

8. Update on the Commodity Programs

Art Barnaby

<barnaby@ksu.edu>

Dr. Art Barnaby was raised on a diversified farm, located in Elk County, Kansas.

Art received his B.S. degree from Fort Hays State University, M.S. from New Mexico State University and a Ph.D. in Agricultural Economics from Texas A&M University. Art joined the Agricultural Economics faculty in 1979. He currently holds the rank of Professor. Art conducts national extension education programs on market risk, government commodity programs, crop insurance and public policy. In 2016, Art was named one of Farm Credit's Fresh Perspectives Top 100 Honorees. In 2013, Art was 1 of 30 people who were named on Top Producer Editors' list of "Brave Thinkers: 30 Leaders Who Made a Difference" and on their list of "7 Economists, Bankers Who Challenged the Status Quo". He has authored several research projects on crop insurance issues and their impacts on farmers. His research work with the private sector was the basis for the first revenue insurance contract. Art is an author on the KSU web page:

www.agmanager.info.

Art is a past winner of the Excellence in Extension Award that included a \$5,000 honorarium presented by the National Association of Public and Land Grant Universities. He is also a three time winner of the American Agricultural Economics Association Distinguished Extension Program Award. Art was a member of the 2015 Western Agricultural Economics Association's Group Extension Project Award for the OSU-KSU 2014 Farm Bill Decision Tool and Education Program. Art is a frequent speaker at professional, farmer-producer, ag lender, and insurance industry meetings. Art's wife, Nancy, holds a B.S. degree from Fort Hays State University in Nursing. Art and Nancy have two sons and five granddaughters.

Abstract/Summary

A frequently asked question is what happened to my ARC payment? The Agriculture Risk Coverage (ARC) is an area plan that triggers payments off of county yields. Any area plan including ARC will have a yield basis risk between farms within a county and across counties. Therefore, one's farm can have a loss but the county doesn't trigger a payment or one's farm may have no loss, but the county triggers a payment.

It some counties, there was no payment because the prior 5 year history had two or more bad yields. In this case 1 of 3 yields in the 5-year Olympic average will be a bad yield causing the yield average to be low and the resulting guarantee will be low. In many cases, a below average yield will eliminate the ARC payment, even with low prices.

In 2016, many counties are likely not to trigger payments on wheat because of some very good wheat yields. In the last year of the Farm Bill, a county yield equal to the county's 5-year Olympic average yield will require a MYA corn price below \$3.18.

So would farmers have been better off selecting Price Loss Coverage (PLC)? The answer is no for soybeans. Corn is also a likely no, but a lot is going to depend on this fall's harvest. Sorghum did not generate a PLC payment in the first year, but for most farmers it appears likely the PLC payment will be larger than ARC over the remaining years. Because of yields it now appears that Kansas wheat will receive no payment in many counties for 2016/17. As a result many Kansas wheat farmers would have had larger payment totals over the first 3 years under PLC. However, those results could change based on the 2017 and 2018 crops.

Did I Pick the Wrong Commodity Program?

by

Dr. G. Art Barnaby, Jr.

Professor, Agricultural Economics. Kansas State University

Presented Risk and Profit

Kansas State University

August 18-19, 2016

Email: barnaby@ksu.edu

Phone 785.532.1515

Check out our WEB page at

<http://www.AgManager.info>



Big Wheat Crop Exceeds Storage Causing Non-Convergence

1. Current Deferred Prices & low interest rates will generate a storage return for the longs receiving delivery.
2. At today's wheat price, a long taking delivery will get a margin call for about \$20,000 per contract. There are no price limits during delivery.
3. Farmers can't deliver. What is delivered is a CME approved warehouse receipt.
4. If there is a return to a CME approved warehouse receipt then more deliveries will not force convergence between futures and cash because the longs will take them all and hold.

8/23/2016 4B Ag Consultants & Kansas State University, Copyright 2016, All Rights Reserved 2

Big Wheat Crop Exceeds Storage Causing Non-Convergence

1. Cash price is "correct" because of a large crop exceeding storage limits, and convergence would require futures to fall.
2. Lack of convergence caused the short hedge to under perform by about 50 cents on HRW wheat.
3. Lack of convergence caused crop insurance payments to be short. Crop insurance doesn't guarantee basis.
4. This is the year to have on farm storage as a storage hedge will lock in returns and also capture convergence should it occur in a future deferred contract.

8/23/2016 4B Ag Consultants & Kansas State University, Copyright 2016, All Rights Reserved 3

Big Wheat Crop Exceeds Storage Causing Weak Basis on MYA price

1. Current KS cash wheat prices are under the national cash price and will cause government payments to be less than farmers expected.
2. Much of the KS crop was (is being) put under loan. Those bushels are temporarily off the cash market.
3. In 9 months those loans will expire and farmers will repay the loan at market or the PCP price. Then there is no "floor" under the market.
4. LDP, ARC and PLC payments from all crops are included in the \$125,000 limit, so larger farmers don't want to use up their \$125,000 limit with LDP/Loan Gains; therefore re-pay loans with certificates.
5. There is no payment limit or means testing required for farmers using certificates.

8/23/2016 4B Ag Consultants & Kansas State University, Copyright 2016, All Rights Reserved 4

Big Wheat Crop Exceeds Storage Causing Weak Basis on MYA price

1. Loan Rates are set at the county level and the Posted County Price (PCP) should approximately equal the local cash price and determines LDPs.
2. Price Loss Coverage (PLC) payments are triggered by the Marketing Year Average (MYA) price.
3. Agriculture Risk Coverage (ARC) payments are triggered by the Marketing Year Average (MYA) price and county yields.
4. The MYA price is based on a survey of elevators who report total bushels purchased and total dollars paid during a month. That data is aggregated to the national level to get an average price for the month. At the end of the marketing year, the monthly prices are weighted based on the % of the crop sold in each month.

8/23/2016 4B Ag Consultants & Kansas State University, Copyright 2016, All Rights Reserved 5

2015/16 Estimated MYA Corn Price near Final

Est. MYA Price(s)	15/16	Est Wt.*	
September ...	3.68	7.58	Last Month 15/16 Est MYA price \$3.65
October	3.67	13.74	2015 ARC Reference Price
November	3.60	11.18	MYA Price 14/15 \$3.70
December	3.65	8.76	MYA Price 13/14 \$4.46
January 16 ...	3.66	14.38	MYA Price 12/13 \$6.89
February	3.57	7.42	MYA Price 11/12 \$6.22
March	3.57	8.28	MYA Price 10/11 \$5.18
April	3.58	5.72	5 Yr. Olympic Average
Forecast May	3.68	4.92	Reference Price for 2015 ARC \$5.29
Forecast June	3.82	6.42	ARC 14% Deductible \$4.55
Forecast July	3.68	6.30	Est. 5 Yr. Olympic Average
Forecast August	3.68	5.30	Reference Price for 2016 ARC \$4.79 to \$4.79
Est. 15/16 MYA price	3.65		PLC Ref. Price & Difference \$3.70 \$0.85

8/23/2016 4B Ag Consultants & Kansas State University, Copyright 2016, All Rights Reserved 6

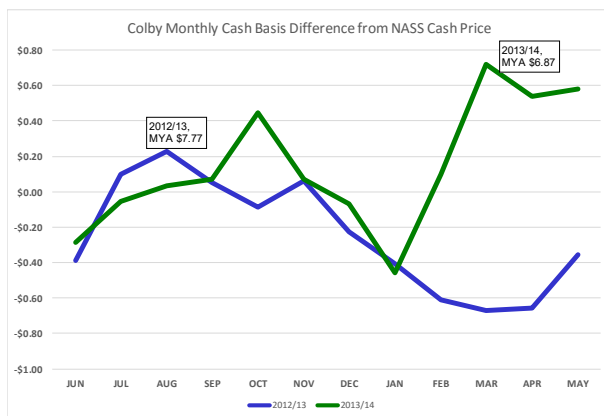
Only 1 Real Price in MYA Estimated 2016/17 Wheat Price

Est. MYA Price(s)	16/17	Est Wt.*	Est	Wt.*
June	4.20	13.6		Last Month 16/17 Est MYA price \$4.66
July	4.05	18.0		2015 ARC Reference Price
August	4.05	13.2		MYA Price 15/16 \$4.89
September ...	4.28	9.1		MYA Price 14/15 \$5.99
October	4.28	5.9		MYA Price 12/13 \$7.77
November	4.28	4.8		MYA Price 11/12 \$7.24
December	4.48	7.6		MYA Price 13/14 \$6.87
January 15 ...	4.48	7.4		5 Yr. Olympic Average
February	4.48	5.1		Reference Price for 2015 ARC \$6.70
March	4.60	6.4		ARC 14% Deductible \$5.76
April	4.60	4.6		Est. 5 Yr. Olympic Average
May	4.68	4.3		Reference Price for 2016 ARC \$6.04 to \$6.04
Est. 16/17 MYA price	\$4.29			PLC Ref. Price & Difference \$5.50 \$0.26

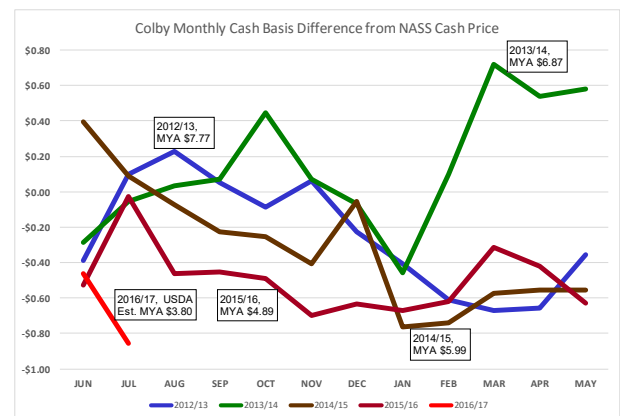
Nobody is Selling Wheat for \$4.20 ????

1. It is a national average price, and wheat is over \$4 in the NW USA.
2. A part of the KS crop is in the loan program, so those bushels are not showing up in the survey as cash sales.
3. I used the SRW CME wheat contract to drive my model. In recent weeks SRW has traded at a premium to HRW, and this would cause my estimate to be too high.
4. I adjusted for a wide basis, but it may need to be widen.
5. I used the mid point of USDA estimated 2016/17 MYA wheat price at \$3.80, in the rest of this presentation.
6. By the time 3 NASS prices are published, the KSU model will estimate the price much closer to the final MYA price.
7. Current KS cash prices vs. the MYA price is wider than normal.

Commodity Programs Don't Cover Local Basis Risk



Commodity Programs Don't Cover Local Basis Risk



I Picked the wrong ^&*## Program!

1. Will 2016/17 corn PLC payments Exceed ARC? Likely most corn counties will generate no ARC payments, even with low prices, because of "high" yields.
2. It is correct that high county revenue eliminates ARC program payments, but that is the way ARC was designed to work.
3. Why did my neighbor across the road in a neighboring county get a big ARC payment and I received none?
4. Where does FSA get their county yields?
5. FSA uses the total production in the county as reported by NASS divided by NASS harvested acres + RMA failed acres. Approved FSA county yields are set by FSA. NASS sets the MYA price.

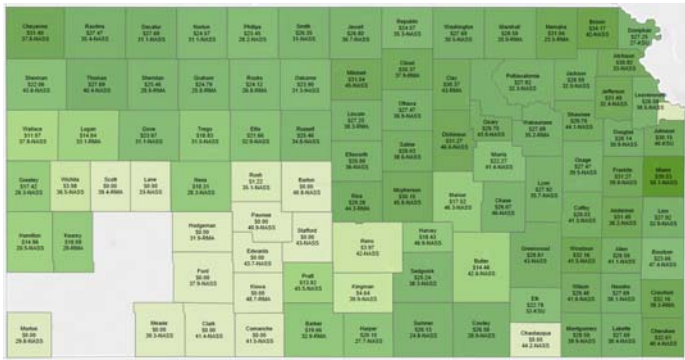
I Picked the wrong ^&*## Program!

1. A large number of counties don't have a NASS county yield because not enough surveys were returned by farmers.
2. FSA's county yield may not account for all of the acres going to corn silage, wheat pasture, seed corn, and the split with irrigation.
3. Crop insurance yields are reported, with criminal liability attaching, to RMA could be used to supplement NASS data and determine county yields.
4. USDA will have up to 4 different county yields; NASS, FSA, RMA-ARP and RMA-Supplemental Coverage.

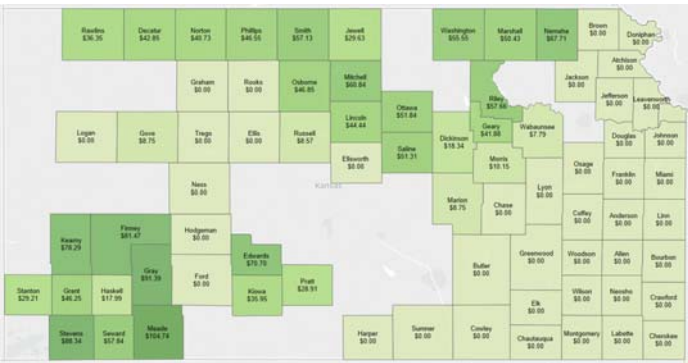
2014 Kansas Wheat Payments



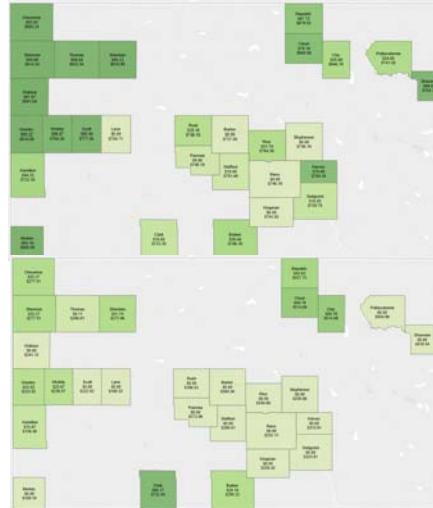
2015 Projected Wheat Payments



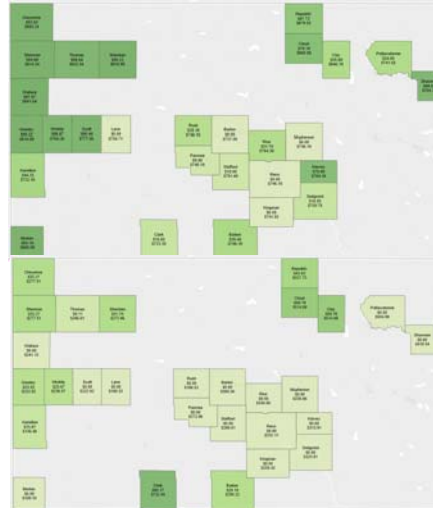
2014 Kansas Corn Payments-Combined



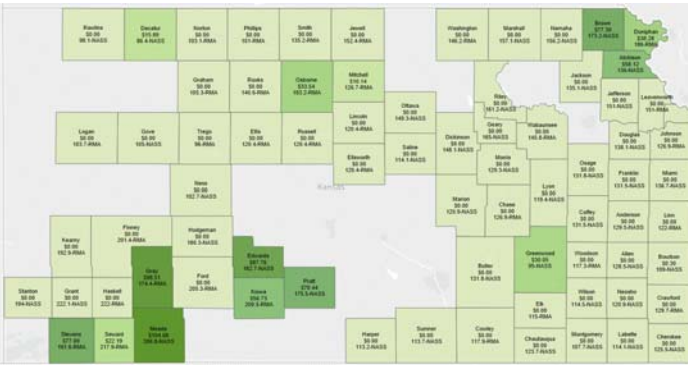
2014 Kansas Corn Payments-Irrigated



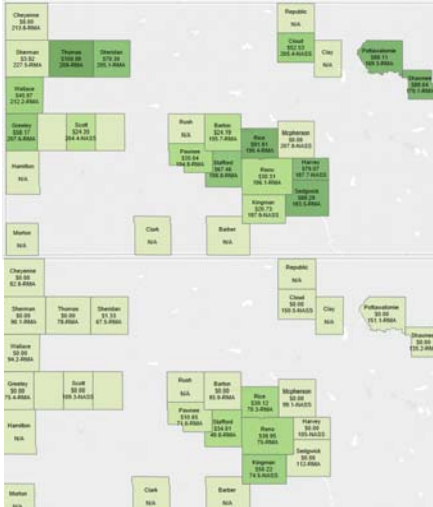
2014 Kansas Corn Payments-Dryland



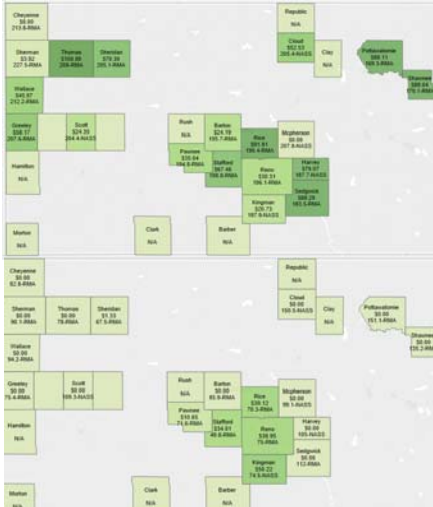
2015 Projected Corn Payments-Combined



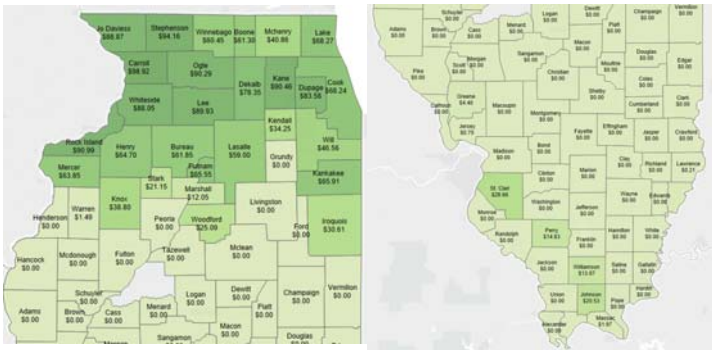
2015 Estimated Kansas Corn Payments-Irrigated



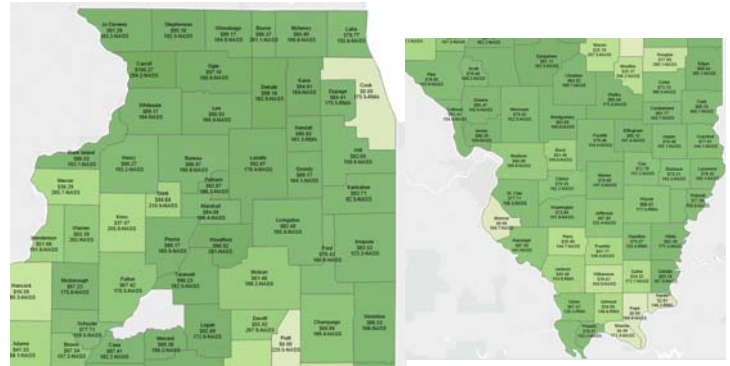
2015 Estimated Kansas Corn Payments-Dryland



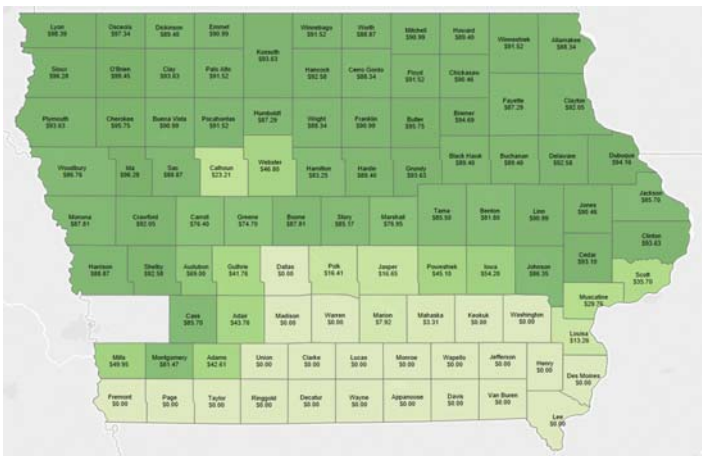
2014 ARC-County Corn Payments



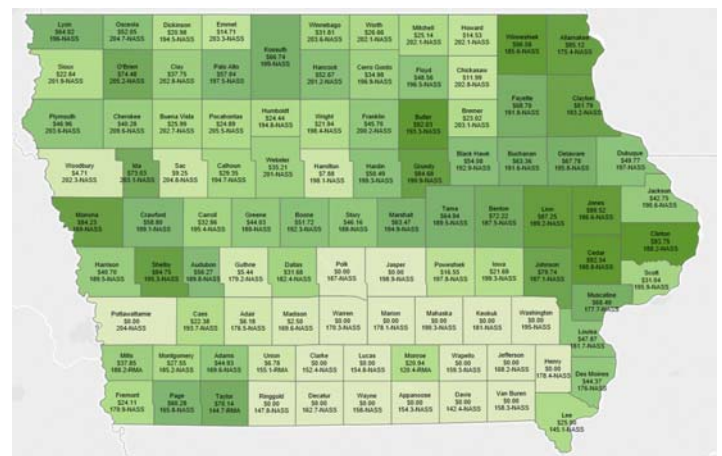
Estimated 2015 ARC-County Corn Payments



2014 Iowa Corn ARC Payments



Estimated 2015 Iowa Corn ARC Payments



Actual & Estimated MYA Prices for Major Crops

	Ref Price	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Corn	\$3.70	\$3.55	\$5.18	\$6.22	\$6.89	\$4.46	\$3.70	\$3.64	\$3.20	\$3.70	\$4.00
				5 Yr. Oly. Avg Price			\$5.29	\$5.29	\$4.79	\$3.95	\$3.70
				86% X 5 Yr. Oly. Avg Price			\$4.55	\$4.55	\$4.12	\$3.40	\$3.18
Wheat	\$5.50	\$4.87	\$5.70	\$7.24	\$7.77	\$6.87	\$5.99	\$4.89	\$3.80	\$4.50	\$5.00
				5 Yr. Oly. Avg Price			\$6.60	\$6.70	\$6.70	\$6.12	\$5.66
				86% X 5 Yr. Oly. Avg Price			\$5.68	\$5.76	\$5.76	\$5.26	\$4.87
Beans	\$8.40	\$9.59	\$11.30	\$12.50	\$14.40	\$13.00	\$10.10	\$8.88	\$9.50	\$9.50	\$9.50
				5 Yr. Oly. Avg Price			\$12.27	\$12.27	\$11.87	\$10.87	\$9.70
				86% X 5 Yr. Oly. Avg Price			\$10.55	\$10.55	\$10.21	\$9.35	\$8.34
Milo	\$3.95	\$3.22	\$5.02	\$5.99	\$6.33	\$4.28	\$4.03	\$3.29	\$3.00	\$3.50	\$3.50
				5 Yr. Oly. Avg Price			\$5.10	\$5.10	\$4.77	\$4.09	\$3.98
				86% X 5 Yr. Oly. Avg Price			\$4.38	\$4.38	\$4.10	\$3.51	\$3.42

*The 2015 MYA price estimate is nearly complete as there are only two remaining national monthly corn prices to be published by NASS. The 2016 MYA price is a guess, based on current market conditions, but could fall if the Corn Belt runs out of storage for the 2016 crop. The prices for 2017 and 2018 are assumed to return to near cost of production levels.

Historical Yields and MYA Prices for Ringgold, Co. IA

Crop Yr.	T-Yield	2009	2010	2011	2012	2013
Co. Yield	93	134	93	118	93	120
MYA Price	\$3.70	\$3.55	\$5.18	\$6.22	\$6.89	\$4.46

Crop Yr.	2014	2015	2016	2017	2018
Co. Yield	166	148	170	133	133 ^a
5-Yr. Oly. Avg. Yield	110	110	129	145	149
5-Yr. Oly. Avg. Price	\$5.29	\$5.29	\$4.79	\$3.95	\$3.70
86% X Oly. Avg. Price	\$4.55	\$4.55	\$4.12	\$3.40	\$3.18
ARC Guarantee	\$501.63	\$501.63	\$530.40	\$491.85	\$474.12
MYA Price	\$3.70	\$3.64	\$3.20	\$3.70	\$4.00 ^b
Revenue to Count	\$614.20	\$538.72	\$544.00	\$492.10	\$532.00
ARC Payment	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

^aThe 2015 yield estimate is based on a published NASS County Yield. The 2016 yield estimate is based on published USDA reports of a record corn yield. The 2017 and 2018 yields are set equal to the crop insurance T-yield.

^bThe 2015 MYA price estimate is nearly complete as there are only two remaining national monthly corn prices to be published by NASS. The 2016 MYA price is a guess, based on current market conditions, but could fall if the Corn Belt runs out of storage for the 2016 crop. The prices for 2017 and 2018 are assumed to return to near cost of production levels.

I Picked the wrong ^*## Program!

- ARC is a revenue guarantee so if a county has a yield higher than their "expected" or "average" county yield and it eliminates the ARC payment, then help is not needed from the government because farmers met their revenue guarantee.
- Multiple Year Losses drive down the 5 year Olympic Average Yield. Ringgold County had a crop bust in 2010 and 2012 and a low yield in 2011. In a 5-year Olympic average yield 2 of the 3 yields are low that are included in the 3 year average.
- The key question is does the 5 year Olympic average yield represent the "normal" Ringgold County, IA yield or does the 133 bu. crop insurance T-yield represent the "normal" yield? If ARC is using a below normal yield, then the ARC revenue guarantees will be low.
- So if the ARC is not effective coverage, then they should just buy a higher crop insurance coverage level or add Supplemental Coverage. Right?

RMA Increased Rate Relativities

2016 IA Ringgold, Com, Yield Protection, dryland, OU, Yield: 133, Rate Yield: 133

% Coverage	60%	65%	70%	75%	80%	85%
Price Election	\$3.86	\$3.86	\$3.86	\$3.86	\$3.86	\$3.86
\$ Coverage	\$308.03	\$333.89	\$359.37	\$385.23	\$410.70	\$436.57
Farm Prem	\$8.72	\$12.18	\$14.75	\$19.43	\$26.71	\$37.63
Farm Rate	2.83%	3.65%	4.10%	5.04%	6.50%	8.62%

Added Cov	\$25.48	\$25.86	\$25.48	\$25.86	\$25.47	\$25.87
Added Prem	\$1.67	\$3.46	\$2.57	\$4.68	\$7.28	\$10.92
Rate on last \$	6.55%	13.38%	10.09%	18.10%	28.58%	42.21%

2015 IA Ringgold, Com, Yield Protection, dryland, OU, Yield: 133, Rate Yield: 133

% Coverage	60%	65%	70%	75%	80%	85%
Price Election	\$4.15	\$4.15	\$4.15	\$4.15	\$4.15	\$4.15
\$ Coverage	\$331.17	\$358.98	\$386.37	\$414.17	\$441.56	\$469.37
Farm Prem	\$9.24	\$12.80	\$15.35	\$19.99	\$27.11	\$37.63
Farm Rate	2.79%	3.57%	3.97%	4.83%	6.14%	8.02%

Added Cov	\$27.39	\$27.81	\$27.39	\$27.80	\$27.39	\$27.81
Added Prem	\$1.75	\$3.56	\$2.55	\$4.64	\$7.12	\$10.52
Rate on last \$	6.39%	12.80%	9.31%	16.69%	25.99%	37.83%

Great Plains 2017 Wheat Rates with TA & YE

No APH Adjustment, Rate Yield 33 bu., APH 33 bu.

% Coverage	60%	65%	70%	75%	80%	85%
Price Election	\$4.76	\$4.76	\$4.76	\$4.76	\$4.76	\$4.76
\$ Coverage	\$94.25	\$102.34	\$109.96	\$118.05	\$125.66	\$133.76
Premium	\$11.14	\$13.59	\$16.56	\$19.88	\$23.47	\$27.54
Farmer Share	\$2.23	\$2.72	\$3.31	\$4.57	\$7.51	\$12.94
Farmer Rate	2.4%	2.7%	3.0%	3.9%	6.0%	9.7%

Trend Yield (TA) & Yield Exclusion (YE), Rate Yield 33 bu., APH 39 bu.

% Coverage	60%	65%	70%	75%	80%	85%
Price Election	\$4.76	\$4.76	\$4.76	\$4.76	\$4.76	\$4.76
\$ Coverage	\$111.38	\$120.90	\$129.95	\$139.47	\$148.51	\$158.03
Premium	\$15.57	\$19.08	\$23.31	\$28.18	\$32.78	\$38.78
Farmer Share	\$3.11	\$3.82	\$4.66	\$6.48	\$10.49	\$18.23
Farmer Rate	2.8%	3.2%	3.6%	4.6%	7.1%	11.5%
Added Prem						
4 APH Adj	\$0.88	\$1.10	\$1.35	\$1.91	\$2.98	\$5.29

Comparing \$ Coverage & TA & YE will Save Premium for Many Farmers

No APH Adjustment, Rate Yield 33 bu., APH 33 bu.

% Coverage	60%	65%	70%	75%	80%	85%
Price Election	\$4.76	\$4.76	\$4.76	\$4.76	\$4.76	\$4.76
\$ Coverage	\$94.25	\$102.34	\$109.96	\$118.05	\$125.66	\$133.76
Premium	\$11.14	\$13.59	\$16.56	\$19.88	\$23.47	\$27.54
Farmer Rate	\$2.23	\$2.72	\$3.31	\$4.57	\$7.51	\$12.94
Share Rate	2.4%	2.7%	3.0%	3.9%	6.0%	9.7%

Trend Yield (TA) & Yield Exclusion (YE), Rate Yield 33 bu., APH 39 bu.

% Coverage	50%	55%	60%	65%	70%	75%
Price Election	\$4.76	\$4.76	\$4.76	\$4.76	\$4.76	\$4.76
\$ Coverage	\$92.82	\$102.34	\$111.38	\$120.90	\$129.95	\$139.47
Premium	\$9.94	\$12.40	\$15.57	\$19.08	\$23.31	\$28.18
Farmer Share	\$1.99	\$2.48	\$3.11	\$3.82	\$4.66	\$6.48
Farmer Rate	2.1%	2.4%	2.8%	3.2%	3.6%	4.6%
Added Prem						
4 APH Adj	(\$0.24)	(\$0.24)	(\$0.20)	(\$0.75)	(\$2.85)	(\$6.46)
Rate Change	(0.22%)	(0.23%)	(0.22%)	(0.71%)	(2.39%)	(5.03%)
Cov. Change	(\$1.43)	\$0.00	\$1.42	\$2.85	\$4.29	\$5.71

Farmers who Select TA & YE & Cut % Coverage, must also Cut % Coverage on All Units

	Unit 1 33/39	Unit 2 39/40	Unit 3 36/36	
None	\$125.66 X 200.0 ac.	\$152.32 X 100.0 ac.	\$137.09 X 100.0 ac.	= \$54,073 Total Coverage
TA&YE	\$129.95 X 200.0 ac.	\$133.28 X 100.0 ac.	\$119.95 X 100.0 ac.	= \$51,313 Total Coverage
None	\$7.51 X 200.0 ac.	\$8.74 X 100.0 ac.	\$7.84 X 100.0 ac.	= \$3,160 Total Farm Prem
TA&YE	\$4.66 X 200.0 ac.	\$3.86 X 100.0 ac.	\$3.45 X 100.0 ac.	= \$1,663 Total Farm Prem
None	\$125.66 X 350.0 ac.	\$152.32 X 25.0 ac.	\$137.09 X 25.0 ac.	= \$51,216 Total Coverage
TA&YE	\$129.95 X 350.0 ac.	\$133.28 X 25.0 ac.	\$119.95 X 25.0 ac.	= \$51,813 Total Coverage
None	\$7.51 X 350.0 ac.	\$8.74 X 25.0 ac.	\$7.84 X 25.0 ac.	= \$3,043 Total Farm Prem
TA&YE	\$4.66 X 350.0 ac.	\$3.86 X 25.0 ac.	\$3.45 X 25.0 ac.	= \$1,814 Total Farm Prem

Summary on Yield Exclusion

- APH has a floor equal to 80% of the T-Yield. Farms with multiple year losses (3-4 loss years) will likely find the floor better than Yield Exclusion.
- Farmers electing the YE and cutting their percent coverage must also cut their % coverage on their other units in the county and those units may not benefit from YE.
- The gross premium is nearly the same for the same dollars of coverage. The agent and the company are paid based on the gross premium, not just the farmer's share of the premium.
- By increasing farmers' APHs using YE, it allows farmers to reduce their percent coverage with little or no reduction in \$ of coverage, but they increase the % share of the premium paid by USDA.
- The USDA's share of the premium is the same for both 65% and 70% coverage, so YE farmers don't get a premium reduction by moving down from 70% to 65%.

Great Plains 2017 Wheat Rates in a Higher Trend Yield Adjustment County

2017 Wheat, RP, Volatility: 0.22%, EU, Yield: 44, Rate Yield: 44

% Coverage	60%	65%	70%	75%	80%	85%
Price Election	\$4.73	\$4.73	\$4.73	\$4.73	\$4.73	\$4.73
\$ Coverage	\$124.87	\$135.28	\$145.68	\$156.09	\$166.50	\$176.90
Premium	\$7.17	\$9.27	\$11.83	\$14.84	\$18.43	\$22.45
Farmer Share	\$1.43	\$1.85	\$2.37	\$3.41	\$5.90	\$10.55

2017 TA Wheat, RP, Volatility: 0.22%, EU, Yield: 46, Rate Yield: 44

% Coverage	60%	65%	70%	75%	80%
Price Election	\$4.73	\$4.73	\$4.73	\$4.73	\$4.73
\$ Coverage	\$130.55	\$141.43	\$152.31	\$163.19	\$174.06
Premium	\$8.34	\$10.76	\$13.62	\$17.01	\$21.53
Farmer Share	\$1.67	\$2.15	\$2.72	\$3.91	\$6.89

Change in Coverage	(\$4.73)	(\$4.25)	(\$3.78)	(\$3.31)	(\$2.84)
Change in Premium	(\$0.18)	(\$0.22)	(\$0.69)	(\$1.99)	(\$3.66)

Summary on Selecting ARC vs PLC

1. If farmers had a do over, ARC enrolled farmers would likely switch milo and wheat to PLC, but not soybeans. Corn will depend on the county yield distribution and the FSA approved farm program corn yield.
2. When farmers signed up for ARC, many were worried about low yields over the next 5 years. If 2016 had been a drought year then unlikely PLC would have paid, but ARC would have paid in counties with low yields.
3. MYA price does not account for basis nor does crop insurance.
4. There is nothing to cause the MYA price to converge with cash.
5. A return to normal wheat crop production levels will likely cause convergence between futures and cash.



Thank You
DR. G. A. "ART" BARNABY, JR. **PHONE: 785-532-1515**
KANSAS STATE UNIVERSITY **EMAIL: barnaby@ksu.edu**
Check out our WEB page at
<http://www.AgManager.Info>
Copyright 2016, All Rights Reserved