Cornhusker Economics

Revenue Protection Crop Insurance and Prices Rising from Spring to Fall

Storm damage has been felt by many Nebraska farmers this growing season. Crop insurance is a useful tool to help farmers mitigate production losses coming from storm damage. However, given current price trends, the amount of support producers will receive cannot yet be determined. This article will review how revenue protection crop insurance works when prices rise from the spring to the fall.

First, producers who have experienced losses or think a loss may have been experienced due to adverse weather should immediately contact their crop insurance agent. Farmers affected by storms need to continue to manage their fields as if it will produce a crop. Failure to do so may negate individual crop insurance coverage. Producers must receive written permission from the insurance company to replant, abandon, or destroy a crop.

Revenue protection (RP) crop insurance policies are the predominant type of insurance purchased by Nebraska farmers. RP policies use both a price and yield to determine if a loss (indemnity) exists. Producer-selected coverage level is also important to consider. Farmers can select coverage levels from 50% to 80%, in 5% increments. Lower selected coverage levels come with a lower premium and require a larger loss to trigger indemnity payments.

RP policies use futures markets to determine the price portion of the revenue calculation. Price information is collected twice. The "projected price," is collected before planting, followed by "harvest price," which happens around harvest. These prices are used to calculate the "revenue guarantee" and the "revenue to count," which are both important components in determining whether an indemnity will be paid. The yield portion of the revenue calculation comes from the individual Actual Production History (APH) database and the actual production

for the year. If an APH does not exist, then county yields are used.

The revenue guarantee is the APH, multiplied by the producer's selected coverage level and the projected price. Under a RP policy, if the harvest price is higher than the projected price, the revenue guarantee is recalculated using the harvest price. Revenue to count is calculated by multiplying the harvest price by the actual yield of the farm. Crop insurance indemnity payments are made if the revenue to count falls below the revenue guarantee.

- Revenue Guarantee = APH X Coverage Level X MAX (Projected Price OR Harvest Price)

- Revenue to Count = Harvest Price X Actual Yield

- Crop Insurance Indemnity Payment[1] = Revenue Guarantee – Revenue to Count

- Net gain to producer from insurance participation = indemnity payment - premium

Corn prices for RP are based on the Chicago Board of Trade December corn futures contract (ZCZ21). Soybean prices are based on the Chicago Board of Trade November soybean futures contract (ZSX21). The projected price is the average of the contract for the month of February. For 2021, the projected price for corn is $4.58 per bushel and for soybeans is $11.87 per bushel. The harvest price is the average of the futures contract for the month of October.

A lot can happen between the determination of the projected price and the harvest price. We will walk

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[1] if revenue guarantee > revenue to count

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through two scenarios to show what will happen to RP policies if the harvest price is above or below the projected price.

For these examples we will assume the following parameters: A corn farmer has an APH of 200 bushels per acre. The farmer purchased a RP policy with a 75% coverage level and paid a premium costing $18 per acre. The projected price for corn is $4.58 per bushel. During the growing season they received some storm damage, making their actual yield 120 bushels per acre.

First, let's look at what happens when the harvest price is lower than the projected price. In this case we will assume the harvest price is $4.25 per bushel. Therefore, the Revenue Guarantee is *NOT* recalculated using the harvest price.

- Revenue Guarantee: 200 bushels X 75% coverage X $4.58 per bushel = $687 per acre

- Revenue to Count: $4.25 per bushel X 120 bushels per acre = $510 per acre

- Crop Insurance Indemnity Payment: $687-$510= $177 per acre

- Net gain to the producer from crop insurance = $177 - $18 = $159 per acre

When the harvest price is lower than the projected price, farmers can receive indemnity payments for their financial loss. The loss can be triggered by a reduction in yield or price, or a combination of both.

Now, let's look at what happens when the harvest price is higher than the projected price. In this case we will assume the harvest price is $5.60 per bushel, which is close to the current December crn futures contract price when the article was written. Therefore, the Revenue Guarantee **IS** recalculated using the harvest price.

- Revenue Guarantee: 200 bushels X 75% coverage X $5.60 per bushel = $840 per acre

- Revenue to Count: $5.60 per bushel X 120 bushels per acre = $672 per acre

- Crop Insurance Indemnity Payment: $840 -$672 = $168 per acre

- Net gain to the producer from crop insurance = $168 - $18 = $150 per acre

Although the farmer experienced a yield loss, in this scenario, they regained some of their revenue loss from increasing prices. In the case of rising prices, only a yield loss can cause an indemnity payment. Using the same parameters above, actual yields below the yield guarantee of (200 x .75) 150 bushels per acre would cause indemnity payments while an actual yield equal to or above 150 would result in no indemnity payment.

As the 2021 growing season continues to unfold, keep revising yield and harvest price estimates. Keep in mind that when under a RP policy when harvest prices are higher than projected prices only a yield loss can trigger an indemnity. And yield losses start when actual yields drop below the yield guarantee, calculated by multiplying your APH by your selected coverage level.

This information is designed to support and help clarify existing crop insurance policy provisions and procedures. For more detailed information, please consult your crop insurance agent.

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