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Topic: Crop Insurance Coverage Losses on Consecutive Summer Crops in Intensive Dryland
Cropping Systems in Western Kansas

Dear RMA Staff,

This letter is intended to provide the staff at RMA with formal feedback regarding proposed changes in crop insurance coverage for nonirrigated cropping systems in western Kansas. In particular, RMA is examining potential changes in coverage for consecutive or continuous summer crops in dryland cropping systems. As an example, this would involve insurance coverage for the second summer crop in three crops in four year rotations. For example, in a wheat-grain sorghum(1)-grain sorghum(2)-fallow rotation, or a wheat-corn(1)-corn(2)-fallow rotation, or a wheat-corn(1)-sunflower(2)-fallow rotation, the insurance coverage changes being considered would make the grain sorghum(2), corn(2) or sunflower(2) crops ineligible for crop insurance coverage. We would like to address several important issues related to this insurance coverage decision.

Motivation for Trend Toward More Intensive Dryland Cropping Rotations

The motivation for farmers to move to more intensive cropping rotations since the 1930s has been to increase farm income associated with adopting moisture conserving technologies (i.e., improved plant genetics, chemical weed control, moisture conserving farm equipment). By intensifying dryland crop rotations, farmers have increased income producing cropped acres (while maintaining or only minimally impacting crop productivity) and reduced the proportion of cropland left idle in fallow periods. While moving from wheat-fallow (50% uncropped) to wheat-summer crop-fallow (33% uncropped) to wheat-summer crop(1)-summer crop(2)-fallow (25% uncropped) farmers have successively reduced their non-income producing acres while increasing those acres with the potential to produce crop income.

Reliance on Moisture Conserving Practices to Increase Productivity

University-based research has found that best management practices for nonirrigated cropping systems include the use of no-till practices when going from wheat into succeeding summer crops

in the High Plains – western Kansas region. No-till practices in this case are referring to planting summer crops into standing stubble (either from a previous wheat crop or summer crop), while leaving farmers the option of using either reduced tillage or no-till practices during the summer months of the fallow period prior to planting wheat.

Research has also shown that the duration of time over which these no-till cropping systems have been in effect has a positive effect on soil structure, bringing about improvements in moisture conservation efficiency over time. For example, see cropping systems research from the Western Kansas Research Extension Center in Tribune (Schlegel) (<http://www.wkarc.org/DesktopDefault.aspx?tabid=81>). Other relevant long term nonirrigated crop rotation research has been conducted at the Northwest Research Extension Center in Colby (Aiken) (<http://www.wkarc.org/DesktopDefault.aspx?tabid=80>).

It is important to note that University research continues to focus on the development of other productivity and income-enhancing cropping practices for western Kansas in addition to no-till. Strip till, clumped planting, skip row planting, and paired-row drilled sorghum production practices each have the potential in western Kansas of enhancing crop yields and income (under water limited conditions), and are being examined in University research. It seems advisable to maintain flexibility in recommended future best management practices under nonirrigated cropping rotations in the event that some or all of these technologies prove to be economically viable.

Recognition of Drought Conditions During Most Recent 10-Year Period

Although crop insurance losses in western Kansas have been particularly large over the most recent 10-year period, the presence of drought during the early part of the last decade may be skewing the crop insurance loss results. Records at the Northwest Research Extension Center in Colby indicate that four of the six years during the 2000-2006 period were dry to excessively dry (Aiken). It would seem that a long term analysis of weather patterns is needed to determine with more surety whether the crop production conditions of the most recent decade were abnormal historically or whether they accurately represent long term average conditions. That is, it is likely that the high loss ratios are as much the result of drought conditions as they are due to the use of particular nonirrigated crop rotations.

Due to these same drought conditions, T-yields on nonirrigated summer crops have been greatly lowered from 2009 to 2010 for nonirrigated crops like corn and grain sorghum. In a number of northwest Kansas counties, the average percentage drop in T-yields in 2010 for nonirrigated corn was 20.3%, while 2010 T-yields for nonirrigated grain sorghum declined by 11.5%. These declines in T-yields likely are indicative of the impact of drought conditions in the early 2000s on nonirrigated feedgrain yields.

Issues Associated with Current Crop Insurance Coverage & Record Keeping and Practices

It is our understanding that RMA in its current crop production records keeps track of crop rotations (wheat-fallow, wheat-summer crop-fallow, wheat-summer crop-summer crop-fallow). However, RMA records do not differentiate between no-till or other moisture conserving production practices used in these rotations.

In addition, in its crop production records, RMA does not formally track whether the summer crop yields in more intensive rotations are from the initial year of summer crops, or from the second

continuous year of summer crops. For example, RMA records do not distinguish between “summer crop(1)” or “summer crop(2)” in a wheat-summer crop(1)-summer crop(2)-fallow rotation. By implication, RMA records (individual APH’s and county T-yields) for summer crops then represent a blended average across tillage practices and of summer crop(1), summer crop(2) or even successive summer crops planted in longer term continuous “opportunity cropping” rotations.

USDA Farm Program - SURE Impacts: If RMA does not find a means of insuring summer crops in these three crops in four years or longer rotations, then High Plains farmers will of necessity lose their USDA Supplemental Revenue Assistance (SURE) program benefits. In other words, if the second year of consecutive summer crops in these cropping rotations are to become uninsured by RMA, they will then be considered “ghost crops” by the USDA’s Farm Service Agency, and therefore would not qualify for USDA SURE program coverage. Therefore, if crop insurance coverage for consecutive nonirrigated summer crops is discontinued, it will likely have financial and risk management impacts for farmers beyond just the RMA crop insurance program.

Recommendations for RMA to Consider

Following are recommendations for RMA to consider in determining how to address issues associated with insuring consecutive or continuous summer crops in intensive cropping systems in western Kansas.

1) Additional applied research analyzing the impact of nonirrigated cropping rotations and longer term weather and on continuous summer crop yields

- a. Absent from this policy discussion is a credibly large body of applied research quantifying the performance of continuous summer crops in nonirrigated cropping rotations. Without an adequate applied research base addressing this issue, RMA runs the risk of making a critically important crop insurance coverage decision based on useful but incomplete evidence. RMA runs a greater risk of needing to readdress this issue again in the future or of causing unwarranted distortions in the risk-return paradigm faced by western Kansas crop producers without better information on which to base its decision.
- b. **Recommendation #1**: Our first recommendation would be to invest additional time and resources in further investigating yield performance on continuous summer crops in nonirrigated cropping rotations before a making a final decision. Through targeted University research on relevant nonirrigated cropping rotations, historic weather patterns, and/or close examination of RMA’s existing historic crop records, it is likely that RMA will be able to analyze and quantify the yield impact of continuous summer crops in nonirrigated cropping rotations.
 - i. Historic Crop-Weather Simulations: Although the cropping systems used in previous decades have changed, historic analysis of seasonal soil-water availability could be combined with reasonable assumptions of soil-water conservation under alternative cropping systems to gain a better picture of expected yields of alternative nonirrigated cropping systems in western Kansas. Of particular interest would be measures of available moisture

through periods leading up to and during the growing season for particular crops.

- ii. Accounting for Drought Conditions during 2000-2006: Given the drought conditions plaguing western Kansas during the early part of the last decade, a more accurate appraisal of expected weather conditions and associated crop productivity may be gained if an analysis of longer term weather and available soil moisture conditions were carried out.

2) Differentiation of insurance coverage either by a) position of summer crops in nonirrigated cropping rotation, or b) by creating new nonirrigated crop enterprise units

- a. **Recommendation #2a**: Separate APH yield records for “summer crop(1)” versus “summer crop(2)” and/or successive summer crops in RMA records would allow for differentiation of crop insurance coverage by position of the summer crop within the rotation.
 - i. If separate APH records were kept for “summer crop(1)” versus “summer crop(2)”, then crop producers who are successful in more intensive cropping systems could maintain or even build up their APH yields on “summer crop(2)” and be rewarded. Conversely, where “summer crop(2)” has no record of success, then APH yields would decline.
 - ii. Keeping track of cropping practices such as no-till in RMA may not be necessary in dealing with individual farmers, since differences in crop productivity (which is largely dependent on the use no-till practices) will likely be reflected in the APH yields over time in western Kansas. However, RMA may benefit from keeping record of whether or not no-till practices were used or not for the sake of actuarial analysis. Future analysis of the causes of loss payments in western Kansas on nonirrigated cropping rotations would likely benefit from identification of whether no-till cropping practices were used or not.
- b. **Recommendation #2b**: An alternative but problematic approach for insuring consecutive summer crops in these nonirrigated cropping rotations is to allow farmers to select enterprise units for individual crops. This would create an average yield for a single crop enterprise across all of a farmer’s nonirrigated cropping rotations in a particular county. While the use of county-wide crop specific enterprise units may be preferable to no crop insurance coverage at all, crop producers would likely suffer a reduction in risk management coverage for their farm operations.
 - i. Understanding “Enterprise” versus “Basic” and/or “Optional” Units: An enterprise unit generally includes or aggregates together all of a farmer’s insured acreage for an individual crop in a particular county. Enterprise units provide highly aggregated – county wide crop insurance coverage by crop for crop insurance coverage purposes. Conversely, basic and/or

optional unit crop insurance coverage structures allow for less aggregated local field or multi-field level crop insurance coverage for a particular crop.

1. Explanation of Nonirrigated Enterprise Units: If consecutive summer crops are covered in separate crop-specific nonirrigated enterprise units, then one single APH yield would be calculated for a particular crop across all of the different nonirrigated crop rotations in a county. Thus there could be county-wide nonirrigated enterprise units for any crop by county for particular farmers. A single combined nonirrigated crop enterprise unit APH would adjust over time to reflect the riskiness for a particular summer crop in western Kansas.
- ii. Two Cautions Regarding Enterprise Units: There are at least two important issues to consider in the use of enterprise units in western Kansas, i.e., separation of irrigated and nonirrigated acreage, and the inherent reduction in field-specific risk coverage from enterprise as opposed to basic and/or optional unit coverage structures.
 1. Separation of Irrigated and Nonirrigated Acres: In western Kansas some farmers include both irrigated and dryland corn in the same crop APH. For single crop enterprise units to work effectively in western Kansas, irrigated and nonirrigated acres need to be separated for crop insurance coverage purposes.
 2. Reduction in Field Specific or Local Spot Risk Management Coverage: Basic and/or optional units are more likely to reflect field level or spot location yield and/or revenue losses for farmers than are county-wide enterprise units. With greater aggregation of crop acreage and production, enterprise units provide farmers with less protection from crop production-related financial risks.

Thank you for the opportunity to comment on these issues. Please feel free to contact any of us to discuss these issues further.

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