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Is GRP A Good Deal For My Corn In 2008?

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GRP is a crop insurance policy that determines coverage and indemnity payments based on the official USDA National Agricultural Statistics Service (NASS) county average yield report. With GRP, an insured producer receives an indemnity if the NASS county average yield for the producer's county is below the trigger yield chosen by the producer, regardless of whether the producer's own crop suffers a yield loss. GRP assumes that a farmer's yield is correlated with the county yield, so that indemnities are more likely paid when a farmer's yield is low, but this is not always the case. Thus farmers may wonder—is GRP worth it for me? This fact sheet summarizes an analysis to answer this question for Wisconsin corn farmers.

For each Wisconsin county we used available NASS county yields from the last 30 years (1977-2006) to estimate the expected net return farmers can expect from GRP over the long run in their county. These are estimates of the average returns to GRP, given the most current yield data and GRP prices and guarantees. As an average, sometimes net returns will be higher than our estimates, sometimes lower, but on average over several years, returns should be close to these estimates. Four maps on the following pages present results in general terms. Tables with the specific estimates for each county are available on Paul D. Mitchell's Extension web page.

A farmer buying GRP for corn in Wisconsin must decide whether to base coverage on the NASS reported yield per planted acre or yield per harvested acre. The difference is largely, but not solely, due to corn acres used for silage. Results are reported for both options so that farmers can see which is better in their county. Also, a farmer must choose a coverage level and a price election for GRP. The analysis reported here uses a 90% coverage level, the highest available. Results for lower coverage levels will decrease in direct proportion to the percentage that coverage decreases. In the maps, expected returns are reported as bushels of corn per acre (i.e., without a price election). Multiply expected net returns reported as bu/ac by the relevant price to give expected returns as \$/ac. The Risk Management Agency (RMA) price for corn is not set in Wisconsin, as it is based on Chicago Board of Trade December 2008 futures prices in February. However, for southern states, the GRP (and GRIP) corn price has been set at \$4.78/bu.

MAPS

Counties were separated into five groups based on their estimated net returns to GRP. The darkest green is for counties with the highest expected net return (more than 1 bu/ac) and light green is for counties with an expected net return between 0 and 1 bu/ac. Yellow is for counties with an expected net loss between 0 bu/ac and 1 bu/ac and orange is for counties with an expected net loss between 1 bu/ac and 2 bu/ac. Red is for counties with an expected loss exceeding 2 bu/ac. Thus, farmers in green counties should on average expect to make money with GRP, while those in yellow, orange and red countries should expect to lose money on average, especially those in red counties. Counties in white do not have GRP available.

The maps report expected net returns to GRP based on the RMA's expected county yield and the yield trend based on a linear regression. Examining historical county data indicated that the 2008 RMA expected yields for GRP did not match observed trends for many counties. I believe the regression based estimates are more accurate, but the estimated net returns using the RMA expected yields are reported for comparison.

Caveat: In 2007, about 500,000 more acres of corn were planted in Wisconsin than in 2006. With current high corn, soybean and wheat prices, it is not clear how farmer acreages will respond in each county. However, note that the regression-based estimates and the RMA's estimates of expected county yield are both based on the historical data. For counties that experience substantial changes in corn acres, these historical data may not reflect the true expected county yield or its variability, implying that both the regression estimates and the RMA's are poor predictors of the current value of GRP. When making GRP insurance decisions, farmers should take into account how much corn acreage has changed in recent years.

Maps 1 and 2: Harvest and Planted Acres GRP with Regression Estimated County Yield.

Map 1 reports expected net returns for the harvested acres GRP option using the regression estimate of expected county yield. Map 2 reports expected net returns for the planted acres GRP option using the regression estimate of expected county yield. Together, these maps indicate whether the harvested acres or the planted acres option is best for GRP in a county. In some counties it makes little difference, while in others, one option has substantially higher net returns.

Maps 3 and 4: Harvest and Planted Acres GRP with RMA Estimated County Yield.

Map 3 reports expected net returns for the harvested acres GRP option using the RMA estimate of expected county yield. Map 4 reports expected net returns for the planted acres GRP option using the RMA estimate of expected county yield. Together, these maps show generally the same trends as Maps 1 and 2. More interesting is to compare Map 1 to Map 3 and Map 2 to Map 4, which indicates the difference between using the RMA estimate and the linear regression estimate of expected county yields. The RMA estimate typically implies higher expected returns to GRP. I think the regression based estimates are more accurate, but each farmer should decide for themselves based on the data from their county and their own information and interpretations.

GENERAL RECOMMENDATIONS

These generalizations based on results in the maps have many exceptions. Farmers should look at the results specific to their county. In addition, tables with the actual numerical estimates for each county are available (<http://www.aae.wisc.edu/mitchell/extension.htm>) along with information on how to download NASS county yield data. Please contact the author if you have further questions or comments.

The following general recommendations are based on these results:

- Look at the map results for your county (and in the tables too). Does GRP look like a good deal for you? Which GRP option looks better—the planted or harvested acres option?
- Decide which estimates you feel more comfortable with, those based on the RMA expected county yield or the linear regression estimate. If results differ greatly, compare the RMA estimated expected county yield to NASS data, which is closer to the county trend?

- Remember, these are estimates of the long-run average performance of GRP. Actual annual results will vary around this estimate, sometimes higher, sometimes lower. Also, none of these estimates are guarantees, but rather predictions of long-run performance.
- Consider GRIP with the harvest revenue option, which offers price protection on top of GRP's county-based yield protection, much like CRC does for APH. If GRP is valuable for you, GRIP with the harvest revenue option will likely be valuable for you as well. Also, even if this analysis indicates that GRP is not valuable in your county, GRIP may still be useful, as it adds price protection. Thus it may still make sense to buy GRIP, as long as net returns for GRP are not too negative.

ADDITIONAL RESOURCES

Your Crop Insurance Agent: Your agent should be able to answer your questions and a good agent can help you understand your options and the benefits and weakness of each.

Paul D. Mitchell's Extension Page (<http://www.aae.wisc.edu/mitchell/extension.htm>)

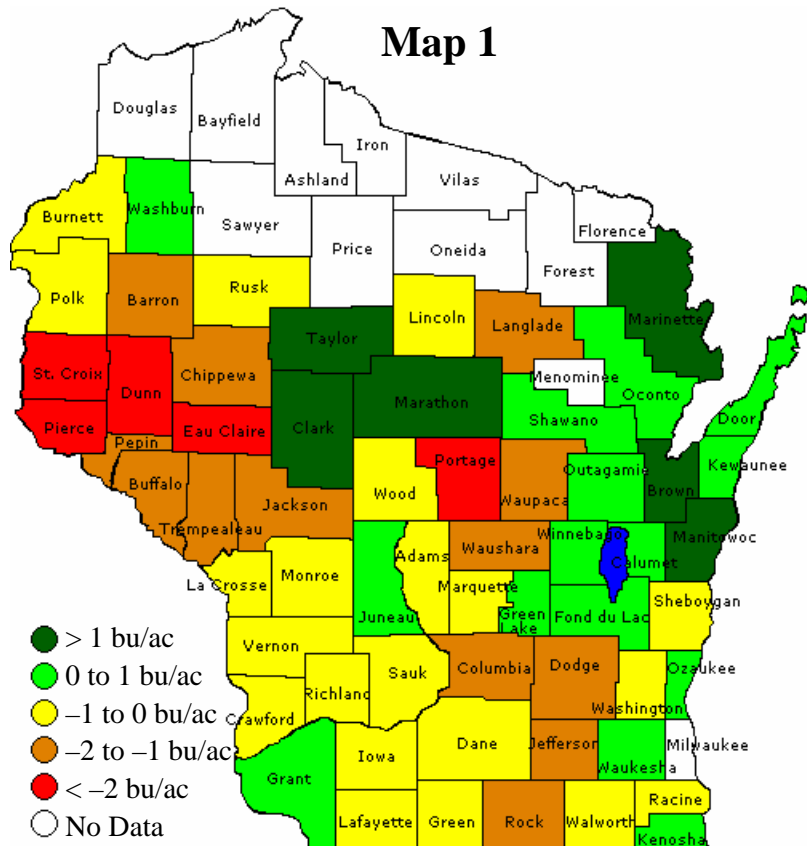
- Tables of numerical results used to generate the maps for corn and soybeans (http://www.aae.wisc.edu/mitchell/CropInsurance/GRP_County_Results_2008.xls)
- **Short Bulletins:** Hints for Using Crop Insurance in 2008, Is GRP a Good Deal for My Soybeans in 2008, Late and Prevented Planting, Drought and Alternative Uses of Insured Crops, Livestock Risk Protection
- **Overview of Federal Crop Insurance in Wisconsin:** A detailed explanation of crop insurance programs and the various policies available in Wisconsin
- **PowerPoint Presentations:** From UW-Extension meetings and conferences

FarmDOC Crop Insurance Page (<http://www.farmdoc.uiuc.edu/cropins/index.asp>)

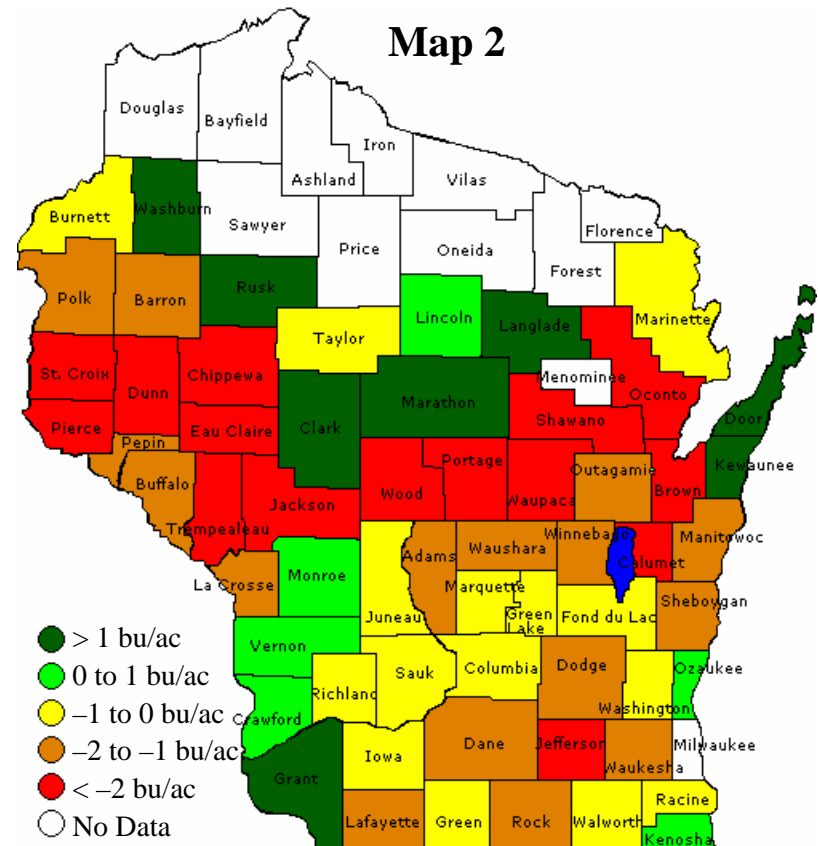
- Premium Calculator (unofficial): compares premiums for all available policies and coverage levels for any Wisconsin county
- What If (Scenario) Analyzer that compares crop insurance indemnities for all available policies in any Wisconsin county based on user entered yields and prices
- Several descriptions of crop insurance products and guidelines for farmers

Gary A. Hachfeld, R. Craven, and M. Schull. 2005. Utilizing Federal Crop Insurance: Coverage Alternatives & Pre-Harvest Grain Marketing Strategies. University of Minnesota Extension. (<http://www.cffm.umn.edu/Publications/pubs/FarmMgtTopics/UtilizingFedCropIns2006.pdf>)

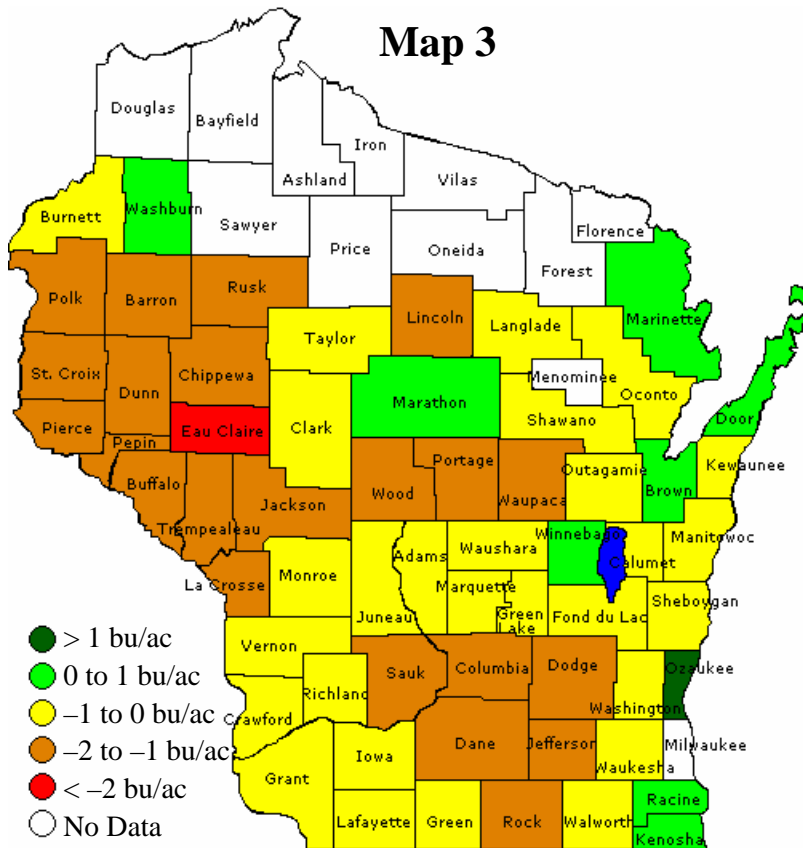
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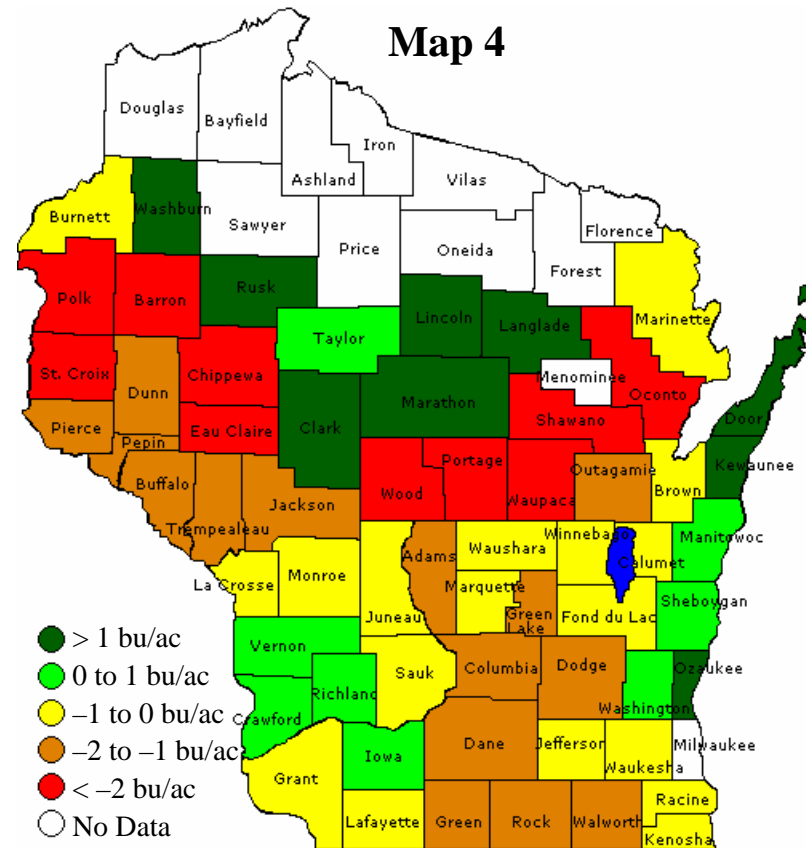
Expected Net Returns (bu/ac) to GRP with the Harvested Acres Option with the Regression Estimated County Yield



Expected Net Returns (bu/ac) to GRP with the Planted Acres Option with the Regression Estimated County Yield



Expected Net Returns (bu/ac) to GRP with the Harvested Acres Option with the RMA Estimated County Yield



Expected Net Returns (bu/ac) to GRP with the Planted Acres Option with the RMA Estimated County Yield