

July 19, 2017

Summary

Margin Protection is a federal crop insurance policy that recently became widely available for corn, soybeans, spring wheat, and rice. It allows producers to lock in a margin based on current expectations of commodity and input prices. It is designed to protect against declining margins, even in years when expected outcomes are already negative.

Farmers can purchase a margin policy this September to insure the 2018 operating margin based on the difference in expected county crop revenue and input costs, including diesel fuel, fertilizer, and interest expense. After harvest, an indemnity is paid if the actual margin is below the trigger, which depends on the selected coverage level. To address farm yield risk, farmers can also purchase a traditional yield or revenue policy next spring. The policy premiums and indemnities of the two policies are coordinated.

Farmers pay about half of the margin protection policy premium; the federal government pays the rest. For the 2016 crop, farmers paid on average about \$5 per acre for spring wheat and \$13 for corn.

Although margin protection policies have been available in pilot areas for two crop seasons, they have been lightly used, as is common for new crop insurance products. But farmers and lenders may find this policy to be a useful tool for managing crop margin risk. The last day to purchase a 2018 policy for corn, soybeans, and spring wheat is Sept. 30, 2017.

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Margin Protection: Insurance for Managing Crop Margin Risk

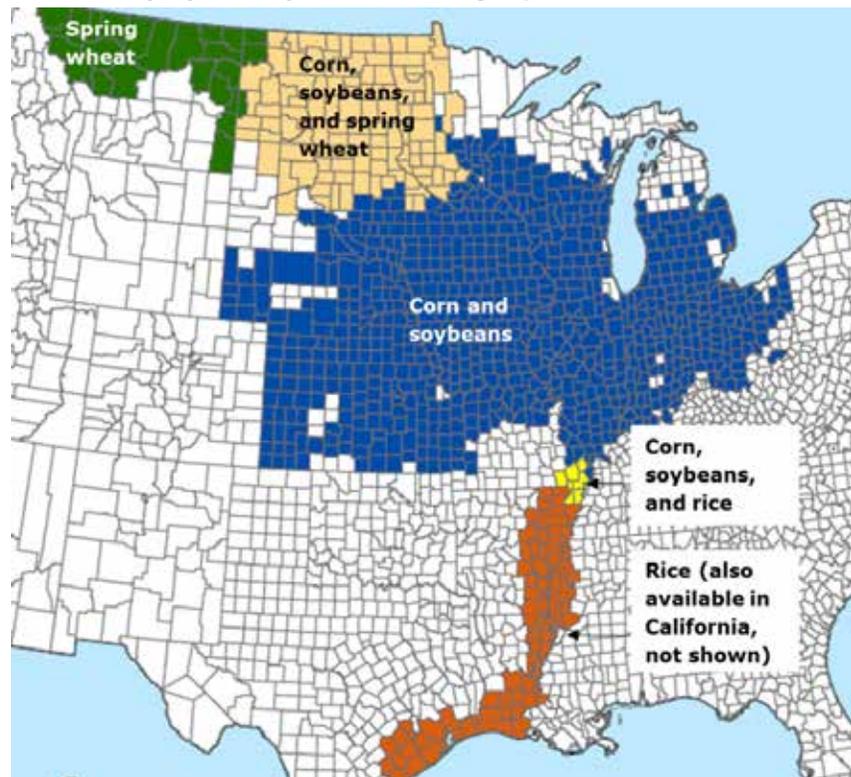
For many years, federal crop insurance products have compensated insured producers following shortfalls in crop yields or revenue. Now, as authorized under the 2014 Farm Bill, a margin policy is available to protect against an unexpected loss in the crop operating margin (that is, county revenue minus costs) over a growing season for corn, soybeans, spring wheat, and rice.

The insurance does not line up exactly with farm-level margin risk because the guarantee is based on expected county (not individual farm) yields, regional costs, and national prices. To address their own farm yield risk, producers may also purchase a traditional yield or revenue policy.

As insurance agents and others become more familiar with the margin policy product, farmers and lenders might want to investigate how this product fits with other tools to manage farm risk. The policy premiums are subsidized at a rate of 44 percent to 59 percent, depending on the selected coverage level. The 2018 margin policies must be purchased by Sept. 30, 2017 (the rice deadline is Jan. 31 in some areas and Feb. 28 in others).

Margin policies were first offered on a pilot basis for 2016 crops. Since then, availability has been expanded to most major producing areas for corn, soybeans, spring wheat, and rice.

Availability by county of 2018 margin protection insurance



Source: [Margin Protection Plan, Corn, Rice, Soybeans, and Wheat 2018](#), USDA Risk Management Agency.

Margin guarantee includes expected cost of key inputs

The insurance guarantee is calculated as the expected margin prior to planting, with the expected margin equal to the expected revenue minus expected costs of key inputs. Expected revenue per acre is calculated by multiplying expected county yield by projected commodity price. Expected cost per acre is calculated by multiplying the quantity of every input by its projected price and then by adding the results of this calculation for all inputs.

The input costs are one of two types:

- Inputs with prices subject to change before harvest (e.g., diesel, urea [nitrogen], phosphate, potash, and interest expense)
- Inputs with prices that are *not* subject to change before harvest (e.g., seed, machinery, and operating costs other than fuel)

Data used for estimating input prices are from a variety of sources, including futures markets (e.g., Chicago Mercantile Exchange 30-Day Federal Funds futures and fertilizer swaps; New York Mercantile Exchange diesel futures), cash markets (for potash), and land-grant universities (for other costs). For all but rice, which varies by state, the discovery period for setting the guarantee (for commodity and input prices) is Aug. 15 to Sept. 14 in the year prior to harvest. Input amounts per acre are published in actuarial documents for each county.

The trigger margin is equal to the expected margin minus the deductible, where the deductible is 100 percent minus the coverage level (selected by the producer) multiplied by the expected revenue. Coverage levels are 70 percent to 95 percent (higher coverage has a higher premium). As with the Revenue Protection policy, if a producer selects the harvest price option, the guarantee is reset at a higher level when the harvest price is above the projected price.

A margin indemnity is paid if the actual harvest margin is less than the trigger margin. Indemnities are paid when data on final county yields become available, which is generally in the spring of the year after harvest. If there is an indemnity paid under the farmer's Yield Protection or Revenue Protection policy, the indemnity amount from that policy is subtracted from any loss under the margin policy. Premiums are also adjusted when both policies are purchased.

Equations and examples for determining margin indemnity*

	Equation	Example
Expected margin	$(\text{expected county yield} \times \text{projected price}) - \text{expected cost}$	$(180 \text{ bu./acre} \times \$4/\text{bu.}) - \$320/\text{acre} = \mathbf{\$400/\text{acre}}$
Margin deductible	$\text{expected revenue} \times (1 - \text{coverage level})$	$(180 \text{ bu./acre} \times \$4/\text{bu.}) \times (1 - 0.95) = \mathbf{\$36/\text{acre}}$
Trigger margin	$\text{expected margin} - \text{margin deductible}$	$\$400/\text{acre} - \$36/\text{acre} = \mathbf{\$364/\text{acre}}$
Actual margin	$(\text{actual yield} \times \text{harvest price}) - \text{actual cost}$	$(160 \text{ bu./acre} \times \$3.80/\text{bu.}) - \$330/\text{acre} = \mathbf{\$278/\text{acre}}$
Margin indemnity	$\text{trigger margin} - \text{actual margin}$	$\$364/\text{acre} - \$278/\text{acre} = \mathbf{\$86/\text{acre}}$

* Adapted from [Margin Protection Overview for 2018](#) (PDF, 463 KB) by Watts and Associates. See these resources by the USDA Risk Management Agency: [Margin Protection for Federal Crop Insurance](#) (PDF, 363 KB), [Margin Protection for Corn, Rice, Soybeans and Wheat](#), and the [Margin Protection Plan of Insurance Standards Handbook](#) (PDF, 179 KB). See also the [Margin Protection Premium Estimator and Price Discovery](#) web page of Watts and Associates.