

Crop Revenue Insurance

Insurance against poor crop yields has been available for many years. But income from crop production can be low even when yields are not. A new risk management tool known as *crop revenue insurance* addresses this problem.

Revenue 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.

Types of Revenue Insurance

The following three types of revenue insurance are currently being sold in Iowa:

- Crop Revenue Coverage (CRC)
- Revenue Assurance (RA)
- Income Protection (IP)
- Group Risk Income Protection (GRIP)

Income Protection is available only in a few counties in Iowa. On the other hand, GRP, CRC and RA are available in all Iowa counties for both corn and soybeans.

Yield Coverage Levels

In general, yield coverage for revenue insurance is the same as for traditional Multiple Peril Crop Insurance (MPCI). The production portion of the revenue guarantee is based on your Actual Production History (APH). This is an historic average of your actual yields. An explanation of how your APH yield is determined can be found in ISU Extension publication FM-1826, *Multiple Peril Crop Insurance*.

The yield levels used to calculate the CRC revenue guarantee range from 50 percent to 85 percent of the APH yield, in 5 percent increments. The yield levels available for RA range from 65 percent to 85 percent, also in 5 percent increments.

Crop Revenue Coverage

Crop Revenue Coverage uses Chicago Board of Trade futures market prices and your APH yields to compute your revenue coverage and guarantee. A *base market 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 market 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 either the base market price or the harvest market price by the APH yield for your farm, by your chosen coverage level (50 to 85 percent).

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

Base market price

- *Corn*—Average of December futures contract price during February
- *Soybeans*—Average of November futures contract price during February

Harvest market price

- *Corn*—Average of December futures contract price during October
- *Soybeans*--Average of November futures contract price during October

Revenue guarantee

- Higher of base market price or harvest market price x APH yield x coverage level chosen

Actual revenue

- Actual harvested yield x harvest market price

Insurance payment

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

Revenue Assurance

Revenue Assurance (RA) policies are written in a manner similar to CRC, with two important differences. First, the standard RA policy contains the *base price* (BP) option, in which 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 RA insurance with the *harvest price* (HP) option, however, under which the revenue guarantee does increase if the harvest price is higher than the February price, just as it does under CRC. The HP option carries a higher premium than the BP option.

Second, RA uses the average of the December corn futures price during November to calculate the harvest price for corn, rather than October.

Income Protection

The revenue guarantees, actual revenues and indemnity payment for an Income Protection policy are computed in the same manner as for a Revenue Assurance policy using the base price option. The only difference in coverage is that IP is available only for enterprise units, that is, all the policyholder's acres for the insured crop located in the same county are included in a single policy. This reduces the premiums, but requires losses to be more widespread before an indemnity payment is made. Income protection offers coverage levels of 50 to 75 percent of expected gross revenue.

Group Risk Income Protection

Group Risk Income Protection (GRIP) policies are based on futures prices during the last 5 days of February and county average yields, rather than individual farm yields. See ISU Extension publication FM 1850, *Group Risk Plan and Group Risk Income Protection* for more details.

Revenue Insurance Examples

The three examples that follow compare CRC and RA-HP coverage with RA-BP coverage. The average December corn futures price during February is \$2.60. The APH yield is 133 bushels per acre, and the coverage level chosen is 75 percent. Thus, the revenue guarantee is \$259 per acre. Remember that the CRC and RA-HP guarantee will increase if the futures price increases from February to harvest.

In example 1, the December futures price declines to \$2.20 at harvest. The actual yield is only 80 bushels. The estimated actual revenue of \$176 is computed by

multiplying the harvest price by the actual yield. Subtracting the estimated actual revenue from the revenue guarantee results in an insurance payment of \$83 per acre under either policy type.

Example 1. Lower price, low yield

<u>February</u>	CRC and <u>RA-HP</u>	<u>RA-BP and IP</u>
Dec. futures price	\$2.60	\$2.60
APH yield	133 bu.	133 bu.
Chosen coverage level	75%	75%
Revenue guarantee	\$259 ($\$2.60 \times 133 \times 75\%$)	\$259 ($\$2.60 \times 133 \times 75\%$)
<u>November</u>		
Dec. futures price	\$2.20	\$2.20
Actual yield	80 bu.	80 bu.
Actual revenue	\$176 ($\2.20×80)	\$176 ($\2.20×80)
Insurance payment	\$83 ($\$259 - 176$)	\$83 ($\$259 - 176$)

In Example 2 the futures price still declines to \$2.20 at harvest, just as in the first example.

However, the actual yield is now 110 bushels. Actual revenue is 110 bushels multiplied by the harvest price of \$2.20, or \$242 per acre. Subtracting the actual revenue from the revenue guarantee results in insurance payments of \$17 for both types of policies.

Note that because of the lower prices an insurance payment was made even though the actual yield did not fall below 75 percent of the APH yield.

In Example 3, the futures price increases to \$3.00 at harvest. Note that the revenue guarantee increases to \$299 for CRC and RA-HP because of the higher harvest price. The actual yield is 80 bushels and the actual revenue is \$240. The insurance payment is \$59 for CRC and RA-HP, and \$19 for RA-BP and IP. The payment for CRC and RA-HP is significantly higher because of the increase in the revenue guarantee.

Example 2. Lower price, normal yield

<u>February</u>	<u>CRC and RA-HP</u>	<u>RA-BP and IP</u>
Dec. futures price	\$2.60	\$2.60
APH yield	133 bu.	133 bu.
Chosen coverage level	75%	75%
Revenue guarantee	\$259 (\$2.60 x 133 x 75%)	\$259 (\$2.60 x 133 x 75%)
<u>November</u>		
Dec. futures price	\$2.20	\$2.20
Actual yield	110 bu.	110 bu.
Actual revenue	\$242 (\$2.20 x 110)	\$242 (\$2.20 x 110)
Insurance payment	\$17 (\$259-242)	\$17 (\$259-242)

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 would have to purchase extra grain in the event of a short crop.

Maximum CRC Price Movements

For CRC, the harvest market price for corn cannot be more than \$1.50 above or below the base market price established in February. The harvest market price for soybeans cannot be more than \$3 above or below the base market price. The RA policy has no such limits, however.

Premiums

The premiums for all types of revenue insurance are subsidized through the Federal Crop Insurance Corporation, just as traditional MPCI premiums are. The premium for a CRC policy is calculated using the base market price. If the harvest market 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. On the other hand, RA offers the

increased harvest price coverage as an optional feature, for a higher cost than the base plan policy.

Example 3. Higher price, low yield

<u>February</u>	<u>CRC and RA-HP</u>	<u>RA-BP and IP</u>
Dec. futures price	\$2.60	\$2.60
APH yield	133 bu.	133 bu.
Chosen coverage level	75%	75%
Revenue guarantee	\$259 (\$2.60 x 133 x 75%)	\$259 (\$2.60 x 133 x 75%)
<u>November</u>		
Dec. futures price	\$3.00	\$3.00
Revenue guarantee	\$299 (\$3.00 x 133 x 75%)	\$259 (\$2.60 x 133 x 75%)
Actual yield	80 bu.	80 bu.
Actual revenue	\$240 (\$3.00 x 80)	\$240 (\$3.00 x 80)
Insurance payment	\$59 (\$299-240)	\$19 (\$259-240)

Estimated premiums for CRC, RA, IP or GRIP policies can be obtained from a crop insurance agent or the following Internet site:

www.farmdoc.uiuc.edu/cropins/

Coverage Units and Discounts

Both CRC and RA are available with basic and optional coverage, just like MPCI.

Coverage for both RA and CRC is also available as *enterprise* units. IP offers only enterprise units. With enterprise unit coverage, all of the policyholder's acres of the enterprise (corn or soybeans) in a county are insured as a single unit. Discounts are available based on the number of sections of land on which the insured crop is planted. For example, corn grown on nine or more sections of land has a discount of 26 percent under RA. A similar discount of 44 percent is available for soybeans.

Revenue Assurance also offers *whole farm* coverage. With whole farm coverage, all acres of **both** crops (corn and soybeans) insured in a county are covered

under one insurance unit. Whole farm discounts are greatest (20 percent) when corn acres are 40 to 50 percent of the total acreage. The guaranteed revenue and actual revenue levels are an average for the two crops. RA also offers coverage up to 85 percent of expected revenue for enterprise and whole farm units.

For example, if the revenue guarantee is \$250 per acre for corn and \$230 for soybeans, the per acre whole farm revenue guarantee for a 50/50 corn-soybean rotation is \$240 $((250 + 230) \div 2)$. For a corn-corn-soybean rotation, the whole farm guarantee is \$243 $((250 + 250 + 230) \div 3)$. An insurance 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 ISU Extension publication FM-1860, *Actual Production History and Insurance Units for Multiple Peril Crop Insurance*.

Late or Prevented Planting, Replanting

Late planted, prevented planting, and replanting losses for both CRC and RA will be adjusted in the same

manner as MPCI losses (see ISU Extension publication FM-1859, *Delayed and Prevented Planting for Multiple Peril Crop Insurance*). Any late planting, or prevented indemnity for CRC will be based on the higher of the base market price or the harvest market price. However, only the CRC base market price is used to adjust replanting losses.

Exclusions

The prevented planting coverage feature can be excluded from either revenue insurance policy. However, hail and fire coverage cannot be excluded.

Summary

Revenue 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 that allow you to design the protection you want for your own operation.

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