# The 2018 Farm Bill

Kansas State University & University of Nebraska-Lincoln,
Research & Extension, Dodge City, Manhattan, KS
Hastings, & Mead, NE
February 28- March 7

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## Land Grant University Economists have started the push to cut crop insurance

AEI claims they funded Vince Smith and others to promote a more "informed" debate over agricultural policy. Author David Rogers commented the result was more colorful than informative as the tendency was to map out worst-case scenarios.

This Farm Bill debate will start with a down farm economy. Assuming corn prices stay at current levels, in the final year of the current commodity program corn farmers in counties with average yields will require a MYA corn price below $3.18 to trigger payments.

This suggests to me the commodity title debate may shift back to price risk rather than revenue. However, there may be changes to ARC, assuming it will be retained in the next Farm Bill.

Source: Politico.com, "The wild world of agriculture economists", By David Rogers 10/3/14 5:05 AM EDT
http://www.politico.com/story/2014/10/agriculture-economists-111560_Page2.html

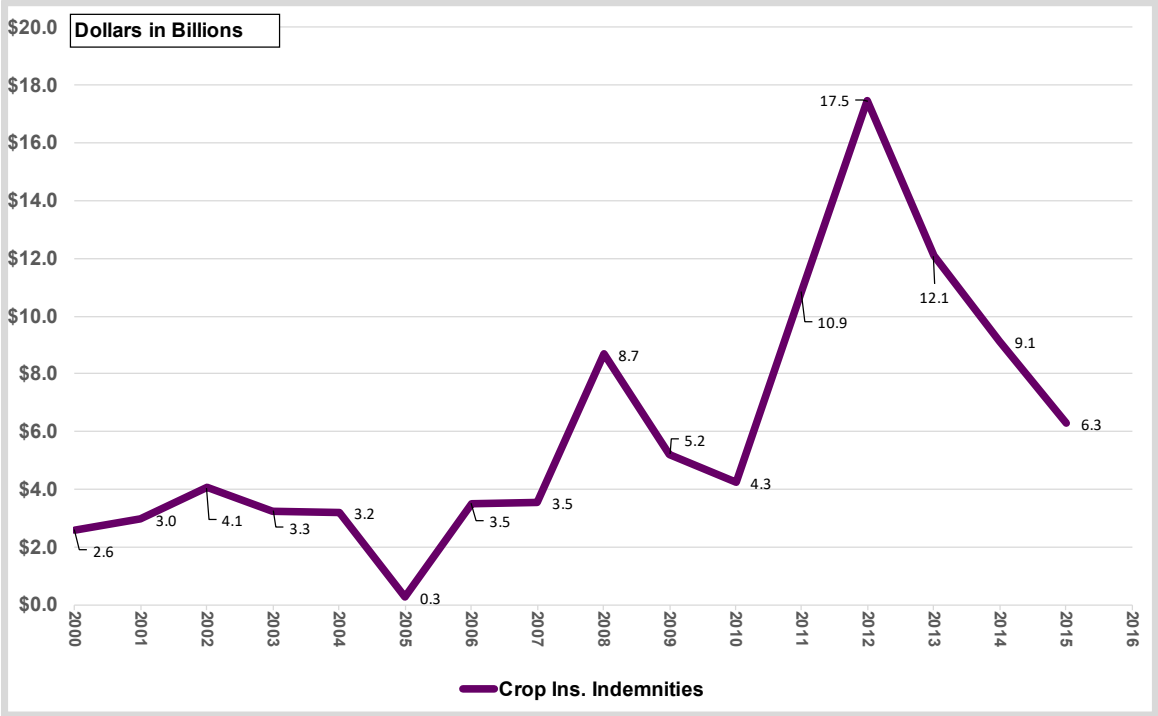
  

# Cuts to Crop Insurance

1. Means Testing, $250,000 vs. $500,000 AGI
2. Limit premium discount to $40,000 or $50,000
3. Eliminate HPO
4. Reduce premium discount on HPO by 15 points
5. Reduced A&O
6. Non-convergence impact on crop insurance and hedges (KC Meeting)
7. Ad hoc disaster aid provide for insurable hurricane crop losses
8. Eliminate crop insurance on new tilled land. Reduce coverage on CRP acres broken out for crop production.

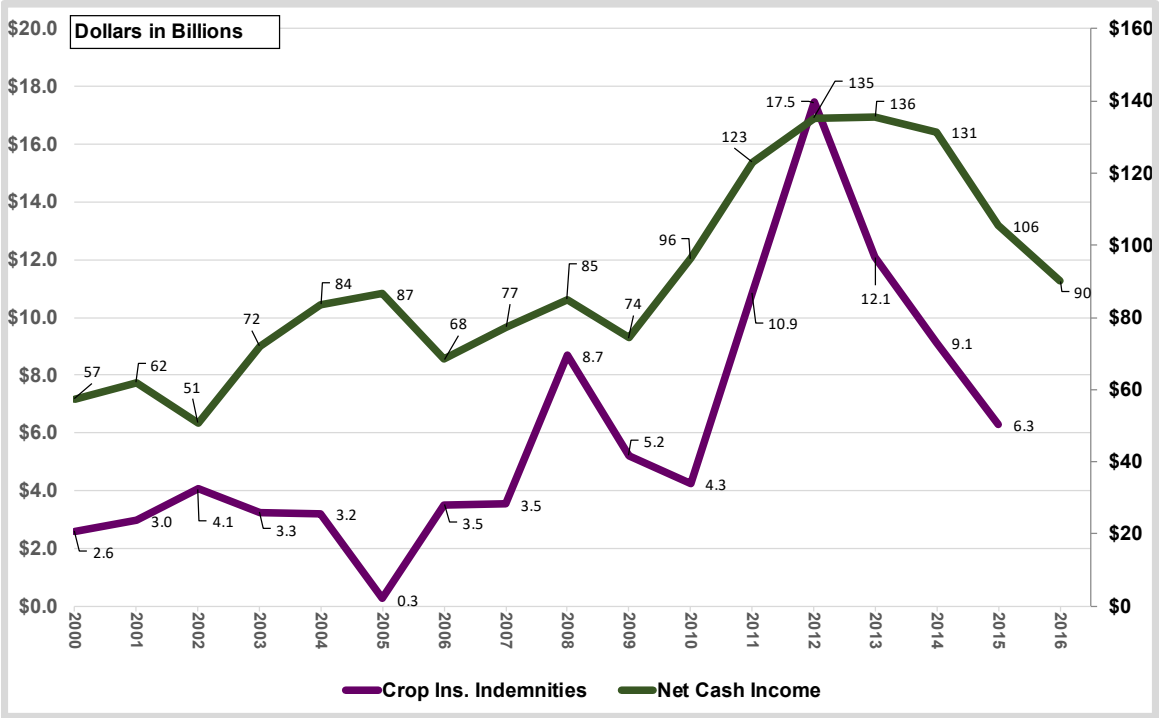


# With 2012 "Record" Farm Incomes, Why were Record Crop Insurance Indemnity Payments Needed?




Source: ERS-USDA, https://www.ers.usda.gov/data-products/farm-income-and-wealth-statistics/data-files-us-and-state-level-farm-income-and-wealth-statistics.aspx

# With 2012 "Record" Net Cash Income, Why were Record Crop Insurance Indemnity Payments Needed?




Source: ERS-USDA, https://www.ers.usda.gov/data-products/farm-income-and-wealth-statistics/data-files-us-and-state-level-farm-income-and-wealth-statistics.aspx

## National Data vs. Farm Data

1. Why are farm incomes at or above record levels when crop insurance payments are at record levels?
2. Most policy "experts" only consider national aggregated data that lead to nonsense conclusions, because farmers don't farm on the average.
3. Individual farmers outside of the disaster area had record 2012 incomes that were averaged in with those farmers who suffered losses.
4. Most policy "experts" assume the bushels that were not indemnified were sold at the crop insurance price. In many cases a crop collecting crop insurance indemnities for losses will have additional price discounts for light test weight, alpha toxins, insect damage, etc.

## National Data vs. Farm Data

5. With inelastic demand it only requires a small yield decline to greatly increase prices.

6. HPO triggered in 2012, but only farmers with a yield loss greater than the deductible were paid indemnity payments. All other farmers paid premiums, but collected nothing.

7. In 2012, over 76% of the acres were insured at 75% coverage or less. Only 7% of the acres are insured at 85% coverage, but even those farms required a 15% yield loss plus premium to net any payments.

8. When the HPO triggers, all farmers must suffer a 15% yield loss or more, plus premium, to net any indemnity payment. There are no exceptions!



## AFFIRM's Crop Insurance Cuts

1. Sensenbrenner, (R-WI) and Kind (D-WI) introduced a Bill titled "Assisting Family Farmers through Insurance Reform (AFFIRM) Act".

2. RMA's paid premium share would be limited to $40,000 (President increased it to $50,000) and will shift a larger share of the premium to farmers. (DC calls it a subsidy)

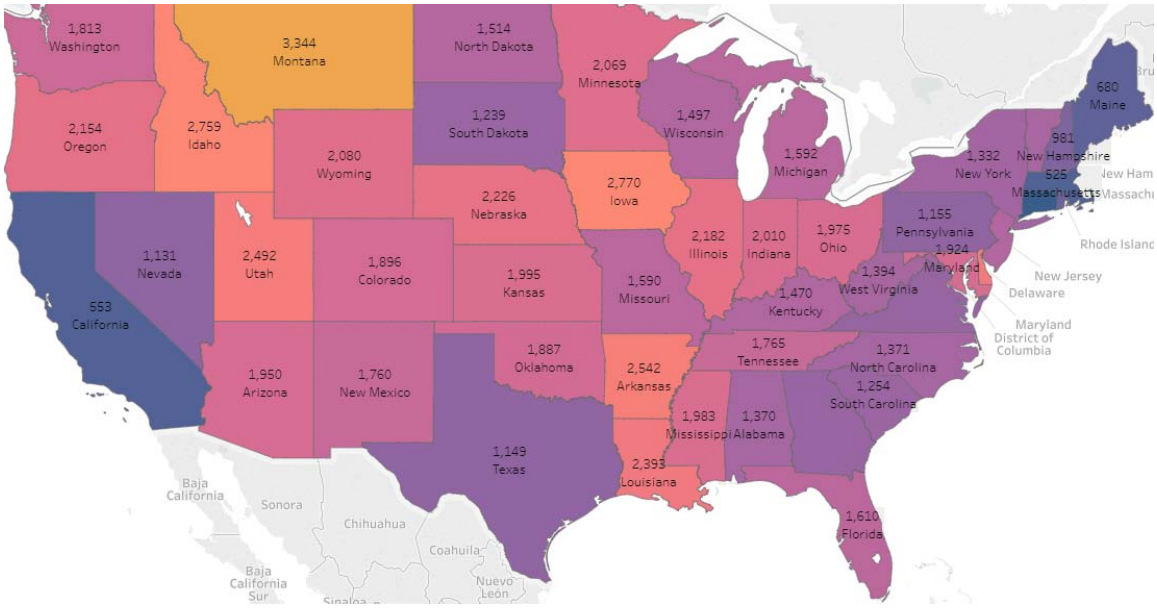
3. Cap on RMA's paid premium share will have a larger impact in the Great Plains where premium rates are higher.

4. Eliminate the government's share of paid premiums for all farmers with an adjusted gross income (AGI) over $250,000 (POTUS at $500,000).

5. Caps insurers' administrative and operating (A&O) at $900 million (Currently $1.3 B) a year likely causing another cut in agent commission rates.

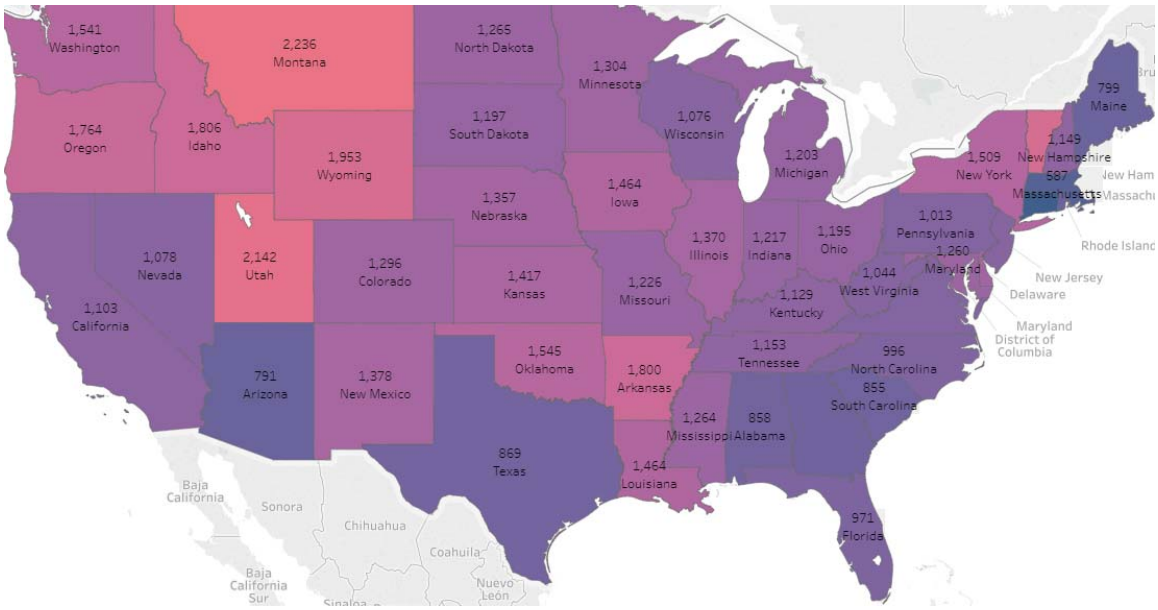
6. Eliminating the Harvest Price Option (HPO) subsides will account for $19 billion of the $24 billion in cuts and applies to all farmers regardless of size (President cut discount 15 points on the HPO premium).

# 2016 Maximum Crop Acres to hit $40,000 Crop Insurance Subsidy Limit



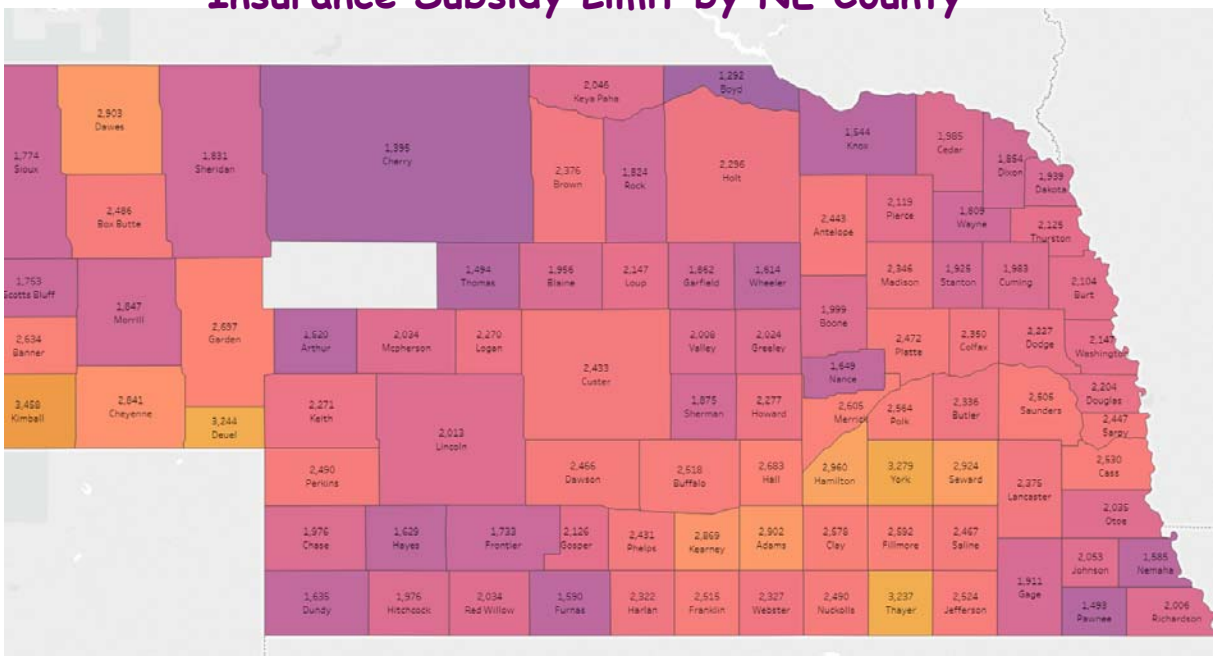

  

# 2011 Maximum Crop Acres to hit $40,000 Crop Insurance Subsidy Limit



# 2016 Maximum Crop Acres to hit $40,000 Crop Insurance Subsidy Limit by NE County



## Consequences Caused by AFFIRM's Crop Insurance Cuts

1. Research shows "large" farms have lower risk, therefore removing them from the insurance pool is expected to increase the loss ratio and cause premium rate increases.
2. Eliminating HPO may cause underwriting losses. In Iowa, eliminating the harvest price will cut premiums by more than 40%, but historically it has not cut claims by a similar amount.
3. Reducing HPO's premium discount will cause a significant increase to Iowa farmer paid premiums.
4. AFFIRM's payment limits or dollar limits on RMA's premium share, will likely cause farmers to create new "paper farms".

## Consequences Caused by AFFIRM's Crop Insurance Cuts

5. These "paper farms" will create more paper work cost for RMA, AIPs and agents with no net increase in premiums or net acres insured.

6. Critics have argued farmers don't need the upside price protection and if they do it could be purchased privately as was the case with Market Value Protection (MVP).

7. MVP only covered the price increase. If added to RP-hpe will leave farmers with a hole in their yield replacement coverage needed to offset their long market position and loss of FSA commodity payments when prices increase.

8. HPO covers price increase and some of the yield loss when compared to RP-hpe and an MVP endorsement. Unclear if the President's 15 point reduction on the HPO premium applies just to the price or does it include yield covered by HPO too?



## 2012 Great Plains Example

| | Loss Calculated in Bu. | | Loss Calculated in Dollars[1] | | |
|---|---|---|---|---|---|
| | YP | RP | YP | RP | RP-hpe |
| 1 APH yield[2] | 80 | 80 | 80 | 80 | 80 |
| 2 Coverage level | 75% | 75% | 75% | 75% | 75% |
| 3 Bushel guarantee | 60 | 60 | | | |
| 4 Deducted bushels | 20 | 20 | | | |
| 5 Bushels per acre produced | 40 | 40 | 40 | 40 | 40 |
| 6 Cash Price (30 under) | $7.20 | $7.20 | $7.20 | $7.20 | $7.20 |
| 7 Cash Sales | $288.00 | $288.00 | $288.00 | $288.00 | $288.00 |
| 8 Projected price | $5.68 | $5.68 | $5.68 | $5.68 | $5.68 |
| 9 Insurance guarantee | $340.80 | $340.80 | $340.80 | $340.80 | $340.80 |
| 10 Indemnity-Harvest Price[3] | $5.68 | $7.50 | $5.68 | $7.50 | $7.50 |
| 11 Bushels lost below Expected | 40 | 40 | 40 | 40 | 40 |
| 12 Bushels Indemnified | 20 | 20 | | | |
| 13 Gross indemnity | $113.60 | $150.00 | | | |
| 14 Insurance guarantee | | | $340.80 | $450.00 | $340.80 |
| 15 Value of production[4] | | | $227.20 | $300.00 | $300.00 |
| 16 Gross indemnity | | | $113.60 | $150.00 | $40.80 |
| 17 Farmer Paid Premium[5] | $21.14 | $24.38 | $21.14 | $24.38 | $21.50 |
| 18 Net Indemnity Payment | $92.46 | $125.62 | $92.46 | $125.62 | $19.30 |
| 19 # Replaced Lost Bu. (cash) | 12.8 | 17.4 | 12.8 | 17.4 | 2.7 |
| MVP = Indemnity Bu. X Price Change Insurance guarantee | | | | | |
| 20 Price Change (harvest - proj. P) | $36.40 | | $36.40 | | $36.40 |
| 21 MVP Premium[6] | $4.80 | | $4.80 | | $4.80 |
| 22 Net MVP Indemnity Payment | $31.60 | | $31.60 | | $31.60 |
| 23 # Replaced Bu. Of 40 Bu. Lost | 17.2 | 17.4 | 17.2 | 17.4 | 7.1 |

**Corn example for 2012**

- **Corn price @ harvest=$7.50**
- **Drought cut yield in half**
- **Coverage under RP with HPO is highest**
- **Coverage under RP with HPO excluded is lowest**
- **PLC not likely to have paid**
- **ARC not likely to have paid (yield low, but price high)**

[1]Risk Management Agency Kansas Corn Fact Sheet 2017 Crop Year, Topeka Regional Office-Topeka, KS: Revised February 2017, RMA Website link:`https://www.rma.usda.gov/fields/ks_rso/2017/kscorn.pdf

[2]RMA's website summary of business reported the average APH for Osborne County, Kansas sorghum farmers buying 75% Revenue Protection was 80.4 bushels in 2012. The APH will change some from year to year and those farmers that buy higher coverages tend to have higher APH's.

[3]The Indemnity Price for Yield Protection is the projected price set at signup. The Indemnity Price for Revenue Protection is the harvest price set at harvest. Prices used in the example are for Kansas Sorghum in 2012.

[4]Critics often cite RMA published examples of payment calculations where RMA values the bushels produced at the harvest time futures price. In the "real world" a crop that has drought or other weather damage will have dockage at the elevator in addition to a negative price basis in most markets.

[5]Rates used are typical for this State at this APH level

[6]MVP premium is an estimate based on option premiums assuming 2012 volatility levels.

*Prepared by G. A. (Art) Barnaby, Jr., Professor, Department of Agricultural Economics, K-State Research and Extension, Kansas State University, Manhattan, KS 66506, January 2, 2018

## 2012 Corn Belt Example

| | | Loss Calculated in Bu. YP | RP |
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**Compare YP vs. RP in 2012**

- Corn price @ harvest=$7.50
- Drought cut yield in half
- Coverage under RP vs. YP
- ARC not likely to have paid (yield low, but price high)

  

## 2012 Great Plains Example

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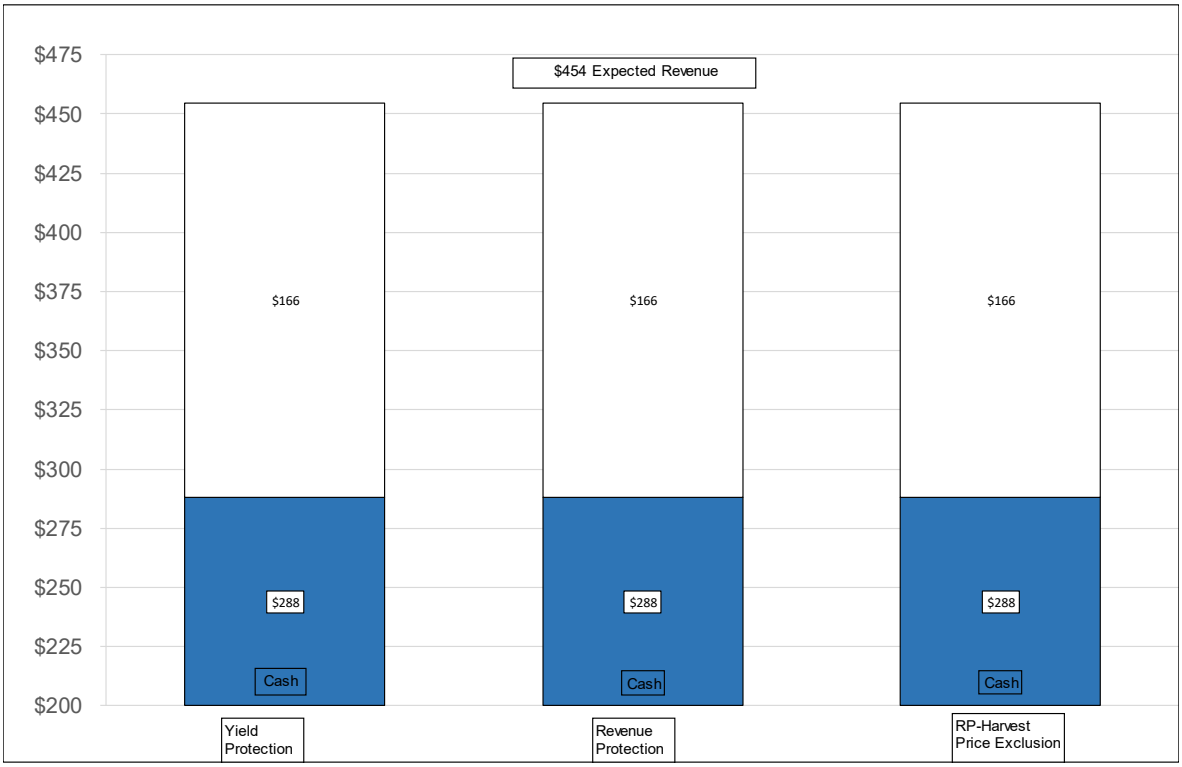
**Compare YP vs. RP in 2012**

- Corn price @ harvest=$7.50
- Drought cut yield in half
- Coverage under RP vs. YP & RP-hpe
- ARC not likely to have paid (yield low, but price high)

# "Donut Hole" in Yield Coverage with RP-hpe



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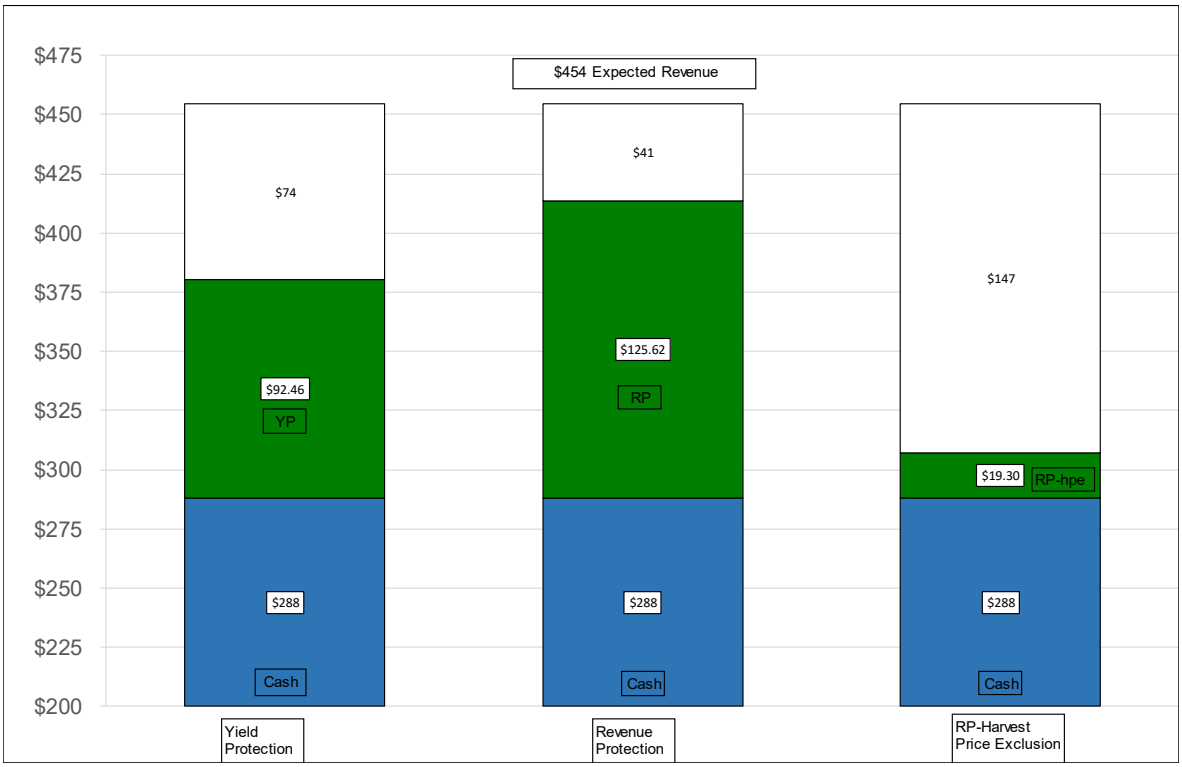


  

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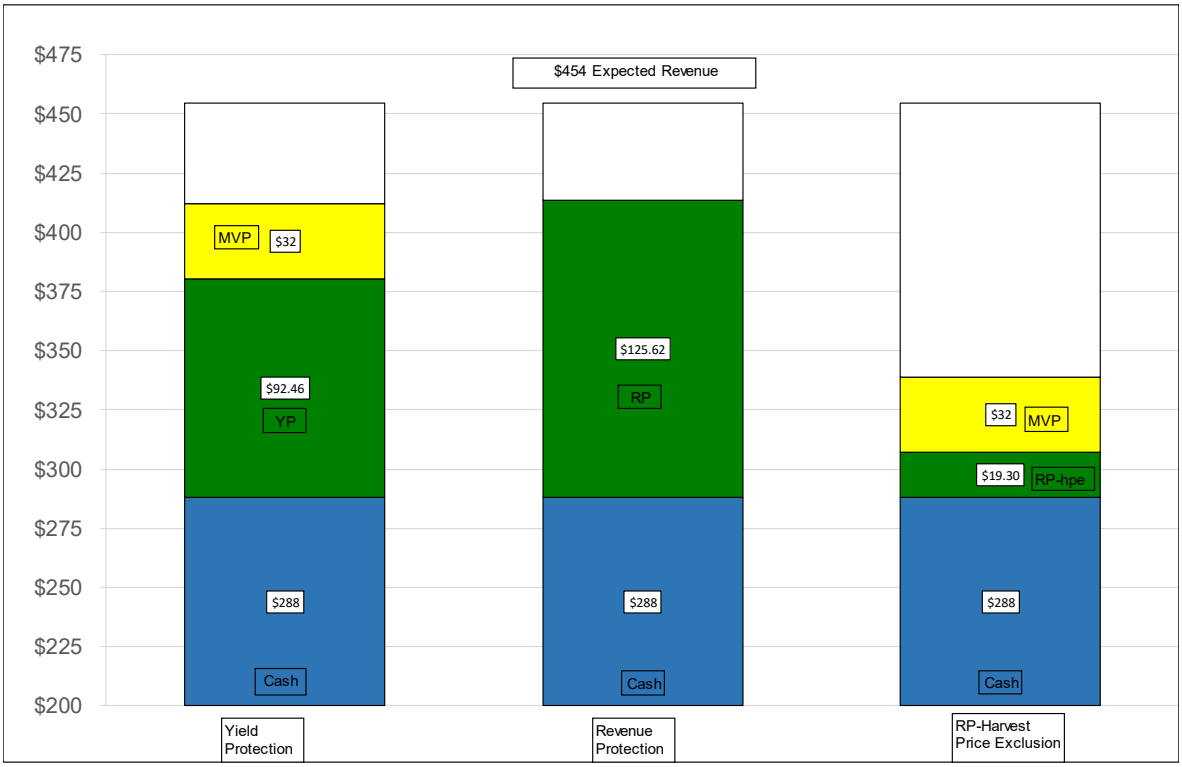


  

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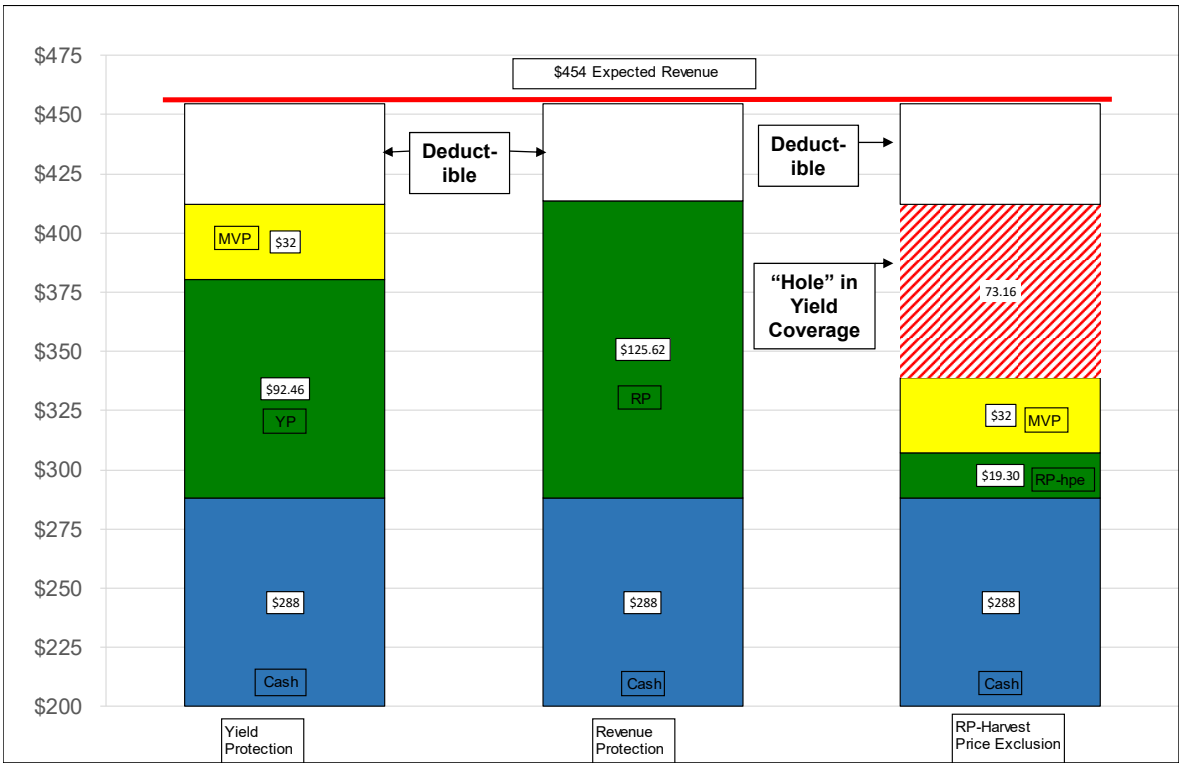


## Compare RP Corn Premiums with RP premiums after applying a 15-point cut to the HPO Discount

1. Assumed the example farmers were comparing 2018 Revenue Protection (RP) premiums, with 2018 RP premiums that includes a 15 point cut in the HPO premium discount.
2. Assumed the 15-point reduction in the premium discount applies to HPO only and the rest of the contract would receive current subsidy levels.
3. Assumed the 15-point reduction in the premium discount applied to the entire HPO that includes yield and price covered by the HPO endorsement before adding it to the RP-hpe contract.
4. Assumes farmers elected enterprise units and their APH was 110% of the T-yield.



## RP Rate Increases with a 15 Point cut in HPO Premium Discount; 2018 , CORN, YP & RP, Enterprise Unit, Price Election $3.96, Volatility 0.15, Rate Yield 110% of T-Yield

| % Coverage Level | 65% | 70% | 75% | 80% | 85% |
|---|---|---|---|---|---|
| Current Prem. Discount on HPO (Subsidy) | 80 | 80 | 77 | 68 | 53 |
| Cut Prem. Discount on HPO (Subsidy) | 65 | 65 | 62 | 53 | 38 |
| % Increase in Farmer Paid RP Premiums | | | | | |
| NW IA, APH 201 NET RP, DRYLAND | 37.5% | 39.8% | 34.4% | 24.7% | 16.7% |
| SW KS APH 210 NET RP, IRRIGATED | 26.4% | 27.8% | 23.8% | 16.2% | 10.5% |
| NC KS APH 118 NET RP, DRYLAND | 18.1% | 17.4% | 14.8% | 10.2% | 6.6% |
| NW KS APH 63 NET RP, DRYLAND | 8.8% | 8.7% | 7.6% | 5.6% | 3.8% |
| SW NE, APH 190 NET RP, IRRIGATED | 22.1% | 21.4% | 18.4% | 13.2% | 8.6% |
| EC NE, APH 146 NET RP, DRYLAND | 25.9% | 26.8% | 22.9% | 16.5% | 10.9% |
| PH NE, APH 168 NET RP, IRRIGATED | 24.2% | 23.4% | 19.5% | 13.7% | 8.9% |
| Added RP Premium Dollars per Acre | | | | | |
| NW IA, APH 201 NET RP, DRYLAND | $0.32 | $0.49 | $0.77 | $1.18 | $1.70 |
| SW KS APH 210 NET RP, IRRIGATED | $0.58 | $0.88 | $1.20 | $1.54 | $1.92 |
| NC KS APH 118 NET RP, DRYLAND | $0.68 | $0.81 | $0.98 | $1.13 | $1.31 |
| NW KS APH 63 NET RP, DRYLAND | $0.53 | $0.60 | $0.69 | $0.79 | $0.92 |
| SW NE, APH 190 NET RP, IRRIGATED | $0.70 | $1.06 | $1.50 | $1.97 | $2.48 |
| EC NE, APH 146 NET RP, DRYLAND | $0.47 | $0.67 | $0.92 | $1.26 | $1.72 |
| PH NE, APH 168 NET RP, IRRIGATED | $0.49 | $0.76 | $1.16 | $1.66 | $2.14 |

## Likely a Surprise in New Farm Bill

1. Example surprise might be Section 1999A
2. Require base update that eliminates base for farmer planting non-program crops, e.g. alfalfa
3. Additional conservation requirements for crop insurance.



## Farmers are Long the Market

1. Once farmers plant their crop, they are long the market!
2. All farmer marketing plans include feeding their crop to livestock or dairy cows, storing the crop for later sales, deferred price contracts, forward cash contracts, minimum price contracts, hedge to arrive contracts, selling futures, buying put options, buy puts-sell calls, cash sales off the combine at harvest, etc. assumes production.
3. At some point all farmers will liquidate their long position, even if it only means selling cash grain off of the combine.
4. All farmer marketing plans assume production, otherwise it is just a spec position.
5. HPO replaces the indemnity bushel at its replacement value and replaces none of the deductible bushels that are always the first bushel lost.

## What Price is being Discovered by Futures?

1. It is not the cash bids to farmers! Farmers selling futures are obligated to deliver an electronic shipping certificate.
2. Market is discovering the value of an electronic shipping certificate.
3. A CME declared regular warehouses are the only ones who can arbitrage cash prices and futures.
4. The basis between cash prices and futures at delivery locations can be very wide especially when storage is in short supply.
5. VSR may be on its way to soybeans and corn. Widens contract spreads and front loads contracts? Affects crop insurance prices?



## Farmers holding short futures are obligated to deliver a shipping certificate

5. Farmers holding short futures should never enter the delivery period thinking they have the leverage of delivery, because they don't!
6. Farmers would only want to deliver if cash is below futures, but what happens to farmers holding a short futures position and they refuse to close it out?
7. Farmers can't deliver a shipping certificate unless they buy one, and the cost would eliminate any arbitrage profit.
8. Unexcused failure to make delivery shall be deemed an act detrimental to the interest or welfare of the Exchange. In addition to any penalties imposed by the CME, the Clearing House Risk Committee shall determine and assess the damages incurred by the buyer.

# Specifications for Delivery of HRW Wheat

PREMIUM CHARGES (For Contract Months Beginning March 2018 and Beyond) Variable Storage Rate (VSR)

Financial full carry will be determined by the following formula:

Where:

N = Number of calendar days from the first delivery day in the nearby contract to the first delivery day in the contract that follows the nearby contract

$$N * \left[\left(\frac{i}{360}\right) * FP + P\right]$$

i = 3-Month LIBOR rate + 200 basis points

FP = Settlement price for the nearby futures contract

P = Current daily premium charge

If = >80% full carry, then daily premium (storage) charge shall increase 10/100's of one cent per bushel

If = <50% full carry, then daily premium charge shall decrease 10/100's of one cent per bushel

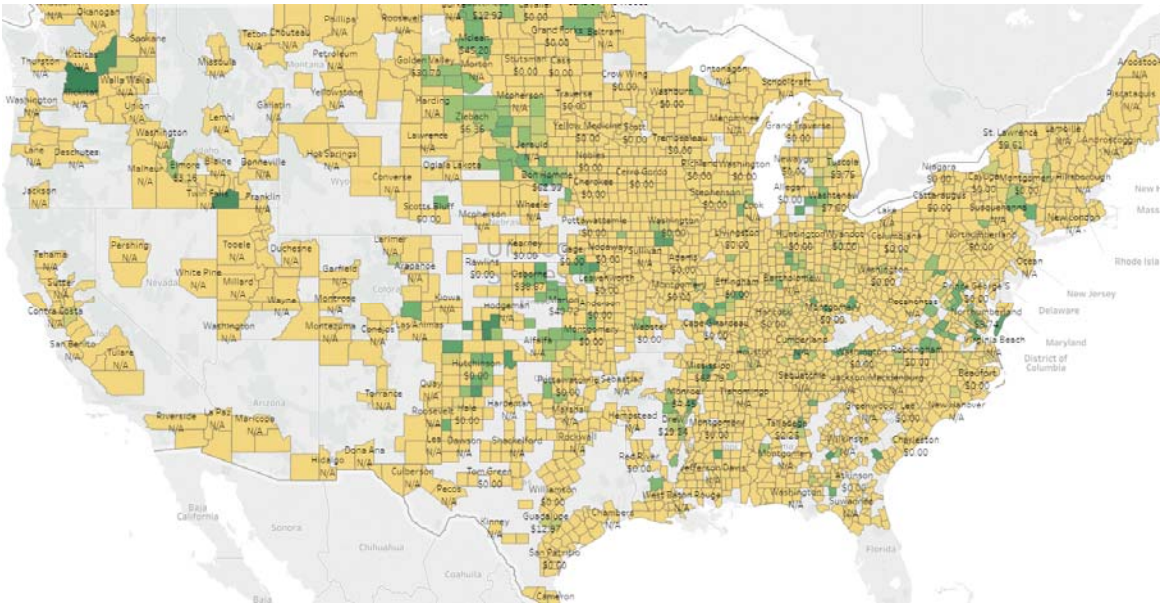
Premium charges shall not be reduced below 16.5/100's of one cent per bushel per day



Rate Analysis; 2018 , CORN, YP & RP, Enterprise Unit, Price Election $3.96, Volatility 0.15, Rate Yield 110% of T-Yield

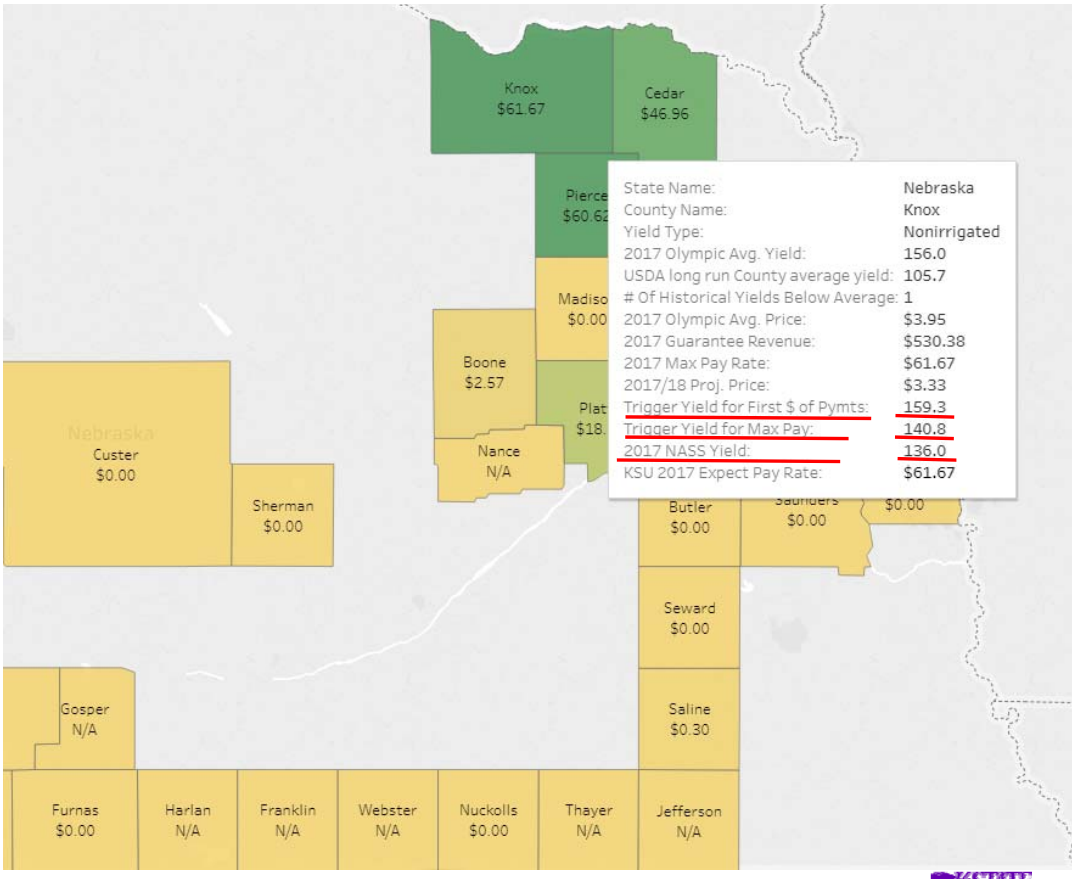
| % Coverage Level | 65% | 70% | 75% | 80% | 85% |
|---|---|---|---|---|---|
| Change in Yield Rate From 2017 | | | | | |
| NW IA, APH 201 NET YP, DRYLAND | 1.5% | 1.2% | 2.0% | 8.1% | 11.0% |
| SW KS APH 210 NET YP, IRRIGATED | 13.0% | 13.0% | 13.0% | 12.8% | 13.4% |
| NC KS APH 118 NET YP, DRYLAND | 2.0% | 2.2% | 2.1% | 2.1% | 2.1% |
| NW KS APH 63 NET YP, DRYLAND | 6.3% | 5.5% | 5.0% | 4.3% | 6.7% |
| SW NE, APH 190 NET RP, IRRIGATED | (5.72%) | (3.77%) | (3.30%) | (2.68%) | 2.4% |
| EC NE, APH 146 NET RP, DRYLAND | (30.25%) | (28.64%) | (24.76%) | (23.06%) | (16.56%) |
| PH, APH 168 NET RP, IRRIGATED | (21.89%) | (15.38%) | (8.40%) | (3.63%) | (2.47%) |
| Change in RP Rate From 2017 | | | | | |
| NW IA, APH 201 NET RP, DRYLAND | (11.35%) | (18.25%) | (23.35%) | (22.12%) | (21.03%) |
| SW KS APH 210 NET RP, IRRIGATED | (1.55%) | (4.48%) | (7.68%) | (8.46%) | (7.80%) |
| NC KS APH 118 NET RP, DRYLAND | (6.17%) | (5.97%) | (6.69%) | (7.41%) | (7.36%) |
| NW KS APH 63 NET RP, DRYLAND | 1.4% | 1.1% | 0.8% | 0.1% | 1.2% |
| SW NE, APH 190 NET RP, IRRIGATED | 1.3% | 0.3% | (3.30%) | (7.63%) | (5.82%) |
| EC NE, APH 146 NET RP, DRYLAND | (23.89%) | (23.36%) | (23.51%) | (24.39%) | (22.65%) |
| PH NE, APH 168 NET RP, IRRIGATED | (7.42%) | (7.65%) | (8.37%) | (9.33%) | (9.36%) |
| RP Rate Reduction caused by a 4 Point Volatility Decrease from 0.19 | | | | | |
| NW IA, APH 201 NET RP, DRYLAND | (15.12%) | (21.77%) | (26.79%) | (28.09%) | (27.04%) |
| SW KS APH 210 NET RP, IRRIGATED | (13.57%) | (16.14%) | (17.89%) | (17.47%) | (16.91%) |
| NC KS APH 118 NET RP, DRYLAND | (8.31%) | (8.60%) | (8.47%) | (9.03%) | (9.00%) |
| NW KS APH 63 NET RP, DRYLAND | (4.17%) | (4.08%) | (3.88%) | (4.17%) | (4.18%) |
| SW NE, APH 190 NET RP, IRRIGATED | (8.14%) | (8.37%) | (9.15%) | (9.53%) | (8.87%) |
| EC NE, APH 146 NET RP, DRYLAND | (10.40%) | (10.87%) | (12.45%) | (13.36%) | (12.31%) |
| PH NE, APH 168 NET RP, IRRIGATED | (8.97%) | (9.30%) | (9.95%) | (10.12%) | (9.40%) |

# KSU Estimated Corn ARC-co October 2018





## KSU Estimated Non-Irrigated Corn Nebraska ARC-co, Payment Scheduled for October 2018



# What Did We Learn Today?

1. None of these proposed cuts or changes to the farmer safety net have been passed in to Law.

2. KSU HAS NO OPINION ON THE PASSAGE OF ANY OR ALL OF THESE PROPOSED CHANGES.

3. HPO replaces indemnity bushels at current market value.

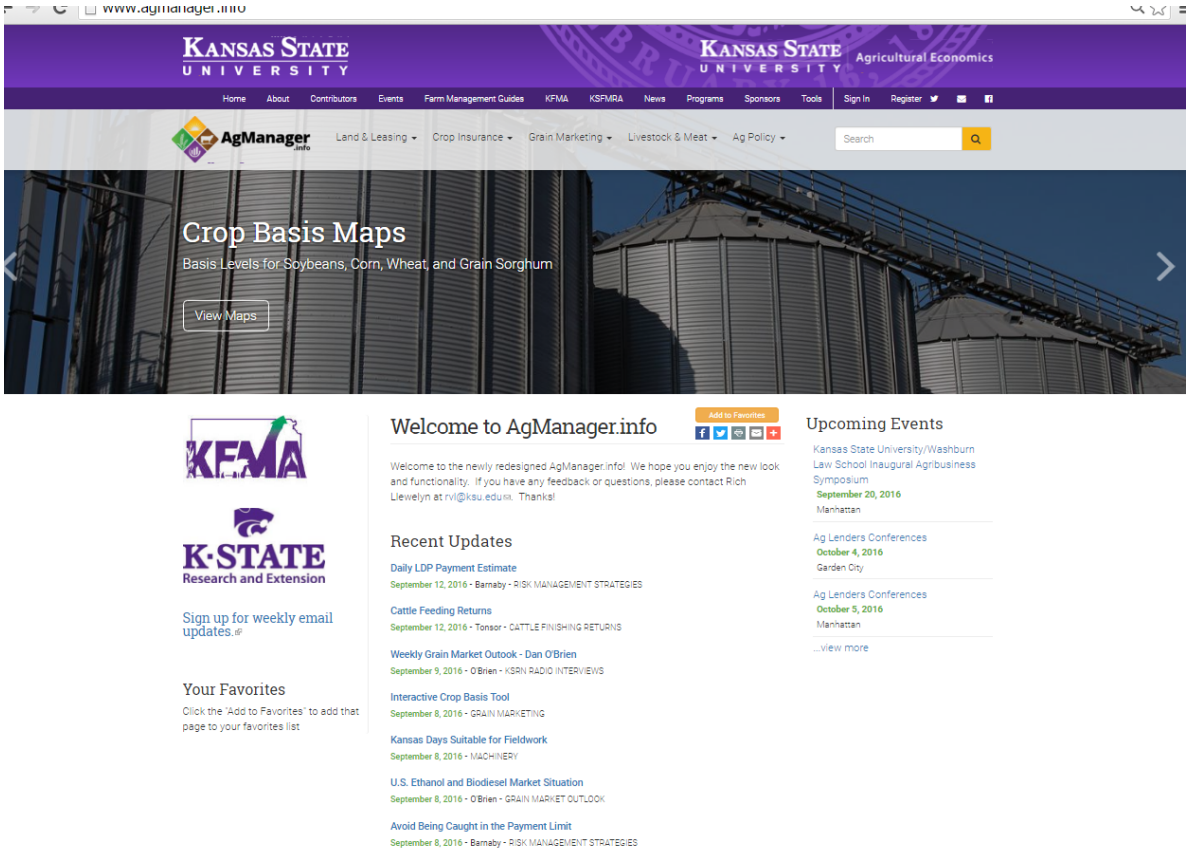
4. Eliminating HPO will leave a yield donut hole in the coverage.

5. Replacement bushel coverage provides a back stop to any marketing plan including cash sales off of the combine.

6. Use YE and/or TA and increase APH by 7% or more, will allow farmers to reduce their premium without a cut to their coverage.

7. Volatility and price increase/decrease farmer paid premiums.






Thank You
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