FARM BUSINESS MANAGEMENT

FARM ECONOMICS Facts & Opinions

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REVENUE GUARANTEES ON CROP INSURANCE PRODUCTS

Revenue Assurance (RA), Crop Revenue Coverage (CRC), and Income Protection (IP) are multi-peril crop insurances that provide revenue guarantees. When indemnified revenue falls below the revenue guarantee, these revenue products make payments equal to revenue guarantee minus indemnified revenue. Payments bring revenue back up to the level of the revenue guarantee.

The revenue guarantee and indemnified revenue are calculated using futures prices. Futures prices are usually above cash prices farmers receive for their grain. Hence, the "cash flow" protection offered by crop insurance is less than the stated revenue guarantee offered by the crop insurance product. This article describes why this occurs and how to calculate the difference between the revenue and "cash flow" guarantee.

Revenue Guarantees in Crop Insurance Products

The minimum revenue guarantee offered in crop insurance products is based on three factors:

1. APH yield. The APH yield is specific to a farm or a unit. It usually is based on a unit's yield history.

2. Base price. Base prices are calculated using Chicago Board of Trade (CBOT) futures contracts. For corn, the base price equals the average of settlement prices of the December corn contract during the month of February. For soybeans, the base price equals the average of settlement prices of the November soybean contract during the month of February.

3. Coverage levels. A farmer selects a coverage level.

The calculation of a revenue guarantee is illustrated for a farm insuring corn that has a 150 bu. APH yield. The base price is $2.40 and the farmer has selected a 75 percent coverage level. The revenue guarantee for this farm equals $270 per acre (150 bu. APH x $2.40 base price x 75% coverage level).

Two of the products – RA with the harvest price option and CRC – allow this minimum guarantee to increase when the harvest price is above the base price. More detail on revenue guarantee increase provisions, as well as other features of crop insurance, are described under the "Product Descriptions" tab in the crop insurance section of farmdoc (www.farmdoc.uiuc.edu).

Revenue that will be compared against the revenue guarantee to determine if whether and insurance payment occurs equals the actual yield from the farm times a harvest price. Like the base price, the harvest price equals the average of settlement prices of CBOT futures contracts.

Cash Flow Guarantee

Futures prices typically are above cash prices that farmers receive for grain. The basis (cash price minus futures price) should be used to adjust the revenue guarantee in order to arrive at a more accurate representation of the "cash flow" guarantee offered by crop insurance.

Take the example of a $270 per acre revenue guarantee based on an 150 bu. APH yield, a $2.40 base price, and a 75 percent coverage level. Given a $2.40 future price, the cash price often is $.20 below the future price. (See the *Illinois Regional Basis Tool* in the marketing section of *farmdoc* for basis differences around Illinois.) A $.20 per bu. basis reduces revenue by $30 per acre. Hence, the $270 revenue guarantee offered by the insurance products works out to be a "cash flow" guarantee of $240 per acre ($270 - $30).

Worksheet 1 provides a format for calculating cash flow guarantee that considers the basis and the premium of the crop insurance product.

Worksheet 1. Calculate Cash Flow Guarantee for Revenue Insurance Products.

	Example	
1. APH yield	150	_____
2. Base price	$2.40	_____
3. Coverage level	0.75	_____
4. Minimum revenue guarantee	$270.00	_____
5. Insurance premium per acre	$15.00	_____
6. Basis difference -0.20	-$30.00	_____
7. "Cash Flow" guarantee	$225.00	_____

(4) Equals line (1) x line (2) x line (3). CRC and RA-HP's guarantee can increase between spring and fall.

(6) Basis equals basis per bu. times APH yield.

(7) Equals line (4) - line (5) + line (6)

Worksheet 1 was used to calculate cash flow guarantees for the above example farm given that it was located in LaSalle County. The *Premium Calculator* at *farmdoc* was used to obtain the premium per acre. Cash flow guarantees are shown in the following table.

Table 1. Cash Flow Guarantees for LaSalle County Farm[1]

Coverage Level	Premium[2]	Cash Flow Guarantee
	------- $ per acre ---------	
65%	$3.63	$200.37
70%	5.09	216.91
75%	7.48	232.52
80%	11.22	246.78
85%	16.90	259.10

[1] For a 150 bu. APH and $2.40 base price.
[2] From *Premium Calculator* at *farmdoc.*

Implications

An awareness of the difference between the revenue guarantee and the cash flow guarantee may influence coverage level choices. Farmers may want to increases coverage levels to account for the fact that the cash flow guarantee is below the revenue guarantee. Also, farmers should be aware that actual revenue can be less than that stated by the revenue guarantee in the insurance contract and should plan accordingly.

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