



## Will Crop Insurance Make Payments in 2014?

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In Illinois, crop insurance payments on corn likely will be lower in 2014 than in 2012 and 2013. Crop insurance payments in 2014 likely will not be large for soybeans. For both corn and soybeans, harvest prices will be lower than projected prices. However, above average yields likely will counter price decreases, leading to low crop insurance payments. Somewhat ironically, crop insurance payments likely will be lower in 2014 than in 2012 and 2013. At the same time, revenue and returns will be much lower in 2014 than in 2012 and 2013.

### Product Choices of Farmers

In this article, focus is placed on revenue insurance products at high coverage levels, as most farmers purchase these products. The four revenue products available in 2013 were Revenue Protection (RP), Revenue Protection with the harvest price exclusion (RPwExcl), Group Risk Income Plan with the harvest revenue option (GRIP-HR), and Group Risk Income Plan (GRIP). In 2013 on corn, RP was used to insure 76% of planted acres in Illinois (see Table 1). GRIP-HR was used on 10% of the acres. RPwExcl was used on 2% of planted acres and GRIP on 1%. In sum, these four revenue products accounted for 89% of planted acres insured in 2013. Moreover, most of these revenue products were used at higher coverage levels. In 2013, RP, GRIP-HR, RPwExcl, and GRIP at 75% and higher coverage levels were used to insure 82% of planted corn acres.

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**Table 1. Percent of Planted Acres Insured by Product and Coverage Level, Illinois, Corn, 2013.<sup>1</sup>**

Coverage Level	Insurance Products <sup>2</sup>						Total <sup>4</sup>
	RP	RPwExcl	YP	GRIP-HR	GRIP	GRP	
	Percent <sup>3</sup>						
50%	0	0	1				2
55%	0	0	0				0
60%	0	0	0				0
65%	1	0	0			0	1
70%	3	0	0	1	0	0	5
75%	11	0	1	0	0	0	12
80%	26	1	0	0	0	0	27
85%	35	1	0	1	0	0	38
90%				7	0	0	8
Total <sup>4</sup>	76	2	3	10	1	0	92

<sup>1</sup> Use is given as a percent of planted acres.

<sup>2</sup> RP is Revenue Protection, RPwExcl is Revenue Protection with harvest price exclusion, YP is Yield Protection, GRIP-HR is Group Risk Income Plan with the Harvest Revenue Option, GRIP is Group Risk Income Plan, and GRP is Group Risk Plan.

<sup>3</sup> Values of 0 indicate that less than .5% of acres are insured with this product and coverage level combination.

<sup>4</sup> Values may not sum due to rounding.

Source: Risk Management Agency and National Agricultural Statistical Service, USDA.

Harvest prices for corn and soybeans likely will be below projected prices. In these cases, RP and RPwExcl will make the same payments. Similarly, the county level products with and without the guarantee increase will make the same payments. As a result, the following does not differentiate between products with and without guarantee increase provisions.

#### **Yields Below Which Corn Revenue Products Will Make Payments**

In most Midwest states, the 2014 projected price for corn is \$4.62 per bushel. The harvest price will be determined based on the average of settlement prices of the December 2014 Chicago Mercantile Exchange (CME) corn futures contract during the month of October. Currently, the December 2014 contract is trading near \$3.70 per bushel. A harvest price of \$3.70 would be 80% of the \$4.62 projected price.

Yield factors for alternative harvest prices and coverage levels are shown in Table 2. These yield factors can be used to calculate yields below which crop insurance will make payments. Take a RP policy

having an 85% coverage level. The 85% coverage level has a 1.06 yield factor (see Table 2). If the Trend-Adjusted APH yield is 180 bushels per acre, RP at an 85% coverage level will make payments at yields lower than 186 bushels per acre (1.06 yield factor x 180 Trend-Adjusted APH yield). The 186 bushels break-even yield is 6% higher than the guarantee yield.

**Table 2. Yield Factors for Determining Yield Levels Below Which Revenue Insurances Will Make Payments for Corn in 2014.<sup>1,2</sup>**

Harvest Price	Coverage Level			
	75%	80%	85%	90%
	Yield Factor <sup>1,2</sup>			
\$4.10	0.85	0.90	0.96	1.01
\$4.00	0.87	0.92	0.98	1.04
\$3.90	0.89	0.95	1.01	1.07
\$3.80	0.91	0.97	1.03	1.09
<b>\$3.70</b>	<b>0.94</b>	<b>1.00</b>	<b>1.06</b>	<b>1.12</b>
\$3.60	0.96	1.03	1.09	1.16
\$3.50	0.99	1.06	1.12	1.19
\$3.40	1.02	1.09	1.16	1.22
\$3.30	1.05	1.12	1.19	1.26
\$3.20	1.08	1.16	1.23	1.30

<sup>1</sup> Multiple the guarantee yield times the yield factor to arrive at yield below which crop insurance will make a payment. Take the 1.06 for a \$3.70 harvest price and an 85% coverage level (see table above) and the Trend-Adjusted APH is 180 bushels per acre. Yields below 191 bushels per acre (1.06 yield factor x 180 TA-APH yield) will result in payments on revenue insurances.

<sup>2</sup> The projected price for 2014 is \$4.62 per bushel.

Last year, the state corn yield in Illinois was 178 bushels per acre. At this point, it seems reasonable to expect the Illinois corn yield to be higher than 178. A yield of 185 bushels is reasonable, with possibilities of having a higher state yield. A 185 bushels per acre corn yield would be 5 bushels higher than the record Illinois corn yield of 180 bushels per acre set in 2004. Given a 2 bushels per year yield trend, a consistent yield in 2014 with the 2004 record setting yield would be 200 bushels per acre (200 = 180 bushels per acre yield in 2014 + 2 bushels per acre trend x 10 years).

A 185 bushels per acre corn yield would be consistent with an average yield factor across all Illinois farms of 1.10. At a \$3.70 harvest price, the 1.10 factor would be above the 1.06 factor for the 85% coverage level. Some farms would have lower yields and collect insurance payments, but the majority would not collect crop insurance payments. A 200 bushels per acre yield would be consistent with a 1.19 yield factor.

It is possible that average yields in Illinois will be lower than expected. This situation would lower total supply, likely leading to an upward price response ([farmdoc daily, July 21, 2014](#)). In this case, the harvest price likely would be above the current \$3.70 trading level of the December contract, thereby offsetting lower than expected yields, again leading to low crop insurance payments.

### Yields Below Which Soybean Revenue Products Will Make Payments

Crop insurance payments are less likely for soybeans than for corn. The 2014 projected price for soybeans is \$11.36 per bushel. The harvest price will be determined based on the average of settlement prices of the November 2014 CME soybean futures contract. Currently, the November 2014 contract is trading above \$10.80 per bushel. A \$10.80 harvest price is 95% of the \$11.36 projected price.

Table 3 shows yield factors for soybeans. At a \$10.80 harvest price, the yield factor is .89 at an 85% of the coverage level. A yield factor below 1 means that yields must be below the guarantee yield before crop insurance makes payment. At a guarantee of 50 bushels per acre, yields would have to be below 45 bushels per acre (50 x .89) before payments occur. Yields would have to be 11% below the guarantee yield (11% = 1 - .89).

**Table 3. Yield Factors for Determining Yield Levels Below Which Revenue Insurances Will Make Payments for Soybeans in 2014.<sup>1,2</sup>**

Harvest Price	Coverage Level			
	75%	80%	85%	90%
	Yield Factor <sup>1,2</sup>			
\$11.40	0.75	0.80	0.85	0.90
\$11.20	0.76	0.81	0.86	0.91
\$11.00	0.77	0.83	0.88	0.93
<b>\$10.80</b>	<b>0.79</b>	<b>0.84</b>	<b>0.89</b>	<b>0.95</b>
\$10.60	0.80	0.86	0.91	0.96
\$10.40	0.82	0.87	0.93	0.98
\$10.20	0.84	0.89	0.95	1.00
\$10.00	0.85	0.91	0.97	1.02
\$9.80	0.87	0.93	0.99	1.04
\$9.60	0.89	0.95	1.01	1.07

<sup>1</sup> Multiple the guarantee yield times the yield factor to arrive at yield below which crop insurance will make a payment. Take the .89 for a \$10.80 harvest price and an 85% coverage level (see table above) and a TA-APH is 50 bushels per acre. Yields below 45 bushels per acre (.89 yield factor x 50 TA-APH yield) will result in payments on revenue insurances.

<sup>2</sup> The projected price for 2014 is \$11.36 per bushel.

Below average yields seem unlikely at this point given growing conditions up to this point.

#### **Difference between 2012, 2013, and 2014**

Crop insurance payments on corn in Illinois likely will be much lower in 2014 than they were in 2012 and 2013. The loss ratio – which equals insurance payments divided by total premium – for corn in Illinois was 6.14 in 2012 and 1.07 in 2013. On a per acre basis, insurance payments averaged \$326 per acre in 2012 and \$54 per acre in 2013 (Summary of Business, Risk Management Agency).

At the same time that payments will be lower, gross revenue will be much lower in 2014 than in 2012 and 2013. In northern Illinois (as of July 29, 2014, [farmdoc website](#)), gross revenue for corn averaged \$1,161 per acre in 2012, and \$1,028 per acre in 2013. The current projection for 2014 income is \$808 per acre.

Lower crop insurance payments revolve around the fact that the price used to calculate guarantees is much lower in 2014 than prices in 2012 and 2013. The projected price in 2012 was \$5.68 per bushel. As a result of the drought, the harvest price was \$7.50. Since revenue products with guarantee increases predominated, the majority of acres had guarantees based on a \$7.50 harvest price. The 2013 projected price was \$5.65. The 2014 price is \$4.62, lower by \$1.03 per bushel than the 2013 projected price of \$5.68 and lower by \$2.88 per bushel than the 2012 harvest price of \$7.50.

The resetting of crop insurance prices each year causes crop insurance guarantees to adjust to market conditions. Crop insurance guarantees will be relatively low if crop prices are low, and vice versa. Crop insurance will not provide protection against price decreases that occur across years, or for situations in which price remains low for several years.

#### **Summary**

Currently, expectations are for low crop insurance payments in Illinois. Above average yields likely will counter harvest prices that are below projected prices. Crop insurance payments in Illinois likely will be lower in 2014 than in 2012 and 2013.

#### **References**

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