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Closing in on 2018 Gross Revenue Estimates for Corn and Soybeans

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September 11, 2018

***farmdoc daily* (8): 169**

Recommended citation format: Schnitkey, G. "Closing in on 2018 Gross Revenue Estimates for Corn and Soybeans." *farmdoc daily* (8): 169, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, September 11, 2018.

Permalink: https://farmdocdaily.illinois.edu/2018/09/closing-in-on-2018-gross-revenue-estimates-for-corn-and-soybeans.html

Recently released yield estimates and the announcement of Market Facilitation Program details allows for more accurate estimates of 2018 gross revenue for corn and soybeans. Gross revenue in 2018 could be near 2017 levels as long as 1) yields are exceptional and 2) some pre-harvest hedging occurred before May. Those farmers with lower yields or no hedging could have 2018 gross revenues well below 2017 levels. At this point, projections of 2019 gross revenue projections will be below 2018 levels.

Projected crop revenue

Revenues will be projected for high-productivity farmland in central Illinois. These 2018 projections will be compared to previous average gross revenues for farms enrolled in Illinois Farm Business Farm Management (FBFM). Table 1 shows the components of gross revenue projections, including crop revenue, Market Facilitation Program (MFP) payments, ARC/PLC payments, and crop insurance. Projections are made for both corn and soybeans with both stated on a per acre basis.

Yields are projected at the highest level ever in 2018: 233 bushels per acre for corn and 70 bushels per acre for soybeans (see Table 1). For corn, the previous high was 231 bushels per acre occurring in 2014. The previous high for soybeans was 69 bushels per acre occurring in 2018 (for historical yields see Revenue and Costs for Illinois Crops). Note that these are average. There will be many farms with much higher yields. It is likely that some field averages on corn will approach 300 bushels per acre. Moreover, there will be areas with much lower yields. Several areas have been very dry, resulting in low yield estimates, and much lower revenue projections than given here.

USDA estimates of state yields provide the basis for projecting record-breaking yields. In August, the National Agricultural Statistical Service (NASS) estimated Illinois state yields at 207 bushels per acre for corn and 64 bushels per acre for soybeans (*Crop Production*, August 2018). Both these yields are at all-time highs and continue a string of years with above trend yields (*farmdoc daily*, September 5, 2018). NASS will release revised state yields on September 12. No matter the September 12 and future revisions, yields will be exceptional across much of Illinois.

Table 1. Estimates of 2018 Gross Revenue Per Acre in Central Illinois on High-Productivity Farmland

	Corn		Soybeans	
Yield (Bu/acre)	233		70	
Crop Revenue				
Pre-harvest bushels (bu/acre)	60		20	
Pre-harvest price ($/bu)	$3.75		$9.90	
Pre-harvest revenue ($/acre)	225		198	
After- harvest bushels (Bu/acre)	173		50	
After-harvest price ($/bu)	$3.45		$8.15	
After-harvest revenue ($/acre)	597		408	
Average price [1]	$3.53		$8.65	
		$/acre		$/acre
Crop Revenue		**822**		**606**
Market Facilitation Payments		1		58
ARC/PLC		0		0
Crop insurance		0		0
Gross Revenue		**$ 823**		**$ 664**

[1] Average price across pre- and after-harvest sales.

This year, a factor that will cause variability in crop revenue across farms will be the amount of pre-harvest hedging. Grain prices before June were much higher than current cash bids, and likely will be higher than any price for the remainder of the marketing year.

Projections in Table 1 assume that roughly one-third of expected production was pre-priced before June: 60 bushels per acre for corn and 20 bushels per acre for soybeans. The one-third estimate is based on results from a survey of farmers in May (*farmdoc daily*, May 15, 2018). Prices used for pre-harvest grain are $3.75 for corn and $9.90 for soybeans, the average of forward bids during the first five months of 2018.

The remainder of the crop — labeled as “after-harvest” bushels in Table 1 — is priced at $3.45 per bushel for corn and $8.15 per bushel for soybeans. These prices are higher than current cash bids and assume storage with some increases in prices.

Average prices over pre- and after-harvest grain than are $3.53 per bushel for corn and $8.65 per bushel for soybeans (see Table 1). Those averages are much higher than current cash bids because of prices used on pre-harvest bushels. Those farmers that had fewer pre-harvest bushels likely will have much lower average prices in 2018, closer to the current levels of cash bids.

Based on those projected yields and average prices, crop revenue is estimated at $822 per acre for corn and $606 per bushel for soybeans.

Market Facilitation Program payments

The Farm Service Agency (FSA) has announced details of the Market Facilitation Program (MFP), a program designed to partially compensate farmers for losses resulting from trade disputes. Effective rates of $.005 per bushel for corn and $.825 per bushel for soybeans will be paid on bushels produced in 2018 (for more detail, see *farmdoc daily*, August 28, 2018). For the central Illinois case, a 233 bushel per acre yield results in a $1 MFP payment ($1 = 233 x $.005). The projected soybean payment is $58 per acre (70 yield x $.825 effective rate).

The $58 per acre projected payment for soybean has positive impacts on gross revenues, representing 9.5% of crop revenue. The rates announced by FSA are initial rates. There is a possibility, but not the guarantee, of another payment on 2018 production sometime in the future.

ARC/PLC

Commodity title programs are not projected to pay in 2018. Over 90% of Midwest acres for corn and soybeans are enrolled in Agricultural Risk Coverage (ARC) payments at the county level. ARC is not projected to make payments in 2018 at high yield levels and price levels near current projections. Price Loss Coverage (PLC) could make payments in 2018 on corn but is not likely to make payments on soybeans. Again, most acres are enrolled in ARC and projected are for payments to equal $0 per acre.

Crop insurance

Most farmers in Illinois take Revenue Protection (RP) which makes payments if harvest revenue is below guaranteed revenue. In 2018, projected prices are $3.96 for corn and $10.16 for soybeans. Current futures levels suggest harvest prices near $3.65 for corn and $8.45 for soybeans. Corn prices have declined 8%, and soybean prices have declined 17%. If actual yields equal the trend-adjusted APH yields used in calculating revenue guarantees, the corn price has not fallen enough to trigger RP payments at the 85% coverage level (see Table 2). Soybean price has declined enough to trigger payments. However, yields are at record levels, resulting in actual yields that likely will offset price declines on most farms. For this reason, crop insurance payments for both corn and soybeans is projected at $0 per acre.

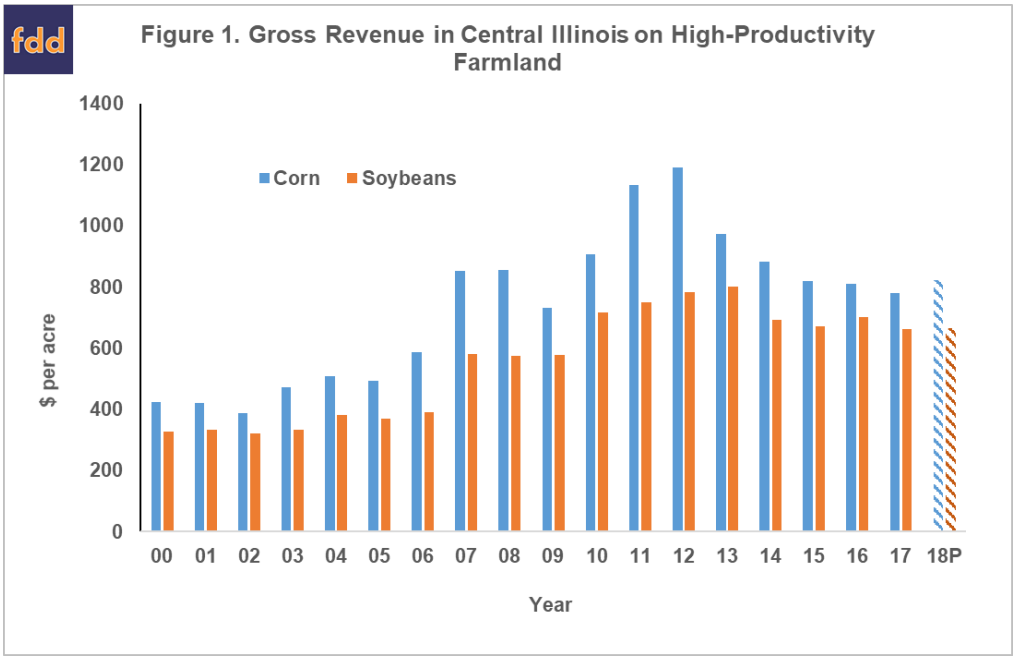
Table 2. Corn and Soybean Break-Even Prices for Crop Insurance, 2018[1]

Coverage Level	Corn Break-Even Price	Soybeans Break-Even Price
	$/bu	$/bu
85%	3.37	8.64
80%	3.17	8.13
75%	2.97	7.62
70%	2.77	7.11
65%	2.57	6.60
60%	2.38	6.10

[1] A revenue crop insurance product will generate payments if harvest price is below these break-even prices and actual yield is not greater than the guarantee yield. Projected prices for Midwest states are $3.96 for corn and $10.16 for soybeans.

Gross revenue

Gross revenue equals the sum of crop revenue, MFP payments, ARC/PLC payments, and crop insurance payments. Gross revenue is projected at $823 per acre for corn and $664 per acre for soybeans. If these projections hold, 2018 gross revenue for corn will be slightly above actual levels for 2017 (see Figure 1). The 2018 gross revenue for soybeans is projected at roughly the same level as 2017 gross revenues (see Figure 1).



Gross revenues near 2017 levels are predicated on three factors:

1. Record-breaking yields for both corn and soybeans,

2. Pre-harvest pricing about one-third of production at higher prices during the spring, and

3. MFP payments for soybeans (Without these payments, gross revenue for soybeans would be well below levels for the last several years).

Projections developed in this paper represent averages. Some farmers will be higher while other farmers will have lower revenues. Key determinants of whether a farmer will be above or below average are:

1. Yields. While much of Illinois is projected to have exceptional yields, there will be some areas were yields will not be exceptional. There are, for example, several areas in Illinois that had low rainfall.

2. Amount of pre-harvest hedging. The amount of pre-harvest hedging likely will have an impact on relative revenues. Those farmers that did not price as much grain before May likely will have lower revenues and lower incomes. Pricing all corn and soybeans at current bids results in both corn and soybean revenues being lower than last year, even considering MFP payments.

Summary

Recent projections of high yields and MFP payments suggest that many farmers will have gross revenues close to 2017 levels, particularly those that did some pre-harvest hedging. Estimates shown in this paper will change as yields come into clearer focus and prices change. In addition, there will be some farmers that have lower gross revenue than experienced in 2017.

MFP payments and high yields aid in keeping 2018 gross revenue at higher. Next year's revenues are a concern. Gross revenue in 2019 will be projected much lower because 1) there likely will not be an opportunity to prices 2019 grain at relatively high levels and 2) MFP payments likely will not occur in 2019.

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