

#### 2012 Risk and Profit Conference Breakout Session Presenters

"Knowledge for Life"

#### 6. Farm Bill Programs and Crop Insurance: Part 2

#### **Art Barnaby**

### <barnaby@ksu.edu>

Dr. Art Barnaby was raised on a diversified farm 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 extension education programs on financial planning, risk, government commodity programs, and crop insurance. Art is an author of the KSU Risk Management web page located at www.AgManager.info and has also worked with the private crop insurance industry, RMA, and Farmer Commodity groups on crop insurance issues. His research work with the private sector was the basis for the first revenue insurance contract, Crop Revenue Coverage. Art is the winner of the 2009 Excellence in Extension Award presented by the National Association of Public and Land Grant Universities. He is also a past three time winner of the AAEA Distinguished Extension Program Award. Art is a frequent speaker at professional, farmer-producer, ag lender, and insurance industry meetings.

### Abstract/Summary

The debate over the next Farm Bill has intensified in 2012. While opinions have differed among commodity groups and Members of Congress regarding future commodity programs, two things are certain regarding the next Farm Bill: 1) direct payments will be eliminated, and 2) crop insurance will be the backbone of U.S. farm policy. This 2-part session will review recent Farm Bill activity in detail. Part 1 will focus on new commodity program alternatives while Part 2 will discuss current crop insurance proposals.

Senators Shaheen-Toomey offered an amendment that would cap crop insurance subsidies at \$40,000 and they claim will reduce the deficit by about \$5.2 billion over ten years. The Senators cited a Government Accountability Office (GAO) report that indicates less than 4 percent of producers would have been affected by a \$40,000 premium support limit in 2011. Environmental Working Group (EWG) argues "now that crop insurance is the primary way we subsidize farmers, the program needs a limit". EWG claims, based on GAO numbers, that crop insurance will cost over \$11 billion per year and the EWG wants the subsidy limit even lower, suggesting a \$5,000 limit.

In 2011 the actual net crop insurance expenditures was \$6.289 billion, not the 11 billion dollar forecast. Does anyone remember the forecasted costs for ACRE in the last Farm Bill that was suppose to provide massive payouts to farmers? Over \$6 billion of net crop insurance payments sounds large but a higher market price in 2011 caused higher government costs. However, the net crop insurance payments were less than 5% of the USDA budget. The entire safety net that includes FSA commodity programs and CRP was less than 12%. Most of the USDA budget is for food and nutrition, over 77% in 2011.

Would these limits hit your farm? Will it pay to lower or eliminate your crop insurance coverage? Will these proposed changes affect your risk exposure?



## Crop Insurance History

- 1. Crop insurance was a government program with loss adjusting and sales provided by USDA employees from 1938 to 1980, when crop insurance was made into a public-private partnership.
- 2. Crop insurance has had many improvements since 1980 and many of those changes were developed by the private insurance sector.
- 3. Why have so many farmers testified that they like crop insurance and it should be maintained? That would not have been the view point of farmers in 1981.

#### Crop Insurance History

- 4. For the past 17 years most farmers have been paying actuarially sound premium rates and several years have generated underwriting gains for the government. Therefore, the effective total dollar of subsidy has been less than the \$billions cited by critics
- 5. The effective benefit from trend adjusting yields is the increased subsidy per acre, but only in selected counties.
- 6. The average liability per acre for a CAT contract is nearly as high as it is for buy up coverage. It would save money to change the CAT subsidy from 100% to 67% (same as other 50% contracts). however the proposal is to cut CAT rates.

8/21/2012 4B Ag Consultants & Kansas State University, Copyright 2012, All Rights Reserved 3

## USA Revenue Insurance History

- In the mid-1980's Crop insurance guarantees were changed from a county yield guarantee to a farm level proven yield quarantee (APH). This provided real risk protection for above average producers.
- 2. Market Value Protection (MVP) was introduced in 1990 on corn and soybeans. MVP was a private endorsement with no subsidies that was added to MPCI to create a yield replacement contract.
- 3. MVP was originally designed to offset the loss of the deficiency payments when prices increase and no yield.

#### USA Revenue Insurance History

- 4. This was the first insurance contract to include price risk as a peril. The MVP replacement coverage allowed farmers to maintain pre-harvest hedges.
- 5. MVP was combined with a revenue endorsement to create Crop Revenue Coverage (CRC) that was introduced as a pilot in 1996 on corn and soybeans for Iowa and Nebraska. CRC was reinsured by RMA and received a partial subsidy.
- 6. CRC provided revenue-replacement coverage insurance



#### USA Revenue Insurance History

- 7. Revenue Assurance (RA) was introduced in 1997 in Iowa and Nebraska on corn and soybeans. RA provided revenue only coverage. In 2000, RA added the harvest price endorsement to create revenue-replacement coverage insurance.
- In 2011 RMA combined RA and CRC into a single product, Revenue Protection (RP).
- 9. The ARPA 2000 Law provided full subsidy on revenue insurance.

#### Where is the Policy Going?

- 1. Critics claim crop insurance could be provided "free" to farmers by government for less taxpayer cost.
- 2. Critics want to eliminate the Harvest Price from Crop Insurance.
- 3. Comparing CME put options with the yield adjusted Asian put options in RP show why crop insurance is such a good deal, and it has nothing to do with subsidies
- 4. Will the new commodity programs compete with crop insurance?



### Summary Crop Insurance History

- 1. 1938 to 1980 crop insurance was a USDA program, 1980 public private partnership.
- 2. 1984 APH
- 3. 1991 MVP/Harvest Price
- 4. 1996 CRC/RP
- 5. The ARPA 2000 Law provided full subsidy on revenue insurance.
- 6. Subsidy or AGI Limit?
- \$40 B Cost, Over Paying Losses?

## Marketing Loan, Counter Cyclical, Ad Hoc Disaster Aid, SURE & ACRE are "Puts" & "Insurance" with 100% of "Premium" Paid by USDA

- 1. There are only 2 variables in revenue, price & yield.
- 2. All USDA risk management tools including ACRE, SURE, Marketing Loan, etc. are derivatives of options and insurance. ARC can be added to the list.
- 3. Ad hoc Disaster aid, SURE and ARC are just "free" crop/revenue insurance.
- 4. Combining "puts" and insurance in to revenue insurance is more efficient than insuring price and yield separately.



## USDA Risk Management Tools are Derivatives of Puts, Insurance, or a Combination

L	Commodity Programs USDA-FSA Cost/"Premium"	Share		<b>2011 Crop Insurance</b> USDA-RMA Premium	Share
Program	Туре	Paid	Program	Туре	Paid
Direct Payment	Income transfer	100%			
Marketing Loan	Put option on production	100%	   GRIP	Put option adjusted by county yield by crop	52%
Counter Cyclical	Put option adjusted for historical program yield	100%	     GRP	Fixed liability triggered by county yield loss	44%
ACRE	Put option adjusted by state yield by crop	100%	•	Put option adjusted by farm yield by crop	62%
SURE	Put options adjusted by farm yields across all crops	100%	   YP 	Fixed liability triggered by farm yield loss	61%
Ad Hoc Disaster	Fixed liability triggered by farm yield loss	100%	   CAT 	50% Coverage @ 55% of Price & Requires a \$300 Processing Fee	100%

## 1996 Initial CRC Insurance Pilot in Iowa & Nebraska

Ins Plan	Pol	Net Acres	Liabilities	Total	Subsidy	%	Indemnity
	Earn			Premium		Sub-	
	Prem					sidy	
Iowa Corn							
CRC	31,545	4,543,857	1,112,637,136	68,372,809	17,347,626	25.4%	26,090,265
APH	55,853	6,200,498	1,025,743,787	47,057,726	21,554,784	45.8%	11,166,984
All Corn	87,398	10,744,355	2,138,380,923	115,430,535	38,902,410		37,257,249
Iowa Soybeans							
CRC	22,042	2,510,042	487,313,501	22,040,610	5,919,912	26.9%	7,660,793
APH	56,748	5,455,644	742,181,855	23,729,913	11,521,531	48.6%	5,491,054
All Beans	78,790	7,965,686	1,229,495,356	45,770,523	17,441,443		13,151,847
Iowa All Crops							
Total All Crops	174,035	19,420,487	3,570,282,751	169,676,225	59,619,962	35.1%	51,949,648
Nebraska Corn							
CRC	18,826	3,255,652	748,022,713	42,384,124	12,688,006	29.9%	17,113,521
APH	30,221	4,163,694	631,158,381	28,495,590	15,241,954	53.5%	8,925,679
All Corn	49,047	7,419,346	1,379,181,094	70,879,714	27,929,960		26,039,200
Nebraska Soybea	ans						
CRC	12,032	1,028,021	170,058,081	9,044,783	2,760,118	30.5%	2,617,014
APH	21,245	1,365,951	165,586,467	7,122,205	3,514,276	49.3%	2,239,000
All Beans	33,277	2,393,972	335,644,548	16,166,988	6,274,394		4,856,014
Nebraska All Cro	ps						
Total All Crops	123,262	13,090,756	2,030,408,701	110,155,278	45,020,218	40.9%	53,356,825



8/21/2012 4B Ag Consultants & Kansas State University, Copyright 2012, All Rights Reserved 11

#### 1996 CRC Insurance Market Share in Iowa & Nebraska

	lo	owa		Neb	raska	
	Corn	S-beans	% crop share corn & soybeans	Corn	S-beans	share corn & soybeans
Policies Earning						
Premium	36.1%	28.0%	95.5%	38.4%	36.2%	66.8%
Net Acres	42.3%	31.5%	96.3%	43.9%	42.9%	75.0%
Liabilities	52.0%	39.6%	94.3%	54.2%	50.7%	84.5%
<b>Total Premium</b>	59.2%	48.2%	95.0%	59.8%	55.9%	79.0%
% Subsidy CRC	25.4%	26.9%		29.9%	30.5%	
% Subsidy APH	45.8%	48.6%		53.5%	49.3%	
CRC Loss Ratio	38.2	34.8		40.4	28.9	
APH Loss Ratio	23.7	23.1		31.3	31.4	

## Objective of 2000 ARPA was to eliminate the "need" for ad hoc disaster aid

- 1. 50% reduction in CAT, moving to buyup coverage.
- 2. 75 million more acres covered with buyup.
- 3. \$76 billion increase in buyup coverage.
- 4. Per Acre coverage increased from \$175.38 to \$432.40 and farmer paid premium increased from \$6.99 to \$18.28.
- 5. Per Acre subsidy rate increased from 56.2% to 61.4%.



## Crop Insurance Totals for the USA on All Crops, All Coverages, All Products, after the ARPA 2000 Law

		National Le	vel			Farm I	Level	
					Ave-	Ave- rage % Prem- ium Sub-	Ave- rage \$Cove-	Ave- rage Farmer Paid Prem-
Year	Net Acres	Total \$ Coverage	Total \$ Premium	Total \$ Subsidy	rage Rate	sidy	rage/ AC	ium/ AC
Results v	vith All Contra	acts						
2011	264,133,054	113,424,283,791	11,884,209,200	7,406,514,254	10.5%	62.3%	429.42	\$16.95
2001	211,328,990	36,728,587,401	2,961,847,611	1,771,322,123	8.1%	59.8%	173.80	5.63
Change	52,804,064	76,695,696,390	8,922,361,589	5,635,192,131				
Results v	vith Buy UP C	overage; i.e. No C	AT Contracts					
2011	245,009,161	105,941,115,168	11,596,678,749	7,118,983,803	10.9%	61.4%	432.40	\$18.28
2001	170,360,860	29,877,547,591	2,715,809,445	1,525,283,957	9.1%	56.2%	175.38	6.99
Change	74,648,301	76,063,567,577	8,880,869,304	5,593,699,846				
CAT Acre	es							
2011	19,123,893	7,483,168,623	287,530,451	287,530,451	3.8%	100.0%	391.30	\$0.00
2001	40,968,130	6,851,039,810	246,038,166	246,038,166	3.6%	100.0%	167.23	\$0.00
Change	(21,844,237)	632,128,813	41,492,285	41,492,285				

#### Objective of 2000 ARPA was to eliminate the "need" for ad hoc disaster aid

- 6. Per Acre CAT coverage equals \$391.30 vs. \$432.40 for Buyup. That will require CAT buyers to have an average expected crop value over \$1,400 per acre.
- 7. Can the industry justify 100% premium subsidy on CAT for farmers expected to generate gross revenues greater than \$1,400 per acre with no payment limit?
- 8. Did the ARPA Law meet its objectives?
- 9. Is there a shallow loss that needs coverage or does crop insurance cover the shallow loss?

8/21/2012 4B Ag Consultants & Kansas State University, Copyright 2012, All Rights Reserved 15

#### USA Crop Insurance Performance, All Contracts

									% of Prem-	
									ium	Farm-
	Pol								Paid	er
	Earn			Total				Loss	_ by	Loss
l.,	Prem		Liabilities	Premium	Subsidy	Indemnity	Loss/Gain	Ratio	Farm-	Ratio
Year	<u> </u>	(000)	(000)	(000)	(000)	(000)	(000)	(000)	ers	(000)
1988	333	45,475	4,423,961	294,957	74,723	797,178	(502,221)		74.7%	3.62
1989	949	101,632	13,535,807	814,302	204,965	1,212,235	(397,933)		<b>_</b> 74.8%	1.99
1990	895	101,361	12,828,368	836,468	215,308	973,032	(136,563)		74.3%	1.57
1991	707	82,357	11,215,994	737,049	190,066	955,289	(218,240)		74.2%	1.75
1992	663	83,107	11,334,059	758,789	196,721	918,215	(159,426)		74.1%	1.63
1993	679	83,725	11,353,421	755,739	200,009	1,655,479	(899,740)		73.5%	2.98
1994	801	99,640	13,608,387	949,396	254,876	601,146	348,250		73.2%	0.87
1995	,	220,511	23,728,454	1,543,350	889,372	1,567,732	(24,382)		42.4%	2.40
1996	,	204,864	26,876,813	1,838,559	982,063	1,492,663	345,896		46.6%	1.74
1997	,	182,189	25,458,851	1,775,368	902,794	993,551	781,817	0.56		1.14
	, -	181,835	27,921,436	1,875,927	946,312	1,677,542	198,385	0.89		1.80
	1,289	196,918	30,939,450	2,310,133	954,872	2,434,715	(124,582)		58.7%	1.80
	1,323	,	34,443,753	2,540,164	951,192	2,594,834	(54,671)		62.6%	1.63
2001	1,298	211,329	36,728,587	2,961,848	1,771,322	2,960,125	1,723		40.2%	2.49
	1,259	214,865	37,299,303	2,915,944	1,741,028	4,066,732	(1,150,788)		40.3%	3.46
	1,241	217,409	40,620,507	3,431,359	2,041,658	3,260,806	170,553		40.5%	2.35
	1,229	221,020	46,602,280	4,186,133	2,472,282	3,209,723	976,409		40.9%	1.87
	1,191	245,856	44,258,915	3,949,230	2,337,101	2,367,323	1,581,907		40.8%	1.47
	1,148	242,082	49,919,480	4,579,539	2,682,006	3,503,536	1,076,003		41.4%	1.85
	1,138	271,634	67,339,911	6,562,118	3,823,353	3,547,569	3,014,549		41.7%	1.30
	1,149	272,250	89,892,360	9,850,879	5,690,668	8,677,910	1,172,969		42.2%	2.09
2009	,	264,776	79,575,187	8,950,746	5,426,886	5,228,924	3,721,822		39.4%	1.48
	1,141	256,268	78,104,325	7,594,397	4,711,271	4,251,436	3,342,960		38.0%	1.47
	1,152	265,609	114,112,377	11,955,219	7,452,814	10,826,308	1,128,911		37.7%	2.40
2012			107,241,900	10,199,312	6,392,880	23,982,091	(13,782,779 <u>)</u>	2.35	<u>37</u> .3%	6.30

 1989 to 2011 4,473,177
 932,121,987
 83,967,611
 47,113,662
 69,774,003
 14,193,608
 0.83
 43.9%
 1.89

 Est 2012 + History
 1,039,363,886
 94,166,923
 53,506,543
 93,756,094
 410,829
 1.00
 43.2%
 2.31

## Selected Indicators of the Crop Insurance Program

						Farmer				Insur-			A&O
						Paid	Gross	Gross		ance			as a %
	<b>Policies</b>			Gross		Prem-	Indem-	Under-	Total	Co.	RMA		of
	(thou-	Acres	Liability	Premium	Subsidy	ium	nities	writing	Loss	Share	Share	A&0	Prem-
Year	sand)	(mil)	(\$ mil)	(\$ mil)	(\$ mil)	(\$ mil)	(\$ mil)	Gain/loss	Ratio <sup>a</sup>	(\$ mil)	(\$ mil)	(\$ mil) <sup>b</sup>	ium
1996	1,615.2	204.9	26,876.8	1,838.6	982.1	856.5	1,492.7	345.9	0.81				
1997	1,319.8	182.2	25,458.9	1,775.4	902.8	872.6	993.6	781.8	0.56				
1998	1,242.7	181.8	27,921.4	1,875.9	946.3	929.6	1,677.5	198.4	0.89	272	(74)		
1999	1,288.8	196.9	30,939.4	2,310.1	954.9	1,355.3	2,434.7	(124.6)	1.05	272	(397)		
2000	1,323.2	206.5	34,443.8	2,540.2	951.2	1,589.0	2,594.8	(54.7)	1.02	282	(337)		
2001	1,297.9	211.3	36,728.6	2,961.8	1,771.3	1,190.5	2,960.1	1.7	1.00	346	(344)	636	21.5%
2002	1,259.5	214.9	37,299.3	2,915.9	1,741.0	1,174.9	4,066.7	(1,150.8)	1.39	(48)	(1,009)	628	21.5%
2003	1,241.5	217.4	40,620.5	3,431.4	2,041.7	1,389.7	3,260.8	170.6	0.95	377	(122)	736	21.4%
2004	1,228.8	221.0	46,602.3	4,186.1	2,472.3	1,713.9	3,209.7	976.4	0.77	691	364	894	21.4%
2005	1,190.6	245.9	44,258.9	3,949.2	2,337.1	1,612.1	2,367.3	1,581.9	0.60	915	740	833	21.1%
2006	1,147.8	242.1	49,919.5	4,579.5	2,682.0	1,897.5	3,503.5	1,076.0	0.77	822	321	962	21.0%
2007	1,137.7	271.6	67,339.9	6,562.1	3,823.4	2,738.8	3,547.6	3,014.5	0.54	1,572	1,509	1,335	20.3%
2008	1,149.2	272.2	89,892.4	9,850.9	5,690.7	4,160.2	8,677.9	1,173.0	0.88	1,094	144	2,013	20.4%
2009	1,172.0	264.8	79,575.2	8,950.7	5,426.9	3,523.9	5,228.9	3,721.8	0.58	2,297	1,486	1,619	18.1%
2010	1,140.7	256.3	78,105.3	7,594.4	4,711.3	2,883.1	4,251.1	3,343.3	0.56	1,915	1,484	1,371	18.1%
2011	1,150.7	265.4	114,001.8	11,946.4	7,447.5	4,498.9	10,811.0	1,135.4	0.90	1,672	(478)	1,300	10.9%

<sup>&</sup>lt;sup>a</sup>Indemnity divided by total premium.

Source: U.S. Department of Agriculture, Risk Management Agency.



8/21/2012 4B Ag Consultants & Kansas State University, Copyright 2012, All Rights Reserved 17

Illinois Corn Crop Insurance History

						Prem-				% of
	Pol					ium			Farm-	Acres
	Earn	Net		Total		Paid		Loss	er Loss	In-
	Prem	Acres	Liabilities	Premium	Subsidy	by	Indemnity	Ratio	Ratio	sured
Year	(000)	(000)	(000)	(000)	(000)	Farm-	(000)	(000)	(000)	(000)
1988	12.5	1,282	209,189	8,431	1,846	78.1%	55,738	6.61	8.46	12.9%
1989	50.7	4,996	1,028,346	36,415	7,649	79.0%	37,569	1.03	1.31	45.8%
1990	35.4	3,513	656,959	23,273	4,894	79.0%	11,533	0.50	0.63	33.1%
1991	28.0	2,868	541,691	21,532	4,609	78.6%	54,120	2.51	3.20	25.6%
1992	33.0	3,548	677,302	29,782	6,158	79.3%	6,476	0.22	0.27	31.7%
1993	31.6	3,247	635,423	27,596	5,703	79.3%	15,956	0.58	0.73	30.9%
1994	32.3	3,672	737,609	36,000	7,607	78.9%	2,657	0.07	0.09	31.7%
1995	91.5	8,727	1,152,122	48,050	24,345	49.3%	41,031	0.85	1.73	85.6%
1996	66.5	7,370	1,253,366	58,458	26,772	54.2%	28,425	0.49	0.90	67.0%
1997	57.0	6,483	1,111,147	53,838	22,693	57.8%	14,117	0.26	0.45	57.9%
1998	54.9	6,318	1,227,417	61,084	24,026	60.7%	31,249	0.51	0.84	59.6%
1999	57.3	6,934	1,302,777	79,773	21,650	72.9%	33,931	0.43	0.58	64.2%
2000	60.8	7,526	1,628,708	103,782	20,564	80.2%	28,274	0.27	0.34	67.2%
2001	57.2	7,343	1,653,373	113,188	60,311	46.7%	30,015	0.27	0.57	66.8%
2002	55.1	7,539	1,749,769	115,409	60,482	47.6%	99,762	0.86	1.82	67.9%
2003	54.8	7,826	1,960,088	136,961	71,642	47.7%	40,242	0.29	0.62	69.9%
2004	53.3	8,118	2,431,995	173,049	92,456	46.6%	60,542	0.35	0.75	69.1%
2005	53.1	8,616	2,375,234	168,968	89,933	46.8%	191,314	1.13	2.42	71.2%
2006	54.9	8,940	3,535,050	277,198	147,847	46.7%	26,412	0.10	0.20	79.1%
2007	54.8	10,233	5,960,600	487,173	258,310	47.0%	47,362	0.10	0.21	77.5%
2008	52.4	9,416	6,717,206	547,433	274,457	49.9%	325,840	0.60	1.19	77.8%
2009	53.0	9,681	5,351,419	465,015	249,963	46.2%	135,492	0.29	0.63	80.7%
2010	53.0	9,915	5,496,740	376,826	207,394	45.0%	239,318	0.64	1.41	78.7%
2011	53.8	10,193	8,591,109	630,961	347,497	44.9%	264,105	0.42	0.93	80.9%
2012	35.2	10,516	8,694,310	520,735	289,416	44.4%	2,608,881	<u>5.01</u>	11.28	80.9%
1989 t	o 2011	164,306	57,984,642	4,080,196	2,038,808		1,821,481	0.45	0.89	

174,822 66,678,952 4,600,931 2,328,224 49.4% 4,430,362 0.96 1.95

<sup>&</sup>lt;sup>b</sup>2011 A&O is an Estimate.

	Min	neso	ta Cor	n Cro	D In	surc	ince f	<b>Hist</b>	ory	
						Prem-			Farm-	% of
	Pol					ium			er	Acres
	Earn	Net		Total		Paid		Loss	Loss	In-
	Prem	Acres	Liabilities	Premium	Subsidy	by	Indemnit	Ratio	Ratio	sured
Year	(000)	(000)	(000)	(000)	(000)	Farm-	y (000)	(000)	(000)	(000)
1988	13.5	1,424	194,465	11,241	3,077	72.6%	34,460	3.07	4.22	25.0%
1989	34.1	3,637	557,075	38,062	10,544	72.3%	14,790	0.39	0.54	58.7%
1990	31.0	3,500	509,107	34,529	9,640	72.1%	4,156	0.12	0.17	52.2%
1991	21.5	2,458	376,586	23,470	6,633	71.7%	7,850	0.33	0.47	37.2%
1992	18.9	2,424	381,710	22,416	6,358	71.6%	23,616	1.05	1.47	33.7%
1993	22.1	2,629	371,316	21,659	6,198	71.4%	179,177	8.27	11.59	41.7%
1994	34.3	4,410	630,721	39,224	11,197	71.5%	3,503	0.09	0.12	63.0%
1995	44.5	5,911	746,493	47,285	24,216	48.8%	9,750	0.21	0.42	88.2%
1996	39.4	5,965	955,117	61,142	30,643	49.9%	10,250	0.17	0.34	79.5%
1997	36.5	5,600	882,757	56,514	26,474	53.2%	7,321	0.13	0.24	80.0%
1998	35.9	5,951	1,059,034	67,276	30,483	54.7%	7,245	0.11	0.20	81.5%
1999	34.8	5,799	960,655	70,007	24,804	64.6%	10,487	0.15	0.23	81.7%
2000	34.7	6,094	1,093,857	80,844	23,096	71.4%	13,103	0.16	0.23	84.6%
2001	33.2	5,894	1,158,036	92,635	53,929	41.8%	71,047	0.77	1.84	86.7%
2002	32.8	6,154	1,244,363	99,937	56,506	43.5%	10,839	0.11	0.25	85.5%
2003	32.1	6,226	1,348,818	113,168	64,238	43.2%	28,511	0.25	0.58	86.5%
2004	32.1	6,523	1,700,747	148,328	84,397	43.1%	92,449	0.62	1.45	87.0%
2005	31.1	6,423	1,437,918	119,530	67,338	43.7%	24,060	0.20	0.46	88.0%
2006	30.3	6,461	1,654,727	134,500	75,316	44.0%	39,745	0.30	0.67	88.5%
2007	32.0	7,614	3,309,740	312,528	170,796	45.4%	166,350	0.53	1.17	90.6%
2008	31.4	7,042	4,069,093	388,968	216,246	44.4%	270,648	0.70	1.57	91.5%
2009	31.5	7,044	3,229,269	317,825	195,858	38.4%	46,013	0.14	0.38	92.7%
2010	30.7	7,026	3,256,892	251,176	157,305			0.09		91.3%
2011	32.0	7,623	5,450,018	445,713	280,043		178,204	0.40		94.1%
2012	26.0	8,187	6,117,577	457,127	282,612	38.2%	182,851	0.40	1.05	94.1%

1989 to 2011 129,832 36,578,514 2,997,978 1,635,335 1,275,696 0.43 0.94

Est 2012 + 138,020 42,696,091 3,455,105 1,917,946 44.5% 1,458,547 0.42 0.95

8/21/2013 4B Ag Consultants & Kansas State University, Copyright 2012, All Rights Reserved 19

Indiana Corn Crop Insurance History

						Drom				0/ <b>af</b>
	D-1					Prem-			F	% of
	Pol					ium			Farm-	Acres
	Earn	Net		Total		Paid		Loss	er Loss	In-
.,	Prem	Acres	Liabilities	Premium	Subsidy	_by	Indemnity	Ratio	Ratio	sured
Year	(000)	(000)	(000)	(000)	(000)	Farm-	(000)	(000)	(000)	(000)
1988	5.4	656	99,762	4,398	995	77.4%	17,560	3.99	•	12.6%
1989	12.8	1,332	238,057	9,705	2,267	76.6%	3,774	0.39	0.51	24.9%
1990	10.0	1,122	183,993	7,517	1,729	77.0%	4,146	0.55	0.72	
1991	8.4	1,031	176,901	7,973	1,872	76.5%	27,382	3.43	4.49	18.1%
1992	10.0	1,369	240,316	11,765	2,592	78.0%	4,650	0.40		22.5%
1993	9.4	1,244	223,088	10,879	,	77.6%	5,091	0.47	0.60	
1994	9.2	1,355	261,069	13,469	3,031	77.5%	2,581	0.19	0.25	
1995	33.5	3,926	452,172	19,372	10,334	46.7%	21,844	1.13	_	72.7%
1996	20.0	2,710	427,647	22,248	,	57.1%	23,886	1.07		48.4%
1997	17.5	2,607	483,943	24,615	,	63.6%	21,089	0.86		44.2%
1998	17.4	2,618	575,089	29,911	9,981	66.6%	27,075	0.91		45.1%
1999	18.6	2,966	627,163	40,647	9,527	76.6%	32,410	0.80		51.1%
2000	20.7	3,413	818,315	57,783	9,563		20,115	0.35		59.9%
2001	19.8	3,354	842,405	61,173	31,910	47.8%	10,240	0.17	0.35	57.8%
2002	19.1	3,334	834,979	58,267	30,177	48.2%	96,325	1.65	3.43	61.7%
2003	19.8	3,630	986,488	72,763	37,792	48.1%	48,844	0.67	1.40	64.8%
2004	19.6	3,670	1,160,978	94,260	49,719	47.3%	61,912	0.66	1.39	64.4%
2005	19.5	3,833	1,097,431	90,163	47,702	47.1%	29,462	0.33	0.69	65.0%
2006	18.8	3,748	1,279,325	109,510	58,145	46.9%	21,523	0.20	0.42	68.1%
2007	19.7	4,477	2,404,944	217,526	115,592	46.9%	65,798	0.30	0.65	68.9%
2008	18.6	3,912	2,636,574	242,159	123,349	49.1%	268,994	1.11	2.26	68.6%
2009	19.0	4,074	2,181,462	218,404	117,079	46.4%	65,328	0.30	0.64	72.8%
2010	19.1	4,195	2,219,097	177,671	97,922	44.9%	58,990	0.33	0.74	71.1%
2011	19.6	4,366	3,501,028	302,161	165,242	45.3%	173,714	0.57	1.27	74.0%
2012	11.2	4,588	3,635,789	260,260	145,328	44.2%	1,246,644	4.79	10.85	74.0%
1989 t	o 2011	68,943	23,952,226	1,904,341	947,450		1,112,731	0.58	1.16	
Est 20	12 +	73,532	27,588,016	2,164,601	1,092,778	49.5%	2,359,375	1.09	2.20	

#### Iowa Corn Crop Insurance History

						Prem-				% of
	Pol					ium			Farm-	Acres
	Earn	Net		Total		Paid		Loss	er Loss	In-
	Prem	Acres	Liabilities	Premium	Subsidy	by	Indemnity	Ratio	Ratio	sured
Year	(000)	(000)	(000)	(000)	(000)	Farm-	(000)	(000)	(000)	(000)
1988	39.2	3,909	608,008	24,257	5,527	77.2%	112,222	4.63	5.99	34.6%
1989	88.4	9,183	1,814,460	77,710	16,887	78.3%	63,955	0.82	1.05	72.9%
1990	72.8	7,794	1,377,372	57,411	12,778	77.7%	17,325	0.30	0.39	60.9%
1991	54.8	5,832	1,031,910	45,686	10,575	76.9%	33,119	0.72	0.94	46.7%
1992	52.6	6,092	1,085,486	48,294	11,122	77.0%	8,258	0.17	0.22	46.2%
1993	49.1	5,425	999,545	43,088	10,011	76.8%	213,897	4.96	6.47	45.2%
1994	59.8	7,177	1,297,300	61,474	14,578	76.3%	3,240	0.05	0.07	55.6%
1995	95.6	10,732	1,526,616	70,024	29,925	57.3%	68,726	0.98	1.71	90.2%
1996	55.9	6,200	1,025,744	47,058	21,555	54.2%	11,167	0.24	0.44	48.8%
1997	78.2	9,573	1,811,336	90,458	31,314	65.4%	8,552	0.09	0.14	78.5%
1998	76.3	9,779	2,049,074	101,475	34,669	65.8%	59,312	0.58	0.89	78.2%
1999	74.5	9,701	1,889,913	112,243	29,297	73.9%	36,299	0.32	0.44	80.2%
2000	75.3	10,193	2,209,009	141,230	27,571	80.5%	49,109	0.35	0.43	82.9%
2001	71.4	9,798	2,188,826	152,401	82,391	45.9%	102,124	0.67	1.46	83.7%
2002	69.7	10,301	2,303,345	153,607	82,117	46.5%	30,541	0.20	0.43	84.4%
2003	67.0	10,285	2,464,087	167,004	89,924	46.2%	29,271	0.18	0.38	83.6%
2004	66.4	10,824	3,143,169	224,727	122,079	45.7%	51,010	0.23	0.50	85.2%
2005	64.4	10,913	2,779,196	188,005	102,041	45.7%	58,220	0.31	0.68	85.3%
2006	63.4	10,985	3,275,376	228,884	123,143	46.2%	46,954	0.21	0.44	87.2%
2007	64.3	12,488	6,062,652	458,247	245,425	46.4%	69,166	0.15	0.32	87.9%
2008	63.0	11,730	7,507,828	574,918	309,145	46.2%	648,383	1.13	2.44	88.2%
2009	63.9	12,126	6,209,635	513,545	295,114	42.5%	112,547	0.22	0.52	89.2%
2010	63.2	11,999	6,170,045	400,376	233,519	41.7%	279,952	0.70	1.68	89.5%
2011	64.5	12,677	10,131,877	717,663	410,481	42.8%	171,896	0.24	0.56	89.9%
2012	52.3	12,587	10,154,194	608,836	351,095	42.3%	1,534,267	2.52	5.95	89.9%

## Kansas Corn Crop Insurance History

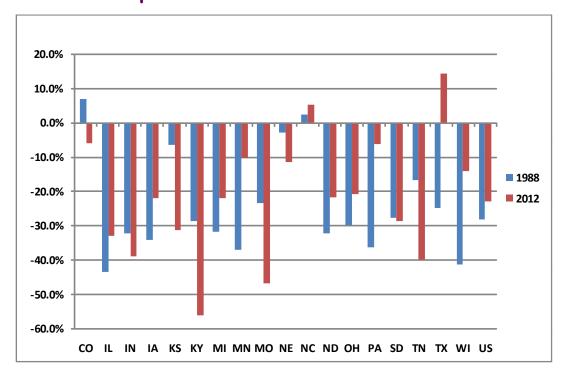
									•	
						Prem-				% of
	Pol					ium			Farm-	Acres
	Earn	Net		Total		Paid		Loss	er Loss	In-
	Prem	Acres	Liabilities	Premium	Subsidy	by	Indemnity	Ratio	Ratio	sured
Year	(000)	(000)	(000)	(000)	(000)	Farm-	(000)	(000)	(000)	(000)
1988	3.3	344	46,157	2,384	662	72.2%	1,617	0.68	0.94	27.5%
1989	4.8	461	76,983	3,999	1,107	72.3%	8,213	2.05	2.84	36.9%
1990	5.9	559	78,517	4,166	1,169	71.9%	3,079	0.74	1.03	40.8%
1991	5.7	554	80,914	4,303	1,227	71.5%	6,579	1.53	2.14	34.6%
1992	5.5	557	83,554	4,513	1,280	71.6%	10,045	2.23	3.11	30.9%
1993	5.5	578	89,121	4,638	1,341	71.1%	6,637	1.43	2.01	31.2%
1994	7.3	731	109,933	6,664	1,930	71.0%	3,357	0.50	0.71	36.6%
1995	19.8	2,018	224,196	11,080	6,433	41.9%	12,077	1.09	2.60	87.7%
1996	17.8	2,010	309,138	16,148	8,434	47.8%	5,756	0.36	0.75	93.5%
1997	15.9	1,939	313,273	17,782	7,768	56.3%	4,097	0.23	0.41	77.5%
1998	16.0	2,120	380,243	21,257	9,237	56.5%	3,083	0.15	0.26	77.1%
1999	17.0	2,355	370,621	23,691	8,489	64.2%	11,567	0.49	0.76	78.5%
2000	18.3	2,591	427,891	28,511	8,484	70.2%	34,227	1.20	1.71	82.3%
2001	19.9	2,746	499,593	40,953	23,606	42.4%	32,570	0.80	1.88	79.6%
2002	19.2	2,644	506,919	39,683	22,505	43.3%	137,345	3.46	8.00	76.6%
2003	17.6	2,359	493,548	43,265	24,384	43.6%	77,585	1.79	4.11	72.6%
2004	18.8	2,613	612,645	66,230	37,382	43.6%	50,509	0.76	1.75	90.1%
2005	21.4	3,089	580,844	68,427	39,131	42.8%	37,786	0.55	1.29	99.0%
2006	19.8	2,889	606,543	78,245	44,617	43.0%	83,478	1.07	2.48	79.2%
2007	20.9	3,367	1,114,354	150,746	86,920	42.3%	32,042	0.21	0.50	99.0%
2008	21.1	3,313	1,471,007	208,899	121,319	41.9%	122,655	0.59	1.40	84.9%
2009	22.3	3,592	1,247,911	193,427	117,038	39.5%	37,596	0.19	0.49	93.3%
2010	24.6	4,253	1,386,029	176,290	107,629	38.9%	42,048	0.24	0.61	99.0%
2011	25.3	4,298	2,190,543	265,162	163,379	38.4%	450,411	1.70	4.43	88.6%
2012	17.4	4,342	2,167,947	232,107	141,566	39.0%	758,990	3.27	8.38	88.6%
									_	

1989 to 2011 51,980 13,300,477 1,480,464 845,470 1,214,358 0.82 1.91

Est 2012 + 56,322 15,468,424 1,712,571 987,036 42.4% 1,973,349 1.15 2.72

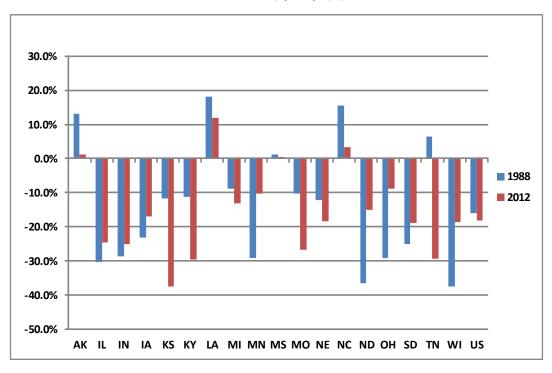
2/R4/R4/R0/12 4B Ag Consultants & Kansas State University, Copyright 2012, All Rights Reserved 22

## Percent Yield Deviation below Trend is Better in Some Important Corn States than in 1988



8/21/2012 4B Ag Consultants & Kansas State University, Copyright 2012, All Rights Reserved 23

## Percent Soybean Yield Deviation below Trend in 2012 vs. 1988



## Harvest Price Causes Payments Greater than Expected Farm Revenue?

- 1. Expected Revenue was defined by other people and is the APH X the Base Price. But is that the expected revenue?
- 2. It assumes a zero basis on price.
- 3. Quality loss adjustments may not equal market discounts for aflatoxin, test weights, or other quality issues.
- 4. Assumes no hedging losses or contract cancellation penalties.



Illinois Corn for all APH Products based on Average APH and Premiums Purchased for 2012, Assuming \$8.00 Harvest Price and a 80% Yield Lossa

								Farm						Rev-		% of
% of						Total		er	Ave-	Final	80%	Rev-	Net	enue	Total	Expect-
Poli-	% of	Cov		Deliv-	Liab-	Prem-	Sub-	Prem-	rage	Guar-	Yield	enue to	Indem-	Prod-	Rev-	ed Rev-
cies	Acres	LvI	Ins Plan	ery	ilities	ium	sidy	ium	APH	antee	Loss	Count	nity	uced	enue	enue
0.5%	0.5%	50	RP	RBUP	481.88	13.83	10.24	3.59	169.67	678.70	33.9	271.48	403.63	271.48	675.11	70.1%
0.1%	0.1%	55	RP	RBUP	557.87	17.23	11.78	5.45	178.57	785.73	35.7	285.72	494.56	285.72	780.28	76.9%
0.5%	0.3%	60	RP	RBUP	559.94	32.54	21.22	11.33	164.30	788.64	32.9	262.88	514.44	262.88	777.32	83.3%
2.6%		65	RP	RBUP	596.07	33.83	21.27	12.56	161.45	839.53	32.3	258.32	568.66	258.32	826.98	90.2%
8.8%	5.0%	70	RP	RBUP	635.43	45.51	28.68	16.84	159.82	894.97	32.0	255.71	622.43	255.71	878.13	06.7%
19.0%	15.0%	75	RP	RBUP	723.42	45.36	29.39	15.97	169.82	1018.90	34.0	271.71	731.23	271.71	1,002.9	104.0%
26.69	28.6%	80	RP	RBUP	811.45	49.42	30.10	19.32	178.58	1142.89	35.7	285.72	837.85	285.72	1,123.57	110.8%
17.4%	26.8%	85	RP	RBUP	889.23	58.12	28.44	29.68	184.18	1252.44	36.8	294.69	928.07	294.69	1,222.7	116.9%
0.19		50	RPHPE	RBUP	527.21	11.41	8.04	3.37	185.64	527.21	37.1	297.02	226.82	297.02	523.84	49.7%
0.09		55	RPHPE	RBUP	548.72	5.59	3.70	1.89	175.65	548.72	35.1	281.03	265.79	281.03	546.83	54.8%
0.19		60	RPHPE	RBUP	581.12	12.36	8.38	3.98	170.52	581.12	34.1	272.83	304.32	272.83	577.14	59.6%
0.59		65	RPHPE	RBUP	580.41			7.07	157.21	580.41	31.4	251.53	321.81	251.53	573.34	64.2%
0.99		70	RPHPE	RBUP	677.29	24.54	15.88	8.66	170.34	677.29	34.1	272.55	396.08	272.55	668.63	69.1%
1.79		75	RPHPE	RBUP	747.77	24.01	15.50	8.50	175.53	747.77	35.1	280.85	458.41	280.85	739.26	74.1%
2.09		80	RPHPE	RBUP	817.88	27.30	16.63	10.66	179.99	817.88	36.0	287.99	519.23	287.99	807.22	79.0%
2.19	6 2.8%	85	RPHPE	RBUP	900.76	30.00	14.66	15.34	186.57	900.76	37.3	298.51	586.91	298.51	885.42	83.6%
2.9%		50	ΥP	RCAT	250.85	8.46	8.46	0.00	160.59	250.85	32.1	182.44	68.41	256.95	325.36	35.7%
_	0.4%	50	ΥP	RBUP	462.09	8.54	5.90	2.64	162.71	462.09	32.5	184.84	274.61	260.33	534.94	57.9%
0.2%		55	ΥP	RBUP	526.64				168.58	526.64	33.7	191.51	329.76	269.73	599.49	62.6%
	0.2%		ΥP	RBUP	567.43				166.50	567.43	33.3		369.91	266.40	636.31	67.3%
	0.7%		ΥP		598.55				162.12	598.55	32.4		406.52	259.39	665.91	72.3%
	0.7%		ΥP							666.14	33.5		464.79	268.07	732.85	77.0%
	1.3%		ΥP		731.46					731.46	34.3		524.88	274.73	799.61	82.0%
	0.9%		YP		814.60					814.60	35.9		595.56	286.83	882.39	86.7%
0.8%	0.6%	85	YP	RBUP	890.43	36.52	14.86	21.66	184.43	890.43	36.9	209.51	659.26	295.09	954.35	91.1%

<sup>&</sup>lt;sup>a</sup>Source: Risk Management Agency's (RMA) public crop insurance data located on the RMA website at: http://www3.rma.usda.gov/apps/sob/



#### Illinois Corn for all APH Products based on Average APH and Premiums Purchased for 2012, Assuming \$8.00 Harvest Price and No Yield Lossa

								Farm						Rev-		% of
% of						Total		er	Ave-	Final	0%	Rev-	Net	enue	Total	Expect-
Poli-	% of	Cov		Deliv-	Liab-	Prem-	Sub-	Prem-	rage	Guar-	Yield	enue to	Indem-	Prod-	Rev-	ed Rev-
cies	Acres	LvI	Ins Plan	ery	ilities	ium	sidy	ium	APH	antee	Loss	Count	nity	uced	enue	enue
			•													
0.5%	0.5%	50	RP	RBUP	481.88	13.83	10.24	3.59	169.67	678.70	169.7	1,357.40	(3.59)	1,357.40	1,353.81	140.5%
0.1%	0.1%	55	RP	RBUP	557.87	17.23	11.78	5.45	178.57	785.73	178.6	1,428.60	(5.45)	1,428.60	1,423.15	140.3%
0.5%	0.3%	60	RP	RBUP	559.94	32.54	21.22	11.33	164.30	788.64	164.3	1,314.40	(11.33)	1,314.40	1,303.08	139.6%
2.6%	1.5%	65	RP	RBUP	596.07	33.83	21.27	12.56	161.45	839.53	161.4	1,291.59	(12.56)	1,291.59	1,279.03	139.5%
8.8%	5.9%	70	RP	RBUP	635.43	45.51	28.68	16.84	159.82	894.97	159.8	1,278.53	(16.84)	1,278.53	1,261.69	139.0%
19.0%	15.0%	75	RP	RBUP	723.42	45.36	29.39	15.97	169.82	1018.90	169.8	1,358.54	(15.97)	1,358.54	1,342.57	139.2%
26.6%	28.6%	80	RP	RBUP	811.45	49.42	30.10	19.32	178.58	1142.89	178.6	1,428.62	(19.32)	1,428.62	1,409.29	138.9%
17.4%	26.8%	85	RP	RBUP	889.23	58.12	28.44	29.68	184.18	1252.44	184.2	1,473.46	(29.68)	1,473.46	1,443.78	138.0%
0.1%	0.1%	50	RPHPE	RBUP	527.21	11.41	8.04	3.37	185.64	527.21	185.6	1,485.10	(3.37)	1,485.10	1,481.73	140.5%
0.0%	0.0%	55	RPHPE	RBUP	548.72	5.59	3.70	1.89	175.65	548.72	175.6	1,405.17	(1.89)	1,405.17	1,403.28	140.7%
0.1%	0.0%	60	RPHPE	RBUP	581.12	12.36	8.38	3.98	170.52	581.12	170.5	1,364.13	(3.98)	1,364.13	1,360.15	140.4%
0.5%	0.2%	65	RPHPE	RBUP	580.41	19.51	12.44	7.07	157.21	580.41	157.2	1,257.66	(7.07)	1,257.66	1,250.59	140.1%
0.9%	0.7%	70	RPHPE	RBUP	677.29	24.54	15.88	8.66	170.34	677.29	170.3	1,362.75	(8.66)	1,362.75	1,354.10	140.0%
1.7%	1.1%	75	RPHPE	RBUP	747.77	24.01	15.50	8.50	175.53	747.77	175.5	1,404.25	(8.50)	1,404.25	1,395.75	140.0%
2.0%	2.0%	80	RPHPE	RBUP	817.88	27.30	16.63	10.66	179.99	817.88	180.0	1,439.93	(10.66)	1,439.93	1,429.27	139.8%
2.1%	2.8%	85	RPHPE	RBUP	900.76	30.00	14.66	15.34	186.57	900.76	186.6	1,492.56	(15.34)	1,492.56	1,477.22	139.4%
2.9%	2.4%	50	YP	RCAT	250.85	8.46	8.46	0.00	160.59	250.85	160.6	912.18	0.00	1,284.76	1,284.76	140.8%
0.8%	0.4%	50	YP	RBUP	462.09	8.54	5.90	2.64	162.71	462.09	162.7	924.18	(2.64)	1,301.66	1,299.01	140.6%
0.2%	0.1%		ΥP	RBUP	526.64	15.02	9.65		168.58	526.64	168.6	957.53	(5.37)	1,348.63	1,343.25	140.3%
0.3%	0.2%	60	YP	RBUP	567.43	23.43	15.05	8.37	166.50	567.43	166.5	945.71	(8.37)	1,331.99	1,323.62	140.0%
2.2%	0.7%	65	YP	RBUP	598.55	19.49	11.63	7.86	162.12	598.55	162.1	920.84	(7.86)	1,296.96	1,289.10	140.0%
1.6%	0.7%		ΥP	RBUP					167.54	666.14		951.63	, ,	1,340.33		
2.9%	1.3%		ΥP	RBUP					171.70	731.46	171.7	975.28	(11.52)	1,373.64	1,362.11	139.7%
1.5%	0.9%		ΥP	RBUP					179.27	814.60		,	, ,	1,434.16		
0.8%	0.6%	85	ΥP	RBUP	890.43	36.52	14.86	21.66	184.43	890.43	184.4	1,047.57	(21.66)	1,475.45	1,453.79	138.8%

<sup>&</sup>lt;sup>a</sup>Source: Risk Management Agency's (RMA) public crop insurance data located on the RMA website at: http://www3.rma.usda.gov/apps/sob/



8/21/2012 4B Ag Consultants & Kansas State University, Copyright 2012, All Rights Reserved 27

#### Minnesota Corn for all APH Products based on Average APH and Premiums Purchased for 2012, Assuming \$8.00 Harvest Price and a 80% Yield Lossa

								Farm						Rev-		% of
% of						Total		er	Ave-	Final	80%	Rev-	Net	enue	Total	Expect-
Poli-	% of	Cov		Deliv-	Liab-	Prem-	Sub-	Prem-	rage	Guar-	Yield	enue to	Indem-	Prod-	Rev-	ed Rev-
cies	Acres	Lvl	Ins Plan	ery	ilities	ium	sidy	ium	APH	antee	Loss	Count	nity	uced	enue	enue
_	_															
	0.4%		RP	RBUP					139.50	557.99	27.9	223.20		223.20	549.61	69.4%
0.2%			RP	RBUP	394.59					555.76	25.3		341.72	202.10	543.82	75.8%
	0.5%		RP	RBUP	499.88					704.06	29.3		457.70	234.69	692.39	83.1%
	2.9%		RP	RBUP					158.43	823.85	31.7		556.92	253.49	810.41	90.1%
_	14.5%		RP	RBUP					163.00	912.79	32.6		635.23	260.80	896.03	96.8%
	33.1%	1	RP	RBUP	732.19	55.76	36.46	19.31	171.88	1031.26	34.4	275.00	736.95	275.00	1,011.95	103.7%
23.5%	30.7%	,	RP	RBUP						1161.83	36.3		847.48		1,137.94	
6.3%	9.7%		RP	RBUP						1265.57	37.2		930.05		1,227.83	
0.1%		50		RBUP	452.77				159.43	452.77	31.9		192.90	255.08	447.99	49.5%
0.0%			RPHPE	RBUP	507.08				162.32	507.08	32.5	259.71		259.71	502.42	54.5%
0.0%		60		RBUP	587.64				172.43	587.64	34.5		303.79	275.89	579.68	59.2%
0.1%	0.1%	65	–	RBUP	549.92					549.92	29.8	238.32		238.32	538.93	63.7%
0.3%		70		RBUP	614.40					614.40	30.9		352.48	247.24	599.72	68.3%
0.6%		75		RBUP	733.17					733.17	34.4		442.03	275.37	717.40	73.4%
	0.8%		RPHPE	RBUP	805.78					805.78	35.5		504.09	283.72	787.82	78.2%
	1.1%			RBUP	889.94					889.94	36.9		573.88	294.92	868.80	83.0%
_	1.5%		YP	RCAT	228.59	8.14			146.34	228.59	29.3	166.25	62.34	234.15	296.49	35.7%
1.3%	_		YP	RBUP	421.81				148.52	421.81	29.7		247.21	237.64	484.84	57.5%
0.2%			YP	RBUP	405.67					405.67	26.0		247.37	207.77	455.14	61.7%
0.6% 2.3%	0.3%		YP	RBUP					137.90	469.97	27.6		302.06	220.65	522.70	66.7%
2.3% 1.9%	_		YP	RBUP	566.33					566.33	30.7		381.81	245.43	627.24	72.0%
1.9% 1.3%			YP	RBUP					155.63	618.80	31.1		428.80	249.01	677.81	76.7%
7.3% 7 0.3%			YP	RBUP	697.97					697.97	32.8		495.90	262.15	758.05	81.5%
			YP	RBUP					177.63	807.13	35.5		588.03	284.20	872.24	86.5%
0.1%	0.1%	85	YP	RBUP	827.26	50.30	21.43	28.87	171.35	827.26	34.3	194.65	603.74	274.15	877.90	90.2%

<sup>a</sup>Source: Risk Management Agency's (RMA) public crop insurance data located on the RMA website at: http://www3.rma.usda.gov/apps/sob/

#### Minnesota Corn for all APH Products based on Average APH and Premiums Purchased for 2012, Assuming \$8.00 Harvest Price and No Yield Lossa

								Farm						Rev-		% of
% of						Total		er	Ave-	Final	80%	Rev-	Net	enue	Total	Expect-
Poli-	% of	Cov		Deliv-	Liab-	Prem-	Sub-	Prem-	rage	Guar-	Yield	enue to	Indem-	Prod-	Rev-	ed Rev-
cies	Acres	LvI	Ins Plan	ery	ilities	ium	sidy	ium	APH	antee	Loss	Count	nity	uced	enue	enue
_	_															
0.7%			RP	RBUP					139.50					1,115.98		
0.2%			RP	RBUP	394.59									1,010.48		
	0.5%		RP	RBUP	499.88							,		1,173.43		
4.9%			RP	RBUP	584.93							,	( - /	1,267.46	,	
18.7%			RP	RBUP	648.08							,		1,303.99		
32.6%			RP									•	. ,	1,375.01	· · · · · /	•
23.5%			RP									1,452.29	. ,	1,452.29		
	9.7%		RP	RBUP								1,488.90	. ,	1,488.90	•	
	0.1%		RPHPE	RBUP	452.77							1,275.41		1,275.41	,	
0.0%			—	RBUP	507.08				162.32			1,298.54	\ - /	1,298.54	,	
0.0%				RBUP	587.64				172.43			1,379.44	. ,	1,379.44	,	
0.1%				RBUP	549.92							1,191.59		1,191.59	,	
0.3%			—	RBUP	614.40							1,236.22	(/	1,236.22	,	
0.6%			—	RBUP	733.17							,	· · /	1,376.85	,	
0.7%				RBUP	805.78							,	. ,	1,418.62	,	
_	1.1% 1.5%		RPHPE		889.94								. ,	1,474.62		
1.0%			YP YP	RCAT	228.59		8.14		146.34	228.59		831.24		1,170.76		
7 0.2%			YP YP	RBUP RBUP	421.81 405.67				148.52	421.81 405.67		843.62		1,188.19		
0.2%			YP	RBUP	469.97							737.59	. ,	1,038.85		
<sup>7</sup> 2.3%	_		YP	RBUP	566.33					469.97 566.33		783.29 871.27	/	1,103.23	,	
<sup>2.3</sup> %	_		YP	RBUP	618.80					618.80		884.00		1,227.14 1,245.07		
1.3%			YP	RBUP	697.97					697.97		930.63	. ,	1,310.74		
0.3%			YP	RBUP	807.13							1.008.91		1,421.01		
0.3%			YP	RBUP	827.26					827.26		,		1,370.77		
													,	1,370.77 usda.gov/a		137.9%
Jource	5. INION IVI	iai iaye	ment Agei	icy o (INIV	in, public	Crop III	oui di ict	uala IU	caicu on	IIIC IXIVIA V	vensile	at. http://wi	wwo.iiia.	usua.yuv/a	ppa/a00/	

8/21/2012 4B Ag Consultants & Kansas State University, Copyright 2012, All Rights Reserved 29

#### Kansas Corn for all APH Products based on Average APH and Premiums Purchased for 2012, Assuming \$8.00 Harvest Price and a 80% Yield Lossa

								Farm						Rev-		% of
% of						Total		er	Ave-	Final	0%	Rev-	Net	enue	Total	Expect-
Poli-	% of	Cov		Deliv-	Liab-	Prem-	Sub-	Prem-	rage	Guar-	Yield	enue to	Indem-	Prod-	Rev-	ed Rev-
cies	Acres	LvI	Ins Plan	ery	ilities	ium	sidy	ium	APH	antee	Loss	Count	nity	uced	enue	enue
0.4%	0.4%	50	RP	RBUP	424.11	16.96	11.80	5.17	149.34	597.34	29.9	238.94	353.24	238.94	592.18	69.8%
0.1%	0.1%	55	RP	RBUP	415.64	22.82	15.17	7.65	133.05	585.40	26.6	212.87	364.87	212.87	577.75	76.5%
1.4%	1.2%	60	RP	RBUP	431.09	32.93	21.32	11.61	126.49	607.16	25.3	202.39	393.16	202.39	595.55	82.9%
13.9%	10.3%	65	RP	RBUP	454.64	42.58	25.56	17.02	123.14	640.33	24.6	197.03	426.29	197.03	623.31	89.1%
41.4%	39.9%	70	RP	RBUP	476.68	53.79	32.56	21.22	119.89	671.38	24.0	191.82	458.33	191.82	650.15	95.5%
20.9%	27.8%	75	RP	RBUP	521.17	61.10	38.33	22.77	122.34	734.05	24.5	195.75	515.53	195.75	711.27	102.4%
4.9%	8.8%	80	RP	RBUP	592.62	69.44	41.63	27.81	130.42	834.68	26.1	208.67	598.20	208.67	806.87	108.9%
0.5%	1.1%	85	RP	RBUP	795.58	85.08	40.89	44.19	164.79	1120.54	33.0	263.66	812.69	263.66	1,076.35	115.0%
0.0%	0.0%	50	RPHPE	RBUP	302.11	16.20	11.81	4.38	106.38	302.11	21.3	170.20	127.52	170.20	297.72	49.3%
0.0%	0.0%	55	RPHPE	RBUP	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	N/A
0.0%	0.0%	60	RPHPE	RBUP	262.14	27.70	17.74	9.96	76.92	262.14	15.4	123.07	129.11	123.07	252.18	57.7%
0.1%	0.1%	65	RPHPE	RBUP	512.90		16.15	11.23	138.92	512.90	27.8	222.27	279.40	222.27	501.67	63.6%
0.4%	0.3%	70	RPHPE	RBUP	536.32	38.93	23.83	15.10	134.89	536.32	27.0	215.82	305.39	215.82	521.21	68.0%
0.2%	0.2%	75	RPHPE	RBUP	585.86	41.74	27.19	14.54	137.52	585.86	27.5	220.04	351.27	220.04	571.31	73.1%
0.1%	0.1%	80	RPHPE	RBUP	817.32	58.27	36.44	21.84	179.87	817.32	36.0	287.79	507.69	287.79	795.48	77.9%
0.0%	0.0%	85	RPHPE	RBUP	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	N/A
0.9%	1.0%	50	YP	RCAT	230.34	6.04	6.04	0.00	147.47	230.34	29.5	167.52	62.82	235.95	298.77	35.7%
1.0%	0.8%	50	YP	RBUP	493.33	12.11	8.14	3.97	173.71	493.33	34.7	197.33	292.03	277.93	569.96	57.8%
0.1%	0.0%	55	ΥP	RBUP	425.99	18.15	11.62	6.54	136.36	425.99	27.3	154.91	264.55	218.18	482.73	62.3%
0.7%	0.8%	60	YP	RBUP	546.08	20.66	13.31	7.35	160.24	546.08	32.0	182.03	356.71	256.38	613.09	67.4%
7.1%	3.2%	65	ΥP	RBUP	471.87	29.53	17.58	11.95	127.81	471.87	25.6	145.19	314.73	204.49	519.23	71.5%
4.5%	2.5%	70	ΥP	RBUP	468.34	37.54	22.47	15.07	117.79	468.34	23.6	133.81	319.46	188.47	507.93	75.9%
1.2%	1.0%	75	YP	RBUP	568.59	45.20	27.18	18.02	133.47	568.59	26.7	151.62	398.94	213.55	612.50	80.8%
0.1%	0.2%	80	YP	RBUP	599.50	46.60	25.08	21.51	131.93	599.50	26.4	149.87	428.11	211.09	639.20	85.3%
0.0%	0.0%	85	YP	RBUP	230.06	62.17	23.62	38.55	47.65	230.06	9.5	54.13	137.38	76.24	213.62	78.9%

#### Kansas Corn for all APH Products based on Average APH and Premiums Purchased for 2012, Assuming \$8.00 Harvest Price and No Yield Lossa

								Farm						Rev-		% of
% of						Total		er	Ave-	Final	0%	Rev-	Net	enue	Total	Expect-
Poli-	% of	Cov		Deliv-	Liab-	Prem-	Sub-	Prem-	rage	Guar-	Yield	enue to	Indem-	Prod-	Rev-	ed Rev-
cies	Acres	Lvl	Ins Plan	ery	ilities	ium	sidy	ium	APH	antee	Loss	Count	nity	uced	enue	enue
0.4%			RP	RBUP	424.11				149.34			1,194.68	,	1,194.68	,	
0.1%	0.1%		RP	RBUP	415.64				133.05	585.40	133.0	1,064.37	(7.65)	1,064.37	1,056.71	139.8%
1.4%	1.2%		RP	RBUP					126.49	607.16	126.5	1,011.94	(11.61)	1,011.94	1,000.33	139.2%
13.9%			RP	RBUP					123.14	640.33		985.13	(17.02)	985.13		138.4%
41.4%			RP	RBUP					119.89	671.38	119.9	959.11	(21.22)	959.11		137.7%
20.9%			RP	RBUP					122.34	734.05		978.73	(22.77)	978.73		137.6%
4.9%	8.8%		RP	RBUP					130.42	834.68		•	(27.81)	•	1,015.54	
0.5%	1.1%		RP	RBUP					164.79			1,318.28	(44.19)	,	,	136.1%
0.0%	0.0%		RPHPE	RBUP	302.11		11.81	4.38	106.38	302.11		851.00	(4.38)	851.00		140.1%
0.0%	0.0%		RPHPE	RBUP	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	N/A
0.0%	0.0%		RPHPE	RBUP	262.14			9.96	76.92	262.14	76.9	615.35	(9.96)	615.35		138.6%
0.1%	0.1%		RPHPE	RBUP	512.90				138.92	512.90	138.9	1,111.37	(11.23)	1,111.37	1,100.15	139.4%
0.4%	0.3%		RPHPE	RBUP	536.32				134.89			1,079.11	( /	1,079.11	,	
0.2%	0.2%		RPHPE	RBUP					137.52			1,100.20		1,100.20		
0.1%	0.1%		RPHPE	RBUP	817.32			21.84	179.87	817.32		1,438.94	(21.84)	1,438.94	1,417.10	138.7%
0.0%	0.0%		RPHPE	RBUP	0.00	0.00		0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	N/A
0.9%	1.0%		YP	RCAT	230.34	6.04	6.04		147.47	230.34		837.61	0.00	, -	1,179.74	
1.0%	0.8%		YP	RBUP	493.33	12.11	8.14		173.71	493.33		986.66	(3.97)	,	1,385.69	
0.1%	0.0%		YP	RBUP	425.99				136.36	425.99		774.53	(6.54)	1,090.89	1,084.36	
0.7%	0.8%		YP	RBUP	546.08				160.24	546.08		910.14	, ,	1,281.89		
7.1%	3.2%		YP	RBUP					127.81	471.87		725.96	,	1,022.47	,	
4.5%	2.5%		YP	RBUP					117.79	468.34		669.06	(15.07)	942.34		138.6%
1.2%	1.0%		YP	RBUP					133.47	568.59		758.12	(18.02)	,	,	
0.1%	0.2%		ΥP	RBUP					131.93	599.50		749.37	• ,	1,055.45	,	
0.0%	0.0%	85	ΥP	RBUP	230.06	62.17	23.62	38.55	47.65	230.06	47.7	270.65	(38.55)	381.20	342.66	126.6%

<sup>&</sup>lt;sup>a</sup>Source: Risk Management Agency's (RMA) public crop insurance data located on the RMA website at: http://www3.rma.usda.gov/apps/sob/



8/21/2012 4B Ag Consultants & Kansas State University, Copyright 2012, All Rights Reserved 31

## Harvest Price Causes Payments Greater than Expected Farm Revenue?

- 1. Assumes no Livestock that requires producers to replace their feed supply at higher prices.
- 2. Assumes a single enterprise corn farm. For example, wheat may have produced less than the "expected" revenue.
- 3. Assumes APH equals expected yield.

### Reasons APH May Not Equal Expected Yield

- 1. Yield losses in prior years. Indiana farmers will see this in next year's APH.
- Might have a hail loss in history. No reduction in private hail coverage but there is in the APH.
- 3. No trend adjustment in some counties.
- 4. An over stated trend yield adjustment.



#### Deductible Disappears for 75% RP Coverage

- 1. When Harvest price is 25% lower than base price.
- 2. When harvest price increases by 33.4% and yield equals zero or sales with a zero basis on production plus indemnity.

	Price	Price
Coverage	Increase	Decrease
_		
75%	33.4%	25.0%
65%	54.0%	35.0%
80%	25.1%	20.0%
85%	17.6%	15.0%

## 39 Year Historical Corn & Soybean Revenue Protection Prices (March 15 Sales Closing)

CME De	cember	Corn						CME Nov	vember S	oybeans					
			% Price				% Price			-					
	Base	Harv.	Cha-		Base	Harv.	Cha-		Base	Harv.			Base	Harv.	,
Year	Price1	Price <sup>2</sup>	nge <sup>3</sup>	Year	Price1	Price <sup>2</sup>	nge <sup>3</sup>	Year	Price1	Price <sup>2</sup>	Cha-nge <sup>3</sup>	Year	Price1	Price <sup>2</sup>	Cha-nge <sup>3</sup>
2012	5.68			1992	2.70	2.09	(22.7%)	2012	12.55			1992	6.06	5.37	(11.4%)
2011	6.01	6.32	5.2%	1991	2.59	2.51	(3.1%)	2011	13.49	12.14	(10.0%)	1991	6.15	5.60	(8.9%)
2010	3.99	5.46	36.8%	1990	2.47	2.30	<b>(7.1%)</b>	2010	9.23	11.63	26.0%	1990	5.95	6.12	2.8%
2009	4.04	3.72	(7.9%)	1989	2.71	2.39	(11.7%)	2009	8.80	9.66	9.8%	1989	7.24	5.62	(22.4%)
2008	5.40	4.13	(23.5%)	1988	2.17	2.89	33.3%	2008	13.36	9.22	(31.0%)	1988	6.43	7.93	23.3%
2007	4.06	3.58	(11.8%)	1987	1.69	1.83	8.3%	2007	8.09	9.75	20.5%	1987	4.71	5.38	14.2%
2006	2.59	3.03	17.0%	1986	2.11	1.69	(19.5%)	2006	6.18	5.93	(4.0%)	1986	5.15	4.82	(6.6%)
2005	2.32	2.02	(12.9%)	1985	2.66	2.23	(16.1%)	2005	5.53	5.75	4.0%	1985	6.06	5.05	(16.7%)
2004	2.83	2.05	(27.6%)	1984	2.86	2.78	(2.6%)	2004	6.72	5.26	(21.7%)	1984	7.11	6.14	(13.6%)
2003	2.42	2.26	(6.6%)	1983	2.88	3.48	20.6%	2003	5.26	7.32	39.2%	1983	6.33	8.43	33.1%
2002	2.32	2.52	8.6%	1982	3.00	2.20	(26.8%)	2002	4.50	5.45	21.1%	1982	6.76	5.32	(21.2%)
2001	2.46	2.08	(15.3%)	1981	3.77	2.91	(22.8%)	2001	4.67	4.37	(6.4%)	1981	8.26	6.56	(20.6%)
2000	2.51	2.04	(18.7%)	1980	3.12	3.61	15.6%	2000	5.32	4.72	(11.2%)	1980	7.29	8.57	17.6%
1999	2.40	2.01	(16.1%)	1979	2.59	2.78	7.4%	1999	5.11	4.85	(5.1%)	1979	6.97	6.70	(4.0%)
1998	2.84	2.19	(23.0%)	1978	2.27	2.31	1.6%	1998	6.64	5.46	(17.7%)	1978	5.76	6.84	18.7%
1997	2.73	2.81	3.1%	1977	2.73	2.09	(23.7%)	1997	6.97	6.82	(2.1%)	1977	6.96	5.31	(23.8%)
1996	3.08	2.84	<b>(7.9%)</b>	1976	2.72	2.65	(2.4%)	1996	7.23	7.07	(2.2%)	1976	5.08	6.41	26.2%
1995	2.57	3.23	25.7%	1975	2.72	2.91	7.0%	1995	5.85	6.56	12.2%	1975	5.79	5.25	(9.4%)
1994	2.68	2.16	(19.5%)	1974	2.89	3.80	31.5%	1994	6.48	5.41	(16.5%)	1974	6.30	8.59	36.4%
1993	2.40	2.49	3.7%	1973	1.38	2.46	77.7%	1993	5.86	6.15	4.9%	1973	3.95	5.85	48.2%

<sup>&</sup>lt;sup>1</sup>The monthly average price of new crop futures sets the RP and YP coverages.

<sup>&</sup>lt;sup>3</sup>Percent price change is based on Revenue Protection strike and settlement prices.



8/21/2012 4B Ag Consultants & Kansas State University, Copyright 2012, All Rights Reserved 35

#### USDA 2011 Expenses for Farm Safety Net & Other **Programs** % of % of

USDA	Farm	USDA		
Budget	share	Budget	All	Agency/program
;	\$ billion		\$ billion	
			139.386	Total USDA outlays for 2011
				Farm Programs
	6.289	4.5%	6.289	FSA commodity programs
	1.919	1.4%	1.919	FSA conservation programs
1.0%	1.457	1.0%	1.457	FSA Supplemental Agricultural Disaster Assistance, Livestock & Crops (SURE)
		1.1%	1.516	FSA salaries & operating expenses
		1.6%	2.238	RMA administration & operating expense, includes RMA salaries and agent commissions
4.8%	6.696	4.8%	6.696	RMA net of farmer paid premiums indemnity payments
	16.361		20.115	Total for Farmer Programs
11.7%		14.4%		Percent of budget for RMA & FSA

#### **Food Programs**

107.515 SNAP (food stamps), school lunches, and WIC programs; Administration Cost for Food mostly State but could not find value for USDA.

77.1% Percent of budget for Food Programs

#### **Other Programs**

11.756 Central Administration, Land Grant Universities, Rural Development, Inspectors, Foreign Marketing Service,



<sup>&</sup>lt;sup>2</sup>The monthly average price of nearby futures settles the RP and RP-HPE claims. If price is higher the harvest price is also used to set the coverage in RP.

Minnesota Corn and Soybean acres need to reach 750,000 AGI vs. acres to reach a \$40,000 Revenue Protection (RP) crop insurance subsidy limit, assuming state average coverage, average rates by coverage level\*

Cov Lvl	Pol Earn Prem	Net Acres	Liabilities	Total Premium	Subsidy	Cov- erage /Ac.	Total Prem /Ac	Farmer Paid Prem /Ac	Subsidy/ Ac	Sub- sidy Cap on Acres	Effective subsidy rate	AGI Cap on Acres
Minne	sota Co	orn, Revenu	ue Protection, A	Acres to reach	a 250,000 AG	l						
50	275	36,093	15,079,219	980,699	708,918	417.79	27.17	7.53	19.64	2,037	72.3%	4,488
55	69	11,223	5,336,280	361,032	267,178	475.48	32.17	8.36	23.81	1,680	74.0%	4,338
60	250	32,824	16,450,942	1,481,640	1,050,907	501.19	45.14	13.12	32.02	1,249	70.9%	4,489
65	1,782	259,987	152,656,426	10,748,653	7,060,293	587.17	41.34	14.19	27.16	1,473	65.7%	4,151
70	6,172	1,171,549	744,469,829	60,220,916	39,665,809	635.46	51.40	17.55	33.86	1,181	65.9%	4,131
75	10,586	2,644,036	1,877,122,201	153,325,263	101,263,497	709.95	57.99	19.69	38.30	1,044	66.0%	3,962
80	6,844	2,244,372	1,777,867,701	151,615,170	94,342,310	792.14	67.55	25.52	42.04	952	62.2%	3,787
85	1,381	496,675	429,522,619	41,597,194	20,363,463	864.80	83.75	42.75	41.00	976	49.0%	3,686
					Average Acres	to hit Sub	sidy & A	GI limit		1,324		4,129

8/21/2012 4B Ag Consultants & Kansas State University, Copyright 2012, All Rights Reserved 37

Minnesota Corn and Soybean acres need to reach 750,000 AGI vs. acres to reach a \$40,000 Revenue Protection (RP) crop insurance subsidy limit, assuming state average coverage, average rates by coverage level\*

								Farmer		Sub-		
	Pol					Cov-	Total	Paid		sidy	<b>Effective</b>	AGI Cap
Cov	Earn	Net		Total		erage	Prem	Prem	Subsidy	Cap on	subsidy	on
LvI	Prem	Acres	Liabilities	Premium	Subsidy	/Ac.	/Ac	/Ac	/ Ac	Acres	rate	Acres
Minn	esota S	oybeans, F	Revenue Prote	ction, Acres	to Hit Subsid	y and AGI	Limit					
50	172	26,945	6,608,824	397,448	282,674	245.27	14.75	4.26	10.49	3,813	71.1%	7,645
55	30	5,947	1,544,195	114,302	76,577	259.66	19.22	6.34	12.88	3,106	67.0%	7,943
60	230	35,708	9,340,862	946,741	630,500	261.59	26.51	8.86	17.66	2,265	66.6%	8,601
65	1,557	272,704	84,599,882	7,863,129	4,933,337	310.23	28.83	10.74	18.09	2,211	62.7%	7,857
70	5,635	1,182,696	416,774,221	40,282,623	26,116,368	352.39	34.06	11.98	22.08	1,811	64.8%	7,449
75	10,594	2,405,059	984,919,377	95,868,310	60,901,844	409.52	39.86	14.54	25.32	1,580	63.5%	6,868
80	7,654	1,818,527	872,495,034	83,059,994	48,921,314	479.78	45.67	18.77	26.90	1,487	58.9%	6,253
85	1,734	449,969	239,918,209	24,967,001	12,023,665	533.19	55.49	28.76	26.72	1,497	48.2%	5,978
					Average Acre	s to hit A	cre & AG	l limit	i	2,221	4	7,324

<sup>\*</sup>Source of data: Risk Management Agency's website at http://www.rma.usda.gov/

## Illinois Corn acres need to reach \$750,000 AGI vs. acres to reach a \$40,000 Revenue Protection (RP) crop insurance subsidy limit, assuming state average coverage, average rates by coverage level

Cov LvI		Net Acres	Liabilities	Total Premium	Subsidy	Cov- erage /Ac. P	Total rem /Ac	Farmer Paid Prem /Ac	Subsidy/ Ac	Cap on	Effective subsidy rate	AGI Cap on Acres
Illinois C	orn, Re	venue Pro	tection		_	_		_		_	_	_
50	359	60,098	28,096,866	1,364,166	975,166	467.52	22.70	6.47	16.23	2,465	71.5%	4,011
55	63	6,766	3,450,299	246,244	160,544	509.95	36.39	12.67	23.73	1,686	65.2%	4,045
60	287	35,181	18,890,971	1,734,601	1,143,466	536.97	49.31	16.80	32.50	1,231	65.9%	4,190
65	1,505	155,541	91,948,244	6,251,690	3,991,535	591.15	40.19	14.53	25.66	1,559	63.8%	4,123
70	4,425	575,288	361,172,799	31,376,301	20,058,975	627.81	54.54	19.67	34.87	1,147	63.9%	4,181
75	9,454	1,379,222	985,861,379	75,825,518	49,788,349	714.80	54.98	18.88	36.10	1,108	65.7%	3,935
80	12,858	2,616,175	2,096,634,891	159,768,711	97,732,350	801.41	61.07	23.71	37.36	1,071	61.2%	3,743
85	9,379	2,649,339	2,368,024,995	184,470,331	91,233,416	893.82	69.63	35.19	34.44	1,162	49.5%	3,566
					Average Acre	s to hit Su	ıbsidy &	AGI limit	1	1,428		3,974



8/21/2012 4B Ag Consultants & Kansas State University, Copyright 2012, All Rights Reserved 39

## Illinois Soybean acres need to reach \$750,000 AGI vs. acres to reach a \$40,000 Revenue Protection (RP) crop insurance subsidy limit, assuming state average coverage, average rates by coverage level

Pol Cov- Farmer sidy Effective Earn Net Total erage Total Paid Subsidy/ Cap on subsidy	AGI Cap on Acres
Earn Net Total erage Total Paid Subsidy/ Cap on subsidy	
	Acres
Cov LvI Prem Acres Liabilities Premium Subsidy /Ac. Prem /Ac Prem /Ac Ac Acres rate	710.00
Illinois Soybeans, Revenue Protection	
50 509 93,262 26,684,256 1,310,955 955,383 286.12 14.06 3.81 10.24 3,905 72.9%	6,553
55 75 11,217 3,703,807 162,923 109,115 330.20 14.52 4.80 9.73 4,112 67.0%	6,246
60 284 42,978 13,685,659 1,403,932 954,796 318.43 32.67 10.45 22.22 1,801 68.0%	7,066
65 1,615 169,694 62,131,258 4,278,232 2,750,706 366.14 25.21 9.00 16.21 2,468 64.3%	6,657
70 4,410 578,544 226,080,693 20,356,400 12,926,914 390.78 35.19 12.84 22.34 1,790 63.5%	6,717
75 8,568 1,138,720 506,828,122 42,326,277 27,670,278 445.09 37.17 12.87 24.30 1,646 65.4%	6,319
80 10,970 1,712,919 869,787,048 68,651,882 42,019,263 507.78 40.08 15.55 24.53 1,631 61.2%	5,908
85 7,467 1,290,112 744,616,362 59,880,197 29,352,189 577.17 46.41 23.66 22.75 1,758 49.0%	5,523
Average Acres to hit Acre & AGI limit 2,389	6,374

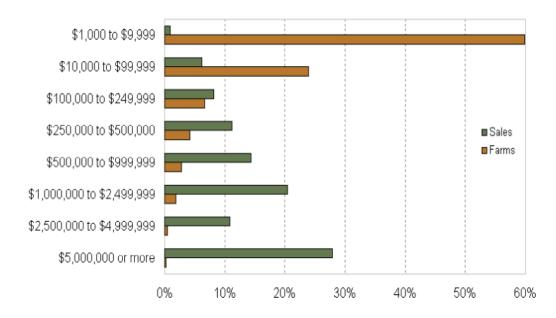
## Counties with Average Coverage per CAT Nursery policy greater than \$500,000 with 100% premium subsidy

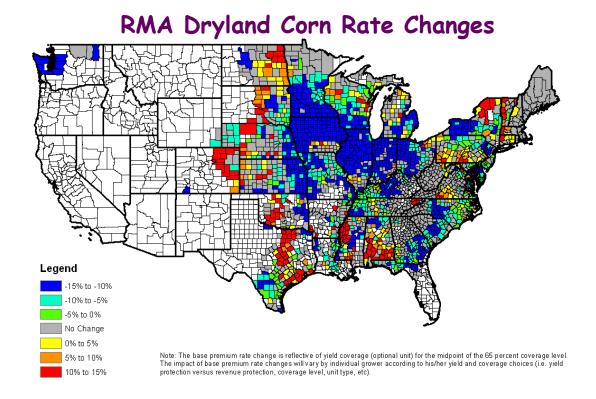
California								Expected	
	# Pol-	Total	Total	Total	Total	Subsidy	Liability/	Revenue/	
County	icies	acres	Liability	Premium	Subsidy	/Policy	policy	Ploicy	
Tulare (107)	3	0	45,768,307	374,570	374,570	124,857	15,256,102	55,476,736	
Kern (029)	4	0	31,426,614	252,723	252,723	63,181	7,856,654	28,569,649	
Stanislaus (099)	3	0	16,350,073	136,843	136,843	45,614	5,450,024	19,818,270	
San Joaquin (077)	2	0	10,827,713	85,786	85,786	42,893	5,413,857	19,686,751	
Riverside (065)	6	0	27,583,794	238,556	238,556	39,759	4,597,299	16,717,451	
Solano (095)	2	0	8,152,872	66,200	66,200	33,100	4,076,436	14,823,404	
San Mateo (081)	1	0	3,779,463	33,300	33,300	33,300	3,779,463	13,743,502	
San Luis Obispo	4	0	12,563,562	120,988	120,988	30,247	3,140,891	11,421,420	
Monterey (053)	3	0	7,745,403	68,585	68,585	22,862	2,581,801	9,388,367	
Orange (059)	5	0	12,337,795	101,508	101,508	20,302	2,467,559	8,972,942	
San Diego (073)	13	0	28,426,007	236,774	236,774	18,213	2,186,616	7,951,331	
Ventura (111)	15	0	30,390,465	240,846	240,846	16,056	2,026,031	7,367,385	
Los Angeles (037)	4	0	5,625,273	47,004	47,004	11,751	1,406,318	5,113,885	
Santa Clara (085)	2	0	2,713,065	21,800	21,800	10,900	1,356,533	4,932,845	
Sacramento (067)	2	0	2,145,594	17,683	17,683	8,842	1,072,797	3,901,080	
Fresno (019)	2	0	1,971,258	16,342	16,342	8,171	985,629	3,584,105	
Madera (039)	4	0	3,359,297	27,590	27,590	6,898	839,824	3,053,906	
Merced (047)	3	0	2,445,319	21,513	21,513	7,171	815,106	2,964,023	
Santa Cruz (087)	3	0	2,328,233	19,980	19,980	6,660	776,078	2,822,101	
Alameda (001)	2	0	1,367,177	11,556	11,556	5,778	683,589	2,485,776	
Tehama (103)	1	0	560,835	4,487	4,487	4,487	560,835	2,039,400	

<sup>8/21/2012 4</sup>B Ag Consultants & Kansas State University, Copyright 2012, All Rights Reserved 41

## The 2007 Census of Agriculture, USDA

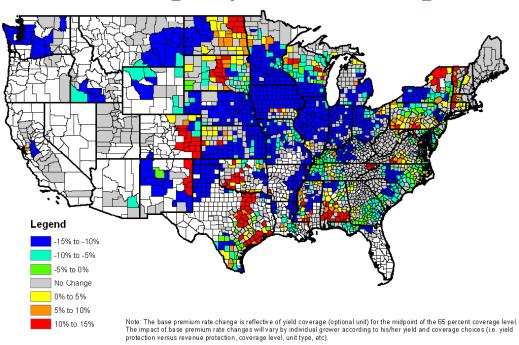
#### Number of Farms and Sales 2007 Percent of Total



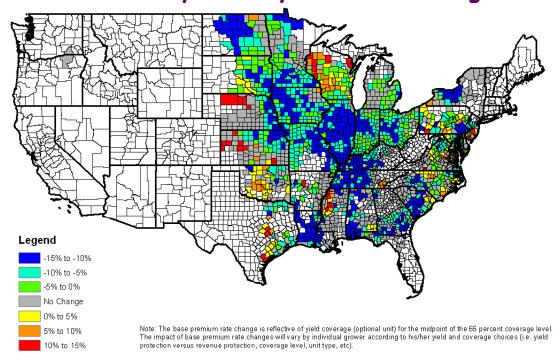


8/21/2012 4B Ag Consultants & Kansas State University, Copyright 2012, All Rights Reserved 43

## RMA Irrigated Corn Rate Changes

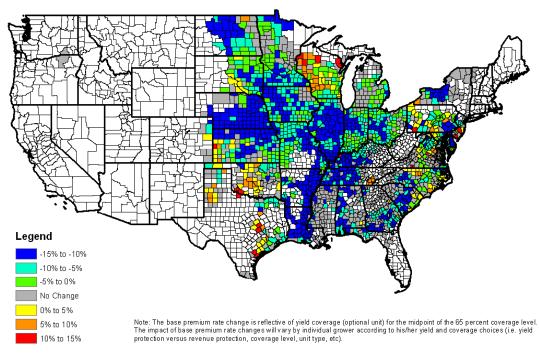


## RMA Dryland Soybean Rate Changes



8/21/2012 4B Ag Consultants & Kansas State University, Copyright 2012, All Rights Reserved 45

## RMA Irrigated Soybean Rate Changes



#### Crop Insurance Summary

- 1. FSA employees have lobbied to take over sales, loss adjusting, and production records for crop insurance.
- 2. FSA will have a program and employment will be maintained. There appears to be little support for FSA to take over crop insurance.
- 3. CAT will remain "free" and no payment limit.
- 4. In the short run, the harvest price will be maintained but likely to continue being attacked.
- 5. Disaster aid for crops will remain on the agenda, but looks unlikely this year.

8/21/2012 4B Ag Consultants & Kansas State University, Copyright 2012, All Rights Reserved 47

## 2011 Common Crop Insurance Policy (CCIP)

- 1. All contracts now use the same Projected Price based on New Crop Futures prices and is a major change from previous crop insurance contracts.
- 2. As a result of common projected price, all CCIP contracts have the same <u>yield guarantee</u>.
- 3. RP-HPE is YP plus a Yield Adjusted Asian (YAA) Put option.
- 4. RP is RP-HPE plus a Yield Adjusted Asian (YAA) Call option.

#### Common Crop Insurance Policy (CCIP)

YP Yield Protection (YP); replaces APH, Multi-Peril, MP and MPCI

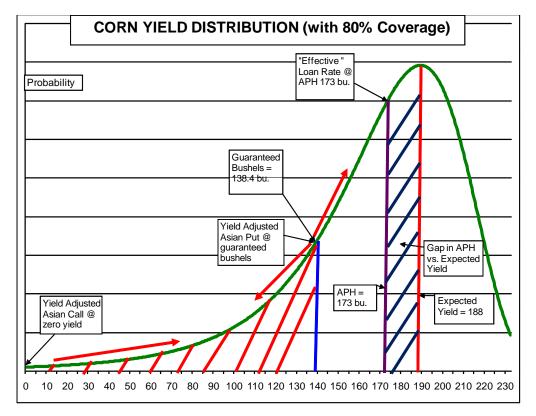
RP Revenue Protection (RP); replaces Crop
Revenue Coverage (CRC) and Revenue
Assurance with Harvest Price Option
(RA-HPO) This is the preferred product on
crops with the offer.

RP-HPE Revenue Protection with Harvest Price Exclusion (RP-HPE); replaces Revenue Assurance without Harvest Price Option (RA) and Income Protection (IP)

8/21/2012 4B Ag Consultants & Kansas State University, Copyright 2012, All Rights Reserved 50

## Common Crop Insurance Policy Values for Example Corn Farm

APH
Coverage Level
Guaranteed Bu.
Base (Strike) Price
Maximum Price
\$ Coverage
Catastrophic Max Pay
173.0
80%
138.4
\$6.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00
\$12.00</



8/21/2012 4B Ag Consultants & Kansas State University, Copyright 2012, All Rights Reserved 62

## Why the Harvest Price?

- All marketing plans assume production and the harvest price replaces bushels at current harvest market price.
- Replacing feed requires bushels.
- Fill forward contract requires bushels.
- Hedge or puts assumes bushels to offset futures position.
- Harvest price eliminates the negative price in the RP "put".

#### What, a "put" with Negative Values?

- YP with 119 bushel yield pays \$114 (138 bu. 119 bu. X \$6)
- RP-HPE reduces the payment by \$114 to Zero with a 119 bushel yield and a \$1 increase in price (\$830 (119 bu. X \$7)) = \$833)
- <u>YP will pay more than RP-HPE when prices increase</u> because of negative YAA put values.
- RP that includes the YAA call will eliminate any negative values in the YAA put.



## Cost of YAA "put" in RP coverage with trend yields for Illinois Non-Irrigated Corn Farm for 2012

APH	180	\$5.68	Price Ele	ect	Optional	Unit		0.22 Vol		
Crop Insurance pe	r Acre				-					
Coverage %	85%	80%	75%	70%	65%	60%	55%	50%		
Bu. Guarantee	153.0	144.0	135.0	126.0	117.0	108.0	99.0	90.0		
Coverage	869.04	817.92	766.80	715.68	664.56	613.44	562.32	511.20		
Farmer Paid Premiums, Optional Unit										
YP	26.72	17.57	11.71	8.05	5.93	3.94	2.87	1.83		
RP-HPE	27.61	17.18	10.76	7.08	5.06	3.30	2.40	1.60		
RP	44.68	28.33	18.06	11.78	8.38	5.39	3.83	2.36		
Farmer Paid Rate										
YP Rate	3.07%	2.15%	1.53%	1.12%	0.89%	0.64%	0.51%	0.36%		
RP-HPE Rate	3.18%	2.10%	1.40%	0.99%	0.76%	0.54%	0.43%	0.31%		
RP Rate	5.14%	3.46%	2.36%	1.65%	1.26%	0.88%	0.68%	0.46%		
Crop Insurance Co	ents per l	Bushel								
Total per bu.	29.2	19.7	13.4	09.3	07.2	05.0	03.9	02.6		
Yield/bu.	17.5	12.2	08.7	06.4	05.1	03.6	02.9	02.0		
YAA Put Cost/bu.	00.6	-(00.3)	-(00.7)	-(00.8)	-(00.7)	-(00.6)	-(00.5)	-(00.3)		
YAA Call Cost/bu.	11.2	07.7	05.4	03.7	02.8	01.9	01.4	8.00		
Put Trigger Price										
if Actual Yield	\$4.83	\$4.54	\$4.26	\$3.98	\$3.69	\$3.41	\$3.12	\$2.84		
equals APH										
Marginal Rate										

## Cost of YAA "put" in RP coverage for Central Kansas Irrigated Corn Farm for 2012

rn							
178	\$5.68	Price Ele	ect	<b>Optional</b>	Unit		0.22 Vol
r Acre							
85%	80%	75%	70%	65%	60%	55%	50%
151.3	142.4	133.5	124.6	115.7	106.8	97.9	89.0
859.38	808.83	758.28	707.73	657.18	606.62	556.07	505.52
iums, Op	tional U	nit					
41.40	27.60	18.74	13.21	10.08	6.87	5.22	3.61
48.16	31.81	21.21	14.46	10.46	6.76	5.00	3.39
63.90	43.02	29.38	20.57	15.40	10.13	7.46	4.94
4.82%	3.41%	2.47%	1.87%	1.53%	1.13%	0.94%	0.71%
5.60%	3.93%	2.80%	2.04%	1.59%	1.11%	0.90%	0.67%
7.44%	5.32%	3.87%	2.91%	2.34%	1.67%	1.34%	0.98%
nts per	Bushel						
42.2	30.2	22.0	16.5	13.3	09.5	07.6	05.6
27.4	19.4	14.0	10.6	08.7	06.4	05.3	04.1
04.5	03.0	01.9	01.0	00.3	-(00.1)	-(00.2)	-(00.2)
10.4	07.9	06.1	04.9	04.3	03.2	02.5	01.7
\$4.83	\$4.54	\$4.26	\$3.98	\$3.69	\$3.41	\$3.12	\$2.84
	178 r Acre 85% 151.3 859.38 ums, Op 41.40 48.16 63.90 4.82% 5.60% 7.44% nts per 42.2 27.4 04.5 10.4	178 \$5.68 r Acre 85% 80% 151.3 142.4 859.38 808.83 ums, Optional U 41.40 27.60 48.16 31.81 63.90 43.02  4.82% 3.41% 5.60% 3.93% 7.44% 5.32% nts per Bushel 42.2 30.2 27.4 19.4 04.5 03.0 10.4 07.9	178 \$5.68 Price Electric Acre  85% 80% 75% 151.3 142.4 133.5 859.38 808.83 758.28  ums, Optional Unit 41.40 27.60 18.74 48.16 31.81 21.21 63.90 43.02 29.38  4.82% 3.41% 2.47% 5.60% 3.93% 2.80% 7.44% 5.32% 3.87%  nts per Bushel 42.2 30.2 22.0 27.4 19.4 14.0 04.5 03.0 01.9 10.4 07.9 06.1	178 \$5.68 Price Elect r Acre 85% 80% 75% 70% 151.3 142.4 133.5 124.6 859.38 808.83 758.28 707.73 ums, Optional Unit 41.40 27.60 18.74 13.21 48.16 31.81 21.21 14.46 63.90 43.02 29.38 20.57  4.82% 3.41% 2.47% 1.87% 5.60% 3.93% 2.80% 2.04% 7.44% 5.32% 3.87% 2.91% nts per Bushel 42.2 30.2 22.0 16.5 27.4 19.4 14.0 10.6 04.5 03.0 01.9 01.0 10.4 07.9 06.1 04.9	178         \$5.68 Price Elect         Optional Price Acre           85%         80%         75%         70%         65%           151.3         142.4         133.5         124.6         115.7           859.38         808.83         758.28         707.73         657.18           ums, Optional Unit         41.40         27.60         18.74         13.21         10.08           48.16         31.81         21.21         14.46         10.46           63.90         43.02         29.38         20.57         15.40           4.82%         3.41%         2.47%         1.87%         1.53%           5.60%         3.93%         2.80%         2.04%         1.59%           7.44%         5.32%         3.87%         2.91%         2.34%           nts per Bushel         42.2         30.2         22.0         16.5         13.3           27.4         19.4         14.0         10.6         08.7           04.5         03.0         01.9         01.0         00.3           10.4         07.9         06.1         04.9         04.3	178         \$5.68 Price Elect         Optional Unit           r Acre         85%         80%         75%         70%         65%         60%           151.3         142.4         133.5         124.6         115.7         106.8           859.38         808.83         758.28         707.73         657.18         606.62           ums, Optional Unit         41.40         27.60         18.74         13.21         10.08         6.87           48.16         31.81         21.21         14.46         10.46         6.76           63.90         43.02         29.38         20.57         15.40         10.13           4.82%         3.41%         2.47%         1.87%         1.53%         1.13%           5.60%         3.93%         2.80%         2.04%         1.59%         1.11%           7.44%         5.32%         3.87%         2.91%         2.34%         1.67%           nts per Bushel         42.2         30.2         22.0         16.5         13.3         09.5           27.4         19.4         14.0         10.6         08.7         06.4           04.5         03.0         01.9         01.0         00.3         -(00.1)<	178 \$5.68 Price Elect         Optional Unit           r Acre           85% 80% 75% 70% 65% 60% 55%           151.3 142.4 133.5 124.6 115.7 106.8 97.9           859.38 808.83 758.28 707.73 657.18 606.62 556.07           ums, Optional Unit           41.40 27.60 18.74 13.21 10.08 6.87 5.22           48.16 31.81 21.21 14.46 10.46 6.76 5.00           63.90 43.02 29.38 20.57 15.40 10.13 7.46           4.82% 3.41% 2.47% 1.87% 1.53% 1.13% 0.94%           5.60% 3.93% 2.80% 2.04% 1.59% 1.11% 0.90%           7.44% 5.32% 3.87% 2.91% 2.34% 1.67% 1.34%           nts per Bushel           42.2 30.2 22.0 16.5 13.3 09.5 07.6           27.4 19.4 14.0 10.6 08.7 06.4 05.3           04.5 03.0 01.9 01.0 00.3 -(00.1) -(00.2)           10.4 07.9 06.1 04.9 04.3 03.2 02.5



8/21/2012 4B Ag Consultants & Kansas State University, Copyright 2012, All Rights Reserved 66

Policy Type Acres APH/Ac	YP 578 173	RP	
Coverage	85%		
Price Election	\$6.00		
<b>Maximum Price</b>		\$12.00	
Out of Money Put		<b>\$5.10</b>	
Policy Type	YP	RP	
APH	100,000	100,000	
<b>Bu Guaranteed</b>	85,000	85,000	
Revenue bu		55,000	
First 1+ Prem		30,000 35.3% Puts Sold	
<b>Crop Ins Premium</b>	13,179	18,059	
<b>CME</b> Puts sold		9,000 30 Cents	
Premium	13,179	9,059 Sold out of the money	,

## Sell the Out of the Money Put from RP for 30 Cents

Production bu.		100,000							
Har- vest Price	CME Put	Sold Put Prem	Net Prem	CME Put Prem Earned	YA Put on Sold Puts	Net CME Sold Put + YA-Put	YA Put on Un- Sold Puts	Yield Loss	Net CME Put + YA- Put + RP
Bushels				30,000	30,000		55,000		
\$5.10	0.00	0.30	\$0.30	9,000	0	0	0	0	9,000
\$4.90	\$0.20	0.30	\$0.10	3,000	7,059	7,059	12,941	0	23,000
\$4.70	\$0.40	0.30	(\$0.10)	(3,000)	14,118	11,118	25,882	0	37,000
\$4.50	\$0.60	0.30	(\$0.30)	(9,000)	21,176	12,176	38,824	0	51,000
\$4.30	\$0.80	0.30	(\$0.50)	(15,000)	28,235	13,235	51,765	0	65,000
\$4.10	\$1.00	0.30	(\$0.70)	(21,000)	35,294	14,294	64,706	0	79,000
\$3.90	\$1.20	0.30	(\$0.90)	(27,000)	42,353	15,353	77,647	0	93,000



8/21/2012 4B Ag Consultants & Kansas State University, Copyright 2012, All Rights Reserved 68

## Sell the Out of the Money Put from RP for 30 Cents

Production bu.		80,000							
Har-		Sold		CME Put	YA Put	Net CME	YA Put on Un-		Net CME
vest	CME	Put	Net	Prem	on Sold	Sold Put +	Sold	Yield	Put + YA-
Price	Put	Prem	Prem	Earned	Puts	YA-Put	Puts	Loss	Put + RP
Bushels				30,000	30,000		50,000		
\$5.10	0.00	0.00	\$0.00	0	25,412	25,412	42,353	30,000	97,765
\$4.90	\$0.20	0.00	(\$0.20)	(6,000)	31,059	25,059	51,765	30,000	106,824
\$4.70	\$0.40	0.00	(\$0.40)	(12,000)	36,706	24,706	61,176	30,000	115,882
\$4.50	\$0.60	0.00	(\$0.60)	(18,000)	42,353	24,353	70,588	30,000	124,941
\$4.30	\$0.80	0.00	(\$0.80)	(24,000)	48,000	24,000	80,000	30,000	134,000
\$4.10	\$1.00	0.00	(\$1.00)	(30,000)	53,647	23,647	89,412	30,000	143,059
\$3.90	\$1.20	0.00	(\$1.20)	(36,000)	59,294	23,294	98,824	30,000	152,118

## Sell the Out of the Money Put from RP for 30 Cents

Production bu.		40,000							
Har- vest Price	CME Put	Sold Put Prem	Net Prem	CME Put Prem Earned	YA Put on Sold Puts	Net CME Sold Put + YA-Put	YA Put on Un- Sold Puts	Yield Loss	Net CME Put + YA- Put + RP
Bushels				30,000	30,000		10,000		
\$5.10	0.00	0.00	\$0.00	0	12,706	12,706	4,235	270,000	286,941
\$4.90	\$0.20	0.00	(\$0.20)	(6,000)	15,529	9,529	5,176	270,000	284,706
\$4.70	\$0.40	0.00	(\$0.40)	(12,000)	18,353	6,353	6,118	270,000	282,471
\$4.50	\$0.60	0.00	(\$0.60)	(18,000)	21,176	3,176	7,059	270,000	280,235
\$4.30	\$0.80	0.00	(\$0.80)	(24,000)	24,000	(0)	8,000	270,000	278,000
\$4.10	\$1.00	0.00	(\$1.00)	(30,000)	26,824	(3,176)	8,941	270,000	275,765
\$3.90	\$1.20	0.00	(\$1.20)	(36,000)	29,647	(6,353)	9,882	270,000	273,529

8/21/2012 4B Ag Consultants & Kansas State University, Copyright 2012, All Rights Reserved 70

## Sell the Out of the Money Put from RP for 30 Cents

Production	on bu.		110,000			190.3 bu.				
Har- vest Price	CME Put	Sold Put Prem	Net Prem	CME Put Prem Earned	YA Put on Sold Puts	Net CME Sold Put + YA-Put	YA Put on Un- Sold Puts	Yield Loss	Net CME Put + YA- Put + RP	
Bushels				30,000	30,000		55,000			
\$5.40	\$0.00	0.30	\$0.30	9,000	0	0	0	0	9,000	
\$5.20	\$0.20	0.30	\$0.10	3,000	0	0	3,765	0	6,765	
\$5.00	\$0.40	0.30	(\$0.10)	(3,000)	0	(3,000)	4,706	0	1,706	
\$4.80	\$0.60	0.30	(\$0.30)	(9,000)	0	(9,000)	5,647	0	(3,353)	
\$4.60	\$0.80	0.30	(\$0.50)	(15,000)	1,412	(13,588)	6,588	0	(7,000)	
\$4.40	\$1.00	0.30	(\$0.70)	(21,000)	9,176	(11,824)	7,529	0	(4,294)	
\$4.20	\$1.20	0.30	(\$0.90)	(27,000)	16,941	(10,059)	8,471	0	(1,588)	

## RP Replaces the Market Loan

- 1. The marketing loan is fixed, e.g. corn loan rate is \$1.95 or \$1.37 if one selected ACRE.
- 2. RP replaces loan at the effective Strike price where deductible disappears plus CBOT put premium. For example 85% X \$6.00 = \$5.10.
- 3. Farmers pay none of the cost for Marketing Loan protection, so they always want the maximum coverage.
- 4. Farmers pay a significant share of the cost for RP, and as a result most farmers do not select the maximum coverage.
- 5. Sell off part of the RP coverage by selling out of the money puts, a "bear spread".

8/21/2012 4B Ag Consultants & Kansas State University, Copyright 2012, All Rights Reserved 72

## Selling out of the money Covered Puts

- 1. Sell \$5.10 puts. First 30 cent loss is covered by put premium, then any price below \$4.80 either causes indemnities or yield is greater than APH.
- 4. When prices increase, deductible does not disappear, making selling of calls more risky. Selecting 85% coverage and trend will reduce the risk of selling out of the money calls.
- 5. If one does sell calls, likely better to sell them in the summer and a dollar out of money but one will always have a minimum 15% deductible.

#### Selling Out of the Money Options Covered with Revenue Protection

- 1. RP's major advantage is at a minimum it replaces loss production at current market value. This allows farmers to maintain a hedged position selling up to 2 years ahead of harvest
- 2. Recent RP premiums have significantly increased because of higher commodity prices and volatility.
- 3. Because of higher CME option premiums, farmers can sell off part of their RP coverage by selling out of the money puts, a "bear spread" and lower their costs.
- 4. Only Farmers who have "lost money trading options" should consider selling out of the money puts covered with RP.

8/21/2012 4B Ag Consultants & Kansas State University, Copyright 2012, All Rights Reserved 74

## Cash Flow to Harvest when Selling Puts

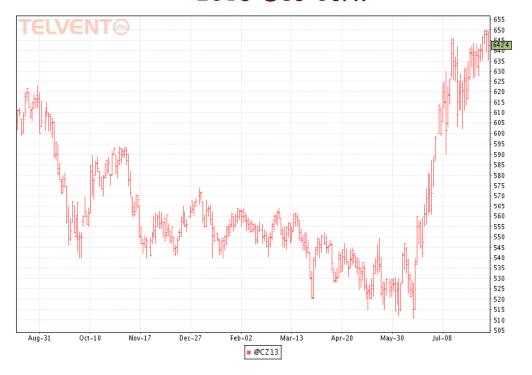
#### Revenue Protection

- Higher prices cause negative
   No negative Option "put" values in RP-HPE. RP will values prevent negative values.
- No time Value
- No Exercise Rights
- Settle on monthly average price
   Settle on a spot price
- Single Strike Price
- Price limit on "call" (harvest Price)
- Payment adjusted for yield

#### **CME Traded Option**

- Zero time value @ Expiration
- Right to Exercise
- Multiple Strike prices
- No limit on price
- No yield adjustment, 5,000 bu. Fixed.

#### 2013 Dec Corn



8/21/2012 4B Ag Consultants & Kansas State University, Copyright 2012, All Rights Reserved 76

- Summary
  It pays to elect the trend because of subsidy.
- 2. The YAA put in RP is cheap, so stay at current coverage level and add trend.
- 3. RP Premiums are lower because of base rate cuts, lower strike price, and a volatility decline from 0.29 to 0.23.
- 4. Lower volatility lowers the return from selling covered puts.
- 5. Sell options on limit orders only because the out of the money market is thin.
- Don't assume lower premium is the only objective. If one buys higher levels of coverage and trend they will have more low cost YAA puts and more guaranteed bushels at replacement values.

## Corn Trend Adjusted Adjustment by State

Irrigated				Non-I	rrigate	ed
Max	Min	Avg	State	Max	Min	Avg
2.12	0.20	1.01	Colorado			
2.43	1.64	1.95	Illinois	2.43	1.56	1.97
1.90	1.53	1.79	Indiana	1.92	1.51	1.75
2.50	1.93	2.18	lowa	2.50	1.93	2.27
2.22	0.29	1.51	Kansas	2.00	1.26	1.63
2.07	1.05	1.84	Kentucky	2.07	1.05	1.84
1.89	1.10	1.69	Michigan	2.01	1.05	1.78
2.50	1.57	2.27	Minnesota	2.50	1.36	2.28
2.10	1.63	1.88	Missouri	2.11	1.36	1.86
2.50	1.53	2.17	Nebraska	2.50	1.49	2.12
2.50	1.85	2.38	North Dakota	2.50	1.49	2.18
1.83	0.88	1.51	Ohio	1.88	0.78	1.59
2.50	1.46	2.30	South Dakota	2.50	0.88	2.12
2.33	1.09	1.55	Wisconsin	2.33	1.09	1.55

8/21/2012 4B Ag Consultants & Kansas State University, Copyright 2012, All Rights Reserved 79

## Soybean Trend Adjusted Adjustment by State

Irrigated				Non-I	rrigate	ed
Max	Min	Avg	State	Max	Min	Avg
0.54	0.32	0.42	Illinois	0.50	0.34	0.41
0.58	0.42	0.51	Indiana	0.58	0.43	0.51
0.58	0.43	0.49	lowa	0.58	0.40	0.50
0.58	0.02	0.27	Kansas	0.56	0.39	0.47
0.58	0.40	0.50	Kentucky	0.55	0.34	0.43
0.56	0.39	0.46	Michigan	0.58	0.43	0.48
0.57	0.30	0.41	Minnesota	0.45	0.07	0.23
0.53	0.32	0.41	Missouri	0.56	0.31	0.42
0.58	0.49	0.57	Nebraska	0.50	0.32	0.43
0.56	0.39	0.46	North Dakota	0.58	0.33	0.55
0.58	0.34	0.43	Ohio	0.58	0.39	0.54
0.51	0.44	0.47	South Dakota	0.48	0.44	0.46
0.58	0.29	0.50	Wisconsin	0.58	0.29	0.50

# Trend Adjusted % Increase in APH to Gain an Additional 5% of Coverage Level

1. Elect Trend Adjustment and cut coverage by 5% and pay less premium for same coverage.

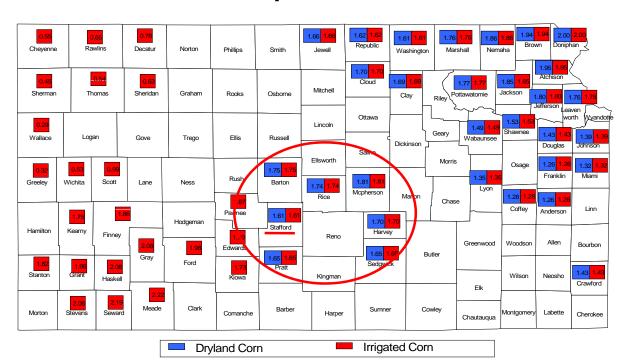
Coverage 80% 75% 70% 65% 60% 55% 50% Trend

Increase 106% 107% 107% 108% 108% 109% 110%

- 2. When trend is below above % adjustment, one can not cut coverage 5% and keep the same protection.
- 3. Alternative, stay at the same coverage level and add trend will increase the number of YAA puts and guaranteed bushels at replacement value.

8/21/2012 4B Ag Consultants & Kansas State University, Copyright 2012, All Rights Reserved 81

## **Kansas Corn Option Conversion Factor**



# 80% RP with Trend Yield, Stafford County Kansas Irrigated Corn

- 85% RP without trend provided \$859 of coverage with a \$5.68 price and 178 bu. APH.
- Increased APH to 187 with trend adjustment.
- 80% RP with 187 bu. trend adjusted APH provides \$850 of coverage with a \$5.68 price.
- Increasing price or yield will proved the same dollars and increase the market value of the Asian yield adjusted puts.

8/21/2012 4B Ag Consultants & Kansas State University, Copyright 2012, All Rights Reserved 83

## Stafford County Kansas Irrigated Corn

APH 178 bu Trend APH 187 bu

Price Election \$5.68 Price Election for 2012

Volatility 0.22 Volatility for 2012

Revenue Protection Optional Unit Rates for 2012

	No Trend	Trend	No Trend	<b>Trend</b>
Coverage	85%	80%	80%	75%
\$ Coverage	\$859.38		\$808.83	
Coverage Trend		\$849.73		\$796.90
Unsubsidized Premium per Acre	\$103.06		\$82.74	
Unsubsidized Premium per Acre		\$98.83		\$78.97
Added Coverage	\$50.55		\$50.55	
Added Coverage Trend		\$40.90		\$38.62
Added Subsidy for Trend		\$8.28		\$3.71
Unsubsidized Rate Per \$100	\$11.99	$\rightarrow$	\$10.23	
Unsubsidized Rate Per \$100		\$11.63		\$9.91
Farm Paid Rate Per \$100	\$7.44		\$5.32	
Farm Paid Rate Per \$100		\$6.05		\$4.46

#### Stafford County Kansas Non-Irrigated Corn

APH 58 bu Trend APH 67 bu

\$5.68 Price Election for 2012 Price Election

> 0.22 Volatility for 2012 Volatility

Revenue Protection Optional Unit Rates for 2012

	No Trend	<u>Trend</u>	No Trend	<u>Trend</u>
Coverage	85%	80%	85%	75%
\$ Coverage	\$280.02		\$280.02	
Coverage Trend		\$304.45		\$285.70
Unsubsidized Premium per Acre	\$68.55		68.55	
Unsubsidized Premium per Acre		\$82.61		\$72.08
Added Coverage	\$16.47		\$32.94	
Added Coverage Trend		\$40.90		\$38.62
Added Subsidy for Trend		\$13.60		\$13.59
Unsubsidized Rate Per \$100	\$24.48		\$24.48	
Unsubsidized Rate Per \$100		\$27.13		\$25.23
Farm Paid Rate Per \$100	\$15.18		\$15.18	
Farm Paid Rate Per \$100		\$14.11		<u>\$11.35</u>

8/21/2012 4B Ag Consultants & Kansas State University, Copyright 2012, All Rights Reserved 85

## Public Policy Objective?

- 1 Enhance farm income?
- 2. Reduce farm financial risk? Should government subsidize risk management?
- Provide risk transfer for commercial size farmers or just "small" farmers.
- 4.) Farm Bill Title I also includes the interest of Ag lenders, Landlords, commodity brokers, crop insurance agents, input suppliers, FSA employees, RMA employees, etc.

## Converting the Farm Bill to Risk Management

- 1. There are only 2 variables, price and yield.
- 2. Measure price by prior history to give protection across crop years or price risk within growing season.
  - 3. Price measured across crop years reduces any overlap with crop insurance.
  - 4. Measure price with futures prices, Marketing Year Average price, selected months of the MYA, or Posted County Price?

8/21/2012 4B Ag Consultants & Kansas State University, Copyright 2012, All Rights Reserved 87

## Converting the Farm Bill to Risk Management

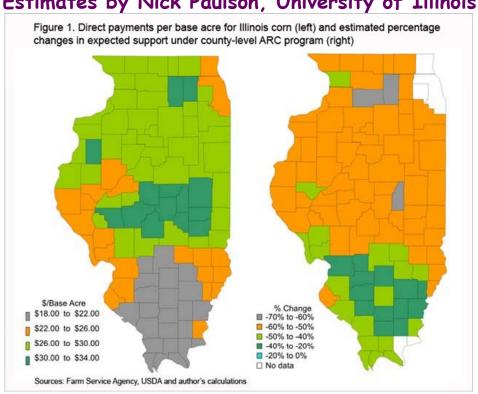
- 1. Yield; measured at farm level, county, district or state?
- 2. A payment factor (co-pay, quota share) or pay only base acres, or 85% of planted base acres.
- 3. A payment factor that pays a share of the calculated loss will reduce costs and adverse selection and any overlap with crop insurance.
  - 4. Payment Limit?

## Proposed Farm Bill from Ag Committees

- 1. Eliminates Direct Payments, Counter-Cyclical Payments, ACRE, and SURE
- 2. Crop Insurance
  - a. Increases T-yields
  - b. Creates stand-alone supplemental revenue protection program for cotton
  - c. Creates supplemental area-wide revenue coverage for other crops

8/21/2012 4B Ag Consultants & Kansas State University, Copyright 2012, All Rights Reserved 89

## Estimates by Nick Paulson, University of Illinois



# Proposed Farm Bill from Ag Committees (Pick Option 1 or 2)

## "Simplified Risk Management"

- 1. Ag Risk Coverage (ARC) Program
  - a. Covers losses from 75 to 87% of farm's 5-year Olympic average revenue
  - b. Payment made on <u>60 percent</u> of planted (and prevented planted) acres
  - c. Average revenue = farm yields \* Max [MYA price or Target Price]
- 2. Target Price Coverage Option
  - a. Offers payments on 85% of planted acres whenever NASS MYA prices (1st 5 months) are below target prices

8/21/2012 4B Ag Consultants & Kansas State University, Copyright 2012, All Rights Reserved 91

## Proposed Target Prices

Crop	2008 Farm	New	MYA Price
	Bill	Proposed	2006-2010
	Target Price	Target Price	
Wheat	\$4.17	\$5.50	\$5.62
Corn	\$2.63	\$3.64	\$4.01
Sorghum	\$2.63	\$3.87	\$3.79
Soybeans	\$6.00	\$8.31	\$9.49

## Proposed Farm Bill from Ag Committees "Simplified Risk Management"

- 1. Decision on which program to participate made for the life of the farm bill
- 2. Payment limitation = \$105,000; If it is risk management then in most years there are no payment but in disaster years payments are "large" and "family farms" will exceed limit.
- 3. Ineligible for payment if AGI is greater than \$950,000

8/21/2012 4B Ag Consultants & Kansas State University, Copyright 2012, All Rights Reserved 93

## Flake's (R-AZ) amendment to the 2008 Farm Bill would limit eligibility to less than \$250K\*

#### Estimated savings \$2.26 billion

	% Farm >	
State	\$250K	\$ Reduction
California	22.6%	\$98 Million
Ariziona	15.1%	\$41 Million
South Dakota	15.1%	\$61 Million
Illionis	14.6%	\$162 Million
Nebraska	13.7%	\$107 Million
Iowa	10.4%	\$178 Million
Kansas	8.1%	\$84 Million
Tenneesee	4.7%	\$41 Million
Kentucky	4.0%	\$21 Million

Source: Eric Wailes, Eddie Chavez, Diana Danforth, Bruce Ahrendsen and Bruce Dixon, "Distributional Impacts of Capping Eligibility for Commodity Program Payments",





## Proposed Farm Bill from Ag Committees

- Conservation spending reduced by \$6 billion over 10 years
- 2. CRP acreage cap reduced from 32 to 25 million acres over several years
- 3. EQIP, CSP continue, other programs will be consolidated

8/21/2012 4B Ag Consultants & Kansas State University, Copyright 2012, All Rights Reserved 95

## Added Coverage from Area Plans

- 1. The major limitation on area plans is limited county data.
- 2. RMA has removed the GRIP/GRP offers on a "large" number of crops in a "large" number of counties.
- 3. Not all Kansas counties have a GRIP/GRP offer on wheat (Kansas & North Dakota are the largest wheat producing states), and even fewer counties have the offer on other crops.

## Added Coverage from Area Plans

- 1. The number 1 planted wheat acre county in OK has no GRIP/GRP offer (Garfield County, Enid, OK).
- 2. Therefore, it is clear that a "lack of NASS" data is not the only reason for GRIP/GRP contracts being removed.
  - 3. The additional data from farmer reported crop yields plus NASS data should allow RMA to add area plans on more crops and in more counties.

8/21/2012 4B Ag Consultants & Kansas State University, Copyright 2012, All Rights Reserved 97

## Area Plans' Policy Questions

- Should the price measure change to a within growing season price, i.e. same as crop insurance.
- 2. Should only systemic risk be covered or should risk be covered at the farm level, similar to SURE?
- 3. Should the area plan payment limit float so that commercial size farms will have risk protection. For example for each 1% of coverage lost add \$10,000 to payment limit that would vary by year and district/county.
- 4. Or make the only limit the \$750K adjusted gross income.

# 50% Chance of Additional Cuts in Crop Insurance in Farm Bill?

- 1. Other many non-farm groups want to move USDA funds from crop insurance to other programs, i.e. food & nutrition, conservation, etc.
- 2. All cuts are not equal, alternatives....
- 3. Eliminate CAT or require farmers to pay a share of the premium.
- 4. Increase the farmer paid premium share by 5 points.
- 5. Eliminate subsidy on top coverages, >50%

8/21/2012 4B Ag Consultants & Kansas State University, Copyright 2012, All Rights Reserved 99

## 50% Chance of Additional Cuts in Crop Insurance in Farm Bill?

- 6. Eliminate Revenue Coverage & offer YP only
- 7. Provide a flat dollar of subsidy per acre
- 8. Move sales and loss adjusting to FSA where it is "free", really?
- 9. Provide a flat % subsidy on all insurance types and coverage levels.

## Summary

- 1. Elimination of Direct Payments, Counter Cyclical Payments, ACRE, and SURE
- 2. A price-based countercyclical program that triggers at higher levels than the CC.
- 3. Ag Risk Coverage (ARC) Program at the farm level.
- 4. STAX (GRIP) policy would be delivered by RMA for cotton.
- 5. SCO has no downside price limit and it is area coverage that require farmer paid premiums.

8/21/2012 4B Ag Consultants & Kansas State University, Copyright 2012, All Rights Reserved 101

## Summary

- 1. The Farm Bill was Agreed to as part of the Deficit Reduction but the "Super Committed fail to vote out an acceptable Bill.
- 2. As result, the Farm Bill debate will continue but with more interest groups in the mix.
- 3. The only 2 Ag programs with "significant" money are Direct Payments and Crop Insurance.
- 4. The Ag Programs are under attack for "free" trade issues too.

#### **Future Issues**

- 1. The final year for ACRE and new program in 2013, maybe?
- 2. Impact of non conversion of cash & futures and loss of MF Global will effect farmers who do not use futures and options
- 3. AgManager.info will cover these issues. Please leave me your email address if you would like to be on the AgManager.info list.

8/21/2012 4B Ag Consultants & Kansas State University, Copyright 2012, All Rights Reserved 103

