

# 2023 Year in Review

By NCIS Staff

## Introduction

In this article we review the performance of the agriculture sector and the crop insurance industry in transition to a more normal operating environment. This new normal reflects a sense of an end to the disruptive and lingering effects of the global pandemic. Upon reflection it is clear the Federal crop insurance program responded to the pandemic with overwhelming success, utilizing the coordinated efforts of the RMA, private sector delivery system, and all the program's stakeholders and the many tools available that make the program flexible and responsive to agriculture's ever-changing needs. However, we remain cautious about the future as we continue to face challenges from increasing climate variability, uncertainty on geopolitical front and anticipation of potential domestic policy changes from the new farm bill on the horizon. American farmers and ranchers can be assured that the crop insurance will continue to offer a sound foundation to help address those concerns and continually expand and improve existing coverage where needed.

In this article, we report on the 2023 crop insurance season, highlighting important events that affected the crop insurance industry. We begin with a review of weather conditions throughout the year and their impacts on crop production. Next, we turn to a discussion of commodity markets and prices. A review of the crop insurance market performance follows along with a discussion of changes in the program. The article wraps up with a summary of the Crop Hail experience in the United States and Canada.



## U.S. Weather in 2023 and Its Impacts on Agriculture

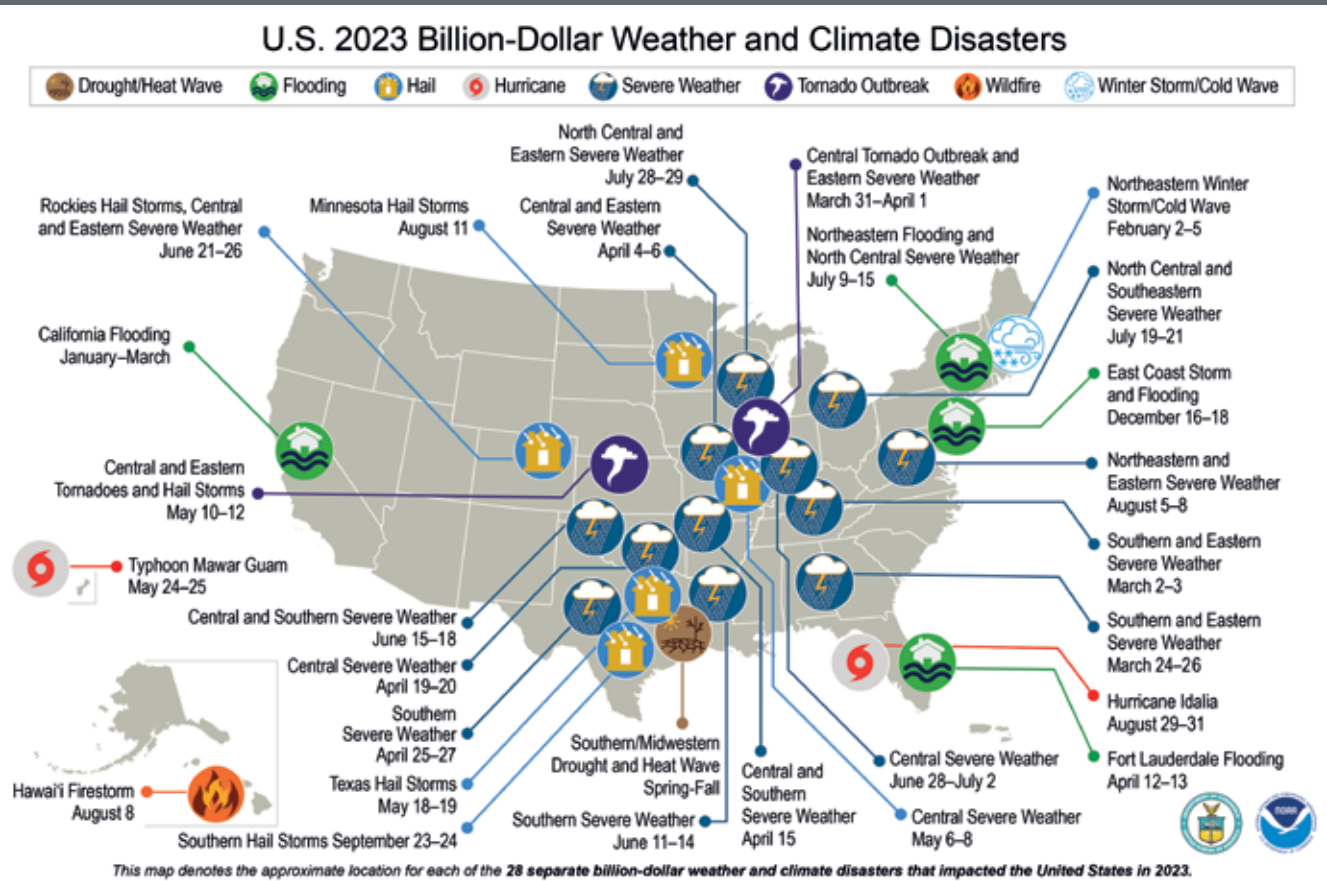
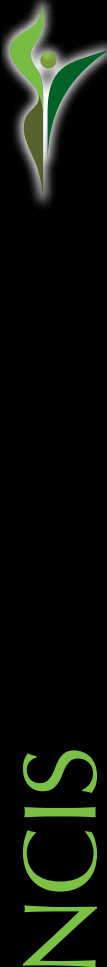
The U.S. agricultural economy in 2023, apart from cattle, experienced a decline in commodity prices from the higher levels of 2022. Over the same period, production expenses continued to stay at high levels as government payments declined. As a result, net farm income fell sharply in 2023, down 16 percent from 2022 to a forecasted \$156 billion. The events that plagued the agricultural economy in 2022 continue but there have been improvements. While the war in Ukraine continues, more ways to deal with threats to

grain exports have been developed, globally corn and soybean yields rebounded from 2022 levels, and the global economy began a general recovery, and inflationary pressures appear to be easing giving hope for a decline in interest rates in the not-too-distant future.

However, one thing that has remained the same is the continuation of weather and climate events that result in difficult conditions for many farmers in affected areas and increased demands on the Federal Crop Insurance Program to back-stop producers who experienced insurable causes of loss. According to the National Oceanic and Atmospheric Administration (NOAA), the 2023 U.S. Climate Extremes Index (USCEI) was 65 percent above average, ranking 11th highest in the 114-year record. The average annual

Figure 1

# Nationwide Weather and Climate Disasters in 2023



Source: <https://www.ncei.noaa.gov/access/billions/>

temperature for the contiguous U.S. was 54.4°F, 2.4°F above the 20th-century average, making it the fifth warmest year in the 129-year record. The year 2023 was also a record 13th consecutive year where the U.S. experienced 10 or more billion-dollar disasters (Figure 1).

The American Farm Bureau Federation (AFBF) compiled a report on updated crop and rangeland damage estimations for 2023 that shows the impacts of natural disasters on domestic farm production.<sup>1</sup> The assessment puts total crop and rangeland losses from major 2023 disasters at over \$21.94 billion, or 23.6 percent of NOAA's total economic impact figure. Of that figure, nearly \$12 billion in losses were covered by existing Risk Management Agency (RMA) programs as of February 2024. Nearly \$10 billion in losses were not insured through RMA, existed outside policies' coverage levels, or did not qualify under an existing risk management program. Drought, excessive heat, and wildfires alone accounted for over \$16.59 billion in total crop losses; \$3.99 billion was linked to excessive precipitation, flooding, and hurricane events; and \$1.37 billion was caused by hailstorms.

The AFBF reported that in 2023, drought was more prevalent across the central Plains and down to the Gulf Coast, resulting in corn losses into the first-place spot over forage and bumping soybeans losses up by about \$740 million. Wheat losses increased by about \$620 million, primarily driven by drought in Kansas, Oklahoma, and Texas. Cotton losses remained a bit above \$3 billion as drought persisted in Texas' cotton-growing regions. Hurricane impacts on both California and Florida moved fruit and nuts losses from \$400 million in 2022 to nearly \$1.6 billion in 2023. This included over \$350 million in orange losses primarily in Florida, over \$220 million in California grape and table grape losses and over \$200 million in California almond losses (Figure 2).

Once again, agriculture was buffeted by weather-related disasters in 2023. Of the over \$21.9 billion in crop and rangeland losses it is reported that over half of those losses were partially offset by existing risk management programs.

<sup>1</sup><https://www.fb.org/market-intel/major-disasters-and-severe-weather-caused-over-21-billion-in-crop-losses-in-2023#:~:text=ln%202022%2C%20drought%20plagued%20much,Texas'%20cotton%2Dgrowing%20regions.>

The loss by crop and location points to the need for continued diligence in expanding crop insurance protection to growers of an increasingly diverse set of crops across the country. 2023 serves as another real-world example of how farmers' continued investment in crop insurance provides them a safety net that serves as the foundation of support to help in their recovery from such uncertain troublesome events. In addition, the regional variation in adverse weather events and local impacts of extreme events in 2022 highlighted the importance of risk management plans that address individual operations relative to their specific locational needs. This section provides a brief review of how weather developed throughout the year and the general impacts it had on farming operations across the United States season by season.

## Winter 2023

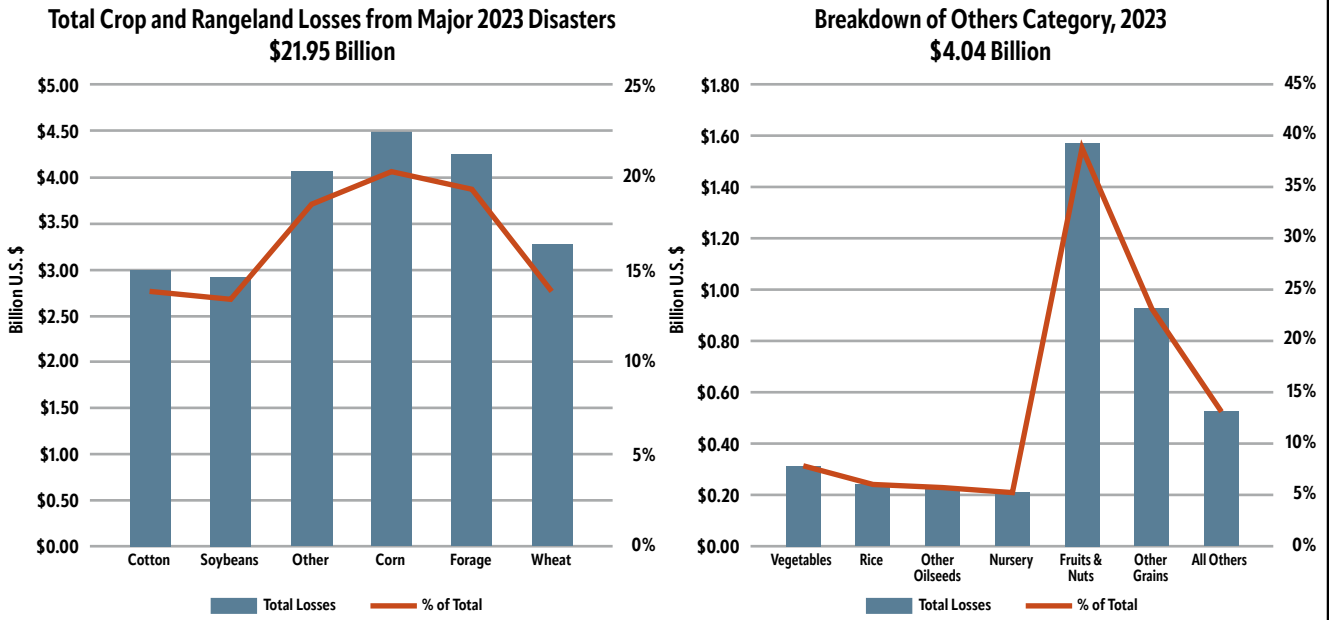
The winter of 2023 will be regarded as a historically warm one, with the majority of the



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Figure 2

### 2023 Major Disaster and Severe Weather Crop Losses (Billion \$ / Crop Type)



Source: AFBF Calculations, USDA Risk Management Agency, Author's Construction. <https://www.fb.org/market-intel/major-disasters-and-severe-weather-caused-over-21-billion-in-crop-losses-in-2023#:~:text=In%202022%2C%20drought%20plagued%20much,Texas'%20cotton%2Dgrowing%20regions>

lower 48 states recording average temperatures at or above average for the season (Figure 3). By the end of the winter, most of the country recorded above, or much above, average temperatures. Only seven states, six western states along with Wyoming, all had winter temperatures below average.

Across the country, the winter of 2023 was characterized by increased precipitation easing

the effects of lingering drought in some regions along with excessive precipitation in others. Stormy conditions in the West contributed to much needed increase in snowpack in higher elevations, especially in the Sierra Nevada. As stormy conditions in the West subsided, a mid-month blizzard pushed across the north-central U.S., from Colorado to the Dakotas.

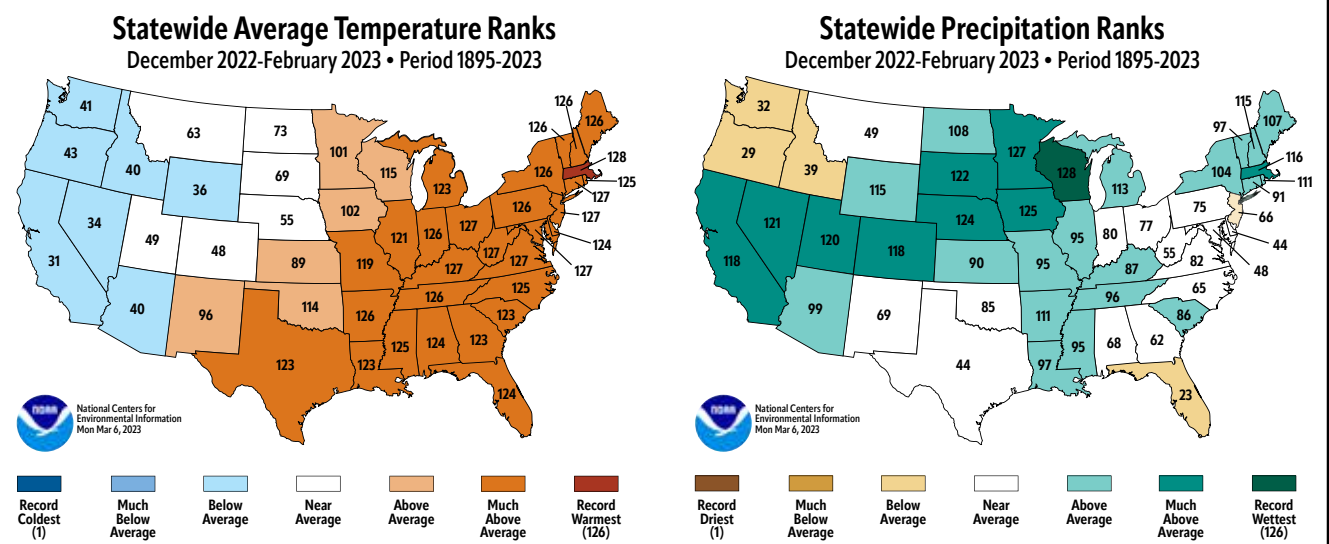
The northern Plains and upper Midwest ex-

perience increasing precipitation in the form of snow with high winds resulting in blizzard conditions in mid to late December.

The stormy conditions that began in December continued into January, helping to increase water levels in some reservoirs resulting, but also resulting in large-scale flooding of rivers in California, particularly in the agricultural intensive Salinas Valley. By late January the water equiva-

Figure 3

### Statewide Temperature and Precipitation Ranks, Winter 2023



Source: [https://www.ncei.noaa.gov/access/monitoring/us-maps/3/202102?products\[\]=statewidetavgrank](https://www.ncei.noaa.gov/access/monitoring/us-maps/3/202102?products[]=statewidetavgrank)



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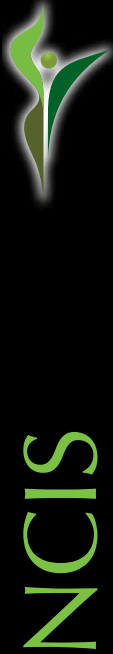
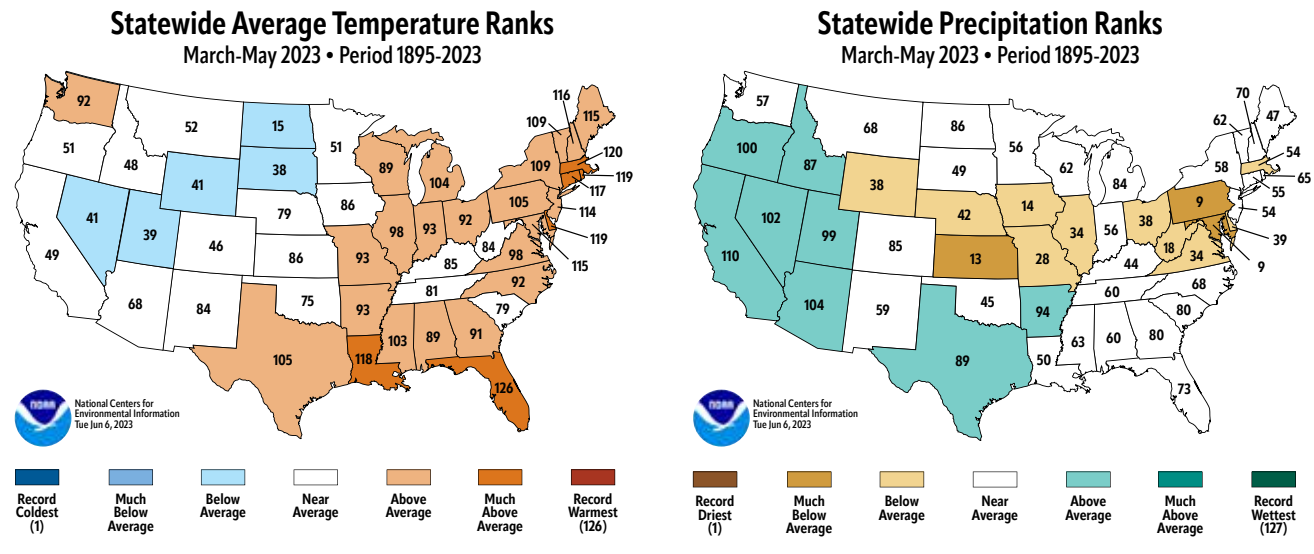


Figure 4

# Statewide Temperature and Precipitation Ranks, Spring 2023



Source: [https://www.ncei.noaa.gov/access/monitoring/us-maps/3/202102?products\[\]=statewidetavgrank](https://www.ncei.noaa.gov/access/monitoring/us-maps/3/202102?products[]=statewidetavgrank)

lent of snowpack accumulation in the Sierra Nevada was recorded at 34 inches, some 130 percent above what is typical for this point in time. Other areas across the Plains and the Midwest experienced beneficial precipitation during January.

February provided an icy start with the end of winter on the horizon. An ice-storm roared for four days across central Texas to the Mississippi Delta at the first of the month. While the South was iced in, an Arctic blast brought some of the coldest temperatures recorded in recent years to the Northeast. The cold weather extremes were short-lived as days later considerably warmer weather arrived. For example, in Bridgeport, Connecticut, after posting a record low of -4°F, two days later had a record high of 53°F. The warming trend continued across the East and Southeast resulting in much above average temperatures for the eastern half of the contiguous 48 States for the winter of 2023.

## Spring 2023

By the end of the season, the spring of 2023 will go down as predominantly warmer than normal in most areas while drier conditions prevailed across most of the country with some western states, Texas, and Louisiana recording above average precipitation levels (Figure 4).

Spring began with stormy weather continuing in March across the western and north central part of the country. Combined with above average precipitation in the winter, much of the country previously experiencing drought conditions

improved substantially. By the first part of April only a little over 28 percent of the contiguous United States was reported to remain in drought conditions. This is a stark contrast from just under 63 percent of the lower 48 states in October 2022. By way of illustration, much of the San Joaquin Valley in California were moved from exceptional drought conditions (D4) to no drought (D-nothing) in a five-month period. However, portions of the central and southern Plains continued to worsen with extreme to exceptional drought (D3 to D4) covering much of Kansas, Oklahoma, and parts of Texas. Most of those drought-affected areas experienced dry, windy weather through March with spats of blowing dust and increased wildfire danger. In other areas of the country, March was a relatively dry month in the middle and northern Atlantic states and little to no snowfall across the Ohio Valley to the mid-Atlantic Coast.

Temperatures in March varied considerably across the country with Oregon experiencing its third coldest March to the eighth warmest March in Florida. In general, the Western half of the contiguous U.S. experienced temperatures much below average while the remaining areas had March temperatures near average or above, with Florida much above average.

April was categorized as seasonally dry in much of California, the Great Basin and the Southwest. At the same time intermittent rains extended from the Pacific Northwest to the northern Rockies. To the east, drought continued

to plague the central and southern Plains creating adverse conditions for rangeland, pastures, winter grains, and some emerging summer crops. By the end of April USDA reported extreme to exceptional drought (D3 and D4) covering 63 percent of Kansas, 47 percent of Nebraska and large parts of Oklahoma and Texas.

Temperatures in April pointed to a general warmup with most of the contiguous U.S. states recording near average to above average levels. Exceptions included much below average temperatures in North Dakota, the tenth coldest April on record, along with much above average temperatures in the Atlantic Coast states and Vermont. For the most part, cooler than normal temperatures covered the western half of the country with parts of the northern Plains and Rockies recording 6°F below normal for the month. In the eastern half of the country, warmer to average temperatures prevailed. Some areas experienced temperatures recorded at 4°F above normal including parts of Florida, southern Georgia, the mid-Atlantic, and Northeast.

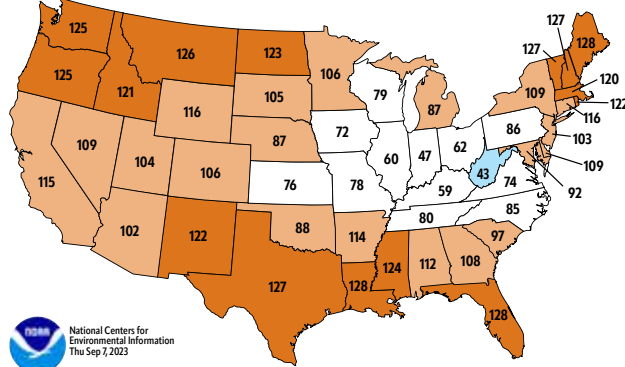
Spring concluded with a warmer than average May apart from the East and Southwest. Warming trends were especially evident in parts of the Midwest, Pacific Northwest, northern Plains, and northern Rockies with all recording temperatures 6°F or greater than average. At the same time some areas in Alabama, southern Arizona, southern California, and the Carolinas had a cooler May with temperatures averaging 4°F or greater below average for the month. Over the

Figure 5

## Statewide Temperature and Precipitation Ranks, Summer 2023



### Statewide Average Temperature Ranks June-August 2023 • Period 1895-2023



more than 100 years with 115 dead. The deadly fire was linked to high winds generated in part to Hurricane Dora, a Category 4 storm that passed 40 to 80 miles south of the island. Later in the month, wildfires across Washington state and in western Louisiana caused extensive damage to vegetation and structures tied to continued heat and worsening drought. On the positive side, the summer would end with only about 2 million acres being scorched, which is less than 40 percent of the 10-year average for the lower 48 mainland states.

August also saw expanded tropical storm activity toward the end of the month. First, in the Pacific Basin, the remnants of Hurricane Hilary stormed into southern California. After making landfall in northwestern Mexico, Hilary was the first eastern Pacific tropical cyclone to affect the inland U.S. since 1939. The storm resulted in 4 to 8 inches of rainfall in parts of southern California with some areas experiencing near 12 inches, leading to flash flooding. While the storm rapidly dissipated over land, it resulted in increased rainfall as far as the northern Rockies. Following the ravages of tropical storm in southern California, two days later, on August 22, Tropical Storm Harold made landfall on Padre Island, Texas. While the storm delivered near 50 mph sustained winds, the accompanying rain was for the most part beneficial to the area that was experiencing much below average precipitation.

Summer reached a close with the first major hurricane in modern history making landfall in Big Bend of Florida on August 30th. Hurricane Idalia was a Category 3 storm with sustained winds of almost 125 mph, however most of the storm's damage was due to a record storm surge along the Gulf Coast from Keaton Beach, where the storm made landfall and south to Tampa Bay. Southeastern Georgia also experienced heavy rains associated with hurricane Idalia. However, the impact of additional rainfall was mitigated by the extent of dryness that prevailed prior to the storm's arrival.

## Fall 2023

The fall season began with generally cooler to normal temperatures in the far West and some areas in the southern Atlantic states. Elsewhere across the country in New England and some areas from the Appalachians to the Rockies experienced above average to much above average temperatures for the month of September. By the end of September monthly record high temperatures



had been established in Texas and New Mexico. The prevalence of warmer conditions generally prevented freezing temperatures from reaching mainland production regions through the end of September. As a result across the Plains, Midwest, and South the warmer temperatures contributed to summer crops maturing rapidly and early season harvest activity to begin.

While warmer temperatures dominated the September climate, tropical activity in the Atlantic and Pacific Basins remained active. Beginning with the remnants of Tropical Storm Idalia moving with limited impact along the Atlantic Coast in early September, about two weeks later, Maine and other parts of New England experienced some minor wind and rainfall damage resulting from Hurricane Lee passing just to their East. Later in the month, Tropical Storm Ophelia made landfall near Emerald Isle, North Carolina on September 23. Associated widespread rainfall events resulted in extensive flooding in the New York City metropolitan area on September 29. Overall, for the month of September, fall began with the contiguous 48 states experiencing the seventh warmest and 22nd driest during the 129-

year period of record. However, conditions varied across the country with California recording its 45th coolest September to the warmest ever recorded in Texas and New Mexico.

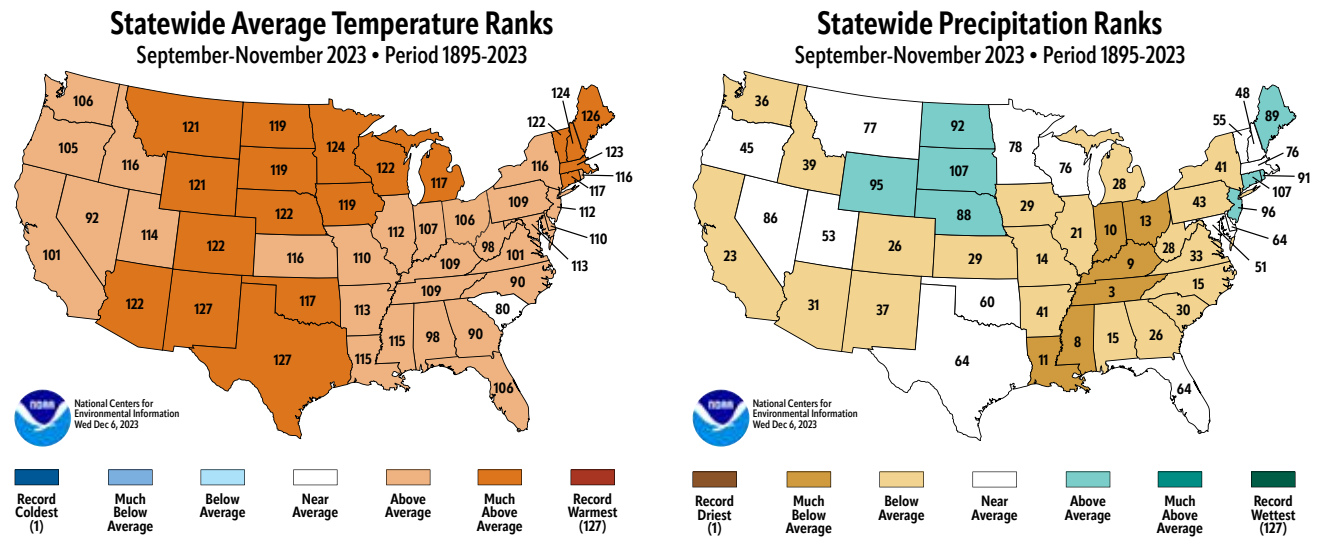
The active tropical storm conditions continued into October, albeit shifting focus to the Pacific Ocean, where four cyclones contributed to rainfall in the United States. On October 9, Tropical Storm Max, and on October 10, Hurricane Lidia made landfall on Mexico's Pacific Coast. Rainfall from those storms eventually reached the southern United States, from southern Texas to the southern Atlantic Coast. Later in October, another active tropical rain event led to significant rainfall from Texas into the Great Lakes States. That storm front was associated with what was left of Hurricanes Norma and Otis, both of which made landfall earlier in Mexico.

These storms, in part, provided some relief from the drought conditions in the lower 48 states, moving the drought coverage from just over 40 percent down to about 36 percent over the course of the month. However, these improvements of conditions in the North and from Texas to the Midwest, were almost offset by deteriora-



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Figure 6  
Statewide Temperature and Precipitation Ranks, Fall 2023



Source: [https://www.ncei.noaa.gov/access/monitoring/us-maps/3/202102?products\[\]=statewidetavgrank](https://www.ncei.noaa.gov/access/monitoring/us-maps/3/202102?products[]=statewidetavgrank)

tion of conditions in the Southwest and rapidly increasing drought conditions in the Southeast. For example, by October 31, exceptional drought conditions (D3 to D4), were recorded in 88 percent of Louisiana and 77 percent of Mississippi.

The month of October was also characterized by warmer than average temperatures across most of the contiguous U.S. According to the National Centers for Environmental information, the lower 48 states experienced the 18th warmest October recorded from 1895 to

2023. Only five northern tier states (Wyoming, Montana, Minnesota, North and South Dakota) and four states on the Atlantic Coast (Florida, Georgia, South and North Carolina) recorded average temperatures for the month of October. All the other states among the lower 48 recorded above average or much above average temperatures in October.

In summary, October was warmer than average for most of the country with the Northeast being the hotspot with temperatures recorded

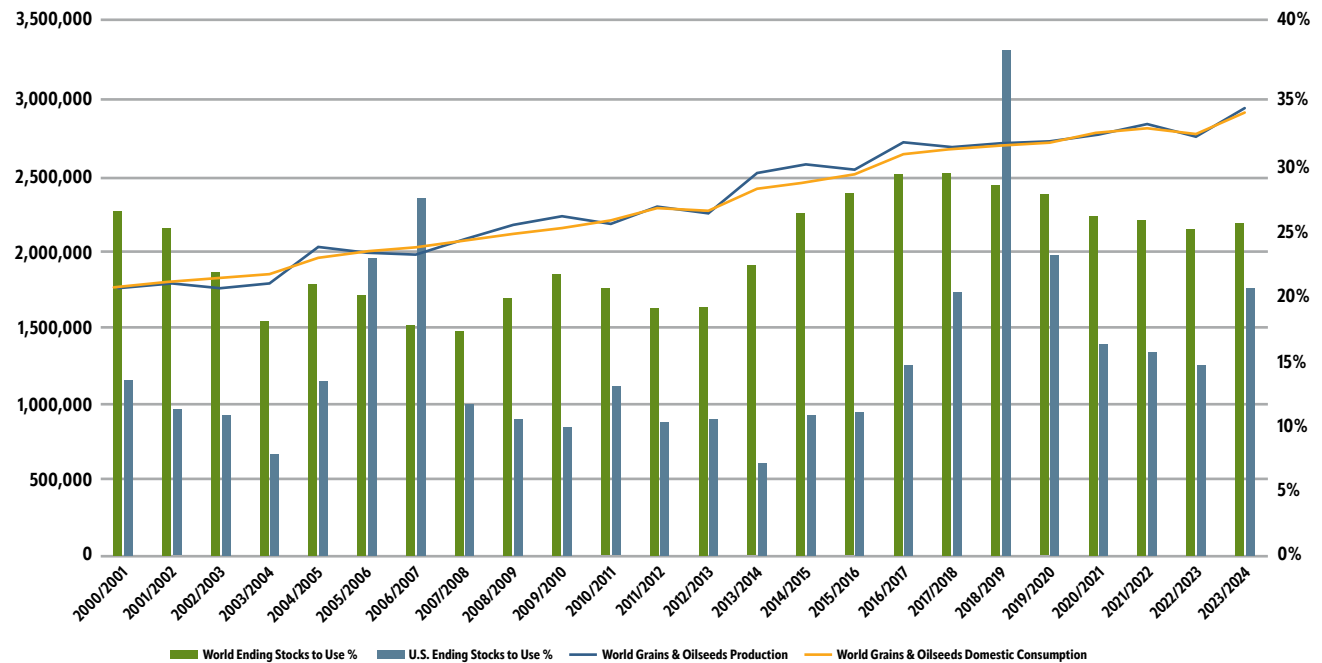
to be 6°F or more above average. Exceptions to the warmer weather were observed in parts of the Northern Rockies and the Southeast where cooler than average temperatures prevailed. Likewise, most of the nation was drier than normal during October, with exceptions in parts of the upper Midwest, Great Plains, and northern Rockies recording twice the normal amount of precipitation.

The fall season concluded with a warmer and drier November across most of the contig-



Figure 7

## World Grains & Oilseeds Production and Consumption; U.S. & World Stocks/Use%



Source: USDA/FAS/PSD/Online 4/21/2023: <https://apps.fas.usda.gov/psdonline/app/index.html#/app/advQuery>

uous U.S., the 12th driest and 19th warmest on record from 1895 to 2023. A description that is consistent in the season average temperatures and precipitation maps (Figure 6).

Nationally the drought coverage remained virtually unchanged at 37 percent, up slightly from the previous measure of 36 percent. A bit of relief from drought conditions was experienced in some areas with showers in late November in the heat and drought plagued South. Although the precipitation was helpful, more than one-half of the pastures in six southern states remained in very poor to poor condition (Alabama, 74 percent; Mississippi, 69 percent; Tennessee, 60 percent; Louisiana, 58 percent; Texas, 58 percent; and South Carolina, 51 percent. In addition, stormy weather in the Pacific Northwest helped ease drought conditions in the area and through northern Montana.

Temperature wise, the warmest weather, relative to average, was experienced in the Plains and upper Midwest. For the month of November, temperatures averaged more than 5°F above average across the northern High Plains. Over the same period, cooler-than-average

temperatures were recorded in several areas including the Northeast and parts of the far West. Across the country, temperatures varied from the 47th coolest November in Massachusetts and Vermont to the 12th warmest November in New Mexico.

By the end of the season, the warmer weather and lack of any sustained cold conditions provided the window for summer crops to dry down without worries over freeze-related concern. As the time for sub-freezing temperatures to cover major production regions, summer crops had already been harvested and winter wheat planting and emergence was largely on schedule.

*The information sources for this section were: National Agricultural Statistics Service, ISSN:1057-7823, Crop Production 2023 Summary, January 2024; <https://downloads.usda.library.cornell.edu/usda-esmis/files/k3569432s/w3764081j/5712n018r/cropan22.pdf> and Weekly Weather and Crop Bulletins, USDA, WAOB; <https://usda.library.cornell.edu/concern/publications/cj82k728n>.*

<sup>2</sup>Global oilseeds include Copra, Cottonseed, Palm Kernel, Peanut, Rapeseed, Soybeans and Sunflower seeds. Global grains include barley, corn, millet, mixed grains, oats, rye, sorghum, and wheat. U.S. grains exclude millet and mixed grains. Wheat and corn comprise around 87 percent of global grains, while soybeans account for almost 60 percent of global oilseeds. Accordingly, additional detail is provided for these three crops.

## Commodity Market Developments

A narrow gap between global grains and oilseeds production and consumption remained in place in 2023. While world production increased by 3.5 world consumption increased by on 2.2 percent.<sup>2</sup> The modest global surplus in production resulted in a modest increase in the world ending stocks-to-use ratio, of 1.3 percent from the previous year (Figure 7).

A comparison between the United States and the rest of world reveals similar patterns that contributed to the combined increase in global ending stocks-to-use. In the United States, 2023 domestic grains production increased by almost 13 percent from the previous year on the back of a large corn crop and improved wheat and rye crops. At the same time, U.S. domestic grain consumption increased by only 3.2 percent with modest increased use of corn and barley resulting in a surplus of 9.5 percent in total U.S. grain production. The picture for U.S. oilseeds was somewhat different with production declining by almost three percent in 2023 from 2022 with declines in soybean, cottonseed, and sunflower seed. In 2023 domestic consumption of U.S. oilseeds recorded a slight increase of 1.3 percent.



Despite the imbalance of domestic use and production ending stocks of oilseeds increased in the U.S. primarily due to a fall in soybean exports that pulled down 2023 their total use by 3.7 percent for the year. Worldwide, combined with the U.S. overall grain production increased by three percent while global domestic consumption increased by a modest 1.8 percent resulting in an increase in ending global grain stocks of 2.7 percent in 2023. Global oilseed production increased by 5.3 percent in 2023 as domestic consumption worldwide expanded by only 3.5 percent, resulting in an increase in world oilseeds ending stocks increase of 11.8 percent.

## Wheat

Global wheat production in 2023 represented 35 percent of total world grain production, declining slightly, -0.21 percent from the previous year. The overall decline in world wheat production reflects a difference of experiences in 2023 wheat production among the major producing countries. In 2023 wheat production in the United States increased by just under 10 percent from the previous year. Whereas in the European Union, 2023 wheat production remained steady with a slight decline of less than 1 percent. However other major producers decline offset increased production in US, with Canadian production down almost 7 percent from the previous year, and severe drought conditions resulting in the Australian crop to decline by almost 36 percent in 2023 following three years of record-breaking harvest. During the same period

global wheat consumption increased by just over 1 percent, resulting in a drawdown of global ending stocks of wheat by almost 5 percent from the previous year.

Interestingly, wheat production in the Ukraine rebounded somewhat in 2023, increasing by over 8 percent from the previous year, but remains almost 30 percent below pre-war levels. Meanwhile Russian wheat production continues to expand with another banner year expected following record production of 92 billion metric tons in 2022.

## Corn

Global corn production in 2023 represented just under 53 percent of total world coarse grain output. World corn production increased in 2023, reversing the decline of the past two years, increasing by almost 6 percent the previous year. Corn production increased from 1,158 million metric tons in 2022 to 1,228 million metric tons in 2023. The primary cause for the increase in global corn production in 2023 can be traced to an increase in the crop in the United States. An increase in corn production of over 12 percent, at 390 million metric tons, makes it the third highest level on record behind 2016 and 2021. In contrast, across all other major producing countries corn production increased by just over 3 percent in total, increasing from 811 million metric tons to 838 million metric tons. The war in Ukraine continued to exacerbate the global corn supply situation although production increased by over nine percent in 2023 from the previous year.

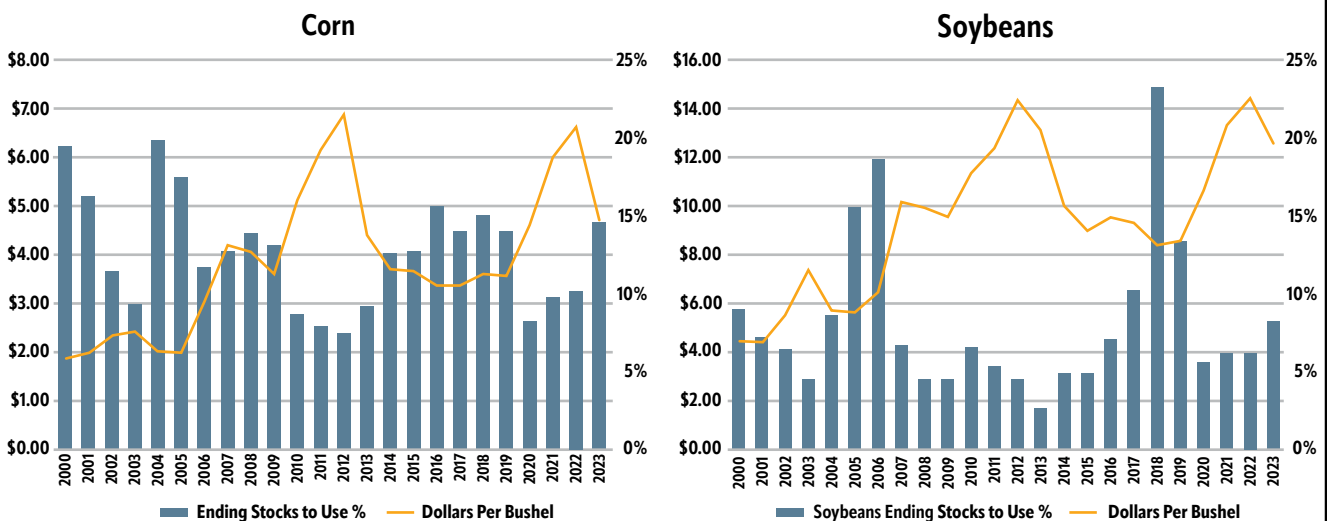
However, in the case of the Ukraine, corn production remains 30 percent below pre-Russian invasion levels. In 2023, the Ukraine produced 29.5 million metric tons of corn, down from 42.1 million metric tons in 2021. Over that period Russia has seized the opportunity to partially fill that gap with corn production increasing by 9 percent from 2021 and almost 5 percent in 2023 from the previous year. Russian corn production has steadily increased from 13.8 million metric tons in 2020 to 16.6 million metric tons in 2023.

Overall consumption of corn increased by almost four percent in 2023 from the previous year. Of the major consuming countries outside the United States, only South Africa and Nigeria recorded a decline in corn use for the year. In the United States corn consumption increased by similar amount, up 3.8 percent from the previous year.

With total use increasing by less than the increase in production, up over 12 percent for 2023 from the previous year, ending stocks of corn in the U.S. are projected to increase dramatically from the previous year, up 56 percent (Figure 8). What is a major blow to expected corn prices, it is tempered somewhat by global uncertainty in geopolitical events, weather related concerns about the Brazilian second crop corn production, and a tight global supply outside the United States that may be favorable for increased exports going forward. However, even with these caveats, prices are expected to fall from \$6.60 per bushel in 2022, to \$4.70 per bushel in 2023, a decline of almost 30 percent.

Figure 8

### U.S. Prices and Ending Stocks as a % of Total Use, 2000-2023



Source: World Agricultural Supply and Demand Estimates, April 2024  
<https://www.usda.gov/oce/commodity/wasde/wasde0321.pdf>

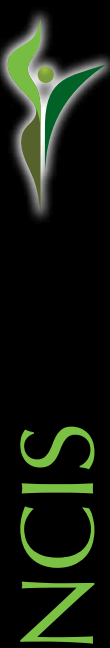
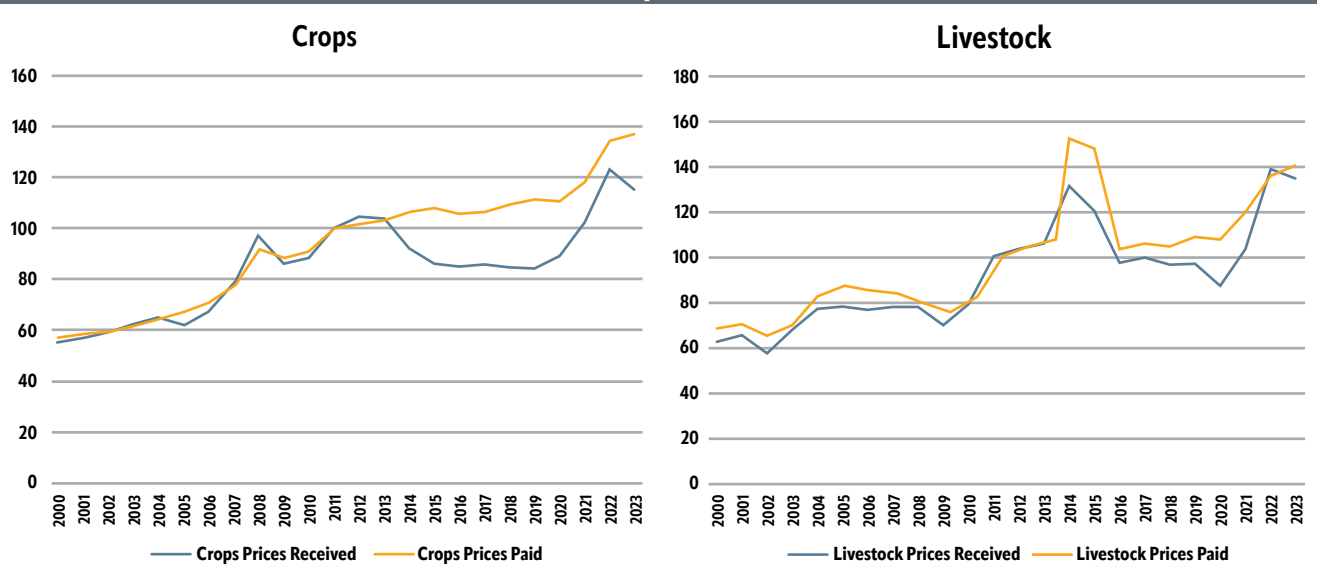


Figure 9  
**Index of Farm Prices Paid and Received for Crops and Animals (2000-2023)**



Source: Agricultural Prices, March edition, various years, USDA, National Agricultural Statistics Services  
 Crop Prices Received and Paid and Livestock Prices Received, USDA, NASS, Quick Stats <https://quickstats.nass.usda.gov>

## Soybeans

Globally soybeans account for 60 percent of global oilseeds production in 2023/24. Production worldwide increased from the previous year by almost 5 percent, up from 378.2 million metric tons to 396.7 million metric tons. The increase in global production resulted from increased foreign production, climbing by over 8 percent, linked to a doubling of Argentina’s 2023 soybean output from 25 million metric tons to 50 million metric tons. A rebound in Uruguay production from a low of 0.7 million metric tons in 2022 to 2.9 million metric tons in 2023 also helped boost global production.

Additional global production growth was stifled due to declining production for the year in the two largest producing countries. Together, Brazil and the United States account for almost 68 percent of global soybean production. Brazilian production declined of a little over 4 percent from the previous year 162 million metric tons to 155 million metric tons. A fall off in United States soybean production in 2023 also contributed to mitigate global soybean production growth, declining by 2.5 percent from the previous year.

To fully understand the market effects for soybeans in 2023/24, it is important to examine projected results for U.S. soybean ending stocks. The relationship of ending stocks of soybeans to total use is an important signpost for anticipating prices in the market. Currently, U.S. ending stocks of soybeans are pegged at 340 million bushels, compared to 264 million in

the previous marketing year, and increase of almost 30 percent. As a result, stocks to total use will increase to 8.3 percent from 6.1 percent the previous year. The increasing stocks to use ratio is associated with downward pressure on soybean prices. At the time of this writing, the market year average price for soybeans is projected to be \$12.55 per bushel, down almost 12 percent from the previous year’s price of \$14.20 per bushel (Figure 8).

The major reason for the increasing ending stocks to use ratio can be traced to a decline in exports due to increased competition from South American producers, primarily Brazil. In 2023/24 U.S. soybean exports are expected to decline by almost 15 percent from the previous year, falling from over 54 million metric tons in 2022 to just over 46 percent in 2023. The decline in United States exports offsets, and is in contrast with, modest increases from the previous year in all domestic use categories.

## Prices Paid and Received

Overall conditions in the crop and livestock sectors of the United States agricultural economy can be illustrated by examining the USDA indices for prices received by producers and prices they pay for inputs that contribute to production. Strong commodity market prices continued into 2023, although below last year’s high, and they remain at high levels relative to previous years. The continued relatively high prices remain a cause for optimism in the outlook for the overall

farm economy; however, the path of input prices dampens the longer-term outlook and illustrates the pressure on widening gaps between the two. Rapidly increasing prices paid by farmers and ranchers over the past few years offset the gains from improved prices received for crops and livestock. The ongoing challenge facing U.S. producers is illustrated in the overall index of prices paid for inputs and prices received for crops and livestock (Figure 9).

An overall picture of prices for crops is reflected in the decrease in the prices received index, down almost 6 percent in 2023 from the previous year. It is important to note that while decline in price index reflects falling commodity prices, it also remains higher than any other period since previous high level in 2012. So, as prices declined, they remain part of a relatively positive period for producer prices that began in 2020. At the same time, however, increases in crop production input costs are reflected in their continued upward path, increasing by 2 percent in the overall index in 2023 from the value in 2022. Accordingly, the gap between the prices received and paid in the crops sector widened from the previous year. The difference continues to create tighter margins that increase the need for farmers to carefully consider their risk management strategies to mitigate any further erosion of potential returns.

For the livestock sector, continuing high prices for cattle and calves help reduce the overall margin between receipts and costs since their

run up began in 2020 (Figure 9). While declining somewhat in 2023, down almost 1.5 percent from the previous year, cattle industry prices received bolster the sector's performance in aggregate. However, the increase in prices failed to keep pace with continually increasing input costs. Having more than closed the gap in 2022, producers once again saw that gap increasing in 2023, with input prices increasing by four percent from the previous year.

Major commodity prices were down across the board contributing to the decrease in the prices received index. However, on a product by product, commodity by commodity basis the decline prices received were varied in magnitude 2023. All categories in the grains and oilseeds sector registered declining prices received indices in 2023, ranging from a decline of almost 25 percent in the feed grain price index to a low of almost a 10 percent decline in the oilseed price index. In addition, the prices received index for fruits and tree nuts saw only a slight decline of two percent from the previous year. Together these declines offset the bright spot in aggregate sector measures, the over 31 percent increase in vegetable prices reflected in the prices received index for vegetables.

Table 1  
**Insured Acres by Major Crop<sup>1</sup>**

Crop	2021	2022	2023	CHANGE 2022/23	% CHANGE 2022/23
Wheat	36,649	36,572	39,174	2,602	7.1%
Corn	83,077	81,501	85,993	4,492	5.5%
Sorghum	5,939	4,987	5,581	594	11.9%
Soybeans	78,893	80,106	76,465	-3,641	-4.5%
Upland Cotton	10,789	13,163	10,122	-3,040	-23.1%
Pasture, Range & Forage	202,255	247,533	290,115	42,582	17.2%
Total (Above Crops)	417,601	463,861	507,450	43,589	9.4%
Total (All Crops)	444,531	493,745	539,429	45,683	9.3%
NASS Planted Acres (Field Crops)	316,398	310,857	319,601	8,744	2.8%

<sup>1</sup>Data as of May 9, 2023. In (000) acres.  
Source: RMA Summary of Business, NASS Quick Stats

A similar experience is seen in the livestock sector, increased prices received for cattle and other meat animals in 2023 failed to offset the decline in prices in the poultry and dairy sectors leading to a decline in the livestock production index from the previous year. By comparison, the cattle price index increased by 19 percent from 2022 to 2023, while the poultry price index declined by about the same percentage during the year. Meanwhile, the poultry price index fell by

18 percent and the index for hog prices declined by 15 percent over the same period.

*The information sources for this section were: USDA, Quick Stats <https://quickstats.nass.usda.gov>, USDA, OCE, WASDE, <http://usda.gov/oce/commodity/wasde> and USDA, FAS, Market and Trade Data, PSD Online, <https://apps.fas.usda.gov/psdonline/app/index.html#/app/home>. USDA, NASS, *Ag Prices* <https://usda.library.cornell.edu/concern/publications/c821gj76b>.*

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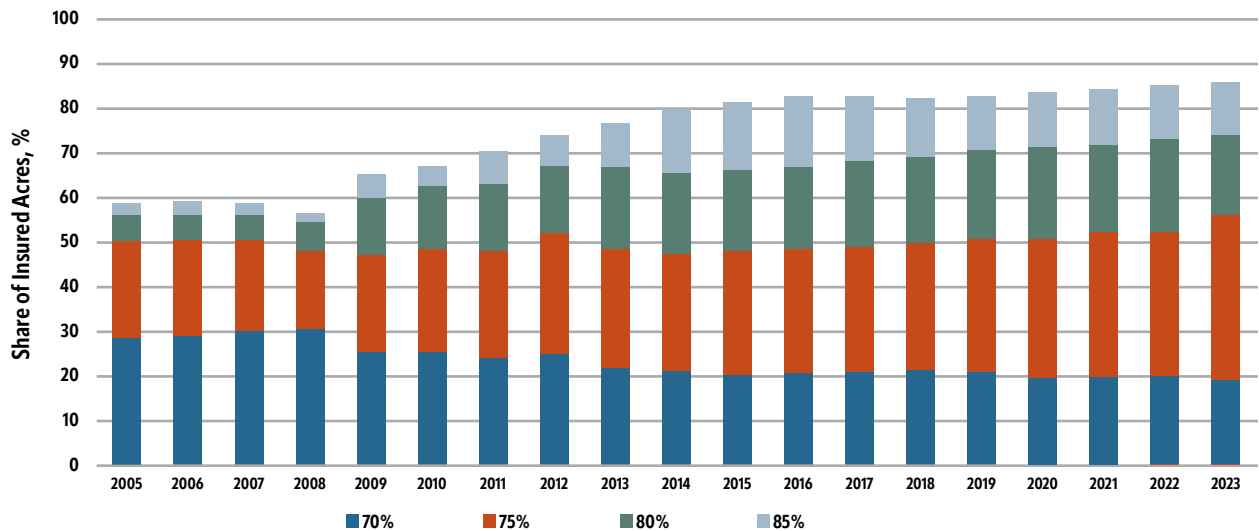
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Figure 10

## Share of Insured Acres Covered at 70% or Higher



Data as of May 9, 2024  
Source: RMA Summary of Business

## Federal Crop Insurance Experience

From 2022 to 2023, total insured acreage increased by 9.3 percent (Table 1). Pasture, Rangeland and Forage (PRF) continued to expand, increasing by 42.6 million acres in 2023, a 17.2 percent increase over 2022. Insured acreage declined for soybeans and upland cotton, down 4.5 percent and 23.1 percent, respectively. Along with the increase in PRF acreage, offsetting these decreases was the increased insured acreage for sorghum, wheat, and corn, up 11.9 percent, 7.1 percent, and 5.5 percent respectively. In addition to the overall increase in total acres insured and

the acreage shifts among the major crops, average coverage levels for the U.S. also increased, as illustrated in Figure 10. Nearly 87 percent of U.S. insured acres are protected at coverage levels exceeding 70 percent.

FCI underwriting performance is provided in Table 2. Indemnities for 2023 were approximately \$15.9 billion compared to \$19.4 billion in 2022. The gross loss ratio (indemnity divided by premium) was 88 percent for 2023, down from the 105 percent loss ratio in 2022, but above the 70 percent loss ratio experienced in 2021. Table 3 provides a breakdown of premiums and indemnities ranked by both state and crop for 2023. In terms of premium volume, Texas, North Dakota, Kansas, and Iowa were again in the top five rank-

ing states for 2023. However, Illinois was replaced by South Dakota, which came in at \$1.16 billion in premium compared to Illinois' \$1.08 billion. With respect to indemnities, Texas, Kansas, and Nebraska were once again the top three ranking states, respectively. The ranking of top crops by premium volume shifted slightly from 2022 to 2023. While corn and soybeans remained the top two crops, Wheat had a higher premium volume than Cotton. As in 2022, corn, wheat, and soybean indemnities were ranked number one, two and three in 2023, coming in at \$4.4 billion, \$2.4 billion, and \$2.2 billion.

The U.S. loss ratio map in Figure 11 reveals that 18 states had loss ratios above 100 percent in 2023, with nine of those states having loss ratios

Table 2

## Federal Crop Insurance Program Performance, Gross Basis<sup>1</sup>

Crop Year	Policies with Premium	Units with Premium	Liability	Premium	Farmer-Paid Premium	Indemnity	Gross Underwriting Gain	Insured Acres	Loss Ratio
	Thousands	Million Dollars							
2014	1,207	2,539	109,904	10,073	3,858	9,136	938	295	0.91
2015	1,205	2,547	102,539	9,769	3,679	6,316	3,452	296	0.65
2016	1,160	2,442	100,623	9,329	3,462	3,913	5,416	290	0.42
2017	1,125	2,370	106,064	10,071	3,716	5,435	4,637	312	0.54
2018	1,108	2,330	110,166	9,896	3,630	7,324	2,573	335	0.74
2019	1,106	2,355	109,871	10,128	3,758	10,609	-481	379	1.05
2020	1,112	2,433	113,974	10,065	3,746	8,708	1,357	398	0.87
2021	1,167	2,634	136,678	13,720	5,110	9,605	4,115	445	0.70
2022	1,193	2,720	173,567	18,394	6,760	19,377	-983	494	1.05
2023	1,230	2,879	181,499	18,101	6,777	15,908	2,193	539	0.88

<sup>1</sup> Data as of May 9, 2024  
Source: RMA Summary of Business

Table 3

**Top 10 Premiums and Indemnities Ranked by State and Crop for 2023**

Rank	RANK BY STATE				RANK BY CROP			
	Premium		Indemnity		Premium		Indemnity	
	State	MIL.\$	State	MIL.\$	Crop	MIL.\$	Crop	MIL.\$
1	Texas	2,071.0	Texas	2,728.5	Corn	6,266.3	Corn	4,392.8
2	North Dakota	1,502.1	Kansas	2,099.5	Soybeans	3,294.5	Wheat	2,425.1
3	Kansas	1,295.9	Nebraska	1,162.0	Wheat	2,218.6	Soybeans	2,164.7
4	Iowa	1,165.5	California	942.3	Cotton	1,381.7	Cotton	1,683.8
5	South Dakota	1,160.9	Iowa	928.3	PRF	1,333.8	PRF	1,120.7
6	Illinois	1,077.3	Minnesota	857.9	Annual Forage	447.1	Annual Forage	559.5
7	Minnesota	957.0	North Dakota	749.5	Grain Sorghum	344.6	Grain Sorghum	424.5
8	Nebraska	941.1	Florida	676.0	Rice	250.2	Rice	274.8
9	California	722.0	South Dakota	605.3	Apples	167.3	Almonds	259.3
10	Missouri	602.9	Oklahoma	544.6	Canola	163.2	Peanuts	244.2
<b>Top 10 Sub-Total</b>		<b>11,495.7</b>		<b>11,293.9</b>	<b>15,867.4</b>			<b>13,549.4</b>
<b>All Other</b>		<b>6,605.3</b>		<b>4,614.6</b>	<b>2,233.7</b>			<b>2,359.1</b>
<b>U.S. Total</b>		<b>18,101.1</b>		<b>15,908.5</b>	<b>18,101.1</b>			<b>15,908.5</b>
<b>Top 10 Share of U.S.</b>		<b>64%</b>		<b>71%</b>	<b>88%</b>			<b>85%</b>

Source: RMA Summary of Business as of May 9, 2024

above 150 percent (not pictured: Alaska with a loss ratio of 109 percent and Hawaii, which had a loss ratio of 218percent). Several of the highest loss ratio states, like New Hampshire and Massachusetts, were in the Northeastern region which represents only a small portion of the FCI premium. Additionally, Florida had the second highest loss ratio, coming in at 232 percent, while many other states in the Southeast region had average or favorable loss ratios. Hurricane/Tropical Depression was the cause of loss for just over 40 percent of the losses in Florida.

Several Midwestern states had exceptionally favorable loss ratios in 2023. Specifically, the

states of Ohio, Indiana, Illinois, Wisconsin, North Dakota, and Michigan all experienced loss ratios at or below 50 percent for the FCI program. In contrast, both Kansas and Nebraska had less than favorable results, with loss ratios of 162 percent and 123 percent, respectively. The primary cause of loss in Kansas and Nebraska was drought, representing over half of the losses, with the hail peril coming in as the second highest cause of loss for both states.

The Southwestern states also experienced high loss ratios in 2023 with Arizona, Texas, New Mexico, and Oklahoma all having loss ratios that exceeded 100 percent. The results

in the Western region were more mixed, with some states having loss ratios near or below average, and others, like Washington, California, Oregon, Colorado, and Idaho having loss ratios that were above average. Several of these states had drought as the primary cause of loss, with the top cause of loss varying for other states, including excess moisture/precipitation/rain in California and hail in Colorado.

**Revenue Products**

The projected base prices used to establish the value of a crop and the insured liability under the Revenue Protection and Yield Protection forms of insurance policies are shown in Table 4 for crop years 2017 through 2024. Projected base prices are the average of futures prices during the discovery month, i.e., the month preceding the sales closing date for a policy.

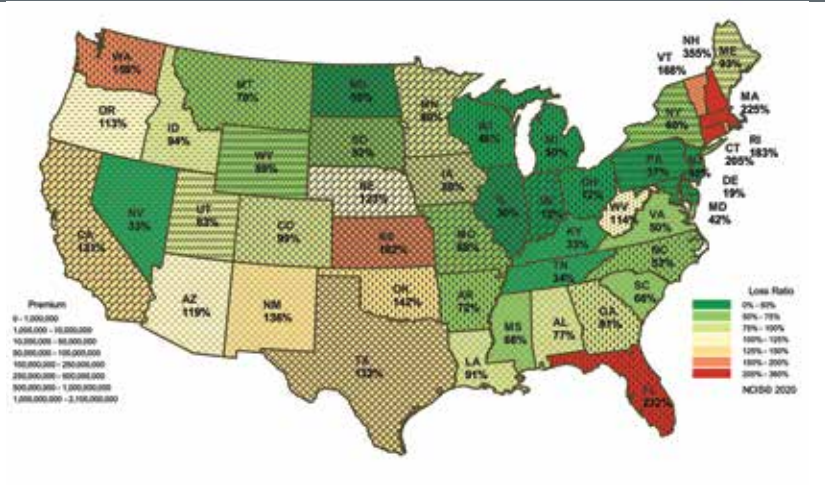
While projected base prices increased from 2022 to 2023 for winter wheat, corn, and rice, they declined for spring wheat, soybeans, and cotton. From 2023 to 2024, the projected base prices decreased for all six of the crops.

Commodity prices were up noticeably for winter wheat and rice in 2023, with increases of 24 percent and 17 percent, while corn was relatively stable with an increase of only 0.2 percent. The decreases for soybeans and spring wheat were modest at around 4 percent; in contrast the decrease for upland cotton was nearly 18 percent.

Implied volatility factors (IV) are derived from futures market information and serve as the

Figure 11

**2023 MPCPI Premium and Loss Ratios, All Plans Combined**



Data as of May 9, 2024  
Source: RMA Summary of Business

Table 4

### Major Revenue Policy Based Prices<sup>1</sup>

	2017	2018	2019	2020	2021	2022	2023	2024	% CHANGE	
									2022/23	2023/24
Wheat, Winter (\$/bu) (KS)	4.59	4.87	5.74	4.35	4.90	7.08	8.79	7.34	24.2	-16.5
Wheat, Spring (\$/bu) (ND)	5.65	6.31	5.77	5.56	6.53	9.19	8.87	6.84	-3.5	-22.9
Corn (\$/bu) (IL)	3.96	3.96	4.00	3.88	4.58	5.90	5.91	4.66	0.2	-21.2
Soybeans (\$/bu) (IL)	10.19	10.16	9.54	9.17	11.87	14.33	13.76	11.55	-4.0	-16.1
Upland Cotton (\$/bu) (MS)	0.73	0.75	0.74	0.70	0.80	1.02	0.84	0.83	-17.6	-1.2
Rice (\$/cwt)	10.40	11.90	10.80	12.10	12.70	14.50	16.90	15.40	16.6	-8.9

<sup>1</sup> Revenue Protection for 2017-2024 as of April, 2024  
Source: RMA Actuarial Information Browser

Table 5

### Volatility Factors

	Historical Price Volatility <sup>1</sup>	Volatility Factor <sup>2</sup>								% CHANGE	
		1968-2023	2017	2018	2019	2020	2021	2022	2023	2024	2022/23
	Wheat, Winter (\$/bu)	0.20	0.18	0.16	0.19	0.17	0.16	0.21	0.31	0.21	47.6
Wheat, Spring (\$/bu)	0.22	0.13	0.13	0.14	0.14	0.18	0.23	0.18	0.14	-21.7	-22.2
Corn (\$/bu)	0.20	0.19	0.15	0.15	0.15	0.23	0.23	0.18	0.19	-21.7	5.6
Soybeans (\$/bu)	0.17	0.16	0.14	0.12	0.12	0.19	0.19	0.13	0.15	-31.6	15.4
Upland Cotton (\$/lb)	0.23	0.15	0.14	0.14	0.13	0.20	0.22	0.22	0.16	0.0	-27.3
Rice (\$/cwt)	0.22	0.17	0.12	0.11	0.13	0.15	0.10	0.11	0.09	10.0	-18.2

<sup>1</sup> Historical volatility values are obtained by fitting log-normal distribution to the time series of the ratio of the harvest price to the base price from 1968 to 2023. For each year in that time period, the harvest and base prices are calculated by using relevant futures prices in that year. Source: Barchart.com

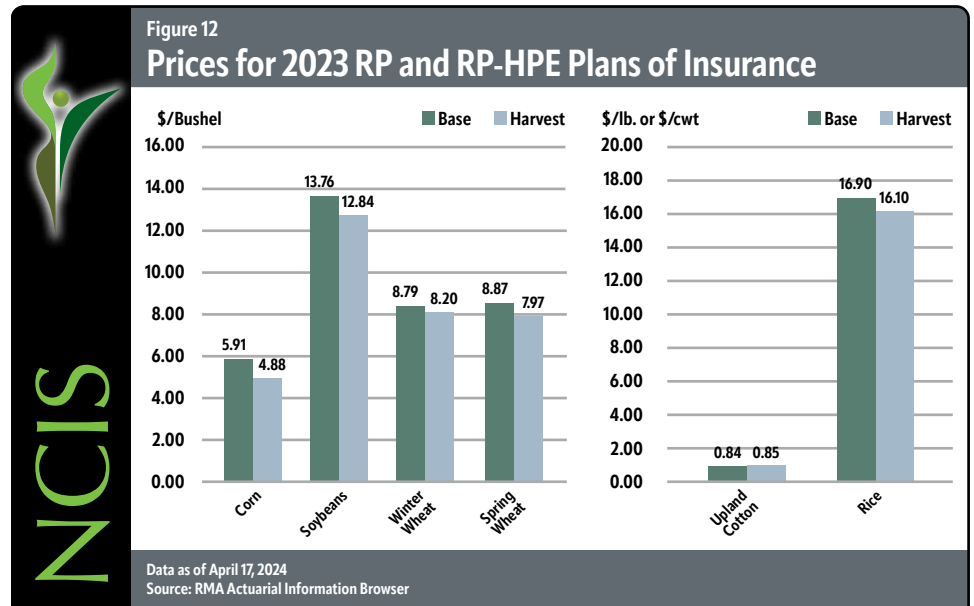
<sup>2</sup> Revenue Protection as of April 17, 2024.  
Source: Various RMA Manager's Bulletins

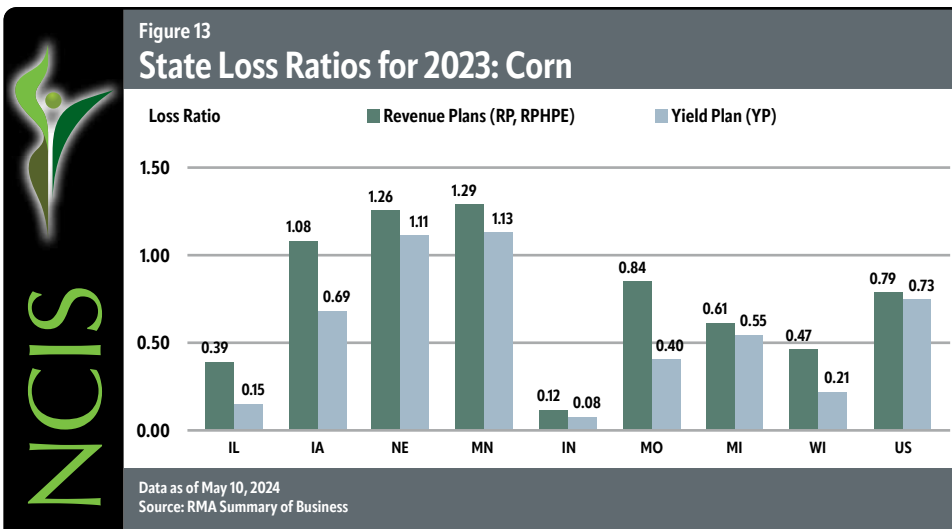
measure of risk for expected harvest prices. RMA annually calculates the implied volatility factor for a crop by averaging the implied volatility of in-the-money options for a designated futures contract over the final five trading days of the discovery period for that crop (generally the last five trading days before the sales closing date). For example, implied volatilities over the final five trading days in February for the December futures contract are used to determine the IV factor in the major corn producing states. RMA uses the IV factor to simulate the risk of an expected change in harvest price for the crop, which is then utilized to establish the price risk component of the premium rate for the specific crop. A higher IV indicates a greater likelihood for larger price movements while a lower IV implies a more stable market with futures prices expected to move within a smaller range. All things being equal, higher IV factors result in higher premiums, while lower IV factors result in lower premiums. Historical IV values for selected major crops during the period 2017-2024 are shown in Table 5. The IV factors observed for 2023 exhibited mixed behavior, with winter wheat up roughly 48 percent, while rice was up only 10 percent and

upland cotton was unchanged. In contrast, the IV factor for soybeans was down almost 32 percent, and the factors for spring wheat and corn were down just under 22 percent. The mixed results for base prices and IV factors resulted in a slight decrease in premium from 2022 to 2023.

Figure 12 shows the change between the

base prices established at the outset of 2023 in relation to the harvest prices established close to the end of the growing season. The harvest prices provided in Figure 12 are the average daily prices in the harvest month for the same futures contract used to establish the base price earlier in the year. Harvest prices are an essen-





tial element of the indemnity calculation process as they are used to determine the farmer's actual revenue, which in turn is used to establish the amount of indemnity provided by Revenue Protection (RP) policies.

Harvest prices for corn, spring wheat, winter wheat, soybeans, and rice all decreased compared to their base prices for 2023; only upland cotton exhibited a slight increase of 1.2 percent. Corn decreased from \$5.91 to \$4.88 per bushel, spring wheat from \$8.87 per bushel to \$7.97, winter wheat from \$8.79 per bushel to \$8.20, soybeans from \$13.76 to \$12.84 per bushel, and rice from \$16.90 to \$16.10 per hundredweight. In contrast, upland cotton increased slightly from \$0.84 to \$0.85 per pound. The largest decrease in base price to harvest price observed was for corn, which exhibited a decrease of just over 17 percent.

Figure 13 presents corn loss ratios by state for the yield plan of insurance (YP) and revenue plans of insurance (RP and RP-Harvest Price Exclusion combined) for Illinois, Iowa, Nebraska, Minnesota, Indiana, Missouri, Michigan, and Wisconsin. Revenue plans experienced higher loss ratios than the yield plans across the board.

For 2023, the corn RP plans within the Corn Belt states experienced an overall loss ratio of 85 percent, despite Minnesota, Nebraska, and Iowa all having poor results, with revenue plan loss ratios above 100 percent.

Figure 14 shows that at the national level, the loss ratio for soybean revenue plans was lower than that for corn. Within the Corn Belt states, Nebraska was the only state to experience a loss ratio that exceeded 100 percent for both RP and YP plans for soybeans in 2023, with a loss ratio of 179 percent for RP plans and 186 percent for YP plans.

*Information sources for this section includes USDA, Foreign Agricultural Service, P, S & D database; Office of the Chief Economist; World Agricultural Supply and Demand Estimates Report (WASDE), various issues; NASS Quick Stats; RMA Manager's Bulletins, Price Discovery Application, and Actuarial Information Browser.*

## Program and Policy Developments

### A Return to Normal . . .

Entering the 2023 calendar year represented a time and feeling among many of finally being done with the covid pandemic and all its accompanying restrictions, prohibitions, and general disruptions to the lives of most Americans. The Federal crop insurance program had responded to the pandemic with overwhelming success and resiliency in continuing to provide timely and high-quality service to America's farmers and ranchers. This was a tribute to the RMA, private sector delivery system, and all the program's stakeholders for pulling together and utilizing their expertise, resourcefulness, and the many tools and levers available that make the program flexible and responsive to agriculture's ever-changing needs. As spring began to arrive and many of America's farmers headed to the field with the hopes of a prosperous harvest, they did so with the burden that many input costs were well above average while crop prices were slipping from the highs seen in 2022. There also were the usual extreme weather events impacting various areas of the

country that led in some cases to increased calls for greater crop insurance availability for some crops recognizing the program's value in time of disaster. And for some crops an emergence of producer disenchantment that the Title I farm program safety net for income support was falling short because of the increased input costs.

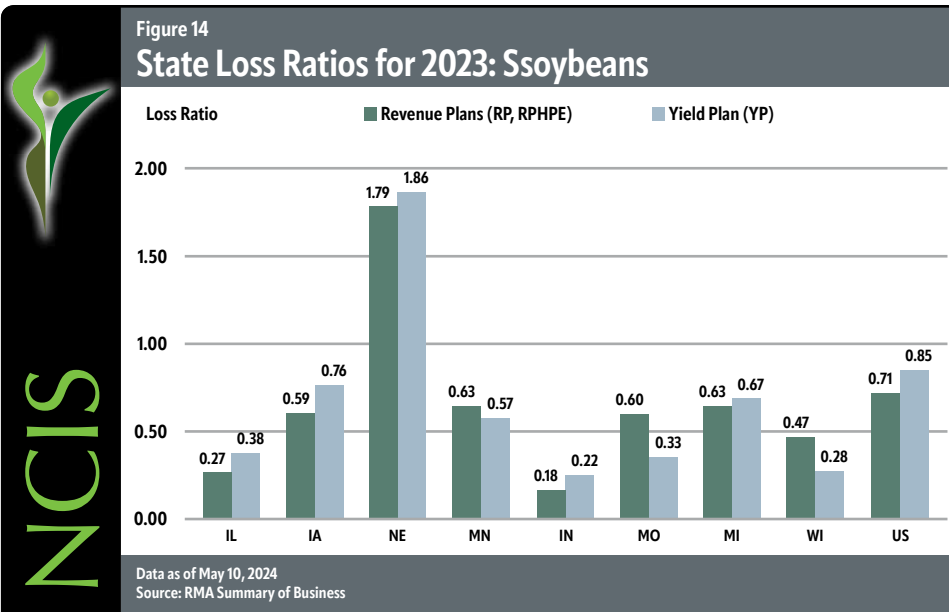
Those factors began to form the issues and focus during the year for an upcoming Farm Bill and the beginning of numerous Congressional hearings, both in DC and around the country. However, farmers continued to consistently echo the familiar refrain that crop insurance was the number one priority and that it be retained, fully funded, and continually improved where needed.

### New Challenges Emerge

As Russia's continued war with Ukraine reached the one-year stage, USDA's efforts to increase domestic food production amid global food shortages in 2022 reached into the crop insurance program to promote and expand greater use of the double cropping practice, growing two crops on the same acreage such as soybeans or grain sorghum following wheat. Producers responded by increasing fall wheat insured acreage 16 percent and increasing following another crop soybean and grain sorghum acreage by approximately a million acres. In addition, RMA offered a new, climate-smart relay cropping practice in which a second crop is planted into an established crop in a manner that allows separate agronomic maintenance and harvest of both crops.

New for 2023 was the offering of a Transitional and Organic Grower Assistance program as part of USDA's Organic Transition Initiative to build more and better markets for American producers and consumers and improve the food supply chain that was exposed during COVID-19. "TOGA" offered premium assistance to producers with crops in transition to organic or certified organic grain and feed crops. This also included such crops under the Whole Farm Revenue Protection policy. Unfortunately, funding only supported this program for the 2023 crop year.

In addition, the Pandemic Cover Crop Program (PCCP) that had provided financial assistance to farmers impacted by the effects of the pandemic and market disruptions in support of cover crop conservation practices also saw funding cease and was not available for the 2023 crop year. The two-year pilot program demonstrated that crop insurance and voluntary conservation



efforts could work together for the benefit of all. With an uncertain future, RMA has continued budgetary requests for funding this initiative and many proponents continued to push for inclusion in the next Farm Bill. However, the states of Iowa, Illinois, Indiana, and Wisconsin continue to offer producers in their states premium discounts in conjunction with the Federal crop insurance program.

The crop insurance program continued its growth both in the crop and livestock areas, with creative solutions, flexibilities, and new program development and designs helping the program effectively provide almost \$208 billion of crop and livestock liability to America's farmers and ranchers, a 7 percent increase from 2022. This also resulted in net insured acreage reaching over 539 million acres, over a nine percent increase from 2022.

## Drought Continues as Major Cause of Loss

Five states accounted for almost half of the total \$16 billion in crop indemnities, with Texas seeing over \$2.7 billion in indemnity, followed by Kansas with \$2.1 billion, Nebraska with over \$1.1 billion, and Iowa and California next with \$926 and \$918 million, respectively. In a continuing trend from prior crop year's, drought and related causes like hot winds and heat accounted for over half of all indemnities, \$8.3 billion. Kansas and Texas led in drought indemnities with \$1.6 and \$1.4 billion, respectively, followed by Nebraska (\$781 million), Iowa (\$729 million), and Minnesota (\$681 million). In addition, area plan related losses due to lack of normal precipitation

accounted for over \$1.6 billion in indemnities for pasture, range, forage, and annual forage. Texas accounted for over \$668 million of these indemnities. Regional weather events occurring in 2023 were typical again of crop insurance experience nationwide as several areas saw too much precipitation and flooding which accounted for over \$1.8 billion in losses, led by California with \$415 million in indemnity followed by Texas (\$291), and North and South Dakota with \$284 and \$104 million, respectively. The year also saw significant hail activity and nearly \$1 billion was paid out with approximately 80 percent of those losses occurring in Kansas, Nebraska, Texas, North Dakota, and Colorado. But it was a relatively quiet year for prevented planting in general with just over \$1 billion in indemnity paid out with about 80 percent of those losses due to excess moisture and precipitation. Corn was the primary crop paid with \$401 million, followed by rice (\$128 million), and cotton and ELS cotton representing about \$232 million collectively. North Dakota, Texas, California, and South Dakota were the top four states in payouts representing 80 percent of the indemnities. And RMA responded to producer feedback in emergency situations and again provided a deferral of interest on premium billings so producers could have more time to pay premiums, authorized emergency loss procedures to address severe flooding in the Northeast and waived the ownership requirement for LRP policyholders encountering severe drought.

These weather events brought their own challenges and hardships but again reaffirmed that crop insurance successfully provides the risk management tools farmers, ranchers, and bank-

ers rely upon to continue from year to year. A record 539 million acres and \$181 billion in crop liability was insured by farmers and ranchers with the risk of loss being shared by AIPs and taxpayers, demonstrating the exceedingly successful public-private partnership stabilizing production agriculture and the food supply for Americans. Corn (\$4.3 billion), wheat (\$2.4 billion), and soybeans (\$2.1 billion) accounted for the highest indemnity payout for the year, followed by cotton and pasture, rangeland, and forage.

## Program Expansion and Improvements

With increasingly tighter operating margins and extreme weather events occurring around the country, there continued a strong demand for new crop policies and types of coverage, along with grower requests for improvements to existing policies addressing various areas of production and marketing agriculture. And there was a continuing emphasis for covering small, underserved, and specialty crop farmers. This is a collaborative effort between the industry and RMA to develop innovative, effective, and efficient risk management tools and products that meet farmers' and ranchers' needs. It takes concerted ongoing efforts on all parties to maintain and improve the 134 various crops and livestock programs utilizing the expertise and experience of RMA, the AIPs, and the various NCIS committee structures with their on the ground interaction with producers, agents and adjusters. Their efforts resulted in programs that insured over 640 crop-livestock and related differing types and varieties of farming operations, insured through 36 different plans of insurance in 2023. That translates into more than 181,000 different county crop program actuarial offers available across the nation to serve the many varied economic and agronomic practices of production agriculture. This comes with daily challenges in maintaining and keeping current on prices, premium rates, underwriting rules, special provisions, and key agronomic planting dates among the many other factors in establishing the multitude of insurance offers for which farmers and ranchers can choose to cover their risks.

One major initiative RMA undertook in 2023 was to seek public comment on potential changes to the policy provisions around prevented planting coverage. RMA sought public comment through a Request for Information in May, and

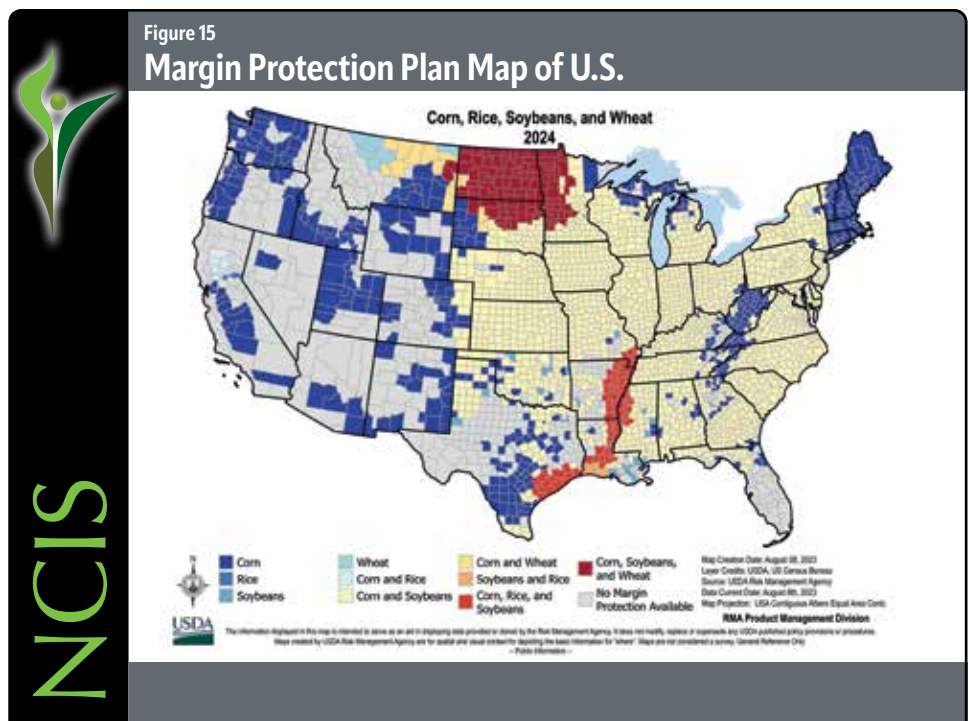


shortly thereafter began a series of virtual and in-person listening sessions across the country seeking farmer feedback and suggestions. The primary topics for comment included challenges and experiences around the expansion nationwide of the “1 in 4” rule, whether to allow payments to be calculated on the higher of a projected or harvest price option for the revenue protection plan of insurance, if the 10 percent additional coverage option should be reinstated, and how payments should be calculated for contracted crops. The deadline for comments was October, and any determined program changes will likely be determined or announced in the coming months.

During 2023 the NCIS Underwriting and Operations Committee spent a considerable amount of time working with RMA in the review of approximately 70 policy provision documents including new programs like Weaned Calf, Controlled Environment and Shellfish along with forming a workgroup to update and improve the efficiency of signature requirements contained within the General Standards Handbook. The Committee and RMA continued to monitor implementation of the same year production reporting initiative tying production history to the crop year and unit upon which it was produced. The goal of this effort is to enhance the accuracy of yield information captured on individual level crop insurance policies used for determining yields applicable to area yield plans of crop insurance, annual yields used by USDA in other farm programs, and to strengthen actuarial parameters within the program. These monitoring efforts led to the integration of APH regulations into the Common Crop Insurance Policy Basic Provisions effective for the 2024 crop year.

The MPCPI Policy, Procedure and Loss Committee worked with RMA on several ongoing issues including revising notification requirements to insureds with repeated years of loss due to wildlife damage, adding a special provision statement establishing a final harvest date for dark air and fire cured tobacco types, and reviewing several loss adjustment issues around quality adjustment and prevented planting. The Committee also held an onsite meeting in the fall in Memphis, Tennessee that included a field day visiting a rice mill, a cotton gin, and a farmer harvesting rice.

With the increase in input costs came a bi-partisan request from the United States Senate Committee on Agriculture, Nutrition, and For-



estry for expanding the availability and access to the Margin Protection program. RMA responded by adding more than 1,255 counties for soybeans and 1,729 counties for corn to this insurance option providing coverage against a decrease in operating margin for farmers in a total of 34 states (Figure 15).

Several individual crop programs saw improvements and modifications, heavily focused on specialty crops, such as expanded coverage for olive oil types, flexibilities for pistachio producers to obtain coverage, and expanded availability of enterprise units to at least 17 additional crops most of which are specialty crops. In addition, changes were made to the pomegranate policy to add optional unit types recognizing different utilization values, and to the Florida citrus fruit policy provisions revising insurable causes of loss and updating price calculations. RMA also expanded the availability of the quality loss option to seven specialty crops including California avocados, blueberries, cranberries, grapes, peaches, stone fruit, and table grapes. In addition, improvements were made to the Rainfall Index Annual Forage plan of insurance by modifying the number of growing seasons, revising the acreage reporting dates, allowing producers to insure less than 100 percent of their insurable acres, revising the Dual Use Option availability for new growing seasons, and making several other policy revisions.

The HIP-WI plan added a new Tropical Storm

Option for 2023 providing coverage for losses specifically due to damage from named tropical storms, defined as storms with sustained winds exceeding 34 knots and precipitation exceeding six inches over a four-day period. This coverage was added to over 1000 counties in states primarily along the Atlantic Coast, Gulf States, Arkansas, and Texas. The program was tested immediately by the occurrence of Hurricane Idalia at the end of August impacting primarily Florida, Georgia, North and South Carolina. According to recent RMA estimates, payments for TSO were around \$71 million with HIP-WI losses adding approximately \$85 million. 2023 also saw changes to the Common Crop Insurance Policy Basic Provisions applicable to the June 30 and later contract change dates. These changes provided for expansion of enterprise units to specialty crops, excluding acreage and the actual production from such acreage that is damaged by an unavoidable uninsured fire and/or a third party when calculating the approved APH yield and production guarantee, incorporating existing guidance on prevented planting into the policy by clarifying the added land ratio for prevented planting, expanding the eligible criteria for prevented planting coverage to include “destruction” of a producer’s irrigation system from an insured cause of loss, incorporate existing same-year production reporting guidelines to be consistent with the timing of claims (harvest), and incorporating the High-Risk Alternate Coverage

Endorsement. Both the Common Crop and Area Risk Protection Insurance provisions included the major change of incorporating the existing APH reporting requirements located within procedures and updating organic provisions to be consistent with the National Organic Program.

The Federal Crop Insurance Corporation Board of Directors (Board) continued their busy calendar by addressing numerous efforts of RMA and private developers for improving, modifying, and expanding various products within the program. The Board again acted upon several submissions ranging from confidential submissions for new concept proposals and revised policies or products, to evaluating and approving fully developed and complete private sector and RMA product submissions that either modified or expanded existing products, along with updating and establishing user fees for proven products in the marketplace.

The Board approved new programs in 2023 including grapevine coverage for loss of grafted vines due to natural perils, a new APH kiwifruit program in 12 California counties, and a new Shellfish APH-Price Component program for container-grown oysters commercially cultivated for the fresh half shell market in 12 States and 28 counties. The Board also approved a new Controlled Environment program to insure urban, specialty crop, organic, and other producers who grow crops in fully enclosed controlled environments. The coverage is available in 25 states and 127 counties. The Board also addressed improvements to several programs including modifying policies for pulse crop revenue, sesame, camelina, ARH-citrus, Nursery Value Select, Enhanced Coverage Option, and several other programs. It is also safe to say that program growth is likely to continue as several confidential submissions were sent out for expert review during the year.

Livestock programs saw another year of tremendous growth resulting from the continued efforts of improving the available risk management products with over \$26 billion in liability protected by the program, and premiums exceeding \$1 billion. Dairy Revenue Protection and Livestock Risk Protection for swine and feeder cattle led the way in accounting for most of the premiums and liability. Livestock premium earning policies jumped from a little over 10,000 in 2022 to over 16,300 in 2023. LRP policies saw improvements aimed at allowing producers to sign an application for coverage in advance of the sales period, modified the end of sales period



to 8:25 am Central Time, made revisions to the premium billing date when multiple endorsements are purchased, and clarified several policy terms and provisions. LGM dairy saw changes in the requirements for actual marketings to coincide with that of the DRP program, and a similar change to the end of sales period as that made in LRP. RMA also announced in late 2023 the implementation of the Weaned Calf Risk Protection program starting in 2024. This new program provides actual production history coverage for beef cow-calf producers in Colorado, Nebraska, South Dakota, and Texas due to adverse weather, fire, wildlife, earthquake, volcanic eruption, disease, and other causes directly damaging pastures and other forms of grazing, along with calf death due to a covered peril occurring during the insurance period, and for revenue protection due to a change in the harvest price from the projected price. These programs, along with the Livestock Gross Margin program have become increasingly popular with ranchers who more and more are looking to the Federal crop insurance program for their risk management needs.

The Whole Farm Revenue Protection (WFRP) plan of insurance and Micro Farm policy again saw more modifications after RMA received input from stakeholders on needed improvements. This included allowing producers to qualify for 80 percent and 85 percent coverage levels and purchasing catastrophic coverage level policies for individual crops. There was also added flexibility for Mico Farm policyholders to purchase other crop insurance policies and provide coverage

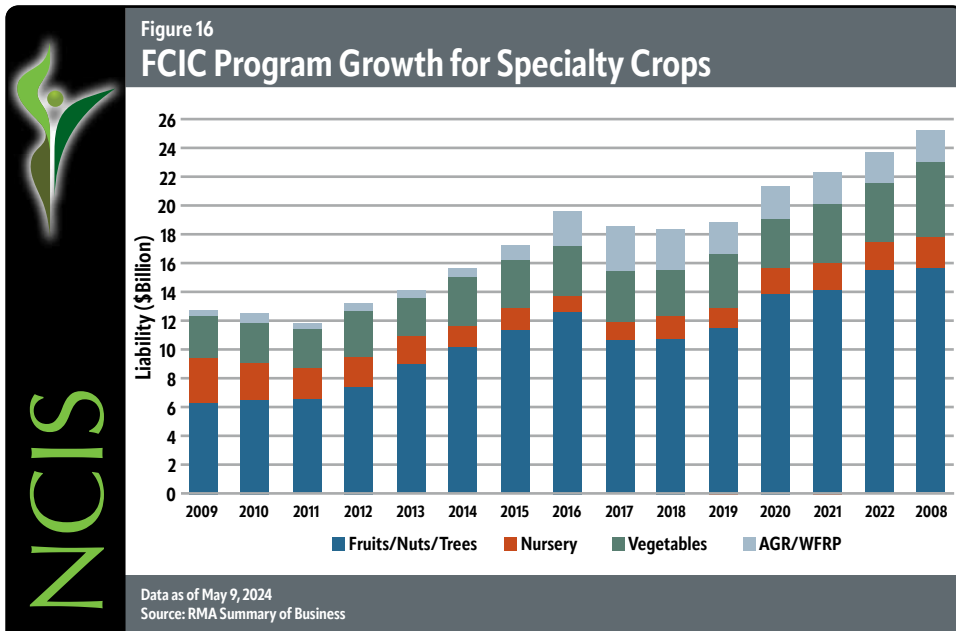
for vertically integrated producers. In 2023, the WFRP policy accounted for roughly \$2.4 billion of liability, remaining the seventh largest plan of insurance in the crop insurance portfolio. RMA initiated a series of “Road Shows” during 2022 helping educate and inform growers, especially small, underserved, and specialty crop growers on the program’s merits and recent changes highlighting this strategic risk management tool which led to an increase in about 40 new policies adding over \$265 million in liability. RMA also continued its efforts for expanding existing crop programs, including expansion of 11 existing programs—canola, mustard, peanuts, processing beans, sweet corn, soybeans, dry beans, rye, wheat, grass seed, and camelina—into a total of 15 states and 32 counties to provide wider availability of coverage. In addition, the hemp insurance program was expanded to a total of 171 counties in both Missouri and South Dakota.

An often underappreciated but one of the most important facets of the program involves the continued education and training of company personnel, agents, and loss adjusters so that the many program changes and improvements are implemented correctly and efficiently. The NCIS training staff coordinates education and training activities that often include both AIP representatives and RMA staff. There were over 1,146 participants in the claims and fall train-the-trainer sessions, while the spring session was broken up into two virtual sessions, one in November and another in December. NCIS held 18 loss adjustment schools with a total of 1,094

attendees scattered across the country. NCIS also hosted four webinars with a total attendance of 1,101 individuals that covered the new Tropical Storm Option, April 30 and August 31 Contract Change Date program changes and revisions, along with the new programs of Weaned Calf Risk Protection, Controlled Environment and Shellfish programs.

In the fall of 2023 RMA provided program delivery clarification that addressed situations an approved insurance provider (AIP) may only cancel a policy with the express written consent from FCIC in the CCIP and ARPI Basic Provisions. This change was made to provide consistency with the Standard Reinsurance Agreement that prohibits cancellation of an eligible crop insurance policy held by a producer so long as the producer remains eligible, and the AIP continues to write eligible crop insurance contracts within the State. In addition, RMA updated rebating Frequently Asked Questions to address certain Pasture, Forage, and Rangeland (PRF) marketing techniques that were considered rebating or inducement practices. And reflecting the program oversight activities shared by RMA and the AIPs, RMA announced a 2.64 percent error rate for the completed Fiscal Year 2023 Improper Payments Elimination and Recovery Improvement Act, one of the lowest error rates across all of USDA. This is the ninth consecutive year with an error rate under three percent, assuring America's farmers, ranchers, and taxpayers of a highly efficient and effective program with dollars being utilized wisely and closely guarded.

RMA generally updates and sends a Specialty Crop Report to Congress that highlights progress on research and development activities, but at the time of writing this article the report was not yet available. An updated report is likely to be posted by early this summer and will generally show highlighted achievements and accomplishments in addressing 2018 Farm Bill requirements, new and ongoing research, studies, and initiatives aimed at expansion efforts and overall specialty crop program improvements. However, a preliminary look at 2023 coverage for specialty crops shows liability reaching a little over \$25 billion (Figure 16) reflecting an additional \$1 billion in coverage from 2022 indicating grower's increased use of crop insurance in response to the many overall program enhancements previously discussed. RMA has initiated potential policy changes through nationwide stakeholder discussions with apple growers and interested parties,



actively pursued the development of a weather index program and began a feasibility study into date palm insurance. RMA and the Industry Perennial and Specialty Crop Workgroup continued focus on improving specialty crop insurance policies and coverage by working with growers and their representatives to find new and effective risk management tools to address the unique challenges presented by specialty crops, along with increasing access in underserved areas.

Lastly, 2023 saw RMA continue its robust efforts and initiatives related to outreach efforts and risk management education. In August, RMA awarded around \$6.5 million to 22 organizations to provide education and awareness on farm risk management and climate-smart farm practices to underserved, specialty crop, small scale, and organic groups and producers. In coordination with the University of Nevada, Reno, efforts are

underway to help historically underserved livestock, Native American, urban, and specialty crop producers better understand existing and emerging programs throughout the West. These efforts also include numerous engagements and interactions through 39 in-person and virtual listening sessions discussing prevented planting issues, apple, and cherry program changes. Along with many of its member companies, NCIS continued the Building Resiliency Initiative working with the Intertribal Ag Council and Rural Coalition to recruit, educate, and train loss adjusters in underserved areas. All of these activities are mutual efforts through the RMA and Industry partnership helping farmers and ranchers utilize the many available risk management programs to provide a safety net for their families.

Finally, there were ongoing Farm Bill discussions and various hearings that NCIS monitored

**Table 6**  
**U.S. Crop-Hail Results, All Perils**

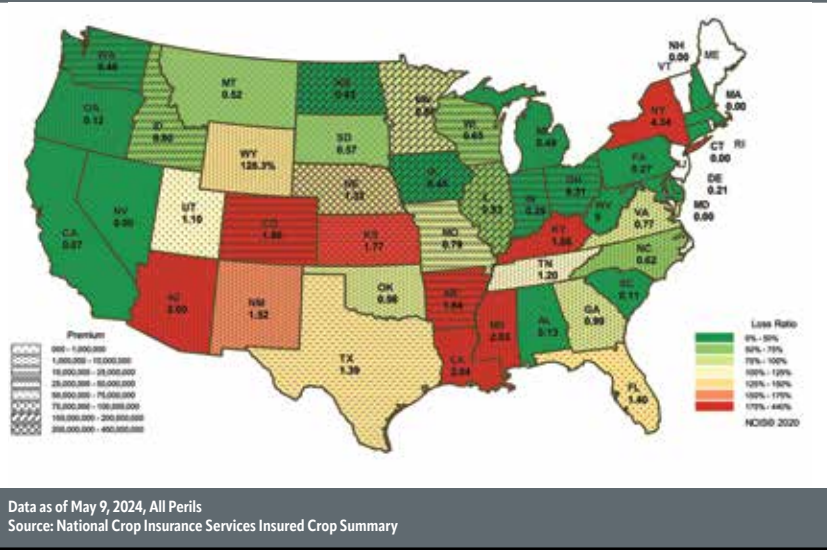
Crop Year	Liability Mil. \$	Premium Mil. \$	Losses Mil. \$	Loss Ratio
2014	39,652	991.7	1,209.9	1.22
2015	36,805	979.7	740.3	0.76
2016	36,178	983.3	880.1	0.90
2017	35,775	958.8	882.0	0.92
2018	36,084	987.3	937.4	0.95
2019	35,359	1,019.6	996.5	0.98
2020	35,802	1,010.0	1,154.4	1.14
2021	40,309	1,167.3	924.2	0.79
2022	46,169	1,383.1	1,142.0	0.83
2023	47,104	1,426.2	1,361.6	0.95

Data as of May 8, 2024  
Source: Adjusted Verified Totals, US only, for NCIS member companies combined with the data from non-members.



NCIS

Figure 17  
2023 Crop-Hail Premium and Loss Ratios



Data as of May 9, 2024, All Perils  
Source: National Crop Insurance Services Insured Crop Summary

and provided technical support as needed or requested. In addition, NCIS helped coordinate questions and work with RMA to prepare the industry and program for a potential government shutdown that resulted in little to no disruptions to the program and service to policyholders. As the case with most years, it was again a very busy year with many new challenges and opportunities to provide the kind of high-quality risk management programs that are the envy of the world.

## U.S. Crop-Hail Experience

Crop-Hail insurance policies insure direct damage from hail as the primary cause of loss. In addition to hail damage, many policy forms carry endorsements for additional perils such as wind, fire, vandalism, and theft.

Crop-Hail premium has exhibited an increasing trend since 2020, with the premium amount increasing 15.6 percent from 2020 to 2021, 18.5 percent from 2021 to 2022, and a modest 3.1 percent from 2022 to 2023, resulting in a premium of \$1.426 billion. Crop-Hail provided \$47.104 billion in private insurance protection to U.S. farmers in 2023, and losses paid out were \$1.362 billion (Table 6).

The industry loss ratio, defined as paid losses divided by premium written, was 95 percent in 2023, up from the 83 percent seen in 2022 and 79 percent in 2021, but down from 2020's 114 percent loss ratio.

The top 10 storm dates in 2023 had losses that exceeded \$26 million each. The most significant storm occurred on July 4th, causing over \$93 million in Crop-Hail losses with 95 percent of those losses occurring in Nebraska. Two of the top 10 storms occurred in June, and combined

they contributed just under \$88 million in Crop-Hail losses. Six storm days in July caused almost \$286 million in damage. Other significant storms occurred in mid-August and early October. In total, the losses from the top 10 storm days in 2023 amounted to \$469 million, down significantly from the \$541 million seen in 2022 and the \$570 million seen in 2020, but above the \$393 million seen in 2021. Nebraska took the brunt (60 percent) of the damage caused on the 10 largest storm dates, absorbing nearly \$283.5 million in losses. Minnesota had the next highest percentage (10 percent) with just under \$48 million in losses. Illinois, Iowa, and Arkansas each had roughly 5 percent, with losses of \$25.4 million, \$24.2 million, and \$23.0 million, respectively.

Crop-Hail loss ratios by state are shown in Figure 17. Colors identify states with similar loss ratios, while shading is used to identify states with similar premium volume. Crop-Hail insurance was purchased in 44 states in 2023. Of these, 15 states had loss ratios greater than 1.00 and are shown in color shading ranging from yellow to red on the map. New York had the highest loss ratio at 434 percent, followed by Louisiana with a loss ratio of 284 percent and Mississippi at 263 percent.

The top five states by premium volume—Nebraska, Illinois, Iowa, Minnesota, and North Dakota—experienced loss ratios of 133 percent, 53 percent, 45 percent, 86 percent, and 43 percent, respectively. Overall, 18 of the 44 states with premium had loss ratios of 50 percent or less, shown in dark green on the map. Six states, shown in medium green, had loss ratios between 50 and 75 percent, and five states, shown in light green, had loss ratios falling between 75 and 100 percent.

[Information sources for this section include: NCIS' Insured Crop Summary and claim files.]

## Canadian Crop-Hail Experience

In 2023, the crop hail industry saw the highest premium amount within the last 10 years. An unanticipated increased demand led to a jump of 21.6 percent from 2021 to 2022, while the 2023 premium of \$336 million was only a slight increase of 0.6 percent over 2022 (Table 7). Canadian Crop Hail Association (CCHA) companies increased capacity to meet these higher demands. Weather conditions, and thus perfor-

Table 7  
Canadian Crop-Hail Results, All Perils

Crop Year	Premium Mil. \$	Losses Mil. \$	Number of Claims	Loss Ratio <sup>1</sup>
2016	256	230	19,048	0.90
2017	243	82	7,968	0.34
2018	235	158	11,030	0.67
2019	235	221	15,657	0.94
2020	270	171	11,372	0.63
2021	275	297	10,989	1.08
2022	334	229	11,451	0.69
2023	336	146	8,625	0.43

<sup>1</sup> Loss ratios do not reflect loss adjustment costs  
<sup>2</sup> Values shown in table are for NCIS members only  
Data as of November 10, 2023  
Source: The Canadian Crop-Hail Association



NCIS

mance, varied, but overall, the 36.3 percent decrease in losses combined with the slight increase in premium resulted in a favorable loss ratio of 43 percent. Claim activity in 2023 was below the five-year average and was the lowest claim count seen since 2017. Although the average claim size was below the five-year average, it was the third highest since 2016, behind only 2021 and 2022.

Conditions in Western Canada were mixed during the month of June, with some areas experiencing drought and others having adequate or above adequate moisture levels. According to the CCHA, in late June to early July hail activity increased in Manitoba and Alberta while Saskatchewan experienced dry and windy conditions, as well as a grasshopper infestation. CCHA President Scott McQueen of Palliser Insurance noted that in addition to the diverse types of damages seen, there was also a wide range of severity depending on the maturity of the crop. Some of the crops that saw damage in all three provinces during this timeframe included canola, wheat, barley, peas, and soybeans.

The CCHA news report from late July noted that harvest began early in southern Saskatchewan and Alberta, while hot and dry weather conditions continued to be a concern in many com-

munities. Although July and August saw some storms with up to golf ball sized hail, many of the impacted areas only had minor damage, contributing to the lower claim count and loss amount for 2023. Some areas saw more significant damage, especially those that were also affected by the dry weather conditions. Overall, Alberta and Saskatchewan experienced favorable loss ratios of 37 percent and 35 percent, while the loss ratio for Manitoba was higher, coming in at 72 percent. While the total claim count decreased for Alberta and Saskatchewan, it was higher for Manitoba; however, the average claim size decreased for all three provinces. The average claim size in 2023 was significantly lower than 2022 for Alberta, with a decrease of nearly 47 percent. The average claim size decreased 11.3 percent for Saskatchewan, and only 2.8 percent for Manitoba.

Overall, in 2023 producers received over \$76.2 million in indemnity payments in Saskatchewan, \$54.2 million in Manitoba, and \$15.6 million in Alberta, compared to payments of \$143.3 million, \$36.6 million, and \$49.3 million in 2022.

*[Information sources for this section include: News reports that can be found on [CropInsuranceinCanada.org](http://CropInsuranceinCanada.org) and data provided by the CCHA]*

## Conclusion

Overall, 2023 reflected the resilience of America's farmers and ranchers as the disruptions from the global pandemic begin to fade and they deal with the new normal of market uncertainties surrounding global geopolitical events, increasing competition from other countries, potential policy changes from a new Farm Bill on the horizon and ever challenging weather events. Despite prices falling from previously high levels, in most cases commodity prices remained at higher-than-average levels, helping to offset continued high input costs but with razor thin margins. This new "normal" will continue to create challenges to all producers and increasing occurrences of adverse weather events will likely lead to hardships for some. Within this environment the federal crop insurance program continues to adapt and expand to address the needs of farmers and ranchers. Going forward producers, bankers, support industries and taxpayers can be assured that their public-private risk management program will be there to provide a foundation of support that allows American agriculture to deal with problems of the present and the security to plan for the future.

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