

Risk Management Agency

The Risk Management Safety Net:

Portfolio Analysis-Market Penetration
and Potential

July 2013



I. Introduction

Crop insurance is a critical aspect of the risk management safety net for food security in the United States as well as a factor in protecting rural economies and the availability of agricultural jobs by providing financial stability in agriculture. This has been especially apparent following the severe drought conditions of the past two years and the positive impact crop insurance has had, not only for insured producers but also for agricultural communities.

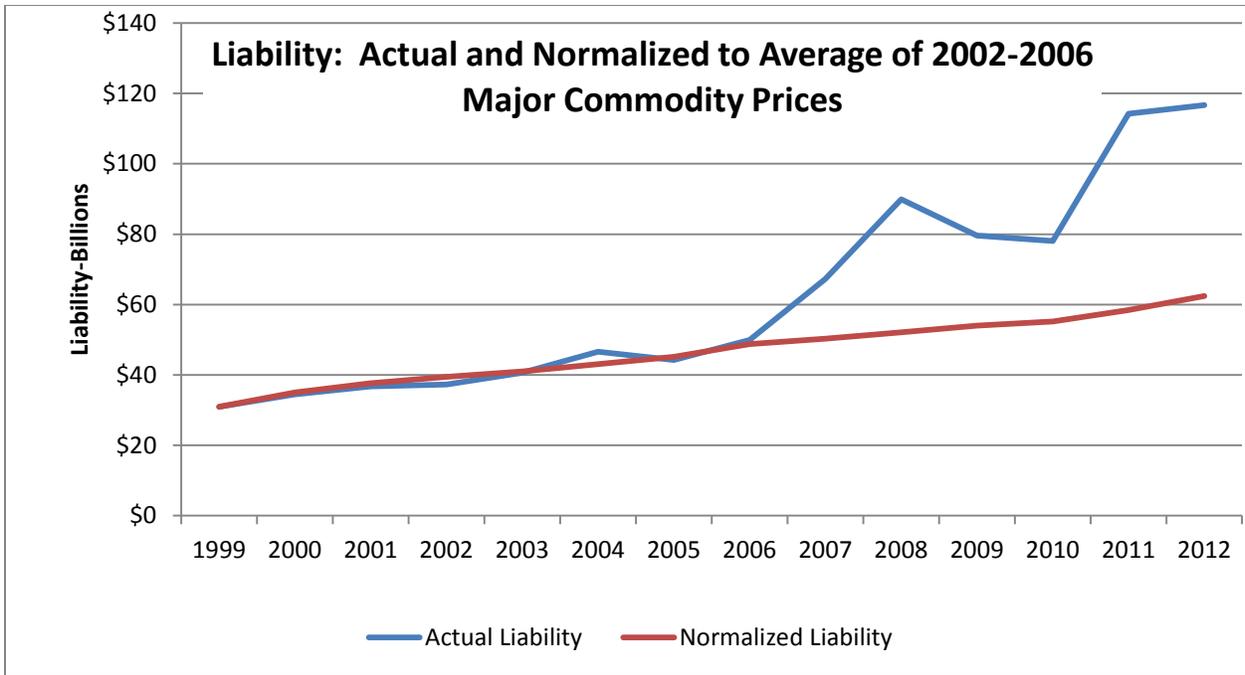
The Federal Crop Insurance Corporation (FCIC) seeks to provide a risk management safety net broad enough to cover the majority of commodities produced in the U.S. with adequate protection for the types of risk exposures faced by producers. Producers' needs within the safety net vary over time for many reasons, so it is important for the agency to review and monitor the Federal crop insurance program 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, measures of market penetration now and over time with identification of areas of market potential. It also provides Risk Management Agency (RMA) on-going initiatives and priorities for product improvement and new product development. Priorities are targeted to areas where market potential is available, to improve the risk management safety net for U.S. agricultural producers.

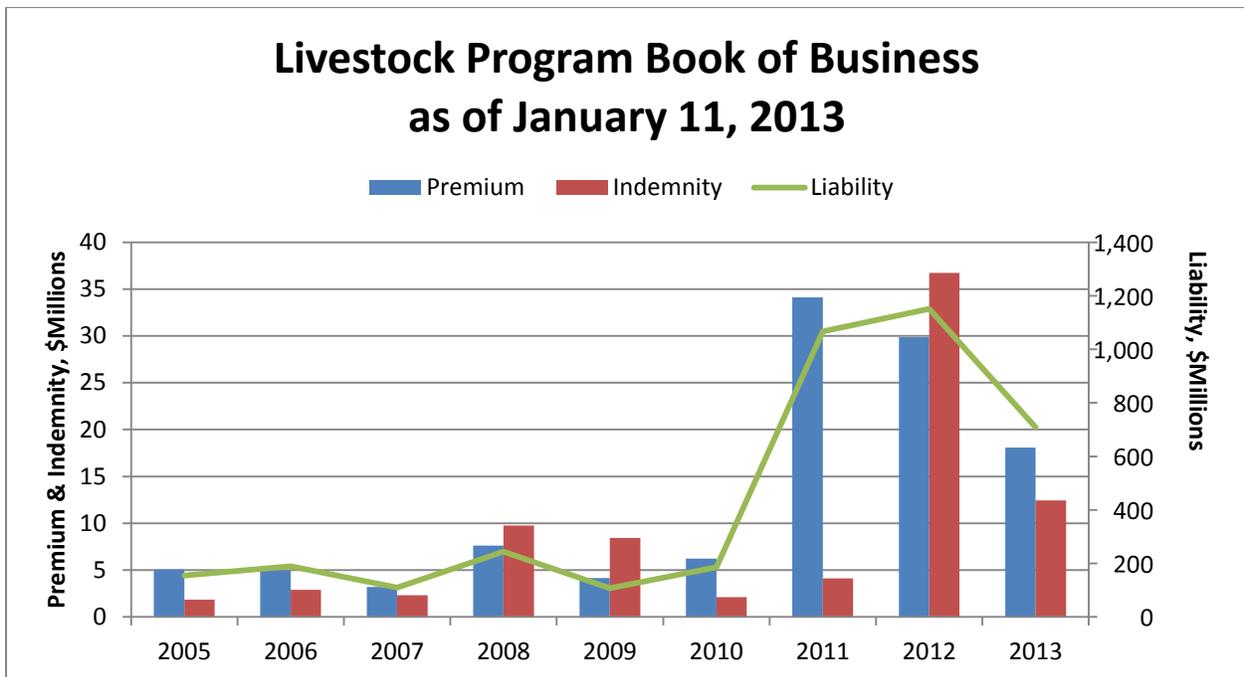
II. The Federal Crop Insurance Portfolio Today

Federal crop insurance covered nearly \$117 billion of liability across all crops (excluding livestock) in 2012, more than three times higher than the \$34.4 billion liability in 2000. Premium in 2012 totaled nearly \$11.1 billion and crop insurance paid \$17.2 billion in indemnities to producers following the severe drought and flood conditions across the U.S. during the spring and summer. Because of the widespread utilization of crop insurance, producers were able to continue farming without requests for ad-hoc disaster assistance.

Commodity prices for many crops have increased substantially since 2008, which is naturally reflected in the liability numbers. In order to look at the amount of growth in the Federal crop insurance program without the effects of price changes, the following chart shows liability normalized to average prices between 2002 and 2006 for the major commodities. Commodity prices used for the normalization process include those for barley, corn, cotton, rice, sorghum, soybeans, and wheat. This chart shows Federal crop insurance liability and normalized liability, illustrating that even without considering price, Federal crop insurance liability has more than doubled since 2000.



Authorization for the Federal Crop Insurance Corporation to provide livestock insurance was first put into place with the Agricultural Risk Protection Act of 2000. The following table shows the coverage since 2005 for all livestock programs. Market potential for livestock is limited at this time because livestock programs are statutorily limited in the Federal Crop Insurance Act by an insurance expense limitation of \$20 million per Fiscal Year. Livestock insurance expenses include premium subsidy paid on behalf of producers and administrative and operating subsidy paid to insurance companies to sell and service the products.



Program Growth: The Number of Crops Insured and Crop/Type Programs

The Federal crop insurance program has seen significant growth in both crops covered and insurable crop types since 2000. The number of crops insured by Federal crop insurance increased 15 percent from 2000 to 2013 to 129 insurable crops. The number of insurable crop/type combinations, at 517 in 2013, increased 59 percent from 2000 to 2013. Additionally, in states and counties where Adjusted Gross Revenue (AGR) and Adjusted Gross Revenue-Lite (AGR-Lite) products are available, all commodities on the farm are covered. The following table shows the growth of insurance program offers by year since 2000 and includes all crops and livestock.

2000 - 2013 Insured Crop/Type Summary Information

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

*Restructuring of the Citrus crop codes resulted in the Crops Insured count decreasing even though actual crops insured increased in 2013.

III Market Penetration of Federal Crop Insurance-All Insured Crops

Federal crop insurance market penetration measures, calculated as insured acres compared to U.S. acres (or other applicable units if acres are not applicable), are used to measure the scope of the risk management safety net over time and to identify areas where market potential exists and the risk management safety net could be strengthened. Identification of market potential is helpful in the determination of future priorities for product development, maintenance, and improvements to Federal crop insurance, as well as assisting with determinations of the most efficient and beneficial use of resources.

Nationwide Measures of Market Penetration

Federal crop insurance nationwide market penetration increased to 83 percent in 2011, from 73 percent in 2000, and up from only 36 percent in 1990 (measured with acres and excluding hay, livestock, nursery, and pasture/range/forage). Acres covered by higher levels of coverage (Buy-

Up) also increased overall to 92 percent in 2011 from 78 percent in 2000. The year 2011 is the latest year shown because NASS numbers are not yet available for all crops for 2012. The following table shows market penetration by crop category and in total for 1990, 2000, and 2011:

Market Penetration of Crops (Excluding hay, livestock, nursery, and pasture/range/forage)

Crop Values and Market Penetration by Acres (excludes livestock/nursery/pasture-range-forage)				
Crop Category	Item	1990	2000	2011
Principle Crops***	NASS Value	\$67,424,853,000	\$66,927,197,000	\$145,961,300,000
	NASS Acres*	246,527,700	253,140,800	253,835,155
	RMA Acres	94,420,238	187,793,518	214,602,614
	Market Penetration	38%	74%	85%
	% Buy-Up	CAT not available	79%	93%
Other Field Crops (except Hay)	NASS Value	\$5,103,651,000	\$5,333,766,000	\$9,271,436,000
	NASS Acres*	11,421,300	15,454,200	11,799,727
	RMA Acres**	378,054	9,167,445	8,227,024
	Market Penetration	3%	59%	70%
	% Buy-Up	CAT not available	76%	88%
Fruits and Nuts	NASS Value	\$8,743,793,000	\$12,366,271,000	\$24,162,346,000
	NASS Acres	3,501,570	4,100,300	4,037,690
	RMA Acres	607,297	3,002,739	2,938,322
	Market Penetration	17%	73%	73%
	% Buy-Up	CAT not available	36%	54%
Vegetables	NASS Value	\$4,956,447,000	\$10,754,656,000	\$12,489,134,000
	NASS Acres	2,821,910	3,726,910	2,846,570
	RMA Acres	441,138	1,072,964	921,358
	Market Penetration	16%	29%	32%
	% Buy-Up	CAT not available	64%	79%
Total (excluding hay/livestock/nursery/PRF)	NASS Value	\$69,986,601,000	\$78,868,422,000	\$193,808,273,000
	NASS Acres*	264,272,480	276,422,210	272,519,142
	RMA Acres**	95,846,727	201,036,666	226,689,318
	Market Penetration	36%	73%	83%
	% Buy-Up	CAT not available	78%	92%

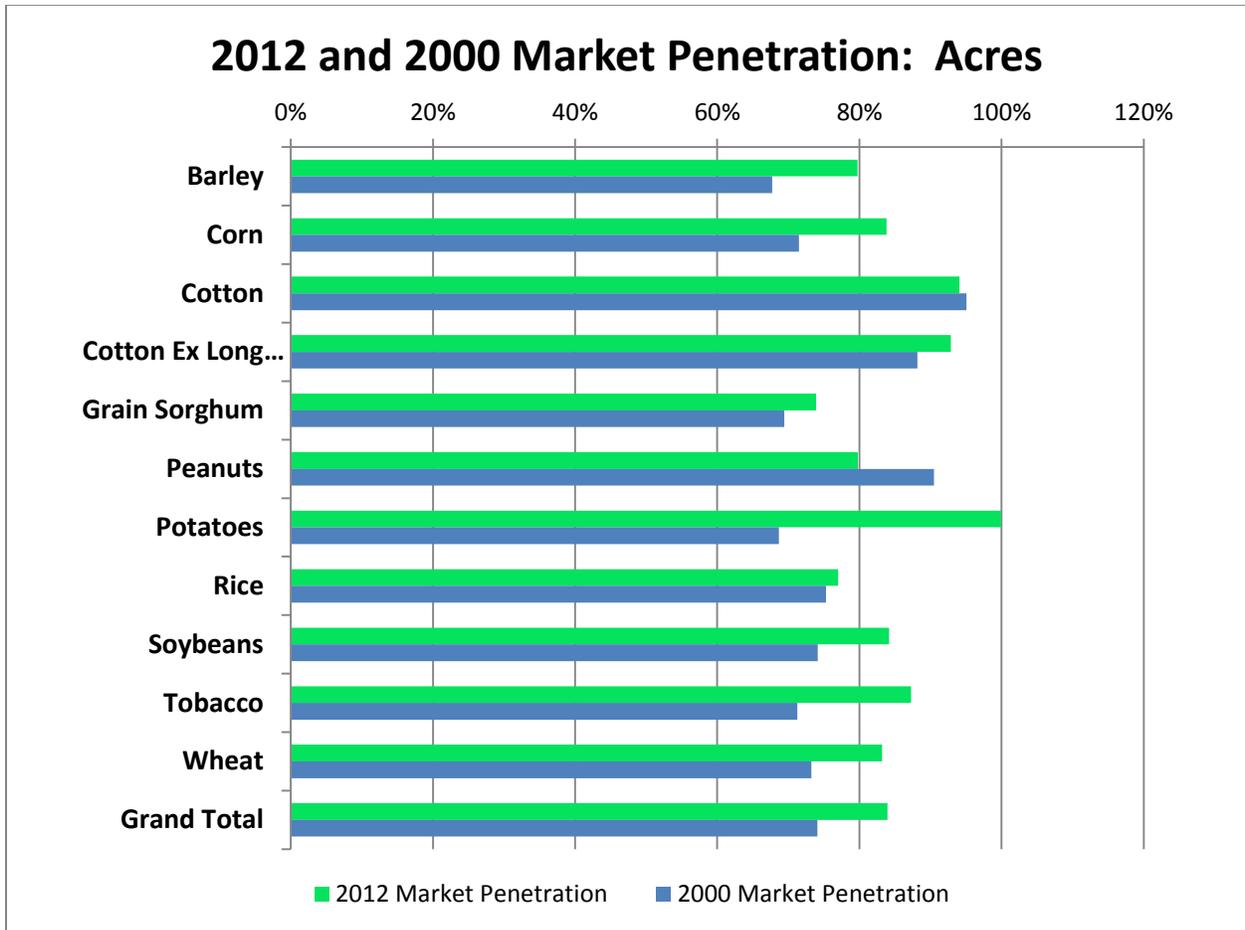
*NASS acres were adjusted upwards if RMA insured acres were higher. **Includes crops reported in NASS Crop Production publication. ***Principle crops are barley, corn, cotton, ELS cotton, grain sorghum, peanuts, potatoes, rice, soybeans, tobacco, and wheat.

Note: Hay was removed from the totals and is listed separately because it was so large that it obscured the values of the other field crops.

IV. Market Penetration of the Principle Crops

Efforts to improve market penetration for the principle crops have been very successful with 84 percent of all acres insured in 2012 (2012 is provided here because 2012 numbers were available for the principle crops) and 85 percent of all acres insured in 2011 compared to 74 percent in 2000 and only 38 percent insured in 1990. The purchase of buy-up levels of insurance coverage increased to 93 percent in 2012 and 2011 compared to 79 percent in 2000.

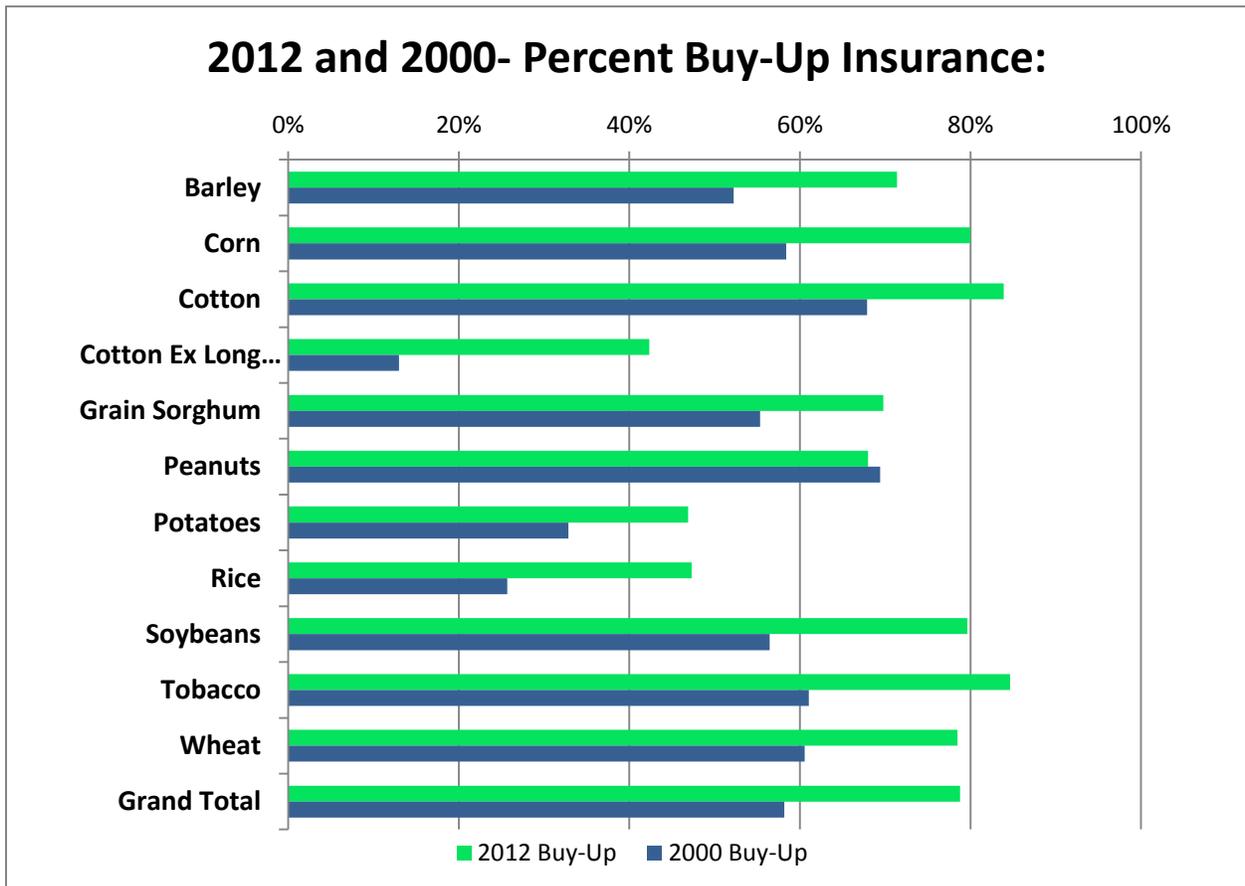
Many program changes have been made since 2000, including improved insurance products, additional availability of revenue coverage, additional subsidy, organic practices, and trend yield adjustments. Historically, the majority of efforts to improve market penetration were focused on these principle crops because they are widely grown in the U.S and public policy was directed to encourage participation in Federal crop insurance to avoid the need for ad-hoc disaster assistance. Improvements in principle crop market penetration from 2000 to 2012 can clearly be seen in the following graph.



Coverage Levels Chosen By Crop for the Principle Program Crops

Some Federal crop insurance policies have large levels of participation at the Catastrophic (CAT) level of coverage, the lowest level of coverage offered, instead of at the higher levels of Buy-Up coverage.

Crop acres covered by buy-up levels of coverage have also increased substantially since 2000, increasing to 79 percent of insured acres in 2012 from 58 percent in 2000. Buy-up levels of coverage are levels higher than the fully subsidized catastrophic level and provide more insurance protection for the crop. The following chart shows the percentage of acres covered with buy-up levels of coverage for 2000 and 2012 for the principle program crops.



Participation for the principle crops, as shown in the previous charts, is high and the purchase of buy-up coverage is strong. While there may be some additional market potential, it is likely limited to a few crops.

Previous Portfolio Studies-Principle Crop Market Penetration in Southern States

Two states, Arkansas and Mississippi, were identified in a previous portfolio analysis, completed in 2004, as being inadequately served by Federal crop insurance products because the share of acreage covered by Buy-Up insurance was considerably lower than that of most other major crop

producing states. A follow-up contracted study, completed early in 2008, was conducted to identify causes of low participation, potential product design problems and to obtain recommendations for program improvements to improve market penetration.

In 2012, Arkansas had 76 percent market penetration of the principle crops compared with only 66 percent in 2007 when the study was done. Arkansas also more than doubled its buy-up levels of coverage to 45 percent of the principle crops covered from 2007 to 2012. Mississippi had 91 percent market penetration of the principle crops, up slightly from the 89 percent in 2007. Mississippi buy-up levels also increased to 70 percent from only 47 percent in 2007, so considerable progress has been made in capturing market potential and providing an effective risk management safety net to producers in these southern states since the study. Market penetration and buy-up levels of coverage for these states by principle crop are shown in the following table:

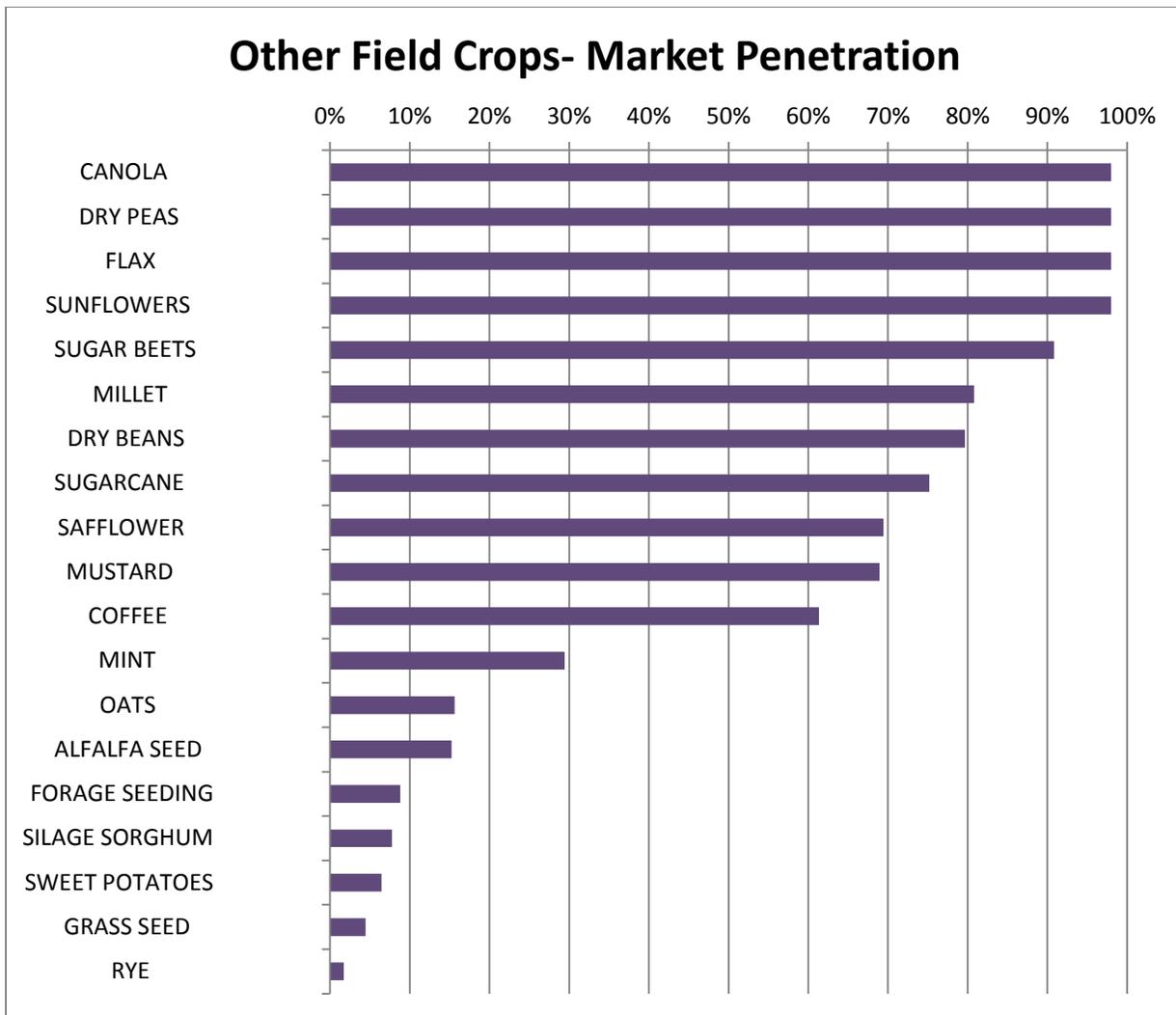
Arkansas	2007		2012		2007		2012	
Crop	NASS Planted Acres*	RMA Acres	NASS Planted Acres*	RMA Acres	Market Penetration	Market Penetration	Percent Buy-Up	Percent Buy-Up
Corn	610,000	418,718	710,000	530,215	69%	75%	26%	43%
Cotton	860,000	698,183	590,000	480,630	81%	81%	10%	30%
Grain								
Sorghum	225,000	159,081	140,000	100,464	71%	72%	24%	40%
Peanuts	15	15	4,805	4,805	100%	100%	0%	100%
Rice	1,331,000	775,153	1,286,000	891,222	58%	69%	16%	37%
Soybeans	2,850,000	1,861,634	3,200,000	2,434,204	65%	76%	27%	50%
Wheat	820,000	507,531	550,000	457,598	62%	83%	25%	51%
Grand Total	6,696,080	4,420,380	6,481,215	4,899,548	66%	76%	22%	45%
Mississippi	2007		2012		2007		2012	
Crop	NASS Planted Acres*	RMA Acres	NASS Planted Acres*	RMA Acres	Market Penetration	Market Penetration	Percent Buy-Up	Percent Buy-Up
Corn	930,000	827,418	820,000	748,464	89%	91%	46%	69%
Cotton	660,000	623,312	470,000	440,019	94%	94%	37%	72%
Grain								
Sorghum	145,000	131,156	48,000	37,431	90%	78%	69%	60%
Peanuts	19,000	8,180	52,000	31,116	43%	60%	39%	58%
Rice	190,000	177,268	125,000	122,661	93%	98%	24%	55%
Soybeans	1,460,000	1,300,520	1,990,000	1,838,343	89%	92%	55%	73%
Wheat	370,000	285,475	370,000	293,662	77%	79%	42%	54%
Grand Total	3,774,000	3,353,329	3,875,000	3,511,696	89%	91%	47%	70%

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

Program changes since the Arkansas/Mississippi study was conducted, some directly as a result of the study and others not, that likely responsible for the improvements in buy-up coverage amounts and market penetration are: (1) The separation of irrigated and non-irrigated types, to account for the fact that irrigation is a widely used practice, (2) A review and update of transitional yields, (3) Adjustment of final planting dates to better match production practices in the states, and (4) The enterprise unit subsidy was increased legislatively.

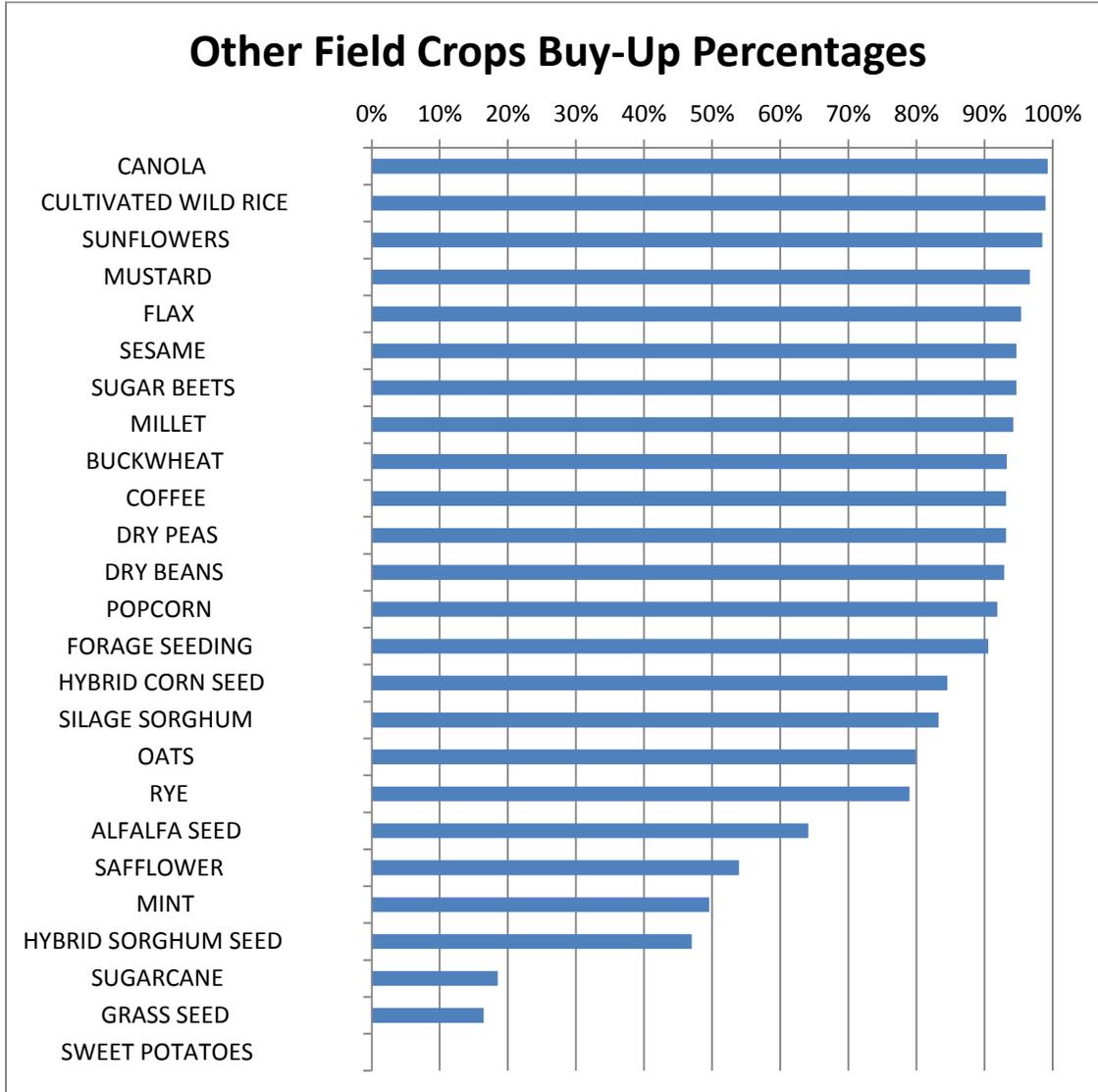
V. Market Penetration of Other Field Crops, Hay, Livestock, Nursery, and Pasture/Range/Forage:

Market penetration of the other field crops at a strong 70 percent in 2011, increased substantially from 59 percent in 2000 and the 3 percent market share in 1990. The following chart shows the level of market penetration by crop for the field crops that are not principle crops:



Actual market penetration numbers for all crops by crop are in Attachment 1.

These crops also have a relatively high level of buy-up coverage as shown the following chart and in Attachment 2.



Note: Sweet potatoes had no Buy-Up coverage purchased.

Market Penetration for Hay, Pasture-Range-Forage, Livestock & Nursery

Hay, nursery, livestock, and pasture/range/forage are all very large crops that are grown across the U.S. While the majority of field crops have good participation in the crop insurance program, market penetration for hay crops was only 8 percent in 2011, although up from 3 percent in 2000 and 1 percent in 1990 as shown in the following table. This clearly indicates there is substantial market potential available for hay insurance coverage. The new Annual Forage insurance product, released for the 2014 crop year, may capture more of the market potential for hay.

Crop Category		1990	2000	2011
Hay*	NASS Hay Value	\$11,138,492,000	\$11,179,702,000	\$18,251,166,000
	NASS Acres	61,557,000	59,854,000	55,653,000
	RMA Acres	379,104	2,004,567	4,641,842
	Market Penetration	1%	3%	8%
	% Buy-Up	CAT not available	30%	70%

*Includes hay covered under Forage Production and Pasture/Range/Forage insurance products.

The Pasture, Range and Forage insurance product, while covering over 33 million acres in 2011, provided protection for only 5 percent of the estimated pasture and range. Because there is not a catastrophic level of insurance for the Pasture, Range and Forage product, all of this coverage was sold at buy-up coverage levels. The low market penetration for both hay and pasture and range indicates there are opportunities for new or improved products for these crops to improve the risk management safety net for livestock producers.

Crop	Summed 2011 Acres	US Acres/NASS	Market Penetration	NASS 2011 Value
PASTURE, RANGE LAND, FORAGE (Excluding Hay)	33,463,242	722,898,000	5%	ERS-Major uses of land-2002-Includes annual pasture and grazed forest but excludes NASS Hay.

Livestock insurance was first authorized in 2000 in the Agricultural Risk Protection Act so is the newcomer in Federal Crop Insurance coverage. Livestock market penetration was highest for lambs, with nearly 40 percent of the 2012 lamb crop covered. Expenses for livestock insurance coverage, that provides coverage for the animals or products from the animals like milk, are statutorily limited to \$20 million per Fiscal Year and include premium subsidy paid on behalf of the producer for their insurance as well as administrative and operating subsidy paid to Approved Insurance Providers to sell and service the insurance.

Underwriting capacity for various livestock insurance products is allocated across the livestock insurance products and managed throughout the year in order to spread the capacity between products to assure that producers of all of the insurable species have opportunities to purchase insurance and that the funds are fully utilized for the Fiscal Year. Although market penetration may vary some by species from year to year and additional insurance products could be added to the portfolio, with the statutory limitation on expenses Federal crop insurance will be unable to capture additional market potential for livestock. All livestock insurance is sold at buy-up coverage levels. The following table shows 2012 livestock market penetration.

LIVESTOCK	2012 Total Insured Head/CWT Milk	2012 NASS Total Head/CWT Milk	Market Penetration	Source for U.S. Numbers
CATTLE	184,537	46,164,700	0.40%	NASS-Cattle, February 2013-Breeding stock removed
DAIRY	40,524,158	2,003,240,000	2.02%	NASS Milk Production February 2013
LAMB	809,806	2,030,000	39.89%	American Sheep Industry Association info compiled from NASS and FSIS, 2012 lambs
SWINE	139,410	117,339,100	0.12%	NASS Hogs and Pigs-December 2012-NASS pig crop from 2012, which would include some saved for breeding.

In addition, finally, the nursery crop has the fifth largest total liability in the entire book of business for 2011 counting the principle crops. Market penetration for nursery is high, at 85 percent (measured with 2009 numbers due to national number availability), but buy-up levels of coverage are very low, at only 14 percent for 2011. The following table shows the market penetration numbers for nursery in 2009:

Crop	Liability Adjusted to 100% (Full Value)	U.S. Value	Market Penetration (2009)	Percent Buy-Up (2011)	Data Source
NURSERY (FG&C)	\$9,984,274,542	\$11,700,000,000	85%	14%	Census 2007-Horticultural Crops as of 2009-Used RMA numbers from 2009 to compare

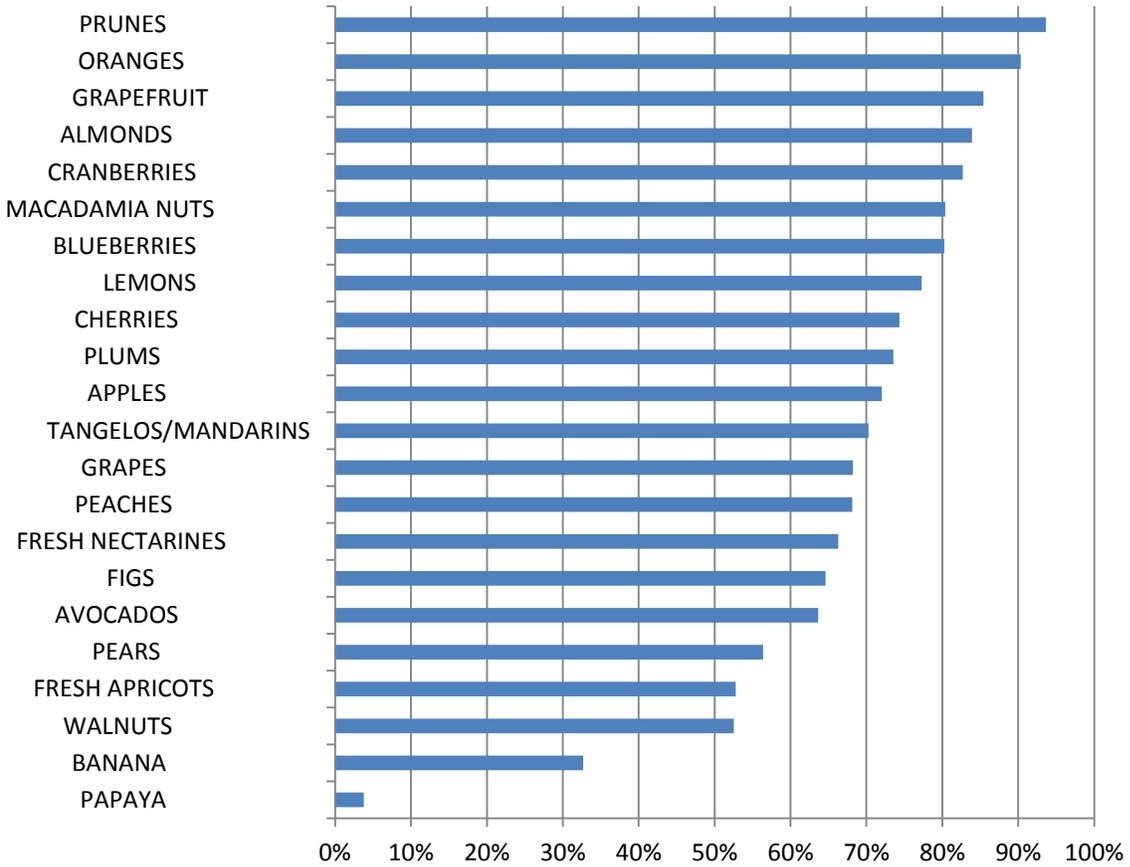
VI. Market Penetration for Fruits/Nuts and Vegetables

Market penetration for fruit and nut crops held steady at a strong 73 percent in 2011 the same as 2000 despite large increases in prices for sweet cherries, grapes, strawberries, almonds, and blueberries, and increasing sharply from 1990's 17 percent. Buy-up percentages nearly doubled from 2000 to 2011 with 54 percent of insured fruit and nut acres utilizing buy-up insurance compared with 36 percent in 2000.

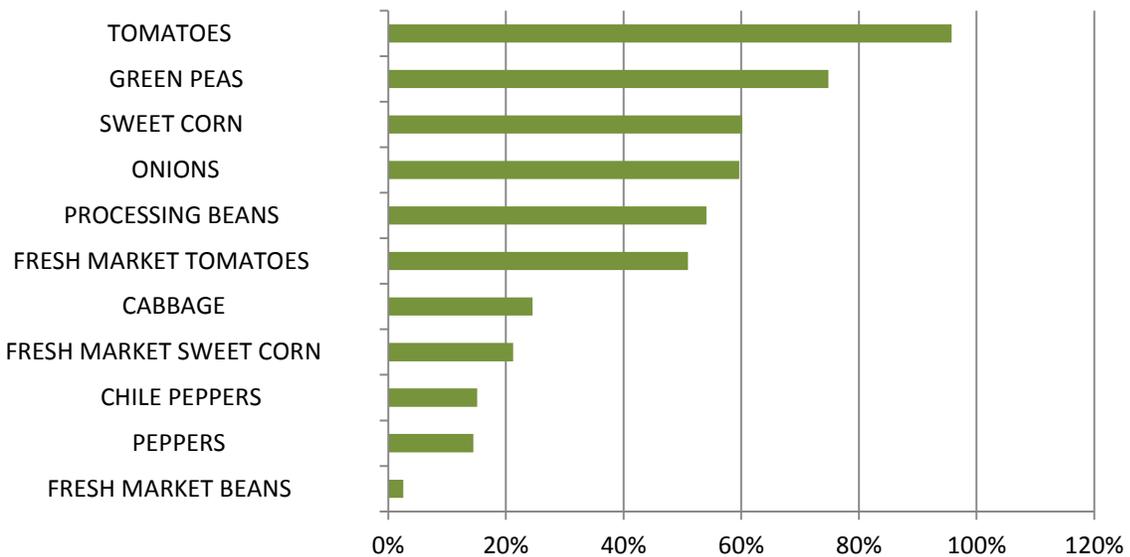
Vegetable market penetration nationwide was 32 percent in 2011, up from 29 percent in 2000 and also up from 16 percent in 1990. The buy-up percentage for vegetable crops was 79 percent in 2011, up from 64 percent in 2000.

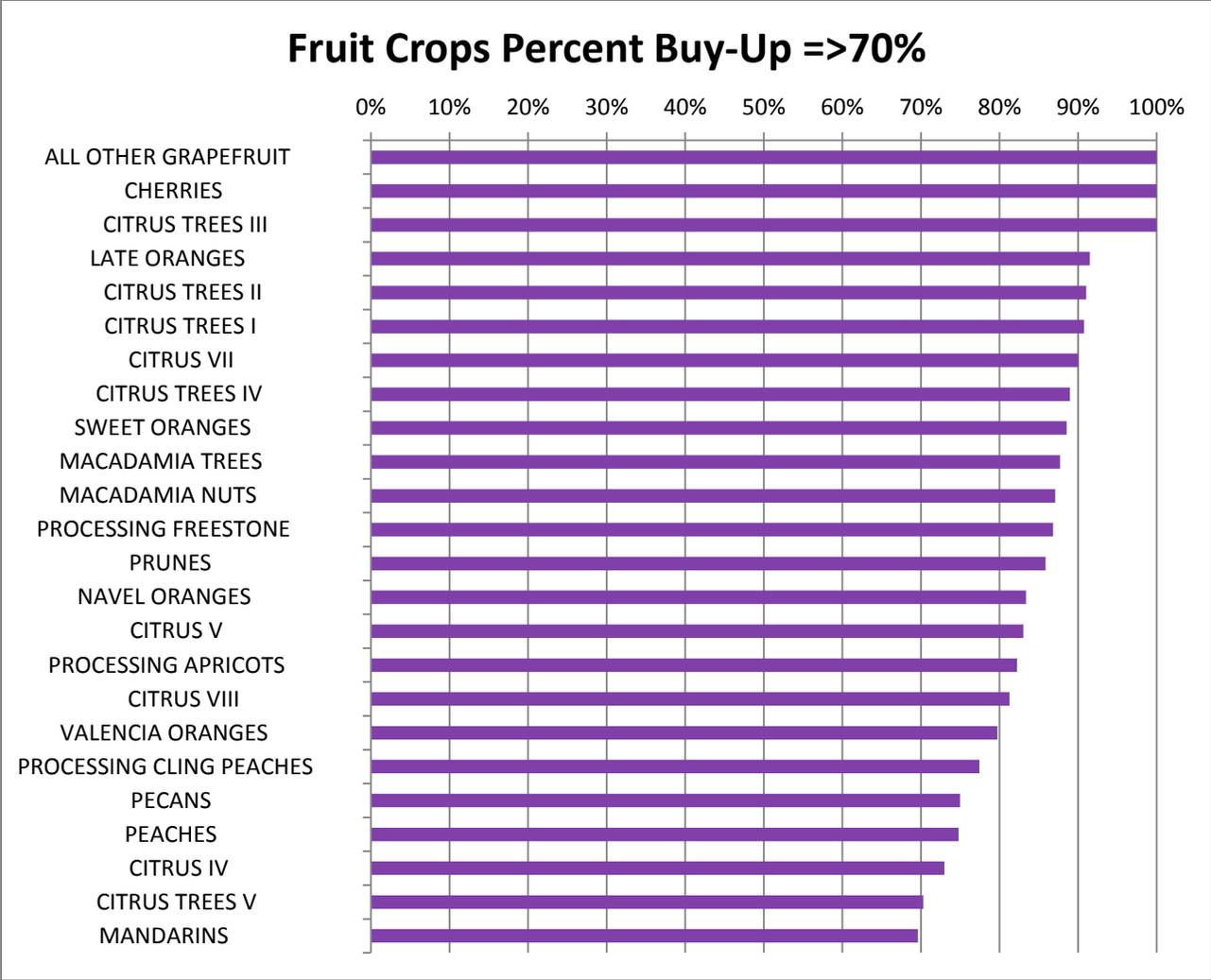
Fruit and nut and vegetable crop market penetration and buy-up levels are shown in the following charts:

Fruit and Nut Crops Market Penetration



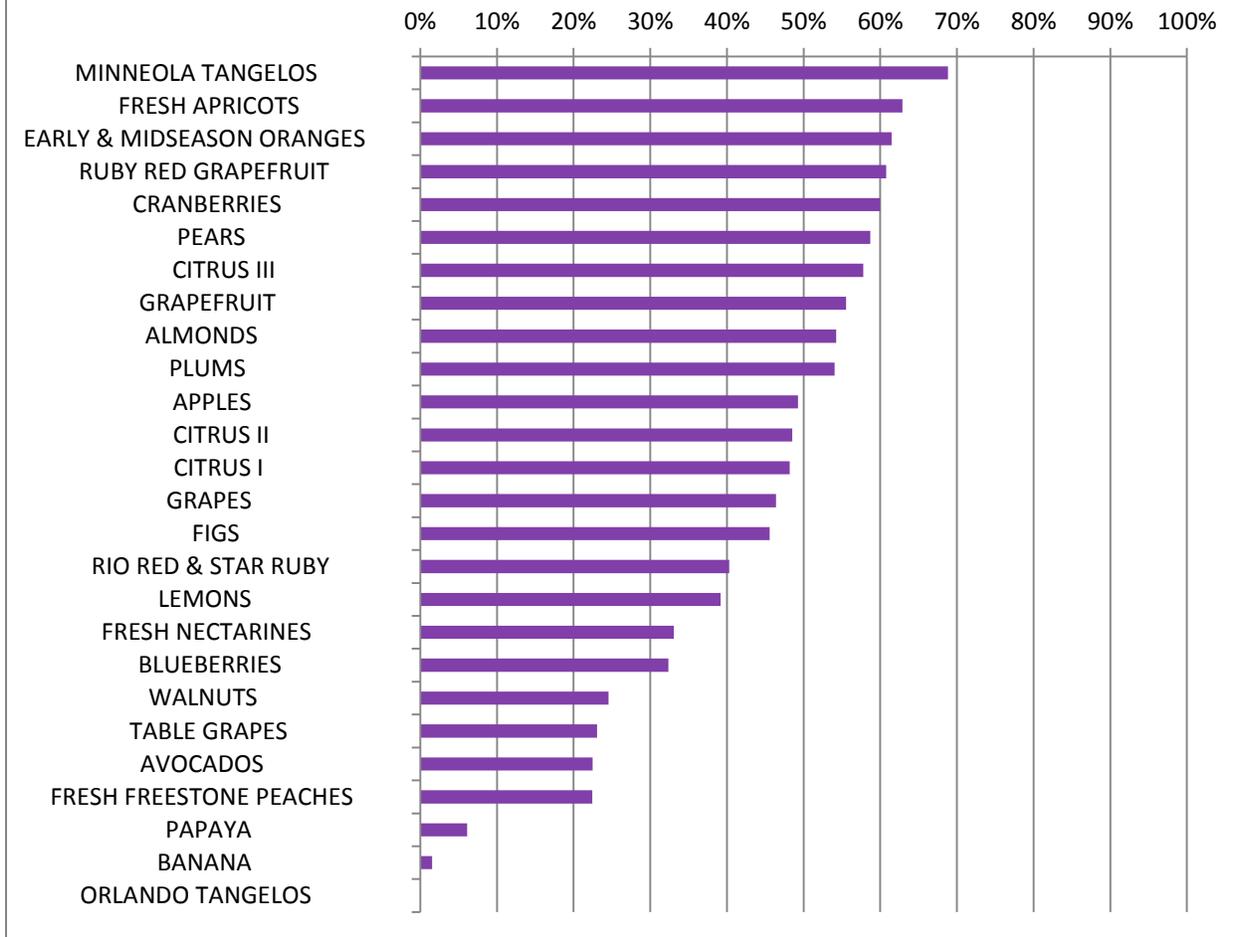
Vegetable Crops Market Penetration



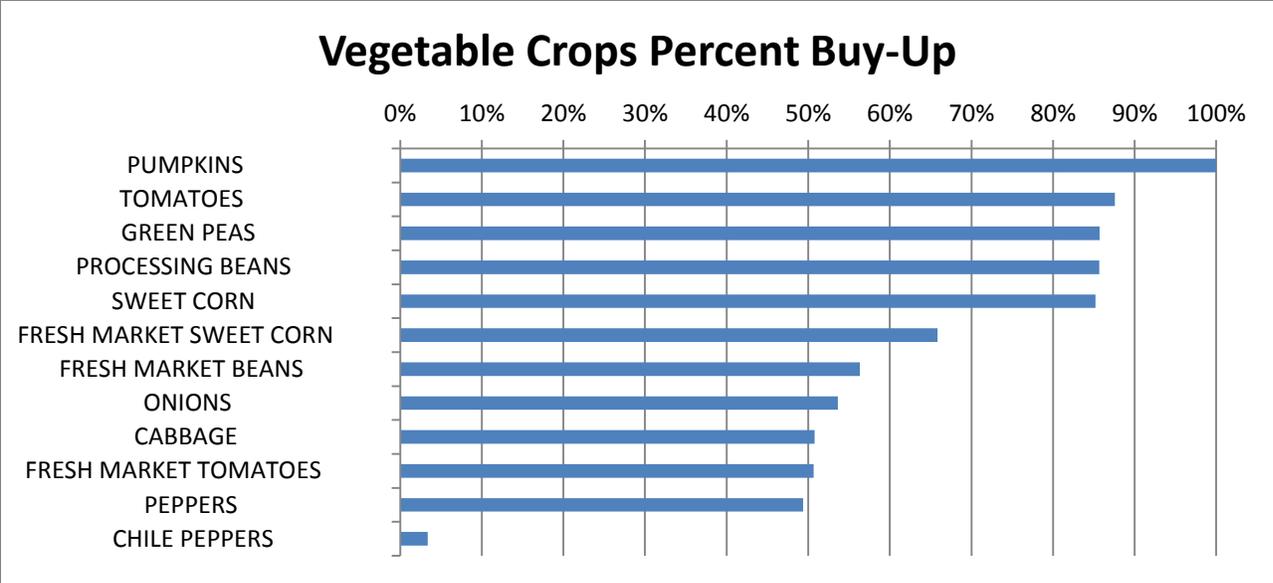


Note: The Citrus designations are as follows:
 Citrus I - Early and mid-season oranges
 Citrus II - Late oranges juice
 Citrus III - Grapefruit –juice basis
 Citrus IV - Tangelos and Tangerines
 Citrus V - Murcott Honey Oranges and Temple Orange;
 Citrus VI - Lemons and Limes;
 Citrus VII - Grapefruit and late oranges-fresh basis
 Citrus VIII - Navel Oranges
 Citrus IX - Any other citrus fruit crop

Fruit Crops Percent Buy-Up <70%



Note: Orlando tangelos had no buy-up insurance purchased and Citrus designations are listed on the chart above. See citrus designations on previous page.



VII. Considerations for Capturing Market Potential:

A comparison of insurance availability and Federal crop insurance sales to NASS state data for the crop can provide information about market potential that could be captured by expansion of the insurance product to additional states or counties. The majority of permanent Federal crop insurance policies allow ‘written agreements’ which are a method of obtaining insurance in a county, as long as underwriting can be satisfactorily performed, even if the program is not offered in that specific county.

For example: Fresh Market Sweet Corn Federal crop insurance had a relatively low market penetration at a little over 20 percent, so its availability is compared with NASS data in the following table. The table is sorted from largest to smallest NASS reported acres of fresh market sweet corn.

Fresh Market Sweet Corn Market Penetration and Availability

State	2011 Insured Acres	2011 NASS Acres	Insurance Available	Percent Insured	Percent of Total Acres
FLORIDA	27,138	50,500	Yes	54%	19%
CALIFORNIA		33,700		0%	13%
GEORGIA	12,653	28,000	Yes	45%	10%
NEW YORK	5,384	23,300	Yes	23%	9%
OHIO		15,900		0%	6%
PENNSYLVANIA	2,419	15,200	Yes	16%	6%
WASHINGTON		12,000		0%	4%
MICHIGAN		10,200		0%	4%
WISCONSIN		8,000		0%	3%
COLORADO	2,174	7,600	Yes	29%	3%
NEW JERSEY	1,352	7,400	Yes	18%	3%
NORTH CAROLINA	883	7,200		12%	3%
ILLINOIS		7,000		0%	3%
INDIANA		6,100		0%	2%

Note: The 38 percent is the total of the 'Percent of Total Acres' for the states shown without available insurance. In these states insurance is only potentially available via written agreements of insurance.

In this example, there is a 38 percent share of the market that does not have Fresh Market Sweet Corn insurance directly available in their region. Federal crop insurance programs are generally put into main growing areas for crops where expressed interest exists and later expanded when needs are identified in additional areas. Because of market sensitivity, on occasion producer groups may request a specific crop insurance program not be offered in specific states. However, needs and preferences can change over time. Weather changes, prices, consumer demand, variety and agronomical improvements can make large differences in where crops are grown and what crops are grown. The table above shows several states with NASS acres but no insurance program available, which can suggest there may be market potential that could be further researched for potential program expansion.

Note that for Fresh Market Sweet Corn, some states like North Carolina have insured acres but no insurance available, which means that all policies there are being obtained by producers through written agreements.

Consideration of expansion of an existing Federal crop insurance program to new areas requires careful research and underwriting to determine growing practices, crop risks and appropriateness of the insurance program to production practices and markets (prices) in the specific area before any program expansion can occur.

Some other considerations useful in capturing market potential are:

- Determinations that risks covered by the insurance policy and procedures used are effective for the industry.
- There is producer demand for the risk management product.
- Rates reflect the risks covered. (Rates in existing program areas are reviewed on a regular basis.)
- Producers and agents understand what the insurance products cover and the value of coverage. Outreach and education efforts can be important for this component.
- Agents are available to sell and service policies.
- Any other barriers to participation are identified and removed.

VIII. Uninsured Crops

The Federal crop insurance book of business was compared with Farm Service Agency data and with NASS estimate information to identify crops that are not insured. Note that all crops are insured in areas where the Adjusted Gross Revenue and Adjusted Gross Revenue-Lite programs are available but these programs were not considered in this comparison because they have had low participation rates.

The list of uninsured crops, in Attachment 2 and sorted by 2011 value from large to small, contains information showing previous studies that have been contracted by RMA for feasibility and the recommendations obtained. In some cases, although the contractors have reported that a crop program was feasible, no program was developed due to producer input. Especially with many of the vegetable crops in the past, producers have indicated to RMA that they did not want a program due to market sensitivity issues. This uninsured crop listing can be used to target future feasibility studies or research into new crop insurance programs.

Two main issues dominate the new product arena for creating new crop insurance products after several years of development of many new crop insurance programs, both RMA contracted products and privately developed products submitted to the Federal Crop Insurance Corporation under the authority of section 508(h) of the Federal Crop Insurance Act. The first is that the lack of credible data is the main limitation of creating a new crop insurance policy. Credible, third party, sustainable yield and price information is necessary to create an actuarially sound insurance product and is often the limiting factor. Secondly, the cost of developing an individual crop insurance policy along with the potential for the value of coverage to producers must also be reviewed before a new product is developed, unless the development is a legislated requirement.

IX. Market Potential: RMA On-Going Initiatives and Priorities for Improvement of Market Penetration

A. Principle Crops

1. Continued education and outreach in states with lower participation of principle crop insurance programs.
2. Continue to explore new and different products targeting specific policy features and risks such as trend yield, organic coverage and specific prices.
3. Continue to Work on Organic Practices to increase the opportunities to insure using organic prices as data become available and update organic rates and T-Yields with available data to the extent possible.

B. Other Field Crops, Hay, Livestock, Pasture/Range/Forage, Nursery, Fruits/Nuts, and Vegetable Crops

1. Pasture, Range and Forage – There are many acres of pasture, range and forage in the U.S. but the Pasture/Range/Forage insurance product still has low market penetration to date. RMA is currently working on a contracted program evaluation and will consider further expansion if the program is approved to be a permanent program by the Board. Outreach activities and educational materials explaining the program in a simple manner, along with continued program oversight, will be important to this program. There is an opportunity with this product to increase market penetration and to improve the risk management safety net for both crop and livestock producers.
2. Nursery Crop Insurance Program – The nursery insurance program is one of the largest Federal crop insurance products after the main program commodities, but is sold mostly at the CAT level of insurance. RMA is evaluating the results from a recently completed contracted evaluation to assist in making improvements to the program.
3. Insurance Coverage for Hay - The U.S. hay crop encompasses many acres across the U.S. but has low Federal crop insurance market penetration. RMA has already begun dialogue with and will continue to work with the hay and forage industry to explore additional insurance possibilities to provide both crop and livestock producers with new or improved products that will provide effective hay insurance coverage.
4. Insurance Coverage for Livestock - Although livestock insurance expenses are limited by statute, RMA will work to identify the risks livestock producers face and explore different types of insurance products for livestock coverage.

5. Coverage opportunities for field crops such as those used for energy - RMA will explore possibilities for insurance specific to crops used for energy or for other specific targeted markets as they are identified.

6. Insurance Coverage for Fruits/Nuts and Vegetables - RMA will continue to explore improved coverage opportunities for fruits, nuts and vegetables, including working with industry to recognize changing needs for the availability of insurance, reviewing county availability of insurance programs, and exploring new product potential.

C. Uninsured Crops

1. Conduct feasibility studies and develop new insurance products utilizing input from the agricultural community and Congress, new information, and the table in Attachment 2 to identify specific commodities to research in consideration of new products. Priority will be given to the larger crops on the uninsured list or specific needs to cover new risks for fruits/nuts, vegetables, livestock, energy, organic, and specialty crops as well as identifying new risk management needs.

2. Explore the potential for Whole Farm Insurance product(s) in the form of one or more different products to address a wide range of potential needs, sizes of operations and varying markets, in particular for producers of crops without available insurance products. The existing Adjusted Gross Revenue and Adjusted Gross Revenue-Lite programs will also be combined into one product and simplified to the extent practical.

Attachment 1: Market Penetration by Category of Crop

Market penetration measures can be used to identify where market potential exists, which can assist RMA in setting priorities for improving the risk management safety net.

The tables below are organized by category of crop and show the amount of market penetration Federal crop insurance has obtained for each insured crop. Market penetration is the amount of the crop insured under Federal crop insurance compared to the amount of the crop grown in the U.S. For each crop, the data source for the U.S. number is identified.

The majority of crops are measured using acres. For other crops or livestock, other units of measurement such as crop value or head or hundredweight of milk are used. The numbers shown for the crops are from 2011 because 2012 data for all crops was not yet available from NASS.

Market Penetration by Acres: Federal Crop Insurance Insured Crops, 2011

Principle Crops:

Crop	2011 Insured Acres	US Acres/NASS	Market Penetration	Data Source
Principle Crops				
BARLEY	2,082,217	2,855,630	73%	NASS-Crop Production January 2013
CORN	78,233,689	92,737,647	84%	NASS-Crop Production January 2013-Adjusted
COTTON	13,701,522	14,428,223	95%	NASS-Crop Production January 2013-Adjusted
COTTON EX LONG STAPLE	258,552	307,400	84%	NASS-Crop Production January 2013-Adjusted
GRAIN SORGHUM	4,309,835	5,527,679	78%	NASS-Crop Production January 2013-Adjusted
PEANUTS	975,456	1,140,901	85%	NASS-Crop Production January 2013-Adjusted
POTATOES	884,455	1,119,151	79%	NASS-Crop Production January 2013-Adjusted
RICE	2,273,619	2,700,979	84%	NASS-Crop Production January 2013-Adjusted
SOYBEANS	63,712,054	75,604,787	84%	NASS-Crop Production January 2013-Adjusted
TOBACCO	300,132	330,621	91%	NASS-Crop Production January 2013-Adjusted
WHEAT	47,871,083	57,082,137	84%	NASS-Crop Production January 2013-Adjusted
Total Principle Crops	214,602,614	253,835,155	85%	

*NASS numbers adjusted upwards at state level if RMA numbers higher.

Other Field Crops and Hay:

Crop	2011 Insured Acres	US Acres/NASS*	Market Penetration	Data Source
Other Field Crops				
ALFALFA SEED	18,510	121,467	15%	2007 Census of Agriculture
BUCKWHEAT	16,455	n/a	n/a	n/a
CANOLA	1,467,564	1,071,500	100%	NASS-Crop Production January 2013
COFFEE	3,865	6,300	61%	NASS-Crop Production January 2013
CULTIVATED WILD RICE	16,623	n/a	n/a	NASS Non-Citrus Fruits & Nuts July 2011
DRY BEANS	970,313	1,217,900	80%	n/a
DRY PEAS	1,040,427	1,040,427	100%	NASS-Crop Production January 2013-Sum of Austrian, Lentils, Chickpeas as covered under policy
FLAX	226,596	178,000	100%	NASS-Crop Production January 2013
FORAGE PRODUCTION	4,641,842	55,653,000	8%	NASS-Crop Production January 2013-Used 'all hay' from NASS-insurance includes Forage Production and Hay under Pasture/Range/Forage
FORAGE SEEDING	103,734	1,178,726	9%	2007 Census of Agriculture-Field and Grass Seed Crops-All
GRASS SEED	20,388	459,201	4%	2007 Census comparison to KY Bluegrass and Rye
HYBRID CORN SEED	484,268	n/a	n/a	
HYBRID SORGHUM SEED	29,584	n/a	n/a	
MILLET	299,058	370,000	81%	NASS-Crop Production January 2013
MINT	26,869	91,300	29%	NASS-Crop Production January 2013
MUSTARD	15,992	23,200	69%	
OATS	390,589	2,496,000	16%	NASS-Crop Production January 2013
POPCORN	151,639	n/a	n/a	
RYE	21,637	1,266,000	2%	NASS-Crop Production January 2013
SAFFLOWER	90,783	130,700	69%	NASS-Crop Production January 2013
SESAME	8,127	n/a	n/a	
SILAGE SORGHUM	17,432	224,000	8%	NASS-Crop Production January 2013
SUGAR BEETS	1,119,749	1,232,800	91%	NASS-Crop Production January 2013
SUGARCANE	655,929	872,600	75%	NASS-Crop Production January 2013-Acreage for sugar and seed as covered by policy
SUNFLOWERS	1,902,300	1,543,000	100%	NASS-Crop Production January 2013
SWEET POTATOES	8,655	133,600	6%	NASS-Crop Production January 2013
Total Hay/Forage	4,641,842	55,653,000	8%	
Total Other Field Crops w/ NASS Data in Crop Production Report (no hay)	8,227,024	11,799,727	70%	

*NASS Number adjusted if RMA was greater. Notes: Capped at 100% if insured acres greater than NASS estimate. Hay includes coverage under pasture/range/forage for hay.

Pasture/Range/Forage:

Crop	Summed 2011 Acres	US Acres/NASS	Market Penetration	NASS 2011 Value
PASTURE,RANGELAND, FORAGE (no hay included)	33,463,242	722,898,000	5%	ERS-Major uses of land-2002- Includes annual pasture and grazed forest but excludes NASS Hay

Fruits and Nuts:

Crop	2011 Insured Acres	US Acres/NASS	Market Penetration	Data Source
Fruit Crops				
ALMONDS	637,665	760,000	84%	NASS Non-Citrus Fruits & Nuts July 2012
PECANS	162,480	n/a	n/a	NASS Citrus Fruits September 2012
PRUNES	54,320	58,000	94%	NASS Non-Citrus Fruits & Nuts July 2012
ORANGES	559,316	619,200	90%	NASS Citrus Fruits September 2012
GRAPEFRUIT	62,695	73,400	85%	NASS Citrus Fruits September 2012
CRANBERRIES	31,838	38,500	83%	NASS-Crop Production January 2013
MACADAMIA NUTS	12,060	15,000	80%	NASS Non-Citrus Fruits & Nuts July 2012
BLUEBERRIES	57,792	72,000	80%	NASS Non-Citrus Fruits & Nuts July 2012
LEMONS	42,515	55,000	77%	NASS Citrus Fruits September 2012
CHERRIES	63,076	84,820	74%	NASS Non-Citrus Fruits & Nuts July 2011
PLUMS	19,121	26,000	74%	NASS Non-Citrus Fruits & Nuts July 2012
APPLES	238,167	330,600	72%	NASS Non-Citrus Fruits & Nuts July 2012
TANGELOS/MANDARINS	36,973	52,600	70%	NASS Citrus Fruits September 2012
GRAPES	654,917	960,200	68%	NASS Non-Citrus Fruits & Nuts July 2012
PEACHES	76,651	112,480	68%	NASS Non-Citrus Fruits & Nuts July 2012
FRESH NECTARINES	18,828	28,400	66%	NASS Non-Citrus Fruits & Nuts July 2012
FIGS	5,558	8,600	65%	NASS Non-Citrus Fruits & Nuts July 2012
AVOCADOS	38,169	59,950	64%	NASS Non-Citrus Fruits & Nuts July 2012
PEARS	30,677	54,400	56%	NASS Non-Citrus Fruits & Nuts July 2012
FRESH APRICOTS	6,413	12,150	53%	NASS Non-Citrus Fruits & Nuts July 2012
WALNUTS	128,715	245,000	53%	NASS Non-Citrus Fruits & Nuts July 2012
BANANA	327	1,000	33%	NASS Non-Citrus Fruits & Nuts July 2012
PAPAYA	49	1,300	4%	NASS Non-Citrus Fruits & Nuts July 2012
Total Insured Fruits & Nuts	2,938,322	3,668,600	80%	

Vegetables:

Crop	2011 Insured Acres	US Acres/NASS	Market Penetration	Data Source
Vegetable Crops				
CABBAGE	16,155	65900	25%	NASS Vegetables January 2013 Summary-US acreage shown is fresh acreage only-policy covers both fresh and processing but no processing estimate available
CHILE PEPPERS	3,544	23,400	15%	NASS Vegetables January 2013
FRESH MARKET BEANS	2,698	104,800	3%	NASS Vegetables January 2013
FRESH MARKET SWEET CORN	56,787	267,200	21%	NASS Vegetables January 2013
FRESH MARKET TOMATOES	51,158	100,400	51%	NASS Vegetables January 2013
GREEN PEAS	121,502	162,400	75%	NASS Vegetables January 2013
ONIONS	93,067	155,930	60%	NASS Vegetables January 2013
PEPPERS	7,838	54,200	14%	NASS Vegetables January 2013
PROCESSING BEANS	96,306	178,050	54%	NASS Vegetables January 2013
PUMPKINS	9,554	n/a	n/a	NASS Vegetables includes only fresh pumpkins which aren't insured under this processing policy.
SWEET CORN	201,239	334,450	60%	NASS Vegetables January 2013
TOMATOES	261,510	273,100	96%	NASS Vegetables January 2013
Total Vegetables	921,358	1,719,830	54%	

Market Penetration for Crops Measured by Value Instead of Acres: 2011

Crop	Liability	Liability Adjusted to 100% (Full Value)	U.S. Value	Market Penetration	Data Source
ADJUSTED GROSS REVENUE	\$477,440,139	\$709,570,749	\$428,500,000,000	0.2%	ERS Adjusted Gross Farm Income-adjusted for inventory, 2011
APICULTURE	\$6,905,440	\$7,729,767	\$256,509,000	3%	NASS 2011 Honey value-March 2012
CLAMS	\$24,636,612	\$43,631,409		n/a	
NURSERY (FG&C)	3,193,104,957	\$9,984,274,542	\$11,700,000,000	85%	Census 2007-Horticultural Crops as of 2009-Used RMA numbers from 2009 to compare
OYSTERS	\$2,880,181	\$3,213,945	n/a	n/a	
RAISINS	\$185,110,818	\$294,208,125	\$622,800,000	47%	NASS Non-Citrus Fruits & Nuts July 2012-Grape Quantity * Price

*Data as of December 2012

Market Penetration for Livestock:

LIVESTOCK	2012 Total Insured Head/CWT Milk	2012 NASS Total Head/CWT Milk	Market Penetration	Source for U.S. Numbers
CATTLE	184,537	46,164,700	0.4%	NASS-Cattle, February 2013- Sum of Cattle on Feed, Heifers, Bulls, Steers, Calves (excluding breeding stock)
DAIRY	40,524,158	2,003,240,000	2%	NASS Milk Production February 2013
LAMB	809,806	2,030,000	40%	American Sheep Industry Association info compiled from NASS and FSIS, 2012 lambs
SWINE	139,410	117,339,100	0.1%	NASS Hogs and Pigs-December 2012-NASS pig crop for 2012 which would include some saved for breeding because production, disposition and income report was not yet available.

Attachment 2: Uninsured Crops

This attachment is a listing of crops not insured by Federal crop insurance. It is a working document that can change frequently as crops are added or removed, order is changed, and grower needs or the demand for products change. These crops were identified using NASS and FSA data. The second column indicates if RMA has previously contracted any studies on the crop and what kind of studies were performed.

If a feasibility recommendation was obtained for the feasibility of an insurance program for the crop, the recommendation is listed in the third column. A 'Yes' recommendation means that it is possible that an insurance product could be developed for the crop. The column labeled 'Insurance Product' indicates the status of insurance products for the crop. In some cases, producer groups may have requested that no products be developed for a specific crop in order to protect markets, in other cases there may be insurance products in the development phase or that were previously available but were unsuccessful and subsequently terminated.

The list is sorted by value, with the crops with the largest total U.S. values at the top of the list. Data sources for the national values are identified in the last column, along with any notes for the crop.

The information in this attachment is useful for setting priorities for future feasibility studies and new crop development efforts. In many cases there is no value available, which also illustrates one of the main limitations to new product development, the lack of availability of credible data necessary for insurance product development.

Crop	Previous Studies	Feasibility Recommendation	Insurance Product	2011 Value (1,000's) From Data Source	Data Source/Notes
Lettuce	Feasibility	Yes	Growers Preferred No Development	\$2,442,093	NASS. Includes head, leaf, & romaine
Mushrooms				\$1,017,884	Value-NASS
Carrots, fresh	Feasibility	Yes	Growers Preferred No Development	\$711,145	NASS
Broccoli	Feasibility	Yes	Growers Preferred No Development	\$639,120	NASS. Acres & Value=F&P.

Crop	Previous Studies	Feasibility Recommendation	Insurance Product	2011 Value (1,000's) From Data Source	Data Source/Notes
Yam				\$518,787	Value-NASS
Watermelon			Terminated	\$518,785	NASS
Celery	Feasibility	Yes	Growers Preferred No Development	\$381,780	NASS. Acres & Value=F&P.
Cantaloupe				\$350,208	NASS
Cauliflower	Feasibility	Yes	Growers Preferred No Development	\$305,539	NASS. Acres & Value=F&P.
Raspberries				\$290,024	NASS
Garlic	Feasibility	Yes	Growers Preferred No Development	\$286,820	NASS
Squash			Terminated	\$256,361	NASS. Acres & Value=F&P.
Spinach, fresh	Feasibility	Yes	Growers Preferred No Development	\$247,182	NASS
Hops				\$203,378	Value-NASS
Cucumbers, fresh			Terminated	\$199,353	NASS
Cucumbers, for pickles				\$173,425	Value-NASS
Maple Sap-Processed	Feasibility	No		\$106,019	Value-NASS
Asparagus	Feasibility	Yes	Growers Preferred No Development	\$93,474	NASS. Acres & Value=F&P.
Hazelnuts				\$89,705	NASS
Honeydew Melons				\$77,443	NASS
Cherries, tart	Feasibility	Yes-ARH	In Process	\$69,072	NASS

Crop	Previous Studies	Feasibility Recommendation	Insurance Product	2011 Value (1,000's) From Data Source	Data Source/Notes
Artichokes	Feasibility	Yes	Growers Preferred No Development	\$51,049	NASS. Acres & Value=F&P.
Dates				\$43,956	NASS
Blackberries				\$42,783	NASS
Carrots, processing		Yes	Growers Preferred No Development	\$29,034	Value-NASS
Kiwi Fruit				\$28,439	NASS
Spinach, processing	Feasibility	Yes	Growers Preferred No Development	\$19,243	NASS
Taro				\$2,747	Value-NASS
Boysenberries				\$2,638	NASS
Guavas	Feasibility	No		\$323	NASS
Amaranth					
Anise					
Beets					
Bees	Feasibility	No			
Bok Choy					
Brussel Sprouts					
Bulbs, Corms, Tubers					
Chayote/Mirliton					
Chickens	Feasibility	No			
Chicory/Radicchio					
Chinese Cabbage					
Chives					
Christmas Trees	Feasibility	No			

Crop	Previous Studies	Feasibility Recommendation	Insurance Product	2011 Value (1,000's) From Data Source	Data Source/Notes
Cilantro					
Collards (Greens)					
Crambe			Terminated		
Crenshaw Melons					
Crop Residue (Corn, Soybeans, Wheat)	Feasibility	No			
Crustaceans (Crayfish/Shrimp)					
Daikon					
Eggplant					
Escarole / Endive					
Finfish					
Flowers					
Ginger Root					
Ginseng					
Gourds					
Greens (human consumption)					Excludes spinach
Guayule					
Herbs					Excludes native spearmint, scotch spearmint, & peppermint types
Horseradish					
Jojoba	Feasibility	No			
Kale					
Kochia (Prostrata)					
Kumquats					
Leeks					

Crop	Previous Studies	Feasibility Recommendation	Insurance Product	2011 Value (1,000's) From Data Source	Data Source/Notes
Livestock - Aquaculture (Baitfish)	Feasibility	No			
Livestock - Aquaculture (Catfish)	Feasibility	No			
Livestock - Aquaculture (Salmon)	Feasibility	No			
Livestock - Aquaculture (Trout)	Feasibility	No			
Loganberries (OR)			Terminated		
Longan					
Lotus Root					
Mangos	Feasibility	Yes			
Meadowfoam					
Mollusk					Includes mussels, abalone, & bay scallops
Poultry (Turkeys, Chickens, Eggs)	Feasibility	No			
Okra					
Parsnip					
Persimmons					
Pineapples	Feasibility	No			
Pomegranates					
Radishes					
Rapini					
Rhubarb					
Shallots					
Sod					
Speltz					
Sunn Hemp					

Crop	Previous Studies	Feasibility Recommendation	Insurance Product	2011 Value (1,000's) From Data Source	Data Source/Notes
Teff					
Tomatillos					
Triticale	Feasibility (2 Studies)	No			
Turnips (not grazing)					
Vegetable/Flower Seed	Feasibility	No			
Watercress					
Woody Biomass	Feasibility	No			