



**AgEcon** SEARCH

RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

*The World's Largest Open Access Agricultural & Applied Economics Digital Library*

**This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.**

**Help ensure our sustainability.**

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

[aesearch@umn.edu](mailto:aesearch@umn.edu)

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

*No endorsement of AgEcon Search or its fundraising activities by the author(s) of the following work or their employer(s) is intended or implied.*

# 2011 Year in Review

*Year in Review* is an annual feature of *Crop Insurance TODAY*® intended to provide an overview of the performance of crop insurance during the previous crop year.



By Keith Collins and Harun Bulut, NCIS

## Overview

The U.S. crop insurance program experienced “a year for the record books” in 2011. Crop insurance companies paid out a record-high \$10.5 billion in indemnity payments in 2011, surpassing the former record of \$8.7 billion paid in 2008. (All data in this report are as of April 2, 2011.) These payments proved vital for farmers facing a wide spectrum of natural disasters in 2011, including severe droughts in the Southern Plains, hard freezes in Florida, major flooding along the Mississippi, and tropical storms in the South and Northeast. The Southern and Central Plains endured the most severe losses. One out of every four dollars of indemnities went to farmers and ranchers in Texas, who received \$2.6 billion in indemnities, followed by North Dakota, Kansas, South Dakota, Minnesota and Oklahoma. With the record indemnities, crop insurance losses as a percent of premium have already reached 2008’s level — the highest in the past eight years — with more losses yet to be paid. Regarding the crop hail business, paid losses as a percent of premium exceeded 100 percent on a countrywide basis for only the third time since 1948.

The weather disruptions of 2011 had significant impacts on crop acreage and yields. The 2011 winter wheat planted area exceeded the 2010 planted area, but the hot, dry growing season sharply reduced hard red winter (HRW) wheat production. Much better weather in the soft red winter (SRW) wheat growing areas resulted in a near doubling of SRW production from 2010’s poor output. Very wet spring weather and flooding severely delayed spring wheat planting and acreage, causing production to fall from a year earlier. Overall, the 2011 wheat harvest was down nine percent — up slightly for winter wheat but down dramatically for spring wheat. Corn and soybean planting got off to poor starts in 2011, as heavy rains and severe flooding caused planting delays. Heavy snowmelt caused flooding along the upper and middle Mississippi River, while the heavy rains created flooding across the Ohio Valley and Mid-South. Despite the slow start, corn planted acreage was the second highest since 1944, while soybean area was off slightly from 2010. The extremely slow planting pace left corn vulnerable to hot and dry summer weather, yields fell and production was down despite the higher

acreage. Soybean production declined eight percent from 2010, affected by wet weather in the spring and fall and hot, dry weather during reproduction. While very strong cotton prices resulted in a 34 percent increase in cotton planted area compared with 2010, drought throughout the south and Hurricane Irene in the east devastated the crop, resulting in 13 percent less production.

Key market and policy developments also highlighted 2011. With the global economy slowly recovering from the financial crisis of 2008-09, demand for crops for food, feed, fuel and fiber rose strongly in 2011. Despite an increase in global crop production, highlighted by large production increases for grains in Russia, Ukraine, Kazakhstan, China and Canada, the lower U.S. wheat, corn and soybean production curtailed U.S. exports and contributed to a sharp increase in commodity prices and U.S. farm income.

The index of crop prices received by U.S. farmers set a record high in 2011. U.S. net farm income also set a record high, rising 24 percent over 2010. U.S. policy continued to focus on controlling the record Federal budget deficit, which influenced

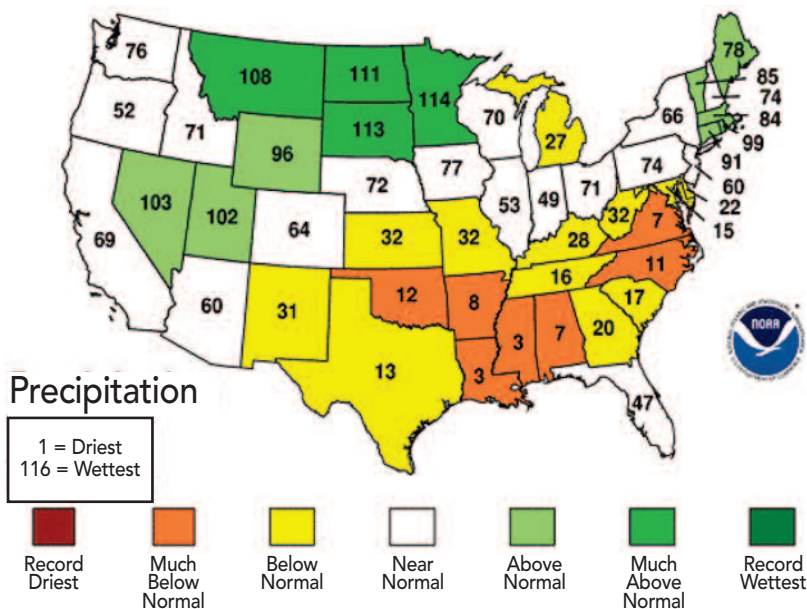
action on the 2012 Farm Bill. In the fall of 2011, Congressional Agriculture Committees proposed budget cuts for farm program spending as part of a deficit reduction plan that did not materialize. Farm Bill activities carried into 2012 with Congressional hearings held during the late winter. Continued scrutiny of farm programs and crop insurance and their interaction is expected to be a focus of 2012 Farm Bill actions.

This article expands on this brief overview by reporting on the 2011 crop insurance season and highlighting the significant events that affected the program. A brief discussion of weather conditions and their impacts on crop production is followed by a review of commodity markets and prices. Crop-hail experience for the United States and Canada is presented, followed by overall results of the Federal crop insurance program. Finally, issues for the crop insurance industry from the program and policy perspective are examined.

## Weather and Production

The area planted for harvest of winter wheat for the 2011 crop was 40.6 million acres, up nine percent from 2010's weather-reduced level. Planted and harvested acreage was down in most of the HRW states due to hot, dry weather. For example, while planted area in Kansas increased by 400,000 acres, planted area in Texas and Oklahoma declined by 600,000 acres. The increase in overall winter wheat area was attributable to a sharp increase in planted and harvested acreage of SRW, compared with 2010 when wet, fall 2009 weather caused record-low plantings in many SRW states. With much better conditions in the fall of 2010, many SRW states more than doubled planted area compared with the year earlier. In the Pacific Northwest, acreage was up slightly in this predominantly soft white wheat area. By the end of November, the winter wheat crop was showing some stress from short soil moisture supplies, with 17 percent of the crop rated poor or very poor compared with six percent at that point for the prior year's winter wheat crop. The situation would continue to deteriorate in the Southern Plains but improve in the SRW

Figure 1. Winter 2010-2011 National Climatic Data Center/ NESDIS/NOAA



areas of the Mid-West. By early April, 61 percent of the Texas 2011 winter wheat crop was rated poor or very poor and 53 percent was similarly rated in Oklahoma. For comparison, poor or very poor ratings accounted for only 12 percent of the Illinois crop and only seven percent of the Indiana crop.

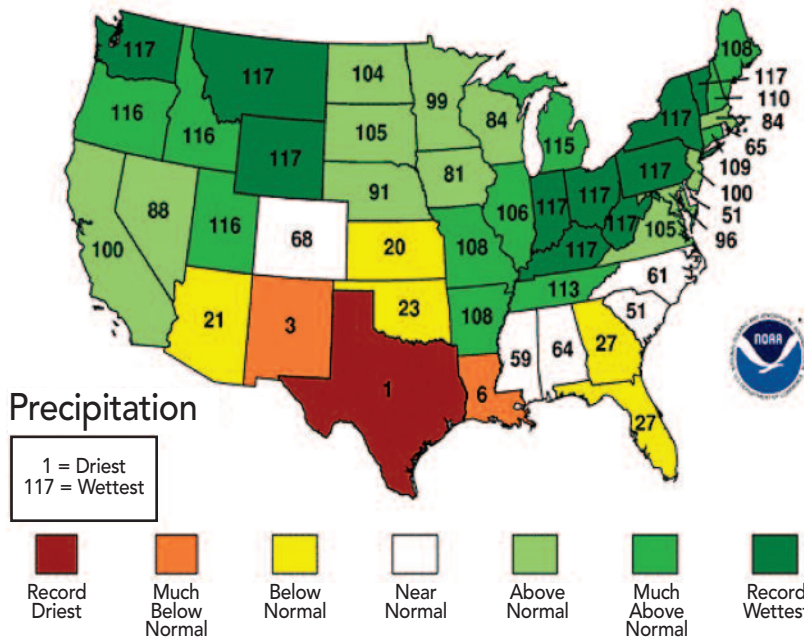
The National Climatic Data Center (NCDC) reported a colder than average winter during 2010-2011, with the coolest temperatures compared with average occurring in the Southeast. La Nina affected precipitation patterns, with above-average precipitation in the Northern Plains and Upper Midwest with much above-average snowpack. Precipitation in North Dakota, South Dakota, Minnesota and Montana was among the ten wettest winters (Figure 1), setting the stage for the spring flooding to come. Meanwhile, reflecting the typical La Nina pattern, drier-than-average conditions were experienced across the Southern United States, with Louisiana, Arkansas, Alabama, Mississippi and Virginia having among the ten driest winters.

Consistent with La Nina, the spring saw drought become more intense in the South while the Northwest, Northern Rockies, Ohio Valley and the Northeast saw frequent storms. Ten states had the wettest springs on record and another 11 states had precip-

itation that was among the ten wettest (Figure 2). High snow pack and record precipitation led to record flooding in the spring and early summer in the Upper Midwest and the Northern Plains. Flooding occurred along the Ohio, Mississippi Missouri and other rivers. Levees were intentionally breached to protect urban areas, flooding farmland. In the Southern Plains, Texas had the driest spring on record, only 2.56 inches of rain, over five inches below normal, and the region had a record-high number of acres burned by wildfires. In the Southeast, repeated storms led to 1,155 tornadoes. Nationally, there were 1,625 tornadoes (some still being confirmed) making 2011 the second or third highest total on record.

The winter and spring weather patterns greatly affected wheat production. Spring wheat planting was delayed, with only 68 percent of the crop planted by the end of May, 27 points behind normal, and planted acreage fell to 12.4 million, down ten percent from 2010. The HRW spring season saw cool, wet conditions in northern areas but intense heat and drought in Oklahoma and Texas. The persistent drought in the Southern Plains reduced HRW production to 780 million bushels, down 23 percent from 2010. Nearly two-thirds of the Texas winter wheat planted area was abandoned

**Figure 2. Spring 2011 National Climatic Data Center/ NESDIS/NOAA**



due to drought. Paralleling its acreage increase, SRW wheat production rebounded sharply during a generally favorable growing season, rising to 458 million bushels, 93 percent above the 2010 level.

The wet spring in much of the nation played havoc with planting for many other crops (Figure 3). In 2010, excellent spring weather for much of the nation resulted in rapid planting for all major crops. In 2011, the story was just the opposite, as only 13 percent of corn area was planted by the start of May, compared with 66 percent in

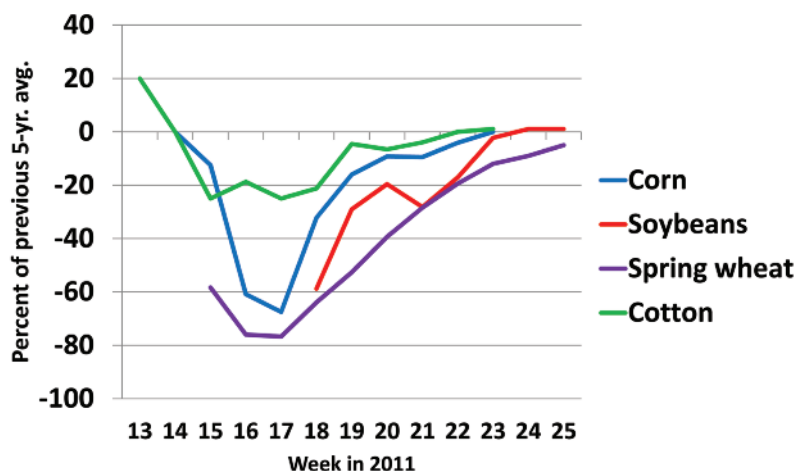
2010 and the previous five-year average of 40 percent. By the start of June, rapid progress had been made with 86 percent of corn planted, nine points behind the five-year average. At that point, soybean plantings were 51 percent complete, 20 points behind the five-year average. Long delays in planting also occurred for many other crops, ranging from rice to barley to sunflowers. With soaring corn prices serving as a strong incentive, corn plantings caught up and finished at the second highest level since 1944, 91.9 million acres, up 4 percent

from 2009, a tribute to the technology that farmers now have that enables large acreages to be planted in a very short time period. Barley and oats area declined slightly while sorghum increased modestly. Soybean planted area declined to 75 million acres, down from 77.4 million in 2010. Upland cotton planting started slowly but quickly caught up to normal progress, similar to 2010, and U.S. planted area was 14.7 million acres, up 34 percent for the second consecutive large increase in area planted, propelled by unusually high cotton prices. U.S. rice acreage lagged much of the planting season due to drought and wet weather, and with higher prices for competing crops, planted acreage finished at 2.7 million acres, down 26 percent and the lowest level since 1987. California, with sufficient water, planted three percent more rice. Overall, 315 million acres were planted to major crops in 2011, 1.7 million less than in 2010.

During the summer of 2011, the United States had the second warmest summer on record and was drier than normal. New Mexico, Texas, Oklahoma and Louisiana had the warmest summers on record. Texas also had its driest summer on record. In the east, persistent storms led to abnormally wet regions from the Ohio Valley to the Northeast, partially attributable to Hurricane Irene, which did much agricultural damage along the east coast and caused catastrophic flooding in the Northeast.

Outside of the drought-stricken and flooded areas, overall major crop conditions remained somewhat favorable throughout the growing season. Figure 4 indicates the portion of key crops rated good or excellent in the weekly survey conducted by the National Agricultural Statistics Service. For corn, soybeans and spring wheat, the percentage of the crop rated good or excellent deteriorated throughout the growing season. Spring wheat had higher ratings than the other crops, but its 2011 yields were down, as wetness persisted and maturation lagged for much of the season. With lower acreage, production was only 455 million bushels, 25 percent below 2010's large crop. When combined with winter wheat,

**Figure 3. Planting Progress: Share of Crop Planted Compared with 2006-2010**

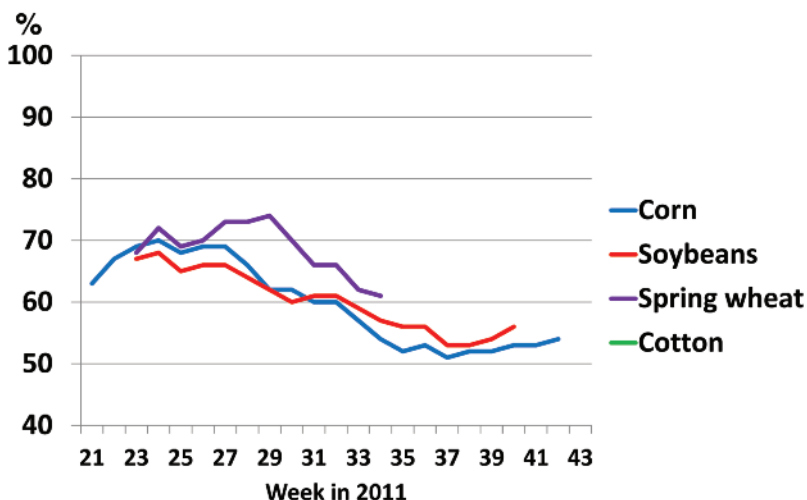


U.S. wheat yields averaged 43.7 bushels per acre, down five percent from the record high set in 2010 and still the fifth highest on record. All wheat production at 2.0 billion bushels was down by nine percent. The late plantings of U.S. corn made the crop vulnerable to heat and dryness during critical growing periods in July and August, and corn conditions deteriorated during this period. U.S. yields were well below trend at 147.2 bushel per acre. Production was 12.4 billion bushels, about one percent below the 2010 level and six percent below the record-high of 13.1 billion produced in 2009. Soybean production at 3.1 billion bushels was down eight percent, due to lower area and hot, dry conditions during reproduction. The record setting drought in the South and Hurricane Irene combined to lower yields of upland cotton, but abandoned acreage was the major factor explaining lower cotton production, despite a large area increase. Only 66 percent of planted acres were harvested compared with 97 percent in 2010. Total cotton production was 15.7 million bales, 13 percent below 2010. With sharply lower acreage, rice production in 2011 was a 185 million cwt, 24 percent below 2010.

As calendar 2012 began, the western states were particularly dry, with California having its second driest winter on record and low snowpack levels. Drier-than-average conditions were present across the Northern Plains, Southwest, and Southeast. Warmer-than-average temperatures dominated the northern and eastern regions of the country during the winter, leading to the fourth warmest winter on record for the contiguous United States. Seasonal drought forecasts for spring 2012 point to persistent drought from West Texas to Southern California and for the Southeast.

[Information for this section was obtained from the publication of the National Climatic Data Center at the National Oceanic and Atmospheric Administration (NOAA) "State of the Climate National Overview for Annual 2011", published online, December 2011, and retrieved on April 2, 2012 from [www.ncdc.noaa.gov/sotc/national/2011/13](http://www.ncdc.noaa.gov/sotc/national/2011/13); NOAA's Publication of "The Seasonal Drought Outlook", published online and retrieved April 2, 2012 from

**Figure 4. U.S. Crop Conditions: Share of Crop Rated Good or Excellent**



[www.cpc.ncep.noaa.gov/products/expert\\_assessment/seasonal\\_drought.html](http://www.cpc.ncep.noaa.gov/products/expert_assessment/seasonal_drought.html); and USDA publications, including "Global Crop Production Review, 2011", "Prospective Plantings March 2011", and various issues of "Crop Production", the "Weekly Weather and Crop Bulletin" and "World Agricultural Supply and Demand Estimates Report".]

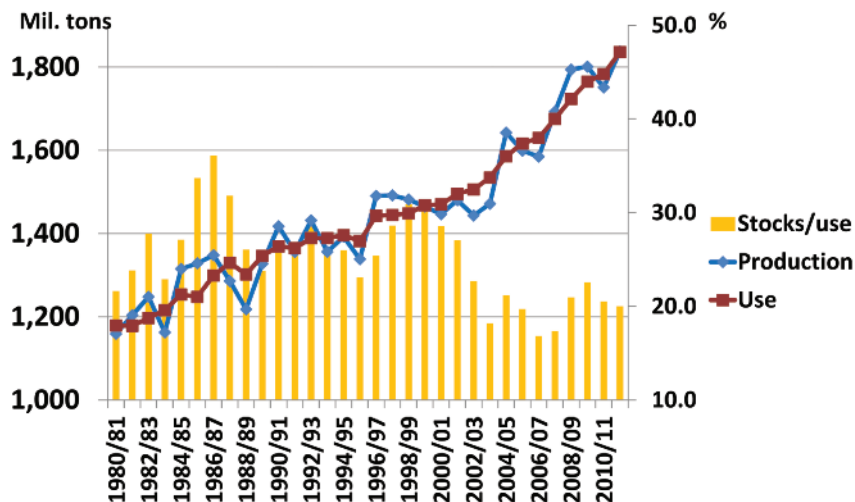
## Commodity Markets and Prices

With growth returning to the global economy after the financial crisis of 2008-09, particularly in emerging markets, global food consumption has continued to surge ahead. Demand growth has been especially strong in Developing Asia, including China, and Latin America. Contrary to the tight commodities supplies due to adverse

weather shocks in countries such as Russia, Ukraine, Argentina, and Australia in 2010, the production in these countries rebounded in 2011. Figure 5 shows that global grain production recovered from the reduction in 2010 and almost matched its use. As a result, grain markets tightened further with carryover stocks slightly declining from the 2010 level. Unlike the recovery in grain production, global oilseeds production declined and its use increased in 2011 compared with 2010 levels (not shown in Figure 5). As a result the ratio of carryover oilseeds stocks to their use also declined for the year.

Intensified competition from Russia, Ukraine, Argentina, Australia, Kazakhstan, China and Canada and lower U.S. produc-

**Figure 5. World Grain Production and Use**

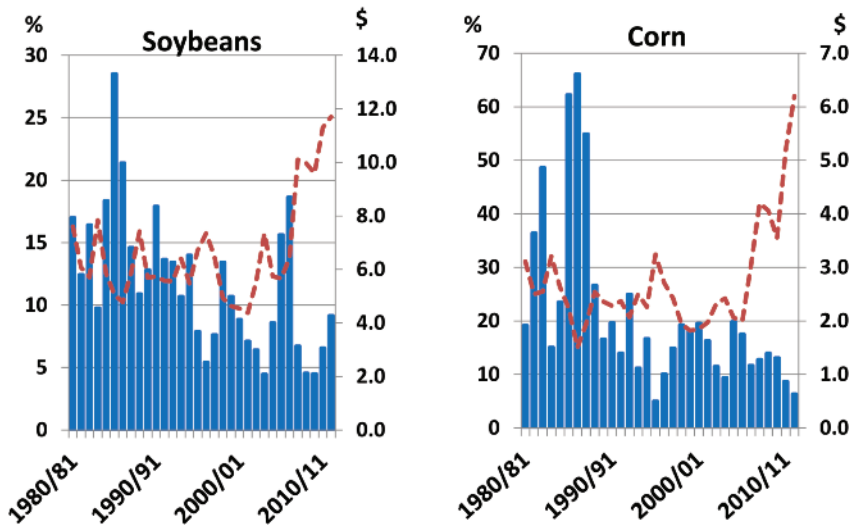


**Table 1. Index of Farm Prices Received by Producers, All Crops  
1990-92 = 100**

	2005	2006	2007	2008	2009	2010	Dec. 2010	2011
Index	110	120	142	169	150	153	170	202

Source: NASS Agricultural Prices

**Figure 6. U.S. Stocks/Use and Prices**

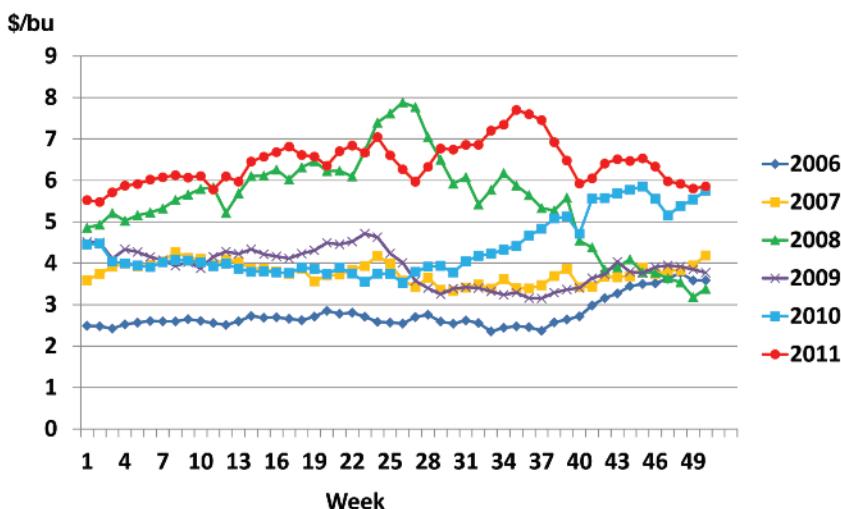


tion relative to 2010, limited the export prospects for the U.S. crop. Furthermore, U.S. ethanol producers were expected to purchase 40 percent of 2011 U.S. corn production, the same level as in 2010. Despite the slowing growth in ethanol demand for corn use and weakening export sales due to increased competition, the tight domes-

tic supplies pushed the index of prices received by farmers for all crops to 202 in 2011, a record high (Table 1). This continued the run-up in the farm prices that commenced in 2010.

Figure 6 illustrates U.S. carryover stocks of corn and soybeans as a percent of total use, a measure of the tightness of U.S. crop

**Figure 7. Weekly Corn Future Prices  
Life of the Dec. Contracts 2006-2011**



markets. Corn carryover stocks are forecast by USDA to be only 7.3 percent of total use of corn in 2011/12, second lowest (five percent in 1995/96) since at least 1960 and down from 2010's level of 8.6 percent. Soybean stocks are expected to be only 9.1 percent of use, up from 6.6 percent in 2010. Marketing year average farm prices, which are well correlated with stocks/use ratios, are expected to reflect this historic tightness. Corn farm prices are estimated to average a record-high \$6.20 per bushel in 2011/12, compared with the previous record of \$5.18 in 2010/11. Soybean prices are expected to average a record \$11.70 per bushel, compared to the prior record of \$11.30 in 2010/11. Similarly, cotton prices are expected to be 96.5 cents per pound, the highest price since at least 1960. The all-wheat farm price for 2011/12 is estimated at \$7.30 per bushel, up sharply from 2010/11, and which surpasses the 2008/09 record of \$6.78 per bushel. Rice, which had the lowest level of production since 1998, is expected to average \$14.20 per cwt, up from 2010/11 but still below 2008/09's average farm price of \$16.80 per cwt.

Figure 7 shows the general pattern of 2011-crop year prices for major crops, using as illustration the December futures contract prices for corn on a weekly basis from 2006 through 2011. In contrast to the sharp increase in the first half of 2008 that dissipated as the large harvest became known, December futures prices in 2010 began rising midway through the year as global crop production problems began to surface. In 2011, December futures prices for corn started out at the highest level in the past six years. The futures price continued to increase in line with the extremely slow planting pace throughout the year. At the end of second quarter, it was finally anticipated that the shortfall in U.S. corn output may not be as high as first expected. And given the limited export prospects due to strong production in the rest of the world, the futures price pulled back a bit in fall.

Starting in 2011, volatility factors, which are determined from options contract prices, are used in rating revenue protection coverage under the new Combo poli-

cy. Prior to 2011, price volatility factors were used for rating the Revenue Assurance (RA) program only. With the new Combo policy, one projected price is used in yield protection (YP), revenue protection (RP) and revenue protection with harvest price exclusion (RP-HPE).

Table 2 provides the base prices for revenue policies for major crops over the past several years. In 2008, all base prices for spring-planted crops were record highs and declined in 2009.

In 2009, the base price for winter wheat set a record high. Expectations were that market prices for major spring-planted crops would decline in 2010, except for cotton, and base prices for spring wheat and corn did decline, while soybean base prices were up slightly. Cotton base prices increased markedly in response to a very tight expected market in 2010/11 and this influenced the 2011 base price. The 2010 winter wheat base price fell from the 2009 record, as a large build up in wheat stocks was expected for the 2010 wheat marketing year at the time the base price was determined. However, wheat stocks declined during the 2010/11 crop year due to weather related disruptions in several major exporting countries and were projected to decline for the second year in a row in 2011/12 thus pushing up prices. The corn stocks/use ratio had already been one of the lowest in decades in 2010/11, and the reduced 2011 corn crop maintained the tight situation. With global economic recovery slowly on its way, demand for crops rose strongly and lower production of all major U.S. field crops pushed all of the base prices for the major crops for 2011 markedly higher compared to the previous year.

Table 3 shows implied volatility factors for major crops. After an increase in 2009 for most crops, volatilities decreased in 2010. In 2011, volatilities increased relative to 2010 levels but still did not exceed 2009 levels with the exception of cotton. In cotton, the volatility factor almost doubled compared with the previous three years. Higher volatility factors in major crops result in higher premium rates provided that the other factors affecting the premium rates remain the same.

Crop	2008	2009	2010	2011	Change
Wheat, winter (\$/bu) (KCBOT)	5.88	8.77	5.42	7.14	32%
Wheat, spring (\$/bu)	11.11	6.20	5.43	9.89	82%
Corn (\$/bu)	5.40	4.04	3.99	6.01	51%
Soybeans (\$/bu)	13.36	8.80	9.23	13.49	46%
Cotton (\$/lb)	0.77	0.55	0.72	1.15	60%
Rice (\$/cwt) (AR, MS, TX for 2011)	14.40	13.10	14.00	16.1	15%

1/ Revenue Protection (RP) for 2011 and Revenue Assurance (RA) for prior years.  
Source: Various RMA Manager's Bulletins

Crop	2008	2009	2010	2011	Change
Wheat, winter (\$/bu) (KCBOT)	0.24	0.33	0.27	0.33	22%
Wheat, spring (\$/bu)	0.33	0.25	0.24	0.25	4%
Corn (\$/bu)	0.30	0.37	0.28	0.29	4%
Soybeans (\$/bu)	0.31	0.31	0.20	0.23	15%
Cotton (\$/lb)	0.20	0.27	0.21	0.40	90%
Rice	0.15	0.22	0.19	0.22	16%

1/ RP for 2011 and RA for prior years.  
Source: Various RMA Manager's Bulletins

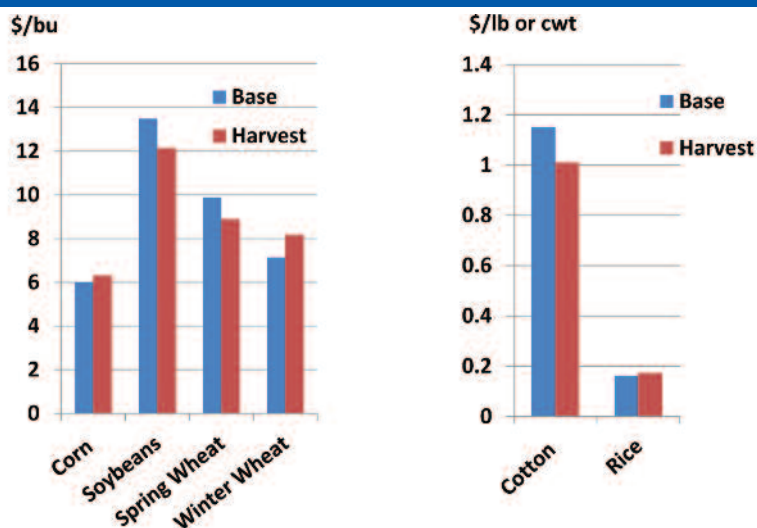
Figure 8 shows the effects of price movements on the base and harvest prices for the 2011 RP and RP-HPE plans of insurance for the major crops (corn, soybean, winter and spring wheat). During 2008, the last year with a large run-up in crop prices, harvest prices turned out mostly below base prices, which triggered indemnities for many revenue policies. In 2010, however, harvest prices for major spring-planted crops exceeded base prices. For 2011, price changes were mixed, with harvest prices increasing by 5.2 percent for corn, 15 percent for winter wheat and 7.5 percent for rice from base prices, whereas prices came down ten percent for soybeans, ten percent for spring wheat and 12.2 percent for cotton.

The main factor behind corn price increases during 2011 was the below trend yield combined with corn's expected stocks/use ratio falling to one of the lowest levels in the last three decades. In contrast, the U.S. soybeans stocks/use ratio has risen over the past three years after hitting a very low point in 2008/09 (Figure 6). In addition, record South American soybean production weakened prices, even though demand is expected to remain strong over the long-

term with China continuing to be the major buyer of U.S. soybeans. Regarding wheat, even though production was slightly up for winter wheat, severe delays in spring wheat planting due to very wet spring weather and flooding led to the increase in the price of winter wheat at harvest. Despite the sharp decline in the production of spring wheat, the decline in spring wheat price at harvest can be attributed to the comfortable level of world and U.S. wheat stocks. For cotton, the record prices at the beginning of the growing season resulted in expanded planted acreage. Despite this increase in acreage, adverse weather conditions during the growing season reduced domestic production. However, world production came out strong and is forecast to exceed consumption for the first time since 2004/05. The expected stocks/use ratio for cotton is higher than in 2009/10 and 2010/11 but lower than 2008/10 level. Finally, the increase in the harvest price of rice can be attributed to the decline in production of 24 percent below 2010 mainly due to intense competition from other crops for limited acreage.

[Information for this section of the article was obtained from the Risk Management

**Figure 8. Prices for 2011  
Common Crop Insurance Policy (COMBO)**



**Table 4. Federal Crop Insurance Program, Gross Basis (Mil. \$)**

Crop Year	Liability	Premium	Indemnity	Acres	Loss Ratio
2004	46,602	4,186	3,210	221	0.77
2005	44,259	3,949	2,367	246	0.60
2006	49,919	4,580	3,504	242	0.77
2007	67,340	6,562	3,548	272	0.54
2008	89,897	9,851	8,680	272	0.88
2009	79,571	8,950	5,227	265	0.58
2010	78,091	7,593	4,242	256	0.56
2011	114,020	11,947	10,484	265	0.88 1/

1/ As of April 10, 2012; data not complete  
Source: RMA Summary of Business Reports

Agency, National Agricultural Statistics Service, USDA Foreign Agricultural Service's PSD "Production, Supply and Distribution" [www.fas.usda.gov/psdonline/psdQuery.aspx](http://www.fas.usda.gov/psdonline/psdQuery.aspx), USDA's "World Agricultural Supply and Demand Estimates Report", the commodity outlook reports of USDA's Economic Research Service, and data from Barchart.com.]

## Federal Crop Insurance Program Experience

At the time this article was written, the crop insurance program loss ratio (gross indemnities divided by gross premium) for the 2011 crop year was estimated at 0.88, one of the highest in the past eight years and similar to the loss ratio in 2008 (Table 4). While six of the years listed had loss ratios below 0.88, the results over this period have been exceptional in that only three years prior to 2004 performed that

well. For 2011, the total liability, premium written and indemnities exceeded the records levels set in 2008. The acres insured reached the 2009 level but are still below the level set in 2008.

Results differed for the various insurance plans (final indemnities for the group risk plans, GRP and GRIP, were not available at the time this article was written). The U.S. loss ratio for individual farm revenue protection plans (RP, RP-HPE, as well as the no longer active CRC, RA IP, and IIP plans of insurance) was 0.88, similar to the U.S. loss ratio for all plans. The rainfall and vegetation index plans for pasture, range and forage had loss ratios of 1.67 and 0.85, respectively. Yield Protection and APH plans combined had a loss ratio of 1.08, while all remaining plans of insurance (excluding GRP and GRIP) had an overall loss ratio of 0.68. The loss ratio on revenue

plans was below that on yield plans, as it was in 2010 and 2009, but unlike 2008 when harvest prices fell below base prices and triggered large indemnities on revenue plans. For the 2011 crop year, 933,000 units have been indemnified to date, compared with 464,000 in 2010, 595,000 in 2009 and 1,049,000 in 2008.

Figure 9 shows the distribution of 2011 loss ratios across states for revenue (RP and RP-HPE) and yield protection (YP) plans of insurance. Loss ratios were below 0.75 in the majority of states, 30 out of 48 for revenue and 27 out of 49 for yield protection. Nevertheless, loss ratios exceeded 1.00 in 14 states for the revenue plans and 15 states for yield protection. Compared with 2010, there were more states in the right tail of the distribution for both plans showing extreme losses.

Figure 10 illustrates the loss ratios by state. Of the 49 states shown (Hawaii had no premiums written in 2011), a majority (35) had a higher loss ratio for yield protection than revenue plans, a similar pattern was observed in 2010. States in which the revenue plan loss ratio was much higher than yield protection included Connecticut, California, Arkansas, Idaho, Utah, and Rhode Island. Revenue policies were only a small fraction of plans sold in California, Connecticut, and Rhode Island. The price declines at the harvest played a major role in Vermont (soybeans) and California (spring wheat and cotton). States with a much higher loss ratio for yield protection included Maine, North Dakota, Oklahoma, Nevada, and especially Alaska, Massachusetts, and Vermont. Yield policies were only a small fraction of plans sold in Alaska, North Dakota, Oklahoma, and Nevada, which was also true for Massachusetts and Maine but the share of yield plans still remained higher than the share of revenue plans. Tropical storms in the South and Northeast, intense heat and drought in Oklahoma, and extreme wet conditions in North Dakota were the major factors behind the production losses. These production losses were mostly reflected in yield plans which did not have the offsetting effect of the higher corn, winter wheat and rice prices at harvest.

The map in Figure 11 shows gross loss



ratios by state. States where the loss ratio exceeded the statutory target (1.00) for establishing premium rates are shown in blue or red which together accounted for \$4.2 billion in gross premium, 35 percent of the U.S. total. The five states in blue are those with loss ratios at least 1.00 and less than 1.25: Connecticut, New York, Georgia, Arkansas and Missouri. The eight states in red are those with loss ratios above 1.25: Texas, Oklahoma, New Mexico, Kansas, North Dakota, North Carolina, Vermont, and Rhode Island. The highest loss ratio was 2.59 in Vermont, followed by 2.34 in Texas and 2.14 in Oklahoma. The total payouts to the states in blue and red amounted to \$6.9 billion, 66 percent of the total U.S. indemnities. The remaining 34 percent of the indemnities went to the states with loss ratios below 1.00. The effect of the severe droughts in the Southern Plains, major flooding along the Mississippi River, and tropical storms in the South and Northeast is evident on the map.

[Information for this section of the article was obtained from Summary of Business reports released by the Risk Management Agency.]

## U.S. Crop-Hail Experience

For the United States, crop-hail insurance generally refers to policies in which direct damage to hail is the primary cause of loss. In addition to hail damage, many policy forms carry endorsements for additional perils. For the most part, the added perils include wind and fire, although there are exceptions. For the purpose of this article, results will be reported for all losses on hail policies, including the experience of non-member companies not included in NCIS' *Annual Statistical Summary* reports.

Premium for 2011 as currently reported to NCIS was \$841.7 million, the largest in the history of the program and up from \$680.9 million in 2010, which provided more than \$36 billion in privately insured crop-hail insurance protection for U.S. farmers. Such coverage proved especially valuable in 2011 which had the largest amount of hail losses of any year in the

Figure 9. Number of States with Loss Ratios in the Indicated Range

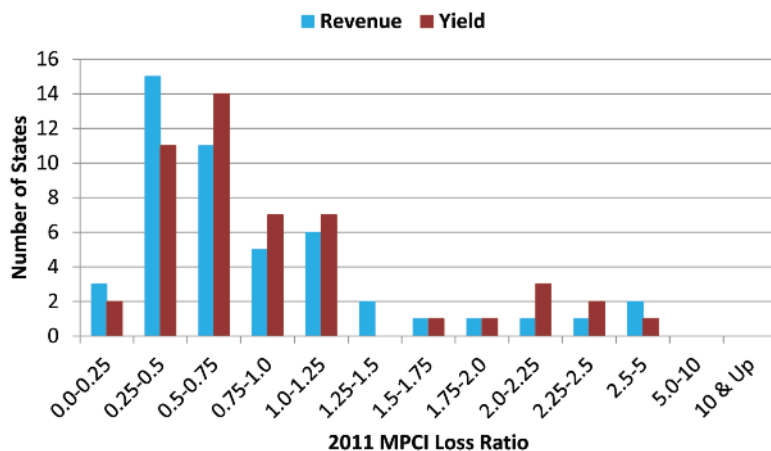


Figure 10. Loss Ratios by State, 2011

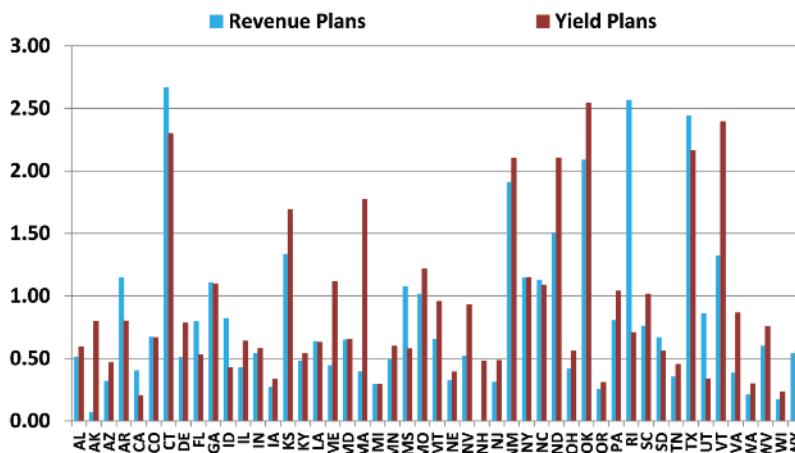
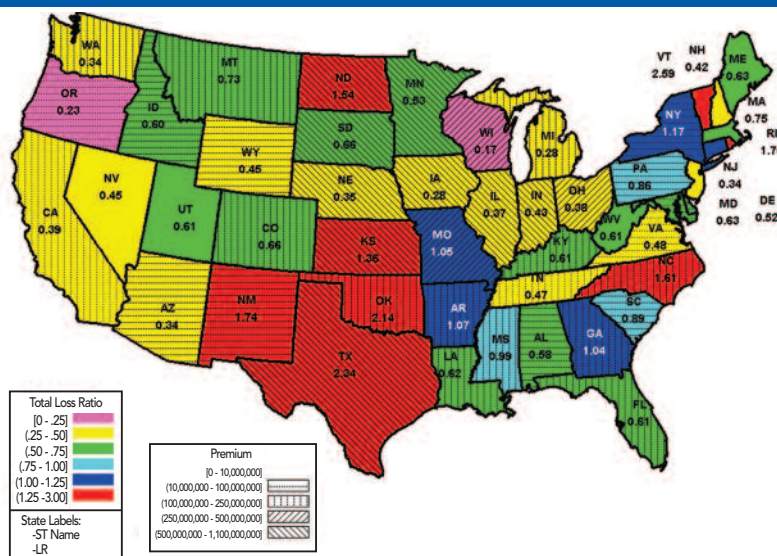


Figure 11. 2011 MPCJ Premium and Loss Ratios – All Plans Combined



**Table 5. U.S. Crop-Hail Results, all Perils (Mil. \$)**

Crop Year	Liability	Premium	Losses	Loss Ratio
2004	\$15,186	\$427.5	\$245.9	0.58
2005	15,017	424.8	186.8	0.44
2006	15,545	405.3	203.2	0.50
2007	19,392	489.6	235.2	0.48
2008	27,540	669.4	555.1	0.83
2009	25,493	621.3	565.9	0.91
2010	27,173	682.2	459.9	0.67
2011	36,656	841.7	962.2	1.14

history of the program, and only the second year since 1948 in which the country-wide loss ratio, defined as paid losses divided by premium written, exceeded 1.00. The losses of \$962.2 million were 73 percent greater than the amount paid in 2008 and more than four times the amount paid in 2006. It should be noted that the countrywide loss ratio of 1.14 in 2011 would be only 0.88 if production plan experience were excluded. Production plan premium in 2011 was about \$180 million with a countrywide loss ratio of 2.11. A summary of countrywide crop-hail experience over the past eight years is provided in Table 5.

Large storms contributed importantly to losses for the year. In terms of statewide losses from storms on a particular day, Minnesota took the top spot with \$42.4 million on July 1. That was followed by Nebraska with \$39.2 million on June 19 and Iowa with \$33.4 million losses on August 18. The losses from top ten storm days at a state level amounted to \$265.2 million, which was much more severe than \$79.9 million in 2010 and \$176.5 million in 2009. On a county by county basis, the largest one-day storm in 2011 occurred on June 19 in Chase County, Nebraska, resulting in more than \$17.2 million paid out to farmers. That was followed by \$11.5 million in Dickey County, North Dakota on July 10, \$8.3 million in Redwood County, Minnesota on July 1, \$8.0 million in Buffalo County, Nebraska on July 10, and \$7.8 million in Page County, Iowa on August 18. The total of the top five county losses was above the corresponding level in 2010 and 2008 but six percent less than in 2009. Five of the top ten county storm events for the year occurred in Nebraska on four differ-

ent days, with the remaining five major storm events in North Dakota, Minnesota, Iowa, and Missouri. Of the top 50 most damaging storms at the county level, 19 occurred in the month of August, 16 in July, 11 in June, and four in May.

Crop-hail loss ratios by state are shown in Figure 12. Colors identify states with similar loss ratios, and shading is used to identify states with similar premium volume. Crop-hail insurance was written in 43 states in 2011. Of these states, 11 had a loss ratio in excess of 1.00, which are shown in blue and red in the map. Missouri, with premium of \$16.3 million, had the highest loss ratio of 2.88, which was followed by a loss ratio of 1.98 in Nebraska with premium of \$155.6 million. North Dakota, with \$76.2 million of premium, had a loss ratio of 1.47, while Minnesota, with \$79.9 million of premium, had a loss ratio of 1.29. States with loss ratios less than 0.50, shown in purple or yellow on the map, include Texas with \$44.1 million in premium. As expected, the states most affected by the extremely dry spring as shown in Figure 2 also tended to have low hail loss ratios.

[Information for this section was obtained from NCIS' Insured Crop Summary and claim files.]

## Canadian Crop-Hail Experience

Crop-hail business in Canada is primarily written in the prairie provinces of Alberta, Manitoba and Saskatchewan. Crop-hail loss payouts totaled C\$164 million (Canadian), up somewhat as compared to 2010 level, more than double the level of 2009 and about half the record losses of 2008. Total premium for 2011 for

all three provinces was C\$268 million, resulting in a loss ratio of 0.61 as compared with 0.59 in 2010, 0.29 in 2009 and 1.18 in 2008.

Manitoba had premiums of C\$31 million, down a bit from 2010. Less than 1,100 losses generated payouts of C\$6.9 million, less than the half of the amount paid out in 2010. The loss ratio of 0.22 compares favorably to loss ratios of 0.39 and 0.29 in 2010 and 2009.

It was an average hail year in Alberta. Losses totaled C\$36 million, slightly down from 2010 and down 26 percent from 2009 but still close to the ten-year average. Premiums were C\$68 million, up from 2010 and 2009, and the loss ratio of 0.53 was down from 0.61 in 2010 and 0.83 in 2009.

Saskatchewan, the largest province in terms of hail business saw increasing hail losses. The number of claims rose from 4,075 in 2009 and 11,600 in 2010 and to 11,800 in 2011. Three memorable storms in July and one in the middle of August caused widespread damage. Premium exceeded \$168 million for the year, up from C\$166 million in 2010, but down from C\$172 million in 2009. Losses in 2011 of C\$121 were up from C\$103 million in 2010 but much less than the record of C\$228 million set in 2008. The loss ratio for the year was nearly 0.72, up from 0.62 in 2010 and lower than 1.29 in 2008. The exception was 2009, when payouts reached a record low of \$23.4 million with a loss ratio of less than 0.14.

[Information for this section of the article was taken from the *The Hail Report*, a publication sponsored by the Canadian Crop Hail Association. *The Hail Report* is produced every two weeks during the hail season.]

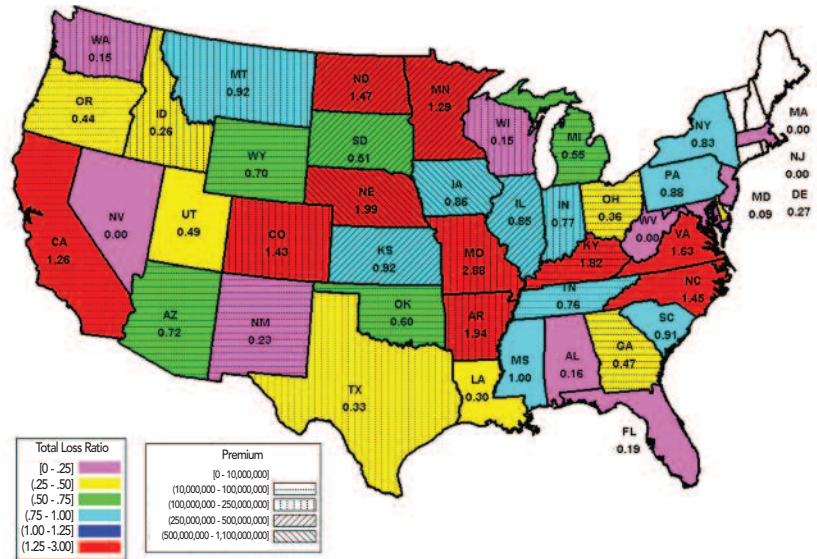
## Program and Policy Developments

In crop year 2011, the Risk Management Agency (RMA), on behalf of the Federal Crop Insurance Corporation (FCIC), introduced the Common Crop Insurance Policy (Combo Policy). With the new Combo policy, yield protection (YP) replaced Actual Production History (APH) yield plan for the major row crops, while Crop Revenue Coverage (CRC) and Revenue Assurance

(RA) were unified under the revenue protection (RP) plan, which also allowed the harvest price exclusion option (RP-HPE). One simplifying feature of the Combo policy is that the YP, RP and RP-HPE plans use the same projected price, which proved to be helpful in streamlining the process. Another feature of the Combo policy is the use of volatility factors in rating revenue protection coverage. Prior to 2011, price volatility factors were used for rating the Revenue Assurance (RA) program only. Despite this, the revenue add-on component of the policy initially created some confusion and operational issues, but these concerns appeared to subside over the course of the year. Overall, the process for transitioning to the Combo policy went fairly smoothly and the new Combo policy initiative of the Federal crop insurance program proved to be useful.

A number of program issues surfaced during 2011. One major implementation challenge was dealing with flooded lands. The spring and early summer floods involved naturally flooded land, levees being overtopped and levees intentionally

**Figure 12. 2012 U.S. Crop Hail Premium and Loss Ratios – All Crops, Plans Combined**



breached by the Army Corps of Engineers. The legal standard for crop insurance is that insurance is provided only to protect against unavoidable, naturally occurring events. When the Birds Point-New Madrid Floodway levees on the Mississippi River were breached by the Army Corps of

Engineers and crop land was flooded as a result, the Risk Management Agency (RMA) determined that “existing flooding of crop land, the overtopping of the levee, and the impending failure of the levee system from flooding and saturation is due to excess rainfall and is an unavoidable, naturally occur-

# It's not just a map. It's your whole world.

When it comes to your operation, nothing less than the best will do. Find out why so many agents and growers are turning to AgriLogic for the latest in mapping technology and top-quality mapping products.

- **Reporting Tools** - Spiral bound notebooks of the producers operation to document planting, irrigation and harvest records
- **Acreage and Production Workbooks (APW)** - 3 part carbon paper version of producer's maps in a spiral bound notebook that serves as an Acreage Report and Production Report
- **Wall Maps** - Assists the producer in understanding unit structure

**AL AgriLogic INSURANCE SERVICES, LLC**  
Innovative Solutions with Sustainable Results.

888-AGLOGIC (245-6442) | [www.AgriLogic.com](http://www.AgriLogic.com)

©2012 AgriLogic Insurance Services, LLC. All rights reserved. AgriLogic Insurance Services, LLC is an equal opportunity provider.

ring event,” making the crops that were lost insurable. Farmers and crop insurance companies faced numerous issues in loss adjustment and addressing the insurability of the flooded land over the long term.

There were many other program changes and issues during 2011. For example, RMA proposed and then withdrew the concept of a premium refund for producers with a history of “good experience,” or limited loss claims. RMA also implemented new features for prevented planting and breaking out new land. In an effort to limit excessive claims and improve program integrity for prevented planting losses in the Northern Plains region, RMA determined that beginning with the 2012 crop year, a crop must be grown on the acreage at least one of the previous four years for a farmer to qualify. In an effort to limit the breaking of land without a history of cropping, RMA, among other things, limited covered yield on new breaking acreage to a reduced percentage of the transitional yield, not to exceed 65 percent if the producer cannot substantiate that the acreage has been previously broken.

A major change announced in mid-2011, was adoption of a new premium rating method for corn and soybeans and eventually other crops. The new method is to be phased in beginning with the 2012 crops. Corn premium rates are expected to be nine percent lower and soybean rates seven percent lower. Also beginning with the 2012 crop, farmers purchasing crop insurance for corn and soybeans in Midwestern states have the option to use the Trend-Adjusted Actual Production History (TA-APH) Yield Endorsement. This option permits farmers to increase yields used in calculating crop insurance guarantees, implicitly raising coverage levels. RMA continued efforts on the Acreage and Crop Reporting Streamlining Initiative during 2011, aligning acreage reporting dates with those of the Farm Service Agency (FSA) and continuing efforts to reduce data reporting burdens on farmers. RMA also initiated a longer-term effort to reform methods to determine Actual Production History yields.

The 2008 Farm Bill expires in September 2012, and 2011 saw a series of proposals emerge for crop insurance and farm pro-

The crop insurance program faced a demanding challenge in 2011. Extensive and unusually harsh weather disasters were met efficiently and effectively with essential services and loss payments for U.S. agricultural producers made in a timely way.

grams. The Budget Control Act of 2011 created a Joint Committee for Deficit Reduction that was charged with originating legislation to reduce the Federal budget deficit. The Chairs and Ranking Members of the House and Senate Agriculture Committees submitted a proposal for Joint Committee consideration that would have reduced Farm Bill spending by \$23 billion over ten years by eliminating Direct Payments, maintaining the existing crop insurance program largely as is and creating new supplemental revenue programs to replace the 2008 Farm Bill’s revenue programs. One proposed supplemental program would have been an individual farm and crop revenue program administered by FSA, while two other area-based supplemental revenue programs would have been delivered by the crop insurance companies. While the Joint Committee process did not succeed in producing legislation by its deadline, the proposal submitted to them remains under consideration for the 2012 Farm Bill. As 2012 began, the House and Senate Agricultural Committees held hearings on the prospective Farm Bill and were expected to attempt to develop a bill this year. The large, continuing Federal budget deficit and the upcoming Presidential election are expected to affect the content and timing of the new Farm Bill.

## Conclusion

The crop insurance program faced a demanding challenge in 2011. Extensive and unusually harsh weather disasters were met efficiently and effectively with essential services and loss payments for U.S. agricultural producers made in a timely way. RMA reported to the industry that it heard virtually no complaints regarding service, despite the unprecedented losses. Increased insured acres, record-high crop

prices and higher price volatilities pushed liability and gross premium to record highs. Producers continued their long-term trend by again raising their purchases of higher coverage levels. Much of the increase in insured acreage was attributable to increases in corn, cotton and pasture, range and forage. One-third of all policies experienced loss claims, compared with less than one-quarter a year earlier. The estimated loss ratio of 0.88 was one of the highest in recent years. The companies approved to provide crop insurance coverage continue to be financially sound, with the strength to meet the financial obligations that stem from a range of natural disasters. The Crop-hail program, which provides protection against localized damages that might otherwise be noninsured losses for producers under the Multiple Peril Crop Insurance program once again provided critical protection to producers during 2011.

The devastating weather of 2011 highlighted the essential nature of crop insurance — that of transforming a potentially ruinous situation for a farmer into a beneficial outcome. Turning a likely farm business casualty into financial survival has made the Federal crop insurance program the centerpiece of the farm safety net. In the lead-up to the 2012 Farm Bill, farmers and their organizations have steadily advocated that crop insurance be maintained and strengthened. Producer support for crop insurance has probably never been greater. Producers have emphasized that crop insurance benefits go well beyond loss payments; crop insurance provides individualized risk protection, enables pre-harvest marketing of a high proportion of expected production, and ensures access to credit, which is particularly essential for new and beginning farmers and more highly leveraged operations. In an era of budget stringency, crop insurance requires that producers offset part of the costs of the program and insurance companies bear risk of loss, which would otherwise fall to the public. As the Congress continues the development of the 2012 Farm Bill, the farm community appears united in recognizing the contribution of crop insurance in protecting farm production and stabilizing farm financial conditions and in calling for continuing and strengthening the program.