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Department of Agricultural and Consumer Economics, University of Illinois Urbana-Champaign

# Weekly Farm Economics: Hedging the 2013 Corn and Soybean Crop Given Crop Insurance

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As of this writing, downside revenue risk on the 2013 corn crop is small for those farmers who bought crop revenue products at high coverage levels, given that yields are expected to be at or below guarantee levels. For farmers in this situation, hedging corn will not increase protection against lower revenues. More downside revenue risks exist for soybeans.

## Corn and Hedging

The 2013 projected price used to set crop insurance guarantees on corn is $5.65 per bushel. Multiplying the coverage level of the revenue insurance product by the $5.65 projected price gives the harvest price below which crop insurance will make payments, given that actual yield equals the Trend-Adjusted Actual Production History (TA-APH) yield. Given that actual yield equals the TA-APH yield, an 85% coverage level will make payments at harvest prices lower than $4.80 per bushel ($4.80 = $5.65 projected price x .85). An 80% coverage level will begin to make payments at a $4.52 harvest price (see Table 1).

**Table 1. Harvest Prices Below Which Crop Insurance Payments Will Occur in 2013 Given Actual Yield Equals Trend-Adjusted Actual Production History (TA-APH) Yield.[1]**

| Coverage Level | Harvest Price Triggering Payments | |
|---|---|---|
| | Corn | Soybeans |
| | $ per bushel | |
| 90% | $5.09 | $11.58 |
| 85% | $4.80 | $10.94 |
| 80% | $4.52 | $10.30 |
| 75% | $4.24 | $9.65 |
| 70% | $3.96 | $9.01 |
| 65% | $3.67 | $8.37 |
| 60% | $3.39 | $7.72 |

[1] Calculate as projected price x (1 - coverage level) / (1 + % yield differs from TA-APH yield). Project prices are $5.65 for corn and $12.87 for soybeans. The "% yield differs from TA-APH yield" equals 0.

Currently, the price on the December 2013 Chicago Mercantile Exchange (CME) corn contract is trading in the $4.70 and $4.80 range, near prices that will trigger crop insurance payments on revenue products with high coverage levels. For farmers that expect yields near or below their TA-APH yield, crop insurance is providing an effective floor on revenue. Lower prices will result in crop insurance payments that offset crop revenue declines. Therefore, hedging corn is not necessary to protect revenue if a high coverage level policy has been purchased and actual yields are at or below the TA-APH yield.

Expectations of corn yields vary considerably across farms. Some farmers may be expecting yields above the TA-APH yields. In these cases, lower harvest prices will be required to trigger insurance payments. There is a simple way to calculate the harvest price that will trigger payments. Take a farmer with a 180 bushel per acre TA-APH yield who is expecting the actual yield to be 10 percent higher at 198 bushel per acre. This farmer has an 85% Revenue Protection policy. The harvest price that will trigger payments equals

Projected price x (1 – coverage level) / (1 + percent yield differs from guarantee)

or

$4.37 ($5.65 projected price x (1 – .85 coverage level) / (1 +.1 percent yield differs from guarantee)).

Farms with above average yields have more downside revenue risk from price declines than farms with lower yield expectation. It still may not be prudent to hedge corn due to current price expectations (see here for a discussion).

**Soybeans and Hedging**

The 2013 projected price for soybeans is $12.87 per bushel. If actual yield equals the TA-APH yield, harvest prices below $10.94 will result in insurance payments at an 85% coverage level. A harvest price

below $10.30 will result in payments at an 80% coverage level.

The futures price of the November 2013 soybean contract is trading at $12.59 per bushel. This price is above harvest prices that trigger payments. Therefore, there is more downside risk in soybean revenue at this point in time. Hedging some of the crop may reduce downside revenue risk; however, price expectations should play a role in hedging decisions.

**Summary**

For corn, hedging now will not reduce downside revenue risks, particularly for farmers who purchased crop revenue insurance at high coverage levels and have yield expectations near or below the TA-APH yield. In these cases, motives other than risk reduction would motivate hedging. More downside revenue risks exist in soybeans.