What Did We Learn from Delayed Planting: Farm Management Implications

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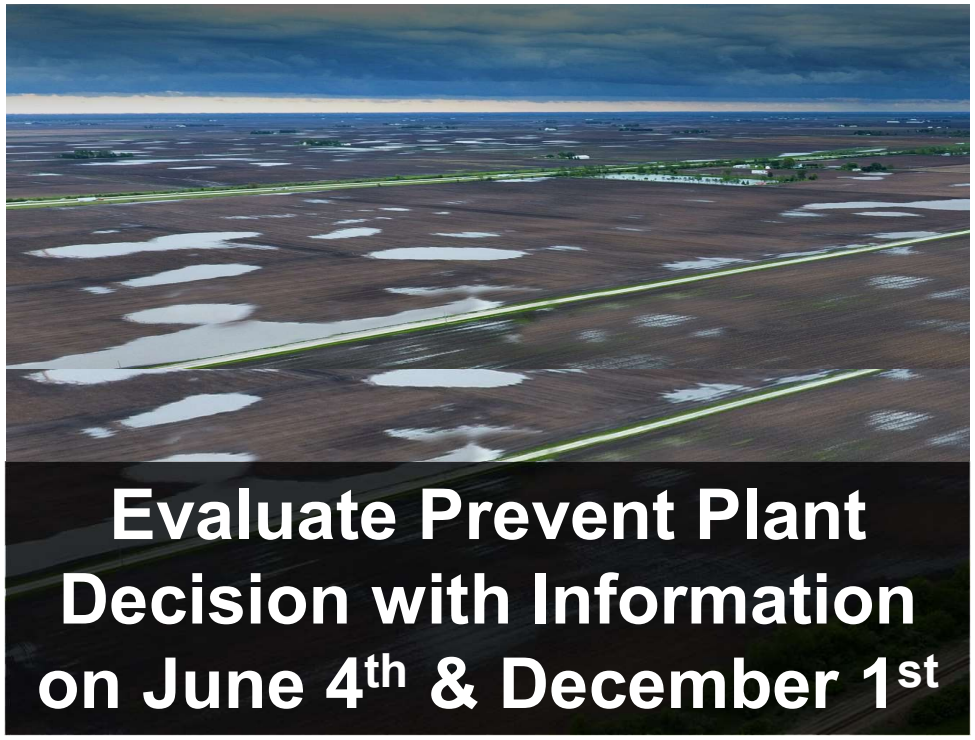
Topics

will assume that Revenue Protection (RP) insurance was taken, giving the option to take a prevent plant payment.



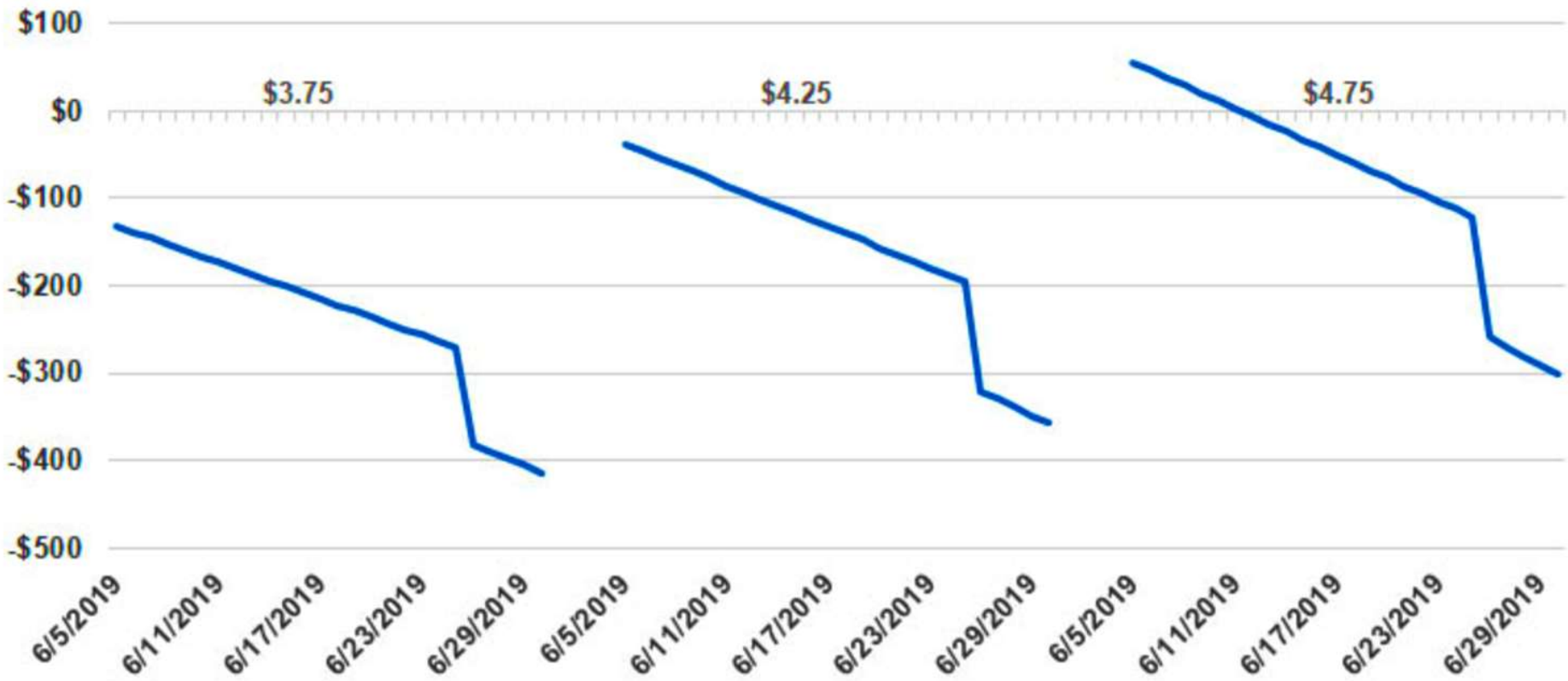
June 5 Analysis

The following three graphs are from a June 4, 2019 farmdocDaily article entitled:

"The Advisability of Planting Corn Declines Rapidly with Later Planting Dates" (Krista Swanson, Gary Schnitkey, Carl Zulauf, Ryan Batts, and Jonathan Coppess)

Note that there are no MFPs in the analysis

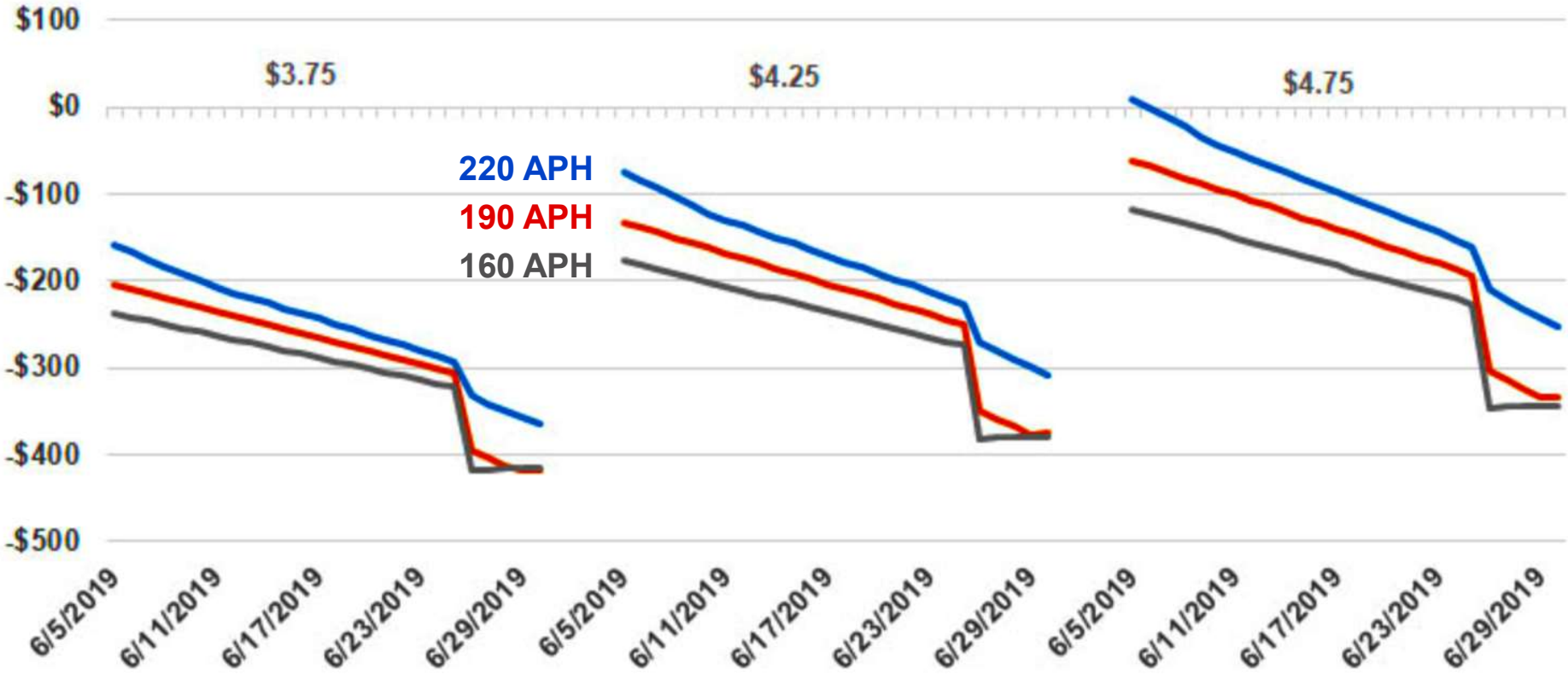
Plant Corn Net Return Minus Prevent Plant Net Return Per Acre for Farms with RP 85%, APH 220 at Possible Cash Price Levels
No Crop Input Costs Invested = $470 Yet to be Incurred



Net returns before land and overhead costs, and any expenses already incurred.
Prevent plant returns = payment less $43 crop insurance and weed control.

Plant Corn Net Return Minus Prevent Plant Net Return Per Acre for Farms with RP 75%

No Crop Input Costs Invested = $470 Yet to be Incurred



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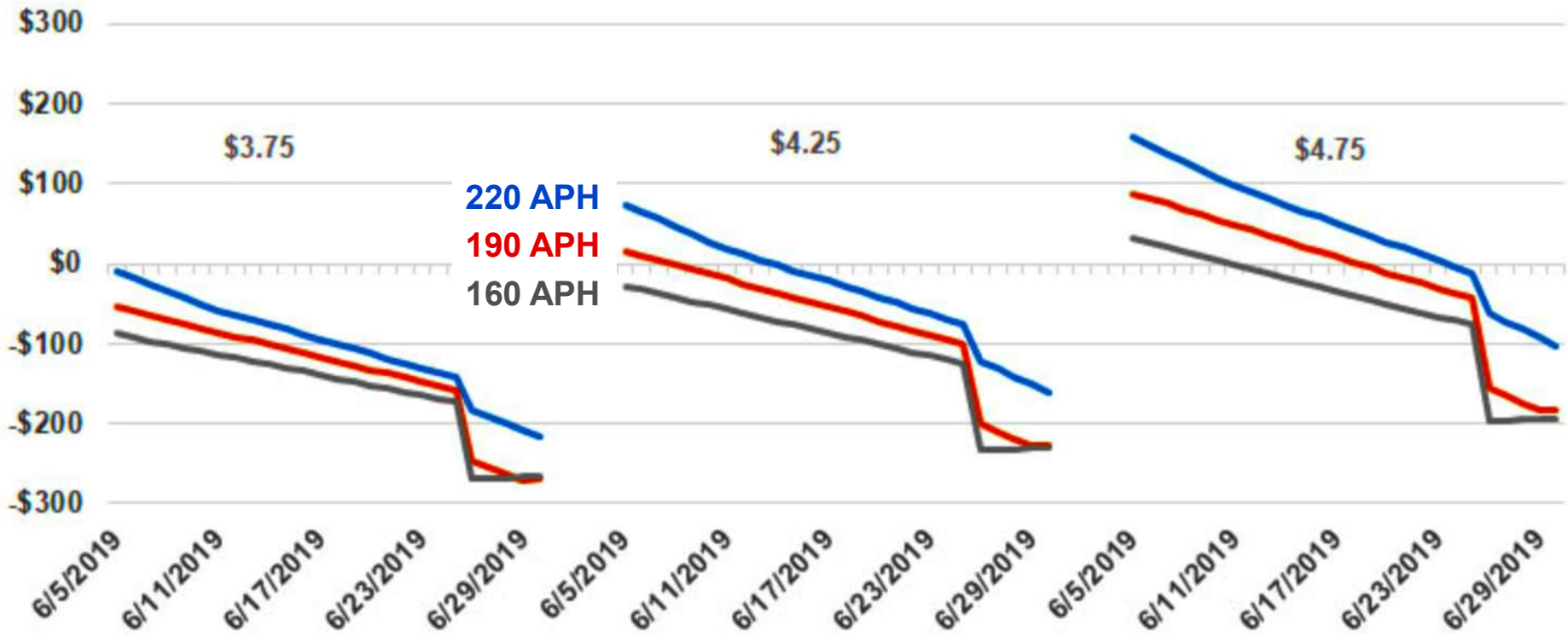
Prevent plant returns = payment less $43 crop insurance and weed control.

Plant Corn Net Return Minus Prevent Plant Net Return Per Acre for Farms with RP 75%

No Crop Input Costs Invested = $320 Yet to be Incurred



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Our results for corn

- **Unless unusual circumstances, take prevent plant second/third week in June**
- **Presumption is to take prevent plant after final plant date arrives (June 5, May 28) if:**
  - **Have 75% and higher Combo product**
  - **No MFP payments, and**
  - **Harvest prices are not expected to be higher than projected prices by $.50 per bushel**

Example Used for June 6th Planting

- Spreadsheet from June 4 farmdocDaily, and has planting as being the preferred alternative
- Spreadsheet can still be downloaded from June 4th farmdocDaily
  https://farmdoc.illinois.edu/assets/fast-tools/excel/plantCornPReventPlant.xlsx
- Note $48 advantage to planting, but
  1. $45 MFP payment on planting, with no additional aid on prevent plant
  2. Had not raised drying costs ($18 per acre)
  3. 195 bushel yield (higher than previous examples)

APH yield	220	bu per acre
Projected Price	$4.00	2019 level
RP coverage level	85%	
Prevent plant factor	0.55	(.55 or .60)
Yield below APH on June 5	25.0	bu per acre
Yield decline per day	3.5	bu per acre

Prevent Plant		
Prevent plant payment	$411	per acre
Prevent plant costs	$45	per acre
Net Return	$366	per acre

Plant corn		
Yield	195	bu acre
Cash price	4.30	$ per bushel
Harvest price	4.55	$ per bushel
Crop revenue	$839	$ per bushel
RP insurance payment	$0	$ per bushel
- corn costs	$470	$ per bushel
+ 2019 MFP payment	45	$ per bushel
Net return planting corn	$414	$ per bushel

Net Return Plant Corn Minus Net Return

Prevent Plant	**$48**	$ per acre

Revised projections based on information in December 2019 (June 6 planting)

	Initial	Revised
Yield (bushels per acre)	195	200
Cash Price ($ per bu)	$4.30	$3.90
Harvest Price ($ per bu)	$4.50	$3.90
Drying costs to corn ($ per acre)		$40/acre
MFP Payment ($ per acre)	$45	$75
Disaster Assistance to Prevent Plant Payment ($ per acre)		$62
MFP to prevent plant ($ per acre)		$15

June 6 Planting (In June)

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Prevent plant factor	0.55	(.55 or .60)
Yield below APH on June	20.0	bu per acre
Yield decline per day	3.5	bu per acre

Prevent Plant		
Prevent plant payment, 15% top off, $15 MFP	$488	per acre
Prevent plant costs	$45	per acre
Net Return	$443	per acre

Plant corn		
Yield	200	bu acre
Cash price	3.90	$ per acre
Harvest price	3.90	$ per acre
Crop revenue	$780	$ per acre
RP insurance payment	$0	$ per acre
- corn costs	$510	$ per acre
+ 2019 MFP payment	75	$ per acre
Net return planting corn	$345	$ per acre

Net Return Plant Corn Minus Net Return		
Prevent Plant	**-$98**	$ per acre

Differences from June to December Projections

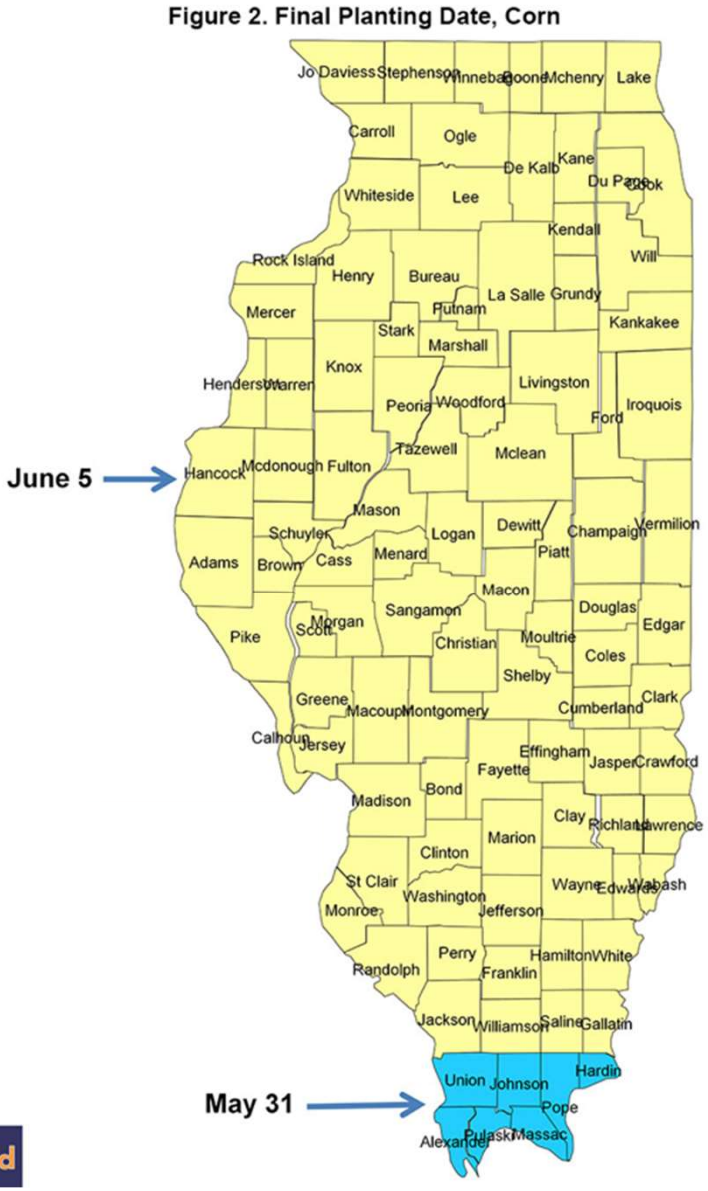
$ per acre	Item
$48	Advantage to plant (in June Analysis)
$22	Higher yields
-$81	Lower prices
-$40	Drying cost increase
-$47	Policy changes
	$30 more MFP on planting acres
	-$62 15% top-off of RP on prevent plant
	-$15 MFP on prevent plant
-$98	Disadvantage to plant (in December Analysis)

Lesson 1: Farmers have a bias against prevent plant

Knowledge

after final plant date, can take prevent plant no matter what

Inclination



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Lesson 1: Midwest Farmers have a bias against prevent plant

- Individuals advising farmers have vested interests
  - Share-rent landowners legitimate concerns, may want to buy crop insurance policy for them
  - Cash-rent landowners
  - Input suppliers
  - Crop insurance companies differ from agent

Advice:

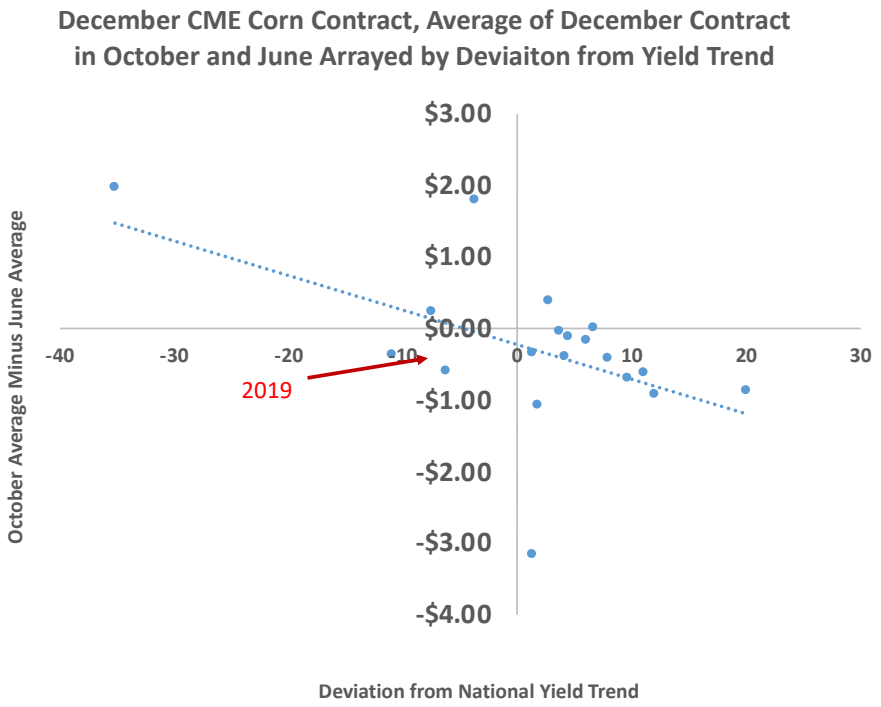
1. Try to look at the decision objectively
2. Develop a plan for prevent plant before hand, with **strong** presumption not to plant if have high coverage level once final plant date arrives, particularly if not storing/drying on-farm

Lesson 2. Futures prices are unbiased indicators of price in the future

Dec 2009 CME corn contract averaged:

- **$4.50 in June**
- **$3.90 in October**

June prices already had a significant weather premium built in, probably should not have expected more



Lesson 2a & b

2a:

If you are going to do something because of price, price some of it

2b:

Don't bet on short crops

Many (myself included) believed prices could go up if we had lower acres and lower yields

Lesson 3: All farmers are reacting to the same incentives

All farmers saw the following:

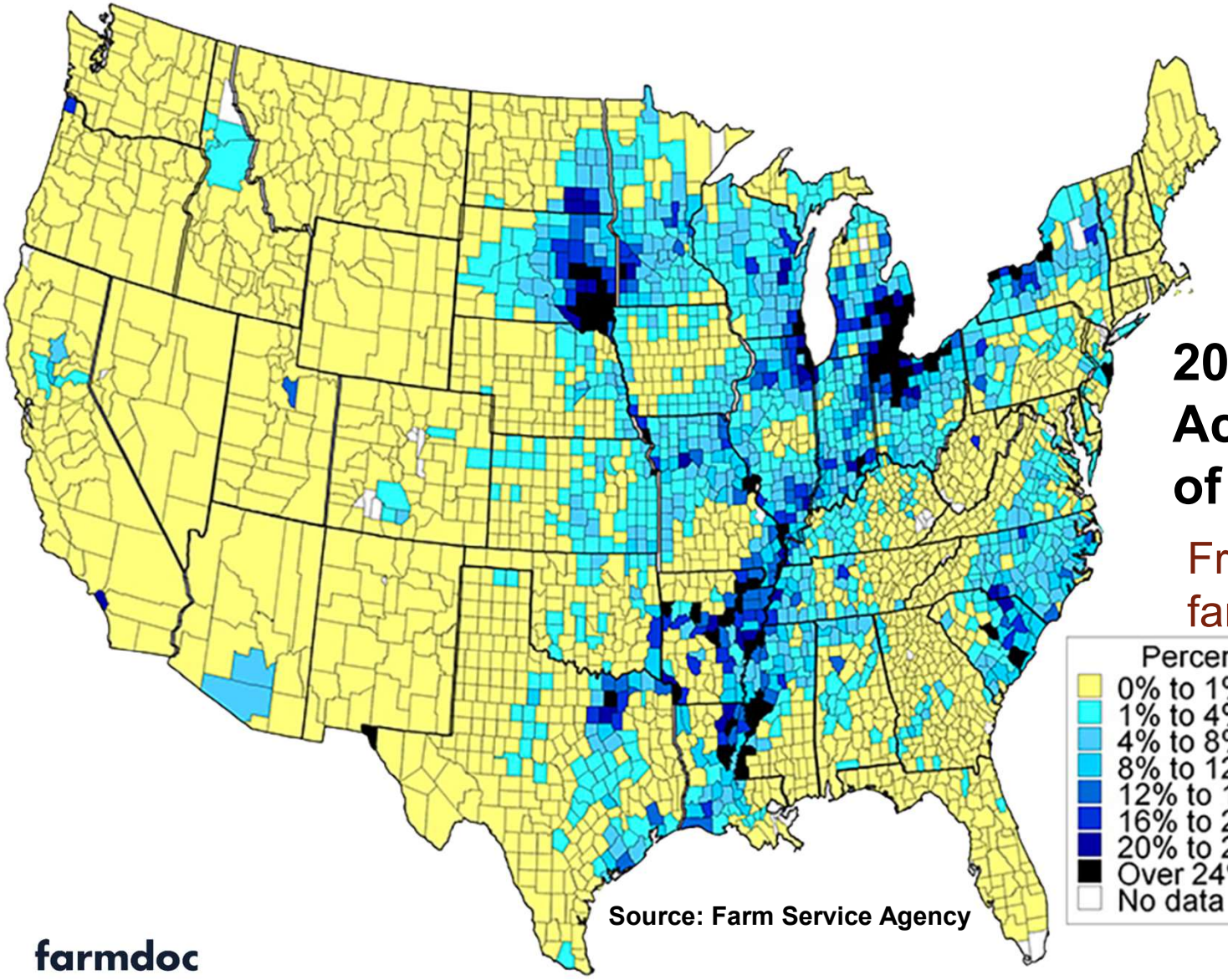
- **Corn is more profitable than soybeans**
- **Corn prevent plant is better than soybean prevent plant**

(Note FSA data in Table 1 is consistent with NASS data in Scott Irwin's presentation)

Table 1. Acres of Crops and Prevent Planting in 2018 and 2019, Farm Service Agency

	2018 [1]	2019 [2]	Percent Change [3]
	acres	acres	
Corn	86,398,000	85,871,000	-1%
Soybeans	87,965,000	74,005,000	-16%
Wheat	44,954,000	46,302,000	3%
Other Crops	28,177,000	26,960,000	-4%
Prevent Plant	1,892,000	19,259,000	918%
Total	249,386,000	252,397,000	1%

[1] 2018 acreage data as of January 28, 2019
[2] 2019 acreage data as of August 1, 2019
[3] Change in 2019 acreage from 2018 acreage.
Source: USDA, Farm Service Agency

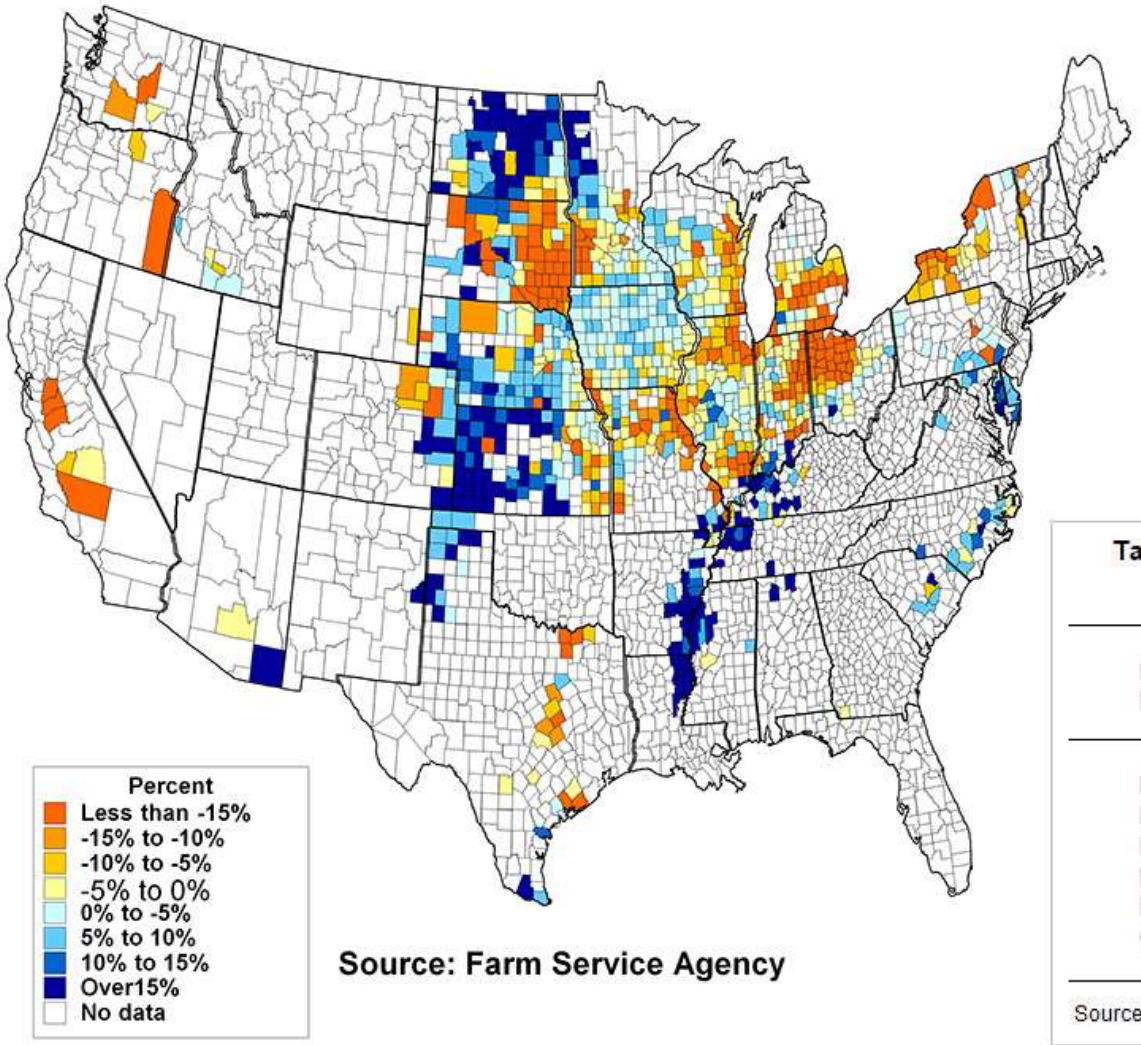


2019 Prevent Plant Acres as a Percent of 2019 Total Acres

From August 15, 2019, farmdocDaily article

Source: Farm Service Agency

Figure 2. Change in Corn Acres from 2018 to 2019



Source: Farm Service Agency

Areas with large prevent plant, reduced corn acres

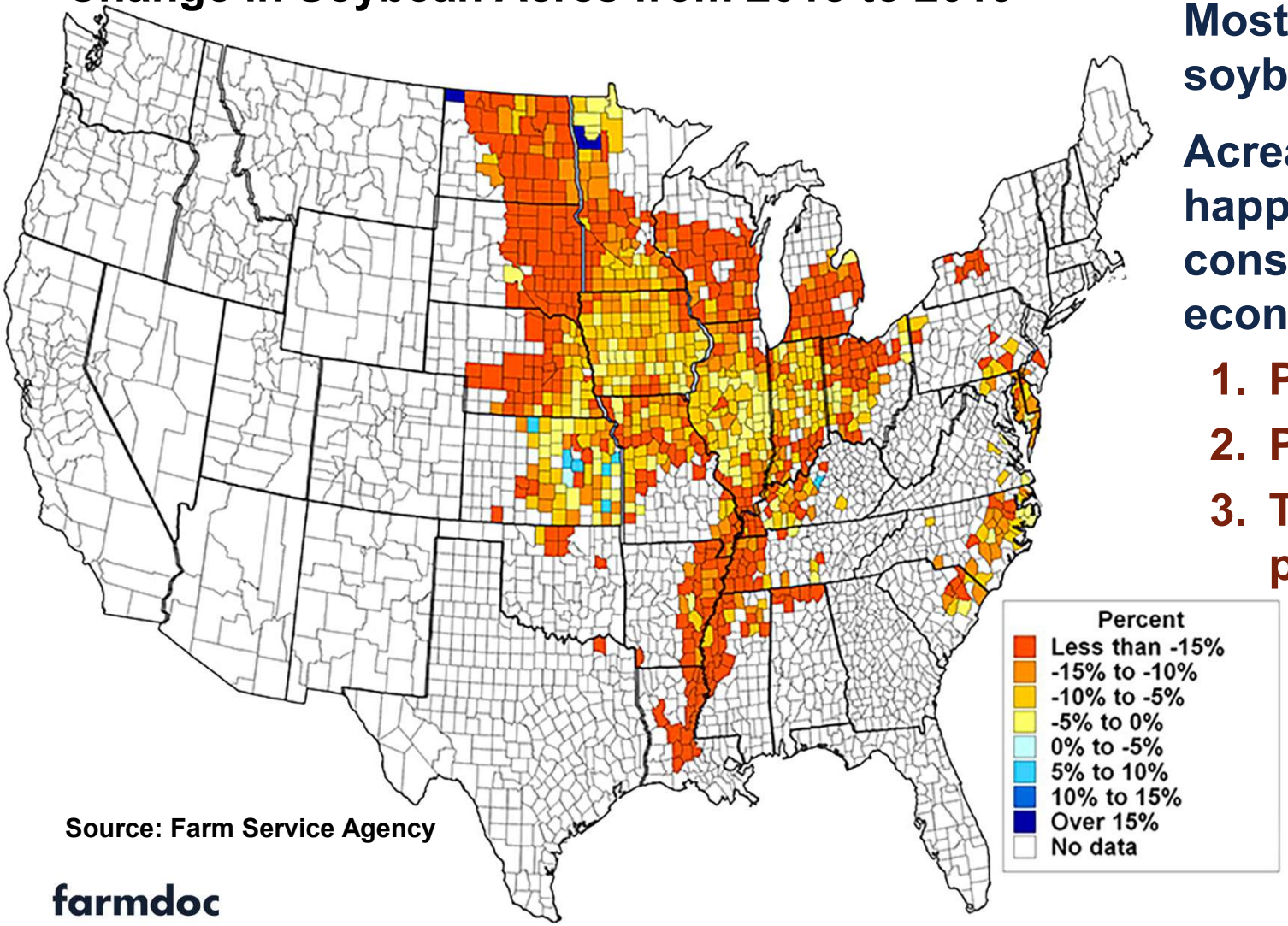
Area with less prevent plant, increased corn acres

Table 2. Change in Corn and Soybean Acres from 2018 to 2019 in Illinois, Indiana, and Iowa

Prevent Plant Acres as a Percent of Total Acres	No. of Counties	Change from 2018 to 2019	
		Corn	Soybeans
Less than 1%	64	4%	-7%
Between 1 and 5%	117	0%	-8%
Between 5% and 10%	51	-2%	-12%
Between 10% and 15%	33	-6%	-15%
Between 15% and 20%	19	-20%	-18%
Over 20%	10	-31%	-29%

Source: Data from Farm Service Agency. See footnotes on Table 1 for each years' data source.

Change in Soybean Acres from 2018 to 2019



Source: Farm Service Agency

Most everyone reduced soybean acres

Acreage changes that happened in 2019 are consistent with economics:

1. **Plant same corn**
2. **Plant less soybeans**
3. **Take corn prevent plant**

Lesson 4. It is be hard to beat USDA yield forecasts

USDA 2019 Corn Yield Forecasts

Month	USDA Forecast
May	176.0
June	166.0
july	166.0
Aug	169.0
Sept	168.2
Oct	168.4
Nov	167.0

Resources USDA devotes to yield estimation are large and include many methods including satellite imagery (see farmdocDaily, October 3, 2019)

4a: Don't bet on short crops till you see them

Indigo Agriculture Yield Predictions (July 2019)

Yield – Bushels per acre

Indigo's yield forecasts are generated by machine learning models which combine daily satellite imagery, weather, and crop condition reports to forecast yield. These models are updated weekly. As the condition of the crops improves or deteriorates the models will move up or down accordingly. Indigo's models are trained upon and predict the USDA's end-of-season yield closeout number and do not reflect the USDA's monthly yield projection.

See: https://www.indigoag.com/atlas-insights-blog/july-2019-report

Lesson 5: MFPs introduced a new policy regime

USDA press release (June 10, 2019):

I urged farmers to plant for the market and plant what works best on their farm, regardless of what type of assistance programs USDA provides.

-- U.S. Secretary of Agriculture Sonny Perdue

Press release went on to say needed to plant for MFP payments, but exploring legal flexibilities to provide a minimal per acre on acreage not planted

MFP, Disaster Aid Results

- **Per acre MFP payments ranged from $50 per planted acre up to $87 per acre in Illinois**
- **15% top off on RP prevent plant payments**
- **$15 per acre MFP payment if planted cover crop on prevent plant farmland**
- **Government aid netted out to be about the same for planting and prevent plant**

MFP lessons

- **This administration does not want to influence planting decisions with aid, not sure about future administrations**
- **Good chance of MFP payments in 2020, how build that into cash rent is problematic**
  farmdocDaily, November 26, 2019
- **CCC authority used for MFPs. How future administrations use CCC authority will be interesting to see**

Lesson 6

Build in higher drying costs if plant in June, also expect harvest difficulties

Summary

- Once reach final planting date, strong presumption that prevent plant for corn will have higher returns than planting
- Build in higher drying costs for late planting
- MFPs introduce new policy issues