Revenue Protection Crop Insurance

File A1-54

Insurance against poor crop yields has been available for many years. However, income from crop production can be low even when yields are not. A risk management tool known as **Revenue Protection (RP)** insurance addresses this problem.

Revenue Protection insurance guarantees a certain level of revenue rather than just production. It protects you from declines in both crop prices and yields. The guarantee is based on market prices and the actual yield on your farm.

Yield Coverage

In general, yield coverage for RP is the same as for traditional Yield Protection (YP) insurance. The production portion of the revenue guarantee is based on your Actual Production History (APH). This is a historic average of your actual yields. An explanation of how your APH yield is determined can be found in Ag Decision Maker File A1-55/ FM 1860 Proven Yields and Insurance Units for Crop Insurance, https://store.extension.iastate.edu/ product/1849.

Price Coverage

Revenue Protection uses CME Group futures market prices and your APH yields to compute your revenue coverage and guarantee. A projected price is determined during February by using the monthly average new-crop futures prices for corn (December futures contract) or soybeans (November futures contract).

A harvest price is determined by averaging the new crop futures prices during October for both corn and soybeans. The final revenue guarantee is computed by multiplying the higher of the projected price or the harvest price by the APH yield for your farm, by your chosen coverage level (50% to 85%).

Your actual revenue for insurance purposes is computed by multiplying your actual yield by the harvest price described here. You will receive an indemnity payment if your actual revenue falls below your revenue guarantee. The payment is equal to the difference.

Projected price
- *Corn* - Average of December CME Group futures contract price during February
- *Soybeans* - Average of November CME Group futures contract price during February

Harvest price
- *Corn* - Average of December CME Group futures contract price during October
- *Soybeans* - Average of November CME Group futures contract price during October

Revenue guarantee
- Higher of projected price or harvest price × APH yield × chosen coverage level

Actual revenue
- Actual harvested yield × harvest price

Indemnity payment
- Amount by which the revenue guarantee exceeds the actual revenue, if any

Revenue Protection with Harvest Price Exclusion

Revenue Protection policies can be written so that the level of the revenue guarantee is determined solely by the February futures prices, and does not increase even if the futures price rises by harvest. The producer may elect to purchase insurance without the harvest price option (RP-HPE). The RP-HPE policy carries a lower premium than the RP policy.

Revenue Protection Examples

The three examples that follow compare RP and RP-HPE coverage. The average December corn futures price during February is $4.00. The APH yield is 175 bushels per acre, and the chosen coverage level is 80%. Thus, the revenue guarantee is $560 ($4.00 × 175 bushels × 80%) per acre. Remember that the RP guarantee will increase if the harvest price is higher than the projected price.

In Example 1, the December futures price declines to $3.50 at harvest. The actual yield is only 140 bushels. The estimated actual revenue of $490 is computed by multiplying the harvest price by the actual yield. Subtracting the estimated actual revenue from the revenue guarantee results in an indemnity payment of $70 per acre under either policy type.

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Example 1. Lower price, lower yield		
	RP	**RP-HPE**
February futures price	$4.00	$4.00
APH yield	175 bu.	175 bu.
Chosen coverage level	80%	80%
Revenue guarantee ($4.00 x 175 x 80%)	$560.00	$560.00
Harvest futures price	$3.50	$3.50
Actual yield	140 bu.	140 bu.
Actual revenue ($3.50 x 140)	$490.00	$490.00
Indemnity payment ($560 – 490)	$70.00	$70.00

In Example 2, the futures price still declines to $3.00, lower than in the first example. However, the actual yield is now 175 bushels, equal to the APH yield. Actual revenue is 175 bushels multiplied by the harvest price of $3.00, or $525 per acre. Subtracting the actual revenue from the revenue guarantee results in indemnity payments of $35 for both types of policies. Note that because of the lower harvest price an indemnity payment was made, even though the actual yield did not fall below the APH yield.

In Example 3, the futures price increases to $5.00 at harvest. Note that the revenue guarantee increases to $700 for RP because of the higher harvest price. The actual yield is 130 bushels and the actual revenue is $650. The indemnity payment is $50 for RP, and zero for RP-HPE. There is an indemnity payment for RP because of the increase in the revenue guarantee.

The increased coverage when prices increase into harvest is especially useful for producers who normally forward price much of their production before harvest. If they harvest fewer bushels than they forward price, the increased guarantee provides an indemnity payment that will offset the cost of purchasing the deficit bushels at a market price above the price at which they were forward contracted. It is also useful for livestock producers who have to purchase extra grain in a short crop year, often at a high price.

Example 2. Lower price, normal yield		
	RP	**RP-HPE**
February futures price	$4.00	$4.00
APH yield	175 bu.	175 bu.
Chosen coverage level	80%	80%
Revenue guarantee ($4.00 x 175 x 80%)	$560.00	$560.00
Harvest futures price	$3.00	$3.00
Actual yield	175 bu.	175 bu.
Actual revenue ($3.00 x 175)	$525.00	$525.00
Indemnity payment ($560 – 525)	$35.00	$35.00

Example 3. Higher price, low yield		
	RP	**RP-HPE**
February futures price	$4.00	$4.00
APH yield	175 bu.	175 bu.
Chosen coverage level	80%	80%
Revenue guarantee ($4.00 x 175 x 80%)	$560.00	$560.00
Harvest futures price	$5.00	$5.00
Revenue guarantee RP ($5.00 x 175 x 80%) =	$700.00	
RP-HPE ($4.00 x 175 x 80%) =		$560.00
Actual yield	130 bu.	130 bu.
Actual revenue ($5.00 x 130)	$650.00	$650.00
Indemnity payment	$50.00 ($700-650)	$0.00

Maximum Price Movements

The harvest price used to set the guarantee cannot be more than 100% above the projected price established in February, that is, double.

Premiums

The premiums for all types of multiple-peril crop insurance are subsidized through the Federal Crop Insurance Corporation. The premium for an RP policy is calculated using the projected price. If the harvest price is higher, the amount of insurance coverage increases but the premium does not change. The possibility of increased coverage has already been built into the premium structure. Premiums for RP-HPE will generally be slightly lower than for RP policies.

Estimated premiums can be obtained from a crop insurance agent, the Farmdoc website, www.farmdoc.illinois.edu/cropins/index.asp, or the Risk Management Agency website, https://ewebapp.rma.usda.gov/apps/costestimator/Estimates/QuickEstimate.aspx.

Coverage Units and Discounts

Both RP and RP-HPE are available for **basic** and **optional** units, as well as for **enterprise** and **whole farm** units.

While a **basic** unit refers to all insurable acres of the insured crop in the county for an operator, an **optional** unit refers to smaller portions of a basic unit (typically a section, or an area farmed under distinct practices, such as organic or irrigated). Insuring planted acres as a basic unit is typically cheaper than insuring them as multiple optional units.

With **enterprise** unit coverage, all the acres of the enterprise (crop) in a county are insured as a single unit. Discounts are available based on the number of acres on which the insured crop is planted. The crop must be grown in at least two township sections within a county, and at least two of the sections must have the smaller of 20 acres or 20% of the total area in that crop.

With **whole farm** coverage, all acres of both crops (corn and soybeans) insured in a county are covered under one insurance unit. The policy must include at least two crops that each make up 10% or more of the total insured planted acres. The guaranteed revenue and actual revenue levels are an average for the two crops, weighted by the number of acres in each crop.

For example, if the revenue guarantee is $550 per acre for corn and $400 for soybeans, the per acre whole farm revenue guarantee for a 50/50 corn-soybean rotation is (550 + 400)/2 = $475. For a corn-corn-soybean rotation, the whole farm guarantee is (550 + 550 + 400)/3 = $500. An indemnity payment is made when the combined per acre corn and soybean revenue falls below the whole farm guarantee. More details about coverage units can be found in A1-55/FM 1860 Proven Yields and Insurance Units for Crop Insurance, https://store.extension.iastate.edu/product/1849.

Prevented Planting and Replanting Losses

Prevented planting and replanting losses for both RP and RP-HPE will be adjusted in the same manner as APH losses. See Ag Decision Maker File A1-57/FM 1859, Delayed and Prevented Planting Provisions for Mulitple Peril Crop Insurance, https://store.extension.iastate.edu/product/1848. Any replanted or prevented planting payments will be based on the projected price (February), even if the harvest price is higher.

Summary

Revenue Protection insurance protects you from the combined effects of yield and price risk. It is a valuable tool for reducing year-to-year income variability. A variety of coverage levels and options are available, which allows you to design the protection you want for your own operation.

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