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Weekly Farm Economics: Protection Provided by Price Loss Coverage

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Reports suggest that the 2018 Farm Bill will be signed soon. Given the proposals contained in the House and Senate versions of the Farm Bill, it seems likely that most farmers will select Price Loss Coverage (PLC) to provide protection for corn. PLC could be preferred for soybeans as well. Herein we provide a description of the protection offered by PLC, noting that PLC will not provide a "hard" floor under revenue for most cases. Instead, PLC payments will offset some of the revenue loss from lower prices. This occurs because the bushels covered by PLC typically are less than expected production.

PLC Price Protection and Covered Yield

Under both the House and Senate proposed versions, PLC payments in 2019 would not differ from the 2014 Farm Bill for corn and soybeans. We describe here the proposed version in the House version as applied to 2019. PLC makes payments when the national market year average (MYA) price is below the effective reference price (simply referred to as the reference price from here on). Reference prices are \$3.70 per bushel for corn and \$8.40 per bushel for soybeans. The payment rate will then equal the reference price minus the MYA price. If the MYA price is \$3.50 for corn, then the payment rate is \$.20 per bushel (\$3.70 reference price - \$3.50 MYA price). PLC provides protection against low prices, where low prices are prices below the reference price.

In most cases, however, the PLC program will make payments on far fewer bushels than are produced on a farm. As a result, the PLC program will provide a "soft" floor under revenue due to price declines. This fact will be illustrated by calculating a "covered yield". Covered yield is the yield that when multiplied by the payment rate gives the PLC payment per acre.

Covered Yield

Covered yield will vary from Farm Service Agency (FSA) farm to FSA farm. An example of its calculation for corn and soybeans is shown in Table 1. Parameters used in this calculation represent averages for McLean County, Illinois. Four factors enter into the calculation of covered yield:

Table 1. Calculation of Covered Yield Under Price Loss Coverage, Examples for McLean County, Illinois

	Corn	Soybeans
PLC payment yield (bu. per acre)[1]	159	51
Base acres corn [2]	368,652	226,372
Planted acres in 2017 [3]	309,500	311,500
Base-divided-by-planted acres	1.19	0.73
Payment acre factor [4]	0.85	0.85
Sequester amount [5]	6.8%	6.8%
Covered yield (bu. per acre) [6]	150	29

[1] Average PLC yield for McLean County. Source is Farm Service Agency.
[2] Base acres of each crop in McLean County. Source is Farm Service Agency
[3] Planted acres in 2017. Source is National Agricultural Statistical Service.
[4] Commodity programs make payments on .85 of base acres.
[5] Average sequester amount for payments under the 2014 Farm Bill.
[6] Equals PLC yield x base divided by planted acres x .85 payment acres x (1 - .068 sequester).

1. PLC Yield. The PLC yield is specific to each FSA farm. Occasionally, a Farm Bill allows updating of the PLC yield. The 2014 Farm Bill allowed farmers to make a choice between 1) keeping the existing payment yield and 2) updating the yield to 80% of the five year average from 2008 to 2012. Although the joint committee announced last week an agreement has been reached, the full text of the 2018 Farm Bill has not yet been released. Updates are not authorized in the proposed Senate bill but are allowed in the proposed House bill. However, the latter update is tied to a specific definition of drought that will constrain the availability of the update option to counties mostly in the Great Plains and southern United States (see *farmdoc daily*, October 2, 2018). Average PLC payment yields for McLean County, Illinois under the 2014 farm bill are 159 bushels per acre for corn and 51 bushels per acre for soybeans (see Table 1).

2. Base-divided-by-planted acres. PLC payments will be made on base acres not on planted acres. Bases acres are fixed for each FSA farm and will not change under the 2018 Farm Bill. Base acres do not have to match planted acres. In McLean County, there are 368,562 base acres of corn, 1.19 times the 309,500 acres planted in 2017. Fewer corn acres were planted than exist in base. On the other hand, there are 226,372 base acres of soybeans in Mclean County, much lower than the 311,500 acres planted in 2017. For soybeans, base-divided-by-planted acres equals .73 (see Table 1). Planting fewer corn acres than base and planting more soybean acres than base is common across most of the Midwest. On any farm, however, the relationship will vary. The relationship also will vary by year, depending on how much of each crop is planted in a year.

3. Payment acre factor. Commodity programs have a .85 factor built into the calculation. Payment is made on only 0.85 of base acres. This factor will reduce covered yield.

4. Sequester amount. Budget sequestration refers to automatic spending cuts to U.S. federal government spending in particular categories of spending, including farm commodity programs, as a result of the "Budget Control Act of 2011." Sequestration will continue until Fiscal Year 2021. The sequester amount in recent years has been 6.8%.

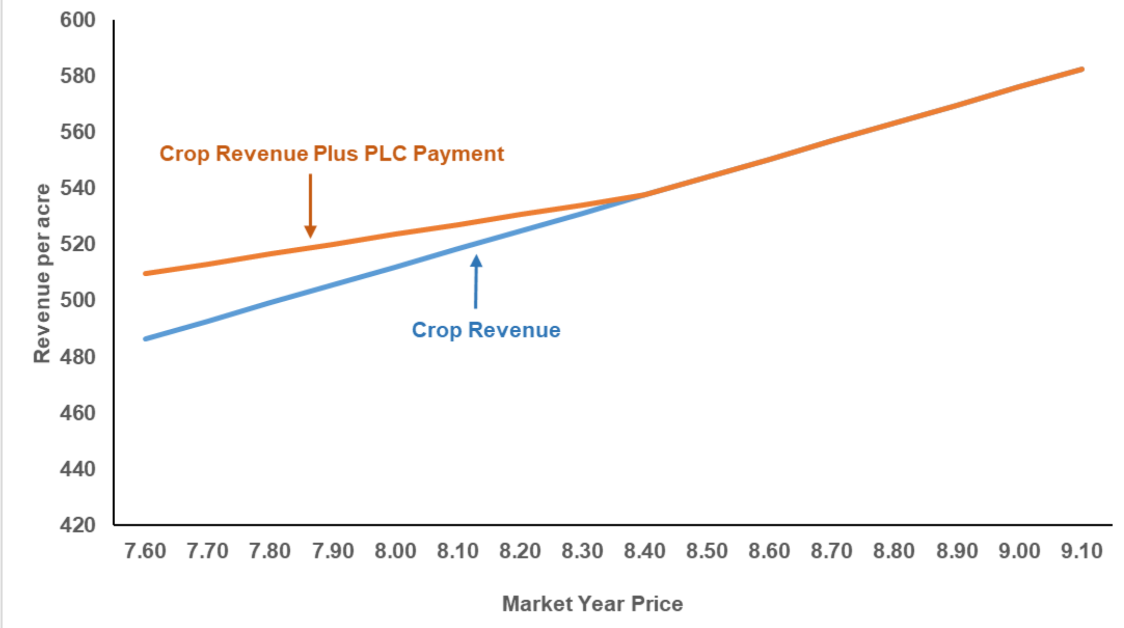
Covered yield thus equals PLC payment yield times base-divided-by-planted acres x. 85 payment acres x (1 - .068 sequester amount). The average covered yields for McLean County are 150 bushels per acre for corn and 29 bushels per acre for soybeans.

Implications of Covered Yields

In most cases, covered yields will be significantly less than harvested yields from crops. The average covered yield in McLean County is 150 bushels per acre. The average corn yield in McLean County from 2013 to 2017 was 212 bushels per acre (2018 yields are not available but likely would increase the five-year average). The covered yield is 71% of the five-year average yield (.71 = 150 covered yield / 212 five-year average yield). For soybeans, the covered yield is 46% of the five-year average yield (.46 = 29 cover yield / 64 five-year average yield). The covered yield umbrella is less for soybeans than corn largely because of the difference between planted and base acres for soybeans and corn.

Because of lower covered yields than actual yields, PLC will not provide a hard floor under revenue. As the market year average price declines, PLC payments will not completely offset crop revenue declines. This factor is illustrated for soybeans in Figure 1. It shows crop revenue and PLC payments for different market year average prices, given a 64 bushels actual yield and a 29 bushels per acre cover yield.

Figure 1. Crop Revenue Plus PLC Payments for a 64 bushel Actual Yield and 29 Bushel Covered Yield



PLC will not provide assistance when market year average price is higher than the reference price. PLC also will not provide assistance when yields are low.

References

Schnitkey, G., N. Paulson, C. Zulauf and J. Coppess. "Yield Updating and the Current Versions of the Farm Bill." *farmdoc daily* (8):183, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, October 2, 2018.