

# Decade in Review

By NCIS Staff

## Introduction

The dawn of a New Year and a New Decade is a time to pause and reflect on the trials that tested us and the triumphs that brought new opportunities. The past decade has been instrumental for the continued success of crop insurance programs. There have been policy challenges, weather disasters, market fluctuations, and many other obstacles for the industry to maneuver. But through it all, crop insurance has proven to be an indispensable component of the farm safety net. So, with the New Year and New Decade we thought it would be worthwhile to look back at some of the definitive moments over the past 10 years that have strengthened crop insurance.

Because a decade seems like almost 10 years, we attempted to focus on what we believed to be the highlights in terms of the Crop-Hail business—including our friends from Canada, Federal Crop Insurance, and finishing with a quick review of happenings at NCIS.

It is our hope that you will find this decade recap useful and a reminder of the importance and value of having a strong, affordable, and available crop insurance safety net for U.S. farmers and ranchers.

## Developments in Crop-Hail Insurance

### NCIS Research and Loss Procedures

The research program at NCIS has evaluated a wide variety of crops with different types of damage over the past 100 years. Corn has been the subject of industry research since 1928 but some of the most impactful research

was initiated at the end of the 2000's and completed early this past decade. The focus of this research dealt with the loss of stand at the various growth stages. Original corn stand reduction tables used various factors for loss of stands from the 7-leaf stage up to the 10-leaf stage. The most recent research was conducted in six different states for a minimum of three years at alternate locations to determine losses from stand reduction at the 7-leaf stage and going up to the 17-leaf stage.

The results of this field research led to the introduction of new loss adjustment charts factoring up to the 17-leaf stage. These results were incorporated into the Crop Hail Loss Adjustment Handbooks as well as the MPCI Loss Adjust Standards Handbooks for the 2014 Crop Year.

Revision of the maturity line weight factors for corn is the culmination of eight years of research in seven states across 12 locations resulting in 24 site-years of data. Maturity line factors are used when the farmer decides to use corn insured as grain for silage. The factors are used by the adjuster to estimate mature production po-

tential based on the current level of crop maturity in the field. The research was initiated in 2009 and concluded in 2018. In comparison to previous maturity line factors, the research definitively validated what many field adjusters had suspected—that the existing factors were out of date. The new factors will be effective beginning with the 2020 crop year.



The most recent research projects for NCIS deal with Industrial Hemp and could be some of the most significant research for the next decade. Industrial Hemp has many different uses:

fiber, seed production/oil, and floral parts/CBD and other compounds that show potential health benefits. NCIS has conducted research on the seed production types of Industrial Hemp the

past two years and will be initiating research in 2020 on the fiber and floral/CBD types. This research will examine stand reduction as well as the other types of plant damage.

Other research projects over the last decade include new procedures on dry field peas and chickpeas, tobacco, cotton, as well as other crops. NCIS has also modified existing procedures, such as soybean defoliation.

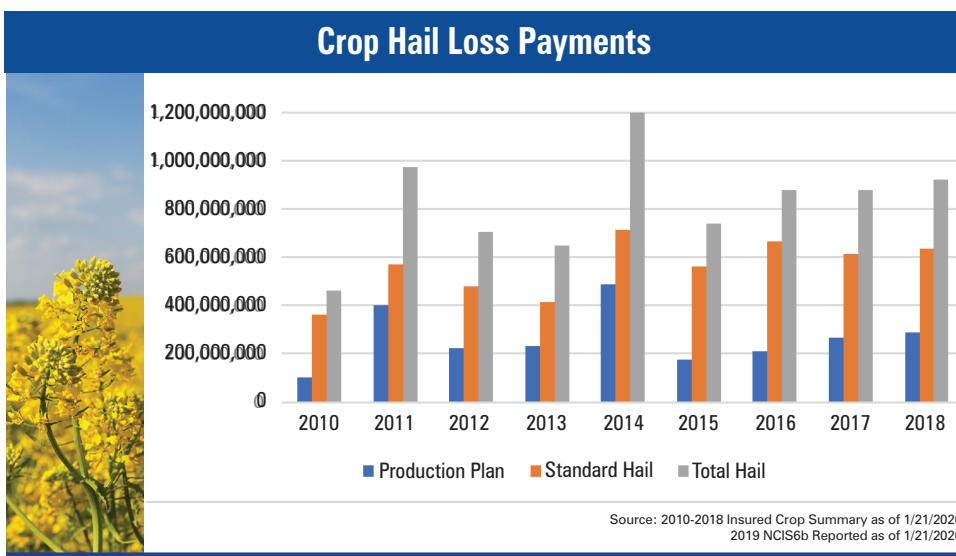
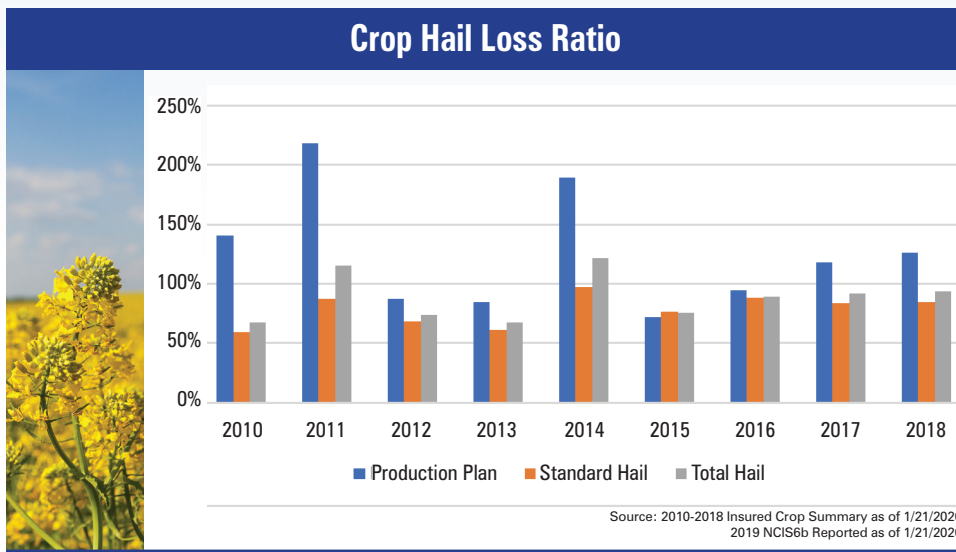
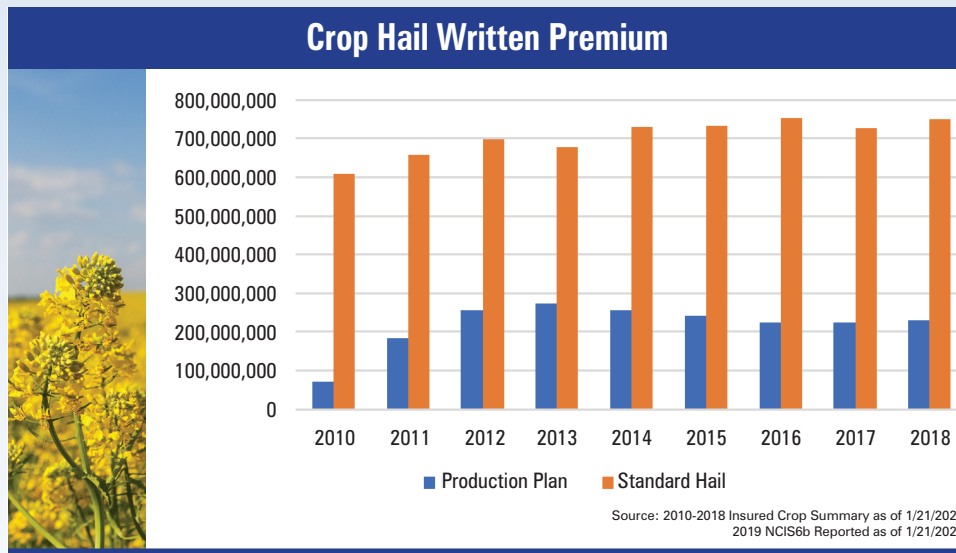
## Product Development

Production Plan business has increased significantly through the decade. In 2010 Production Plan premium was just over \$70 million, comprising of 10 percent of the national Crop-Hail premium at the time. By the end of the decade Production Plan premium more than tripled, which is over 20 percent of the national Crop-hail premium. NCIS responded by filing Production Plan policy language and rating factors. Production Plan filings were submitted for the 2012 crop season in Iowa, Kansas, Minnesota, Nebraska, North Dakota and South Dakota and for 2013 in Colorado and Idaho. Production Plan data processing requirements were also modified. In order to capture the necessary information needed for generating Final Average Loss Costs (FALCs) from the Production Plan policy, NCIS required companies to submit additional fields in the Production Plan data record.

In 2017-18 NCIS revised and refiled its Rain Insurance policy, loss costs and rules. Rain Insurance differs from Crop-Hail in that it does not insure growing crops. Instead, Rain Insurance is written for a short period of only a few hours for a specific event which is susceptible to economic loss due to rainfall. Examples of insured events include sporting events and similar outdoor activities.

Coverages for wind, particularly for corn, have more than doubled since 2010. In 2015, when NCIS initially filed its Corn Wind and Green Snap coverages, loss costs were expressed as factors relative to hail in Kansas, Nebraska, North Dakota and South Dakota. Statewide loss costs are used in certain southeastern states, such as Georgia coastal and inland rating territories.

The 2020 filings for wind coverage included several changes. The new filings incorporated experience from 2008 through 2018. Rating territories were revised to the Crop Reporting District (CRD) in all states. Coverage dates were expanded by 30 days in all states and Corn Wind coverages were introduced in Louisiana, Michigan, and Mississippi for 2020.



NCIS filed Hemp grown for seed and Hemp grown for fiber endorsements and actuarial factors in all 48 states for 2020. The endorsements cover hail only and the crop must be grown under contract in compliance with all state and Federal regulatory requirements.

## Regulatory Environment

During the past decade, NCIS staff has collaborated with state insurance departments and its members in the development of state regulating guidance bulletins, primarily specific to Crop-Hail insurance. Notable examples include efforts in Iowa, Minnesota, and North Dakota. Most recently, Nebraska has begun to update its regulatory guidance.

In 2015 and again recently, NCIS has at the request of the National Association of Insurance Commissioners (NAIC) participated in a multi-state Market Conduct Examination (MCE). The primary purpose of this comprehensive multi-state MCE is to verify that NCIS is compliant with state laws and regulations governing its conduct and performance in its regulated functions. The current and 2015 examinations were initiated by NAIC's Advisory Organization Examination Oversight Working Group. Each examination covers a period of five years.

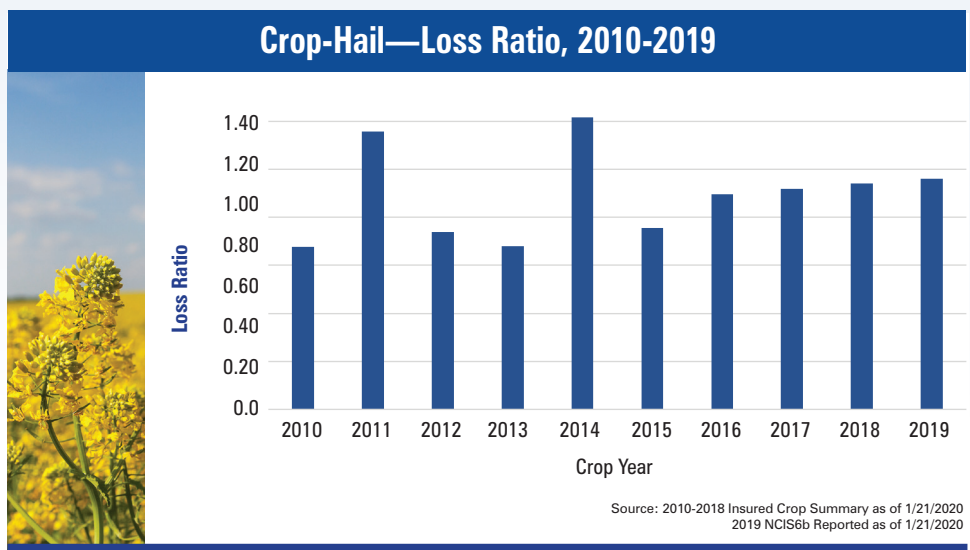
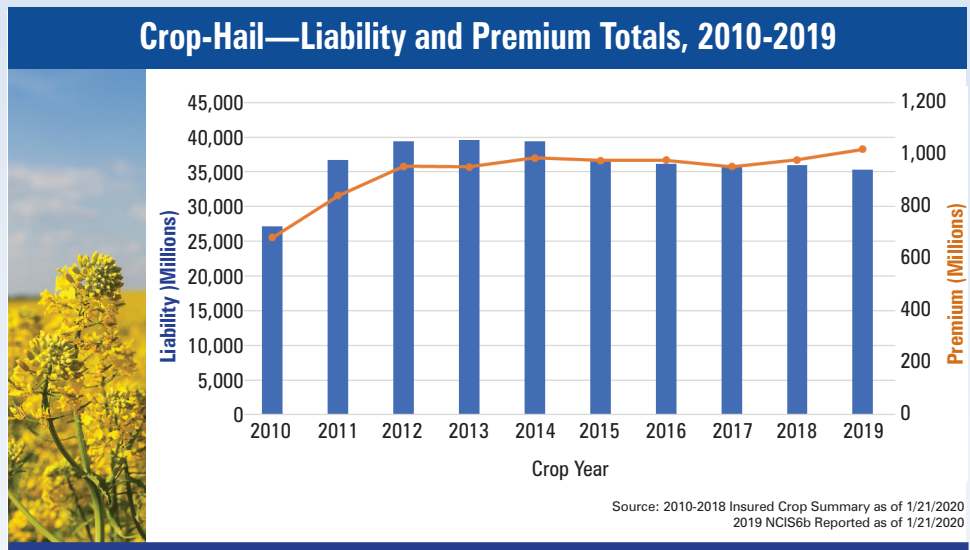
The MCE evaluation consists of a review of processes and procedures in place during the period of the Examination, including but not limited to, the preparation of loss cost filings; rules, forms; operations/management; statistical plans; regulatory licenses or other authorization; data receipt and controls; processing, editing and compilation procedures; error handling and related correspondence with reporting insurers; and report submissions to regulators.

In the intervening years between the comprehensive examinations, NCIS receives and is asked to respond to a Comprehensive Annual Analysis Form that is intended to inform NAIC of any significant changes made in NCIS business operations over the preceding 12 months.

The 2015 MCE resulted in a finding of no actionable deficiencies in respect to NCIS business processes. The current examination is not yet complete, but preliminary indications suggest a favorable outcome.

## Crop-Hail Performance

Crop Hail's growth during the period 2010 through 2019, as measured by premium, exhibited compound annual growth of rough-



ly 4.4 percent as premium rose from \$681 million to just over \$1 billion. This period of growth is noteworthy as it continued the expansion witnessed during the prior seven years. Much of this premium increase occurred during 2011 and 2012, with 2011 turning in extraordinary annual growth of nearly 24 percent, rising from \$681 million to \$841.7 million, while 2012 saw an increase of over 13 percent to \$954 million.

Looking at premium written separately between production plan versus standard hail reveals that each contributed to the 2011 and 2012 increases; however, production plan expanded by \$184 million, while standard hail rose \$90 million. Between 2012 and 2018, total industry premium experienced modest annual increases of roughly 0.5 percent. During this period, production plan premium declined modestly, while standard hail expanded by an approximately offsetting amount.

Examining the industry's underwriting results for the decade, as measured by loss ratio (loss/premium), tells a more nuanced story. Although 2011 saw extraordinary premium growth, it also experienced the highest level of annual hail losses in the program's history. These exceptional losses drove the 2011 loss ratio to 116 percent, only the second time the countrywide loss ratio had exceeded 100 percent since 1948 at that time. To put this in perspective, 2011's hail losses of \$974.4 million were over 75 percent greater than those paid just three years earlier in 2008 and nearly five times the payments made in 2006. A loss ratio above 100 percent occurred again in 2014 and at 122 percent, exceeded the poor results of 2011.

Looking at underwriting results, separately for production plan and standard hail, reveals that although loss ratios for standard hail were poor in 2011 and 2014, 87 percent and 97 percent respectively, they were significantly better than those for production plan, 218 percent and



## Canadian Crop-Hail Performance

	Manitoba	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
Premium		37,667,820	31,137,382	48,768,174	49,467,181	42,356,494	43,152,421	48,040,762	51,777,420	56,982,352	52,596,858	461,946,864
Loss		14,585,838	6,859,300	31,440,967	30,633,254	17,979,749	46,935,251	74,537,805	32,789,406	47,103,943	48,916,053	351,781,565
Percentage		39%	22%	64%	62%	42%	109%	155%	63%	83%	93%	76%
<b>Saskatchewan</b>												
Premium		164,482,311	168,416,565	212,272,420	209,519,839	183,576,122	160,896,930	184,314,880	170,337,892	158,951,364	140,373,924	1,753,142,247
Loss		102,765,650	121,684,181	158,629,369	80,856,836	133,069,465	75,039,730	128,983,980	51,405,692	104,010,860	134,575,710	1,091,001,474
Percentage		62%	72%	75%	39%	72%	47%	70%	30%	65%	96%	62%
<b>Alberta</b>												
Premium		62,168,127	68,466,460	79,432,844	85,113,606	93,426,945	79,140,438	87,126,098	91,351,676	80,858,991	70,964,559	798,049,744
Loss		38,272,083	36,332,401	86,463,570	62,194,600	113,608,186	54,386,920	90,771,373	31,335,095	33,971,111	63,666,820	611,002,158
Percentage		62%	53%	109%	73%	122%	69%	104%	34%	42%	90%	77%
<b>Combined</b>												
Premium		264,318,258	268,020,407	340,473,438	344,100,626	319,359,561	283,189,788	319,481,740	313,466,988	296,792,707	263,935,341	3,013,138,854
Loss		155,623,571	164,875,882	276,533,906	173,684,690	264,657,400	176,361,901	294,273,158	115,530,193	185,085,914	247,158,583	2,053,785,197
Percentage		59%	62%	81%	50%	83%	62%	92%	37%	62%	94%	68%

190 percent respectively. Loss ratios in 2015 and 2016 were roughly equal for the two blocks of business; however, production plan experienced higher loss ratios again during 2017 and 2018, 118 percent and 126 percent respectively, compared to standard hail, 84 percent in each year.

An important consideration while interpreting these results, is that production plan and standard hail are not written in the same geographic locations or to the same degree, nor does hail occur with the same frequency and intensity every year. Production plan writings are concentrated in a limited number of states, thus if hail losses are also concentrated in those states during a given year, production plan loss ratios will be affected to a much larger degree than those for standard hail.

Several major hail events that contributed to the above results are highlighted next as well as those states which were disproportionately impacted.

During 2011, the largest one-day storm occurred in Minnesota on July 1 with \$42.2 million of damage. Missouri, with \$16.3 million of written premium had the highest loss ratio of any state at 288 percent. Total payments for 2011 doubled compared to 2010 to just under \$975 million.

2014 suffered several large hailstorms, contributing to the largest annual industry loss payments on record of \$1.2 billion. The most significant of these storms occurred on June 3 in Nebraska, causing damage resulting in \$145 million of indemnity, equivalent to 12 percent of the year's loss. Production plan is popular in Nebraska and the state accounts for a significant portion of countrywide production plan premium, so the very high 2014 production plan loss ratio is not unexpected.

2016 experienced five storm days exceeding \$25 million of loss payments. The worst single day was July 5, with losses of more than \$36 million, primarily in Minnesota and Nebraska. On July 9, a storm caused \$35 million of loss, \$28 million of which was concentrated in North Dakota.

2018 had four days, each of which exceeded \$23 million in hail loss. The single worst day was June 30, when a storm caused more than \$34 million of loss, \$26 million of which was concentrated in Nebraska.

### Canadian Crop-Hail Results

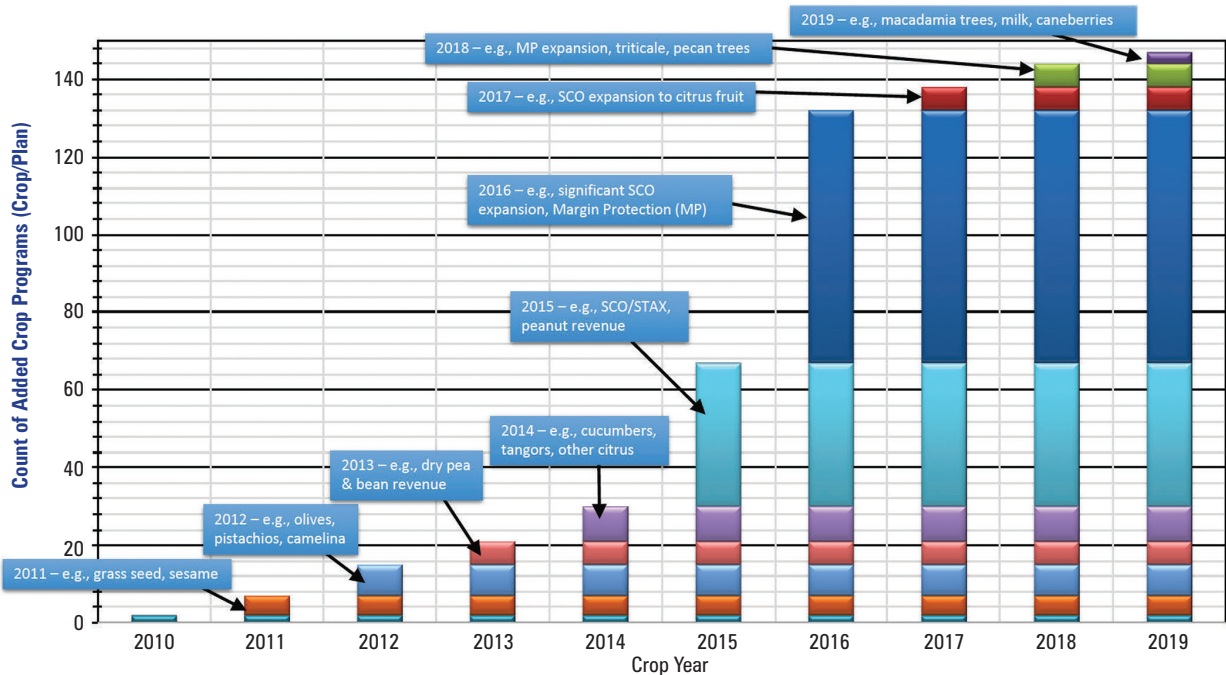
The Canadian Crop-Hail Association (CCHA) is a member-driven organization representing the Canadian Crop-Hail Insurance Industry. CCHA represents companies made up of private sector insurers, managing general agencies, a co-operative, and municipal and provincial government hail programs. The business is primarily written and reported in the provinces of Alberta, Saskatchewan, and Manitoba. CCHA members are also NCIS members and utilize NCIS developed loss procedures. CCHA and NCIS also sponsor joint loss adjustment research projects in Canada.

With a decade loss ratio of 68 percent and premiums of over \$3 billion reported on the Canadian prairies, the Canadian Crop-Hail Industry has enjoyed a successful decade.

Average yearly premiums grew from 2010 to 2016 reaching a high of \$319 million. Those totals have since subsided to \$263 million, less than that of 2010. Industry risk (li-

## Almost 150 Product Introductions Since 2010

(NOTE: includes livestock; does not include new options or new types/practices)



Source: RMA Summary of Business as of 12/16/2019

ability) has remained steady since 2013. The reason for the declines in premium can be attributed to positive industry results, and its competitive environment.

Manitoba's decade results tally up to a 76 percent loss ratio on over \$460 million in premium. Saskatchewan, Canada's largest agricultural land area returned a 62 percent loss ratio on over \$1.7 billion in premium. Alberta's decade in review returned a 77 percent loss ratio on \$798 million.

### Developments in Federal Crop Insurance

The decade started with a renegotiated 2011 Standard Reinsurance Agreement (SRA), estimated by the Risk Management Agency (RMA) to reduce program funding by \$6 billion over 10 years and included a controversial provision for capping Administrative and Operating (A&O) expense reimbursements and agent compensation. 2011 also marked the introduction of the Common Crop Insurance Policy, combining the Actual Production History (APH) yield plan for major row crops, Crop Revenue Coverage, and Revenue Assurance into one policy umbrella. Late in 2011 RMA adopted a new premium rating method starting with corn and soybeans, while discontinuing the Biotech Endorsement premi-

um discount for planting certain corn hybrids.

Beginning in 2012, corn and soybean producers had the use of the Trend-Adjusted Actual Production History Yield Endorsement to increase yields for calculating crop insurance guarantees, eventually expanding to many other crops. USDA began efforts to align acreage reporting and other common dates between crop

Throughout the decade there was a constant and ongoing effort to expand crop insurance programs, with collaborative efforts by the government and private sector to introduce almost 150 new products, including many new specialty crops, tree programs, new revenue and margin approaches, and various targeted endorsements or options, to improve existing programs.

insurance and farm programs to reduce producer data reporting burdens.

As a result of the industry and RMA's response to the 2012 drought, it is no wonder, that Congress cemented crop insurance as a key component of the farm safety net with passage of the Agricultural Act of 2014, also known as the 2014 Farm Bill. Legislators strengthened crop insurance by adding new products and expanding coverage to previously underserved crops and areas.

The Farm Bill passed with many new crop insurance improvements including the supplemental area-based plans Stacked Income Protection Plan (STAX) for upland cotton, and the Supplemental Coverage Option (SCO) for numerous other crops. Additionally, enterprise unit discounts were made permanent, separate enterprise units for irrigated and non-irrigated acres were authorized along with separate coverage levels; and producers were given the option for an APH yield exclusion. Price elections for organic crops were authorized to reflect the actual retail or wholesale prices received by producers, and Congress directed that any future SRA negotiations be budget neutral. Specialty crops were a key theme, coverage for a new Whole-Farm Revenue Protection (WFRP) plan of insurance was authorized along with

many new and improved policy features. WFRP combined the previous AGR and AGR-Lite pilot programs. The Conservation Title of the Act also required producers to adhere to conservation compliance requirements to be eligible for a crop insurance premium discount. Lastly, RMA released the Area Risk Protection Insurance Plan combining the existing area-based plans GRP, GRIP and GRIP-HPO into one policy offering, while also ushering in a new era of greater and expanded use of crop insurance data reported to RMA in managing USDA programs.

The middle of the decade saw changes to the Rainfall and Vegetation Index Pasture, Rangeland, Forage (PRF) programs replacing both with a new and improved Rainfall Index -PRF program that was expanded to all 48 contiguous states. Program integrity efforts continued through more comprehensive review and sampling methodology for determining the program's improper payment rate, resulting in a 2016 improper payment rate of 2.02 percent, down from 2.2 percent in 2015 and 5.58 percent in 2014, and well below the government-wide improper payment rate of 4.67 percent in 2016 and 4.39 percent in 2015.

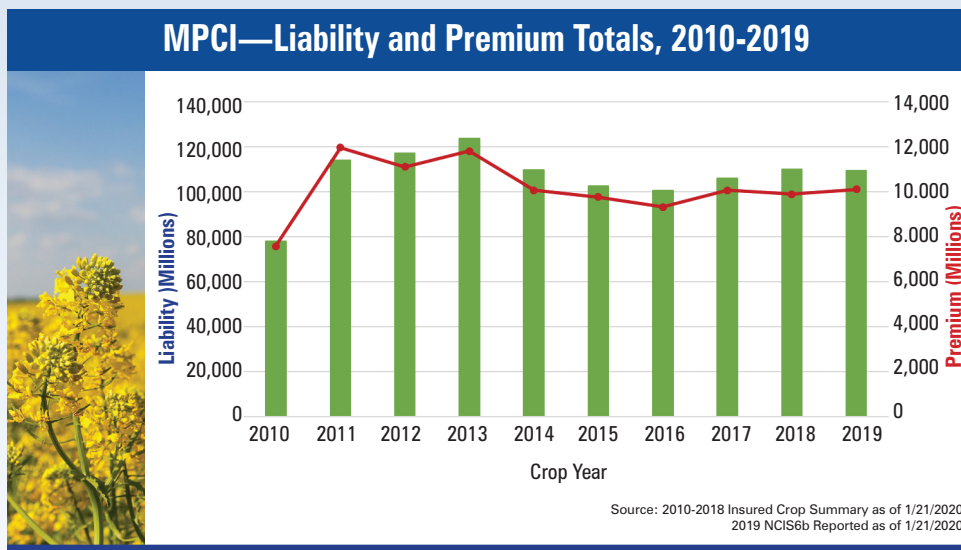
By 2017, acres insured surged to 311 million due to growth in the PRF program, and producers continued to purchase high coverage levels with around 82 percent of the acres for major crops covered at 70 percent or higher. And the latter part of the decade saw changes to prevented planting coverage including removal of the option for producers to purchase 10 percent additional coverage, and the updating of payment coverage factors for most crops.

When farm policy critics predictably suggested that Congress use the Agriculture Improvement Act of 2018, commonly known as the 2018 Farm Bill, to undermine crop insurance, rural America quickly told Capitol Hill to "do no harm" to crop insurance.

At listening sessions held across the country by the House Agriculture Committee, farmers, ranchers and agricultural lenders made it clear that the crop insurance program is critical to the success of the farm economy.

The 2018 Farm Bill passed Congress in a historic bipartisan vote as members of Congress from across the aisle joined together to protect crop insurance and provide farmers with the

<sup>1</sup> What follows is a summary of 2010 to 2019 weather conditions and related impacts from 2010 to 2019 Year in Review's. Loss ratios are based on USDA, RMA, Summary of Business National Reports as of 1-6-2020.



necessary tools to manage their risks.

2018 saw the removal of the \$20 million funding limitation on livestock plans of insurance and subsequent introduction of the new Dairy Revenue Protection plan of insurance, as well as various program improvements, particularly the addition of hemp as an insurable commodity. RMA also made significant efforts to coordinate policy requirements regarding good conservation practices and cover crop activities working closely with NRCS, and near the end of 2018 announced the development of the Multi-County Enterprise Unit (MCEU) continuing the evolution in Federal crop insurance. And in 2019, the highest ever recorded number of prevented plant acres occurred with roughly 19 million acres unplanted, leading to the introduction of a first-ever disaster assistance supplemental payment being delivered through the crop insurance delivery system.

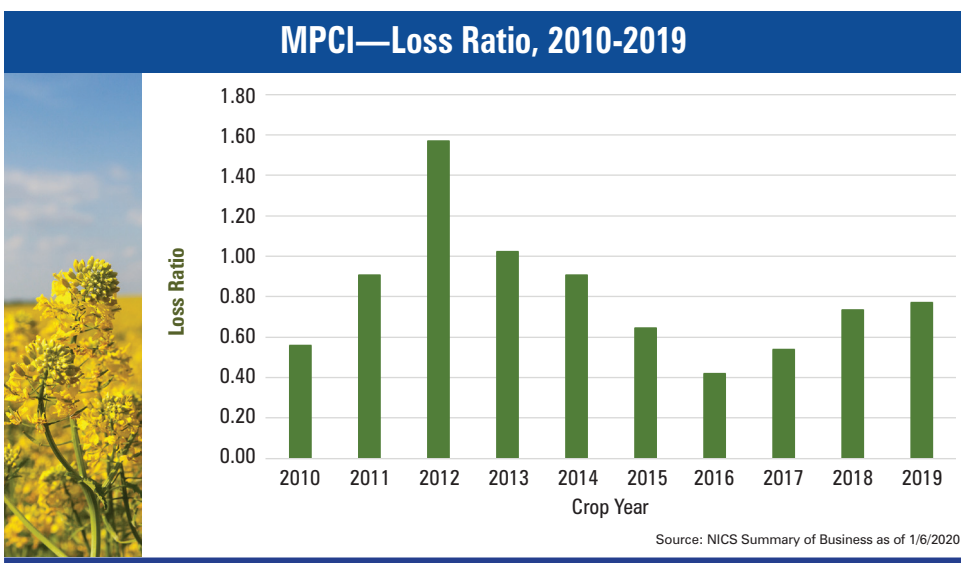
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and ongoing effort to expand crop insurance programs, with collaborative efforts by the government and private sector to introduce almost 150 new products, including many new specialty crops, tree programs, new revenue and margin approaches, and various targeted endorsements or options, to improve existing programs. This also includes new programs for 2020 like the Hurricane Insurance Protection-Wind Endorsement and the new Nursery Value Select policy.

## Federal Crop Insurance Performance

Over the past decade extreme variations in weather resulted in both good years and bad for production agriculture making weather an important, if not the most important, driver influencing crop insurance industry performance.<sup>1</sup>

The decade began with generally favorable weather conditions in 2010, leading to large





harvests and crop insurance losses as a percent of premium at the lowest level since the modern program began in 1980. Foreshadowing the rollercoaster ride of the new decade, 2011 was characterized by an opposite experience with a wide spectrum of natural disasters including severe drought in the Southern Plains, hard freezes in Florida, major flooding along the Mississippi and tropical storms. The cumulative impact of these weather events in 2011 was a record-high \$10.9 billion in indemnity payments, surpassing the former record of \$8.7 billion in 2008. With the record indemnities, crop insurance losses as a percent of premium reached the highest level in the past eight years.

A historically bad year in 2011 was followed by an even worse experience in 2012. With a record number of acres enrolled in crop insurance, much of the country suffered from a historic and wide-ranging drought. At its peak in July, 62 percent of the continental United States was in at least a moderate drought. Corn production was most significantly affected, with yields falling 26 percent below USDA's initial forecast, making the drought the worst in 25 years for corn. At the end of the crop year the program loss ratio stood at 1.57, far above those observed in the prior nine years and the highest since the devastating flood year of 1993.

Thankfully, most affected farmers were covered by crop insurance. Insurers reacted quickly to assess damages and process claims, saving thousands of farmers and rural communities from financial ruin and shielding taxpayers from additional risk.

The crop insurance program worked exactly as intended: farmers paid more than \$18 billion in payments and deductibles out of their own pockets, insurers shouldered more than \$1 billion in excess losses and the federal government fulfilled its role as a reinsurer.

Then U.S. Department of Agriculture Under Secretary Michael Scuse praised the Federal crop insurance program for its efficient response, saying: "To this day, I have yet to have a single producer call me with a complaint about crop insurance. That is a testament to just how well your agents, your adjusters, the companies, and RMA worked together in one of the worst droughts in the history of this nation."

Beginning in 2013, the crop insurance industry began a path toward a more routine pattern of events that was to continue until the last year of the decade. Although the loss ratio for 2013 and 2014 remained historically high, 1.04 and .94

**As the decade began to wind down, significant weather-related issues once again resulted in increased stress on the crop insurance industry somewhat reminiscent of its beginning.**

respectively, losses were linked to less to widespread weather events and more fundamentally based on market price fluctuations. Back-to-back increases in production of major crops put downward pressure on prices and contributed to lower total program premiums. While an improvement from the prior two years, the crop insurance industry returns remained anemic.

2015 to 2017 brought a much-needed period of recovery for many farmers and the crop insurance industry. Moderate weather and generally favorable growing conditions prevailed over the period resulting in only isolated weather-related impacts. The most notable events were severe drought in the Upper Plains, wildfires and flooding in the West, and hurricanes along the Gulf Coast occurring in 2017. Accordingly, the loss ratio continued a downward path falling to 0.65 in 2015, 0.42 in 2016 before increasing to 0.54 in 2017.

As the decade began to wind down, significant weather-related issues once again resulted in increased stress on the crop insurance industry somewhat reminiscent of its beginning. In 2018 hurricane damage in Florida, North Carolina, and Georgia, along with drought in Texas, were major contributors to losses in excess of premiums of more than \$3 billion in 12 states. Overall the loss ratio for 2018 took an upward path reaching 0.74 as of January 2020.

As the decade ended, many farmers and ranchers faced exceptionally difficult weather conditions that significantly harmed their ability to plant and produce a healthy crop. The successful private-public partnership of the crop insurance program once again worked as designed, especially with the prompt loss adjustment and payment on approximately 19 million crop acres that were prevented from planting. Crop insurance delivered billions in indemnities to farmers across the country in a clear testament to its value to rural America.

## Changes in the Industry and NCIS

The crop insurance program expansion and growth weren't the only components of the in-

dustry that changed significantly over the last decade. Not only did we see the retirements of industry stalwarts like Steve Harms, Greg Burger, Ben Latham, and others, we also said goodbye to several long-time friends. Many of these individuals were in the trenches of the program long before the private industry entered the Federal crop insurance program. Gentlemen like Jim Dawson, John Ames, David Gabriel, Irl Oakes, and John Pope laid the groundwork for the public-private partnership we know today.

There were many changes within the Association, as well, in the last 10 years. Bob Parkerson, who had been president since 1993, retired in 2010 and Tom Zacharias took over the helm. Several longtime NCIS employees retired: Jim Crist, Chief Financial Officer; Dave Hall, Vice President of Program Development; and most recently, Frank Schnapp, Senior Vice President of Actuarial and Statistical Insurance Services, All who left big shoes to fill in their positions.

Through it all, NCIS has remained steadfast in its mission to support our membership and its clients through industry-wide training, education and outreach to other organizations, and communications to stakeholders on the importance of crop insurance.

## Conclusion

While the accounting is not yet complete, the uncommon flooding and excess moisture experienced in major crop growing regions is expected to result in 2019 closing out the decade with record-breaking prevented planting losses.

As we stand on the cusp of a new decade, with all its promise and possibilities, we know that the future is bright for the crop insurance program.

Crop insurance has provided swift support to rural America in its times of need. We have proven that the private-sector crop insurance system can efficiently deliver payments to farmers and ranchers while continuously making policy improvements to strengthen the program and contribute to its growing popularity.

Our industry is poised to continue this exceptional record of service to the American farmer. National Crop Insurance Services remains dedicated to fulfilling its mission and ensuring crop insurance remains affordable, widely available, and economically viable for the next decade, and beyond.