

ARC OR PLC? RECOMMENDATIONS FOR WISCONSIN FARMERS

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<https://aae.wisc.edu/pdmitchell/extension/arc-plc-signup/>



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RESOURCES FOR MAKING ARC AND PLC DECISIONS

This page assembles a variety of resources to help farmers (and those working with farmers) make their decisions regarding signup for the commodity support programs ARC and PLC. The materials have a Wisconsin focus, but are not exclusively for Wisconsin, as the programs are national in scope.

ARC AND PLC SIGNUP RECOMMENDATIONS FOR WISCONSIN FARMERS

- [Recommendations in Brief](#) (Document, UW-Madison)
- [Article Summarizing Recommendations](#) (Document, UW-Madison)
- Signup Recommendations: [Updating PLC Payment Yields](#) (Video 3.1, UW-Madison)
- Signup Recommendations: [CORN and SOYBEANS](#) (Video 3.2, UW-Madison)
- Signup Recommendations: [WHEAT and OATS](#) (Video 3.3, UW-Madison)
- Signup Recommendations: [Who should look at ARC-IC](#) (Video 3.4, UW-Madison)

[Continuous playlist of all 9 ARC/PLC videos](#)

- [ARC and PLC Signup Recommendations](#) (PowerPoint, UW-Madison)

- **Videos, documents & PowerPoints**
- **1) Recommendations**
- **2) How the Programs Work**
- **3) Links to Decision Aids**

Time to Signup for Farm Programs

- Sign now for the 2019 and 2020 crop years, ends March 15, 2020
- **Make your appointment NOW with USDA Farm Service Agency (FSA)**
- Should have received forms from USDA
- FSA farm #123456: 30 corn base acres with PLC payment yield = 150 bu/ac
- Option to update PLC yields based on 2013-2017 actual yields
- **Recommendation: Update your yield for any crops that increase**
 - Even if you do not use PLC for 2019-2020, may want to use PLC later
 - Opportunity to update yields does not come every Farm Bill
- 3 Options PLC, County ARC (ARC-CO) or ARC Individual Coverage (ARC-IC) for each crop on each FSA farm
 - Can vary choice across farms for same crop

Price Loss Coverage (PLC)

- Establishes a price floor for each crop based on the national marketing year average price farmers received
- Each program crop has a Reference Price set by Congress in Farm Bill
 - Corn \$3.70, Soybeans \$8.40, Wheat \$5.50, Oats \$2.40
- If the National Marketing Year Average Price is less than this Reference Price, PLC payments are triggered
 - **Payment = 85% x BaseAcres x PLC Yield x (Ref Price – MYA Price)**

Agriculture Risk Coverage (ARC)

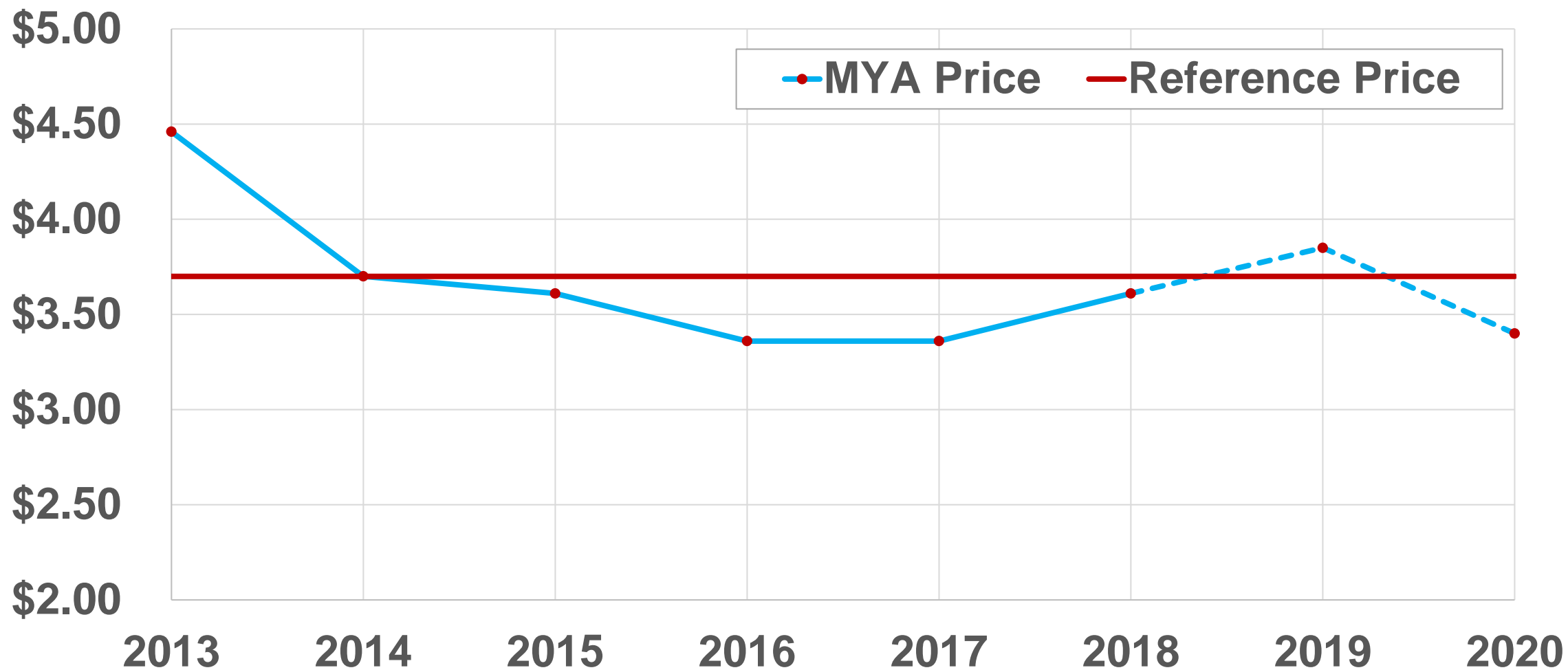
- **ARC-CO**: Establishes a revenue floor for each crop based on county revenue
- County Guarantee = depends on 5 years of county yields and national prices with caps and cups, Olympic averaging, 86% multiplier, ...
- Payments made if Actual County Revenue < County Guarantee
- Actual Revenue = County Average Yield x National MYA Price
- **ARC Payment = 85% x Base Acres x (Guarantee – Actual Revenue)**
- **ARC-IC**: Establishes a revenue floor for all program crops as a group based on farm yields and national prices
- **ARC-IC Payment = 65% x Base Acres x Individual ARC Payment Rate**
- ARC-CO and ARC-IC payments capped at 10% county benchmark revenue

PLC Reference Prices & USDA Farm Price Projections

Crop	PLC Reference Price	Projected 2019 Price	Projected 2020 Price
Corn	\$3.70	\$3.85	\$3.40
Soybeans	\$8.40	\$9.00	\$8.85
Wheat	\$5.50	\$4.60	\$4.80
Oats	\$2.40	\$2.95	\$2.50

- Projected 2019 Price: USDA-WASDE (Dec 2019)
<https://www.usda.gov/oce/commodity/wasde/>
- Projected 2020 Price: USDA Agricultural Projections (Nov 2019)
<https://usda.library.cornell.edu/concern/publications/qn59q396v>

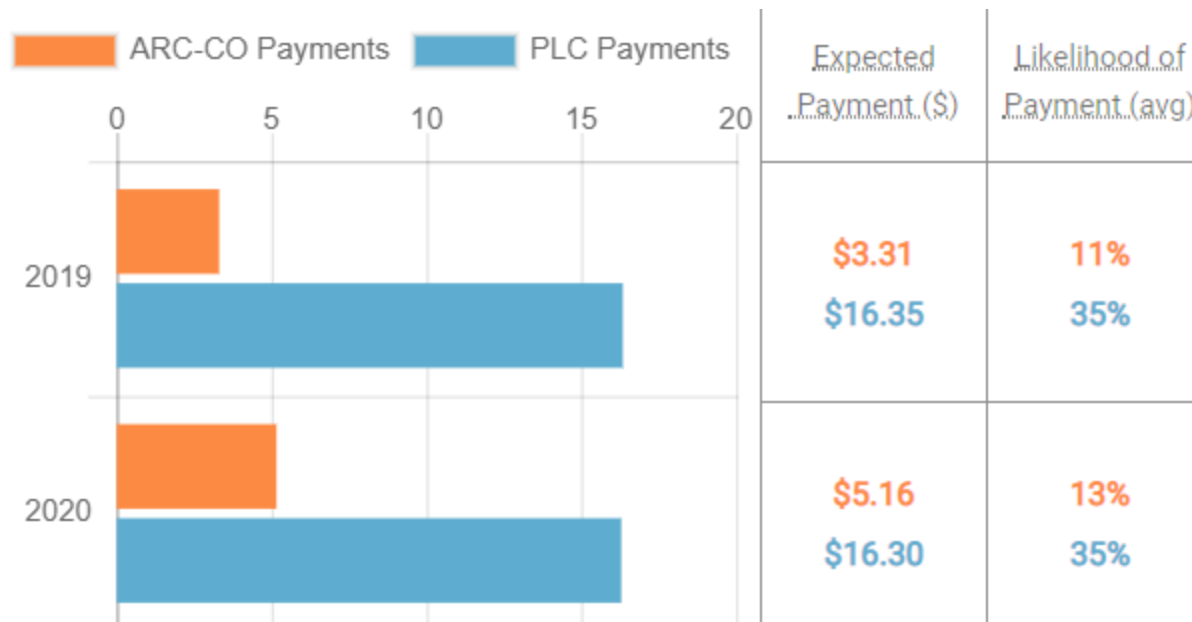
Corn Prices



Recommendations for Corn base acres

- **Short Answer: Sign up for PLC**
- PLC has higher expected payments with current price expectations for 2019 and 2020
 - PLC Reference Price = \$3.70, USDA 2019 = \$3.85, 2020 = \$3.40
- Even with an expected price over \$3.70, price uncertainty around this expected value creates a reasonable likelihood of a farm price below the \$3.70 Reference Price
- ARC-CO has lower average payments because its guarantee uses a percentage of historical average yields, and so is lower

Recommendations for Corn base acres



- **Short Answer: Sign up for PLC**
- Tool simulates random prices
- PLC payments for corn more likely and larger on average than for ARC in all Wisconsin counties
 - Even with \$4.00 expected price
 - PLC payments only increase with lower expected prices
- PLC payments also increase as payment yields increase

Gardner Payment Calculator Results

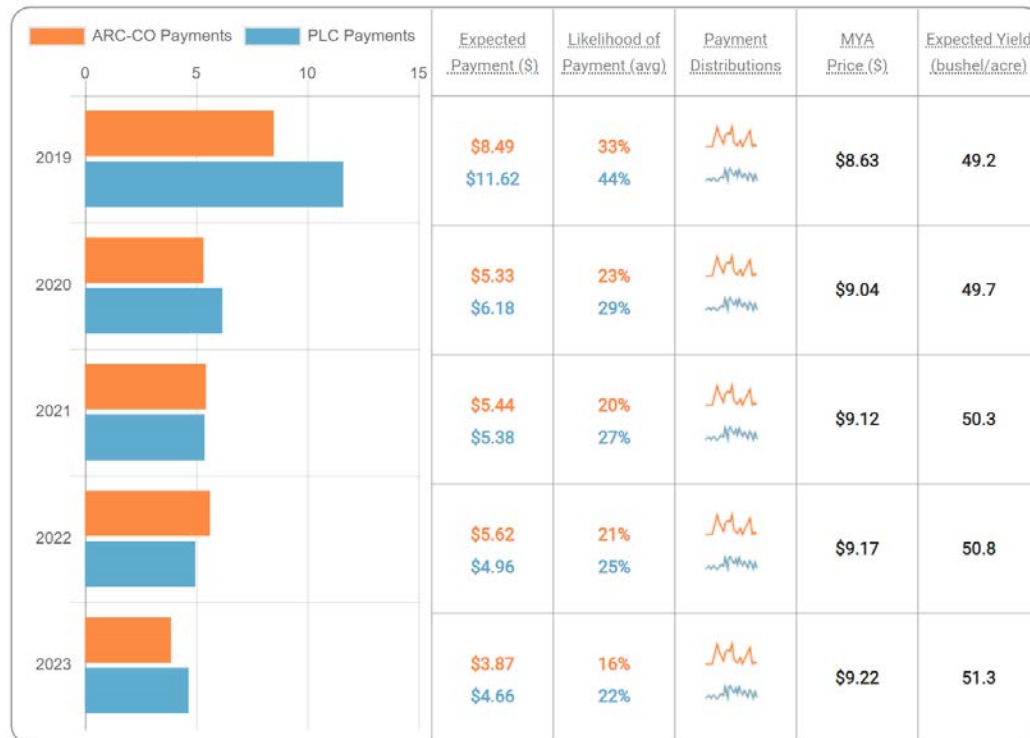
- 2019 & 2020 expected price = **\$4.00**
- Payment yield for PLC = **150**
- **Dane County** for ARC payments

Gardner Payment Simulator

<https://fd-tools.ncsa.illinois.edu/>

- Demonstration of Gardner Program Payment Calculator

https://youtu.be/mbMznMZgt_A



State
Illinois ▼ ⓘ

County
Champaign ▼

Crop Reference Price
Corn ▼ \$ 3.7

Forecast Model
Forecast ▼ ⓘ

PLC Payment Yield *
105 bushels/acre ⓘ

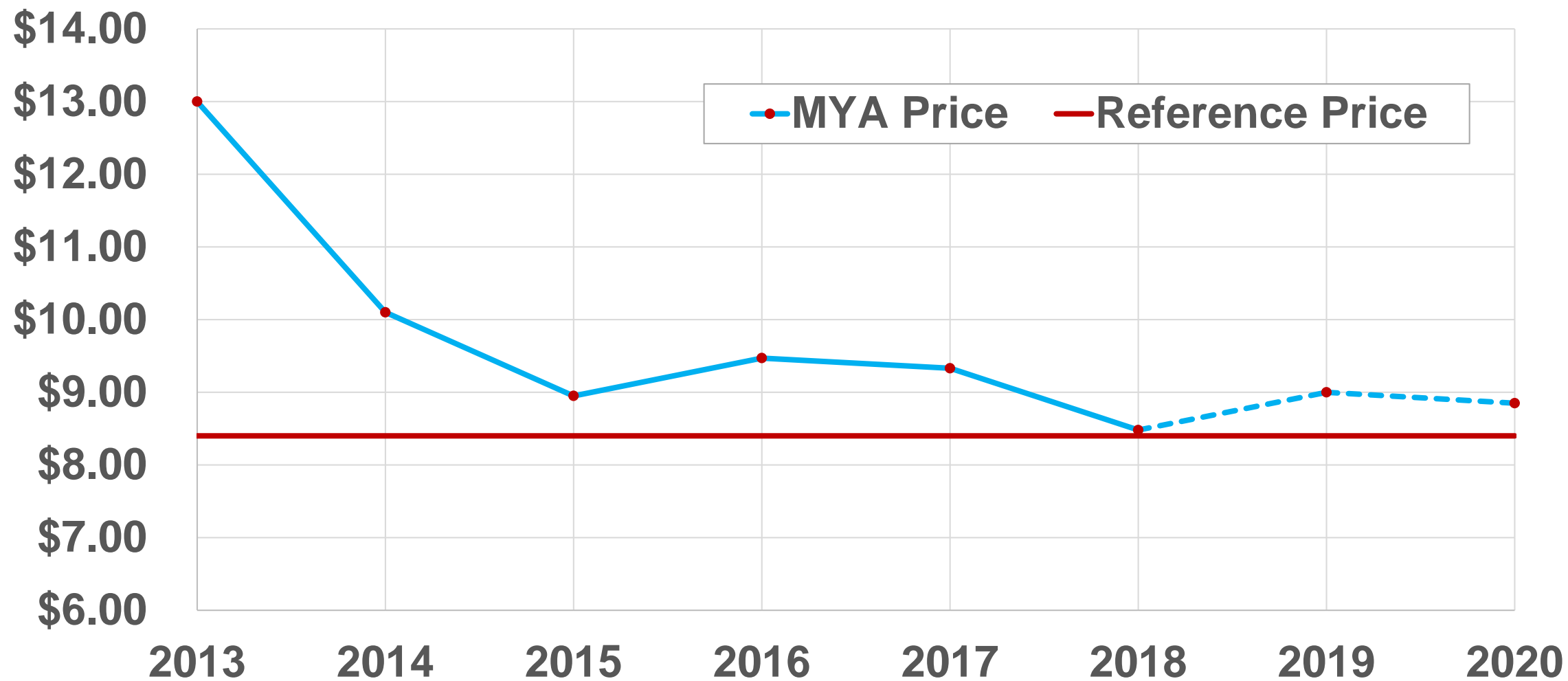
ARC Trend Yield *
1.73 bushels/acre ⓘ

ARC/PLC Program Inputs

ARC Coverage Level	86 %
ARC Coverage Range	10 %
Payment Acres	85 %

▶ RUN MODEL

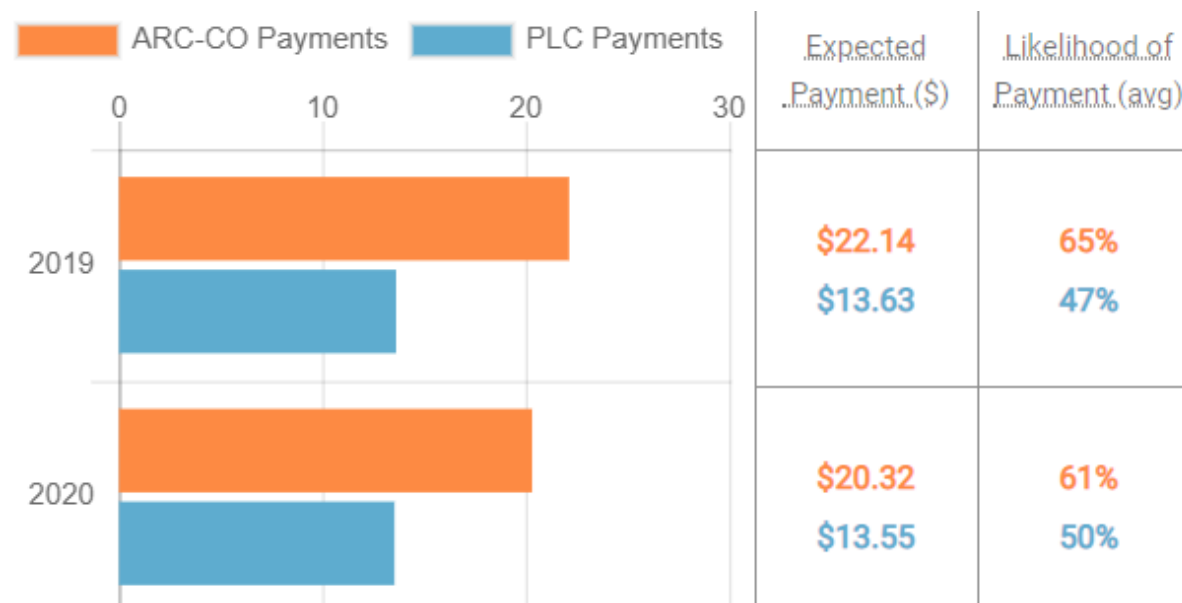
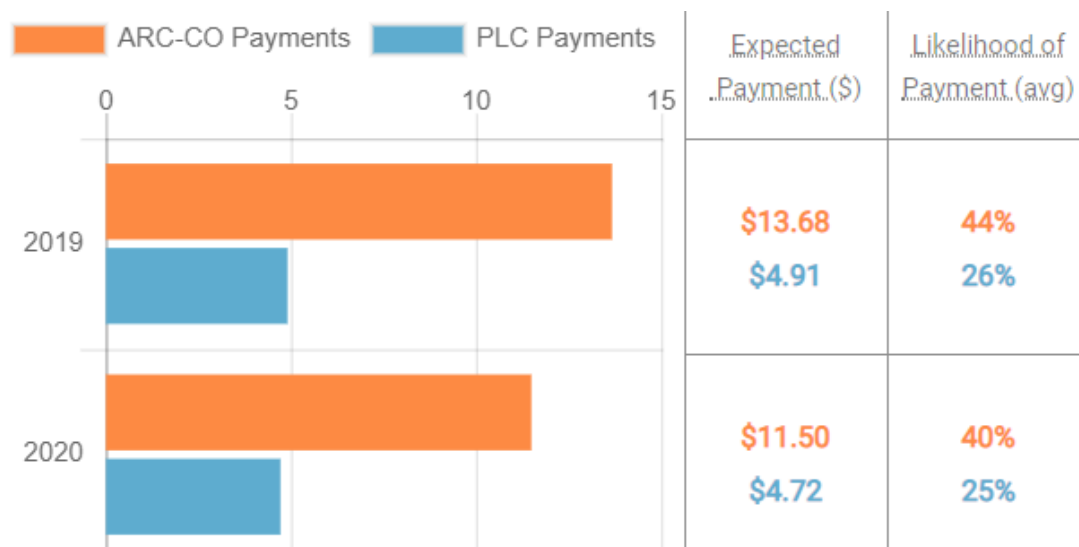
Soybean Prices



Recommendations for Soybean base acres

- **Short Answer: Run the Gardner model for your county with your PLC yields for different price forecasts for each FSA farm and pick the program with the highest average payments for 2019 and 2020**
- Best soybean option depends on your PLC yields and county yields, difficult to make generalizations: varies around the state and between farms
- Program choices can vary between crops and FSA farms, so for one farm you can choose ARC-CO for soybeans and choose PLC for another farm
- PLC Reference Price = \$8.40, USDA 2019 = \$9.00, 2020 = \$8.85
- Soybean price expectations are well above the \$8.40 Reference Price, so both ARC and PLC are less likely to make payments than corn, and if they do make payments, they will not be as large as for corn
- Tool simulates random prices and county yields

Effect of Price Forecast on Soybean payments



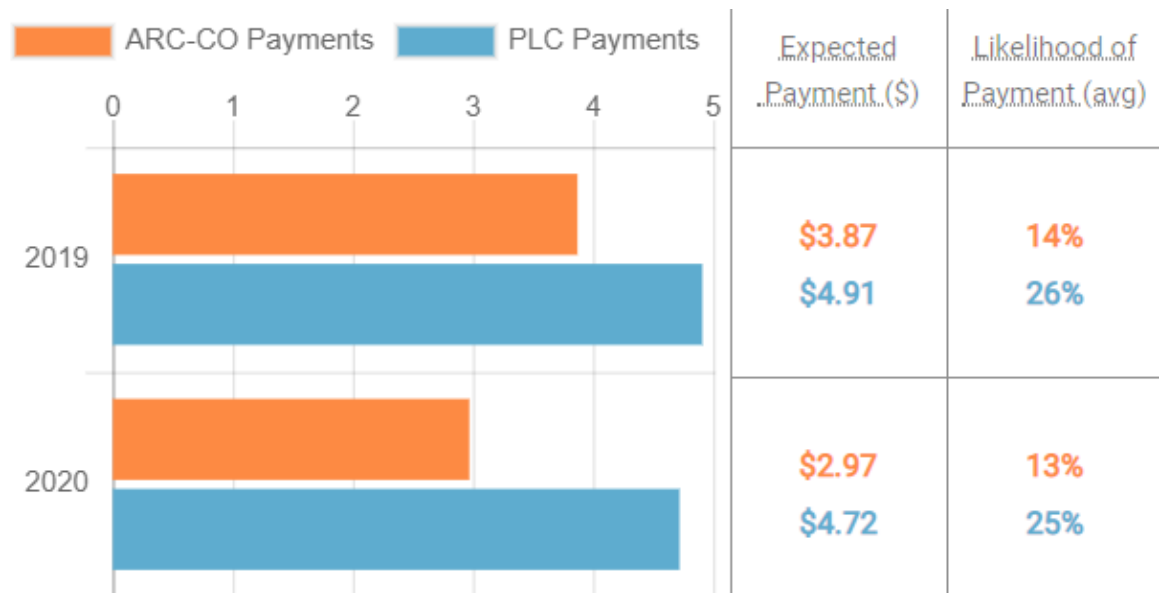
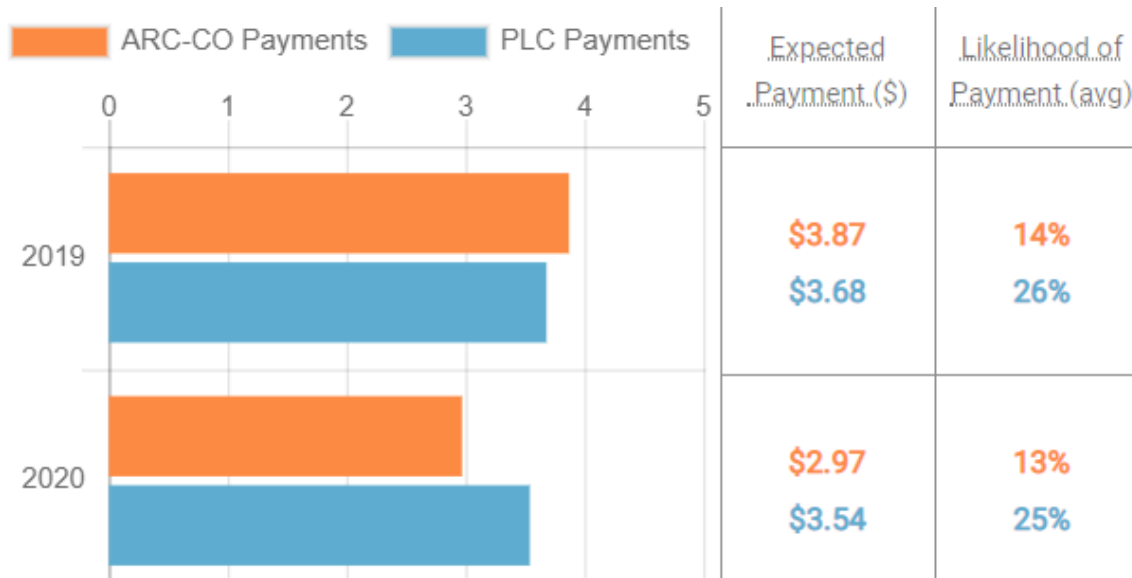
Gardner Payment Calculator Results

- Expected price = **\$9.20**
- Payment yield for PLC = **40**
- **Walworth County** for ARC
- Both ARC and PLC payments change with different forecasts

Gardner Payment Calculator Results

- Expected price = **\$8.50**
- Payment yield for PLC = **40**
- **Walworth County** for ARC

Effect of Payment Yields on Soybean payments



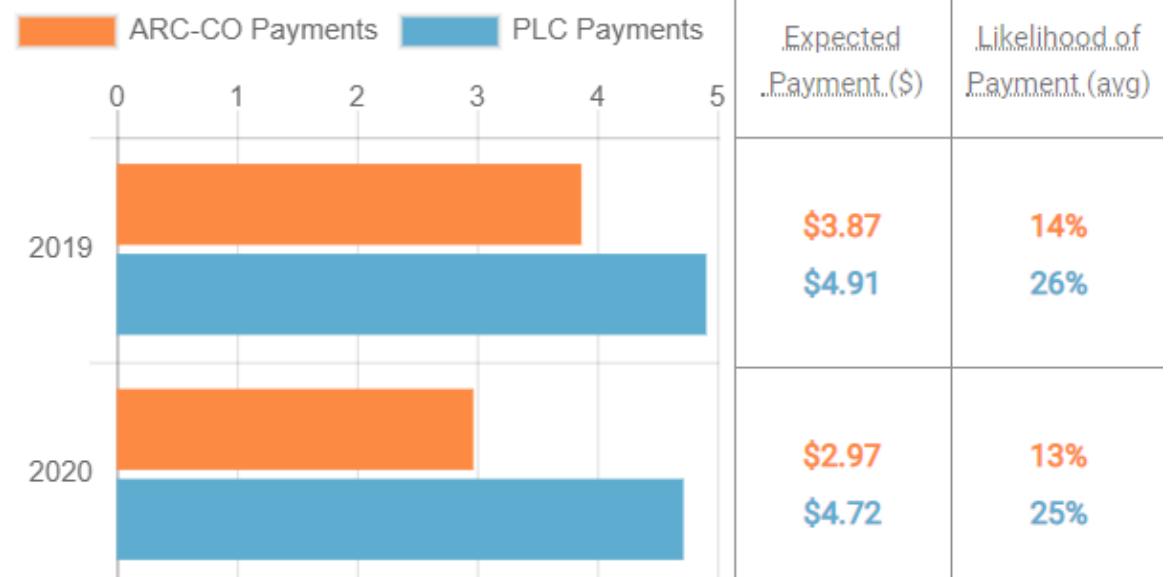
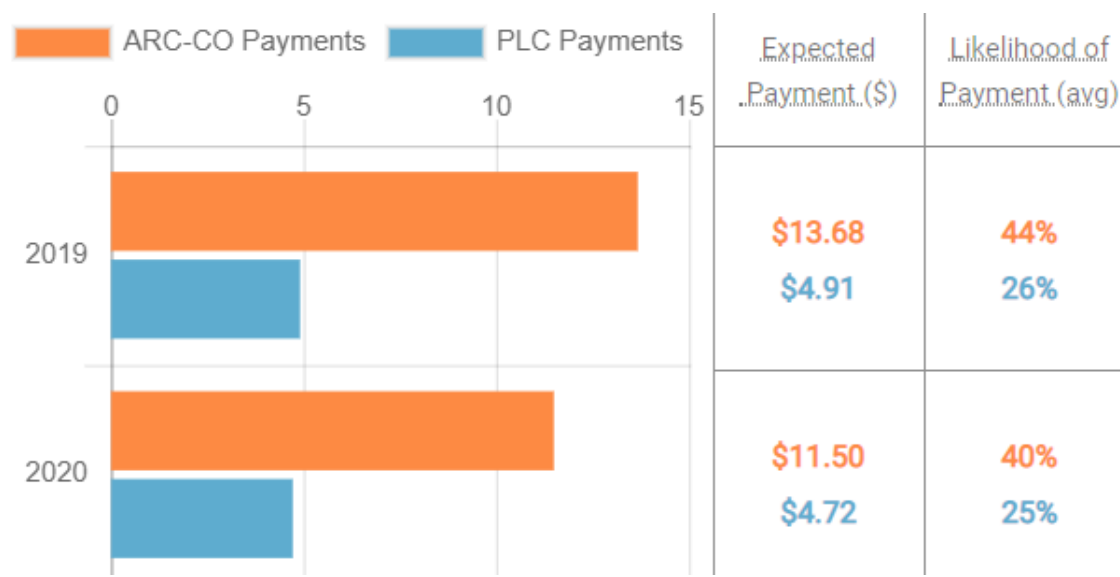
Gardner Payment Calculator Results

- Expected price = **\$9.20**
- Payment yield for PLC = **30**
- **Grant County** for ARC
- PLC payments change with payment yields, ARC payments don't

Gardner Payment Calculator Results

- Expected price = **\$9.20**
- Payment yield for PLC = **40**
- **Grant County** for ARC

Effect of County on Soybean payments



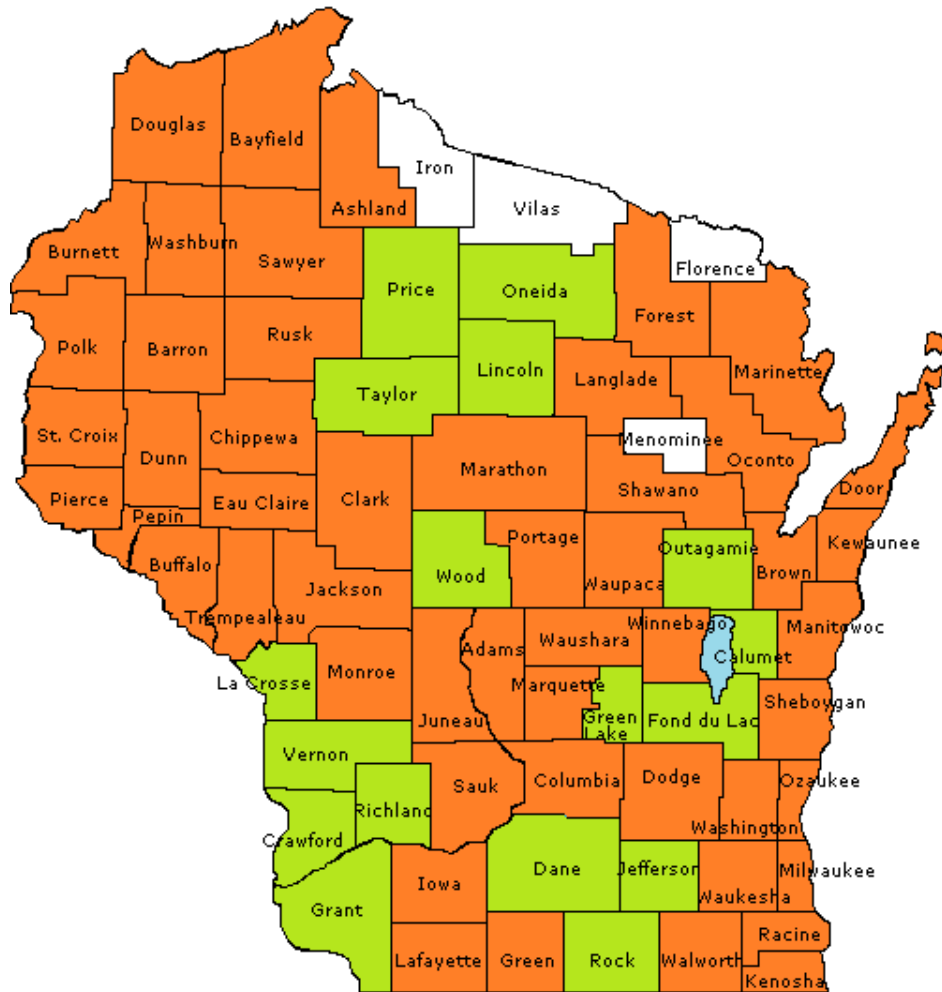
Gardner Payment Calculator Results

- Expected price = **\$9.20**
- Payment yield for PLC = **40**
- **Walworth County** for ARC
- ARC payments change by county, but PLC payments do not

Gardner Payment Calculator Results

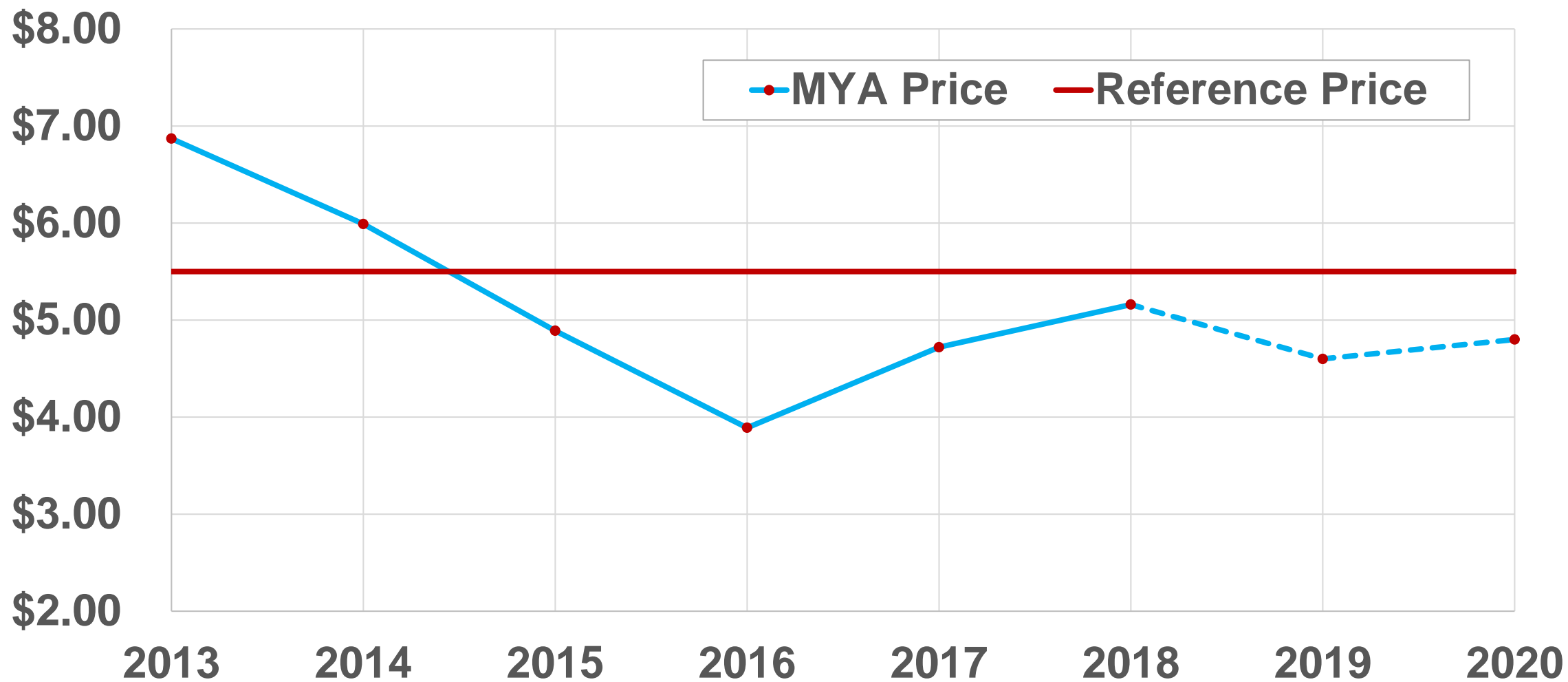
- Expected price = **\$9.20**
- Payment yield for PLC = **40**
- **Grant County** for ARC

Best Option for Soybeans based on Simulator



- Ran simulator for soybeans in each WI county with PLC yield = ARC county average yield
- Used \$9.20 default price
- Orange counties: ARC better
- Green counties: PLC better
- For some counties, ARC and PLC were very similar for average payments

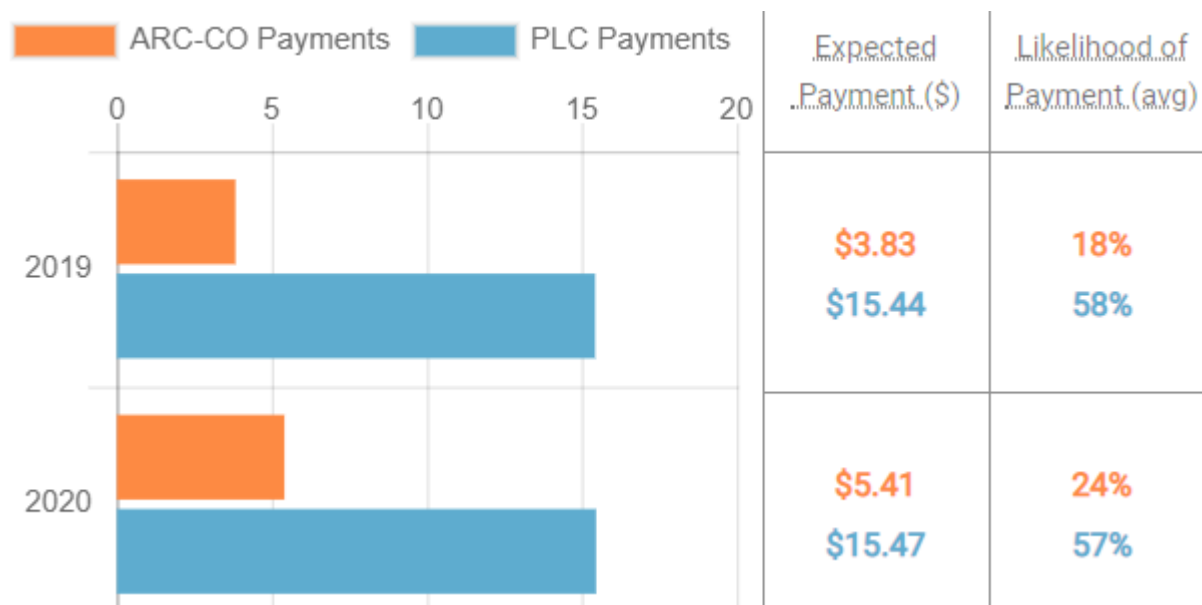
Wheat Prices



Recommendations for Wheat base acres

- **Short Answer: Sign up for PLC**
- PLC has higher expected payments with current price expectations for 2019 and 2020
 - PLC Reference Price = \$5.50, USDA 2019 = \$4.60, 2020 = \$4.80
- Expected prices well below the \$5.50 Reference Price imply relatively large PLC payments
- ARC-CO has lower average payments because its guarantee uses a percentage of historical average yields, and so is lower

Recommendations for Wheat base acres

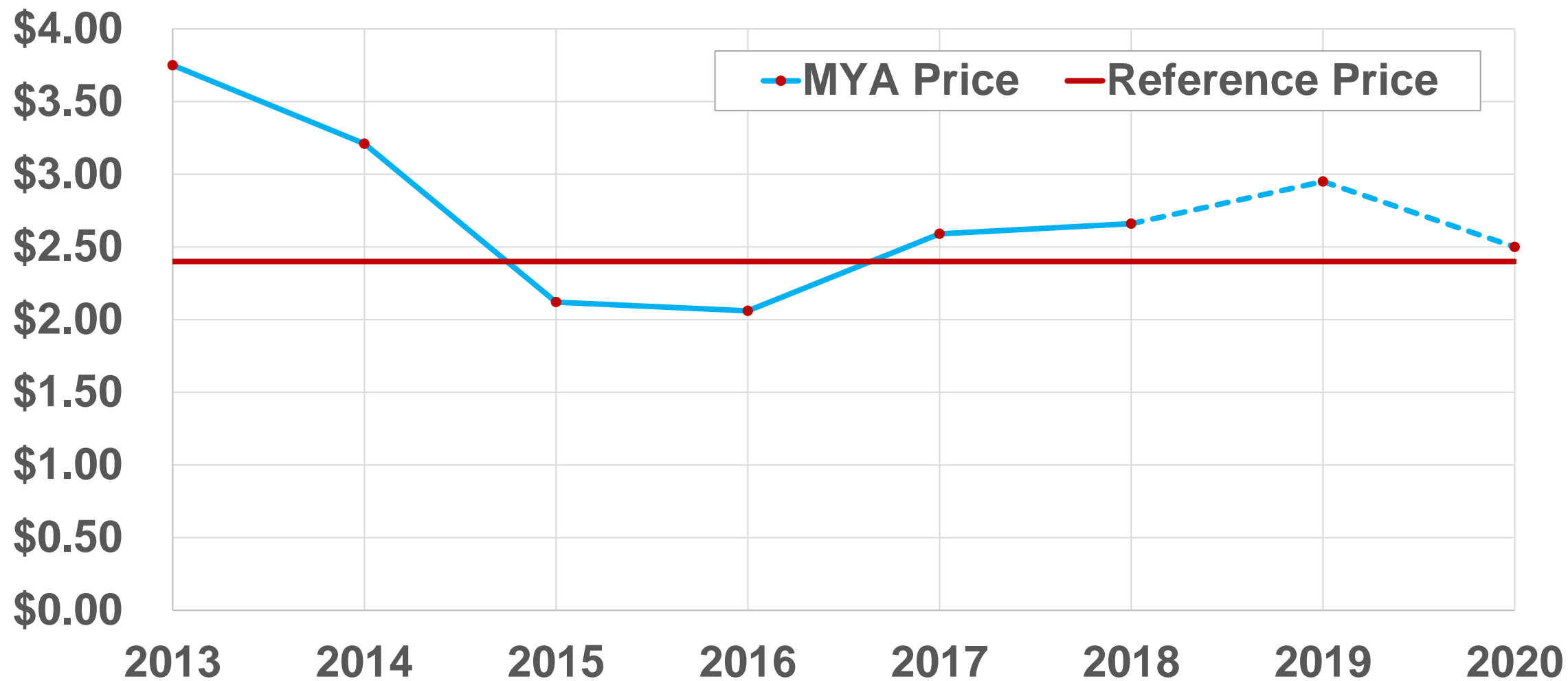


- **Short Answer: Sign up for PLC**
- Tool simulates random prices
- PLC payments for wheat more likely and larger on average than ARC in all Wisconsin counties
 - Even with \$5.40 expected price
 - PLC payments only increase with lower expected prices
- PLC payments also increase as payment yields increase

Gardner Payment Calculator Results

- 2019 & 2020 expected price = **\$5.40**
- Payment yield for PLC = **50**
- **Kewaunee County** for ARC payments

Oat Prices



Recommendations for Oat base acres

- **Short Answer: Signup for ARC**
- No simulation model, but payments will generally not be large for either ARC-CO or PLC relative to corn
- PLC Reference Price = \$2.40, USDA 2019 = \$2.95, 2020 = \$2.50
 - Expected prices for 2019 well above reference price so PLC unlikely to pay in 2019 for oats
- Historical prices have given a relatively high county guarantee for ARC that may trigger payments due to low yields or prices
 - Olympic average price is \$2.73 for 2019
- Neither program likely to trigger large payments

Summary of Recommendations for 2019-2020

- **Corn**: Choose PLC: Reference Price good relative to price expectations
- **Soybeans**: Run Gardner simulation model for your county and payment yields and choose the option (ARC-CO or PLC) with the highest average payments for 2019 and 2020
- **Wheat**: Choose PLC: Reference Price good relative to price expectations
- **Oats**: Choose ARC-CO, historical prices give high county revenue guarantees

QUESTIONS? COMMENTS?

<https://aae.wisc.edu/pdmitchell/extension/arc-plc-signup/>

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Wisconsin Agricultural Outlook Forum

Save the Date!

January 28, 2020

10 AM – 3 PM

UW-Madison Campus

renk.aae.wisc.edu/ag-outlook-forum/



Renk Agribusiness Institute
UNIVERSITY OF WISCONSIN-MADISON



\$25 Registration
includes Lunch

- The Business of Hemp
- Tyler Mark, Kentucky
- Dawn Thilmany, Colorado
- Ted Haney, Canada

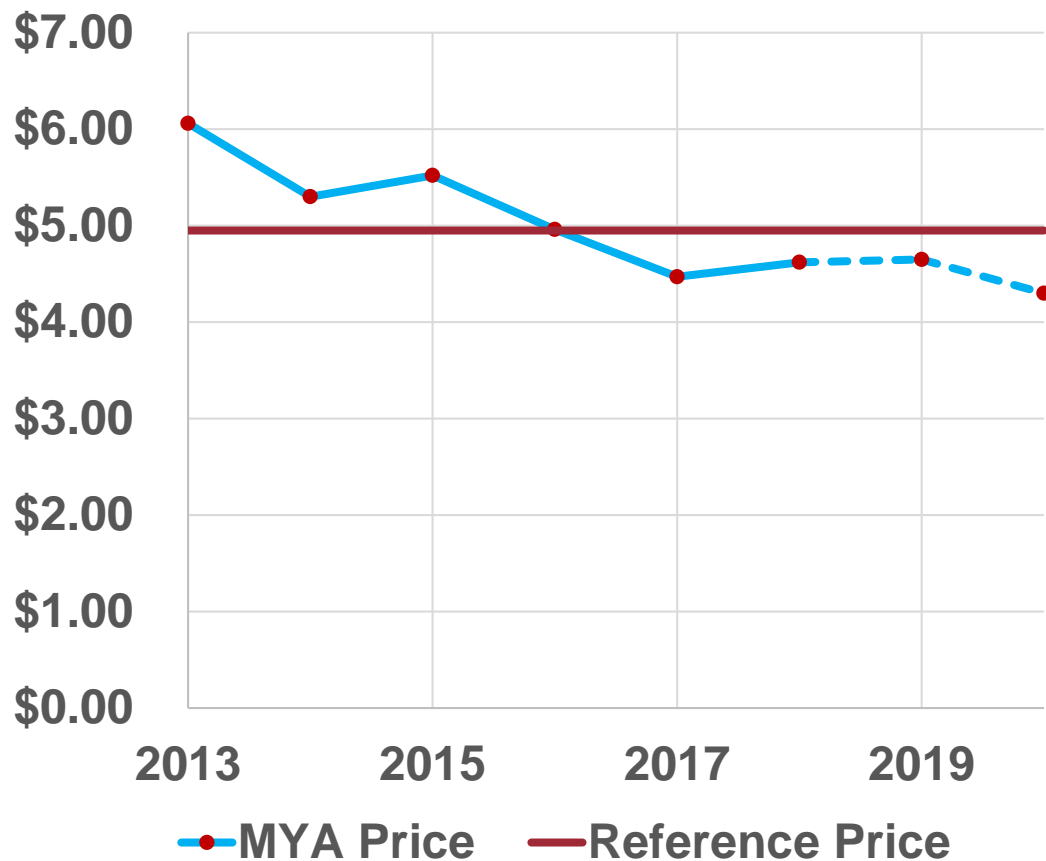
Morning: Ag Situation and Outlook

Afternoon: **The Business of Hemp**

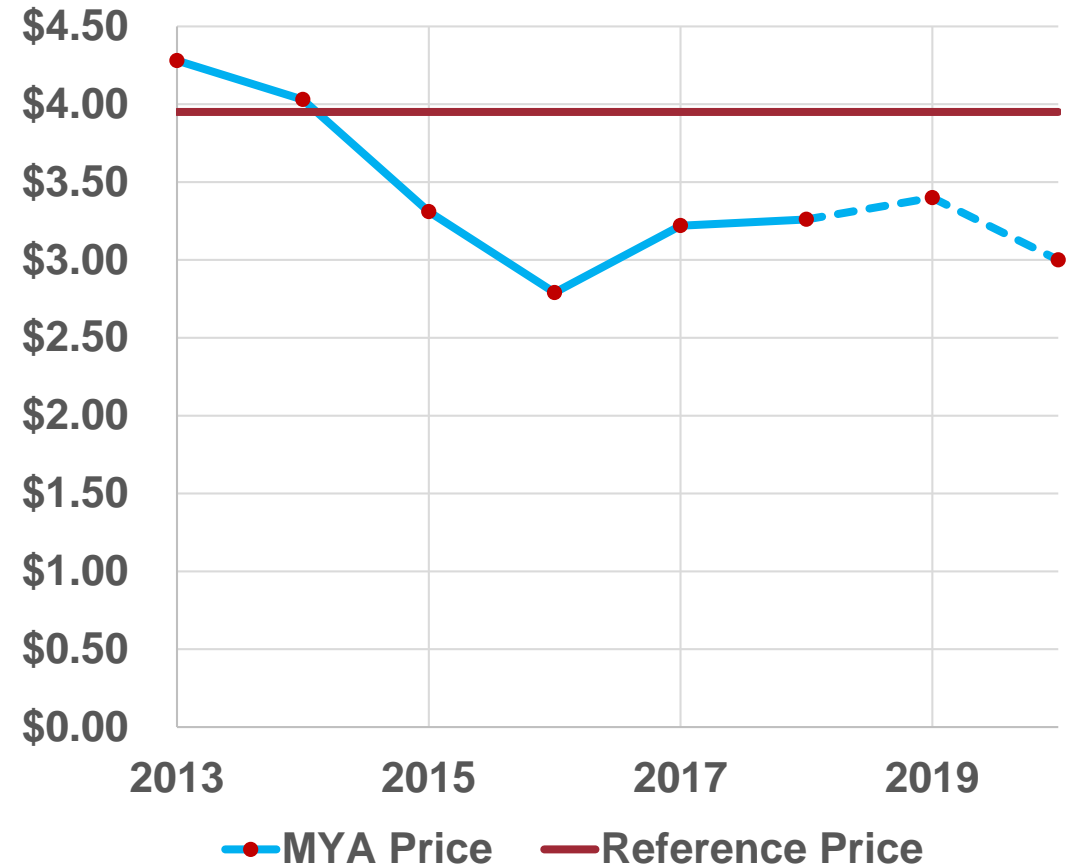
<https://renk.aae.wisc.edu/ag-outlook-forum/>

Barley and Sorghum Prices: Choose PLC

Barley Prices



Sorghum Prices



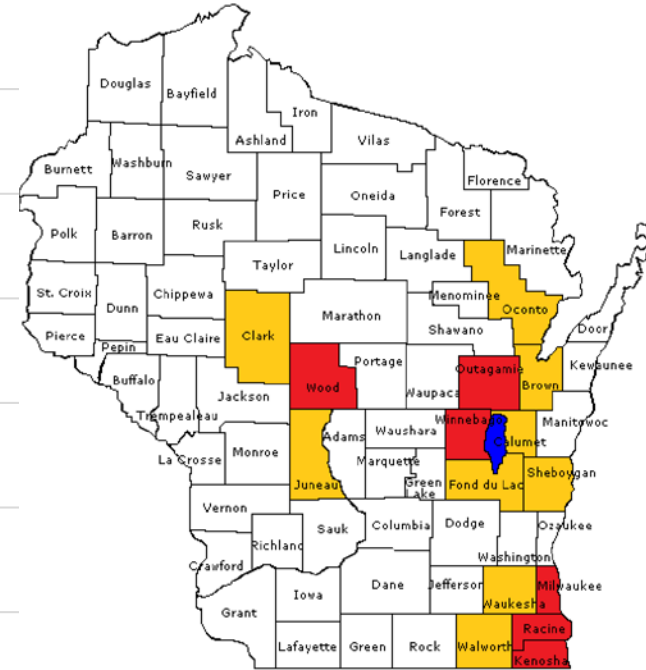
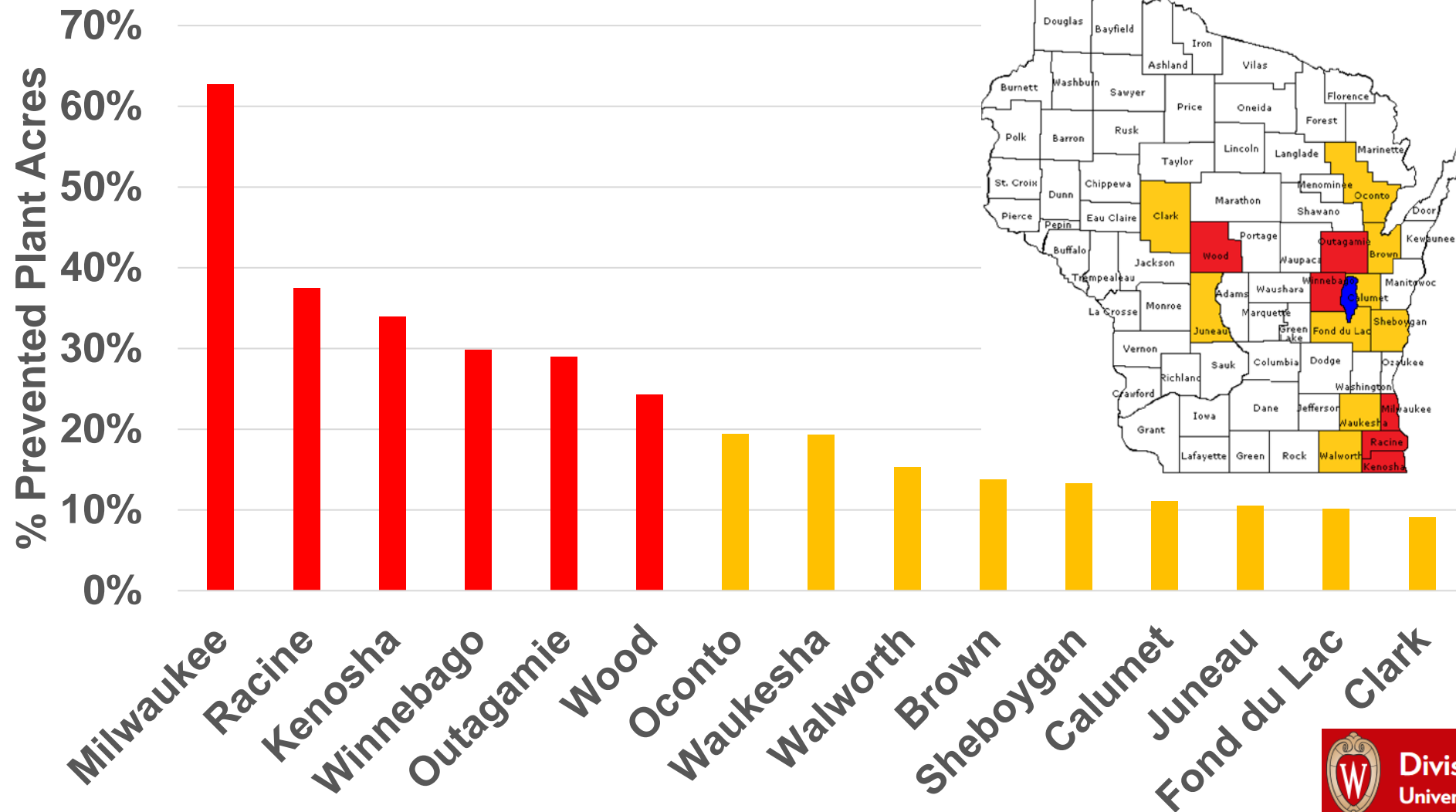
Which FSA farms should look at ARC-IC?

- Adapted from FarmDoc article “The Case for Looking at the ARC-IC (ARC-Individual) Program Option” Zulauf et al. Oct 29, 2019
- <https://farmdocdaily.illinois.edu/2019/10/the-case-for-looking-at-the-arc-ic-arc-individualprogram-option.html>
- **1)** Low yields in 2019 for all crops on the FSA farm, such as prevented plant
- **2)** ARC-IC benchmark yield is much higher than ARC-CO county yield and PLC payment yield
- **3)** Acres of vegetables (or fruit) are more than 15% of base acres

Which FSA farms should look at ARC-IC?

- **1)** Low yields in 2019 for all crops on the FSA farm, such as prevented plant
- ARC-IC uses average yield per planted acre to calculate payments
 - Prevented plant acres count as zero yield if it's all the crop acres, but if some acres are planted, those acres generate average yield for the crop
- Suppose 40 acre FSA farm with 40 corn base acres
- If total prevented plant, then ARC-IC actual yield = 0, so revenue = \$0, and so receive maximum ARC payment = 10% county benchmark
- If have a low yield on the acres planted, can still generate an ARC-IC payment
- Say 5 acres were planted and had a high yield, then actual revenue will be high and no ARC-IC payment will occur, even though 35 acres were unplanted
- Can change program for 2021 crop or later

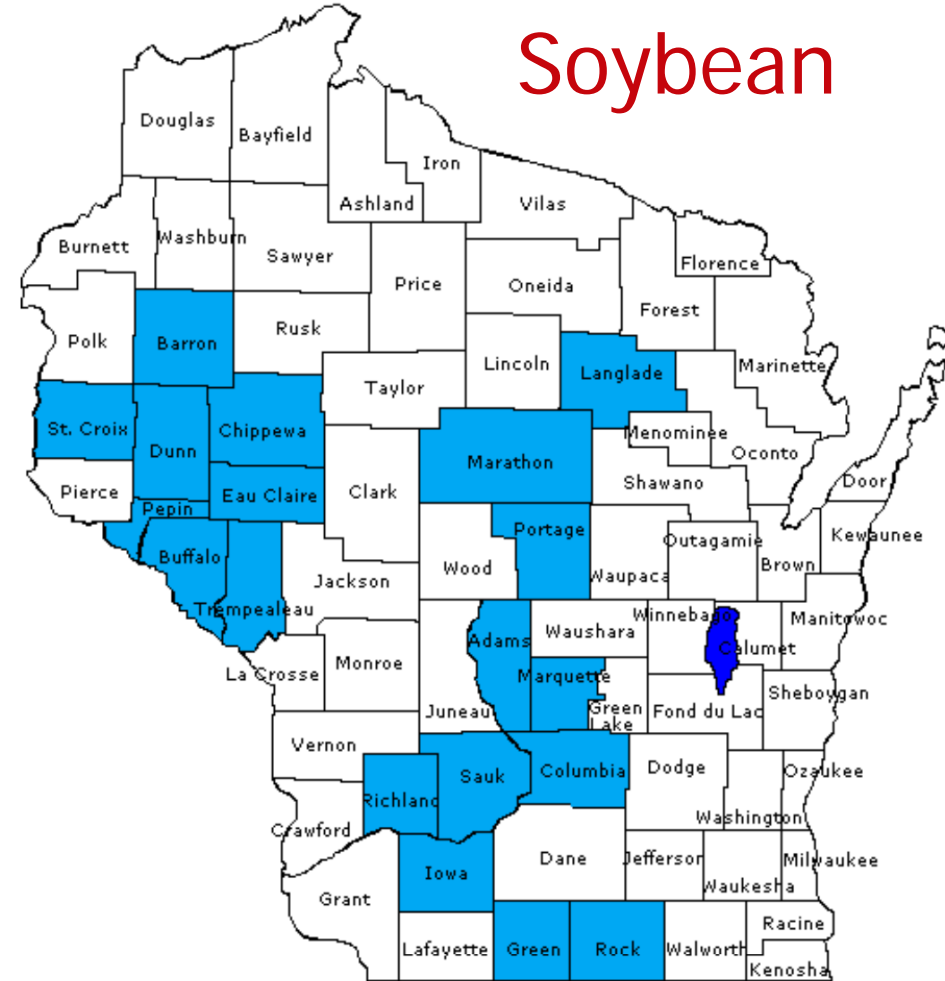
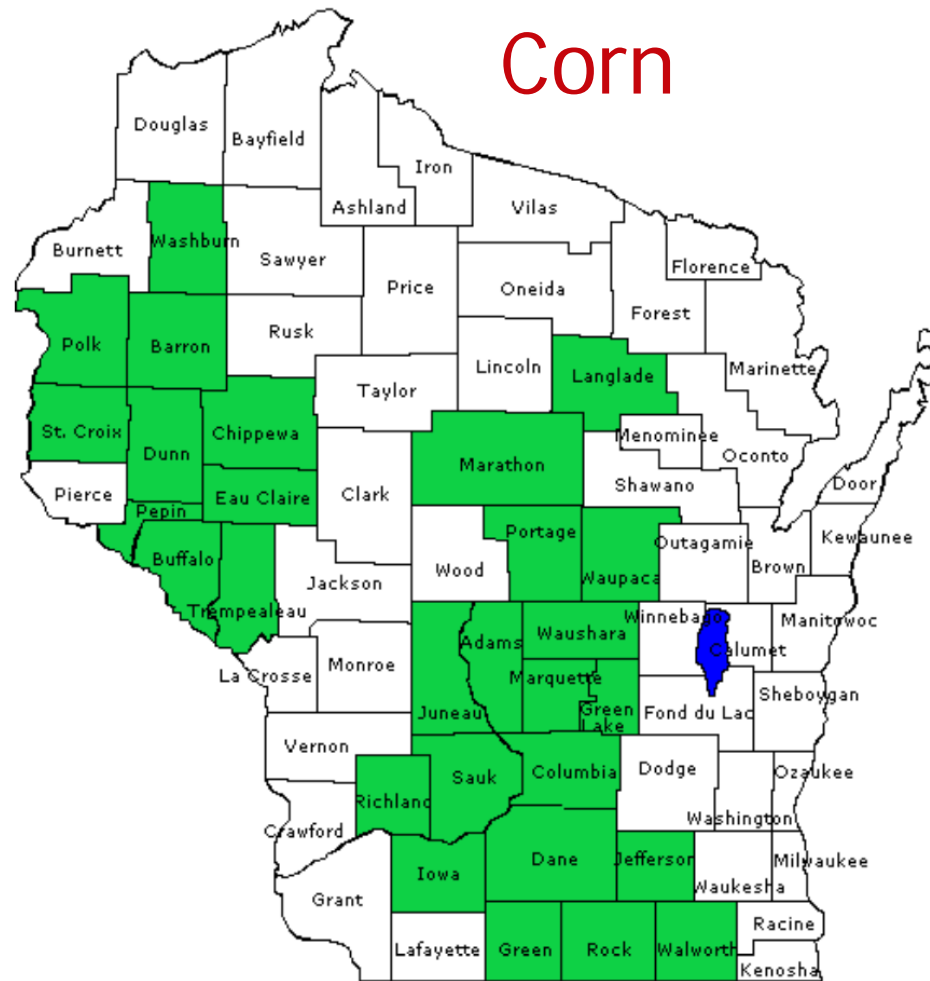
% Prevented Plant Acres by WI County



Which FSA farms should look at ARC-IC?

- **2)** ARC-IC benchmark yield is much higher than ARC-CO county yield and PLC payment yield
 - Unlikely for most Wisconsin farms
 - Possibly if an FSA farm is one of the few irrigated farms in county and there is no irrigated option for ARC-CO?

Counties with Irrigated Options for ARC-CO



Which FSA farms should look at ARC-IC?

- **3)** Acres of vegetables (or fruit) are more than 15% of base acres
- ARC-CO & PLC pay on 85% of base acres, 15% “non-payment acres”
- ARC-IC pays on 65% of base acres, 35% “non-payment acres”
- Since the 1990 Farm Bill, if plant vegetables on an FSA farm, payment acres are reduced 1 for 1, once exceed the “non-payment acres”
- FSA farm with 40 base acres can plant up to $40 \times 15\% = 6$ acres of processing vegetables (sweet corn, snap beans, green peas, cucumbers, lima beans, pumpkins) without reducing potential ARC-CO or PLC payments
- Same FSA farm can plant up to $35\% \times 40 = 14$ acres of processing vegetables before reducing potential ARC-IC payments

Summary of ARC-IC Recommendations

- Look at ARC-IC for FSA farms
- 1) With low yields in 2019, especially if an FSA farm was all prevented plant in 2019
- 2) With yields much higher than county yields, such as an irrigated farm in a county with little irrigation
- 3) With planted acres for vegetables that more than 15% of base acres, especially if they also satisfy #1 or #2