

Using Multiple Peril Crop Insurance to Protect Wheat Revenue Risk for 2009

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Given the bullish commodity market for wheat, producers should be considering their risk management alternatives to protect their revenue for the 2009 crop. One limitation of price risk management is that it does not protect revenue from yield risk. This memo explains how multiple peril crop insurance (MPCI) can be used to protect against low yields at very little cost to your farm business.

MPCI Prices

The MPCI Price is the price used in calculating an indemnity payment when there is a production loss. Table 1 lists the MPCI wheat price from the 1998-2009 crop years. As commodity prices have increased over the last three years, the MPCI wheat price has also increased. The average MPCI wheat price from 1998-2008 was \$3.45 per bushel. The 2009 wheat price of \$7.35 per bushel is 113% greater than the 1998-2009 average MPCI price. At this price level, producers should consider how MPCI insurance can help manage yield risk.

Table 1. MPCI Wheat Prices from 1998-2009.

MPCI Wheat Price		MPCI Wheat Price	
1998	\$3.65	2004	\$3.35
1999	\$3.30	2005	\$3.50
2000	\$3.15	2006	\$3.15
2001	\$2.80	2007	\$3.90
2002	\$3.15	2008	\$4.90
2003	\$3.15	2009	\$7.35

Catastrophic Insurance (CAT)

The minimum coverage offered through MPCI is the catastrophic (CAT) coverage level. CAT insures the crop at 50% of the farm's actual production history (APH) yield and 55% of the MPCI Price. The APH yield is based on a minimum of four and a maximum of ten consecutive years of yield data. The yield guarantee for CAT is the APH yield multiplied by 50%. The production loss, used in calculating an indemnity payment, is the yield guarantee less the harvested yield. The indemnity payment for CAT is the production loss multiplied by 55% of the MPCI Price described in Table 1.

The premium for CAT is \$300 per crop per county. CAT is the minimum coverage level available and will only pay an indemnity for extremely low yields. Example 1 illustrates how CAT insurance works.

Example 1. A wheat producer with an APH yield of 50 bu./acre decides to purchase MPCl at the CAT level. The harvested yield is 20 bu./acre. What is the indemnity payment?

$$\text{Yield Guarantee} = \text{APH Yield} \times 50\% = 50 \times 50\% = 25 \text{ bu./acre}$$

$$\begin{aligned} \text{Production Loss} &= \text{Yield Guarantee} - \text{Harvested Yield} \\ &= 25 - 20 = 5 \text{ bu./acre} \end{aligned}$$

$$\begin{aligned} \text{Indemnity Payment} &= \text{Production Loss} \times \text{MPCl Price} \times 55\% \\ &= 5 \times \$7.35 \times 55\% = \$20.20/\text{acre} \end{aligned}$$

Under CAT coverage, the wheat producer in Example 1 would receive an indemnity payment whenever the harvested yield is below the yield guarantee of 25 bu./acre. CAT only provides protection for severe production losses. However, it is very cheap insurance.

Multiple Peril Crop Insurance (MPCl)

The other MPCl policies insure yield at yield coverage levels of 50%, 55%, 60%, 65%, 70%, and 75% of the APH wheat yield. Producers also insure the crop at a price level ranging from 55% to 100% of the MPCl Price, called the price election. The yield guarantee for MPCl is the APH yield multiplied by the yield coverage level. For MPCl, an indemnity is paid whenever the harvested yield is less than the yield guarantee. The indemnity payment is the production loss multiplied by the MPCl Price and the price election. Example 2 illustrates the use of MPCl for a wheat producer.

Example 2. A wheat producer has an APH yield of 50 bu./acre and chooses to insure the crop at 65% of the APH yield and 100% of the MPCl Price. The harvested yield is 28 bu./acre. What is the indemnity payment?

$$\text{Yield Guarantee} = \text{APH Yield} \times \text{Coverage Level} = 50 \times 65\% = 32.5 \text{ bu./acre}$$

$$\text{Production Loss} = \text{Yield Guarantee} - \text{Harvested Yield} = 32.5 - 28 = 4.5 \text{ bu./acre}$$

$$\begin{aligned} \text{Indemnity Payment} &= \text{Production Loss} \times \text{MPCl Price} \times \text{Price Election} \\ &= 4.5 \times \$7.35 \times 100\% = \$33.08/\text{acre} \end{aligned}$$

Making the Decision to Purchase Insurance

Crop insurance is just one part of a comprehensive risk management program. Only protecting against low prices will not guarantee that you will obtain a revenue level that will cover your variable costs and provide a contribution towards covering your fixed costs. In addition, purchasing some type of insurance will make you eligible to participate in the disaster programs created by the 2008 Farm Bill.

The deadline for purchasing MPCl and CAT insurance for wheat is September 30, 2008. Contact your local insurance agent for more information on the insurance products available for your farm business.