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Agricultural Marketing Policy Center
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B R I E F I N G

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Federal Crop and Crop Revenue Insurance Programs: Crop Revenue Coverage

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Objective
Analysis
for Informed
Decision Making

Federal crop insurance against individual farm yield losses in the form of multiple peril policies has been available for some crops since 1938. Following the 1980 Federal Crop Insurance Act, the number of crops and the geographic coverage of the federal crop yield loss insurance program was greatly expanded. Beginning in the late 1980s, in addition to traditional multiple peril policies, new policies were developed based on yield losses at the county level and offered for a limited number of crops in a limited number of counties.

Following the 1994 Crop Insurance Reform Act, a wider range of federally subsidized insurance policies were introduced that provided protection against revenue losses and catastrophic losses.

Today, producers face a wide array of crop insurance alternatives including yield based Actual Production History (APH) insurance policies and Revenue Insurance policies. Not all insurance policies are available for every crop in any given county. In some counties, Risk Management Agency (RMA) approved insurance policies are not available for some crops. In these circumstances, producers can either utilize the Noninsured Disaster Assistance Program (NAP) or make a request for actuarial change.

Yield based APH insurance policies include Multiple Peril Crop Insurance (MPCI) and Group Risk Plan (GRP) policies. Under MPCI policies, indemnity payments are triggered by low yields on an individual producer's insured acres. Under GRP policies, indemnity payments are triggered by low county-wide yields.

Revenue insurance policies that provide indemnities for revenue losses caused by low yields, low prices, or both include Group Revenue Insurance Policy (GRIP) policies, Crop Revenue Coverage Policies (CRC), Revenue Assurance (RA) policies, and Income Protection (IP) policies. Under CRC, RA, and IP revenue insurance policies, indemnities are triggered by low revenues for an individual producer (caused by low yields, low prices, or both). Under GRIP policies, indemnity payments are triggered by low average revenue for the crop in the county.

This Briefing describes and discusses Crop Revenue Coverage (CRC) policies.

Crop Revenue Coverage (CRC)

Crop Revenue Coverage (CRC) was one of the first revenue insurance products to be approved by FCIC and to be eligible for federal subsidies. It is only available for a limited number of crops in a limited number of counties. In the 2001 crop year, crops with CRC coverage included winter wheat, spring wheat, durum wheat, corn, cotton, grain sorghum, and rice. CRC provides protection against reductions in expected revenues, based on price and yield expectations, by paying for losses below a revenue guarantee at the higher of an early-season price or the harvest price.

Insurable Areas:

A producer may purchase separate CRC policies for optional units, combine optional units and insure basic units, or combine basic units into an enterprise unit which includes all acreage planted to the crop in the same county (see Briefing paper No. 6, revised November 2002, for a detailed discussion of optional, basic and enterprise units).

APH Approved Average Yield

For each insured unit (optional, basic or enterprise), the producer must establish an APH approved average yield (See Briefing paper No. 7, revised November 2002, for a detailed description of APH approved yields).

Yield Elections or Yield Coverage Levels

The producer elects the proportion of the APH approved average yield on each insurable unit against which insurance is to be purchased. Producers can generally select between 50 percent and 75 percent of their APH approved yield as the basis for their CRC revenue insurance and yield elections can be increased in 5 percent increments. In some counties, producers can elect up to 85 percent of their APH approved yield.

Minimum Revenue Insurance Guarantee and the Base Price

The producer selects a yield election. The yield election is multiplied by the producer's APH approved average yield. This quantity is then multiplied by the base price for the crop and by a price election of 95 percent or 100 percent.

The base price for the crop is a specified average futures policy settlement price for harvest time delivery of the crop during a specified period prior to the policy signing date. Consider an example. In 2000, for corn in counties with a March 15 sign up date (the date by which producers had to sign up for insurance of the 2001 crop), the base price was the Chicago Board of Trade (CBOT) average February settlement price for December corn futures policies (that is, corn futures policies expiring ten months later in December of 2001).

The minimum revenue insurance guarantee is equal to the APH approved yield multiplied by the yield election, the base price for the crop, and the price election.

Example:

Suppose a producer has an APH approved corn yield of 100 bushels an acre, and the producer selects a CRC yield election of 70 percent and a price election of 100 percent. The futures market is used to establish a base price for the crop of $2.50 per bushel. The producer's CRC minimum revenue guarantee is:

Minimum Revenue Guarantee = APH approved yield x Yield election x Base price x Price Election = (100 bushels per acre) x (70 percent) x ($2.50) x (100 percent) = $175 per acre

Note that the per acre revenue guarantee is based on 70 bushels (100 bushels per acre APH multiplied by the 70 percent yield election).

The Harvest Revenue Insurance Guarantee and the FCIC Harvest Price

Under a CRC policy, the revenue guarantee may increase above the minimum guarantee level if the FCIC harvest price rises above the base price.

The harvest price for the crop is the average futures policy settlement price for the policy used to establish the base price in the month before the policy expires.

For example, in 2001, for corn in counties with a March 15 sign up date, the FCIC harvest price was the Chicago Board of Trade (CBOT) average November settlement price for December corn futures policies (that is, corn futures policies expiring one month later in December of 2001).

Typically, the harvest revenue insurance guarantee is equal to the producer's production multiplied by the FCIC harvest price for the crop and the producer's elected price percentage. If the harvest price is much larger than the base price, then the permitted increase in the value of the guarantee is capped. For example, in 2001, if the per bushel harvest price for wheat had been $2 more than the per bushel base price for wheat, the increase in the harvest price would have been capped at a maximum of $2.

Example (continued)

Suppose the FCIC harvest price for the crop insured by the producer increases to $3.00 as compared to the base price of $2.50. The producer's harvest revenue guarantee is:

Harvest Revenue Guarantee = APH approved yield x Yield election x Harvest price x Price Election = (100 bushels per acre) x (70 percent) x ($3.00) x (100 percent) = $210 per acre

The Producer's Revenue Guarantee

The producer's actual revenue guarantee is the larger of the minimum revenue guarantee and the harvest revenue guarantee. In the example, the producer's revenue guarantee is the per acre harvest revenue guarantee of $210 as it is larger than the minimum revenue guarantee of $175.

If the FCIC harvest price had fallen below the base price, the producer's revenue guarantee would have continued to be the minimum revenue guarantee computed using the base price.

Calculating CRC Indemnity Payments

The producer's crop value for CRC insurance purposes is measured as the producer's actual yield for the crop multiplied by the FCIC harvest price (*not* the price that the producer can sell the crop to a local county elevator at harvest time). If the measured crop value is less than the producer's revenue guarantee then the producer receives an indemnity equal to the difference between the revenue guarantee and the crop value. If the producer's measured crop revenue exceeds the revenue guarantee then the producer receives no indemnity.

To illustrate the CRC policy, consider two situations that the producer could encounter.

Example 1:

The producer's actual yield is 50 bushels (50 percent of the APH approved yield of 100 bushels), the per bushel base price is $2.50, and the per bushel harvest price is $3. The producer's CRC revenue guarantee is therefore $210 (as shown above). The producer's measured crop value for each insured acre is:

Crop Value = Actual yield x FCIC Harvest price = 50 bushels per acre x $3 per bushel = $150 per acre

The measured crop value is less than the revenue guarantee ($210). The producer receives the following indemnity payment on each insured acre:

Indemnity Payment = Revenue Guarantee - Crop Value = $210 - $150 per acre = $60 per acre

Example 2:

Suppose the producer's actual yield is 70 bushels (70% of the APH approved yield of 100 bushels), the per bushel base price

is $2.50, and the per bushel FCIC harvest price is $1.80. The producer's CRC minimum revenue guarantee is $175 (as shown above). However, the producer's harvest revenue guarantee is now lower than the minimum revenue because the harvest price is lower than the base price; that is,

Harvest Revenue Guarantee = APH approved yield x Yield election x Harvest price x Price Election = (100 bushels per acre) x (70 percent) x ($1.80) x (100 percent) = $126 per acre

The producer's CRC revenue guarantee is therefore the minimum revenue guarantee of $175.

The producer's measured crop value for each insured acre is now:

Crop Value = Actual yield x Harvest price = 70 bushels per acre x $1.80 per bushel = $126 per acre

The measured crop value is less than the CRC minimum revenue guarantee ($175). The producer, therefore, receives the following indemnity payment on each insured acre:

Indemnity Payment = Minimum Revenue Guarantee - Crop Value = ($175 - $126) per acre = $49 per acre

In this case, even though the producer's actual yield did not fall below 70 percent of the APH approved yield (the selected yield election), the producer received an indemnity payment because the harvest price fell below the base price.

Example 2 shows that in some circumstances CRC policies provide producers with protection against revenue losses when similar yield based insurance policies such as MPCI may not indemnify yield losses. In evaluating alternative revenue and yield insurance policies, however, producers should compare the protection against the risk of loss provided by each policy with the cost of each policy (the premium payment).

Premium Rates and Premium Payments

Premium rates for CRC policies are defined as percentages that are applied to the amount of insurance being purchased by the producer. Three premium rate elements are involved in each policy, the CRC Base premium rate, the CRC Low Price Factor, and the CRC High Price Factor. The latter two elements account for the protection provided by CRC policies against upward and downward movements in the price of the commodity. To determine premium payments, first, the Base Premium Rate, Low Price Factor, and High Price Factor are each applied to the producer's minimum revenue guarantee (the producer's APH approved yield multiplied by the yield election and the base price for the crop). Then the premium payment is adjusted for any options (including the enterprise option). Finally, the premium payment is reduced by the applicable federal premium subsidy.

Premium Subsidies

The premium rates charged to producers for all federal crop yield and revenue insurance policies are lower than the premium rates that would be charged if producer premium payments were required to cover all expected indemnity payments for crop and revenue losses. The dollar amounts of the premium subsidies generally do not increase in proportion to yield elections. Producers insuring against revenue losses with lower yield elections typically receive subsidies that make up a larger share of their total premium payments than producers insuring against crop losses with higher yield elections.

Shares

Producers often share a portion of a crop with landlords. Each individual with a share in the crop may insure their own share. Indemnity payments for losses and premium payments are pro-rated by the individual's share.

<u>Example (continued)</u>

Suppose a producer only has a 67 percent share in the crop. The producer can now only receive 67 percent of any indemnity payment based on a 100 percent share, but only has to pay 67 percent of the premium.

Prevented Planting and Replanting Indemnity Payments

In some years, producers may need to replant a crop or may be prevented from planting a crop. In some circumstances, producers may be indemnified for replanting costs under a CRC policy. Unless limited by the provisions of the policy, indemnity payments will also be made when producers are prevented from planting during the planting dates prescribed in the policy because of causes covered by the insurance policy (such as severe weather or flooding).

Sign Up Dates

FCIC identifies unique dates by which producers must sign up for their CRC policies that are specific to each county for each crop.

Reporting of Acreage and Crop Damage

Each crop year, producers with CRC policies are required to submit an acreage report by unit for each insured crop. The acreage report must be signed and submitted by the producer on or before the acreage reporting date for the county for the insured crop. In the event of crop damage, producers should immediately notify their insurance provider of the damage.

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