

## 2017 Gross Revenue Scenarios for Corn

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Crop margins have been extremely tight since 2014 and are likely to remain tight for in 2017. In this environment, it is natural to think about possible gross revenues for corn in 2017. These scenarios can help develop marketing and cash flow strategies.

To examine 2017 gross revenues for corn, we have developed a case farm for west central Indiana that follows a typical corn/soybean crop rotation. This case farm has a 2017 trend corn yield of 181 bushels per acre. The following information was used to examine market revenue for corn: trend-adjusted historical yields; 2017 projected price used for crop insurance adjusted for basis (\$3.70 per bushel); and the ratio of historical harvest to projected prices. Essentially, a gross return was computed given the weather conditions in each of the last 30 years. Corn revenue for each scenario was computed by multiplying trend-adjusted yield by expected harvest price (harvest price/projected price multiplied by \$3.70). Expected crop insurance indemnity payments and government payments were then added to market revenue to obtain the gross revenue for each of possible 30 scenarios.

Figures 1 and 2 illustrate the ratio of harvest to projected crop insurance prices and the ratio of actual to trend-adjusted yields in west central Indiana. A ratio of 1 in Figure 1 signifies that the harvest crop insurance price was the same as the projected crop insurance price. Similarly, a ratio of 1 in Figure 2 signifies that actual yield was the same as trend-adjusted yield. Note that in some years, the harvest crop insurance price is considerably different than the projected price. In 5 of the 30 years, the harvest price was more than 10 percent higher than the projected price while in 13 of the 30 years the harvest price was more than 10 percent lower than the projected price. Harvest price was greater than 20 percent below (above) projected price in 1992, 1998, 2004, 2008, 2013, and 2014 (1988, 1995, 2006, 2010, and 2012). In 9 (6) of the 30 years, actual yield was 10 percent higher (lower) than trend-adjusted yield. The wide variations in price and yield increase the difficulty associated with forecasting market revenue and gross revenue.

The average market and gross revenue for the 30 gross revenue scenarios was \$633 and \$677 per acre, respectively. This average gross revenue compares favorably to that obtained in 2016 (\$647 per acre), but was approximately \$30 per acre below the average gross revenue for corn from 2007 to 2013.

The 30 possible gross revenue scenarios were divided into three categories: low revenue scenarios, middle revenue scenarios, and high revenue scenarios. Each of these categories

contained one-third of the possible scenarios. The average market and gross revenue per acre for the low revenue scenarios was \$541 and \$584, respectively. The average market and gross revenue per acre for the high revenue scenarios was \$722 and \$780, respectively. The high revenue scenarios would be approximately \$30 below the average gross revenue for 2010, 2011, and 2012, three recent years with high gross revenues.

Next, we will compare gross revenue to production costs for rotation corn. For the low revenue scenarios, average net loss per acre would be approximately \$190 per acre (losses would range from \$139 to \$273 for these scenarios). In contrast, average earnings of \$6 per acre would be possible if the high revenue scenarios play out (earnings would range from a -\$78 loss to a positive earnings of \$159). Obviously, given historical ratios of harvest to projected crop insurance prices and actual to trend-adjusted yields, there is considerable uncertainty with respect to gross revenue for corn.

This article focused on gross revenues for corn. Detailed production cost data are also available. The 2017 Purdue Crop Cost and Return Guide, which is available as a free download from the Purdue Center for Commercial Agriculture website, gives estimated costs for producing corn, soybeans, and wheat in Indiana. This guide is update frequently to reflect changes in expected input and crop prices.



