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Weekly Farm Economics: Prevented Planting Decision for Corn in the Midwest

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Continued wet weather and saturated soils over much of the Midwest suggests that many farmers will be facing decisions on whether to take prevented planting. Prevented planting is available for those individuals purchasing the Common Crop Insurance (COMBO) product. Once the final planting date has arrived, the farmer can choose to take a prevented planting payment, plant corn, or plant soybeans or another crop. A cover crop can be planted on prevented planting farmland, but there are restrictions on haying and grazing the cover crop. In many cases, taking the prevented planting payments will have higher expected returns than planting. However, market and policy dynamics this year make forming expectation on alternatives very difficult. This article discusses considerations in making these decisions.

Need to Contact Crop Insurance Agents

Farmers who are considering taking prevented planting payments need to contact their crop insurance agents. Eligibility and reporting requirements are key to assuring that a prevented planting payments can be received. Moreover, for farmers electing prevented planting payments, the payments will be significant sources of farm income this year. As a result, getting the details wrong can have large impacts on financial positions of farms.

Eligibility for Prevented Planting Payments.

Prevented planting payments are eligible on plans in the Common Crop insurance (COMBO) policy. These plans include Revenue Protection (RP), RP with the harvest price option, and Yield Protection.

For corn, the full prevented planting payments will be 55% of the guarantee. A buy-up option to 60% was available at crop insurance signup. Take, as an example, an RP policy at an 85% coverage level and a

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200 Trend-Adjusted Actual Production History (TA-APH) yield for corn. The projected price for corn in 2019 is $4.00 per bushel. In this case, the prevented planting payment in is $374 per acre (55% prevented planting payment times 85% coverage level times 200 TA-APH yields times $4.00 projected price). Lower RP coverage levels will have lower prevented planting payments.

Note also that the harvest price does not enter into prevented planting payments. Prevented planting payments will not increase if the harvest price is above the projected price, even on RP policies.

Some farmers purchased the Supplemental Coverage Option (SCO) this year. Prevented planting payments are not made on SCO coverage, only on the underlying COMBO product.

Prevented planting payments are not available on Area Risk Protection Insurance (ARPI) policies or Margin Protection.

Linkages between Commodity Title Programs and Market Facilitation Program Payments

Receiving prevented planting payments will not influence Agricultural Risk Coverage (ARC) or Price Loss Coverage (PLC) payments.

However, taking prevented planting claims could influence payments from a 2019 successor to the 2018 Market Facilitation Program (MFP). In 2018, the MFP resulted from President Trump Administration's desire to compensate farmers for losses due to trade disputes. Payments were $1.65 per bushel for soybeans and $.01 per bushel for corn on 2018 production. If prevented planting is taken, no bushels will be produced and any future MFP-like payments paid by bushel produced will not occur. If the program is repeated, 2019 MFP payment levels could be different than in 2018. The program could have a different structure. Press articles suggest that aid will be forthcoming to farmers, although no plans for distribution have been released at this time (see Reuters).

Acres Eligible for Prevented Planting

Each insurable unit will have different acres eligible for prevented planting. Knowing how many acres are eligible is key to not being surprised when making prevented planting decisions. Crop insurance agents can aid in determining acres eligible for prevented planting payments.

As a general guideline, the maximum acres eligible for prevented planting payments equal the maximum acres of corn planted in the last four years in that insurable unit, adjusted for acreage increases, less corn acres planted in 2019. Other planting requirements come into play as well.

As a simple example, take a 100-acre insurance unit that has remained the same size in the last four years. If the maximum number of acres in corn in one of the four years is 75 acres, then 75 acres is the maximum number of acres on which prevented planting of corn can be taken. If this farm gets 50 acres of corn planted, then only 25 acres are eligible for a prevented planting payment on corn.

Farmer-paid Premium and Enterprise Units

Enterprise units have significantly lower premiums than basic or optional units. To be eligible for an enterprise unit, a farmer must plant the lower of 20 acres or 20 percent of planted acres in at least two sections. Note that the requirement is based on planted acres. Prevented planted acres do not enter into the calculations. If no planting occurs, the farm will receive prevented planting payments, but will not be eligible for the lower enterprise unit premiums.

APH Yields

Generally, prevented planting will not impact the APH yield in future years unless a second crop is planted on prevented planting acres.

Take as an example an insurable unit that has 500 acres and 400 acres are planted to corn. Prevented planting payments are taken on 100 acres and a second crop is not planted on those 100 acres. In this case, the yield used in calculating the APH for this insurable unit will be based on production from the 400 planted acres divided by 400 planted acres.

Decisions Following the Final Planting Date for Crop Insurance Purposes

For crop insurance purposes, the final planting date for a crop is key. After the final planting data has arrived, a prevented planting payment can be taken. There also is a late planting period which varies by state and crop and is 20 days after the final planting date for corn in Illinois. Planting of corn after the final planting date can still occur, but the insurance guarantee is reduced 1% for each day the crop is planted after the final planting date. After the 20 day late planting period, the guarantee will be 60% of the original guarantee.

Final planting dates for corn in most Midwest states will arrive soon. It is May 25 for much of the Great Plain states, upper Minnesota, and upper Wisconsin; May 31 for southern Minnesota, southeast North Dakota, southeast South Dakota, most of Wisconsin, Iowa, northeast Missouri, extreme southern Illinois, and Kentucky; and June 5 for most of Illinois, Indiana, Ohio, and Michigan. A map showing these dates is available in the May 7 *farmdoc daily* article.

Once the final planting date arrives, a farmer with a COMBO product has four options:

1. **Take a prevented planting payment and not plant a crop to be harvested or grazed.**

    - The prevented planting payment equals 55% of the guarantee unless an additional 5% buy-up to 60% was purchased. Take a Revenue Protection (RP) policy at an 85% coverage level and a 200 bushel per acre Trend-Adjusted Actual Production History (TA-APH) yield. Given a 55% prevented planting payment factor, the prevented planting payment is $374 per acre (55% payment factor x 85% coverage level x 200 TA-APH yield x $4.00 projected price).

    - APH yield is not impacted. If all acres in the insurable unit are not planted, the 10-year history will not change between 2019 and 2020. If some acres are planted, the average yield on planted acres will enter the APH history.

    - Full prevented planting payment for an insurable unit requires no field crop is harvested in 2019 on prevented planting acres on that insurable unit.

    - A cover crop can be planted and full prevented planting payment received if the cover crop is not hayed or grazed before November 1.

    - The full farmer-paid premium for corn must be paid on the prevented planting acres. Note that farmer-paid premium may be higher if the enterprise unit requirements are not met (see above discussion).

2. **Plant corn.**

    - No prevented planting payment will be received.

    - Acres will be insured but the guarantee will decrease throughout the late planting period. Again, take an RP policy with an 85% coverage level, a $4.00 projected price, and a 200 TA-APH yield. Before the final insurance planting date, the minimum revenue guarantee is $680 per acre. This guarantee will be reduced by 1% for each day after the final insurance planting date. The guarantee will be $673 per acre one day after the final planting date, $666 per acre two days after the final planted date, and so on. After 25 days, the guarantee is fixed at 60% of the original amount, or $408 per acre (60% times $680).

    - In most cases, the 2019 yield will enter the APH history and impact future APH yields on acres planted to corn. The only exception would be if Yield Exclusion is declared for a county, allowing the yield for that year to be not included in APH histories.

    - The farmer must pay all of the farmer-share of premium on corn.

3. **Plant another crop.** A farmer can plant another crop on acres intended to be corn. In most of the Midwest, this crop will be soybeans.

- No prevented planting payment is received.

- If the farmer signed up for crop insurance on the planted crop for the insurable unit, the acres will be covered by that policy. The insurance guarantee is not reduced until that crop's final insurance planting date is reached. For soybeans, this date ranges from June 10 to June 30 in Midwest states (see *farmdoc daily*, May 7, 2019 for maps of final planting dates). If the crop that is planted was not signed up for insurance on that insurable unit, crop insurance cannot be purchased as the final sales date has passed.

4. **Take 35% of the corn prevented planting payment and plant another crop for harvest after the late planting period.**

   a. In this option, the corn prevented planting payment equals 35% of the full prevented planting payment. In double-crop situations, obtaining the full prevented planting payment while planting double-crop soybeans is possible.

   b. The crop must be planted after the late planting period for corn. This date will be in late June. Key management questions are whether an adequate stand will occur and whether an early frost will reduce yield.

The following discussion will focus on options 1 through 3. Option 4 will be dealt with in a *farmdoc daily* article after the final plant date has occurred. Option 1 is a precursor of option 4. It is unlikely that option 4 will have a higher expected return than option 1.

Calculating Expected Returns from the Three Options

The *farmdoc Prevented Planting Module* will be used to aid in making calculations for each alternative. The *Prevented Planting Module* is part of the *Planting Decision Model*, a Microsoft Excel spreadsheet within the FAST series available for download on *farmdoc* (here). The specific spreadsheet is available (here).

Calculations will be illustrated for a farm in Champaign County, Illinois that has chosen an RP policy at an 85% coverage level. For Champaign County, the final planting date for corn is June 5 and for soybeans is June 20. The RP policy for corn has a 200 TA-APH yields and a 55% prevented planting payment factor applies for corn. Note that the tool gives the prevented planting payment for both corn and soybeans (see Figure 1).

Prevented Planting Payment on Corn: The prevented planting payment for corn will be $374 per acre. There will be costs associated with this alternative. We built in $25 per acre of weed control costs, which could include planting a cover crop. An $18 crop insurance premium also is included. Net returns from taking prevented planting are $341 per acre. Note that land and other costs are not included in the $341 value as they will not vary for the three options. The $341 per acre is not the net income from an acre under prevented planting. In most cases, net income after considering overhead and land costs will be negative.

Plant Corn: Planting in this example is assumed to take place on June 6. On this date, planting will result in a slight reduction in the crop insurance guarantee to $673 per acre. Those reductions will increase the later planting occurs during the late planting period.

In our example, the expected yield is 171 bushel per acre, as is estimated using parameters in the *Prevented Planting Module*. Users can override expected yields produced by the model. The expected insurance harvest price is $3.70 and the estimated harvest cash price is $3.40 in this example, close to the central Illinois market in mid-May. Given the 171 yield and $3.40 cash price, crop revenue is expected to be $581 per acre. Revenue includes a crop insurance payment of $41 per acre, bringing total estimated revenue to $622 per acre.

Figure 1. Output from Planting Decision Model

Prevented Planting Comparison Tool

Budget Year:	2019P
State:	Illinois
County:	Champaign

Net returns from prevented planting	**Corn**	**Soybeans**
COMBO plan	RP	RP
Coverage level	85%	85%
APH yield (bu. per acre)	200	60
Projected price ($ per bu.)	$4.00	$9.54
Prevented planting factor	55%	60%
Final planting date	6/5	6/20
Prevented planting payment	$374	$292
Weed control costs	25	25
Crop insurance premium	18	15
Net returns ($ per acre)	**$331**	**$252**

Net returns on plant corn or soybeans	**Corn**	**Soybeans**
Planting date	6/6	6/6
Insurance guarantee	673	487
Maximum yield (bu. / acre)	230	65
Percent of max	74%	91%
Expected yield	171	59
Expected harvest price	$3.70	$8.30
Basis	-$0.30	-$0.30
Expected cash price ($/bu.)	$3.40	$8.00
Crop revenue	$581	$475
Crop insurance payment	41	0
Revenue ($ per acre)	**$622**	**$475**
Direct costs ($ per acre)		
Fertilizers	145	46
Pesticides	75	39
Seed	114	73
Drying	18	1
Storage	15	8
Crop insurance	18	15
Power costs ($ per acre)		
Machine hire	13	14
Field cultivate	9	9
Plant	12	12
Spray	3	3
Combine	35	30
Trucking	12	6
Costs yet to be incurred	**$469**	**$256**
Expected net returns ($ per acre)	**$153**	**$219**

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The example assumes that there are $469 per acre in "costs yet to be incurred". These are costs that can be avoided if corn is not planted, but will be incurred if corn is planted and harvested. The example shown in Figure 1 assumes that all fieldwork and all inputs still need to be applied, as is the case on many farms as a wet fall precluded much field work. Several items to note:

- Fertilizer costs are $145 per acre and include nitrogen, phosphorus, and potash. If nitrogen fertilizer has already been applied, then it should not be included in costs as it has already been incurred and cannot be avoided by not planting.

- Drying costs are at $18 per acre. Late planted corn likely will have a higher moisture level at harvest, resulting in a higher drying charge. Harvesting corn in the high 20 percent moisture levels could result in much higher drying charges, perhaps near $50 per acre.

- Field operations are charged at estimates of total machinery costs. Some reduction for planting and fieldwork may be warranted, but this will change results very little.

Net revenue from planting corn is $153 per acre. This is substantially lower than the $341 per acre net revenue from taking the prevented planting payment assuming no fieldwork is done and no input have been used and that all inputs are refundable. Again, both figures are prior to land costs and therefore not equivalent to net income.

Plant Soybeans: Soybeans planted on June 6 are estimated to have a 59 bushel yield. The harvest insurance price is $8.30 and expected cash price at harvest is $8.00. Costs to be incurred for soybeans are $256 per acre.

Net returns from planting soybeans are $219 per acre. Planting soybeans has higher returns than planting corn, but still notably less than taking the prevented planting payments for corn.

Planting Corn versus Taking a Prevented Planting Payment

For this example, expectations are that net returns from taking corn prevented planting exceeds returns from planting either corn or soybeans. Obviously, realized prices and yields will impact returns. The *Planting Decision Model* prepares a table giving net returns for corn under different prices and yields. These net returns include both revenue from crop sales as well as crop insurance payments (see Table 1). Net returns above that from taking the corn prevented planting payment are highlighted in red. Note that net returns from prevented planting are above net returns from corn planting except when prices exceed $4.25 or yields are above 200 bushels per acre. Even at 210 bushels per acre, corn price needs to be above $4.00 before planting corn has higher net returns than taking prevented planting payments.

Table 1. Net Returns from Planting Corn for Different Yields and Prices

Harvest Price	Cash Price	Actual Yield							
		140	150	160	170	180	190	200	210
$ / bu.	$ / bu.	$ per acre							
3	2.7	162	159	156	153	150	147	144	141
3.25	2.95	162	159	156	153	150	147	144	151
3.5	3.2	162	159	156	153	150	147	171	203
3.75	3.45	162	159	156	153	152	187	221	256
4	3.7	162	159	156	160	197	234	271	308
4.25	3.95	204	201	198	203	242	282	321	361
4.5	4.2	246	243	240	245	287	329	371	413

Numbers in red are above net return for prevented planting.

The example in Figure 1 and Table 1 uses an 85% coverage level. Lower coverage levels will have lower prevented planting payments and net returns:

80% coverage level: $352 prevented planting payment and $309 net return

75% coverage level: $330 prevented planting payment and $287 net return

70% coverage level: $308 prevented planting payment and $265 net return

As net returns are lowered, planting corn will become a more attractive alternative, but, even at a 70% coverage level, expected net returns from taking prevented planting payments exceed that from planting corn.

Two other considerations in the decision to plant corn or take the prevented planting payment:

- Planting corn has the potential to lower APH yield in the future.
- There is a possibility of MFP-like payments on corn that are higher than the $.01 level in 2018. Higher MFP payments could increase revenue from planting corn.

Switching to Soybeans versus Taking a Prevented Planting Payment

Soybean net returns are $219 per acre, higher than corn's net return of $153 per acre, but still below the $331 per acre net return from taking the prevented planting payment. Those net returns suggest taking the corn prevented planting payment has the highest expected return. Planting soybeans have the same considerations as planting corn, but three seem critical:

- Net returns are based on a 59 bushel per acre yield. This yield may be high given the late planting.
- An MFP payment in 2019 similar to the 2018 payment would change returns. Adding a $1.65 per bushel MFP to the example in Table 1 would increase returns to $314 per acre, coming close to the $331 per acre net return on taking the prevented planting payment on corn.
- A low yield in 2019 will lower APH yields in future years.

Market and Policy Dynamics

Uncertainty about market and policy dynamics cause prevented planting decisions to be more difficult this year than is typical. Items contributing to these uncertainties include:

- The trade war with China leads to uncertainty about the level of soybean exports from the United States.
- The presence of African Swine Fever in southeast Asia further reinforces the potential for lower export demand for soybeans.
- The likely existence of a successor to the Market Facilitation Program in 2019 could influence market dynamics. Press reports suggest that President Trump's administration is considering about $15 billion in aid to American farmers, more than occurred in 2018. If this aid is tied to production as the 2018 MFP payments were, decisions related to prevented planting will impact MFP-like returns, potentially changing decisions of farmers.
- The late planting contributes to uncertainty about acreages that will be planted and yields that will be harvested in the U.S.

In a late planting year, the expected dynamics are for corn acres to decrease and soybean acres to increase, leading to upward pressures on corn prices and lower soybean prices. Offsetting these movements would be MFP payments at 2018 levels: $.01 per bushel for corn and $1.65 per bushel for soybeans. The level of MFP payments in 2019 could offset the current lower soybean prices. How this will impact planting decisions and resulting market conditions is difficult to predict.

At this point, market dynamics in corn and soybean markets are being influenced by elements not seen in the past, causing difficult projections to be even more uncertain.

Summary

Prevented planting decisions are always difficult, but market and policy dynamics make 2019 decisions even more difficult. Given no MFP-like payments, our analysis suggests that prevented planting has the highest expected return relative to planting corn or planting soybeans. An individual's situation will matter. In particular, planting may be more economical if some of the inputs, especially fertilizer on corn, have already been applied.

An individual's expectation on another round of aid similar to last year's MFP payments also will influence planting decisions. Press reports suggest that aid is being considered and that aid will be larger than last year. If this aid is targeted to 2019 production, incentives will be reduced to take prevented planting payments.

The above analysis is for a central Illinois farm situation. Expected returns from the alternatives will vary across regions. Farmers should conduct their own analysis. Still, the considerations and dynamics presented in this paper will apply to all farmers in the Midwest facing late planting decisions.

Market and policy conditions are very fluid this year. This article contains the best information available as of this date, but conditions may change. Farmers should check with crop insurance agents when making prevented planting decisions.

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