



Crop Insurance – New Features, Programs & Performance

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2011 Illinois Farm Economics Summit

The Profitability of Illinois Agriculture: Managing in a Turbulent World



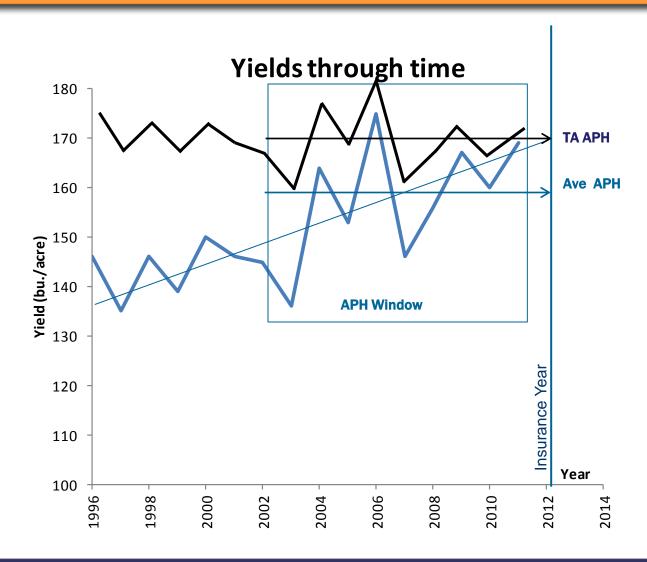
Major issues to be aware of for 2012

- Trend-Adjusted APH Yield Endorsement
- Re-ratings of major products
 - **≻Other revisions in programs planned**
 - >CLD, Ref Yield, exponent, remainder of phase-in
- Private products, add-ons and eliminations

Trend Adjusted APH: Main Idea



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Trend Adjusted APH



- Election to adjust yields in APH database
- Better calibrate APH to E(yield)
 - >Improve accuracy of coverage elections
 - > Encourage better data practices
- Applies to Corn and Soybean APH policies (except organic, silage, transitional)
- Does not apply to CAT, excludes some nonactual yields
- 2012 Pilot, 14 states, selected counties

TA APH - Data Eligibility



- Eligible county/crops, RMA trends
- At least one actual in previous 4 crop yrs.
- By Sales Closing Date
- All producer databases in county/crop, application or policy change to TA
- All coverage levels (except CAT)
- Continuous (pilot) unless cancelled or terminated by FCIC
- Transferred policies must re-elect

TA APH - Trend Rates

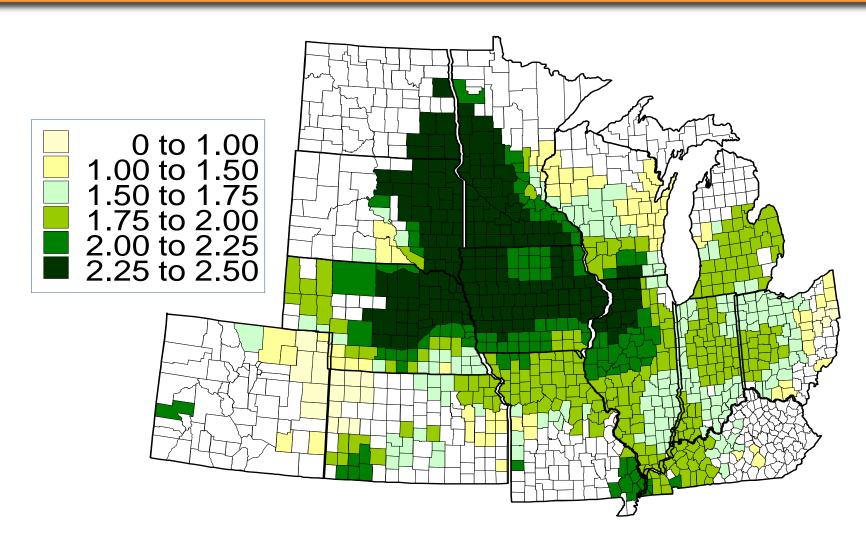


- Eligible counties for 2012 passed minimum county and CRD acreage restrictions
- NASS data from 1975-2010
- Weather data (PDSI variants)
- Spatial smoothing CRD to county
- Conservative decisions by practice
- Max trend rate capped at 90th percentile
 - ➤ Corn 2.50 bu./year
 - ➤ Soybeans .58 bu./year

Trend Rates 2012 - Corn

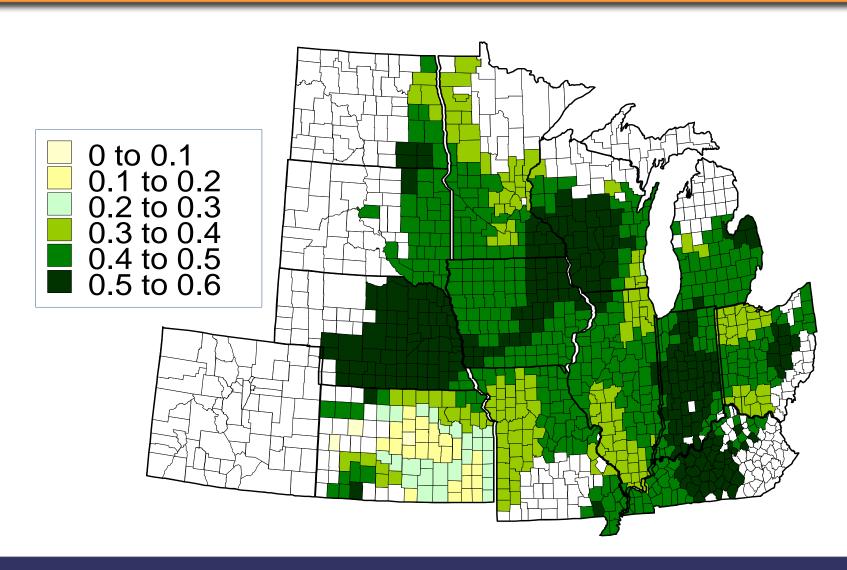


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Trend Rates 2012 - Soybeans I farmdoc

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Example Illinois Trends



County	Corn Trend	Soybean Trend
DeKalb	1.96	.39
Champaign	1.88	.49
Henry	2.42	.44
Macon	1.95	.47
Saline	1.73	.41
Washington	1.78	.37

(see upcoming farmdoc website release of calculator and TA yield tools)

TA APH - How Applied



- Cups and Floors do not apply
 - ➤ Rare case could result in better "floors" than actual yields adjusted for trend
- Adjustments and substitutions of yields that are date-dependent can be adjusted
- Yield reductions
 - > Excessive yield reductions still apply
 - ➤ Reductions in approved APH still apply

TA APH – How Applied



- Step 1: Verify at least 1 actual in past four
- Step 2: At least 4 in past 12, factor 100%; else prorate (e.g., 3=75%, 2=50%, 1=25%)
- Step 3: Determine which yields are eligible to adjust (A, AY, NA, PA,... see *list at RMA site*)
- Step 4: Determine age of each adjustable yield (age = insurance year crop year of yield)
- Step 5,6: Multiply age by trend and *factor*, add to original yield for eligible yields
- Step 7: Calculate average of all yields (adjusted and unadjusted) in database

TA APH - How Applied



Step 8: Compare TA APH to limitations (max yield adjusted one period – e.g., if max yield is 160 and trend is 2 bu./year, then TA APH is restricted to be no more than 162 after adjustment)

Step 9: Calculate APH Yield without trend adjustment and without yield limitations (used in establishing rate with trend)

TA APH – Examples



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Insurance Year	2012
County Trend Rate	2.0
Unit: ABC123	

Year	Production	Acres	type	Yield	TA Yield
2007	12800	80	Α	160	170
2008	16500	100	Α	165	173
2009	12560	80	Α	157	163
2010	18500	100	Α	185	189
2011	20760	120	Α	173	175
T Yield = :	165	Approved	APH	168	174
		Average Yield		168	168
		Rate Yield		168	168

All Records Eligible for 100% adjustment of 2 bu./acre/year

TA APH = 174 is less than 187 (max + trend)

Ave without adjustment is 168

TA APH – Examples



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Insurance Year	2012
County Trend Rate	1.80
Unit: DEF456	

Year	Production	Acres	type	Yield	TA Yield
2003		60	IL	145	145
2005		60	L	140	140
2007	10990	70	Α	157	162
2009		60	Z		
2011	8650	50	Α	173	174
T Yield =	165	Approved	APH	154	155
		Average Yield		154	154
		Rate Yield		154	154

"A" Records Eligible for 50% adjustment of 1.8 bu./acre/year
TA APH = 155 is less than 173+1.8 = 175 (max + trend, rounded)
Ave without adjustment is 154

FAST Tool for TA APH



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Trend Adjusted APH Yield Estimator



State:	Illinois
County:	McLean
Crop:	Corn
Insurance year:	2012
No of yields:	10
County trend adjustment:	2.06
Adjustment percent:	100%
Yearly adjustment:	2.06

					Trend	_
			Yield	Trend	Adjusted	
Number	Year	Yield	Туре	Adjustment	Yield	
				_		_
1	2002	158	Α	20.6	178.6	
2	2003	144	Α	18.5	162.5	
3	2004	182	Α	16.5	198.5	
4	2005	185	Α	14.4	199.4	
5	2006	161	Α	12.4	173.4	
6	2007	182	Α	10.3	192.3	
7	2008	196	Α	8.2	204.2	
8	2009	190	Α	6.2	196.2	
9	2010	186	Α	4.1	190.1	
10	2011	170	Α	2.1	172.1	
		Trend Adjusted APH Yield: 186.7				ĺ
		Average Yield: 175.0				

Typical Farm in McLean County

- County has a 2.06 county trend adjustment
- 175 bu APH without trend adjustment
- 186.7 bu TA APH yield

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Premium Rates



- General idea: look up "bushel" equivalent under TA. For example if producer with 160 APH bought 85% (136 coverage) and TA APH is 170, then 80% coverage is equivalent bushels and carries equivalent total premium.
- Bushels greater than max coverage of unadjusted yield at extrapolated rate.
- Subsidy schedules unchanged

Premium Example



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Logan, IL - Premium info, 400 ac. Enterprise Units, 2011 rates

	APH =160 bu		TA APH =170 bu	
Coverage	Bu. Trigger F	Premiums, \$/Acre	Bu. Trigger	Premiums, \$/Acre
55%	88	1.83	94	2.30
60%	96	2.52	102	3.21
65%	104	3.44	111	4.70
70%	112	4.99	119	6.93
75%	120	8.29	128	11.29
80%	128	15.98	136	21.19
85%	136	31.13	145	39.27

Premium Example



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McLean, IL - Premium info, 400 ac. Enterprise Units, 2011 rates

	APH	=160 bu	TA API	H =170 bu
Coverage	Bu. Trigger 1	Premiums, \$/Acre	Bu. Trigger	Premiums, \$/Acre
55%	88	1.37	94	1.75
60%	96	1.93	102	2.49
65%	104	2.67	111	3.73
70%	112	3.98	119	5.21
75%	120	6.20	128	8.09
80%	128	11.43	136	15.05
85%	136	22.11	145	27.76

Re-Ratings



 Accumulating evidence that insurance premiums for Corn and Soybeans are "too high" relative to payments

• Loss Ratio =
$$\left(\frac{InsurancePayments}{TotalPremiums} \right)$$

- Federally mandated target = 1.0
- Should have no geographic pattern

Crop Insurance Performance



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Crop	Total Premium	Subsidy	Total Payments	Loss Ratio
		\$ (millions)		
Corn	23,389	13,167	13,743	0.59
Soybeans	13,795	7,902	9,019	0.65
Wheat	10,415	6,017	10,124	0.97
Cotton	5,580	3,453	5,864	1.05
Grain Sorghum	1,407	834	1,457	1.04
Potatoes	966	614	699	0.72
Nursery (Fg&C)	700	573	566	0.81
Peanuts	660	365	790	1.19
Dry Beans	626	364	564	0.90
Sunflowers	625	372	784	1.25
Sugar Beets	537	293	455	0.84
All Other	8,163	5,218	7,726	0.95

Crops sorted by loss ratio, Totals US, 1995-2010

Crop Insurance Performance



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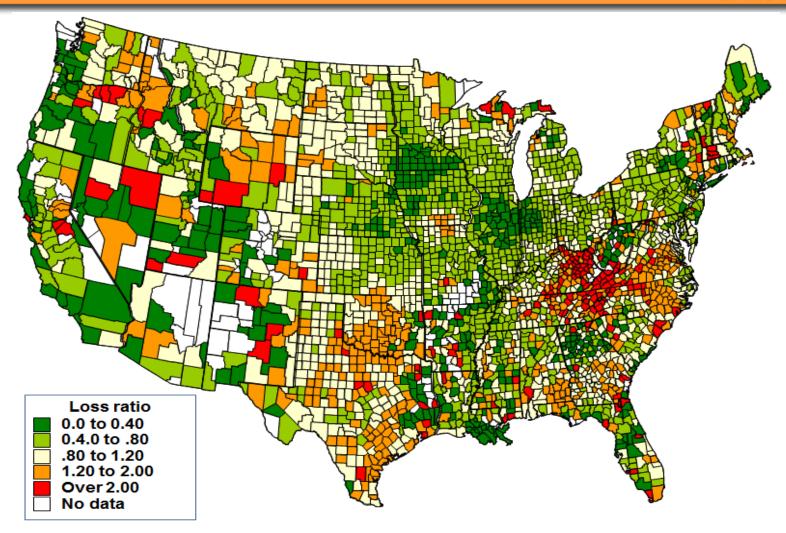
State	Total Premium	Subsidy	Total Payments	Loss Ratio
		\$ (millions)		
Illinois	49,354	26,054	22,045	0.45
Hawaii	191	128	89	0.46
lowa	55,426	28,885	27,847	0.50
Minnesota	50,687	28,263	26,245	0.52
Nebraska	42,565	23,381	22,529	0.53
Indiana	26,062	13,478	15,073	0.58
South Dakaota	39,288	23,098	33,385	0.85
North Dakota	55,652	32,242	50,420	0.91
Texas	59,646	36,359	66,392	1.11
Alabama	5,403	3,138	6,411	1.19
Oklahoma	10,774	6,448	12,900	1.20
North Carolina	13,374	7,948	17,068	1.28

States sorted by loss ratio, Totals US, 1995-2010

Loss Ratios by County, All Crops



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Re-Rating Process



- Illinois and National Corn discussed issue with Risk Management Agency
- RMA contracted a study, study results indicated rates too high
- Begin phased-in implementation (1/3 of effect in 2012)
- Other ratings changes also occurring simultaneously
 - > CLDs (flatter), Ref Yields (higher), exponents (toward 1)
 - Enterprise acreage effect (reduced)

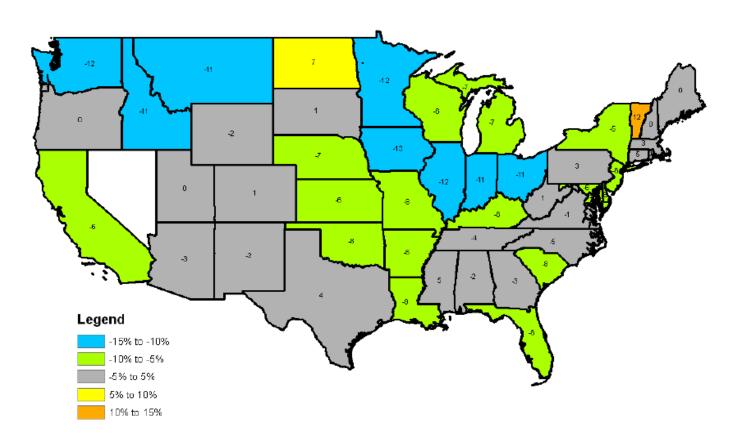
RMA estimated rate change



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Re-Rating Map Corn

Corn Percent Change in Total Rate



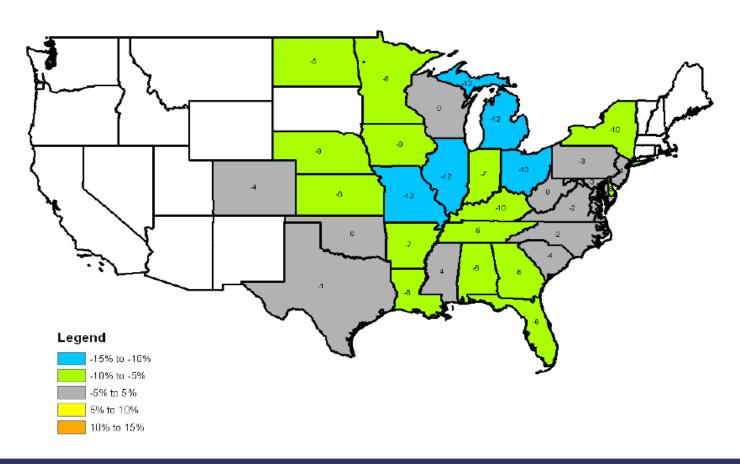
RMA estimated rate change



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Re-Rating Map Soybeans

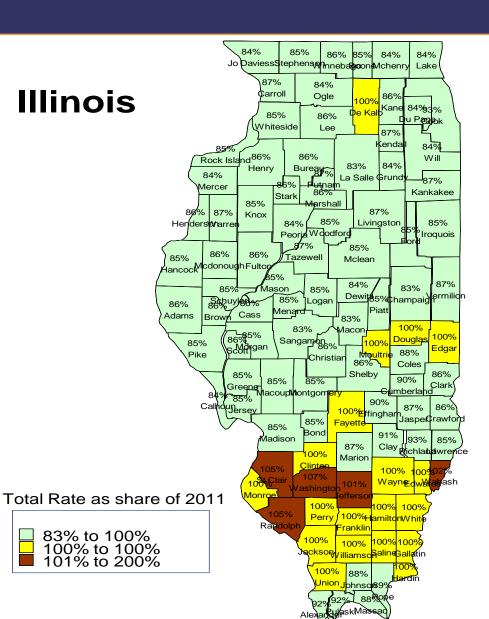
Soybeans Percent Change in Total Rate



RMA base rates 2012/2011



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Corn: Source - RMA

Other issues



- Several NRS products being introduced
 - **➤ Limited opportunity to compete on products**
 - ➤ Introduce products associated with insurance
- BE discount incorporated into base rate
- BYA product discontinued
- Projected Price and Volatility factors are key to final premiums





Discussion/Questions







