PolicyPennings by Daryll E. Ray & Harwood D. Schaffer

How your program yield compares to your county's yield may matter when deciding on PLC or county ARC

As farmers decide on whether to participate in Price Loss Coverage (PLC) or the county-yield-based Agricultural Risk Coverage (ARC), it is clear that if prices are above the crop's reference price, the better choice is ARC because PLC does not pay anything unless the price is below the reference price for a given crop.

One situation we have not seen discussed in detail is one in which a farmer's yields are significantly above or below the county yields. Because the PLC is calculated on the basis of a farmer's program payment yield, it seems logical to expect that under low price conditions farmers with yields well below the county average yield would be better off taking the ARC which is calculated on the county yield.

Similarly because one would suspect that there are low-price conditions under which farmers whose yields are well above average would be better off with PLC.

But is that really (or always) true? Let's look at some specific yield and price situations to see how it works out for those situations. First we assume that we are evaluating program outcomes for a county that has an average corn yield of 200 bushels per acre. Suppose farmer Smith's program payment yield is 150 bushels of corn per acre and farmer Jones' farm has a program payment yield of 250 bushels of corn per acre.

Further assume a yearly price path that begins at $3.50 for the 2014 crop marketing year and then goes to $4.25, $3.25, $2.00, and $2.90 over the following four marketing years.

So what we want to do is compare the 5-year PLC total payments with the 5-year county-ARC total payments for the "low" yield-farm with the total payments for the high-yield farm compared to the county average, using the specified price path. First we make the computations for each year.

In 2014, given a season average price of $3.50, PLC would provide the low yielding farmer with a $25.50 per base acre payment. The high yielding farmer would receive $42.50 per base acre. Under county-ARC, both farmers would be better off with the ARC payment of $105.60 per base acre.

Looking at 2015 with a $4.25 season average price and the same 200 bu./ac. county yield, neither the low yielding nor the high yielding farmer would receive a PLC payment because the price is above the reference price of corn of $3.70. The ARC would provide both farmers with a payment of $105.60.

The $3.25 price and a 200 bu./ac. county corn yield in 2016 still puts the ARC payment ahead of the PLC payment for both the high ($95.63) and low ($57.38)

yielding farmer. The ARC for 2016 in this example would provide both farmers with a payment of $99.40 per base acre.

With the $2.00 season average price used in our example for 2017 and a 200 bu./ac. county corn yield, ARC would provide a payment of 82.60 per base acre to both the high and low yielding farmers. With PLC, the low yielding farmer would receive a payment of $216.75 per base acre while the high yielding farmer would receive $361.25 per base acre.

The 2018 price of $2.90 and a 200 bu./ac. county corn yield results in an ARC payment of $77.60 for both the high and low yielding farmer. The low yielding farmer in 2017 would receive a PLC payment of $102 per base acre while the high yielding farmer would receive $170 per base acre.

So how did the two programs fare over this particular 5-year scenario? The 5-year PLC payment for the low yielding farmer totals $401.63 compared to an ARC total of $470.80. So, even in an environment in which the price was below the reference price for 4 of the 5 years, the county-ARC program was a better choice for a farmer whose program payment yield is 25 percent below the county average.

For the high-yielding farmer the ARC 5-year payment total of $470.80 compares to $669.38 for the PLC. In addition, a farmer whose program payment yield for corn is at the county average of 200 bushels per acre also would be better off with a 5-year PLC total of $535.50 per base acre compared to the $470.80 under the county-ARC.

Our conclusion from this scenario is that over and above price expectations an individual's yield compared to the county yield needs to be taken into consideration as the farmer makes the election between the county ARC and the PLC.

Looking at this hypothetical scenario one can make several other observations.

- Whether prices are high or low, the maximum county-ARC payment of 10 percent of benchmark county revenue will often kick in the years in which payments are made.
- As the 5-year Olympic average price declines so does the payment cap even though the need for revenue protection increases.
- One or two years of extremely low prices can tip the balance in favor of the PLC, when seen over a 5-year period. Even though the ARC outperformed the PLC in 3 of 5 years in our scenario, the PLC resulted in larger total payments for the

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high-yielding farmer in our example.

In making the election between the PLC and the ARC, farmers need to carefully consider a number of factors including where they rank when compared to county yields. Just because one set of price expectations works out for farmer Jones does not mean that it will be the right choice for farmer Smith.

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