Should Basic Underwriting Rules be Applied to Average Crop Revenue Election and Supplemental Revenue?

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This paper considers methods to adversely select on Average Crop Revenue Election (ACRE) and Supplemental Revenue (SURE). In the case of winter wheat, farmers had a large amount of a priori yield and price information before electing 2009 ACRE. Prior to the August 14 sign-up for ACRE, wheat was 3 months into the marketing year. In most years nearly half of the national average price is determined in the first 3 months of the marketing year. With this available information it was clear that Oklahoma, Texas, and Washington wheat would collect the maximum or near the maximum ACRE payment, while there was little chance that ACRE would pay on Colorado wheat.

Key Words: adverse selection, Average Crop Revenue Election, Crop Insurance, Supplemental Revenue

JEL Classification: Q18

The Food, Conservation, and Energy Act of 2008 (2008 Farm Bill) created two new farm revenue safety net programs, SUpplemental REvenue (SURE) and Average Crop Revenue Election (ACRE). The argument for a farm policy change that moved commodity programs from fixed payments to one providing risk management was led by Dr. Carl Zulauf, who first proposed the concept of a tool to cover systemic risk (Reese, 2004; Zulauf, 2006). The Zulauf proposal evolved into the ACRE program and the SURE program was added primarily by Northern Plain States small grain interests.

SURE is whole crop farm supplemental revenue insurance that is designed to cover some of the deductibles and other perils not covered in the crop insurance program. Pasture and livestock revenue are not included in SURE but it includes all other crops. ACRE payments replace many of the traditional farm program payments and ACRE payments are deducted from any SURE payment. ACRE coverage applies to a limited number of crops that include: wheat, barley, oats, grain sorghum, corn, upland cotton, rice (medium and long grain), soybeans, canola, crambe, flaxseed, mustard seed, rapeseed, safflower, sesame seed, sunflower seed, peanuts, dry peas, lentils, and small and large chickpeas. SURE includes all crops including nonprogram crops.

Zulauf, Schnitkey, and Langemeier (2010) provide a more detailed mathematical documentation of the ACRE and SURE payment parameters. However, in general terms the SURE guarantee for an insurable crop equals planted acres times percent crop insurance coverage times insurance price elected by the grower times the higher of the crop insurance

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proven yield (Actual Production History) or the SURE adjusted actual production history that deletes all of the crop insurance plugs that replaced "low" yields before averaging the remaining "high" yields times 115% (120% for 2008 only). The SURE guarantee for non-insurable crops that are covered under the Noninsured Crop Disaster Assistance Program (NAP) equals planted acres times 50% of approved NAP yield times 50% of the NAP price times 120% (125% for 2008 only). This formula is repeated for all of the other crops and then the total dollars guaranteed are summed for the total SURE guarantee. There is a cap on SURE coverage equal to 90% of the expected total whole farm crop revenue. Farmers are required to insure or pay NAP fees on all of their crop acres to participate in SURE.

The revenue to count against the SURE guarantee include: 1) value of all crops produced (harvested acres times yield times marketing year average (MYA) price); 2) loan deficiency payments (LDP); 3) counter cyclical payments; 4) Average Crop Revenue Election payments; 5)15% of direct payments; 6) net of farmer paid premium crop insurance indemnities; and 7) NAP payments. SURE then pays 60% of the difference between the SURE guarantee and the revenue to count, subject to a $100,000 payment limit. Farm Service Agency (FSA) does not deduct private insurance indemnity payments from the SURE payment.

ACRE is an off board financial derivative that provides some price protection across production years tied to the state yield. Effectively, ACRE is a "put option" on expected state revenue (Chicago Board of Trade). The ACRE revenue guarantee is the approved 5 year moving Olympic average state yield times the approved 2 year moving average price of the most recent historical MYA prices times 90%. The revenue to account against the ACRE guarantee is the current year's actual state yield times the maximum of the current MYA price or 70% of the loan rate. The maximum ACRE payment is limited to 25% of the ACRE revenue guaranteed and has an effective payment limit of $73,000.

If the state level ACRE payment is triggered, then the farm level revenue must be less than the farm level benchmark plus crop insurance premiums in order for a farmer to collect the payment. The farm benchmark price is the same approved ACRE 2 year moving average price of the MYA prices and the farm level yield is a moving 5 year Olympic average of the farmer's individual yields. The benchmark is set equal to the farm's benchmark price times the farmer's approved Olympic average yield, plus farmer paid premiums. The farm level revenue to count is the farmer's yield times the current year's MYA price. Farmers must have farm level revenue below the farm level benchmark to be eligible for ACRE payments. The farm benchmark test can only prevent an ACRE payment; it cannot trigger a payment. Farm revenue that is one dollar greater than the farm benchmark will prevent an ACRE payment.

ACRE has a 10% cup and cap on dollars of revenue coverage. Unlike fixed loan rates, over time ACRE coverage will increase or decrease with the market. However, ACRE limits the amount of annual change in coverage to 10% or less.

Sign-up is by farm serial number and all eligible crops must be enrolled. Both tenant and landlord must agree on ACRE enrollment. The ACRE enrollment is attached to the land and must remain in ACRE for the life of the Farm Bill, even if tenant or land ownership changes.

ACRE Costs

ACRE is effectively a "put option on expected state revenue" for program crops only. This off Board derivative operates similar to a Board traded put option on the Chicago Mercantile Exchange (CME). What is fundamentally different is the effective "premium" rate does not change with the risk. The "premium" cost for ACRE is a 20% reduction in the direct payment, elimination of the counter cyclical payment, and a 30% reduction in the loan rate for the remaining life of the 2008 Farm Bill. In addition, 100% of the ACRE payment will be deducted from any SURE payment. However, unlike a market traded put option, the "premium" cost for ACRE is the same for a deep in the money ACRE contract as it is for a far out

of the money ACRE contract.[1] For example, at sign-up, ACRE on Oklahoma wheat provided a deep in the money "put option on expected state wheat revenue" for the same "premium" cost as a far out of the money "put option on expected state revenue for Colorado wheat". As a result the participation cost for ACRE was underpriced for Oklahoma wheat but very overpriced for Colorado wheat. It is always possible for a deep in the money ACRE contract to expire worthless, but unlikely. The reverse is true for a far out of the money ACRE contract.

It is assumed the cost for ACRE is 20% of the direct payment for the remaining life of the Farm Bill. This assumes that soybeans, feedgrains, and wheat prices do not fall below the payment trigger price in the counter cyclical program nor do prices fall below the loan rate.[2] If prices were to fall below the loan rate farmers would give up counter cyclical payments and it would require an additional 30% reduction in prices to trigger LDP payments. If prices were to fall below 70% of the loan rate farmers would discover that ACRE has a stop loss equal to 25% of the coverage. Very few analysts expect market prices for wheat (excluding specialty wheat like durum), corn, sorghum, soybeans, or oilseeds

to fall below the payment trigger price in the counter cyclical program unless there is a major change in public policy on biofuels. If prices fall below 70% of the loan rate, undoubtedly there will be many farmers in financial trouble and thus a high probability that public policy will change to address the issue. Therefore, it is reasonable to assume the cost for participating in ACRE is a 20% reduction in the direct payment for the remaining life of the Farm Bill and while the loss of other payments is possible, it is not likely.

Is It Possible to Adversely Select on ACRE?

Woolverton and Young's (2009) analysis suggests that ACRE is worth the "premium" cost when there is no a priori information that allows farmers to adversely select on the program. The amount of a priori information varies greatly from state to state and crop to crop. The most a priori information was available to Southern Great Plains winter wheat farmers. The National Agricultural Statistics Service (NASS) had already published four crop estimates for state wheat yields and nearly 3 months of the marketing year had passed before the August 14 sign-up deadline. By contrast, most feedgrain and soybean producers had none of their crop harvested and the marketing year did not start until 2 weeks after sign-up.

This a priori information available to Southern Plains wheat producers will likely continue. The next sign-up is scheduled for June 1. NASS will issue its first state wheat yield estimates in late May. Also, winter wheat farmers in states located south of Kansas may have some or all of their wheat harvested. If the state yield is above the 5-year Olympic average yield, then depending on market prices, ACRE may be out of the money. The reverse situation will also be true where ACRE is in the money, if the statewide winter wheat crop fails but that will be known at sign-up on June 1, 2010.

Assuming the ACRE Olympic average Colorado wheat yield is lower than farmers' expected 2010 state wheat yield, they will likely view the 2010 Colorado wheat offer as an out of the money ACRE offer. However, if the 2010 Colorado wheat crop is a failure, that would likely put ACRE in the money, even with the current yield history. A statewide 2010 Colorado wheat crop failure would be known by the June 1 sign-up

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[1] The intrinsic value of an option is the difference between strike price and the underlying market price of the commodity. If the strike price is greater than the underlying market price of the commodity, then the option has intrinsic value and is referred to as an "in the money option". If the option has no intrinsic value, then the option is referred to as an "out of the money" option. In addition to intrinsic value, options also contain time value and volatility value. The time value is based on the amount of time remaining until the option period expires. The volatility is a measure of the risk in the market stated as the annualized standard deviation of percentage change in daily prices. Often the value of an option is split between intrinsic value and "time" value that includes the underlying risk plus the remaining time to expiration.

[2] The counter cyclical payment is paid based on the MYA price of all classes of wheat, but the loan rates are set by county and class of wheat. As a result 2008/2009 falling durum wheat prices triggered marketing loan deficiency payments but not counter cyclical payments that are tied to all classes of wheat MYA price. As a further complication, marketing loan gains have no effective payment limit. Durum wheat farmers enrolled in the ACRE program will likely forgo any of the LDP payments because the loan rate that will trigger LDP payments was reduced by 30 percent.

date. That scenario would likely encourage Colorado wheat farmers to adversely select and sign-up for 2010 ACRE.

Multiple Annual State Yield Losses within a State Will Cut ACRE Value

Another factor is the method for setting a 5-year Olympic average. If the state has suffered multiple year crop losses, it may take several years before the Olympic average yield will represent farmers' expected state yield. For example, Colorado has three wheat yields below 25 bushels and it will take 2 years of good crops before all the 2004, 2005, and 2006 "poor" yields are dropped from the Olympic average used to set the 2009 Colorado ACRE wheat offer (Table 1).

A 5-year moving average state Olympic yield combined with a 2-year moving average of the MYA price will set the 2010 ACRE guarantee. The MYA is the average monthly NASS cash prices that are weighted by sales volume. In most years, about half of the MYA price for wheat is determined in the first 3 months of the marketing year because of the sales weights (Table 2). Normally for sorghum half of the MYA price is not determined until the end of the fifth month. This is caused mostly by farmers shifting sorghum sales to the new tax year.

On the June 1 sign-up, the 2009 state yields will be nearly complete (NASS can adjust the yield up to 2 years after first publishing, but any change after June 1 will be "small"). Colorado wheat farmers will have a 2010 Olympic yield of 30.1 bushels, a 22.9% increase in yield (Table 1). Unless the ACRE 2 year average MYA price is higher than the current forecast of $5.81, Colorado wheat will not hit the 10% cap on annual ACRE coverage changes. Assuming a $5.81 ACRE price on 2010 wheat, Oklahoma will hit the 10% cup that limits annual coverage changes for ACRE because of the 2006 (23.6 bushels) yield and the 2009 (21.1 bushels) yield. Because ACRE uses a 5-year Olympic average yield, one of those "low" yields will be retained in the average until 2012.

By sign-up the price forecast should have very little error because it will be near the end of the marketing year. NASS will have published 11 months of monthly wheat prices prior to June 1,

2010, therefore the forecasted 2009/2010 MYA price will only be missing the NASS price weights and the monthly price for May. With only one month's price missing, the forecasted price will be "close" to the final 2009/2010 MYA price prior to the June 1 sign-up. The 2009/2010 MYA price will be averaged with the 2008/2009 final MYA price to set the 2010 ACRE 2-year average MYA price.

Forecasting the 2-year average MYA price for the 2011 ACRE wheat contract prior to June 1, 2010 will be difficult but one can place upward and lower bounds on the ACRE Olympic yield for the following year's sign-up on June 1, 2011. For example if one assumes the 2010 Colorado yield exceeds the 5-year Olympic average yield, then the 2011 Colorado Olympic average wheat yield will be approximately 35.6 bushels. If one assumes the 2010 Colorado yield is below the 5-year Olympic average yield, then the 2011 Colorado Olympic average wheat yield will be approximately 29.1 bushels. Both the upper bound and the lower bound estimate of the 5-year Olympic average will exceed the 2009 ACRE Olympic average yield of 24.5 because the 2004 (21.5 bushels) and 2005 (23.3 bushels) yields will drop out of the average in 2011. The 2011 Olympic average yield is an approximation only because the 2009 yield includes an estimate of the FSA determined failed acres for wheat and sorghum (Table 1).

Adverse Selection after ACRE Sign-up

Once farmers elect ACRE they are in the program for the remaining life of the 2008 Farm Bill. This program "underwriting" rule removes most adverse selection based on a priori information during the remaining years of the Farm Bill. If farmers were allowed to annually make the decision to elect ACRE versus 20% of their direct payment then the adverse selection would be more pronounced.

The multiyear enrollment does not eliminate all adverse selection, however. Farmers who plant acres beyond their base must pick the crops that will receive the ACRE payment. In addition, farmers are not required to plant the same crop each year. Because ACRE is by farm serial number, farmers who do not sign-up all farm serial numbers will retain planting flexibility to take

advantage of ACRE. They can rotate their crops by planting in the money ACRE crops on farm serial numbered farms enrolled in ACRE while planting crops with little expectation of an ACRE payment on farm serial numbered farms that are not enrolled in ACRE. Based on current yield and price estimates, farmers will be able to select the crops for payment or determine the crops to be planted that will generate the highest ACRE payment. Generating the largest ACRE payment will not be the only consideration when making planting decisions. However, farmers who have planted over their base acres will select the crops to receive the ACRE payment and that will encourage farmers to adversely select on ACRE. Selecting crops for payments will not occur prior to August and this increases the amount of a priori information for making the selection. These annual planting and crop selection for payment decisions will allow farmers to continue adversely selecting on ACRE after they have enrolled.

Does ACRE Have Some Overlap with the Crop Insurance Program?

Zulauf, Schnitkey, and Langemeier (2010) documented the overlap between ACRE and crop insurance. If one accepts this argument of overlap, then by definition there is some level of competition between ACRE and crop insurance. This overlap is primarily caused by price risk being covered to some extent in both the revenue insurance and the ACRE programs.

The overlap in crop insurance and ACRE payments may be less than policymakers have assumed. Examining the previous 5 years of crop insurance average payments per claim acre demonstrates for the states of Kansas, Oklahoma, Texas, and Washington wheat, most of the risk protection was provided by crop insurance. The average payment per claim acre for those wheat states was approximately $50–$65 per acre over the 5-year period. During this same time frame there would have been only two ACRE payments made to wheat growers in these four states. Texas would have generated a $21.77 ACRE payment in 2006. During the same year crop insurance would have provided Texas wheat farmers with a $50.33 average payment per insurance claim acre. Kansas wheat

farmers would have received an ACRE payment of $9.62 in 2004. During this same year Kansas wheat farmers received an average per claim acre crop insurance payment of $58.17 (Table 3).

Historically there were many years of significant payments under crop insurance that would not have generated any ACRE payments in these wheat states. This would suggest that crop insurance will continue to be the primary risk management tool, but with the ability to adversely select on ACRE, farmers can significantly add revenue to their farm.

The expected ACRE payment for 2009 Oklahoma wheat ($46.84), Texas wheat ($42.96), and Washington wheat ($91.00) are expected to be at the maximum. The exception is Kansas where the ACRE payment is projected to be small or perhaps no payment for 2009 (Table 4).

A Method to Reduce Overlap with Crop Insurance

One possible method for reducing any overlap between ACRE and crop insurance is to allow farmers to delete the revenue endorsement, but retain the yield replacement endorsement in their crop insurance contract. The Risk Management Agency (RMA) is going to replace the insurance contracts that include: Actual Production History (APH), Income Protection, Revenue Assurance, and Crop Revenue Coverage with a new "APH" (renamed Combo, and may be renamed again) that will include a Revenue Endorsement (RE) that is a yield adjusted Asian put option and a Yield Replacement Endorsement (YRE) that is a yield adjusted Asian call option.[3] Farmers will

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[3] An option traded on the Chicago Board of Trade that was acquired by the CME gives the option owner the right to excise the option and the contract is settled when closed out based on the spot market. An Asian option has no right to be exercised, so only intrinsic value is captured, and they are settled on an average price at expiration rather than the spot market. The CME option is based on a fixed 5,000 bushels and yield has no effect on the value of the option. That is also true for an Asian option. However, the Asian options that create the revenue and yield replacement endorsements are adjusted for yield when added to the crop insurance contract. Farmers can produce their way out of a claim on a yield adjusted Asian option, so that the option will expire worthless, even when a CME option with the same strike price expires with intrinsic value.

Table 1. Historical 5-Year Olympic Average Yields for ACRE in Selected Wheat and Corn States[a]

	Colorado Wheat			Kansas Wheat			Oklahoma Wheat		
Yr	ACRE Yield Adjusted for FSA Failed Ac.[b]	Annual % Change in Olympic 5-Yr Avg. Yield[c]	% Yield Change from Olympic Yield	ACRE Yield Adjusted for FSA Failed Ac.[b]	Annual % Change in Olympic 5-Yr Avg. Yield[c]	% Yield Change from Olympic Yield	ACRE Yield Adjusted for FSA Failed Ac.[b]	Annual % Change in Olympic 5-Yr Avg. Yield[c]	% Yield Change from Olympic Yield
79	23.6	20.7		37.0	28.9		37.6	25.7	
80	32.1	21.8	5.3%	34.5	30.8	6.6%	29.8	27.7	7.8%
81	26.9	23.9	9.6%	24.0	30.5	(1.0%)	26.7	27.8	0.4%
82	27.3	26.0	8.8%	34.6	32.7	7.2%	32.8	29.8	7.2%
83	34.5	28.8	10.8%	38.4	35.3	8.0%	32.9	31.8	6.7%
84	32.3	30.6	6.3%	36.3	35.1	(0.6%)	35.0	31.8	0.0%
85	38.8	31.4	2.6%	37.4	36.1	2.8%	29.2	31.6	(0.6%)
86	30.9	32.6	3.8%	32.0	36.1	0.0%	28.3	31.6	0.0%
87	33.7	33.5	2.8%	36.5	36.7	1.7%	26.1	30.1	(4.7%)
88	32.9	33.0	(1.5%)	33.6	35.5	(3.3%)	35.0	30.8	2.3%
89	24.4	32.5	(1.5%)	19.7	34.0	(4.2%)	26.6	28.0	(9.1%)
90	33.1	32.3	(0.6%)	39.7	34.0	0.0%	31.7	28.9	3.2%
91	30.2	32.0	(0.9%)	32.6	34.2	0.6%	26.2	28.2	(2.4%)
92	29.5	30.9	(3.4%)	33.1	33.1	(3.2%)	28.2	28.8	2.1%
93	36.4	30.9	0.0%	34.4	33.4	0.9%	28.5	27.8	(3.5%)
94	29.2	30.9	0.0%	37.8	35.1	5.1%	26.5	27.7	(0.4%)
95	38.1	32.0	3.6%	25.7	33.4	(4.8%)	20.3	27.0	(2.5%)
96	28.8	31.7	(0.9%)	25.4	31.1	(6.9%)	17.5	25.0	(7.4%)
97	32.3	32.6	2.8%	45.9	32.6	4.8%	31.8	25.1	0.4%
98	39.2	33.2	1.8%	48.9	36.5	12.0%	38.9	26.2	4.4%
99	42.5	36.5	9.9%	46.5	39.4	7.9%	34.4	28.8	9.9%
00	29.4	33.6	(7.9%)	36.6	43.0	9.1%	33.2	33.1	14.9%
01	30.2	33.9	0.9%	36.1	43.0	0.0%	30.4	33.1	0.0%
02	18.3	32.9	(2.9%)	30.5	39.8	(7.4%)	25.9	32.7	(1.2%)
03	31.1	30.2	(8.2%)	47.8	39.8	0.0%	38.6	32.7	0.0%
04	21.5	27.0	(10.6%)	34.2	35.6	(10.6%)	34.5	32.7	0.0%
05	23.3	25.0	(7.4%)	39.9	36.7	3.1%	31.9	32.2	(1.5%)
06	20.5	21.8	(12.8%)	31.8	35.3	(3.8%)	23.6	30.7	(4.7%)
07	38.2	25.3	16.1%	32.6	35.5	0.6%	27.8	31.4	2.3%
08	28.7	24.5	(3.2%)	39.2	35.3	(0.6%)	36.9	31.4	0.0%
09	39.9	30.1	22.9%	41.7	37.2	5.4%	21.1	27.7	(11.8%)
Maximum Change		22.9%			12.0%			14.9%	
Minimum Change		(12.8%)			(10.6%)			(11.8%)	
Average Change		1.5%			1.0%			0.4%	
2011 ACRE's 5-Yr Olympic Avg. Yield Assuming 2010 Yield Exceeds 5-Yr Olympic Avg.									
	35.6	15.4%		37.8	1.6%		29.4	5.8%	
2011 ACRE's 5-Year Olympic Average Yield Assuming a 2010 Crop Failure									
	29.1	(3.4%)		34.5	(7.8%)		24.1	(14.9%)	

be allowed to exclude the YRE endorsement and retain the RE endorsement, but they are not allowed to do the reverse and exclude the RE endorsement and retain the YRE endorsement. If farmers were allowed to exclude the RE endorsement and retain the YRE endorsement, then there would be reduced overlap on the price risk covered by ACRE. The overlap on yield risk

Iowa Corn			Illinois Corn			Ohio Corn		
ACRE Yield Adjusted for FSA Failed Ac.[b]	Annual % Change in Olympic 5-Yr Avg. Yield[c]	% Yield Change from Olympic Yield	ACRE Yield Adjusted for FSA Failed Ac.[b]	Annual % Change in Olympic 5-Yr Avg. Yield[c]	% Yield Change from Olympic Yield	ACRE Yield Adjusted for FSA Failed Ac.[b]	Annul % Change in Olympic 5-Yr Avg. Yield[c]	% Yield Change from Olympic Yield
125.6	96.1		125.6	109.6		114.9	104.2	
108.6	103.2	7.4%	92.0	106.2	(3.1%)	112.9	107.5	3.2%
124.2	115.3	11.7%	124.3	112.5	5.9%	95.8	107.5	0.0%
118.9	118.8	3.0%	129.6	116.8	6.5%	113.9	110.5	2.8%
85.2	117.2	(1.3%)	76.4	114.0	(4.8%)	79.8	107.5	(2.7%)
111.4	113.0	(3.6%)	112.6	109.6	(3.9%)	117.9	107.5	0.0%
125.8	118.2	4.6%	133.9	122.2	11.5%	129.9	109.2	1.6%
134.9	118.7	0.4%	134.0	125.4	2.6%	127.9	119.6	9.5%
129.8	122.3	3.0%	131.4	126.0	0.5%	119.9	121.6	1.7%
82.7	122.3	0.0%	71.3	126.0	0.0%	84.8	121.6	0.0%
117.7	124.5	1.8%	122.7	129.3	2.6%	116.8	121.2	(0.3%)
125.6	124.4	(0.1%)	126.1	126.7	(2.0%)	120.9	119.2	(1.7%)
116.9	120.1	(3.5%)	106.3	118.4	(6.6%)	95.8	110.8	(7.0%)
147.0	120.1	0.0%	148.6	118.4	0.0%	142.8	111.2	0.4%
76.5	120.1	0.0%	124.4	124.4	5.1%	109.9	115.8	4.1%
151.9	129.8	8.1%	155.6	133.0	6.9%	138.9	123.2	6.4%
122.9	128.9	(0.7%)	112.9	128.6	(3.3%)	121.0	123.2	0.0%
137.8	135.9	5.4%	135.0	136.0	5.8%	110.4	123.4	0.2%
138.0	132.9	(2.2%)	128.7	129.4	(4.9%)	133.7	121.7	(1.4%)
144.5	140.1	5.4%	140.4	134.7	4.1%	141.0	131.2	7.8%
148.8	140.1	0.0%	139.8	134.5	(0.1%)	126.0	126.9	(3.3%)
144.0	142.2	1.5%	150.7	138.4	2.9%	146.9	133.5	5.2%
145.5	144.7	1.8%	151.8	143.6	3.8%	137.9	137.5	3.0%
162.9	146.3	1.1%	134.1	143.6	0.0%	88.9	134.9	(1.9%)
157.0	150.4	2.8%	163.1	147.4	2.6%	155.5	136.9	1.5%
180.6	155.1	3.1%	179.2	155.2	5.3%	157.7	146.8	7.2%
172.9	164.3	5.9%	142.9	152.6	(1.7%0	142.9	145.5	(0.9%)
166.0	167.3	1.8%	162.9	156.3	2.4%	158.9	152.1	4.5%
170.9	169.9	1.6%	175.0	167.0	6.8%	150.0	154.4	1.5%
169.4	171.1	0.7%	176.9	171.6	2.8%	134.9	150.2	(2.7%)
182.7	171.1	0.0%	174.1	170.7	(0.5%)	165.8	150.6	0.3%
		11.7%			11.5%			9.5%
		(3.6%)			(6.6%)			(7.0%)
		2.0%			1.6%			1.3%
	174.3	1.8%		175.3	2.6%		158.2	4.8%
	168.8	(1.4%)		170.7	0.0%		147.9	(1.8%)

[a] Source: National Agricultural Statistical Service's website: www.nass.usda.gov.
[b] ACRE uses the NASS published total yield state yield divided by total state harvested acres adjusted for FSA determined failed acres for determining the wheat and corn yield in ACRE. FSA determines the ACRE yield for crops and states that do not publish a NASS yield.
[c] The moving 5-year Olympic average yield deletes the highest and lowest yield from the FSA failed acre adjusted NASS yields and then averages the remaining yields for a 3 year average.

Table 2. Historical NASS Weights and Monthly Prices for Wheat and Grain Sorghum

| | NASS Monthly Wheat Prices and Historical Weights[a] | | | | | | | | | |
| | 2004–2005 | | 2005–2006 | | 2006–2007 | | 2007–2008 | | 2008–2009 | |
Month	Price	Weight	Price	Weight	Price	Weight	Price	Weight	Price	Weight
Jun	3.55	10.9%	3.23	11.9%	3.98	16.0%	5.03	12.0%	7.62	11.4%
Jul	3.37	12.4%	3.20	16.8%	3.88	18.5%	5.17	27.0%	7.15	21.8%
Aug	3.27	9.0%	3.24	13.4%	3.91	12.6%	5.64	18.7%	7.61	14.9%
Sep	3.36	11.0%	3.36	11.7%	4.06	6.9%	6.76	9.4%	7.43	7.8%
Oct	3.43	7.0%	3.43	6.3%	4.59	9.1%	7.65	4.5%	6.65	3.8%
Nov	3.46	7.8%	3.45	4.7%	4.59	4.8%	7.39	3.8%	6.29	3.2%
Dec	3.40	8.6%	3.53	8.1%	4.52	6.8%	7.71	5.9%	5.95	6.9%
Jan	3.43	9.7%	3.52	8.4%	4.53	8.2%	7.96	7.8%	6.20	7.4%
Feb	3.36	9.5%	3.66	6.2%	4.71	5.1%	10.10	3.9%	5.79	4.3%
Mar	3.42	7.1%	3.79	5.1%	4.75	4.9%	10.50	3.1%	5.71	6.6%
Apr	3.35	3.4%	3.81	3.4%	4.89	4.2%	10.10	2.0%	5.75	5.3%
May	3.31	3.6%	4.09	4.0%	4.88	2.9%	8.87	1.8%	5.84	6.6%

| | NASS Monthly Grain Sorghum Prices and Historical Weights ($/bu)[a] | | | | | | | | | |
| | 2004–2005 | | 2005–2006 | | 2006–2007 | | 2007–2008 | | 2008–2009 | |
Month	Price	Weight	Price	Weight	Price	Weight	Price	Weight	Price	Weight
Sep	2.00	5.0%	1.91	7.1%	2.40	4.1%	3.46	8.1%	4.47	3.9%
Oct	1.78	7.4%	1.67	9.4%	2.89	12.2%	3.46	13.7%	3.86	3.1%
Nov	1.71	15.2%	1.58	19.1%	3.26	23.2%	3.51	19.8%	3.63	11.4%
Dec	1.67	17.3%	1.63	15.9%	3.41	9.6%	3.88	15.4%	2.87	17.2%
Jan	1.65	13.8%	1.77	13.8%	3.53	12.2%	4.14	14.9%	3.18	15.1%
Feb	1.66	10.2%	1.90	7.0%	3.89	7.7%	4.68	6.3%	2.82	7.3%
Mar	1.70	5.7%	1.98	5.1%	3.63	1.5%	5.06	4.6%	3.00	13.0%
Apr	1.66	3.8%	2.07	5.2%	3.34	1.0%	5.21	4.0%	3.12	6.0%
May	1.71	3.1%	2.25	4.3%	3.63	1.6%	5.22	2.1%	3.35	9.1%
Jun	2.11	6.4%	2.21	1.7%	3.42	5.1%	5.66	3.1%	3.52	3.4%
Jul	2.21	6.8%	2.58	6.7%	3.09	7.8%	5.07	4.5%	2.91	5.4%
Aug	2.07	5.3%	2.44	4.7%	3.32	13.9%	4.70	3.5%	3.01	5.1%

Source: United States Department of Agriculture, National Agricultural Statistical Service's website; www.nass.usda.gov.
[a] Historical NASS Yields and prices are published annually. The current marketing year average prices are updated monthly. After the marketing year ends, NASS will publish the weights. The wheat weights will be published in July and the fall crop weights will be published in September. NASS calculates the weights based on the percentage of the total crop sold in a single month. Those prices with higher weights have the greatest impact on the final MYA price.

would be "small" because ACRE measures yield at the state level, while most revenue insurance contracts measure yield loss at the farm level, and nothing greater than the county level.

By allowing farmers to delete the RE endorsement they can reduce their premium cost and be protected from falling prices by the ACRE program. But many farmers would want to retain YRE endorsement that turns APH coverage from a "yield" guarantee to a yield replacement guarantee. Farmers who need grain for feed would need to replace the lost grain at current market value, not a forecasted price set 6–9 months earlier. Also grain that is under forward contract will need to be replaced at current market value. In addition, all crop insurance contracts have deductibles so those bushels will not be indemnified. Under some conditions part of the insurance deductible will be covered with SURE, but under the scenario of higher prices, that will reduce any financial help from SURE.

If farmers were allowed to eliminate the RE endorsement but retain the YRE endorsement,

Table 3. Comparing Prior 5-Year Average Crop Insurance Payments per Claim Acre versus ACRE Payments for Selected Wheat States[a]

Year	State	Units Earn Premiums[a]	Units with Indemnities[b]	Net Acres	Indemnity	Loss Ratio[c]	Average Unit Acres[d]	% of Units with Claim[e]	Average Payment/Acre[f]	ACRE Payment Based on Historical Values[g]
2008	KS	148,394	32,409	8,336,310	169,131,256	0.78	56.2	21.8%	92.90	0.00
2008	OK	44,182	8,356	3,819,771	55,640,944	0.62	86.5	18.9%	77.02	0.00
2008	TX	41,613	18,602	4,048,702	142,263,083	1.23	97.3	44.7%	78.60	0.00
2008	WA	13,451	5,231	1,751,061	49,990,672	1.72	130.2	38.9%	73.41	0.00
2008	MT	38,452	10,924	5,132,868	103,628,771	0.71	133.5	28.4%	71.07	0.00
2008	MI	6,950	705	371,274	3,190,173	0.32	53.4	10.1%	84.71	0.00
2008	WI	3,988	491	166,063	2,047,513	0.43	41.6	12.3%	100.14	0.00
2007	KS	155,459	72,715	8,758,587	326,369,096	1.97	56.3	46.8%	79.66	0.00
2007	OK	44,654	20,826	3,854,267	147,105,404	2.28	86.3	46.6%	81.84	0.00
2007	TX	41,318	7,129	3,978,4568	36,372,634	0.42	96.3	17.3%	52.99	0.00
2007	WA	12,895	1,484	1,665,802	10,628,098	0.56	129.2	11.5%	55.44	0.00
2007	MT	36,452	9,099	4,733,576	57,708,311	0.69	129.9	25.0%	48.84	0.00
2007	MI	5,965	1,458	314,587	4,124,634	0.81	52.7	24.4%	53.64	0.00
2007	WI	2,954	332	122,937	1,163,461	0.52	41.6	11.2%	84.21	0.00
2006	KS	148,697	57,954	8,139,917	177,951,174	1.66	54.7	39.0%	56.09	0.00
2006	OK	41,936	25,226	3,581,781	104,531,881	2.46	85.4	60.2%	48.52	0.00
2006	TX	37,976	27,573	3,702,349	135,300,223	2.55	97.5	72.6%	50.33	21.77
2006	WA	13,006	1,589	1,733,910	8,006,724	0.54	133.3	12.2%	37.80	0.00
2006	MT	38,072	10,561	4,875,955	45,189,254	0.73	128.1	27.7%	33.41	0.00
2006	MI	6,337	235	315,511	495,204	0.13	49.8	3.7%	42.32	0.00
2006	WI	2,445	94	100,687	219,270	0.17	41.2	3.8%	56.64	0.00
2005	KS	157,595	30,919	8,651,622	54,018,673	0.47	54.9	19.6%	31.82	0.00
2005	OK	46,048	10,797	3,806,438	21,925,532,	0.49	82.7	23.4%	24.57	0.00
2005	TX	37,914	10,426	3,516,342	23,309,850	0.48	92.7	27.5%	24.11	0.00
2005	WA	12,300	1,666	1,598,807	7,766,933	0.71	130.0	13.5%	35.87	0.00
2005	MT	39,200	3,297	4,923,674	12,224,953	0.21	125.6	8.4%	29.52	0.00
2005	MI	5,640	651	268,885	1,250,472	0.41	47.7	11.5%	40.29	0.00
2005	WI	2,093	568	83,861	1,376,490	1.30	40.1	27.1%	60.48	17.45

Table 3. Continued

Year	State	Units Earn Premiums[a]	Units with Indemnities[b]	Net Acres	Indemnity	Loss Ratio[c]	Average Unit Acres[d]	% of Units with Claim[e]	Average Payment/Acre[f]	ACRE Payment Based on Historical Values[g]
2004	KS	159,693	53,174	8,473,397	164,136,358	1.67	53.1	33.3%	58.17	9.62
2004	OK	49,171	9,247	4,055,406	23,574,447	0.54	82.5	18.8%	30.91	0.00
2004	TX	47,076	14,037	4,310,150	44,810,005	0.84	91.6	29.8%	34.87	0.00
2004	WA	12,438	1,471	1,621,755	5,491,315	0.46	130.4	11.8%	28.63	0.00
2004	MT	39,524	7,826	4,981,367	31,729,788	0.59	126.0	19.8%	32.17	0.00
2004	MI	6,620	789	301,625	1,484,088	0.46	45.6	11.9%	41.28	0.00
2004	WI	2,026	404	80,538	734,909	0.75	39.8	19.9%	45.76	7.83
Total	KS	769,838	247,171	42,359,833	891,606,557	1.27	55.0	32.1%	65.56	
Total	OK	225,991	74,452	19,117,663	352,778,208	1.24	84.6	32.9%	56.01	
Total	TX	205,897	77,767	19,556,001	382,055,795	1.07	95.0	37.8%	51.73	
Total	WA	64,090	11,441	8,371,335	81,883,742	0.95	130.6	17.9%	54.79	
Total	MT	191,700	41,707	24,647,440	250,481,077	0.62	128.6	21.8%	46.71	
Total	MI	31,512	3,838	1,571,882	10,544,571	0.42	49.9	12.2%	55.08	
Total	WI	13,506	1,889	554,086	5,541,643	0.53	41.0	14.0%	71.51	

Source: United States Department of Agriculture, Risk Management Agency's website: www.nass.usda.gov.

[a] The total number of insurance units (fields insured) in the states.
[b] Total number of insurance units that received indemnity payments.
[c] The state total indemnity payments divided by total premium.
[d] Net acres divided by total units.
[e] Total number of insurance units receiving insurance payments divided by total number of purchased insurance units.
[f] Total indemnity divided by total number of units receiving indemnity payments.
[g] The calculated ACRE payment assuming ACRE was available in prior years.

Table 4. ACRE Wheat Estimated 2009/2010 Payments Ranked in Order of States Most Likely to Make ACRE Payments[a]

Current Rank	Sign-up Rank		8/14/09 Projections			Current Projections			
		USDA Price and Range	5.20	4.70	5.70	4.85	4.75	4.95	
		Kansas State University Price and Range	5.16	4.39	5.94	4.84	4.11	5.56	
			Projected Gross Percent of Guarantee Lost	Projected State ACRE Payment	Projected State ACRE Yield	Projected Gross Percent of Guarantee Lost	Projected State ACRE Payment	Projected State ACRE Yield	Percent Yield Change
1	2	Texas	38.7%	42.96	27.0	49.8%	42.96	25.0	(7.4%)
2	1	Oklahoma	40.2%	46.84	22.0	45.6%	46.84	22.0	0.0%
3	4	Arkansas	21.3%	66.35	47.0	32.9%	77.72	44.0	(6.4%)
4	5	North Carolina	20.8%	68.36	49.0	28.2%	82.20	49.0	0.0%
5	3	Virginia	24.5%	94.60	55.0	27.8%	96.67	58.0	5.5%
6	6	Kentucky	20.3%	77.48	57.0	27.6%	95.32	57.0	0.0%
7	8	Washington	15.7%	57.32	57.8	26.7%	91.00	55.3	(4.3%)
8	7	Maryland Wheat	19.2%	75.54	60.0	26.6%	98.46	60.0	0.0%
9	12	Delaware	13.0%	53.00	66.4	26.3%	101.59	62.0	(6.6%)
10	10	Illinois	13.2%	47.55	59.0	25.2%	89.80	56.0	(5.1%)
11	9	Missouri	13.8%	41.02	49.0	24.3%	72.09	47.0	(4.1%)
12	17	Pennsylvania	9.2%	31.22	58.0	20.4%	69.37	56.0	(3.4%)
13	13	South Dakota	12.1%	30.40	42.5	18.9%	47.37	42.9	1.0%
14	11	Oregon	13.2%	43.41	54.0	18.4%	60.56	55.7	3.2%
15	19	Indiana	8.4%	33.12	68.0	18.0%	71.16	67.0	(1.5%)
16	15	Michigan	9.9%	39.12	67.0	17.7%	69.73	69.0	3.0%
17	18	Minnesota	8.9%	26.59	51.0	14.3%	42.68	52.8	3.5%
18	14	Montana	10.2%	18.67	32.5	13.0%	23.76	33.3	2.5%
19	16	Wisconsin	9.7%	35.89	63.0	11.5%	42.32	68.0	7.9%
20	20	Ohio	4.8%	18.73	71.0	11.4%	44.81	72.0	1.4%
21	22	Kansas	(5.5%)	0.00	42.0	4.2%	8.92	42.0	0.0%
22	23	Nebraska	(8.6%)	0.00	48.0	2.0%	4.60	48.0	0.0%
23	21	North Dakota	0.9%	1.83	39.2	(2.9%)	0.00	44.8	14.3%
24	24	Colorado	(37.8%)	0.00	39.0	(32.2%)	0.00	40.6	4.1%

[a] Payments are capped at 25%. Source: States Department of Agriculture, National Agricultural Statistical Service's website: www.nass.usda.gov.

then overlap would be less than under current policy. The APH price election is fixed, so if the price election is $4 and the market drops to $3, then indemnified bushels will be paid at $4 rather than at market value of $3. Assuming a 75% APH contract and a yield below 75% of the actual production history, then the insurance value is greater than the crop value. This is one of the reasons why revenue insurance reduces moral hazard because a yield loss below the deductible is not required to receive indemnity payments under revenue insurance when prices fall. So if this farm does not suffer a yield loss greater than the deductible, then deleting the RE endorsement but retaining the YRE endorsement will reduce most of the overlap with ACRE.

The real issue is APH is not a yield guarantee but a yield triggered payment. A real yield guarantee would replace the lost insurable bushel at current market. That means when price falls a true yield guarantee would indemnify bushels at a lower price.

Creating ACRE overlap without the RE endorsement on crop insurance will require three conditions to be met. The first condition is a requirement for an insurable yield loss. If this condition is not met, then there is no overlap with ACRE. Nationally about 19% of the APH insurance units had claims and all APH claims require an insurable yield loss (Table 5). Once

this condition of lost yield has been met a second condition of a price decline must be met. If the first two conditions are met then the third condition requires the ACRE payment to exceed the deductible in the insurance contract before there would be an ACRE overlap with crop insurance.

Eliminating RE endorsement will not reduce all possible overlap. There are some possible strange outcomes because crop insurance uses futures prices while ACRE uses MYA prices for price discovery. It is doubtful that very many insured farmers would want to wait a year for a crop insurance payment so it is unlikely both ACRE and crop insurance will ever use the same price discovery. As a result one might get a strange marketing year where the change in futures prices decreases while the MYA price increases above the 2-year strike price. The two price discoveries running in opposite directions will likely account for only a very small amount of overlap.

There may also be a gap in coverage caused by eliminating the revenue endorsement. For example, ACRE is unlikely to trigger a "large" payment on 2009 Kansas wheat, while paying the maximum on Oklahoma wheat. Kansas farmers with freeze damaged wheat will not be compensated for the price decline without the revenue endorsement. However, if they are a single enterprise wheat farmer with freeze damage, then some of

Table 5. Frequency of Yields below APH Guaranteed Production; Includes All Crops and Coverages

Year	Units Earning Premium	Units with Claims	% of APH Contracts with Claims[a]
2008	835,332	143,638	17.2%
2007	870,656	156,885	18.0%
2006	933,181	203,499	21.8%
2005	1,096,241	157,004	14.3%
2004	1,063,840	158,204	14.9%
2003	1,269,105	281,464	22.2%
2002	1,494,436	403,719	27.0%
2001	1,572,288	310,572	19.8%
2000	1,847,282	351,618	19.0%
1999	1,908,383	321,331	16.8%
Ten Year Average APH Claim Rate			19.1%

Source: States Department of Agriculture, Risk Management Agency website: www.rma.usda.gov.
[a] An APH requires a yield to be less than the guaranteed bushels to trigger a payment. Revenue insurance can trigger an indemnity caused by falling prices. It does not require a yield loss to trigger a claim. By evaluating just the APH contracts it provides some insight into the amount of crop insurance risk that is caused yield only.

the loss would be covered under SURE. The net of premium crop insurance payments are deducted from the SURE guarantee but insured farmers are compensated with higher SURE coverage in return for purchasing higher levels of crop insurance.

United States Department of Agriculture could reduce adverse selection on ACRE by changing the following underwriting rules: 1) change sign-up from June 1 to September 30 of the prior year, the same date as sales close for winter wheat crop insurance; 2) require all farm serial numbers be signed up in ACRE rather than allow farmers to select only parts of the farm to enroll; 3) eliminate selecting crops for payment and prorate the ACRE payment across all crops when planted over base; and 4) reduce ACRE-crop insurance overlap by allowing farmers to delete the RE endorsement but retain the YRE endorsement in the new "Combo" crop insurance policy, scheduled for the fall of 2010.

Across Year Price Risk

One of the major risks not covered by crop insurance is price risk across production years. Revenue insurance only covers price risk within the production year. This is further complicated by the fact that individual farmers can produce their way out of a revenue insurance claim even when prices drop substantially. In addition, when prices fall, typically the crop insurance guarantee for the next insurance cycle will be lower caused by a lower price set at planting time. This lower guarantee may not be sufficient to cover production cost but one must remember production cost can change too. Recent examples include substantial changes in fertilizer prices combined with reductions in cash rents.

National Yield Based ACRE, a Crop Insurance Compliment?

The original ACRE proposal combined a national 2-year average strike price with the national crop yield (Zulauf, 2007). If ACRE had used the national yield there would have been very little overlap with crop insurance. The justification for a national yield based ACRE program was

to remove the systemic risk. There was no requirement for individual farmers to also show a revenue loss nor should there be because the policy was designed to remove the systemic risk that is common to all farmers. Because the national yield varies less than the state yields, more of the ACRE payment would have been driven by price changes from the 2-year average national MYA price. At the extreme, if there were no variation in the national yield, ACRE would collapse into a put option on price only. A less variable national yield than state yield could be compensated for by simply lowering the deductible on ACRE versus the current level of a 10% deductible.

County Yield Based ACRE Would Compete with Crop Insurance

During the debate there were suggestions to replace the national yield with county yield (Babcock and Paulson, 2007). If the county yield had been used, then ACRE would effectively be a nearly "free" Group Risk Income Protection (GRIP) crop insurance contract. A "free" ACRE program based on county yields would have greatly reduced the demand for crop insurance. Many farmers would simply see the county-based ACRE program providing them with an effective minimum level of coverage. It would have also increased the cost to taxpayers for ACRE.

The exception would be for farmers not growing program crops or those who are substantially over the payment limit. The original ACRE proposal had no payment limits, but that was a very unlikely scenario. Because crop insurance does not have payment limits, large farmers might have continued with their crop insurance contract, but perhaps at a reduced coverage level when combined with a county-based ACRE program. Nonprogram crop farmers would likely continue to purchase crop insurance but the program crops represent 69.3% of the premium earned in 2008 (Table 6). The Administrative and Operating (A&O) expense is a percentage of the premium paid to the insurance companies. This is the primary source of funds used to pay crop insurance agents' commissions. A significant loss of a crop insurance market for

Table 6. Percent of Total Crop Insurance Book Generated from Program Crops

Crop	Policies Earn Premium	Net Acres	Liabilities	Total Premium	Indemnity	Loss Ratio
Soybeans	463,382	61,172,875	22,215,145,528	2,608,919,372	2,872,613,273	1.10
Wheat	289,346	48,837,832	8,741,161,362	1,593,962,286	1,146,185,400	0.72
Corn	275,001	33,652,126	17,997,416,975	1,534,687,716	1,214,438,863	0.79
Cotton	81,836	8,807,013	2,345,846,941	397,674,306	565,940,105	1.42
Grain sorghum	158,611	5,406,468	976,329,955	200,039,812	154,597,744	0.77
Sesame seed	66,961	2,119,830	582,104,093	120,796,341	119,314,041	0.99
Sunflowers	15,059	2,119,830	582,104,093	120,796,341	119,314,041	0.99
Barley	56,442	2,986,714	562,789,728	77,530,569	45,264,104	0.58
Peanuts	21,351	1,399,427	581,986,316	59,186,011	30,814,307	0.52
Canola	16,933	964,016	281,897,111	47,656,485	39,594,129	0.83
Rice	14,481	2,118,698	700,764,624	32,542,461	15,858,675	0.49
Dry peas	15,059	998,510	164,648,273	21,277,820	26,066,632	1.23
Oats	51,962	536,225	50,456,248	9,263,149	7,518,139	0.81
Flaxseed	17,440	328,550	62,385,647	8,314,548	8,401,002	1.01
Mustard seed	2,345	59,274	15,022,869	2,367,569	5,714,656	2.41
Safflower	3,546	112,556	13,397,842	2,010,617	1,642,210	0.82
Total program crops	1,549,755	171,619,944	55,873,457,605	6,837,025,403	6,373,277,321	0.93
Other crops	406,691	100,625,212	34,012,009,512	3,012,916,464	2,291,554,645	0.76
Percent of total book in program	79.2%	63.0%	62.2%	69.4%	73.6%	

Source: Risk Management Agency website: www.rma.usda.gov.

program crops caused by an enhanced ACRE program would also cause a significant reduction in the A&O.

In the political process compromises are normally reached and in this case national yield was replaced with state level yield. In addition there was a 25% of coverage (liability) limit placed on the maximum payment. By contrast, crop insurance will pay out the entire coverage with a zero yield and a maximum price increase that is two times the base price election. An additional requirement was added that requires the individual farmer to also show a revenue loss in order to collect an ACRE payment. The farm level benchmark trigger can only prevent a payment, it cannot trigger a payment. An individual farm loss is not required to collect from a GRIP insurance contract.

Commodity groups were also lobbying for a limit on the annual reduction in the ACRE guarantee between years. As a result, the annual maximum reduction in the ACRE guarantee was

cupped at 10%. As a compromise, the annual maximum increase in the ACRE guarantee was also capped at 10%.

By changing to a state yield based ACRE contract, the results are dramatically different between states. It also added to the FSA administrative cost of the program over that required to run an ACRE program based on national yields. There are some states that have limited program crop acres but still qualify for a state yield split by irrigated versus nonirrigated acres. However, NASS only publishes combined yields for smaller acreage states. Examples include no published NASS irrigated corn yields for Arkansas and Delaware. If NASS does not split the yield between dryland and irrigated, then FSA will determine the yield. This lack of data will be an issue in any state where there are only a small number of the acres planted to a program crop. For example, mustard seed is not widely planted. This would have been an even bigger issue if county yields had been used. Recently RMA eliminated

the GRIP and Group Risk Plan contracts in a large number of counties because of the lack of county data. The lack of sales may also have been a reason too. In any case using national yield would have eliminated those data issues.

Debate on Using 2008 Price in 2009 ACRE

During the 2008 debate on how to implement the ACRE program, 2008 corn futures prices were trading over six dollars. The assumption was the ACRE guarantee would be very high in the first year, causing large numbers of farmers to sign-up for ACRE and creating large government outlays. The argument was whether to use the 2006/2007 and 2007/2008 MYA prices or the 2007/2008 and 2008/2009 MYA prices to set the 2-year average MYA price in 2009 ACRE. The argument for using 2006/2007 and 2007/2008 MYA prices was based on the fact that the 2-year MYA average price would be final causing the ACRE guarantee to be final at sign-up. However, with the corn market trading at record levels, commodity groups were pushing to use the 2008/2009 MYA price and that was finally adopted. As a result, farmers do not know the ACRE guarantee when they sign-up. The market declined prior to setting the 2009 ACRE guarantee and the advantage for using the 2007/2008 and 2008/2009 MYA prices was not as large as expected. During the early summer of 2008 with the corn market trading at new highs, many analysts and policy makers were assuming a very "high" 2009 ACRE guarantee. They were assuming most farmers would elect ACRE and the ACRE payments would be very large. It is now clear that none of this is likely to be true. Most farmers did not elect ACRE, the price decline will likely be less than their forecasts, and some states produced yields that were greater than their 5-year Olympic average yield. The ACRE participation is provided in Table 7 and the current estimated ACRE payments are provided in Tables 4 and 8.

SURE is Complement of Crop Insurance

SURE is a whole farm revenue insurance guarantee that will provide supplemental coverage

added to farmers' crop insurance contracts. SURE covers all crops, not just the program crops.

SURE Participation Cost

The cost for farmers to participate in SURE is the requirement that all crops must be insured. For farmers who currently insure all of their crops and pay the NAP fees to FSA for crops that do not have a reinsured contract, one could argue SURE is effectively "free". Noninsured farmers will need to pay additional crop insurance premiums and NAP fees to gain eligibility for SURE.

The SURE program covers the 2008 crop but few payments have been made as of this date. The crop insurance sales closing date for 2008, 2009, and 2010 crops have already passed. Because these insurance dates have passed, some farmers have already eliminated their eligibility for SURE payments on their crops for the first 3 years of the 2008 Farm Bill.

The SURE program is a complement to the crop insurance program and is tied directly to the coverage level of crop insurance purchased. The higher level of crop insurance purchased in most cases, the higher the level of SURE coverage, up to a cap on benefits that cannot exceed 90% of expected farm revenue.

No SURE Overlap with ACRE and Crop Insurance

SURE caps payments from all revenue sources to 90% of whole farm expected revenue, but with the deductible and crop insurance premiums, the chances of any overlap with ACRE and SURE is greatly reduced. If farmers combine net of premium crop insurance payments and the value of the crop exceeds the 90% cap, then the SURE payment is reduced. Any ACRE payment is also deducted from SURE.

Oklahoma wheat farmers who elected ACRE in many cases will receive reduced SURE payments because of the ACRE payment hitting the maximum payment equal to 25% of the ACRE guarantee. Single enterprise Oklahoma wheat farmers, who are under the payment limit, will receive more from ACRE than they would have received under SURE, but the difference will

Table 7. Percent of Farms and Number of Farms Participating in ACRE for 2009

	Total Program		Wheat		Corn		Grain Sorghum		Soybeans	
St	% Farm	# Farms	% Farm	# Farms	% Farm	# Farms	% Farm	# Farms	% Farm	# Farms
US	7.70%	128,620	7.10%	61,875	8.53%	105,387	4.85%	13,736	9.89%	97,216
WA	24.89%	2.477	26.84%	2,467	1.75%	33	8.70%	2	62.50%	5
OK	24.78%	12,158	25.29%	12,107	15.71%	547	18.12%	2,096	15.67%	621
NE	19.61%	16,367	18.80%	6,758	20.67%	14,915	21.44%	6,090	23.49%	12,788
SD	18.36%	9,164	18.95%	5,420	19.37%	8,397	19.13%	1,357	20.61%	7,588
IL	16.71%	25,960	10.63%	6,516	16.97%	25,893	4.50%	498	17.56%	24,922
IA	11.81%	17,429	7.70%	623	11.85%	17,413	7.14%	64	12.80%	16,268
ND	10.03%	5,529	9.88%	5,320	16.77%	3,193	10.13%	81	26.16%	3,577
IN	9.49%	9,641	10.08%	4,364	9.62%	9,601	8.26%	74	10.02%	9,104
DE	8.78%	305	11.39%	231	8.93%	267	8.33%	18	8.94%	291
ID	7.25%	991	7.58%	878	1.83%	66	1.72%	1	–	
OR	7.21%	488	7.74%	488	0.82%	11	12.50%	3	12.50%	2
MI	6.52%	3,241	7.21%	2,177	6.73%	3,135	8.80%	11	6.71%	2,338
OH	6.28%	5,683	6.49%	3,776	6.47%	5,572	7.00%	14	6.71%	5,257
MN	6.14%	5,682	5.56%	1,681	6.38%	5,455	1.43%	2	7.35%	5,299
MO	4.39%	3,269	4.63%	2,413	5.11%	2,925	4.14%	1,143	5.50%	3,055
MT	4.26%	909	4.47%	895	0.92%	19	3.25%	4	3.85%	1
KY	4.08%	1,715	9.98%	1,401	4.21%	1,699	3.49%	107	7.78%	1,579
WI	3.46%	2,601	4.20%	641	3.47%	2,579	4.44%	19	4.48%	1,878
PA	2.49%	647	2.83%	323	2.51%	639	3.95%	24	3.45%	423
CO	1.94%	317	1.59%	215	2.81%	216	1.89%	71	5.38%	12
NY	1.83%	349	3.21%	183	1.84%	348	–		4.16%	142
KS	1.61%	1,603	1.50%	1,405	3.18%	1,107	1.54%	1,203	2.84%	1,182
TN	1.16%	390	1.42%	266	1.52%	377	1.04%	77	1.75%	343
TX	1.03%	930	1.68%	897	1.23%	352	1.17%	27	3.42%	107

Source: United States Department of Agriculture, Farm Service Agency's website: www.fsa.usda.gov.

likely be less than many farmers expect. Those Oklahoma single enterprise wheat farmers who are over the payment limit and suffered freeze damage will likely collect from both ACRE and SURE.

Adverse Selection on SURE

The adverse selection on SURE may be minimal however it is not impossible. For example corn-soybean farmers could change their planting practices from 50 to 50 corn and soybeans to all corn 1 year followed by all soybeans the next year and effectively create a single enterprise farm. Kansas farmers are likely to reduce grain sorghum and soybean acres in favor of more dryland corn. SURE provides additional coverage for farms that are not diversified and that may encourage selection of riskier crops for planting. There may be other ways to adversely select on SURE by splitting the ownership between various partners so one partner is farming irrigated acres and the other is farming dryland acres only.

Summary and Conclusions

ACRE will most likely be a supplemental payment to crop insurance on wheat. Historically the average crop insurance payment has exceeded the recasted ACRE payment. SURE is also a supplement to crop insurance that deducts the ACRE payment. Effectively insured farmers have two sources of supplemental payments, ACRE and SURE. A maximum ACRE payment will likely eliminate a large share of the SURE payments. However, farmers over the ACRE payment limit may also collect from SURE while those farmers under the limit may lose their SURE payment when ACRE hits the maximum.

Table 8. ACRE Grain Sorghum Estimated 2009/2010 Payments Ranked in Order of States Most Likely to Collect ACRE Payments[a]

			8/14/09 Projections			Current Projections			
	USDA Price and Range		3.00	2.70	3.30	3.30	3.10	3.50	
	Kansas State University Price and Range		2.91	2.48	3.35	3.08	2.62	3.54	
Current Rank	Sign-up Rank		Projected Gross Percent of Guaranteed Lost	Projected State ACRE Payment	Projected State ACRE Yield	Projected Gross Percent of Guaranteed Lost	Projected State ACRE Payment	Projected State ACRE Yield	Percent Yield Change
1	2	Texas	31.5%	47.82	47.0	29.26%	46.66	48.0	2.1%
3	4	Illinois	13.3%	41.85	94.0	16.42%	50.55	82.0	(12.8%)
4	3	Arkansas	22.3%	62.73	84.0	13.60%	37.41	79.0	(6.0%)
5	5	Missouri	13.1%	40.33	92.0	12.27%	36.97	86.0	(6.5%)
6	7	Nebraska	7.5%	21.44	90.0	(2.97%)	0.00	93.0	3.3%
7	1	Oklahoma	33.1%	41.94	39.0	(4.52%)	0.00	56.0	43.6%
8	6	Kansas	9.6%	24.56	79.0	(8.48%)	0.00	88.0	11.4%
9	9	South Dakota	(1.9%)	0.00	60.0	(11.48%)	0.00	61.0	1.7%
10	8	Colorado	0.4%	0.41	35.0	(39.16%)	0.00	45.0	28.6%

Source: States Department of Agriculture, National Agricultural Statistical Service's website: www.nass.usda.gov.

[a] Payments are capped at 25%.

SURE favors single enterprise farms over those with crop diversification. Therefore, SURE will encourage less crop diversification. SURE may also encourage planting riskier crops because of the additional coverage provided.

Overlapping ACRE and crop insurance could be reduced by allowing farmers to delete the RE endorsement in their crop insurance contract. Currently, if farmers eliminate their RE endorsement, they must also eliminate their YRE endorsement. Allowing farmers to delete the RE endorsement while retaining the YRE endorsement will save farmers premium cost while reducing the overlap with ACRE.

Farmers, especially winter wheat farmers, had the ability to adversely select on 2009 ACRE because of the following items:

1. For 2009 sign-up only, nearly 3 months of the marketing year for wheat had already passed.
2. Before sign-up, NASS had published 4 months of winter wheat yield estimates and their first combined yield estimate for fall harvested crops. This was of limited value in states with yields split between irrigated and dryland.
3. Many winter wheat farmers already had their crop harvested before sign-up. The a priori information will continue because winter wheat farmers will have a good yield estimate for 2010, if harvest is not completed prior to the 2010 sign-up. They will also have a good estimate of the ACRE 5-year Olympic average yield for 2011.
4. Farmers will be able to continue using a priori information to elect ACRE for new farm serial numbers, and once in ACRE, to select crops for ACRE payments if they over plant their base acres. They can also change planting decisions to take advantage of ACRE.

Farmers in states with an irrigated ACRE practice had almost no a priori information on yield because only a combined yield was published before the 2009 August sign-up. The combined winter wheat yield will also be published before the June 1, 2010 sign-up. The available a priori information provided to winter wheat farmers gives them the best opportunity to adversely select on ACRE. However, all farmers will be able to evaluate if ACRE is in or out of the money at sign-up time or when selecting crops for payment. Because the premium does not change to reflect the risk in ACRE, it allows farmers to select crops most likely to collect ACRE payments.

Oklahoma, Washington, and Texas wheat farmers were offered a deep in the money ACRE contract while Colorado wheat farmers were offered an out of the money ACRE contract for the same "premium" cost (i.e., 20% of direct payments for the remaining life of the 2008 Farm Bill). As expected, large numbers of Oklahoma and Washington wheat farmers elected ACRE. Surprisingly, very few Texas wheat farmers selected ACRE. One should use extreme caution before jumping to the conclusion that the low Texas participation was caused by a lack of education on ACRE. There would have been other factors, such as impacts on cash rents, requirement to enroll cotton and other crops in addition to wheat in ACRE and a 4-year enrollment requirement rather than annual enrollment, etc.

Farmers who did not enroll should not assume ACRE will pay in the same states next year. It is likely the 2010 wheat ACRE guarantee will be lower in Oklahoma, Washington, and Texas. Farmers over time will likely enroll and once enrolled, select crops with ACRE contracts that are deep in the money. A deep in the money option has less chance of expiring worthless than an out of the money option. Because the "premium" cost does not change with the risk level in ACRE, it is likely the cost for ACRE will be greater than forecasted. ACRE critics will likely claim this was caused by fraud, waste, and abuse, when in fact it's nothing more than a lack of underwriting. Without a detailed farmer survey it will be difficult to argue risk management was the reason a "high" percentage of wheat growers selected ACRE. The data clearly shows farmers had the information to adversely select on ACRE for wheat, especially winter wheat, and was likely the major factor influencing wheat farmers' ACRE decisions.

Requiring farmers to sign-up for ACRE and selecting crops for payments before the crops are planted would greatly reduce the adverse selection. However, there is no way to prevent farmers at sign-up or when selecting crops for payments from selecting crops with ACRE offers that are in the money. However, the earlier

crop selection and sign-up date will increase the possibility that an in the money ACRE offer will expire worthless. Unless the participation costs are allowed to adjust to reflect the change in risk in ACRE an earlier sign-up date is likely the best method for reducing but not eliminating adverse selection.

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