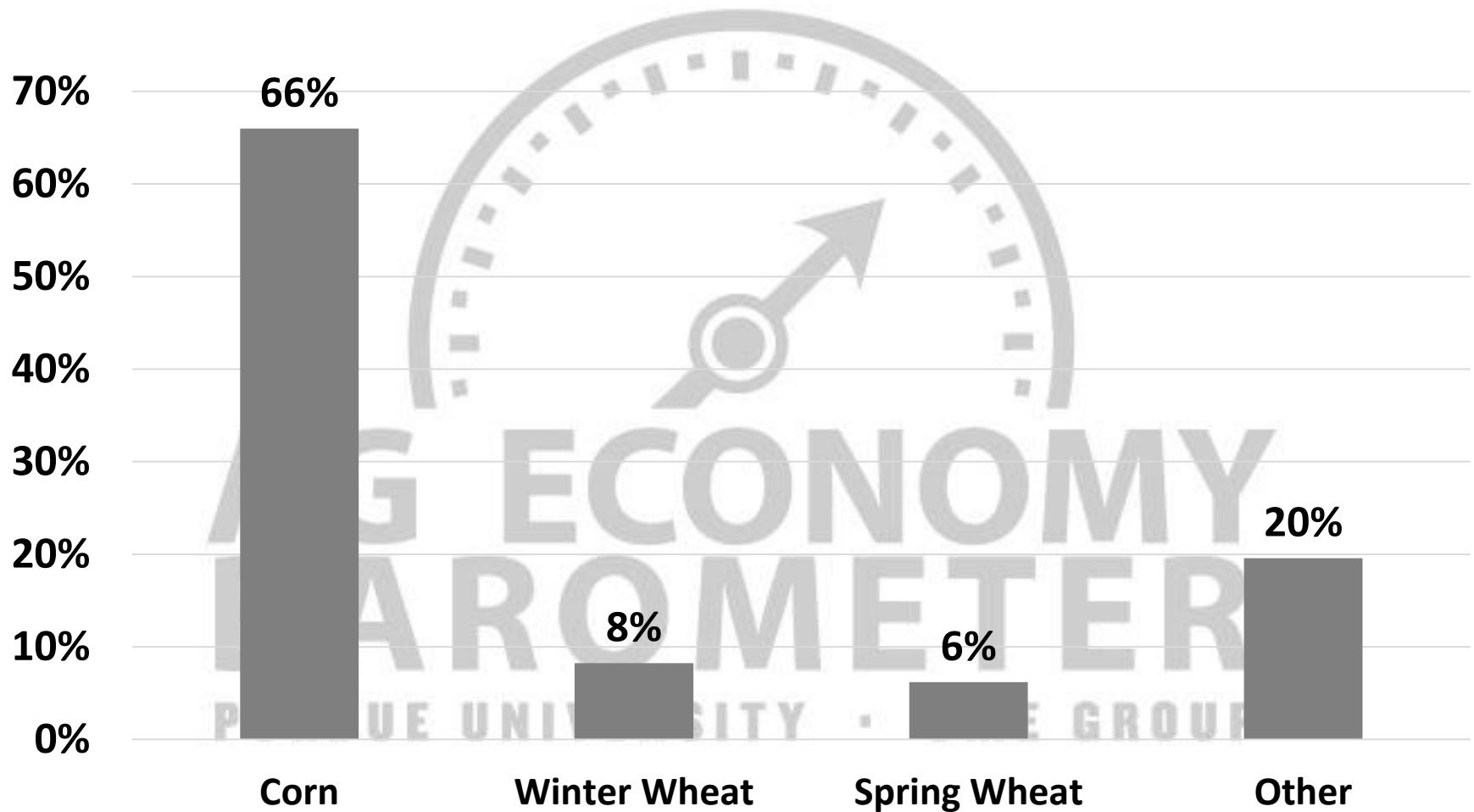
Source: Purdue Center for Commercial Agriculture, Producer Survey, November 2018

By how much do you plan to reduce your soybean acreage?



Source: Purdue Center for Commercial Agriculture, Producer Survey, November 2018

Which crop(s) will you grow on your acreage previously devoted to soybeans?



Source: Purdue Center for Commercial Agriculture, Producer Survey, November 2018

Questions, Comments

www.ag.purdue.edu/commercialag

