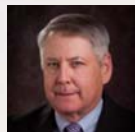


Combing Crop Insurance & Commodity Programs



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Art was raised on a diversified farm, located in Elk County, Kansas. Art received his Ph.D. in Agricultural Economics from Texas A&M University. Art joined the Kansas State University Ag. Economics faculty in 1979 and recently retired with the rank of professor. Art continues to conduct national and international education programs on market risk, USDA commodity programs, crop insurance and public policy. His research work with the private sector was the basis for the first revenue insurance contract. He has won several National awards including the National Association of Public & LG Universities Excellence in Extension Award; that included a \$5,000 honorarium. Art was named on the Top Producer Editors' list of "Brave Thinkers and 1 of "7 Economists, Bankers Who Challenged the Status Quo". In "retirement", Art enjoys managing price & yield risk for his small farm. While missing his dear wife, Nancy, Art enjoys time with his 5 granddaughters. Art is the owner of 4B Agricultural Consultants, LLC, and he continues to provide educational speeches-seminars and other services.

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Selecting Commodity Program and Crop Insurance

1. Select between ARC and PLC.
2. Higher prices reduce or eliminate commodity payments.
3. FSA selected commodity program will limit crop insurance selection.
4. Should one exclude the HPO from crop insurance?
5. Livestock feed replacement, marketing, crop insurance policy selection, adding private coverage, payment limits, etc. decisions are intermixed.

Yield Protection Provided by Crop Insurance

1. YP "Yield" insurance = (% coverage X APH) - production = indemnified bu. X projected price.

s.t indemnified bushels greater than zero

Yield Protection Provided by Crop Insurance

1. YP "Yield" insurance = (% coverage X APH) - production = indemnified bu. X projected price.

s.t indemnified bushels greater than zero

2. RP Yield Replacement insurance = (% coverage X APH) - production = indemnified bu. X harvest price.

s.t indemnified bushels greater than zero

Price Increase from \$4 to \$5

Example Guarantee

80% Coverage X 200 bushel APH = 160 bu.
Guarantee - 100 bu. Production = 60 bushel indemnified.

1. YP pays 60 bushel indemnified @ \$4 = \$240.
2. RP Yield replacement pays 60 bushel indemnified @ \$5 = \$300.
3. No price loss.

Higher Harvest Yields Reduces the RP Price Guarantee

1. Assume 80% RP coverage on Corn with a \$4 base price:
 - a) Harvest yield equals the guaranteed bushel; the guaranteed price is \$4 on the guaranteed bushels.
 - b) Harvest yield equals the APH bushel; the guaranteed price is reduced to \$3.20 on the guaranteed bushels.
 - c) Example RP calculations are provided in next 3 slides.
2. Price Loss Coverage (PLC) has a \$3.70 MYA price guaranteed on 85% of the base acres and is a complement to RP.

Price Decrease from \$4 to \$3

Example Guarantee

80% Coverage X 200 bushel APH = 160 bu.
Guarantee - 100 bu. Production = 60 bushel indemnified.

1. YP pays 60 bushel indemnified @ \$4 = \$240.
2. RP Yield replacement pays 60 bushel indemnified @ \$3 = \$180; Plus price loss.

Price Decrease from \$4 to \$3

Example Guarantee

80% Coverage X 200 bushel APH = 160 bu.
Guarantee - 100 bu. Production = 60 bushel indemnified.

1. YP pays 60 bushel indemnified @ \$4 = \$240.
2. RP Yield replacement pays 60 bushel indemnified @ \$3 = \$180; Plus price loss.
3. Plus price loss = \$4 - \$3 = \$1 X guaranteed 160 bu. = \$160 price loss plus \$180 yield loss = \$340.

Price Decrease from \$4 to \$3

Example Guarantee

80% Coverage X 200 bushel APH = 160 bu.
 Guarantee - 200 bu. Production = 40 bushel over
 guaranteed bushels.

1. Price loss payment is reduced if production exceeds bu. guarantee by the value of production.
2. RP price loss = \$160 - (40 bu. Over X \$3 = \$120) = net payment of \$40 and no yield loss.
3. 254 bu. Crop will eliminate RP price loss payment.

Remaining Risk after RP

1. A corn farmer with an average crop will need a harvest price below \$3.20 (80 cent price decline) to trigger 1 penny in RP price loss payments. (80% X \$4)
2. Cover the remaining price risk with FSA commodity programs, forward contracts, minimum price contracts, etc. Futures/options requires cash and some skills.
3. Cheapest price protection with a good crop is the PLC in the commodity title ("free" put).

Remaining Risk after RP

1. Farmers who select ARC can't buy SCO. SCO covers all planted acres, but coverage is based on county yields, not farm level yields.
2. Buy additional private insurance coverage, but most private coverages are tied to an area yield (county) rather than farm level yields.
3. What is the best commodity program for my farm? PLC or ARC?

2014 Enrollments Nationwide

Commodity	PLC	ARC-CO	ARC-IC
BARLEY	57%	42%	1%
CANOLA	93%	7%	1%
CORN	9%	91%	0%
DRY PEAS	44%	53%	3%
FLAXSEED	59%	40%	1%
GRAIN SORGHUM	54%	46%	0%
MUSTARD	53%	42%	4%
OATS	23%	76%	0%
SAFFLOWER	57%	40%	2%
SESAME	76%	24%	0%
SOYBEANS	4%	96%	0%
SUNFLOWERS	49%	50%	1%
WHEAT	34%	66%	0%

Conclusions on 2014 Farm Bill

- Some farmers picked the "right" program (i.e. highest payout), while others had small or no payments.
- Risk management versus highest payout.
 - Soybean prices didn't go low enough to trigger a PLC payment.
- Frustration with not being able to update their decision as market conditions changed.
- Perception that differences in payments across farmers will lead to unfair advantages in ability to bid for land.

The 2018 Farm Bill Decision

- Commodity programs haven't changed much.
 - Still have ARC-CO, PLC and ARC-IC.
 - Growers are more familiar with these programs than they were last time and this should affect their decision making process.
- PLC is a catastrophic price risk program.
 - Payments kick in when MYA price falls below a reference price.
 - You are paid based on the difference between the MYA price and the reference price times your FSA program yield.
- ARC-CO is a shallow loss coverage program.
 - Pays out when the county revenue falls below a benchmark revenue.

The 2018 Farm Bill Decision

- ARC-IC will likely remain unpopular.
 - Individual farm records and yields times a MYA price; high recordkeeping demands.
- SCO
 - Only available with PLC.
 - Make the election of SCO each year (not locked into your decision beyond the crop year).

The 2018 Farm Bill Decision

- Farmers will elect ARC or PLC per commodity for 2019 & 2020, but will be able to change elections annually beginning in 2021 (but don't have to change).
- This change will allow farmers to select their preferred program based on more current market conditions.
- Reduces the pressure of making a 1 time program decision for 5 years.

PLC in Review

- Catastrophic price decline protection.
 - Payments occur when prices fall below reference prices.
 - Payments made on base acres and program yields.

Example:

Farm has 100 base acres of corn and 120 bushel program yield.

Reference price is \$3.70

The MYA Corn price is \$3.50

Corn payment per acre = $(\$3.70 - \$3.50) \times 120 = \$24.00$ per payment acre

Total corn payment = $\$24.00 \times 100 \text{ base acres} \times 85\% = \$2,040.00$

Estimated MYA 2019/20 Corn Price For Calculating 2019/2020 ARC and PLC Payments

Estimated MYA Price(s)	Est 19/20	Est Wt.*		
September	3.80	7.0	Last Month 19/20 Est MYA price	
October	3.84	11.5	2019 ARC Reference Price	
November	3.68	12.4	MYA Price 17/18	\$3.36
December	3.71	9.0	MYA Price 16/17	\$3.36
Forecast January 20	3.71	12.6	MYA Price 15/16	\$3.61
Forecast February	3.71	7.5	MYA Price 14/15	\$3.70
Forecast March	3.80	6.9	MYA Price 13/14	\$4.46
Forecast April	3.80	5.9	5 Yr. Olympic Average Reference	
Forecast May	3.86	6.3	Price for 2018 ARC	\$3.70
Forecast June	3.86	7.8	ARC 14% Deductible	\$3.18
Forecast July	3.85	6.7	Est. 5 Yr. Olympic Average	
Forecast August	3.85	6.4	Reference Price for 2018 ARC	\$3.70
Estimated 19/20 MYA price	\$3.78		PLC Ref. Price & Difference	\$3.70
			Estimated PLC Payment	\$0.00



Estimated MYA 2019/20 Wheat Price For Calculating 2019/2020 ARC and PLC Payments

Estimated MYA Price(s)	Est 19/20	Est Wt.*		
June	4.81	14.0	Last Month 19/20 Est MYA price	\$4.61
July	4.52	17.9	2019 ARC Reference Price	
August	4.35	13.6	MYA Price 17/18	\$4.72
September	4.26	9.1	MYA Price 16/17	\$3.89
October	4.45	5.8	MYA Price 15/16	\$4.89
November	4.39	4.8	MYA Price 14/15	\$5.99
December	4.64	8.1	MYA Price 13/14	\$6.87
Forecast January 20	4.64	8.2	5 Yr. Olympic Average Reference	
Forecast February	4.64	5.0	Price for 2019 ARC	\$5.66
Forecast March	4.89	5.2	ARC 14% Deductible Price	\$4.87
Forecast April	4.89	4.2	5 Yr. Olympic Average Reference	
Forecast May	4.89	4.2	Price for 2020 ARC	\$5.50
Estimated 19/20 MYA price	\$4.58		PLC Ref. Price	\$5.50
			Estimated PLC Payment	\$0.92



Estimated MYA 2019/20 Soybean Price For Calculating 2019/2020 ARC and PLC Payments

Estimated MYA Price(s)	Est 19/20	Est Wt.*		
September	8.35	6.7	Last Month 19/20 Est MYA price	
October	8.60	25.7	2019 ARC Reference Price	
November	8.59	11.6	MYA Price 17/18	\$9.33
December	8.70	9.7	MYA Price 16/17	\$9.47
Forecast January 20	8.85	13.8	MYA Price 15/16	\$8.95
Forecast February	8.85	7.1	MYA Price 14/15	\$10.10
Forecast March	8.98	6.0	MYA Price 13/14	\$13.00
Forecast April	8.98	4.7	5 Yr. Olympic Average Reference	
Forecast May	9.10	3.5	Price for 2018 ARC	\$9.63
Forecast June	9.10	4.3	ARC 14% Deductible	\$8.28
Forecast July	9.14	3.9	Est. 5 Yr. Olympic Average	
Forecast August	9.12	3.1	Reference Price for 2018 ARC	\$9.42
Estimated 19/20 MYA price	\$8.76		PLC Ref. Price & Difference	8.40
			Estimated PLC Payment	\$0.00



Estimated MYA 2019/20 Grain Sorghum Price For Calculating 2019/2020 ARC and PLC Payments

Estimated MYA Price(s)	Est 19/20	Est Wt.*		
September	3.35	5.2	Last Month 19/20 Est MYA price	
October	3.29	10.5	2019 ARC Reference Price	
November	3.16	19.7	MYA Price 17/18	\$3.22
December	3.16	19.5	MYA Price 16/17	\$2.79
Forecast January 20	3.16	14.5	MYA Price 15/16	\$3.31
Forecast February	3.16	6.0	MYA Price 14/15	\$4.03
Forecast March	3.24	4.3	MYA Price 13/14	\$4.28
Forecast April	3.24	3.3	5 Yr. Olympic Average Reference	
Forecast May	3.29	3.4	Price for 2018 ARC	\$3.98
Forecast June	3.29	4.0	ARC 14% Deductible	\$3.42
Forecast July	3.28	6.3	Est. 5 Yr. Olympic Average	
Forecast August	3.28	3.4	Reference Price for 2018 ARC	\$3.95
Estimated 19/20 MYA price	\$3.21		PLC Ref. Price & Difference	\$3.95
			Estimated PLC Payment	\$0.74



What Changed in PLC?

- Payment Yield Update will again be offered in 2020.
- The 2020 update is intended to benefit farmers who sustained multiple years of losses during the 2008-2012 crop years used to calculate the 2014 updated program yield.
- Will use the farm's yields from 2013-2017, excluding any years that the crop was not planted.
- Formula will include 'plug' yields and a detrending factor.

**Don't get caught up in the formula details. FSA will run this for you. If the update is higher than your current yield, then update, even, if not in PLC



ARC-CO in Review

- ARC protection program
 - Payments are made if per acre revenue falls below 86% of benchmark.
- ARC-County benchmark
 - Moving 5-yr Olympic avg. national MYA price X 5-yr Olympic avg. X Trend adjusted county yields (with 80% of T plugs) X 86%.
- ARC-Individual benchmark
 - 5-yr Olympic avg. of the weighted per-acre revenues.
- Payments max out at 10% of benchmark revenue.

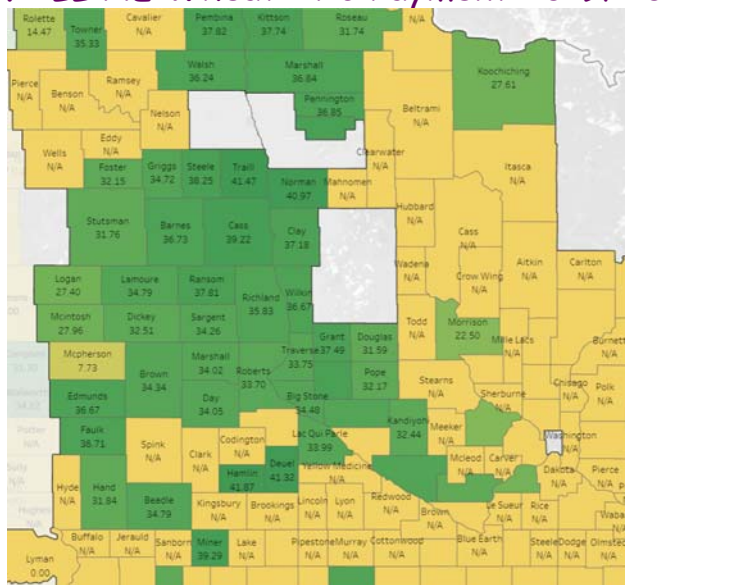


FSA TREND-ADJUSTED YIELD FACTOR FOR PROGRAM YEAR 2019/20

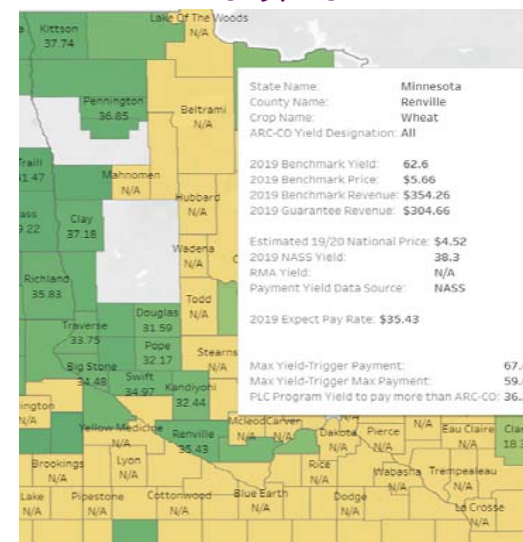
County Name	Crop Name	Unit	ARC-CO Yield Designation	Program Year 20
Brown	Corn	Bushel	Irrigated	2.34
Brown	Corn	Bushel	Nonirrigated	2.34
Brown	Soybeans	Bushel	Irrigated	0.48
Brown	Soybeans	Bushel	Nonirrigated	0.48
Brown	Wheat	Bushel	All	0.39
Redwood	Corn	Bushel	All	2.59
Redwood	Soybeans	Bushel	All	0.51
Redwood	Wheat	Bushel	All	0.50
Renville	Corn	Bushel	All	2.25
Renville	Soybeans	Bushel	All	0.47
Renville	Wheat	Bushel	All	0.44
Sibley	Corn	Bushel	All	2.15
Sibley	Soybeans	Bushel	All	0.46
Sibley	Wheat	Bushel	All	0.40



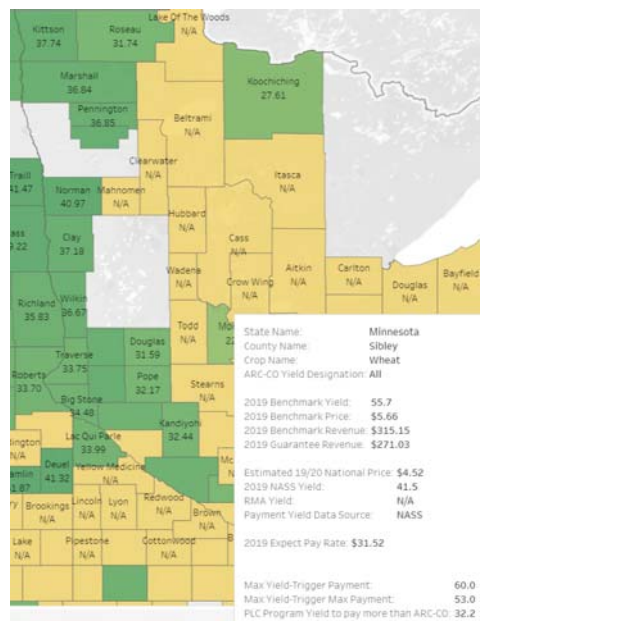
Est. ALL NE Wheat ARC Payment 2019/20



Est. All Wheat Renville, MN ARC Payment 2019/20



Est. All Wheat Sibley, MN ARC Payment 2019/20



What Changed in ARC-CO?

- The policy intends for FSA to implement a trend yield adjustment, similar to crop insurance's SCO trend adjustment, to be applied to ARC.
- FSA will use the "effective reference price" to calculate the ARC guarantee.
- Make ARC payments based on county where base acres are located rather than administrative county.
- Provide a separate irrigated and non-irrigated yield ARC guarantee in all counties with sufficient acres of each practice.
- Prioritize RMA data in the calculation of county yields used for the ARC guarantee and actual yields.

Payment Limits - ARC & PLC

- The individual payment limit remains the same at \$125,000.
- Spouse will also continue to receive a payment limit.
- Extends the definition of family to nieces, nephews, and first-cousins.
- This is really no change from the current number of payment entities.
- The Adjusted Gross Income cap remains at \$900,000.
- The Marketing Assistance Loans (MAL) and Loan Deficiency Payments (LDP) payments are no longer counted towards the \$125,000 payment limit for ARC and PLC programs.
- Farmers were able to take out the market loan and avoid the LDP payment limit.

Other Risk Considerations

1. The National Marketing Year Average (MYA) price is used to calculate PLC and ARC payments.
2. Does the MYA price reflect your farms price? How is the MYA calculated?
3. Crop insurance prices assume a zero basis.
4. Futures prices determine insurance payments. Are futures efficient? Do futures meet the test of a free market? Do futures reflect your cash price?

Thank You

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