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2010 CROP INSURANCE UPDATE: MODEL PROGRAMS AND COMMON QUESTIONS

Most Illinois and Midwest farmers will find crop insurance choice coming down to one of the following two programs:

1. Crop Revenue Coverage (CRC) or Revenue Assurance with the harvest price option (RA-HP). Choose the CRC or RA-HP policy with the lowest premium. In most cases, enterprise units will be an appropriate choice as this unit choice will have much lower premiums than basic and optional units. Many farms will find 80 and 85% coverage levels advantageous. The biotech endorsement will further lower premiums for corn policies.
2. Group Risk Income Plan with the harvest revenue option (GRIP-HR). Most should purchase this product at the 90% coverage level. Vary the protection level to set the premium to the desired level.

These programs are specified given that the farm faces risk that cannot be self insured. Reasons why these two programs are the most advantageous are covered by answering the following commonly asked questions. The final question discusses the choice of the above, two programs. Questions are:

1. What are base prices in 2010?
2. What has happened to premium costs in 2010 compared to 2009?
3. What are the major changes to crop insurance provisions in 2010?
4. What is an enterprise unit and how does it compared to basic and optional units?
5. Should I use enterprise units?
6. What coverage level should be used?
7. I want to protect myself against disasters and buy a low coverage level policy and keep insurance premiums to a minimum. Is there anything wrong with this strategy?
8. Are lagging APH yields an issue?
9. What is the difference between CRC and RA-HP
10. What distinguishes CRC/RA-HP from GRIP?
11. Is the harvest revenue option worthwhile?
12. Which revenue policy provides better price protection?
13. Between the CRC/RA-HP (enterprise unit, high coverage level) and GRIP-HR (90% coverage level) programs, which should an individual select?

What are the base prices in 2010?
Base prices for 2010 are:

$3.99 for corn, and
$9.23 for soybeans.

These base prices are used to set revenue guarantees on Crop Revenue Coverage (CRC), Revenue Assurance (RA), Group Risk Income Plan (GRIP), and Income Protection (IP). Settlement prices of Chicago Mercantile Exchange (CME) futures contracts averaged during the month of February are used to arrive at base prices. The December contract is used for corn and the November contract is used for soybeans.

As compared to 2009, the base price for corn is slightly lower in 2010: $4.04 in 2009 as compared to $3.99 in 2010. Because the base prices for the two years are close, there will not be much change in revenue guarantees between 2009 and 2010 given the same coverage level. When compared to 2009, the 2010 base price for soybeans is higher: $8.80 in 2009 as compared to $9.23 in 2010. As a result of this increase, revenue guarantee products for soybeans will be higher in 2010 given the same coverage level and the same Actual Production History (APH) or expected yield.

The 2010 prices are relative high compared to other prices in the decade of the 2000s (see Table 1). The $3.99 base price for corn is the fourth highest base price since 2000. The $9.23 base price for soybeans is the second highest price since 2000. Only the 2008 price of $13.36 exceeds the 2010 price.

Table 1. Base Prices, 2000s.

Year	Corn	Soybeans
	$ per bushel	
2000	2.51	5.32
2001	2.46	4.67
2002	2.32	4.50
2003	2.42	5.26
2004	2.83	6.72
2005	2.32	5.53
2006	2.50	6.00
2007	4.06	8.09
2008	5.40	13.36
2009	4.04	8.80
2010	3.99	9.23

What has happened to premium costs in 2010 compared to 2009?

Generally, farmer-paid insurance premiums will be lower in 2010 for CRC and RA products. Table 2 shows CRC premiums for Sangamon County given a 170 bushel APH yield and enterprise units with 500 acres. At a 75% coverage level the 2010 premium is $4.94, or 15 percent lower than the 2009 premium of $5.85. At an 85% coverage level, the 2010 premium is $18.73 per acre, or 11% below the $21.13 premium for 2009.

Table 2. Premiums in Sangamon County (170 bushel APH, Enterprise Units with 500

Coverage Levels	Year	
	2009	2010
	$ per acre	
75%	5.85	4.94
80%	10.85	9.68
85%	21.13	18.73

Similar reductions occur in most counties. Premiums are reduced primary due to lower CRC price factors and RA volatilities. Market conditions during the month of February suggest that price volatility, or price variability, will be less in 2010 as compared to 2009. Because market estimates of variability are less, crop insurance premiums are lower. In many counties, GRIP premiums saw large reductions. On corn, for example, GRIP-HR reduction exceeded 30% in 43 out of 94 counties in which GRIP-HR is available (see Table 3). Most of these counties are located in northern and central Illinois. However, being located in northern and central Illinois does not guarantee a large premium reduction. For example, Champaign County only has a 9% reduction, McLean County only has a 4% reduction, and Warren County only has a 7% reduction. Location of these low reduction counties is sporadic. Several counties in southern Illinois have premium increases: Clay (1%), Jefferson (2%), Massic (1%), Perry (5%), Saline (9%), Wayne (2%), and Williamson (8%) counties.

Farmers in those counties with large GRIP reductions should give serious consideration to the purchase of GRIP-HR.

Table 3. GRIP-HR Premiums in Illinois, Corn,90% Coverage Level, 100% Protection Level, 2009 and 2010.

County	Year 2009	Year 2010	Percent Change	County	Year 2009	Year 2010	Percent Change
	$ per acre				$ per acre		
Adams	62.97	38.37	-39%	McDonough	62.12	38.18	-39%
Bond	53.32	51.17	-4%	McHenry	54.56	49.68	-9%
Boone	58.54	57.54	-2%	McLean	63.54	60.84	-4%
Brown	55.82	38.01	-32%	Macon	69.37	40.43	-42%
Bureau	62.32	52.73	-15%	Macoupin	60.68	34.80	-43%
Calhoun	53.66	41.45	-23%	Madison	52.85	31.02	-41%
Carroll	63.48	56.95	-10%	Marion	65.35	60.38	-8%
Cass	58.11	47.05	-19%	Marshall	63.81	38.19	-40%
Champaign	63.32	57.63	-9%	Mason	63.79	39.46	-38%
Christian	67.49	40.74	-40%	Massac	54.99	55.43	1%
Clark	61.51	40.44	-34%	Menard	63.58	34.88	-45%
Clay	62.37	63.28	1%	Mercer	62.52	41.23	-34%
Clinton	52.97	36.61	-31%	Monroe	51.42	46.94	-9%
Coles	63.99	42.74	-33%	Montgomery	61.61	37.18	-40%
Crawford	55.80	35.95	-36%	Morgan	61.78	46.67	-24%
Cumberland	58.01	38.74	-33%	Moultrie	65.77	41.43	-37%
DeKalb	61.70	42.86	-31%	Ogle	57.72	50.79	-12%
De Witt	67.03	38.54	-43%	Peoria	63.07	57.77	-8%
Douglas	63.66	40.64	-36%	Perry	46.66	48.83	5%
Edgar	60.77	39.23	-35%	Piatt	68.42	39.75	-42%
Edwards	48.78	36.90	-24%	Pike	58.60	34.90	-40%
Effingham	59.71	40.16	-33%	Pulaski	56.40	56.92	1%
Fayette	59.59	60.57	2%	Putnam	62.54	56.36	-10%
Ford	66.30	45.39	-32%	Randolph	47.26	48.05	2%
Franklin	52.62	54.99	5%	Richland	52.61	36.12	-31%
Fulton	57.14	56.83	-1%	Rock Island	61.07	51.57	-16%
Gallatin	60.03	39.22	-35%	St. Clair	51.53	37.39	-27%
Greene	56.36	52.95	-6%	Saline	55.16	60.32	9%
Grundy	66.12	60.85	-8%	Sangamon	64.72	40.88	-37%
Hamilton	61.62	62.21	1%	Schuyler	62.50	38.50	-38%
Hancock	62.61	60.65	-3%	Scott	60.63	50.24	-17%
Henderson	59.67	48.14	-19%	Shelby	59.38	38.58	-35%
Henry	61.00	42.13	-31%	Stark	65.06	55.99	-14%
Iroquois	62.64	42.04	-33%	Stephenson	58.17	57.19	-2%
Jackson	55.34	45.90	-17%	Tazewell	68.28	38.38	-44%
Jasper	59.29	41.85	-29%	Union	53.58	48.31	-10%
Jefferson	57.46	58.33	2%	Vermilion	62.21	38.96	-37%
Jersey	56.90	35.29	-38%	Wabash	52.91	37.20	-30%
Jo Daviess	59.59	39.87	-33%	Warren	63.79	59.29	-7%
Kane	58.15	44.63	-23%	Washington	57.01	59.55	4%
Kankakee	62.39	39.79	-36%	Wayne	67.14	68.26	2%
Kendall	59.38	51.85	-13%	White	55.09	53.91	-2%
Knox	65.18	41.12	-37%	Whiteside	57.32	37.38	-35%
LaSalle	59.21	48.24	-19%	Will	60.12	58.31	-3%
Lawrence	57.20	35.65	-38%	Williamson	47.07	51.07	8%
Lee	60.66	51.28	-15%	Winnebago	55.73	50.03	-10%
Livingston	66.52	41.36	-38%	Woodford	67.75	37.98	-44%
Logan	67.09	39.38	-41%				

What are the major changes to crop insurance provisions in 2010?

No new Federally-subsidized, multi-peril products have been made introduced in 2010. Farmers will have the same products available in 2010 as in 2009: Actual Production History (APH), Revenue Assurance (RA), Crop Revenue Coverage (CRC), Group Risk Plan (GRP), and Group Risk Income Plan (GRIP). Nor have any major changes been **made to the existing products.**

There are several changes that insured may notice:

- GRP and GRIP have been eliminated from some counties. For example, county products for corn have been eliminated from Lake County, Illinois.
- Hybrids qualifying for the Biotech Endorsement (BE) have been expanded. The BE endorsement allows farmers to receive premium reductions on corn policies if 75 percent of an insured unit are planted to qualifying hybrids. Before 2010, qualifying hybrids were triple stacks. This year, smart stacks will be qualified. A list of qualifying hybrids is available at: http://www3.rma.usda.gov/apps/behybrids/.
- The definition of "enterprise" units has been changed. More on this change is described in the following section

What is an enterprise unit and how does it compare to basic and optional units?

Enterprise, basic, and optional units that can be used with RA and CRC policies (RA policies also have whole-farm units that combine corn and soybeans). A basic unit is all of one crop in a county under the same ownership split. If a farm has owned land and share rent land from two landlords, the farm has three basic units: one for owned land and one each for the two landlords. If a farm has owned land and cash rent farmland from two different landlords, the farm has one basic unit. Since the ownership split is the same for owned and cash rent farmland, it falls in one basic unit. Optional units divide farmland in a basic unit into smaller units based on township sections. An enterprise unit is all of one crop in a county. To summarize:

1. Enterprise units – all of a crop in a county, and
2. Basic units – all of a crop in a county divided by ownership split, and
3. Optional units – divisions of basic units by township section.

There are specific criteria for determining with a farm is eligible for an enterprise unit. A simple, screening rule for determining if a farm is eligible for enterprise units is:

1. Plant at least 20 acres of a crop in two different sections in the same county, and
2. Plant at least 50 acres of the crop for CRC enterprise units.

If these two rules of thumb are met, a farm will qualify for an enterprise unit. The above criteria are a screening tool for determining whether a farm meets the enterprise unit criteria. There will be some farms that don't meet the above screening rules that will still qualify for enterprise units. For example, a farm that has all land in one section but has two different FSA farm serial numbers and plants at least 20 acres in each crop will qualify for enterprise units. Also the 20 acres can be replaced by 20% of insured acres when small numbers of acres are insured. These situations need to be discussed with a crop insurance agent.

Should I use enterprise units?

Enterprise units should be considered if a farm is using either CRC or RA. At the urging of the National Corn Growers Association, a pilot program was included as part of the 2008 Farm Bill that increased subsidy levels on enterprise units. Higher subsidy level then caused farmer paid premiums to fall. As a result, enterprise unit premiums usually are 40 to 50 percent lower than basic unit premiums.

Premiums are shown in Table 4 for a Christian County farm having a 170 bushel APH and 500 acres in corn (CRC's enterprise premiums depends on number of acres). At a 75% coverage level, the enterprise premium is $5.71 per acre while the basic unit premium is $13.35 per acre. This is a difference of $7.64 per acre, meaning that basic units must average $7.64 over time in additional payments to be worthwhile compared to enterprise units. At the same coverage level, basic units may pay out more than enterprise units because one basic unit may have a yield shortfall causing an insurance payment for a policy using basic units that would not occur if all basic units are aggregated into an enterprise unit. This can and does happen, particularly if basic or optional units are less than 100 acres.

Table 4. Premiums for CRC in Christian County, Corn, 170 Bushel APH, 500 Acres, 2010.

Coverage Level	Units		
	Enterprise	Basic	Optional
	$ per Acre		
50%	1.11	2.09	2.32
55%	1.57	3.22	3.58
60%	2.14	4.38	4.87
65%	2.84	6.62	7.36
70%	3.78	9.05	10.06
75%	5.71	13.35	14.84
80%	10.30	20.49	22.77
85%	19.55	32.31	35.79

However, there is a tradeoff. One could move to basic units or increase coverage level. Take, for example, a Christian County using an enterprise unit and insuring at the 75% coverage level. This farm would pay $5.71 per acre in premium (see Table 4). The farm could move to basic units at the 75% coverage level and pay $13.35 per acre. This gives the opportunity for additional yield-based insurance payments caused by having smaller units. Or they could increase coverage level to 80% and pay $10.30 per acre. The increase in coverage level has a lower premium than moving to basic units. Under the higher coverage level, higher insurance payments of the higher guarantee. Raising the guarantee increases chances of payments due to yield shortfalls. It also increases payments due to price shortfalls. Most Illinois farms would find the increase in coverage level more beneficial than moving from enterprise to basis units.

There will be some situations in which having basic units will be more beneficial than enterprise units. This occurs if a farm has land of dramatic different qualities and risks. In these cases, a farm could generate payments on some of the units that are more variable.

What coverage level should be used?

I suggest a fairly high coverage level if the desire is to provide high revenue protection and not insuring solely against disasters. If CRC or RA policies are used, a coverage level of 80% to 85% seems appropriate. If GRIP is used, a coverage level of 90% is appropriate.

Use of coverage levels lower than 80% will result in few crop insurance payments. To illustrate, Table 5, shows crop insurance payments for corn given a CRC policy at a 75% coverage level, a $3.99 base price, and an APH yield of 170 bushels. The 170 bushel APH yield reflects a typical value for northern and central Illinois.

Given the 75% coverage level, yield loses must be substantial before crop insurance payments are made. Given that the harvest price is equal to or above the $3.99 base price, yields must be below 127.5 bushels (170 APH x .75). This would represent a near disaster-level yield that is not likely to happen very often.

Similarly, prices would have to decline substantially before payments are made. Taking a 75% coverage level and harvest yields are at the 170 bushel APH yield, the harvest price would fall be 25% before insurance payments occur. This would be a decline from a $3.99 base price to a $3.00 harvest price. Price declines of this magnitude are possible, but also are not as likely as more moderate falls in the $.50 per bushel range. Moreover, if prices fall by $1.00, it is likely that yields in the Midwest are good. Often, good yields are the cause of price declines. Hence, it is more likely that a farm's yield is above the APH yield when prices have fallen by $1.00 per bushel. Hence, the chance of a fall to a $3.00 harvest price and an actual yield at the APH yield is low.

Table 5. Per Acres Payments Under Different Harvest Prices and Yields for a CRC Corn Policy with a 170 Bushel APH and a 75% Coverage Level.

Harvest	Harvest Price													
Yield	2.70	2.90	3.10	3.30	3.50	3.70	3.90	4.10	4.30	4.50	4.70	4.90	5.10	5.30
120	185	161	137	113	89	65	41	31	32	34	35	37	38	40
125	171	146	121	96	71	46	21	10	11	11	12	12	13	13
130	158	132	106	80	54	28	2							
135	144	117	90	63	36	9								
140	131	103	75	47	19									
145	117	88	59	30	1									
150	104	74	44	14										
155	90	59	28											
160	77	45	13											
165	63	30												
170	50	16												
175	36	1												
180	23													
185	9													
190														

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I want to protect myself against disasters and buy a low coverage level policy and keep insurance premiums to a minimum. Is there anything wrong with this strategy?

There is nothing wrong with this strategy; however, several things should be kept in mind. First, crop insurance will not likely make payments when a low coverage level is selected. Suppose that a 65% coverage level is chosen and the APH yield is 170 bushels. Given that prices did not decline, yields must be below 110.5 bushels (170 x .65) before payments are made. In northern and central Illinois, yields below 110 bushel are possible, but not likely. A drought year similar to 1988 could generate these low yields. Second, when payments occur for a low coverage level policy, they will likely be small because of a low guarantee. A low coverage level policy is appropriate for one who can self insure against much or the revenue loss due to low yields and prices.

Are lagging APH yields an issue?

Yes. Most farms' APH yields will lag the yield that is expected if a "typical" growing season occurs, particularly for corn. This occurs because the APH yield average up to the last ten years of yields. In most places in the Midwest, yields are increasing by two bushels per year. Given a ten year yield history, the APH yield will, on average, lag the expected yield by 10 bushels. On some farms, the APH yield can lag the expected yield by much more than 10 bushels.

The lagging yield reduces the chance for insurance payments. This occurs even for price declines as a lagging APH yield causes the need for larger price declines before insurance payments occur. To illustrate, take the case of a farm having an expected yield of 200 bushels and the 2010 base price of $3.99. Suppose this farm gets its expected yield of 200 bushels in 2010 and has purchase a revenue policy with an 80% coverage level. Lower APH yields will cause lower harvest prices before an insurnance payment is received. If the farm has a 200 bushel APH yield, equal to its expected and realized yield, the harvest price has to be less than $3.19 before an insurance payment is received. If the farm has a 190 APH yield, price has to be less than $3.03. If the farm has an 180 bushel APH yield, the price has to less than $2.88. If the farm has a 170 bushel APH yield, the harvest price has to less than $2.71.

If a farm has an APH yield substantially below its expected yield, the farm may wish to consider a GRIP policy rather than CRC or RA.

What is the difference between CRC and RA-HP?

Not much anymore. There are two differences. First, unit structure definition varies between CRC and RA. CRC has a 50 acre limit while RA does not. Second, the harvest price for corn differs between CRC and RA. Settlement prices for the month of October are used for CRC while November settlement prices are used for RA. Because of these small differences, the suggestion is to choose the product with the lowest premium.

What distinguishes CRC/RA-HP from GRIP?

CRC and RA used farm (or unit) yields in setting guarantees and premiums. GRIP uses county yields. CRC and RA have replant and prevented planting provisions while GRIP does not. The crop must be planted before GRIP coverage occurs.

Because GRIP uses county yields, the yield protection from GRIP differs from that of CRC/RA. There are possibilities of low farm yields that would trigger CRC/RA payments while GRIP would make no payments.

Is the harvest revenue option worthwhile?

RA has two options: RA with the base price option (RA-BP) and RA with the harvest price option (RA-HP). Under the base price option, the guarantee is set with the base price. With the harvest price option, the higher of the base or harvest price is used in setting the guarantee.

In Illinois, CRC which has the harvest price option often has a lower premium than RA-BP, particularly for corn. In these cases, it makes sense to take CRC over RA-BP since CRC will pay more often than RA-BP. Even when RA-BP is less than CRC, usually in soybeans, the price difference is not that great and suggests using the harvest price option.

GRIP has a similar option: GRIP without the harvest revenue option (GRIP-NoHR) while not increase the guarantee if the harvest price is above the base price while GRIP with the harvest revenue option (GRIP-HR) will increase the guarantee. Here, premium difference can be more substantial, sometimes exceeding $10 at a 90% coverage level and a high protection level. Arguments can be made for GRIP-NoHR in these cases. I suggest staying with the harvest revenue option to cover drought year situations. In a drought year, yields will fall. Given relatively tight stocks and biofuel demands, prices particularly for corn could rise significantly if a short crop results.

Which revenue policy provides better "price" protection?

GRIP will provide better price protection when GRIP is purchased with a 90% coverage level. This occurs for two reasons:

1. The highest coverage level for CRC and RA is 85%. Difference in price declines is significantly different for a 90% coverage level as compared to an 85% coverage level. Given the $3.99 base price and yields at their guarantee levels, the harvest price must decline to $3.59 under a 90% coverage level before payments are made and $3.39 under an 85% coverage level. The $.20 difference in price will cause many more payments under the 90% coverage level.
2. The expected yield used in setting GRIP guarantee does not lag the most likely 2010 yield as much as APH yields under CRC and RA. The Risk Management Agency uses a rather complicated yield fitting methodology to set expected yields for GRIP. On average, this process causes the expected GRIP yield to be near what one expects for the county. Because APH yields are based on a yield history, they lag what a farm expects to get a yield. Hence, it is easier to trigger payments under GRIP than under CRC or RA.

To illustrate, net insurance payments for GRIP and CRC are shown in Figure 1 for corn in Macon County, Illinois. GRIP payments are shown at a 90% coverage level for two protection levels: 100% and 60%. The 100% protection level policy provides the maximum payments and has a farmer-paid premium of $38.70 per acre. The 60% protection level policy is the lowest protection level and has premium of $23.13. Its payments and premiums will be 60% of the 100% protection level policy.

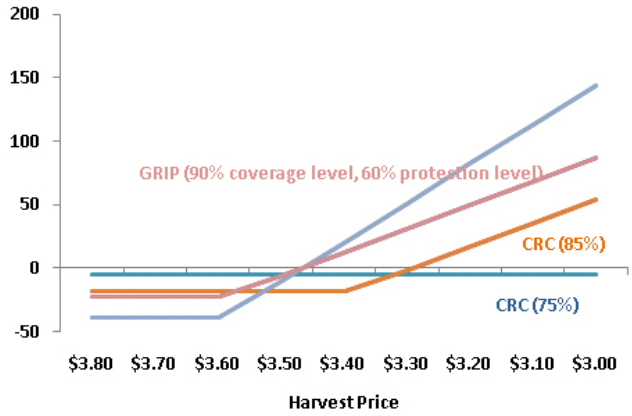
Figure 1 shows payments for CRC policies with 85% and 75% coverage levels. RA policies are not shown as they will have the same payments as the CRC policies. In keeping with the emphasis on lower prices, CRC premiums are for enterprise units. CRC enterprise unit premiums will vary with acres insured. Premiums in Figure 1 reflect 500 acres insured. The Actual Production History (APH) yield used in quoting premiums is 185 bushels per acre. The 85% coverage level has a $18.70 premium while the 75% coverage level has a $5.55 premium.

Net payments are shown in Figure 1, meaning that insurance premiums are subtracted from the payments. Negative numbers indicate that insurance premiums exceed insurance payments. The expected yield of 185.3 is used as the actual county yield when calculating GRIP payments. The APH yield of 185 bushels is used as the farm yield for calculating CRC payments

For GRIP, insurance payments occur for harvest prices below $3.59 and insurance payments exceed premiums at prices below $3.39 (see Figure 1). For CRC at 85% coverage level, payments occur for prices below $3.32, with payments exceeding premium at $3.29. For CRC at 75% coverage level, insurance payments occur at prices below $2.99 and payments will exceed premiums at $2.96 per bushel.

As price declines, GRIP makes more payments than CRC. This analysis is somewhat shaded in favor of CRC as a yield drag associated with APH yield is not included in the analysis. Had APH yield drag been imposed, harvest prices would have to fall more than illustrated in Figure 1.

Figure 1. Net Insurance Payments Given Different Harvest Prices, Macon County, Corn, 2010. *



*** For GRIP, county yield is at the expected yield of 185.3 bushels. For CRC, actual yield is at the APH yield of 185 bushels.**

Between the CRC/RA-HP (enterprise unit, high coverage level) and GRIP-HR (90% coverage level), which should an individual select?

Any of these programs will provide good risk protection. Here are the factors that will suggest one program over the over:

1. Is yield or price protection the desired emphasis? CRC, RA, and GRIP are revenue products; hence, they will provide protection against both price and yield declines. However, emphasis will vary. CRC and RA will tend to provide better yield protection as a farm yields enter into the calculation of guarantees and payments. CRC and RA also have replant and prevented planting provisions. GRIP does not have replant or prevented planting provisions. As described above, GRIP-HR will provide better price protection.
2. Do farm yields follow county yields? If a farm's yields are highly correlated with the county yields, the farm will be a better candidate for GRIP-HR. Otherwise, CRC and RA will be the better alternatives.
3. Do APH yields lag expected yields? Many farms have APH yields that lag the farm's expected yields. If the APH yield if more than 15 bushels below expected yield, it will be difficult to generate insurance payments under CRC or RA and the farm might be better with GRIP-HR.
4. What is the size of the GRIP premium? As illustrated above, GRIP payments vary considerably across counties. Farms in those counties with lower GRIP-HR premiums will find GRIP-HR more advantageous.

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