

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

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### **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?*

# Revenue and Price Based Commodity Policy and Crop Insurance

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## 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.



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## 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.



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## USA Revenue Insurance History

1. In the mid-1980's Crop insurance guarantees were changed from a county yield guarantee to a farm level proven yield guarantee (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 MPCl 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.



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## 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.
8. 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?
7. \$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

Commodity Programs			2011 Crop Insurance		
Program	USDA-FSA Cost/"Premium" Share Type	Share Paid	Program	USDA-RMA Premium Share Type	Share 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%	Revenue Protection	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	Poi Earn Prem	Net Acres	Liabilities	Total Premium	Subsidy	% Sub-sidy	Indemnity
<b>Iowa Corn</b>							
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
<b>Iowa Soybeans</b>							
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
<b>Iowa All Crops</b>							
Total All Crops	174,035	19,420,487	3,570,282,751	169,676,225	59,619,962	35.1%	51,949,648
<b>Nebraska Corn</b>							
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
<b>Nebraska Soybeans</b>							
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
<b>Nebraska All Crops</b>							
Total All Crops	123,262	13,090,756	2,030,408,701	110,155,278	45,020,218	40.9%	53,356,825

## 1996 CRC Insurance Market Share in Iowa & Nebraska

	Iowa		% crop share corn & soybeans	Nebraska		share corn & soybeans
	Corn	S-beans		Corn	S-beans	
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>	<b>59.2%</b>	<b>48.2%</b>	<b>95.0%</b>	<b>59.8%</b>	<b>55.9%</b>	<b>79.0%</b>
% 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 Level					Farm Level			
Year	Net Acres	Total \$ Coverage	Total \$ Premium	Total \$ Subsidy	Average Rate	Average % Premium Subsidy	Average \$ Coverage/AC	Average Farmer Paid Premium/AC
<b>Results with All Contracts</b>								
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				
<b>Results with Buy UP Coverage; i.e. No CAT Contracts</b>								
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				
<b>CAT Acres</b>								
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?

USA Crop Insurance Performance, All Contracts

Year	Pol Earn Prem (000)	Net Acres (000)	Liabilities (000)	Total Premium (000)	Subsidy (000)	Indemnity (000)	Loss/Gain (000)	Loss Ratio (000)	% of Premium Paid by Farmers	Farm-er Loss Ratio (000)
1988	333	45,475	4,423,961	294,957	74,723	797,178	(502,221)	2.70	74.7%	3.62
1989	949	101,632	13,535,807	814,302	204,965	1,212,235	(397,933)	1.49	74.8%	1.99
1990	895	101,361	12,828,368	836,468	215,308	973,032	(136,563)	1.16	74.3%	1.57
1991	707	82,357	11,215,994	737,049	190,066	955,289	(218,240)	1.30	74.2%	1.75
1992	663	83,107	11,334,059	758,789	196,721	918,215	(159,426)	1.21	74.1%	1.63
1993	679	83,725	11,353,421	755,739	200,009	1,655,479	(899,740)	2.19	73.5%	2.98
1994	801	99,640	13,608,387	949,396	254,876	601,146	348,250	0.63	73.2%	0.87
1995	2,034	220,511	23,728,454	1,543,350	889,372	1,567,732	(24,382)	1.02	42.4%	2.40
1996	1,615	204,864	26,876,813	1,838,559	982,063	1,492,663	345,896	0.81	46.6%	1.74
1997	1,320	182,189	25,458,851	1,775,368	902,794	993,551	781,817	0.56	49.1%	1.14
1998	1,243	181,835	27,921,436	1,875,927	946,312	1,677,542	198,385	0.89	49.6%	1.80
1999	1,289	196,918	30,939,450	2,310,133	954,872	2,434,715	(124,582)	1.05	58.7%	1.80
2000	1,323	206,467	34,443,753	2,540,164	951,192	2,594,834	(54,671)	1.02	62.6%	1.63
2001	1,298	211,329	36,728,587	2,961,848	1,771,322	2,960,125	1,723	1.00	40.2%	2.49
2002	1,259	214,865	37,299,303	2,915,944	1,741,028	4,066,732	(1,150,788)	1.39	40.3%	3.46
2003	1,241	217,409	40,620,507	3,431,359	2,041,658	3,260,806	170,553	0.95	40.5%	2.35
2004	1,229	221,020	46,602,280	4,186,133	2,472,282	3,209,723	976,409	0.77	40.9%	1.87
2005	1,191	245,856	44,258,915	3,949,230	2,337,101	2,367,323	1,581,907	0.60	40.8%	1.47
2006	1,148	242,082	49,919,480	4,579,539	2,682,006	3,503,536	1,076,003	0.77	41.4%	1.85
2007	1,138	271,634	67,339,911	6,562,118	3,823,353	3,547,569	3,014,549	0.54	41.7%	1.30
2008	1,149	272,250	89,892,360	9,850,879	5,690,668	8,677,910	1,172,969	0.88	42.2%	2.09
2009	1,172	264,776	79,575,187	8,950,746	5,426,886	5,228,924	3,721,822	0.58	39.4%	1.48
2010	1,141	256,268	78,104,325	7,594,397	4,711,271	4,251,436	3,342,960	0.56	38.0%	1.47
2011	1,152	265,609	114,112,377	11,955,219	7,452,814	10,826,308	1,128,911	0.91	37.7%	2.40
2012			107,241,900	10,199,312	6,392,880	23,982,091	(13,782,779)	2.35	37.3%	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



## Iowa Corn Crop Insurance History

Year	Pol Earn Prem (000)	Net Acres (000)	Liabilities (000)	Total Premium (000)	Subsidy (000)	Premium Paid by Farm- (000)	Indemnity (000)	Loss Ratio (000)	Farm-er Loss Ratio (000)	% of Acres In-ured (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%

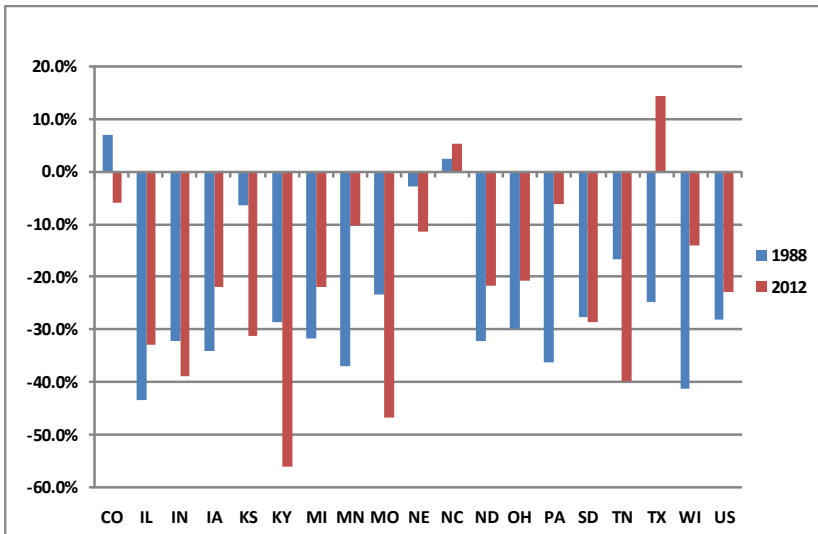
1989 to 2011 225,716 70,961,809 4,699,785 2,351,186 2,285,245 0.49 0.97  
 Est 2012 + 238,303 81,116,003 5,308,622 2,702,281 49.1% 3,819,513 0.72 1.47  
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## Kansas Corn Crop Insurance History

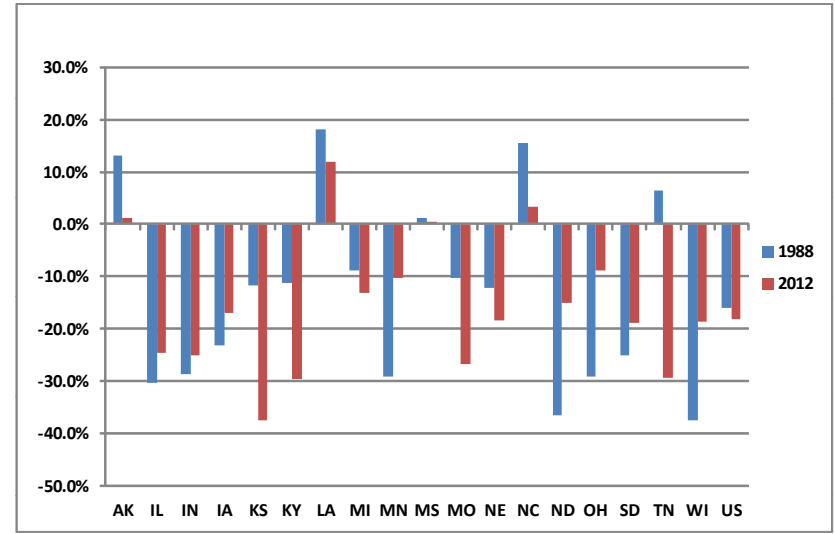
Year	Pol Earn Prem (000)	Net Acres (000)	Liabilities (000)	Total Premium (000)	Subsidy (000)	Premium Paid by Farm- (000)	Indemnity (000)	Loss Ratio (000)	Farm-er Loss Ratio (000)	% of Acres In-ured (000)
1988	3.3	344	46,157	2,384	662	72.2%	1,617	0.68	0.94	27.5%
1989	4.8	461	76,983	3,999	1,107	72.3%	8,213	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  
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## Percent Yield Deviation below Trend is Better in Some Important Corn States than in 1988



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









## Reasons APH May Not Equal Expected Yield

1. Yield losses in prior years. Indiana farmers will see this in next year's APH.
2. 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.

Coverage	Price Increase	Price 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 December Corn				CME November Soybeans			
Year	Base Price <sup>1</sup>	Harv. Price <sup>2</sup>	% Price Change <sup>3</sup>	Year	Base Price <sup>1</sup>	Harv. Price <sup>2</sup>	% Price Change <sup>3</sup>
2012	5.68			2012	12.55		
2011	6.01	6.32	5.2%	2011	13.49	12.14	(10.0%)
2010	3.99	5.46	36.8%	2010	9.23	11.63	26.0%
2009	4.04	3.72	(7.9%)	2009	8.80	9.66	9.8%
2008	5.40	4.13	(23.5%)	2008	13.36	9.22	(31.0%)
2007	4.06	3.58	(11.8%)	2007	8.09	9.75	20.5%
2006	2.59	3.03	17.0%	2006	6.18	5.93	(4.0%)
2005	2.32	2.02	(12.9%)	2005	5.53	5.75	4.0%
2004	2.83	2.05	(27.6%)	2004	6.72	5.26	(21.7%)
2003	2.42	2.26	(6.6%)	2003	5.26	7.32	39.2%
2002	2.32	2.52	8.6%	2002	4.50	5.45	21.1%
2001	2.46	2.08	(15.3%)	2001	4.67	4.37	(6.4%)
2000	2.51	2.04	(18.7%)	2000	5.32	4.72	(11.2%)
1999	2.40	2.01	(16.1%)	1999	5.11	4.85	(5.1%)
1998	2.84	2.19	(23.0%)	1998	6.64	5.46	(17.7%)
1997	2.73	2.81	3.1%	1997	6.97	6.82	(2.1%)
1996	3.08	2.84	(7.9%)	1996	7.23	7.07	(2.2%)
1995	2.57	3.23	25.7%	1995	5.85	6.56	12.2%
1994	2.68	2.16	(19.5%)	1994	6.48	5.41	(16.5%)
1993	2.40	2.49	3.7%	1993	5.86	6.15	4.9%

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

<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.

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

## USDA 2011 Expenses for Farm Safety Net & Other Programs

% of USDA Budget	Farm share	% of USDA Budget	All Agency/program
			\$ billion
			139.386 Total USDA outlays for 2011
			<b>Farm Programs</b>
4.5%	6.289	4.5%	6.289 FSA commodity programs
1.4%	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
<b>11.7%</b>	<b>14.4%</b>		<b>Percent of budget for RMA &amp; FSA</b>
			<b>Food Programs</b>
			107.515 SNAP (food stamps), school lunches, and WIC programs; Administration Cost for Food mostly State but could not find value for USDA.
			<b>Percent of budget for Food Programs</b>
			<b>Other Programs</b>
			11.756 Central Administration, Land Grant Universities, Rural Development, Inspectors, Foreign Marketing Service,
			<b>Percent of budget for all remaining programs.</b>
			8.4%

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			Total Premium	Subsidy	Cov-erage /Ac.	Farmer Paid		Sub-sidy Cap on Acres	Effective subsidy rate	AGI Cap on Acres
	Earn Prem	Net Acres	Liabilities				Total /Ac	Paid /Ac			
Minnesota Corn, Revenue Protection, Acres to reach a 250,000 AGI											
50	275	36,093	15,079,219	980,699	708,918	417.79	27.17	7.53	19.64	2,037	4,488
55	69	11,223	5,336,280	361,032	267,178	475.48	32.17	8.36	23.81	1,680	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	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	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	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	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	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	3,686
Average Acres to hit Subsidy & AGI limit									<b>1,324</b>	<b>4,129</b>	

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			Total Premium	Subsidy	Cov-erage /Ac.	Farmer Paid		Sub-sidy Cap on Acres	Effective subsidy rate	AGI Cap on Acres
	Earn Prem	Net Acres	Liabilities				Total /Ac	Paid /Ac			
Minnesota Soybeans, Revenue Protection, Acres to Hit Subsidy and AGI Limit											
50	172	26,945	6,608,824	397,448	282,674	245.27	14.75	4.26	10.49	3,813	7,645
55	30	5,947	1,544,195	114,302	76,577	259.66	19.22	6.34	12.88	3,106	7,943
60	230	35,708	9,340,862	946,741	630,500	261.59	26.51	8.86	17.66	2,265	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	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	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	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	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	5,978
Average Acres to hit Subsidy & AGI limit									<b>2,221</b>	<b>7,324</b>	

\*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 Lvl	Pol			Total Premium	Subsidy	Cov-erage /Ac.	Farmer Paid		Sub-sidy Cap on Acres	Effective subsidy rate	AGI Cap on Acres
	Earn Prem	Net Acres	Liabilities				Total /Ac	Paid /Ac			
Illinois Corn, Revenue Protection											
50	359	60,098	28,096,866	1,364,166	975,166	467.52	22.70	6.47	16.23	2,465	4,011
55	63	6,766	3,450,299	246,244	160,544	509.95	36.39	12.67	23.73	1,686	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	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	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	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	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	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	3,566
Average Acres to hit Subsidy & AGI limit									<b>1,428</b>	<b>3,974</b>	

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

Cov Lvl	Pol			Total Premium	Subsidy	Cov-erage /Ac.	Farmer Paid		Sub-sidy Cap on Acres	Effective subsidy rate	AGI Cap on Acres
	Earn Prem	Net Acres	Liabilities				Total /Ac	Paid /Ac			
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	6,553
55	75	11,217	3,703,807	162,923	109,115	330.20	14.52	4.80	9.73	4,112	6,246
60	284	42,978	13,685,659	1,403,932	954,796	318.43	32.67	10.45	22.22	1,801	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	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	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	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	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	5,523
Average Acres to hit Subsidy & AGI limit									<b>2,389</b>	<b>6,374</b>	

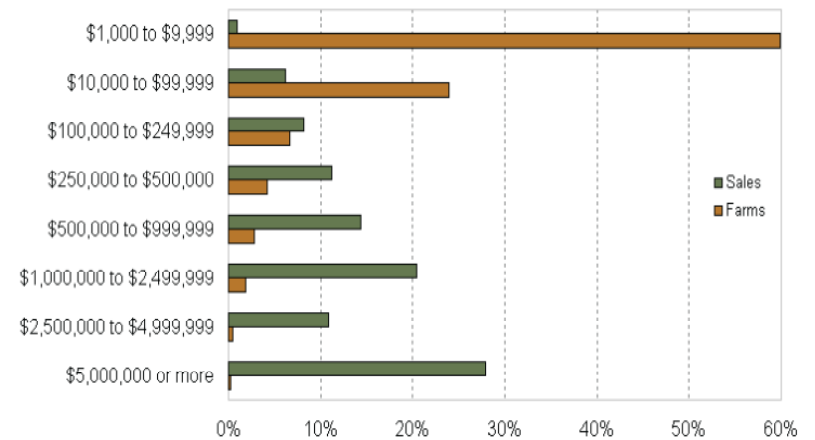
## Counties with Average Coverage per CAT Nursery policy greater than \$500,000 with 100% premium subsidy

California

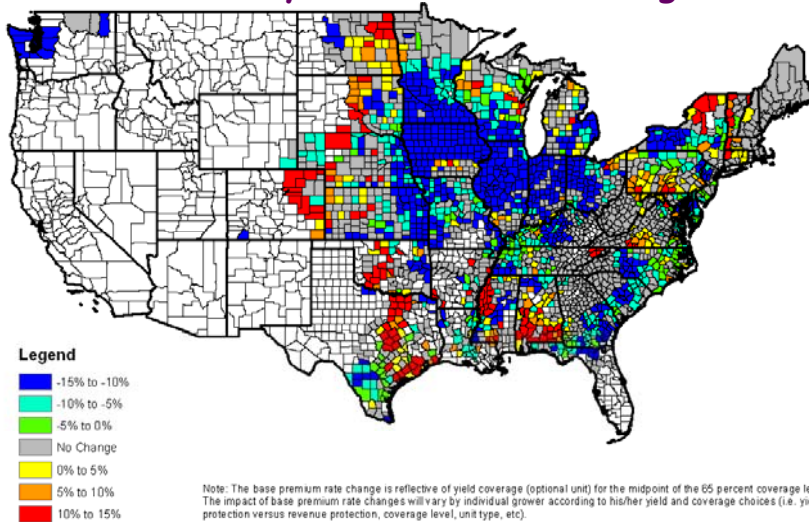
County	# Policies	Total acres	Total Liability	Total Premium	Total Subsidy	Total Subsidy /Policy	Liability/ policy	Expected Revenue/ Policy
Tulare (107)	3	0	45,768,307	374,570	374,570	124,857	15,256,102	55,476,736
Kern (029)	4	0	31,426,614	252,723	252,723	63,181	7,856,654	28,569,649
Stanislaus (099)	3	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

## The 2007 Census of Agriculture, USDA

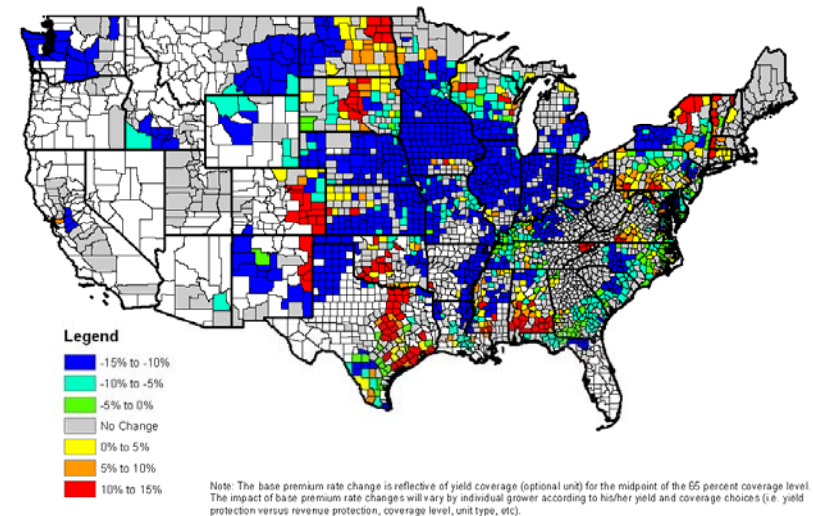
Number of Farms and Sales 2007 Percent of Total



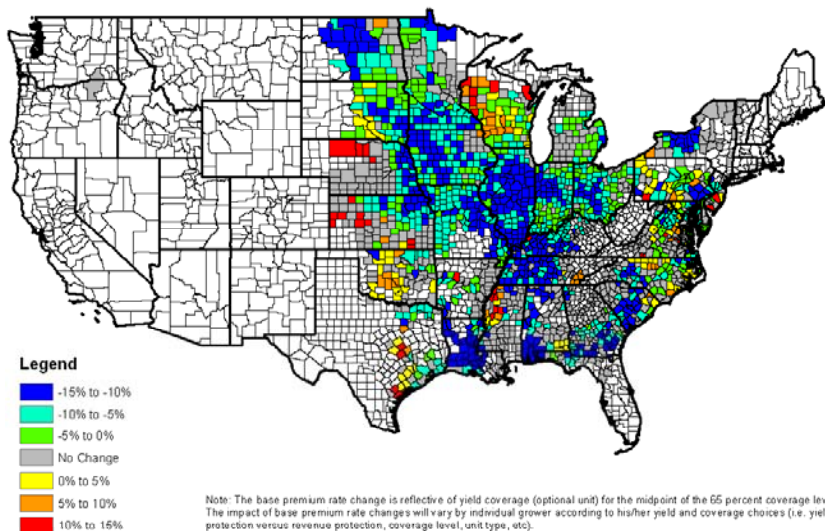
## RMA Dryland Corn Rate Changes



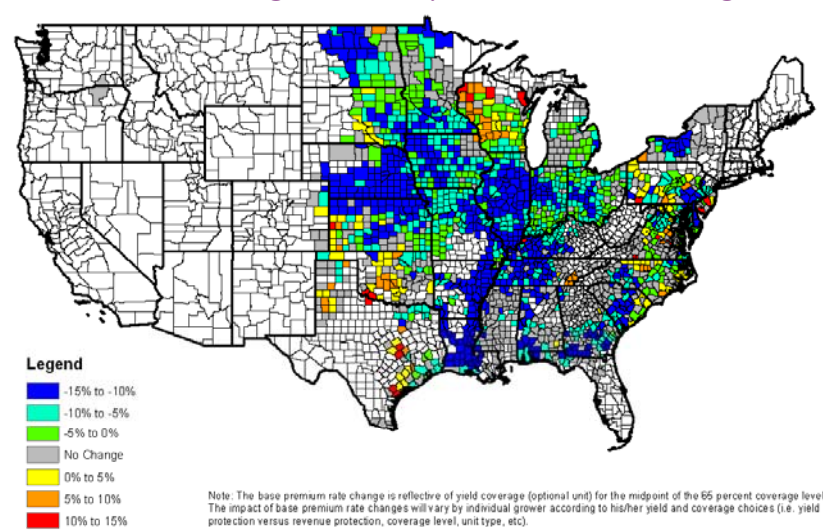
## RMA Irrigated Corn Rate Changes



## RMA Dryland Soybean Rate Changes



## 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.

### 2011 Common Crop Insurance Policy (CCIP)

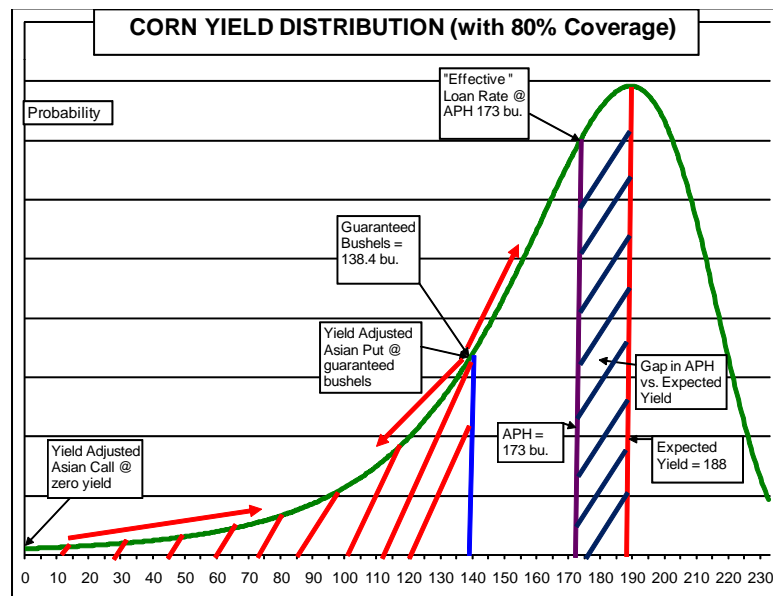
1. All contracts now use the same Projected Price based on New Crop Futures prices and is a major change from previous crop insurance contracts.
2. As a result of common projected price, all CCIP contracts have the same yield guarantee.
3. RP-HPE is YP plus a Yield Adjusted Asian (YAA) Put option.
4.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

## Common Crop Insurance Policy Values for Example Corn Farm

■ APH	173.0
■ Coverage Level	80%
■ Guaranteed Bu.	138.4
■ Base (Strike) Price	\$6.00
■ Maximum Price	\$12.00
■ \$ Coverage	\$830.40
■ Catastrophic Max Pay	\$1,660.80



## 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)
- YP will pay more than RP-HPE when prices increase 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 Elect	Optional Unit				0.22 Vol
<b>Crop Insurance per Acre</b>									
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	
<b>Farmer Paid Premiums, Optional Unit</b>									
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	
<b>Farmer Paid Rate</b>									
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%	
<b>Crop Insurance Cents per Bushel</b>									
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	00.8	
Put Trigger Price if Actual Yield equals APH	\$4.83	\$4.54	\$4.26	\$3.98	\$3.69	\$3.41	\$3.12	\$2.84	
Marginal Rate									

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

Stafford County Kansas Irrigated Corn									
	APH	178	\$5.68	Price Elect	Optional Unit				0.22 Vol
<b>Crop Insurance per Acre</b>									
Coverage %	85%	80%	75%	70%	65%	60%	55%	50%	
Bu. Guarantee	151.3	142.4	133.5	124.6	115.7	106.8	97.9	89.0	
Coverage	859.38	808.83	758.28	707.73	657.18	606.62	556.07	505.52	
<b>Farmer Paid Premiums, Optional Unit</b>									
YP	41.40	27.60	18.74	13.21	10.08	6.87	5.22	3.61	
RP-HPE	48.16	31.81	21.21	14.46	10.46	6.76	5.00	3.39	
RP	63.90	43.02	29.38	20.57	15.40	10.13	7.46	4.94	
<b>Farmer Paid Rate</b>									
YP Rate	4.82%	3.41%	2.47%	1.87%	1.53%	1.13%	0.94%	0.71%	
RP-HPE Rate	5.60%	3.93%	2.80%	2.04%	1.59%	1.11%	0.90%	0.67%	
RP Rate	7.44%	5.32%	3.87%	2.91%	2.34%	1.67%	1.34%	0.98%	
<b>Crop Insurance Cents per Bushel</b>									
Total per bu.	42.2	30.2	22.0	16.5	13.3	09.5	07.6	05.6	
Yield/bu.	27.4	19.4	14.0	10.6	08.7	06.4	05.3	04.1	
YAA Put Cost/bu.	04.5	03.0	01.9	01.0	00.3	-(00.1)	-(00.2)	-(00.2)	
YAA Call Cost/bu.	10.4	07.9	06.1	04.9	04.3	03.2	02.5	01.7	
Put Trigger Price if Actual Yield equals APH	\$4.83	\$4.54	\$4.26	\$3.98	\$3.69	\$3.41	\$3.12	\$2.84	

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

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

**35.3% Puts Sold**  
**30 Cents Sold out of the money**

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

Production bu.		100,000			173.0 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			
\$5.10	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	

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

Production bu.		80,000			138.4 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		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			69.2 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		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	

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

Production 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  $85\% \times \$6.00 = \$5.10$ .
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".

## 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.

## Cash Flow to Harvest when Selling Puts

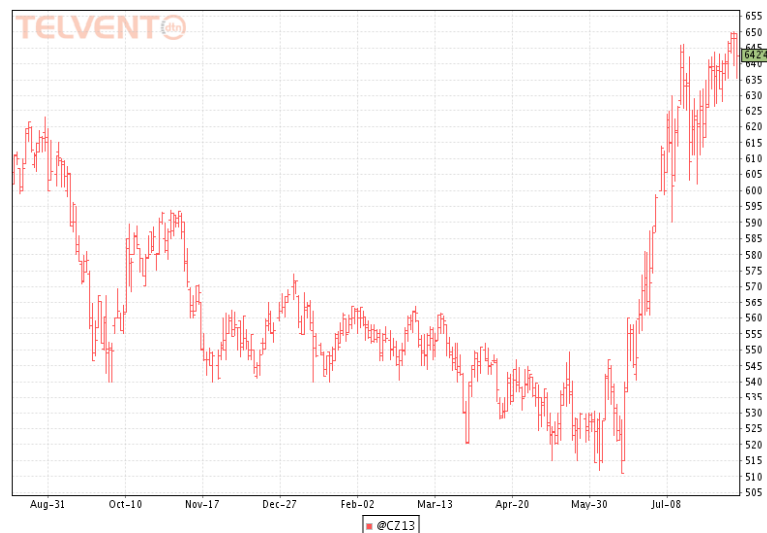
### Revenue Protection

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

### CME Traded Option

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

## 2013 Dec Corn



## Summary

1. 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.
6. 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			State	Non-Irrigated		
Max	Min	Avg		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	Iowa	2.50	1.93	2.27
<u>2.22</u>	<u>0.29</u>	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	<u>2.50</u>	<u>1.49</u>	<u>2.12</u>
2.50	1.85	2.38	North Dakota	<u>2.50</u>	<u>1.49</u>	<u>2.18</u>
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

## Soybean Trend Adjusted Adjustment by State

Irrigated			State	Non-Irrigated		
Max	Min	Avg		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	Iowa	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%

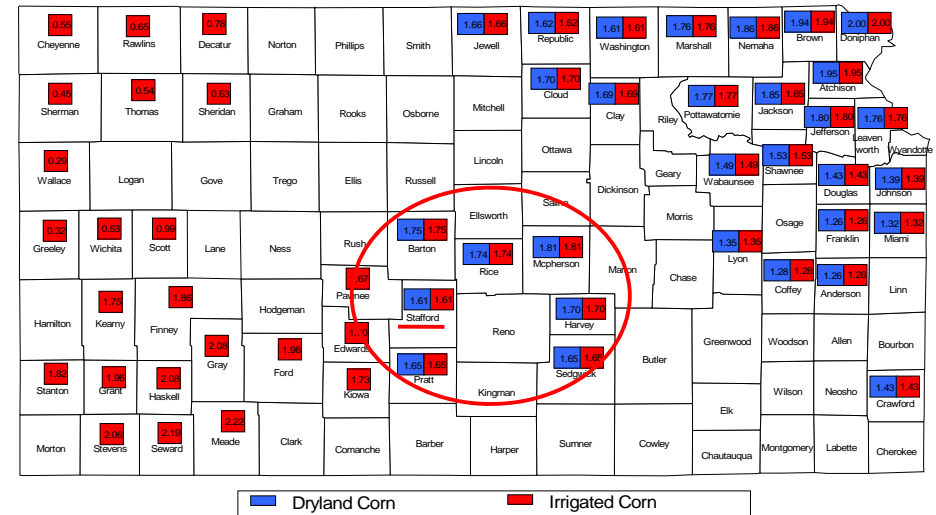
Trend

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.

## 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 provide the same dollars and increase the market value of the Asian yield adjusted puts.

## 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			
	<u>No Trend</u>	<u>Trend</u>	<u>No Trend</u> <u>Trend</u>
Coverage	85%	80%	80%    75%
\$ Coverage	\$859.38	\$849.73	\$808.83
Coverage Trend			\$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
<b>Unsubsidized Rate Per \$100</b>	<b>\$11.99</b>		<b>\$10.23</b>
<b>Unsubsidized Rate Per \$100</b>		<b>\$11.63</b>	<b>\$9.91</b>
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		
Price Election	\$5.68	Price Election for 2012	
Volatility	0.22	Volatility for 2012	
Revenue Protection Optional	Unit Rates for 2012		
	<b>No Trend</b>	<b>Trend</b>	
Coverage	85%	80%	
\$ Coverage	\$280.02		
Coverage Trend		\$304.45	
Unsubsidized Premium per Acre	\$68.55		
Unsubsidized Premium per Acre		\$82.61	
Added Coverage	\$16.47		
Added Coverage Trend		\$40.90	
Added Subsidy for Trend		\$13.60	
<b>Unsubsidized Rate Per \$100</b>	<b>\$24.48</b>		
<b>Unsubsidized Rate Per \$100</b>		<b>\$27.13</b>	
Farm Paid Rate Per \$100	\$15.18		
Farm Paid Rate Per \$100		\$14.11	

## Public Policy Objective?

1. Enhance farm income?
2. Reduce farm financial risk? Should government subsidize risk management?
3. 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?

## Converting the Farm Bill to Risk Management

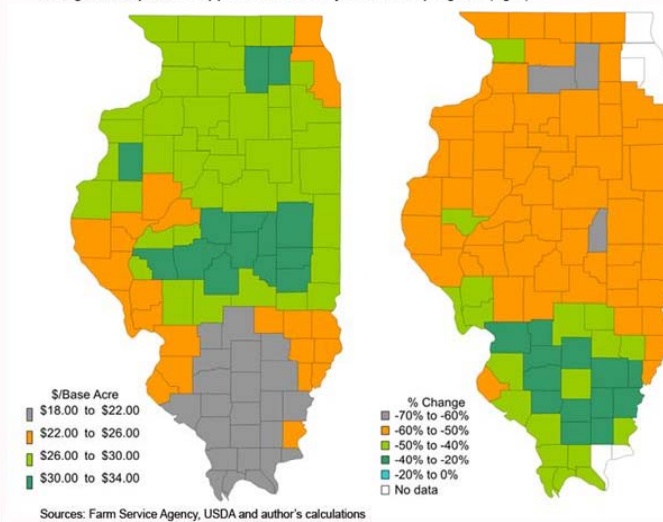
1. Yield; measured at farm level, county, district or state?
2. A payment factor (co-pay, quota share) or pay only base acres, or 85% of planted base acres.
3. A payment factor that pays a share of the calculated loss will reduce costs and adverse selection and any overlap with crop insurance.
4. Payment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

## Estimates by Nick Paulson, University of Illinois

Figure 1. Direct payments per base acre for Illinois corn (left) and estimated percentage changes in expected support under county-level ARC program (right)



## 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 60 percent 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 (1<sup>st</sup> 5 months) are below target prices

## Proposed Target Prices

Crop	2008 Farm Bill Target Price	New Proposed Target Price	MYA Price 2006-2010
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

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

### Estimated savings \$2.26 billion

State	% Farm > \$250K	\$ Reduction
California	22.6%	\$98 Million
Arizona	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
Tennessee	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", [http://www.farmdocdaily.illinois.edu/2012/01/distributional\\_impacts\\_of\\_capp.html](http://www.farmdocdaily.illinois.edu/2012/01/distributional_impacts_of_capp.html), January 13, 2012.

## Proposed Farm Bill from Ag Committees

1. 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

## 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.

## Area Plans' Policy Questions

1. 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%

## 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.

## 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.

## Thank You

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