

Risk Management Agency

The Risk Management Safety Net: Market Penetration and Market Potential

Analysis of the Federal Crop Insurance Portfolio

September 2017



I. Introduction

Federal crop insurance is a critical risk management safety net – supporting food security for American consumers and economic stability for rural America. In 2016, crop insurance protected nearly \$101 billion of crops and \$533 million of livestock and was offered for nearly 550 unique crops and types. This risk management safety net provides agricultural producers with the risk protection needed to obtain necessary operating capital and provides protection for rural economies by keeping farms operating following challenging years.

A unique public-private partnership exists to offer Federal crop insurance. The insurance products offered are approved by the Federal Crop Insurance Corporation but are sold and serviced through private insurance companies who are paid administrative and operating subsidy. Both the private insurance companies and the Federal government share in the risk on policies, and American farmers and ranchers pay a portion of the premium – all parties involved have skin in the game.

The positive impact of Federal crop insurance as a risk management safety net has been apparent following severe, widespread weather events that have occurred in recent years. A good example of this can be seen by looking at the effect that 2012's widespread drought conditions across the United States had on farms. Eighty-three percent of losses that year, totaling nearly \$17.5 billion in loss payments, were caused by drought conditions. However, because the majority of land was covered by Federal crop insurance, no ad-hoc disaster assistance was required.

Even though large loss payments, like the ones in 2012, do occur, the Federal crop insurance program is run at a 0.85 loss ratio. This means that over time, premiums more than cover the indemnities paid out, meaning the program is operating in an actuarially sound manner. Additionally, the Federal crop insurance program has a very low 2.02 percent statistically measured improper payment rate as of 2016, less than half of the 4.08 percent from 2012.

Producers realize the value of Federal crop insurance. Market penetration, measured in this paper, indicates that **86 percent of total U.S. acres in 2015** were covered by Federal crop insurance for all commodities except hay, livestock, nursery, and pasture, range, and forage. A little over 238 million acres were insured in 2015, up over 11 million acres from over 226 million in 2011.

Efforts to improve market penetration for the principal crops have been very successful with **nearly 89 percent of all acres insured in 2015**, up 4 percent, or nearly 8.7 million acres, from 2011.

Specialty crop products have been a strong priority since the 1996 Farm Bill, and market penetration for **fruit and nut crops encompassed 74 percent of their market potential in 2015** while U.S. **vegetable crop market penetration was 34 percent in 2015**, up slightly from 2011. Recent expansion of the Whole-Farm Revenue Protection insurance program, as the first Federal crop insurance program to be available in every state and county in the U.S., has provided the expansion of the risk management safety net to all commodities on all farms across the U.S. The expansion of the Pasture, Range, and Forage program and Apiculture program to all 48

contiguous states are also good examples of expanded availability of risk management products for producers.

The Federal Crop Insurance Corporation (FCIC) and the Risk Management Agency (RMA) work closely with stakeholders to provide a world-class Federal crop insurance risk management safety net that is delivered to producers through the successful public/private partnership mentioned above. RMA recognizes that producers' production and revenue risks vary over time, so it is important for RMA to review and monitor the Federal crop insurance program, consult with stakeholders, and be responsive to changes that affect producers' needs within the risk management safety net.

This Portfolio Analysis provides information about the current book of business and measures of market penetration by category of commodity. It identifies commodities or locations where there may be a potential need to add to the risk management safety net. This analysis shows both market penetration and market potential based on 2015 data -- the most recent year that National Agricultural Statistics Service (NASS) national-level data are available for the majority of commodities. Where possible, summary data from 2016, 2017, and 2018 are included in some tables, but these more recent years are not used to calculate market penetration.

The RMA priorities with regard to development of new products is targeted to areas where: (1) Market potential is available, (2) Data are available for actuarially sound premium rating and program underwriting, (3) Growers indicate the need or desire for new risk management products, and (4) Any new program will improve the risk management safety net for U.S. agricultural producers and ranchers.

II. The Federal Crop Insurance Portfolio Today

Crop Insurance Book of Business

In 2016, Federal crop insurance provided nearly \$101 billion of insurance protection (liability) for U.S. agricultural producers across all crops (excluding livestock). This was nearly three times higher than the \$34.4 billion of crop insurance protection in place in 2000. Premium in 2016 totaled nearly \$9.4 billion and crop insurance paid over \$3.7 billion of indemnities to producers. Favorable weather conditions across the U.S. resulted in a 2016 loss ratio (indemnities compared to premium) of 0.40.

While 2016 was a low loss year, there are years like the 2012 crop year, that pose weather challenges that can be devastating to producers if they do not have Federal crop insurance. Drought conditions were severe in 2012 across the U.S. and indemnities of nearly \$17.5 billion were paid to producers. Of that \$17.5 billion, 83 percent, or nearly \$14.5 billion of the losses were caused by the drought conditions. Because crop insurance is highly utilized by producers, ad-hoc disaster assistance to agricultural producers was not necessary, even with the large losses that were seen across the country.

The following table provides Federal crop insurance information for:

- 2000 as a base comparison year

- 2011 as the date of the previous Portfolio Analysis
- 2012 as a high loss year
- 2015 as the year used in this Portfolio analysis for the study of market penetration, and,
- 2016 as the most current year with complete data available.

Federal Crop Insurance: Book of Business for Crops (No Livestock Insurance Included)

Year	Policies Earning Prem	Liability	Premium	Subsidy	Indemnity	Loss Ratio
2000	1,323,243	\$34,443,753,124	\$2,540,163,689	\$951,191,720	\$2,594,834,319	1.02
2011	1,151,986	\$114,209,887,185	\$11,972,261,003	\$7,463,376,557	\$10,869,339,618	0.91
2012	1,174,007	\$117,159,687,972	\$11,116,978,988	\$6,979,362,775	\$17,451,159,529	1.57
2015	1,204,619	\$102,512,109,284	\$9,765,432,103	\$6,087,547,525	\$6,307,085,111	0.65
2016	1,159,146	\$100,516,354,943	\$9,317,354,439	\$5,858,839,862	\$3,737,187,815	0.40

Data as of July 17, 2017

The top ten commodities insured in 2015 and 2016 are shown in the following table:

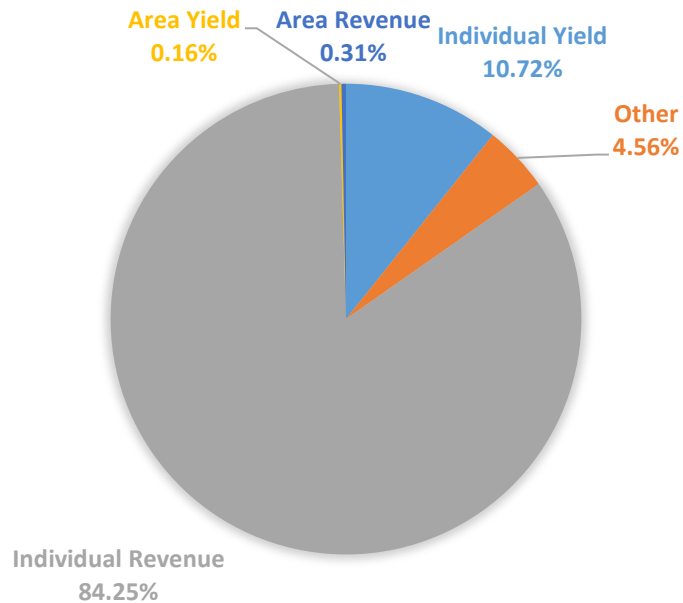
Federal Crop Insurance: Top 10 Crops by Liability, 2015 and 2016

Rank	2015 Commodity	2015 Liability	Percent of Total	2016 Commodity	2016 Liability	Percent of Total
1	Corn	\$40.3 Billion	39.3%	Corn	\$39.6 Billion	38.6%
2	Soybeans	\$24.3 Billion	23.7%	Soybeans	\$22.2 Billion	21.6%
3	Wheat	\$8.4 Billion	8.2%	Wheat	\$6.8 Billion	6.6%
4	Cotton	\$3.0 Billion	2.9%	Almonds	\$3.6 Billion	3.5%
5	Almonds	\$2.9 Billion	2.8%	Cotton	\$3.3 Billion	3.3%
6	Rice	\$1.5 Billion	1.5%	Whole Farm Revenue Protection	\$2.3 Billion	2.3%
7	Nursery (FG&C)	\$1.5 Billion	1.4%	Rice	\$1.7 Billion	1.7%
8	Grapes	\$1.5 Billion	1.4%	Grapes	\$1.4 Billion	1.4%
9	Orange Trees	\$1.3 Billion	1.2%	Pasture, Rangeland, Forage	\$1.4 Billion	1.4%
10	Apples	\$1.2 Billion	1.1%	Nursery (FG&C)	\$1.4 Billion	1.3%
	ALL OTHERS	\$16.7 Billion	16.3%	ALL OTHERS	\$16.9 Billion	16.4%

Producer's Choices for Their Risk Management Safety Net

The predominant selection of risk management protection continues to be revenue products, with over 84 percent of total Federal crop insurance premium paid for individual revenue type policies in 2016. The following graphic shows the definite market preference for revenue coverage.

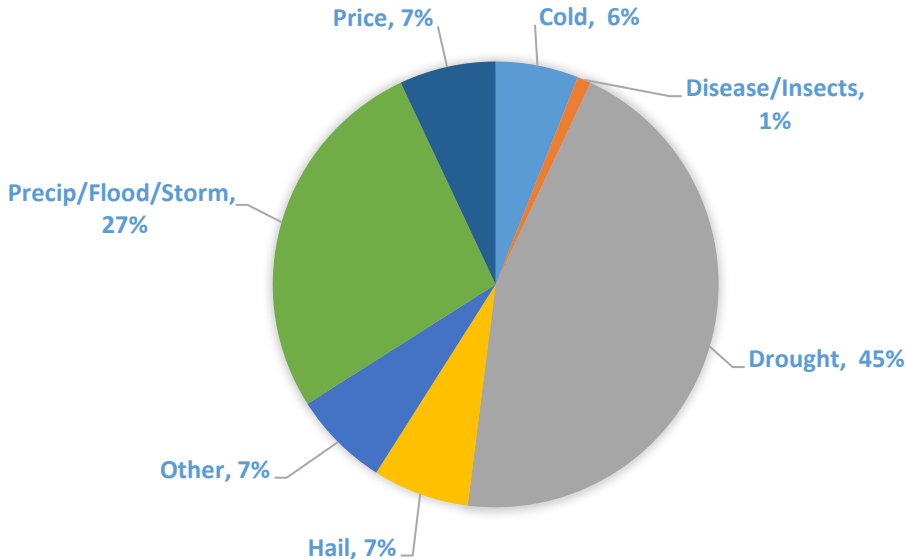
2016 CROP INSURANCE PREMIUM BY POLICY TYPES



The Risk Management Safety Net in Action: Perils That Caused Losses

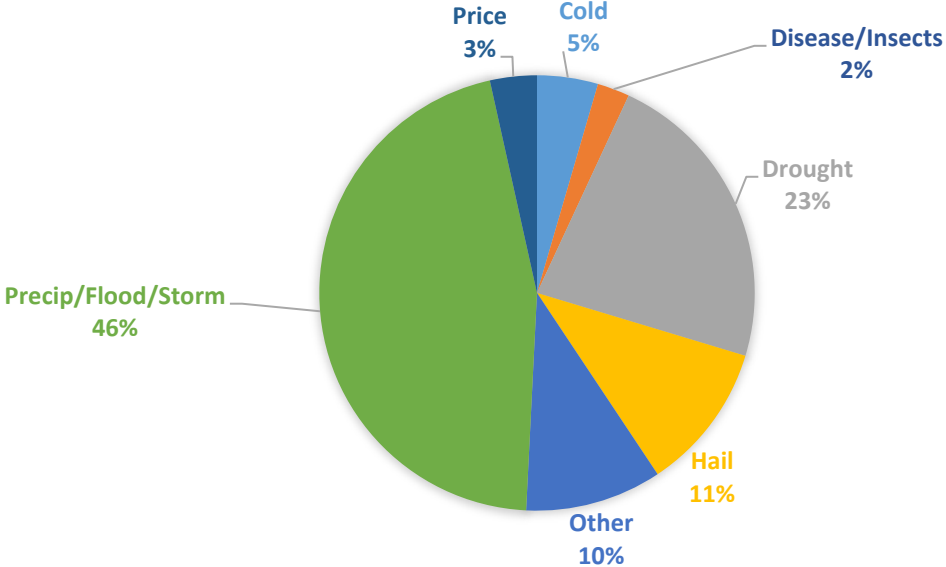
Over the fifteen year period of 2001-2015, which included two serious drought years in the U.S., the following graphic shows the percentage of loss payments that were made for key perils that producers face:

2001-2015 INSURED PERILS - SHARE OF INDEMNITY



Every loss year is unique as can be seen in the graphic below showing 2016 loss information by peril:

2016 INSURED PERILS - SHARE OF INDEMNITY



The Use of Crop Insurance by Coverage Level

Producers have increased their risk management safety net protection by purchasing higher coverage levels for their insurance than they did in past years. There are likely several reasons for the increased use of higher coverage levels. Some reasons for increased coverage levels can be increased risks of farming, increased costs of crop inputs, requirements from lenders in obtaining operating loans, and acknowledgment that ad-hoc disaster programs are unlikely.

Until after year 2000, most the majority of policies were sold at the 60-65 percent coverage level range and producers chose coverage levels from 60-75 percent for almost all policies. Today, producers select a risk management safety net using mostly the 75 to 85 percent coverage level ranges, with 48 percent of policies falling in the 70-75 percent range and 31 percent of policies purchased at the 80 to 85 percent coverage levels. The following chart shows the percentage of policies sold at each range of coverage levels for specific years during the program. Note that CAT level coverage was not available until the mid-90s.

**Percent of Policies by Coverage Level
(Excludes Area-based Programs)**

Coverage Level	1990	2000	2011	2015	2016
CAT	N/A	24%	7%	4%	4%
50% to 55%	6%	5%	7%	5%	5%
60% to 65%	68%	42%	20%	13%	12%
70% to 75%	26%	25%	49%	47%	48%
80% to 85%	0%	4%	18%	31%	31%

Real Growth of Federal Crop Insurance: Removing Price Variation

To look at the amount of real growth in the Federal crop insurance program without the effect of price changes, the following chart shows liability normalized to average commodity prices that occurred between 2002-2006 for the major commodities, including barley, corn, cotton, rice, sorghum, soybeans, and wheat. The chart shows actual Federal crop insurance liability and normalized liability, illustrating that when the effects of price changes are removed, Federal crop insurance program coverage has steadily grown.

**Federal Crop Insurance Growth Shown with the Effects of Price Changes
Removed**

Liability Normalized for 2005-2015**

		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
	Actual Liability	\$44.3	\$49.9	\$67.3	\$89.9	\$79.5	\$78.1	\$114.2	\$117.1	\$123.8	\$109.9	\$100.3
	Normalized Liability	\$45.2	\$48.7	\$50.3	\$52.1	\$54.0	\$55.2	\$58.4	\$62.7	\$66.2	\$68.2	\$68.7
Normalized Liability for Individual Crops	Wheat	\$3.8	\$4.0	\$4.2	\$5.3	\$4.1	\$4.1	\$5.0	\$4.3	\$4.7	\$4.6	\$4.6
	Rice	\$0.4	\$0.4	\$0.4	\$0.4	\$0.5	\$0.6	\$0.5	\$0.5	\$0.6	\$0.9	\$0.9
	Cotton	\$2.5	\$2.9	\$2.0	\$1.8	\$1.9	\$2.3	\$3.3	\$2.9	\$2.6	\$2.9	\$2.5
	Corn	\$14.8	\$16.5	\$19.4	\$17.5	\$18.9	\$19.6	\$21.2	\$23.3	\$24.8	\$23.6	\$23.9
	Sorghum	\$0.4	\$0.4	\$0.5	\$0.5	\$0.4	\$0.4	\$0.4	\$0.4	\$0.5	\$0.5	\$0.6
	Soybeans	\$9.2	\$10.1	\$8.2	\$9.7	\$10.6	\$10.9	\$10.7	\$11.5	\$12.1	\$13.6	\$13.9
	Barley	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.3
	Other	\$13.8	\$14.3	\$15.4	\$16.8	\$17.4	\$17.0	\$17.1	\$19.6	\$20.7	\$21.9	\$21.9

*Amounts for all crops are in \$ billions.

**Normalized Liability reflects the liability if commodity prices were at their 2002-2006 average values. Thus, 'real' growth in the program is due to increases in producer choices of higher coverage levels and amounts of acres or products insured.

Book of Business for Livestock Insurance

Authorization for the FCIC to provide livestock insurance was first put into place with the Agricultural Risk Protection Act of 2000. Market potential for livestock is limited at this time because expenses for livestock insurance programs are statutorily limited in the Act to \$20 million per Fiscal Year. Livestock insurance expenses include premium subsidy paid on behalf of producers, and the administrative and operating subsidy paid on behalf of producers to insurance companies for selling and servicing the products. The

\$20 million expense capacity limitation is divided amongst the various livestock plans of insurance that are offered to provide equal opportunity to producers for the various types of livestock. In 2015, livestock expense limitations pertained to Livestock Risk Protection (LRP), Livestock Gross Margin (LGM), and the portion expenses attributed to insurance liability from animal and animal products for Whole-Farm Revenue Protection (WFRP) insurance. The table below shows the use of livestock expenses since 2010:

Insurance Product	2010	2011	2012	2013	2014	2015	2016
WFRP/AGR/ AGR-L	\$ 34,362	\$ 27,903	\$ 39,688	\$ 28,639	\$ 28,975	\$ 411,013	\$ 2,759,608
LRP Feeder Cattle	\$ 1,077,701	\$ 1,832,857	\$ 1,473,919	\$ 1,327,360	\$ 2,902,341	\$ 2,398,240	\$ 2,352,417
LRP Fed Cattle	\$ 162,755	\$ 222,279	\$ 154,428	\$ 120,860	\$ 268,902	\$ 361,909	\$ 471,374
LRP Lamb	\$ 345,691	\$ 1,304,964	\$ 1,933,299	\$ 241,342	\$ 830,271	\$ 33,737	\$ 130,717
LRP Swine	\$ 123,512	\$ 192,529	\$ 73,894	\$ 15,718	\$ 49,129	\$ 21,688	\$ 30,810
LGM Cattle	\$ 9,561	\$ 10,254	\$ 629	\$ 2,230	\$ 12,871	\$ 2,686	\$ 14,193
LGM Swine	\$ 210,429	\$ 183,792	\$ 141,075	\$ 264,569	\$ 229,531	\$ 180,155	\$ 206,862
LGM Dairy Cattle	\$ 210,663	\$ 16,221,200	\$ 15,621,636	\$ 9,899,027	\$ 10,464,406	\$ 13,045,223	\$ 4,287,581
Total	\$2,174,674	\$19,995,778	\$19,438,568	\$11,899,745	\$14,786,426	\$16,454,651	\$10,253,562

LGM Dairy insurance first became available in 2008. In 2011, the program was expanded from the previous 31 states to all 48 contiguous states and subsidy began to be provided for LGM Dairy. LGM Dairy sales have been halted at times due to reaching the allocated underwriting capacity. The 2014 Agricultural Act (Farm Bill) provided for the creation of the Margin Protection Plan (MPP), as a farm program for dairy. Producers are not allowed to participate in both the LGM Dairy and MPP at the same time and there are rules that once producers enroll in MPP, they are committed until the end of the MPP program which is the end of 2018. MPP first became available at the end of 2015, which can be seen in the LGM-Dairy expense capacity use in the table above.

Livestock insurance under Federal crop insurance was first allowed in accordance with the Agricultural Risk Protection Act (Farm Bill) in 2000. The following table shows livestock coverage under the LGM and LRP insurance plans from the time of inception in 2003. Livestock covered under the WFRP plan of insurance is not included in these totals, but is not a large amount.

Livestock Insurance Experience: All Years of Availability

Year	Liability	Total Premium	Subsidy	Indemnity	Loss Ratio
2003	\$23,115,438	\$1,269,031	\$93,693	\$328,318	0.26
2004	\$278,567,984	\$9,400,247	\$824,788	\$7,266,584	0.77
2005	\$155,412,863	\$5,067,399	\$288,840	\$1,838,726	0.36
2006	\$189,529,859	\$4,927,801	\$302,033	\$2,887,094	0.59
2007	\$109,511,064	\$3,205,044	\$165,476	\$2,332,570	0.73
2008	\$244,497,751	\$7,619,444	\$642,351	\$9,757,765	1.28
2009	\$107,860,581	\$4,157,358	\$367,084	\$8,434,371	2.03
2010	\$185,784,534	\$6,229,575	\$563,496	\$2,108,614	0.34
2011	\$1,066,786,768	\$34,128,241	\$11,790,010	\$4,281,695	0.13
2012	\$1,149,803,366	\$29,832,330	\$10,165,447	\$38,362,113	1.29
2013	\$939,067,419	\$23,704,903	\$8,724,213	\$22,692,904	0.96
2014	\$1,040,593,521	\$22,787,933	\$6,606,344	\$10,506,914	0.46
2015	\$1,293,621,279	\$32,825,201	\$11,420,344	\$25,416,770	0.77
2016*	\$533,568,817	\$16,023,201	\$4,183,245	\$20,616,501	1.29
2017*	\$564,036,925	\$18,185,470	\$4,436,357	\$1,780,770	0.10

*2016 and 2017 are incomplete. Data as of July 11, 2017.

Program Growth: Crops and Crop/Type Programs Insured

The Federal crop insurance program has seen significant growth in both the crops and crop types covered and insured since 2000. The number of crops insured increased 10 percent from 2000 to 2017, to a total of 123 insurable crops. From the chart below, you can see some slight decreases in the number of crops. However, there was no real decrease in offerings. The reason for this ‘decrease’ is a restructuring initiative that has moved some crops to a more general category such as naval oranges being moved to a crop category called oranges with a type of navel. This initiative is the Acreage and Crop Reporting Streamlining Initiative, which is targeted to streamline producer reporting for Federal crop insurance purposes and participation in other USDA programs.

The number of insurable crop/type combinations for individual commodities, at 551 in 2017, increased nearly 70 percent from 2000. WFRP insurance also became available in 2015; expanding in 2016 to become the first Federal crop insurance program to be made available nationwide in all states and counties. For farms meeting eligibility requirements¹, WFRP covers

¹ An insurance liability (coverage) limit of \$8.5 million currently exists.

revenue from all commodities on the farm, including certified organic and specialty crop commodities. The following table shows the growth of individual insurance program offers by year since 2000 and includes all crops and livestock.

Federal Crop Insurance: Number of Crops and Types Insured*

Year	Crops Insured	Types Insured	Total Crop/Types Insured
2000	112	254	325
2001	114	266	340
2002	117	283	358
2003	120	300	376
2004	120	318	393
2005	120	328	402
2006	119	345	418
2007	124	344	427
2008	126	358	440
2009	128	354	438
2010	128	399	482
2011	132	409	488
2012	131	427	507
2013	129	425	517
2014	124	454	542
2015	123	457	543
2016	126	460	547
2017	123	473	551

*Includes all crops and livestock. Excludes Whole-Farm Revenue Protection

Overview of Program Performance

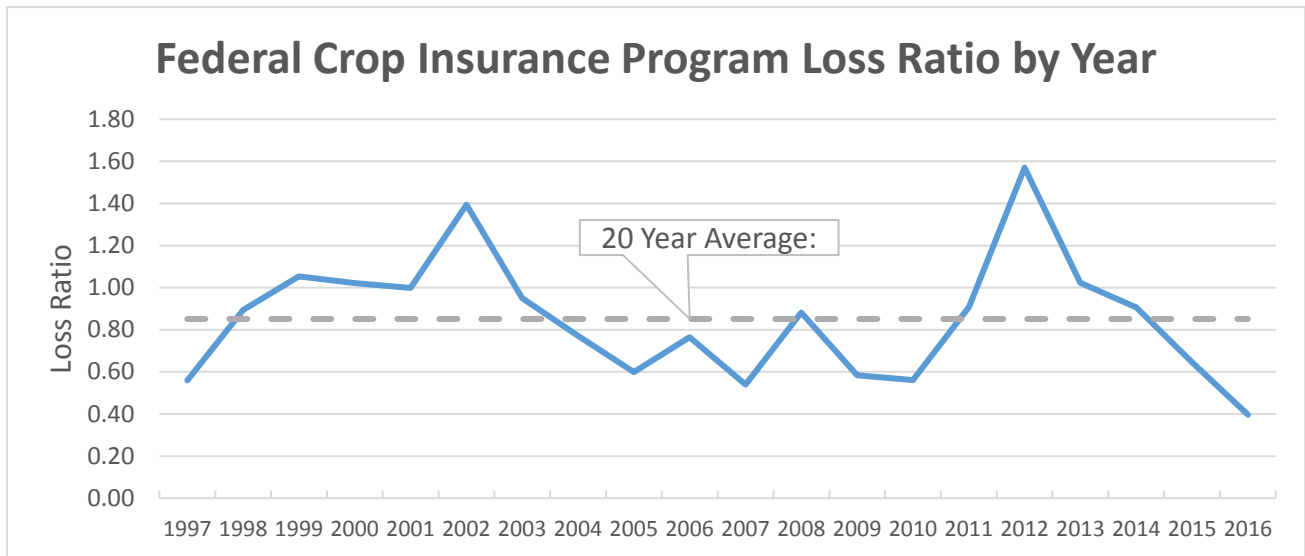
The Act requires the Federal crop insurance program to operate in an actuarially sound manner, with premium rates sufficient to cover anticipated losses plus a reasonable reserve. An industry standard measure of performance in insurance, the loss ratio is total indemnity divided by total premium. It is used to measure the overall performance of the crop insurance program. This represents the amount of indemnity paid per dollar of premium collected. For example, a loss ratio of 0.90 means that for every dollar of premium collected, 90 cents was paid in indemnities. The table to the right

Period	Average Loss Ratio
5-Year (2012-2016)	0.91
10-Year (2007-2016)	0.80
15-Year (2002-2016)	0.83
20-Year (1997-2016)	0.85

provides average loss ratios for the crop insurance program over recent periods of time, ranging from a low of 0.80 (over the last 10 years) to a high of 0.91 (over the last 5 years).

The chart below includes annual loss ratios from 1997 to 2016. As shown, the loss ratio varies from year to year, primarily driven by lack of moisture or excess moisture. These weather extremes can be widespread when they occur, as was the case with the 2012 drought when significant crop damage resulted in a loss ratio in excess of 1.0. In other years, such as 2016, loss events are isolated, resulting in a loss ratio well below 1.0. Given the annual variation in loss ratios, program stability and actuarial soundness is measured based on the historical average. The 20 year average loss ratio for the crop insurance program is 0.85, representing a financially stable and actuarially sound insurance program as required by the Federal Crop Insurance Act.

The chart below includes annual loss ratios from 1997 to 2016, with a 20 year average of 0.85 representing a financially stable and actuarially sound insurance program as required by the Federal Crop Insurance Act.



Federal Crop Insurance’s Improper Payment Rate

The government provides a statistical measure of the amount of improper payments made for government programs as a quality measurement to assure the prudent use of taxpayer dollars. The Risk Management Agency has been diligent in identifying areas that needed additional internal controls to prevent improper payments, resulting in a statistically measured improper payment rate of 2.02 percent in 2016, less than half of the 4.08 percent from 2012.

Federal Crop Insurance: Improper Payment Rate					
Year	2012	2013	2014	2015	2016
Improper Payment Rate	4.08%	5.23%	5.58%	2.20%	2.02%

III. Increased Organic Insurance Offers

Organic agricultural products are an important part of the agricultural sector today, and RMA has worked steadily to provide organic insurance offers and prices to provide an effective risk management safety net for organic producers. To offer organic prices, accurate and sustainable data must be available. Lack of data is the biggest limitation to providing distinct organic prices, and one way that RMA has addressed this issue has been to fund USDA National Agricultural Statistics Service (NASS) surveys for several years targeted to obtain organic crop price information.

Organic Commodities Within the Book of Business

Organic commodity insurance has also increased over time. The following tables show the top 10 crops with the largest amounts of organic liability for 2011 and 2015.

2011 Top 10 Organic Crops by Liability

Organic Crop	Acres Insured	Liability
Corn	112,736	\$101,156,262
Soybeans	80,173	\$42,899,018
Apples	13,476	\$40,753,378
Wheat	223,247	\$36,583,286
Grapes	10,614	\$17,295,077
Blueberries	2,551	\$12,946,228
Citrus Fruit/Tree	7,145	\$11,137,609
Cherries	1,731	\$11,077,431
Tomatoes	4,665	\$10,512,704
Tobacco	4,036	\$10,471,945

2015 Top 10 Organic Crops by Liability

Organic Crop	Acres Insured	Liability
Corn	178,608	\$125,967,968
Apples	12,895	\$88,078,837
Soybeans	91,235	\$37,773,463
Wheat	255,731	\$36,917,391
Grapes	11,564	\$32,491,143
Almonds	6,181	\$31,442,273
Rice	41,560	\$26,703,206
Tobacco	6,374	\$25,504,386
Tomatoes	8,455	\$24,559,440
Blueberries	2,765	\$22,225,320

The number of Federal crop insurance programs providing organic prices have increased yearly for the last several years. As reported in RMA's 2017 Annual Organic Report to Congress, for the 2018 crop year, RMA will offer premium organic price elections for 79 of the 98 crops that were identified as having potential for the development of an organic price election, up from 57 crops from 2017.

Growth of Availability of Organic Prices for Insurance

Each year distinct organic prices have been added or expanded to more commodities as shown below:

Before 2014: Premium organic price elections existed for avocados (California), corn, cotton (non-ELS), fresh stonefruit (freestone peaches, nectarines, and plums in California), processing tomatoes (California) and soybeans.

2014 Crop Year: Distinct organic price elections were added for almonds (California), fresh apples (Idaho, Oregon, and Washington), blueberries (all types in California; Early to Late Highbush type in Oregon, and Washington), Concord variety grapes (Oregon and

Washington), mint (peppermint), oats, pears (Oregon and Washington) and additional stonefruit (fresh apricots in California; all fresh stonefruit in Idaho, Oregon, and Washington).

2015 Crop Year: Added distinct organic price elections for corn silage, figs, flax, grain sorghum, hybrid corn seed, hybrid sorghum seed, millet, popcorn, silage sorghum, and walnuts.

2016 Crop Year: Added for barley, burley tobacco, cabbage, cigar binder tobacco, cranberries, cultivated wild rice, dry air tobacco, dry peas, flue cured tobacco, forage production (alfalfa in select states), fresh market sweet corn, hybrid sweet corn seed, Maryland tobacco, onions (fresh onions in select states), pinto beans, potatoes, processing clingstone peaches, rice, rye, safflower, sugarcane, sunflower, table grapes, and wheat.

2017 Crop Year: Organic prices were added in Arizona and California for grapefruit, lemons, mandarins, oranges, and tangelos. Grapefruit tree organic prices were added for Florida. New organic price elections were also added for: banana, banana tree, coffee, coffee tree, extra-long staple cotton, fresh market beans, fresh market tomatoes, papaya, papaya tree, peaches, pistachios, and prunes. In addition, an organic price election was added for the cottonseed endorsement.

2018 Crop Year: Added organic price elections for macadamia nuts, early and midseason oranges, late oranges, Rio Red and Star Ruby grapefruit, Ruby Red grapefruit, all other grapefruit, avocado trees, and orange trees. Plans also include adding organic price elections for pasture, rangeland and forage.

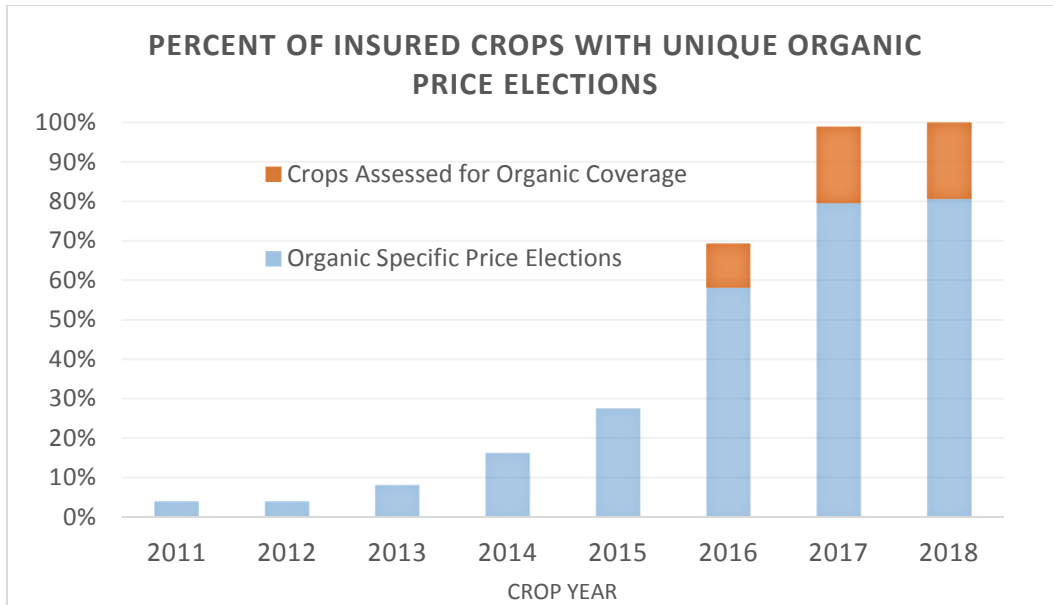
What's Next for Organic Insurance?

Following the 2018 additions, Federal crop insurance will offer premium organic price elections for 79 of the 98² crops that were researched as possible candidates for organic prices.

These 79 crops are the total number of crops for which RMA annually produces a distinct organic price election to provide premium organic price coverage. RMA annually reports to Congress on the progress of developing organic price elections, and these reports are available on the RMA website at www.rma.usda.gov.

The chart below shows the growth of organic price availability in the Federal crop insurance program out of the 98 crops determined possible.

² The total of 98 crops is based on the distinct number of crops listed in RMA's online Actuarial Information Browser. (Crops with Actual Revenue History (ARH) plans of insurance, WFRP, nursery, clams, livestock policies, 508(h) submissions other than the cottonseed endorsement, and crop policies that require a marketing contract are not included in the total.)



RMA will continue to explore opportunities to obtain organic price data so that insurance offers protecting the risks faced by organic producers can be strengthened with organic prices.

IV. Market Penetration of Federal Crop Insurance-All Insured Crops

Market penetration of Federal crop insurance is an important performance measure used to gauge the use and importance of the Federal crop insurance risk management safety net, to identify areas where market potential exists, and where the risk management safety net could be strengthened or expanded. Market penetration is measured by comparing the insured acres to the U.S. total acres (or other units, if acres are not applicable). Identification of market potential is helpful in the determination of future priorities for product development, maintenance, and improvements to the Federal crop insurance program making the most efficient and beneficial use of resources. This Portfolio Analysis, updated from the previous analysis with data through 2011, uses data through 2015 which is the latest year that U.S. data estimates are available for some commodities.

Nationwide Measures of Market Penetration

Market penetration totaled **86 percent of U.S. acres in 2015** for all commodities except hay, livestock, nursery, and pasture, range, and forage. This is up 3 percent from 2011, and up 13 percent compared to 2000. A little over 238 million acres were insured in 2015, up over 11 million acres from over 226 million in 2011, and up more than 37 million acres from 2000. The increase in market penetration occurred primarily for principal crops, fruits and nuts, and vegetable acres.

The year 2015 is the latest shown in this analysis of market penetration since U.S. total acres provided by NASS are not yet available for all 2016 crops. The following table shows market penetration by crop category and in total for 1990 through 2015:

Crop Values and Market Penetration by Acres (excludes livestock/nursery/pasture-range-forage)						
Crop Category	Item	1990	2000	2011	2014	2015
Principle Crops***	NASS Acres*	246,527,700	253,140,800	253,835,155	258,002,360	252,143,910
	RMA Acres	94,420,238	187,793,518	214,602,614	219,843,840	223,290,361
	Market Penetration	38%	74%	85%	85%	89%
Other Field Crops (except Hay)	NASS Acres*	11,421,300	15,454,200	11,799,727	15,882,869	17,309,927
	RMA Acres**	378,054	9,167,445	8,227,024	9,647,757	10,836,272
	Market Penetration	3%	59%	70%	61%	63%
Fruits and Nuts	NASS Acres	3,501,570	4,100,300	4,037,690	4,285,999	4,285,075
	RMA Acres	607,297	3,002,739	2,938,322	3,184,154	3,159,933
	Market Penetration	17%	73%	73%	74%	74%
Vegetables	NASS Acres	2,821,910	3,726,910	2,846,570	2,766,090	2,751,820
	RMA Acres	441,138	1,072,964	921,358	992,964	949,045
	Market Penetration	16%	29%	32%	36%	34%
Total (excluding hay/livestock/nursery/PRF)	NASS Acres*	264,272,480	276,422,210	272,519,142	280,937,318	276,490,732
	RMA Acres**	95,846,727	201,036,666	226,689,318	233,668,715	238,235,611
	Market Penetration	36%	73%	83%	83%	86%

*NASS acres were adjusted upwards if RMA insured acres were higher.

**Includes crops reported in NASS Crop Production publication

***Principal crops are barley, corn, cotton (including ELS cotton), grain sorghum, peanuts, potatoes, rice, soybeans, tobacco, and wheat.

Note: Hay was removed from the totals and is listed separately because acreages are so large that it obscures the amounts of the other field crops.

V. Market Penetration of Principal Crops Near 89 Percent

Efforts to improve market penetration for the principal crops have been very successful with **nearly 89 percent of all acres insured in 2015**, up 4 percent, or nearly 8.7 million acres, from 2011 and up 15 percent, or nearly 35.5 million acres, from 2000. These increases were in barley, grain sorghum, peanuts, rice, soybean, and tobacco acres. Insured acres increased more than U.S. expansion of crop acres in most cases. The following table shows the changes in NASS and insured acres for the principal crops.

Acres Changes 2015 Compared to 2011		
Crop*	Change in NASS Acres 2015/2011	Change in Insured Acres 2015/2011
Principle Crops		
BARLEY	27%	27%
CORN	-5%	0%
COTTON	-39%	-36%
GRAIN SORGHUM	53%	57%
PEANUTS	43%	54%
POTATOES	-5%	-5%
RICE	-3%	16%
SOYBEANS	9%	17%
TOBACCO	-1%	2%
WHEAT	-4%	-2%

Many changes to the Federal crop insurance program have been made since 2000, including improvements to existing insurance products, increased availability of products and new kinds of revenue coverage. Some of the new types of products include the new Margin Protection, the Supplemental Coverage Option, and the Stacked Income Protection program. Some of the changes to existing programs include more organic practice and price availability, the ability to insure contracted prices, trend yield adjustment, and the ability to exclude yields that are exceptionally low from the historic crop yield averages.

Early in the history of the Federal crop insurance program, the majority of efforts to improve market penetration were focused on these principal crops because they are widely grown in the U.S. In the mid 1990's, public policy was directed successfully to encourage participation in Federal crop insurance to avoid the need for ad-hoc disaster assistance. Market penetration of the principal crops is shown in the table below:

Federal Crop Insurance: 2015 Market Penetration of Principal Crops

Crop*	2015 Insured Acres	US Acres/NASS	Market Penetration
Principle Crops			
BARLEY	2,638,639	3,627,600	73%
CORN	78,398,858	88,019,000	89%
COTTON	8,822,182	8,739,000	100%
GRAIN SORGHUM	6,782,173	8,459,000	80%
PEANUTS	1,501,860	1,630,000	92%
POTATOES	844,082	1,066,660	79%
RICE	2,647,376	2,625,000	100%
SOYBEANS	74,539,510	82,650,000	90%
TOBACCO	305,616	328,650	93%
WHEAT	46,810,065	54,999,000	85%
Total Principle Crops	223,290,361	252,143,910	89%

*Prevented Planting acres removed from RMA totals. If NASS planted acreage not available or less than RMA by state, then RMA acreage was used to replace NASS planted acres.

Data as of March 23, 2017

VI. Market Penetration of Other Field Crops

Market Penetration for Other Field Crops

Market penetration of ‘other field crops’ was 63 percent in 2015, down 7 percent from 2011 in spite of a **32 percent increase in insured acres** from a little over 8.2 million acres covered in 2011, to over 10.8 million in 2015. The percentage decrease of other field crops resulted from an increase in NASS reported acres for the majority of the ‘other field crops’. Federal crop insurance acreage increased significantly, but not to the extent that U.S. total acres increased.

One notable change was that canola planted acres in 2015, as reported by NASS, were at a record high of nearly 1.8 million acres. Compared to 2011, the total planted acreage was up 66 percent while Federal crop insured acres for canola in 2015 were up 17 percent.

Two other large acreage changes in 2015 compared to 2011 occurred in dry beans and dry peas. In 2015, NASS reported dry bean acreage was up 45 percent and dry pea acreage was up 61 percent from 2011. Insured acreage for dry beans increased 42 percent and dry peas increased 65 percent for that same period, attributed to a new Revenue Protection insurance program made available to dry bean and pea producers in 2013 and that has proven to be a popular risk management product.

The following table shows the level of market penetration for ‘other field crops’, excluding hay:

Federal Crop Insurance: 2015 Market Penetration of Other Field Crops

Crop	2015 Insured Acres	US Acres/NASS*	Market Penetration
Other Field Crops			
ALFALFA SEED	32,381	89,218	36%
BUCKWHEAT	11,960	33,678	36%
CANOLA	1,718,996	1,777,000	97%
COFFEE	4,019	6,900	58%
CULTIVATED WILD RICE	25,685	47,333	54%
DRY BEANS	1,382,006	1,764,700	78%
DRY PEAS	1,717,931	1,670,000	99%
FLAX	425,533	463,000	92%
FORAGE PRODUCTION	2,716,256	54,447,000	5%
FORAGE SEEDING	214,762	1,155,758	19%
GRASS SEED	31,209	268,149	12%
HYBRID CORN SEED	271,522		
HYBRID SORGHUM SEED	35,977		
MILLET	363,665	445,000	82%
MINT	19,821	96,129	21%
MUSTARD	22,991	44,000	52%
OATS	538,745	3,089,800	17%
POPCORN	217,727	218,461	99%
RYE	45,166	1,584,000	3%
SAFFLOWER	121,867	170,200	72%
SESAME	68,156	17,501	99%
SILAGE SORGHUM	63,132	306,000	21%
SUGAR BEETS	1,039,169	1,159,800	90%
SUGARCANE	760,348	887,300	86%
SUNFLOWERS	1,696,766	1,859,100	91%
SWEET POTATOES	6,738	156,900	4%
Total Hay/Forage	4,707,661	54,447,000	9%
Total Other Field Crops w/ NASS Data in Crop Production Report (Excluding Hay)	10,528,773	17,309,927	61%

*NASS Number adjusted if RMA was greater. Notes: Market Penetration capped at 99% if insured acres greater than NASS estimate. Hay includes coverage under pasture/range/forage for hay and acreage under annual forage.

Data as of March 23, 2017

VII. Market Penetration for Fruits/Nuts and Vegetables

Market Penetration of Fruits and Nuts

Specialty crop products have been a strong priority since the 1996 Farm Bill, and market penetration for **fruit and nut crops encompassed 74 percent of their market potential in 2015.**

Fairly substantial changes in acreage occurred between 2011 and 2015 in fruit and nut crops. The most significant change was that acreage in grapes more than doubled across the U.S., with nearly 1 million acres added, while insured acres increased slightly. Acres in almonds increased by 17 percent, up 130,000 acres, with a nearly equal increase of 16 percent in insured acres. Walnut acres, similar to that of almonds, rose by 55,000 acres in 2015, up 22 percent from 2011, while insured acres rose 19 percent.

U.S. acres in cherries increased by 51 percent with insured acres also rising by 41 percent from 2011 to 2015. Acres grown for oranges decreased by 7 percent in 2015 compared to 2011, with insured acres decreasing 11 percent.

Fruit and nut market penetration is shown in the following table:

Federal Crop Insurance: 2015 Market Penetration of Fruit and Nuts

Crop	2015 Insured Acres	US Acres/NASS	Market Penetration
Fruits and Nuts			
ALMONDS	737,313	890,000	83%
PECANS (Trees)	156,867	N/A	N/A
PRUNES	43,945	47,000	94%
ORANGES	497,889	575,900	86%
GRAPEFRUIT	62,698	67,300	93%
CRANBERRIES	32,560	40,900	80%
MACADAMIA NUTS	11,948	16,000	75%
BLUEBERRIES	68,822	89,820	77%
LEMONS	43,015	55,300	78%
CHERRIES	88,744	127,880	69%
PLUMS	13,740	17,800	77%
APPLES	239,181	315,880	76%
TANGELOS/MANDARINS	48,981	66,400	74%
GRAPES	662,961	1,022,700	65%
PEACHES	67,959	142,790	48%
FRESH NECTARINES	15,276	20,200	76%
FIGS	4,103	6,800	60%
OLIVES	26,250	36,000	73%
AVOCADOS	36,964	59,280	62%
PEARS	33,209	48,940	68%
FRESH & PROC APRICOTS	6,373	9,620	66%
PISTACHIOS	105,640	233,000	45%
WALNUTS	153,567	300,000	51%
STRAWBERRIES	1,378	58,950	2%
BANANA	199	830	24%
PAPAYA	351	1,500	23%
Total Insured Fruits & Nuts	3,159,933	4,250,790	74%

Data as of March 23, 2017

Market Penetration for Vegetables

U.S. vegetable market penetration was 34 percent in 2015, up slightly from 2011.

Historically, vegetable producers have not indicated specific interest in individual crop insurance programs and at times have communicated preference for no development of a specific program. However, there has been interest in the Whole-Farm Revenue Protection insurance that began in 2015 and recently it appears there may be some interest in expanding the opportunities for vegetable insurance.

While the number of NASS vegetable estimates are limited, only two categories showed U.S. acreage increases from 2011 to 2015, green peas, increasing 12 percent, and tomatoes increasing 15 percent. Insured acres for green peas increased 14 percent while tomato acreage insured increased 13 percent. The U.S. acres for fresh market beans decreased 26 percent, however insured acres increased 68 percent, likely due to increased usage of the Fresh Market Bean policy which was new in 2011. Onion acreage across the U.S. also decreased 7 percent in 2015 compared to 2011, however insured acres increased 11 percent for that same time period.

Vegetable crop market penetration is shown in the following table:

Federal Crop Insurance: Market Penetration for Vegetables, 2015

Crop	2015 Insured Acres	US Acres/NASS	Market Penetration
Vegetable Crops			
CABBAGE	13,501	59,530	23%
CHILE PEPPERS	1,921	19,400	10%
FRESH MARKET BEANS	4,531	77,680	6%
FRESH MARKET SWEET CORN	42,990	242,090	18%
FRESH MARKET TOMATOES	38,980	95,200	41%
GREEN PEAS	138,512	181,200	76%
ONIONS	102,887	144,600	71%
PEPPERS	6,591	41,900	16%
PROCESSING BEANS	94,222	164,870	57%
PUMPKINS	8,001	N/A	N/A
SWEET CORN	208,933	325,100	64%
TOMATOES	295,977	314,300	94%
Total Vegetables	949,045	1,665,870	57%

Data as of March 23, 2017

VIII. Market Penetration for Hay, Livestock, Nursery, and Pasture/Range/Forage

Market Penetration for Hay, Pasture-Range-Forage, and Livestock

Hay, nursery, livestock, and pasture, range, and forage are all large commodities grown across the U.S. While the majority of field crops have good participation in the crop insurance program, market penetration for hay crops has been only 8-9 percent for the last several years, although this is up from the 3 percent in 2000 and 1 percent in 1990.

Additional risk management protection has recently become available for hay producers with the new Annual Forage (AF) Insurance product, which began with the 2014 crop year and covers annual hay. The Pasture, Rangeland, and Forage (PRF) program, which provides protection for perennial hay was expanded to an additional 19 states beginning with the 2016 crop year. With the release of the AF program and the expansion of the PRF program, market penetration is expected to increase for hay in the future. Additionally, early market indicators are that hay growers are also choosing to use the new WFRP insurance to insure hay. Based on the large market potential for hay shown in the table below, research on how to expand the risk management safety net for hay producers is a priority that RMA has identified and is currently pursuing through work with stakeholders.

Federal Crop Insurance: Hay Market Penetration

Crop Category		1990	2000	2011	2015	2016
Hay*	NASS Hay Value	\$11,138,492,000	\$11,179,702,000	\$18,251,166,000	16,548,834,000	15,625,517,000
	NASS Acres	61,557,000	59,854,000	55,653,000	54,447,000	53,461,000
	RMA Acres	379,104	2,004,567	4,641,842	4,707,661	4,402,609
	Market Penetration	1%	3%	8%	9%	8%

*Includes hay covered under Forage Production, Annual Forage, and Pasture/ Rangeland/ Forage.

Data as of March 23, 2017

Pasture, Rangeland and Forage coverage is now available across the lower 48 states. The PRF product uses a Rainfall Index to insure against a decline in an index value that is based on the long-term historical average precipitation for the same area of land and time period.

Federal Crop Insurance: Pasture-Rangeland Market Penetration for 2015

Crop	Summed 2015 Acres	US Acres/NASS	Market Penetration	Data Source
PASTURE,RANGELAND,FORAGE (no hay included)	52,981,101	741,000,000	7%	ERS-Major uses of land-2007

Data as of April 3, 2017

Livestock insurance was first authorized to be offered as a pilot program in 2000, as compared to crop commodities that began as early as the 1930's. The two livestock products currently available are Livestock Gross Margin (LGM) which provides coverage for the margin between the value of the livestock and feed costs, and Livestock Risk Protection (LRP) which provides protection against a decline in price. Livestock is also covered under the WFRP product, but very limited participation was seen until 2016 when the WFRP policy eligibility limit for livestock was modified to a straight \$1 million. Because of this, WFRP livestock insurance coverage will be reported in future analyses. The following table shows 2015 livestock market penetration:

Federal Crop Insurance: Livestock Insurance Market Penetration for 2015*

Livestock	2015 Total Insured Head/CWT Milk	2015 NASS Total Head/CWT	Market Penetration	Source for U.S. Numbers
Cattle (head)	232,192	29,204,200	1%	NASS Livestock Slaughter 2015 Jan-Dec Summary (Sum of Cattle on Feed, Heifers, Bulls, Steers, Calves (excluding breeding stock))
Dairy (cwt)	48,721,339	2,086,330,000	2%	NASS Milk Production, report dated January 2017
Lamb (head)	4,063	2,223,500	Less than 1%	NASS Livestock Slaughter 2015 Jan-Dec Summary
Swine (head)	157,311	115,425,200	Less than 1%	NASS Livestock Slaughter 2015 Jan-Dec Summary

*Livestock are subject to a statutory expense funding limitation of \$20 million

Data as of April 3, 2017

Livestock market penetration is very low and is expected to remain low due to the legislated funding cap for expenses related to livestock sales. Expenses for livestock insurance programs are statutorily limited in the Act to \$20 million per Fiscal Year. Livestock insurance expenses include premium subsidy paid on behalf of producers, and the administrative and operating subsidy paid on behalf of producers to insurance companies for selling and servicing the products.

The funding for expenses related to underwriting the various livestock insurance products is allocated across all livestock insurance products, and managed throughout the year to spread the allocations between products to assure that producers of all the insurable species have opportunities to purchase insurance and that the funds are fully utilized for the Fiscal Year. Given this funding limitation on expenses, Federal crop insurance will be unable to capture a significant portion of the market for livestock.

Market Penetration for Products Measured By Farm Revenue or Commodity Value

Some Federal crop insurance programs are based on expected revenue or value of the commodities and not measured by acres or number of head. The following table shows the 2015 market penetration for these crops. This was the first year for the new WFRP product which was offered in 45 states and sold in 33 states with an average per policy insurance coverage of just under \$550,000. In 2016 WFRP became the first Federal crop insurance policy to be offered nationwide in every state and county.

The Apiculture program, providing coverage for an index measuring lack of rainfall compared to historic rainfall as a proxy to measure vegetation necessary for honey production, continues to have strong participation with 35 percent of the total market covered, up 32 percent from the 3

percent covered in 2011. This program was expanded from being available in 30 states in 2017 to providing risk management protection for bees and honey in the contiguous 48 states beginning with the 2018 crop year.

Federal Crop Insurance: Insurance Market Penetration for Other Products, 2015

	Liability	Liability Adjusted to 100% (Full Value)	U.S. Value	Market Penetration	Data Source
WHOLE FARM REVENUE PROTECTION	\$ 1,147,880,915	\$ 1,515,087,792	\$ 439,694,943,000	Less than 1%	ERS Gross Farm Income-US Farm Financial Indicators 2011-2017F
APICULTURE	\$ 101,171,101	\$ 112,558,780	\$ 326,081,000	35%	NASS 2015 Honey value-March 2015
CLAMS	\$ 17,272,460	\$ 27,269,224	\$ 206,299,000	13%	2013 Value taken from Fisheries of the United States, 2014 - NOAA
NURSERY (FG&C)	\$ 1,462,389,137	\$ 2,801,528,331	\$ 13,789,048,000	20%	Census 2012-Horticultural Crops as of 2014
OYSTERS	N/A	N/A	N/A	N/A	Program Suspended for 2014
RAISINS	\$ 243,622,763	\$ 376,397,680	\$ 696,796,000	54%	NASS Non-Citrus Fruits & Nuts July 2016

RMA data as of April 3, 2017

IX. Influencing Change: How New Products Are Developed and the Stakeholder’s Voice

New products or product improvements are developed either by RMA directly, sometimes through the contracting process, or by private entities who submit new products to the Federal Crop Insurance Corporation.

Influencing Changes to Availability of Federal Crop Insurance

Producers, insurance companies, and others may contact RMA’s Regional Offices or Headquarters to request expansion of products or to discuss the need for coverage of a commodity. RMA welcomes requests and communication with stakeholders. Requesters should be aware of the actuarial soundness requirements of Federal crop insurance and the fact that sound underwriting must be possible for the crop policy prior to any expansion being approved.

Actuarial Soundness is Required by Law for Federal Crop Insurance Products

Federal crop insurance is required by the Federal Crop Insurance Act to be actuarially sound, which means that, like any private market insurance, the premium dollar amounts will cover the loss amounts paid over time. Crop insurance is delivered by private insurance companies who are paid administrative and operating subsidy to sell and service crop insurance to all producers nationwide, regardless of the size of the operation. These private insurance companies share the risk of the crop insurance with the government and buy reinsurance in private markets to cover the risk that their company retains, the same as all insurance companies do for private market insurance.

Lack of Data Can Prevent Development of New Products

Generally, data from a credible source representing both historical yields and prices must be available for a series of years to support the premium rating of an insurance product. Occasionally, data from a similar crop with similar risks may be used to determine a premium rate for a new product. In addition to data required to establish a premium rate, historical price data must also be available to value the commodity. These data must be available not only for development of the insurance product, but also for future years after a new product is put into place so it can be adequately maintained and remain current and viable for future changing conditions of risk. Adequate and credible data is one of the biggest barriers to the creation of new crop insurance products.

RMA Developed Products

RMA continually communicates with producers, producer groups, crop insurance companies, and other stakeholders to identify emerging issues and needs to maintain and improve Federal crop insurance products. This communication helps RMA to determine the need for new products or revisions to existing products. RMA conducts feasibility studies to determine if new products are possible to develop, and works with the farm and ranch industry to develop products, or direct development through the use of contracts in reaching solutions to the issues identified.

As stakeholders request insurance for commodities that are not currently insured, RMA often contracts for data gathering or feasibility evaluations to determine if it is possible to provide insurance for the commodity. **Exhibit 1** shows the list of commodities that have been evaluated and the status of the work completed. For example, RMA recently evaluated the feasibility of an insurance program for Vegetable Seeds and Garlic. There was little producer interest in the vegetable seed policy. The garlic study identified an issue where producers may not always have an insurable interest, which precludes offering insurance, so no further product development is being pursued at this time.

Privately Developed Products

The Act allows private entities to submit new products or additions/improvements to existing products for consideration by the Federal Crop Insurance Corporation Board of Directors (Board). Over the years, many innovative products have been created by private submitters including the most popular Federal crop insurance product, Revenue Protection. Examples of some other

successful privately developed products are the livestock price and margin policies, trend yield, and hybrid seed corn revenue. Private submitters can submit either a Concept Proposal or a fully developed product. If a Concept Proposal is the choice of the private submitter, once Board approval is received, the private submitter must develop a fully developed product. Advance research and development funds are available for private submitters who start with a Concept Proposal. All private product submissions are required to go through a rigorous review process as they are considered for approval.

There have been 59 new private products submitted since 1995. Of the 59 new products:

- 10 were innovative new insurance products like Revenue Protection, Margin coverage, Livestock Gross Revenue, or Livestock Risk Protection;
- 28 were new individual crop programs added to insurance plans. Examples of these crop programs are cottonseed, olive coverage, and camelina coverage;
- 9 were new types/practices or processes, including specialty type corn and soybeans and trend yield
- 6 were price related such as the Hybrid seed Price Endorsement and Adjusted Gross Revenue-Lite expansion; and,
- 6 were other types of submissions such as the High Risk Land Exclusion and Trend Adjustment.

The Board has also reviewed 47 modifications to those new products that included expansion, changes to actuarial methods, modifications to policies, or expanded kinds of coverage.

X. Low Hanging Fruit: Another Method to Increase Market Share of Existing Programs

Expansion and placement of insurance products in states and counties to increase the availability of coverage for producers is a critical task that requires ongoing, routine regular review. Growing areas for commodities may change over time because of changing consumer preferences affecting market demand, price changes and values of commodities, climate conditions, or agronomic, varietal changes stemming from new research and industry development, or other factors. New commodities are continually emerging and the risk management safety net must pay attention to these changes and adjust to provide the necessary risk management protection for U.S. producers.

Placement and Availability of Federal Crop Insurance

New crop insurance products and programs are initially piloted in areas identified as appropriate for testing and always as approved by the Board. Pilot areas may also be expanded with Board approval. Once a new product or program has been adequately tested and the Board determines the program should be made permanent, the crop insurance product may be expanded to any additional appropriate areas within the U.S. Expansion is generally made to growing areas where RMA is aware the crop exists, there is some history or experience of the crops performance, and where there is demand for the product.

Many, but not all, policies contain provisions that allow for a ‘written agreement’, which is the ability for an insurance company to write an insurance policy for a crop in a county where the

crop program is not specifically available. While written agreements can provide flexibility in the risk management safety net for producers, many producers may not always be aware of their existence. It is important that producers know they can ask for written agreements and that they work with their crop insurance agent. If a program is not available in their county, producers can notify their RMA Regional Office to request program expansion and assist in providing the needed data for such expansion effort.

Market Potential

RMA compared state level NASS information to the state availability for all Federal crop insurance crop programs to determine if there were states with potential for product expansion. The crops and areas that showed the most market potential is shown in **Exhibit 2**. This Exhibit shows commodities that have significant uninsured acres in the various states, and also shows both insured and NASS acres and identifies where insurance is currently available. In cases where insured acres are present but there is no insurance program in the county, this represents written agreements that have been approved to insure the crop in those states.

Utilizing existing policies to expand availability into other additional states is a ‘low-hanging fruit’ method to increase market penetration since generally limited product development is required and data are already likely to be available. While this is a good way to identify potential expansion areas, additional research is required for these identified crops and states to determine if:

- The applicable crop policy would be appropriate and effective in these potential expansion areas for the unique risks faced by producers in the production of the commodity. Production practices in each expansion area must be researched to assure that the policy and procedures are appropriate for the specific crop and location. The crop must be measurable at the beginning of insurance and losses must be identifiable and measurable.
- Actuarial and underwriting information, including data for premium rates, price elections, planting dates, etc., can be appropriately determined for the crop and area.

The table below is a summary of some of the strongest possibilities for further research as potential expansion areas to increase market penetration.

Low Hanging Fruit: Market Potential to be Explored

Crop	Market Potential Locations for Possible Expansion
Apples	Iowa
Avocados	Hawaii
Barley	Illinois
Blueberries	Indiana, Arkansas, New York
Cabbage	Arizona, Colorado, New Jersey, California
Canola	California, Colorado, Delaware, Nebraska, Ohio, South Dakota
Cherries	Pennsylvania
Chile Peppers	Texas, California
Cucumbers	Ohio, Wisconsin, Florida
Dry Peas	Kansas, Wisconsin
Fresh Market Sweet Corn	North Carolina, Iowa, California, Washington, Ohio, Michigan, Oregon, Illinois, Indiana, Texas, Wisconsin, Delaware
Fresh Market Tomatoes	North Carolina, Ohio, New Jersey, Michigan, New York, Texas, Indiana
Mint	Michigan
Onions	North Dakota, Wisconsin
Pears	New York, Michigan
Peppers	South Carolina, North Carolina, Georgia, Michigan, Ohio, New Jersey, California
Popcorn	Louisiana, Arkansas
Potatoes	Arkansas, Illinois
Rye	Kansas, North Carolina, Minnesota, Georgia
Silage Sorghum	South Dakota, Arizona, Louisiana, Illinois, Nebraska, Arkansas, Missouri, Mississippi, Georgia
Soybeans	Montana, Massachusetts
Strawberries	Ohio, Pennsylvania, Wisconsin, Michigan, Washington, New York, North Carolina, Oregon, Florida
Sugarcane	Hawaii
Sunflowers	New Mexico
Sweet Potatoes	Texas, New Jersey, Alabama, Arkansas, Florida, California, Mississippi, North Carolina

Based on 2015 NASS and Federal Crop Insurance data.

XI. Conclusions

Federal crop insurance is a key risk management safety net for producers, providing protection for **86 percent of total U.S. crop acreage in 2015**. Risk protection was provided across the U.S. for **89 percent of principal crop acres**, a substantial portion of the acres of **other field crops, at 63 percent**, and **74 percent of fruit and nut crops**. The program is operating at a solid 0.85 long term loss ratio which means that premium amounts more than cover losses over time and that the Federal crop insurance program meets the actuarial requirements of a well-functioning insurance program.

However, there is still room for additional market penetration for the Federal crop insurance risk management safety net. One area that the Risk Management Agency is exploring is additional risk management products for vegetables, since market penetration is only 34 percent at this time. There also continues to be room for growth of market penetration in the other field crops, and fruits and nuts categories.

Opportunities for the expansion of existing federal crop insurance policies to additional states exists for many commodities, as evidenced by comparison by state of Federal crop insurance program availability to U.S. acreage of crops reported by NASS suggests that opportunities. The next steps to be taken will be to research the crops identified in this paper for each location to see if specific existing crop policies and procedures are applicable and would be effective for the respective crops in the new states. This research will determine if actuarial information, including price data, are appropriate, if producers are interested in having a risk management program available, and will identify specific counties that should be included.

RMA continues to communicate with stakeholders to identify new commodities or expansion of existing commodities that need risk management protection. RMA will also continue to work with stakeholders and monitor existing plans of insurance to identify issues or modifications needed, or whether new types of coverage should be added for the ever-changing agricultural landscape.

Opportunities to insure livestock are available through Federal crop insurance and there is considerable nationwide market potential to provide unique or innovative risk management products for livestock ranchers and producers. However, very little market penetration will be achieved while the legislated limitation on available funding for livestock insurance expenses is in place. RMA will continue its efforts to find and develop solutions to enhance risk protection for forage and hay producers, adding to or enhancing those programs already available.

The portfolio of Federal crop insurance products is revisited on a regular basis to evaluate the availability and importance of Federal crop insurance products to producers throughout the U.S, and to determine areas of market potential. Continued exploration into new types of products best fitting producer's risk management needs, working with private submitters to shepherd new and innovative products through the approval process and implementation, and improving existing products and their availability are all important aspects to providing a world-class risk management safety net to U.S. agricultural producers, promote stability in rural communities, and assure a robust food supply across the U.S.

XII. Comments or Requests for the Next Portfolio Analysis

RMA plans to continue to offer snapshots of the Federal crop insurance program on a regular basis. If you would like to provide comments or input into the content of the next Portfolio Analysis, please e-mail leiann.nelson@rma.usda.gov.

Exhibit 1. Risk Management Agency Research: Exploring Feasibility for Expanding Crop Insurance

Crop	Previous Studies	Feasibility Recommendation	Insurance Product	2016 Crop Value (1,000's) From Data Source	Data Source/Notes
Amaranth			Feasibility to be explored in future		
Anise			Feasibility to be explored in future		
Artichokes	Feasibility	Yes	Growers Preferred No Development	\$69,119	NASS Crop Values 2016 Summary - February 2017
Asparagus Fresh Market and Processing	Feasibility	Yes	Growers Preferred No Development	\$74,991	NASS Crop Values 2016 Summary - February 2017
Bees	Feasibility	No	Insurance Program in Place (Apiculture)		
Beets			Feasibility to be explored in future		
Biomass Sorghum/Sweet Sorghum	Feasibility	No	Lack of producer interest		
Blackberries			Feasibility to be explored in future	\$38,036 (2015 Value)	2016 Value N/A NASS Crop Values 2016 Summary - February 2017
Bok Choy			Feasibility to be explored in future		
Boysenberries			Feasibility to be explored in future	\$2,743 (2015 value)	2016 Value N/A NASS Crop Values 2016 Summary - February 2017
Broccoli, fresh and processing	Feasibility	Yes	Growers Preferred No Development	\$851,391	NASS Crop Values 2016 Summary - February 2017

Crop	Previous Studies	Feasibility Recommendation	Insurance Product	2016 Crop Value (1,000's) From Data Source	Data Source/Notes
Brussel Sprouts			Feasibility to be explored in future		
Bulbs, Corms, Tubers			Feasibility to be explored in future		
Cantaloupe			Feasibility to be explored in future	\$450,079	NASS Crop Values 2016 Summary - February 2017
Carrots, fresh and processing	Feasibility	Yes	Growers Preferred No Development, St. Paul RO recently express interest in developing a carrot program in WI and MN RMA is currently working with them to explore the possibility of insuring carrots in that area.	\$818,183	NASS Crop Values 2016 Summary - February 2017
Catastrophic Disease Event	Feasibility	No	Lack of producer interest, unavailable data, challenges in determining insurable interest		
Catfish Margin	Feasibility	No	Insufficient data and potential to distort catfish market		
Cauliflower, fresh and processing	Feasibility	Yes	Growers Preferred No Development	\$389,496	NASS Crop Values 2016 Summary - February 2017
Celery, fresh and processing	Feasibility	Yes	Growers Preferred No Development	\$358,632 (Fresh Only)	NASS Crop Values 2016 Summary - February 2017
Chayote/Mirliton			Feasibility to be explored in future		

Crop	Previous Studies	Feasibility Recommendation	Insurance Product	2016 Crop Value (1,000's) From Data Source	Data Source/Notes
Chickens	Feasibility	No	Not Feasible at this time		
Chicory/Radicchio			Feasibility to be explored in future		
Chinese Cabbage			Feasibility to be explored in future		
Chives			Feasibility to be explored in future		
Christmas Trees	Feasibility	No	Not Feasible at this time		
Cilantro			Feasibility to be explored in future		
Collards (Greens)			Feasibility to be explored in future		
Crambe			Terminated-declining production in pilot area		
Crenshaw Melons			Feasibility to be explored in future		
Crop Residue (Corn, Soybeans, Wheat)	Feasibility	No	Not feasible at this time		
Crustaceans (Crayfish/Shrimp)			Feasibility to be explored in future		
Cucumbers, for pickles and fresh			508 (h) Insurance Product in place	\$345,670	NASS Crop Values 2016 Summary - February 2017
Daikon			Feasibility to be explored in future		
Dates			Feasibility to be explored in future	\$68,016 (2015 value)	2016 Value N/ANASS Crop Values 2016 Summary - February 2017

Crop	Previous Studies	Feasibility Recommendation	Insurance Product	2016 Crop Value (1,000's) From Data Source	Data Source/Notes
Eggplant			Feasibility to be explored in future		
Escarole / Endive			Feasibility to be explored in future		
Finfish			Feasibility to be explored in future		
Flowers			Feasibility to be explored in future		
Garlic	Feasibility	No	Not feasible at this time	\$268,665	NASS Crop Values 2016 Summary - February 2017
Ginger Root			Feasibility to be explored in future		
Ginseng			Feasibility to be explored in future		
Gourds			Feasibility to be explored in future		
Greens (human consumption)			Feasibility to be explored in future		Excludes spinach
Guavas	Feasibility	Yes	Not enough producer support	N/A	NASS Crop Values 2016 Summary - February 2017
Guayule			Feasibility to be explored in future		
Hay	Industry Needs Study	Yes	Feasible-Working on program design.	\$15.6 billion	Crop Values Annual Summary, February 2017-All Hay
Hazelnuts			Feasibility to be explored in future	\$86,800 (2015 value)	2016 value N/A NASS Crop Values 2016 Summary - February 2017

Crop	Previous Studies	Feasibility Recommendation	Insurance Product	2016 Crop Value (1,000's) From Data Source	Data Source/Notes
Herbs			Feasibility to be explored in future		Excludes native spearmint, scotch spearmint, & peppermint types
Honeydew Melons			Feasibility to be explored in future	\$67,584	NASS Crop Values 2016 Summary - February 2017
Hops			Feasibility to be explored in future	\$498,420	NASS Crop Values 2016 Summary - February 2017
Horseradish			Feasibility to be explored in future		
Jojoba	Feasibility	No	Not feasible at this time		
Kale			Feasibility to be explored in future		
Kiwi Fruit			Feasibility to be explored in future	\$30,893 (2015 value)	2016 Value N/A NASS Crop Values 2016 Summary - February 2017
Kochia (Prostrata)			Feasibility to be explored in future		
Kumquats			Feasibility to be explored in future		
Leeks			Feasibility to be explored in future		
Lettuce	Feasibility	Yes	Currently under Consideration	\$2,880,973	NASS Crop Values 2016 Summary - February 2017
Livestock - Aquaculture (Baitfish)	Feasibility	No	Not feasible at this time		
Livestock - Aquaculture (Catfish)	Feasibility	No	Not feasible at this time		

Crop	Previous Studies	Feasibility Recommendation	Insurance Product	2016 Crop Value (1,000's) From Data Source	Data Source/Notes
Livestock - Aquaculture (Salmon)	Feasibility	No	Not feasible at this time		
Livestock - Aquaculture (Trout)	Feasibility	No	Not feasible at this time		
Livestock: Poultry (Turkeys, Chickens, Eggs)	Feasibility	No	Not feasible at this time		
Livestock: Poultry Business Interruption	Feasibility	No	Lack of producer interest, unavailable data, challenges in determining insurable interest		
Loganberries (OR)			Feasibility to be explored in future		
Longan			Feasibility to be explored in future		
Lotus Root			Feasibility to be explored in future		
Mangos	Feasibility	Yes	Not enough producer support		
Maple Syrup	Feasibility	No	Not feasible at this time	\$125,890 (2015 value)	2016 value N/A NASS Crop Values 2016 Summary - February 2017
Meadowfoam			Feasibility to be explored in future		
Mollusk			Feasibility to be explored in future		Includes mussels, abalone, & bay scallops
Mushrooms			Feasibility to be explored in future	\$1,190,672	NASS Crop Values 2016 Summary - February 2017

Crop	Previous Studies	Feasibility Recommendation	Insurance Product	2016 Crop Value (1,000's) From Data Source	Data Source/Notes
Okra			Feasibility to be explored in future		
Parsnip			Feasibility to be explored in future		
Persimmons			Feasibility to be explored in future		
Pineapples	Feasibility	No	Not feasible at this time		
Pomegranates			Feasibility to be explored in future		
Radishes			Feasibility to be explored in future		
Rapini			Feasibility to be explored in future		
Raspberries			Currently under Development	580,924 (2015 value)	2016 Value N/A NASS Crop Values 2016 Summary - February 2017
Rhubarb			Feasibility to be explored in future		
Shallots			Feasibility to be explored in future		
Sod			Feasibility to be explored in future		
Speltz			Feasibility to be explored in future		
Spinach, fresh & processing	Feasibility	Yes	Growers Preferred No Development	\$292,583	NASS Crop Values 2016 Summary - February 2017
Squash, fresh only, processing N/A			Terminated-problem with program design	\$163,717	NASS Crop Values 2016 Summary - February 2017

Crop	Previous Studies	Feasibility Recommendation	Insurance Product	2016 Crop Value (1,000's) From Data Source	Data Source/Notes
Sunn Hemp			Feasibility to be explored in future		
Sweet Corn Seed (Hybrid)			Pilot Program in place starting 2016		
Sweet Potatoes			508(h) Insurance Product in place	\$705,690	NASS Crop Values 2016 Summary - February 2017
Sweet Sorghum/Biomass Sorghum	Feasibility	No	Not feasible at this time		
Swine Catastrophic Disease	Feasibility	No	Insufficient data and producer interest		
Taro			Feasibility to be explored in future	\$2,312	NASS Crop Values 2016 Summary - February 2017
Teff			Feasibility to be explored in future		
Tomatillos			Feasibility to be explored in future		
Triticale	Feasibility (2 Studies)	No-No price data available	508(h) program in place starting 2018-price data became available		
Turnips (not grazing)			Feasibility to be explored in future		
Vegetable/Flower Seed			Feasibility to be explored in future		
Watercress			Feasibility to be explored in future		
Watermelon			Insurance Product Terminated-poor performance	\$579,011	NASS Crop Values 2016 Summary - February 2017

Crop	Previous Studies	Feasibility Recommendation	Insurance Product	2016 Crop Value (1,000's) From Data Source	Data Source/Notes
Woody Biomass	Feasibility	No	Not feasible at this time		

Exhibit 2. Low Hanging Fruit: Potential Expansion Areas for Existing Programs

Apples

Apples: Comparison Between Insured Acres & U.S. Acres-2015

State	2015 Insured Acres	2015 NASS Acres	Insurance Available	Percent Insured
Washington	133,097	148,000	Yes	90%
New York	32,388	40,000	Yes	81%
Michigan	27,486	33,000	Yes	83%
Pennsylvania	12,797	20,000	Yes	64%
California	5,800	14,000	Yes	41%
Virginia	5,673	10,200	Yes	56%
North Carolina	4,649	6,000	Yes	77%
Oregon	2,421	5,000	Yes	48%
Idaho	1,524	2,300	Yes	66%
West Virginia	1,320	4,400	Yes	30%
Ohio	1,177	3,400	Yes	35%
Massachusetts	1,143	3,000	Yes	38%
Vermont	1,143	1,700	Yes	67%
Maine	1,115	2,700	Yes	41%
Wisconsin	1,015	4,000	Yes	25%
Connecticut	905	1,800	Yes	50%
Maryland	893	1,800	Yes	50%
Missouri	745	1,100	Yes	68%
New Hampshire	583	1,300	Yes	45%
Indiana	529	1,300	Yes	41%
Illinois	519	1,700	Yes	31%
Colorado	491		Yes	
Minnesota	421	2,600	Yes	16%
Utah	393	1,200	Yes	33%
New Jersey	326	1,800	Yes	18%
Arizona	261		Yes	
Georgia	150		Yes	
South Carolina	74		Yes	
Rhode Island	70	230	Yes	30%
Tennessee	50	650	Yes	8%
New Mexico	19		Yes	
Iowa	4	900		0%
OTHER	0	1,800		0%

Avocados

Avocados: Comparison Between Insured Acres & U.S. Acres-2015

State	2015 Insured Acres	2015 NASS Acres	Insurance Available	Percent Insured
California	34,728	52,000	Yes	67%
Florida	2,236	6,800	Yes	33%
Hawaii	0	480		0%

Barley

Barley: Comparison Between Insured Acres & U.S. Acres-2015

State	2015 Insured Acres	2015 NASS Acres	Insurance Available	Percent Insured
North Dakota	983,619	1,120,000	Yes	88%
Montana	725,528	990,000	Yes	73%
Idaho	436,540	610,000	Yes	72%
Minnesota	102,589	135,000	Yes	76%
Washington	72,331	115,000	Yes	63%
Colorado	64,186	65,000	Yes	99%
Wyoming	58,351	100,000	Yes	58%
Oregon	27,535	49,000	Yes	56%
California	23,664	80,000	Yes	30%
Texas	18,040		Yes	
South Dakota	15,231	37,000	Yes	41%
Virginia	12,655	46,000	Yes	28%
Maryland	12,187	50,000	Yes	24%
Maine	11,498	13,000	Yes	88%
Delaware	11,447	32,000	Yes	36%
Arizona	10,637	17,000	Yes	63%
Pennsylvania	7,807	55,000	Yes	14%
North Carolina	6,028	19,000	Yes	32%
Wisconsin	5,113	28,000	Yes	18%
Kansas	4,455	13,000	Yes	34%
Oklahoma	4,386		Yes	
Alaska	4,376	4,600	Yes	95%
Utah	4,110	27,000	Yes	15%
Kentucky	3,036		Yes	
Nebraska	2,865		Yes	

Barley, continued				
State	2015 Insured Acres	2015 NASS Acres	Insurance Available	Percent Insured
Michigan	2,413	11,000	Yes	22%
Tennessee	2,351		Yes	
New Mexico	1,759		Yes	
New Jersey	827		Yes	
South Carolina	639		Yes	
New York	625	11,000	Yes	6%
Illinois	434			
West Virginia	383		Yes	
Nevada	307		Yes	
Iowa	283		Yes	
Missouri	227		Yes	
Indiana	77		Yes	
Ohio	75		Yes	
Vermont	25		Yes	

Blueberries

**Blueberries: Comparison Between Insured Acres & U.S. Acres-
2015**

State	2015 Insured Acres	2015 NASS Acres	Insurance Available	Percent Insured
Maine	15,702		Yes	
Michigan	12,884	19,400	Yes	66%
Georgia	12,363	17,200	Yes	72%
North Carolina	7,128	8,000	Yes	89%
New Jersey	6,624	9,100	Yes	73%
Washington	4,310	11,000	Yes	39%
California	3,834	5,700	Yes	67%
Oregon	2,793	10,000	Yes	28%
Florida	2,711	5,500	Yes	49%
Mississippi	362	1,600	Yes	23%
Louisiana	97			
Alabama	7	410	Yes	2%
Virginia	7			
South Carolina			Yes	
Indiana	0	630		0%
Arkansas	0	280		0%
New York	0	1,000		0%

Cabbage

Cabbage: Comparison Between Insured Acres & U.S. Acres-2015

State	2015 Insured Acres	2015 NASS Acres	Insurance Available	Percent Insured
New York	3,532	8,300	Yes	67%
Florida	3,307	8,900	Yes	33%
Georgia	1,779	4,900	Yes	0%
Michigan	1,316	3,400	Yes	89%
Texas	1,209	6,100	Yes	73%
North Carolina	1,098	2,600	Yes	39%
Wisconsin	904		Yes	67%
Pennsylvania	185	930	Yes	28%
Ohio	144	1,300	Yes	49%
Oregon	20		Yes	23%
Virginia	7		Yes	
Alaska			Yes	
Washington			Yes	
Arizona	0	2,600		2%
Colorado	0	1,500		
OTHER	0	3,400		
New Jersey	0	1,800		
California	0	13,800		0%

Canola

Canola had a large acreage increase shown by NASS estimates so RMA additionally reviewed FSA acreage numbers. There has already been some expansion of canola crop insurance availability that occurred after 2015 for Federal crop insurance. Expansion areas were Illinois, Indiana, and Virginia (shaded green in the table below). Additional research is needed to explore county availability within all states where the canola Federal crop insurance program is available to determine if expansion to additional counties may be needed given the large increase in acreage and the fact that there was not a corresponding increase in insured acres.

Canola: Comparison Between Insured Acres, U.S. Acres, and FSA Acres (2015) and Insurance Availability

State	2015 Insured Acres	2015 NASS Acres	2015 FSA Planted Acres	Insurance Available 2015 CY	Insurance Available 2017 CY	Percent of NASS Acres Insured 2015	Percent of FSA Acres Insured 2015*
Alabama	5,388		7,138	Yes	Yes		75%
Arizona			4	No	No		0%
California			930	No	No		0%
Colorado	80		1,978	No	No		4%
Delaware			2,319	No	No		0%
Georgia	3,864		11,792	Yes	Yes		33%
Idaho	20,718	28,000	26,011	Yes	Yes	74%	80%
Illinois	93		415	No	Yes		22%
Indiana	444		1,934	No	Yes		23%
Iowa	24		42	No	No		57%
Kansas	44,781		46,745	Yes	Yes		96%
Kentucky	11,050		14,270	Yes	Yes		77%
Maine			403	No	No		0%
Maryland			153	No	No		0%
Michigan			184	No	No		0%
Minnesota	21,268	23,000	21,249	Yes	Yes	92%	100%
Missouri	59		221	No	No		27%
Montana	62,287	82,000	76,239	Yes	Yes	76%	82%
Nebraska	690		5	No	No		100%
North Carolina	9,958		21,486	Yes	Yes		46%
North Dakota	1,394,141	1,410,000	1,378,014	Yes	Yes	99%	100%
Ohio	219		222	No	No		99%
Oklahoma	103,531	140,000	108,626	Yes	Yes	74%	95%
Oregon	1,047	4,300	1,606	Yes	Yes	24%	65%
Pennsylvania			77	No	No		0%
South Carolina	5,015		6,206	Yes	Yes		81%
South Dakota	293		1,472	No	No		20%
Tennessee	4,691		6,540	Yes	Yes		72%
Texas	9,019		10,944	Yes	Yes		82%
Utah			149	No	No		0%
Virginia	200		698	No	Yes		29%
Washington	20,165	37,000	29,373	Yes	Yes	55%	69%

Canola, continued:

State	2015 Insured Acres	2015 NASS Acres	2015 FSA Planted Acres	Insurance Available 2015 CY	Insurance Available 2017 CY	Percent of NASS Acres Insured 2015	Percent of FSA Acres Insured 2015*
OTHER		52,700					
TOTALS	1,719,025	1,777,000	1,777,535				
*Capped at 100%.							

Cherries

Cherries: Comparison Between Insured Acres & U.S. Acres-2015

State	2015 Insured Acres	2015 NASS Acres	Insurance Available	Percent Insured
Washington	32,924	37,100	Yes	89%
California	28,011	33,000	Yes	85%
Michigan	18,360	34,900	Yes	53%
Oregon	5,332	13,650	Yes	39%
Utah	2,184	3,400	Yes	64%
Wisconsin	1,173	1,700	Yes	69%
New York	532	2,300	Yes	23%
Montana	213	680	Yes	31%
Idaho	15	650	Yes	2%
Pennsylvania	0	500		0%

Chile Peppers

Chile Peppers: Comparison Between Insured Acres & U.S. Acres-2015

State	2015 Insured Acres	2015 NASS Acres	Insurance Available	Percent Insured
New Mexico	1,138	8,300	Yes	14%
Arizona	783	1,600	Yes	49%
Texas	0	3,000		0%
California	0	6,500		0%

Cucumbers

Cucumbers: Comparison Between Insured Acres & U.S. Acres-2015

State	2015 Insured Acres	2015 NASS Acres	Insurance Available	Percent Insured
Michigan	19,187	30,000	Yes	64%
Indiana	4,338		Yes	
Texas	2,656	4,150	Yes	64%
Delaware	2,308		Yes	
Maryland	1,500		Yes	
North Carolina	732		Yes	
Illinois			Yes	
Ohio	0	5,000		0%
Wisconsin	0	5,600		0%
Florida	0	18,280		0%
OTHER	0	24,430		0%

Dry Peas

Dry Peas: Comparison Between Insured acres & U.S. Acres-2015

State	2015 Insured Acres	2015 NASS Acres	Insurance Available	Percent Insured
Montana	774,357	845,000	Yes	92%
North Dakota	536,684	550,000	Yes	98%
Washington	208,304	165,000	Yes	126%
Idaho	131,129	97,000	Yes	135%
Nebraska	32,465		Yes	
South Dakota	25,153		Yes	
Oregon	4,402	13,000	Yes	34%
Kansas	2,441			
Wyoming	923		Yes	
Colorado	828		Yes	
Minnesota	715		Yes	
Wisconsin	530			

Fresh Market Sweet Corn

Fresh Market Sweet Corn: Comparison Between Insured Acres & U.S. Acres-2015

State	2015 Insured Acres	2015 NASS Acres	Insurance Available	Percent Insured
Florida	18,561	41,500	Yes	45%
Georgia	13,141	26,500	Yes	50%
New York	3,620	18,100	Yes	20%
Colorado	2,574	3,500	Yes	74%
Pennsylvania	1,437	10,300	Yes	14%
Connecticut	933	3,900	Yes	24%
Massachusetts	514	3,400	Yes	15%
New Jersey	482	6,000	Yes	8%
Alabama	400	1,200	Yes	33%
North Carolina	294	5,100		6%
Rhode Island	237		Yes	
New Hampshire	217	1,400	Yes	16%
Iowa	191			
Maine	143	1,500	Yes	10%
Vermont	133		Yes	
Maryland	96	3,700	Yes	3%
West Virginia	10			
Nebraska	7			
Virginia	0	3,000	Yes	0%
California	0	30,000		0%
Washington	0	25,500		0%
Ohio	0	15,500		0%
Michigan	0	9,500		0%
Oregon	0	7,000		0%
Illinois	0	6,600		0%
Indiana	0	5,500		0%
Texas	0	4,400		0%
Wisconsin	0	3,900		0%
Delaware	0	3,700		0%
OTHER	0	1,390		0%

Fresh Market Tomatoes

Fresh Market Tomatoes: Comparison Between Insured Acres & U.S. Acres-2015

State	2015 Insured Acres	2015 NASS Acres	Insurance Available	Percent Insured
Florida	22,696	33,000	Yes	69%
California	8,413	30,900	Yes	27%
Georgia	2,412	2,900	Yes	83%
Virginia	1,292	2,200	Yes	59%
South Carolina	1,266	3,300	Yes	38%
Tennessee	1,224	3,500	Yes	35%
North Carolina	792	3,500		23%
Arkansas	668	900	Yes	74%
Pennsylvania	129	2,300	Yes	6%
Alabama	55	1,200	Yes	5%
Maryland	32		Yes	
Illinois	1			
Ohio	0	3,700		0%
New Jersey	0	3,000		0%
Michigan	0	2,700		0%
New York	0	2,500		0%
Texas	0	1,100		0%
Indiana	0	800		0%

Mint

Mint: Comparison Between Insured Acres & U.S. Acres

State	2015 Insured Acres	2015 NASS Acres	Insurance Available	Percent Insured
Washington	8,023	30,500	Yes	26%
Idaho	4,802	16,500	Yes	29%
Indiana	4,132	13,500	Yes	31%
Oregon	1,009	23,500	Yes	4%
Wisconsin	925		Yes	
Michigan	523			
California	407	2,000	Yes	20%
OTHER	0	5,100		0%

Onions

Onions: Comparison Between Insured Acres & U.S. Acres

State	2015 Insured Acres	2015 NASS Acres	Insurance Available	Percent Insured
Washington	21,181	22,000	Yes	96%
California	17,874	45,800	Yes	39%
Texas	15,771	10,700	Yes	147%
Oregon	12,839	19,000	Yes	68%
Georgia	12,076	12,300	Yes	98%
New York	8,243	7,800	Yes	106%
Idaho	3,658	8,000	Yes	46%
Colorado	3,022	3,800	Yes	80%
Nevada	2,964		Yes	
Michigan	1,630	2,500	Yes	65%
New Mexico	1,383	5,200	Yes	27%
North Dakota	1,113			
Utah	522		Yes	
Wisconsin	268	1,600		17%
Kansas	215		Yes	
Minnesota	128			
Arizona			Yes	
OTHER	0	5,200		0%

Pears

Pears: Comparison Between Insured Acres & U.S. Acres

State	2015 Insured Acres	2015 NASS Acres	Insurance Available	Percent Insured
Washington	14,545	20,800	Yes	70%
Oregon	10,014	14,600	Yes	69%
California	8,489	11,100	Yes	76%
Pennsylvania	96	800	Yes	12%
New York	47	1,000		5%
Arizona	10			
Connecticut	4			
North Carolina	3			
Massachusetts	1			
Michigan	0	640		0%

Peppers

Peppers: Comparison Between Insured Acres & U.S. Acres

State	2015 Insured Acres	2015 NASS Acres	Insurance Available	Percent Insured
Florida	6,053	12,400	Yes	49%
South Carolina	458			
North Carolina	69	2,300		3%
Georgia	11	3,900		0%
Michigan	0	1,500		0%
Ohio	0	2,600		0%
New Jersey	0	2,600		0%
California	0	19,500		0%

Popcorn

Popcorn: Comparison Between Insured Acres & U.S. Acres

State	2015 Insured Acres	2015 NASS Acres	Insurance Available	Percent Insured
Nebraska	71,017		Yes	
Indiana	68,333		Yes	
Illinois	22,578		Yes	
Ohio	18,976		Yes	
Missouri	16,107		Yes	
Iowa	5,632		Yes	
Kentucky	5,200		Yes	
South Dakota	3,718		Yes	
Colorado	2,337		Yes	
Michigan	2,052		Yes	
Tennessee	697		Yes	
Louisiana	662			
Arkansas	418			
Alabama			Yes	
Minnesota			Yes	
Wisconsin			Yes	

Potatoes

Potatoes: Comparison Between Insured Acres & U.S. Acres

State	2015 Insured Acres	2015 NASS Acres	Insurance Available	Percent Insured
Idaho	269,385	323,000	Yes	83%
Washington	97,407	170,000	Yes	57%
North Dakota	78,093	82,000	Yes	95%
Colorado	60,610	57,700	Yes	105%
Maine	50,308	51,000	Yes	99%
Wisconsin	46,209	63,000	Yes	73%
Minnesota	38,942	41,000	Yes	95%
Michigan	31,994	46,000	Yes	70%
Oregon	29,974	39,000	Yes	77%
Florida	23,954	30,000	Yes	80%
California	20,894	35,400	Yes	59%
Texas	17,965	20,000	Yes	90%
North Carolina	11,934	13,500	Yes	88%
Nebraska	10,592	15,500	Yes	68%
New York	9,007	15,000	Yes	60%
Missouri	7,635	8,500	Yes	90%
Montana	7,042	11,000	Yes	64%
New Mexico	5,523		Yes	
Virginia	4,103	5,000	Yes	82%
Pennsylvania	3,671	5,400	Yes	68%
Arizona	3,321	3,600	Yes	92%
Kansas	2,818	3,800	Yes	74%
Massachusetts	2,614	3,600	Yes	73%
Maryland	2,326	2,400	Yes	97%
Nevada	1,824		Yes	
Oklahoma	1,011		Yes	
Delaware	857		Yes	
Alabama	847		Yes	
Wyoming	720		Yes	
Indiana	536		Yes	
Iowa	495		Yes	
Arkansas	432			
New Jersey	326		Yes	
Illinois	288	7,500		4%
Ohio	263	1,300	Yes	20%
Rhode Island	132	600	Yes	22%
West Virginia	20			
Connecticut	10		Yes	
Alaska	0	560	Yes	0%
South Dakota			Yes	

Potatoes, continued				
State	2015 Insured Acres	2015 NASS Acres	Insurance Available	Percent Insured
OTHER	0	11,300		0%

Rye

Rye: Comparison Between Insured Acres & U.S. Acres

State	2015 Insured Acres	2015 NASS Acres	Insurance Available	Percent Insured
Oklahoma	19,320	250,000	Yes	8%
North Dakota	16,860		Yes	
South Dakota	4,279		Yes	
Texas	1,255		Yes	
South Carolina	1,068		Yes	
Kansas	961			
Nebraska	554		Yes	
North Carolina	253			
Minnesota	218			
Virginia	150			
Iowa	125			
New Jersey	123			
Georgia	0	210,000		0%
OTHER	0	1,124,000		0%

Silage Sorghum

Silage Sorghum: Comparison Between Insured Acres & U.S. Acres

State	2015 Insured Acres	2015 NASS Acres	Insurance Available	Percent Insured
Texas	36,593	70,000	Yes	52%
Kansas	20,891	105,000	Yes	20%
New Mexico	2,879	29,000	Yes	10%
Colorado	2,593	10,000	Yes	26%
Oklahoma	176	15,000	Yes	1%
South Dakota	0	18,000		0%
Arizona	0	20,000		0%
Louisiana	0	1,000		0%
Illinois	0	2,000		0%
Nebraska	0	10,000		0%
Arkansas	0	2,000		0%
Missouri	0	10,000		0%
Mississippi	0	2,000		0%
Georgia	0	12,000		0%

Soybeans

Soybeans: Comparison Between Insured Acres & U.S. Acres

State	2015 Insured Acres	2015 NASS Acres	Insurance Available	Percent Insured
Iowa	9,335,142	9,850,000	Yes	95%
Illinois	8,391,957	9,800,000	Yes	86%
Minnesota	7,316,758	7,600,000	Yes	96%
North Dakota	5,702,882	5,750,000	Yes	99%
South Dakota	5,020,383	5,150,000	Yes	97%
Nebraska	4,989,680	5,300,000	Yes	94%
Missouri	4,860,302	4,550,000	Yes	107%
Indiana	4,482,485	5,550,000	Yes	81%
Ohio	3,825,715	4,750,000	Yes	81%
Kansas	3,245,990	3,900,000	Yes	83%
Arkansas	2,630,118	3,200,000	Yes	82%
Mississippi	2,199,899	2,300,000	Yes	96%
North Carolina	1,615,211	1,820,000	Yes	89%
Kentucky	1,607,372	1,840,000	Yes	87%
Michigan	1,563,957	2,030,000	Yes	77%
Wisconsin	1,497,442	1,880,000	Yes	80%
Tennessee	1,454,419	1,750,000	Yes	83%
Louisiana	1,413,041	1,430,000	Yes	99%
Virginia	551,298	630,000	Yes	88%
Alabama	432,222	500,000	Yes	86%
South Carolina	424,685	475,000	Yes	89%
Maryland	411,781	520,000	Yes	79%
Pennsylvania	360,559	580,000	Yes	62%
Oklahoma	311,048	395,000	Yes	79%
Georgia	251,755	325,000	Yes	77%
New York	229,054	305,000	Yes	75%
Delaware	138,583	175,000	Yes	79%
Texas	132,076	130,000	Yes	102%
New Jersey	83,586	105,000	Yes	80%
Florida	24,669	33,000	Yes	75%
West Virginia	18,340	27,000	Yes	68%
Colorado	12,000		Yes	
Vermont	3,205		Yes	
Montana	1,500			
Massachusetts	221			
Wyoming	103			
Washington	49		Yes	
Connecticut	23			
Oregon			Yes	

Strawberries

Strawberries: Comparison Between Insured Acres & U.S. Acres

State	2015 Insured Acres	2015 NASS Acres	Insurance Available	Percent Insured
California	1,378	40,500	Yes	3%
Ohio	0	600		0%
Pennsylvania	0	650		0%
Wisconsin	0	790		0%
Michigan	0	800		0%
Washington	0	950		0%
New York	0	960		0%
North Carolina	0	1,200		0%
Oregon	0	1,500		0%
Florida	0	11,000		0%

Sugarcane

Sugarcane: Comparison Between Insured Acres & U.S. Acres

State	2015 Insured Acres	2015 NASS Acres	Insurance Available	Percent Insured
Florida	402,495	398,000	Yes	101%
Louisiana	323,166	385,000	Yes	84%
Texas	34,687	35,200	Yes	99%
Hawaii	0	12,900		0%

Sunflowers

Sunflowers: Comparison Between Insured Acres & U.S. Acres

State	2015 Insured Acres	2015 NASS Acres	Insurance Available	Percent Insured
North Dakota	716,192		Yes	
South Dakota	610,342		Yes	
Minnesota	92,838		Yes	
Texas	85,882		Yes	
Colorado	71,839		Yes	
Kansas	59,838		Yes	
Nebraska	45,383		Yes	
Wyoming	9,611		Yes	
Oklahoma	2,699		Yes	
New Mexico	1,001			
Montana	980		Yes	
Michigan	161			

Sweet Potatoes

Sweet Potatoes: Comparison Between Insured Acres & U.S. Acres

State	2015 Insured Acres	2015 NASS Acres	Insurance Available	Percent Insured
Louisiana	6,738	10,000	Yes	67%
Texas	0	1,000		0%
New Jersey	0	1,200		0%
Alabama	0	2,600		0%
Arkansas	0	4,000		0%
Florida	0	5,600		0%
California	0	18,500		0%
Mississippi	0	27,000		0%
North Carolina	0	87,000		0%