AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

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

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

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
http://ageconsearch.umn.edu
aesearch@umn.edu

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

Crop Insurance & Specialty Crops

By Keith Collins, NCIS

This article provides a brief examination of how well crop insurance is providing coverage for specialty crops. The role of specialty crops in the farm economy is identified, trends in crop insurance coverage for specialty crops are presented using a series of tables and graphs and challenges facing the crop insurance industry in product development and sales for specialty crops are discussed. While a number of small-acreage specialty crops remain uninsurable, and continuing efforts are needed to improve availability and coverage levels, crop insurance is available for a wide variety of specialty crops and participation is generally high.

Growing Focus on Specialty Crops

Specialty crops have garnered enormous attention in agriculture policy development in recent years, with the current Farm Bill (the Food, Conservation, and Energy Act of 2008, or 2008 Farm Bill) containing the first-ever title for specialty crops (Title X. Horticulture and Organic Agriculture). The interest stems from many interrelated factors, starting with diet and health concerns and including such varied elements as the increase in obesity, rapid growth in organic production, interest in local food production and the rise of farmers' markets. The policy focus has been on addressing producer needs, such as technical trade assistance, providing block grants to improve competitiveness, expanding research, and on increasing demand through various food programs.

The effectiveness of crop insurance for specialty crops has also been under review. For example, the 2002 Farm Bill (Section 10006 of the Farm Security and Rural Investment Act of 2002) directed USDA to conduct a study of crop insurance and specialty crops, which was completed in May 2004 (*Report on Specialty Crop Insurance*). USDA has also been required to report to Congress on the progress in covering new and specialty crops (Section 508(a)(6)(B) of the Federal Crop Insurance Act). In response to this requirement the Federal Crop Insurance Corporation published in November 2010, *Report to Congress: Specialty Crop Report.*

The Senate-passed version of the 2012 Farm Bill (the Agriculture Reform, Food, and Jobs Act of 2012) continues the interest in specialty crop coverage. For example, Section 11015 of the bill would make new product proposals offered under Section 508(h) of the Federal Crop Insurance Act eligible for additional advance funding if the products are for "under-served agricultural commodities, including...specialty crops." The bill also calls for development of a Whole Farm Diversified Risk Management Insurance Plan for selected specified products, including specialty crops (Section 11016), makes both research and financial benchmarking for specialty crop products a priority (Sections 11019 and 11022, respectively) and includes some other initiatives identified in the last section of this article.

What is a Specialty Crop?

When USDA released its 2004 specialty crop report, it defined specialty crops using a definition in the Agricultural Economic

Table 1. **Specialty Crops in U.S. Farm Cash Receipts for Crops**

	Cash Receipts, 2000 (bil $)	% of Total	Cash Receipts, 2010 (bil $)	% of Total
Fruits & Nuts	12.3	13.3	21.5	12.3
Vegetables & Melons	15.8	17.1	19.9	11.4
Greenhouse & Nursery	13.7	14.8	15.6	8.9
Grains & Feed Crops	27.1	29.3	66.4	37.9
Oil Crops	13.5	14.6	35.1	20.1
Cotton, Tobacco, Other	10.1	10.9	16.5	9.4
Total Crops	**92.5**	**100.0**	**175.0**	**100.0**

Source: Economic Research Service, USDA, farm income database.

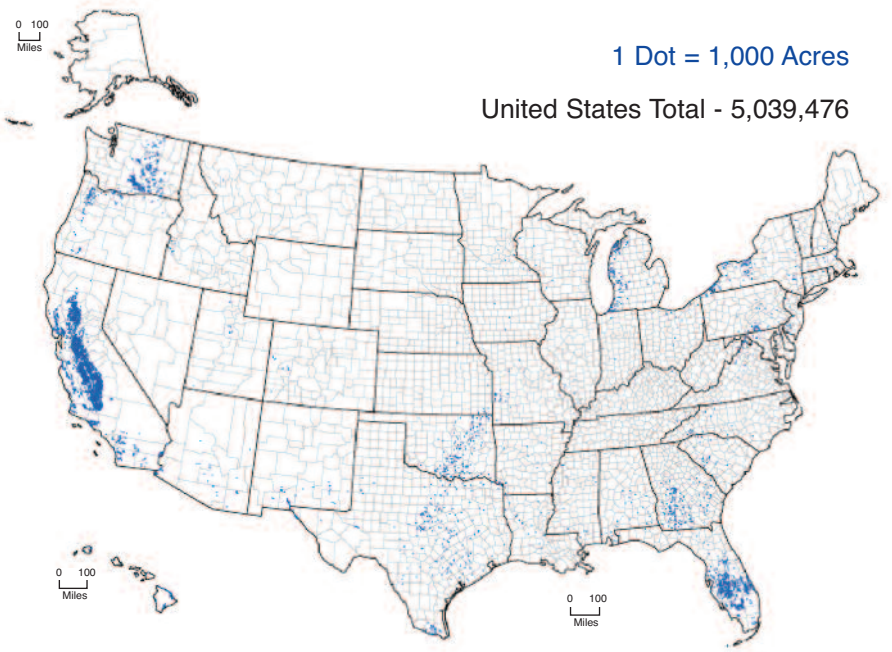
Assistance Act of 2001, which was "any agricultural crop, except wheat, feed grains, oilseeds, cotton, rice, peanuts, and tobacco" (*Report on Specialty Crop Insurance,* p. viii). The Specialty Crops Competitiveness Act of 2004 narrowed the definition for various Federal programs, and its definition remains current today for some programs. However, for the Specialty Crop Block Grant Program, the 2008 Farm Bill added the word "horticulture" to the definition, making its definition of specialty crops "fruits and vegetables, tree nuts, dried fruits, horticulture, and nursery crops (including floriculture)" (Section 10109 of the 2008 Farm Bill). In this article, specialty crops are considered fruits, vegetables, tree nuts, melons and nursery. Even with this definition, there are difficulties in assigning specific crops to each category and different analysts may make different decisions.

Role of Specialty Crops in the Farm Economy

The value of U.S. farm cash receipts from the sale of fruits, nuts, vegetables, melons, greenhouse and nursery in 2010 was $57 billion, up from $42 billion in 2000 (Table 1). These crops now account for one-third of the cash receipts of all U.S. crops, thus presenting a significant opportunity for the sale of crop insurance. Their share of cash receipts has declined since 2000, primarily because of the significant increase in the price of field crops due to strong foreign food demand and demand for crops to be used in energy production.

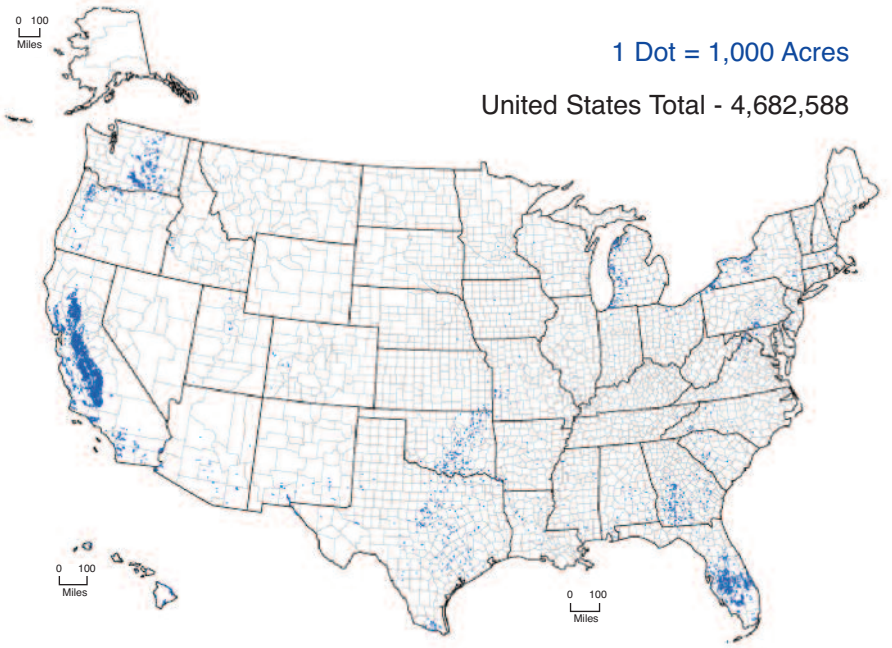
The geographic distribution of fruit and vegetable acreage is illustrated in Figures 1 and 2. Orchards, such as citrus, are heavily concentrated in the west coast states and across the south and southeast. There is also varied production in the northeast, especially apples. Vegetable acreage is similarly concentrated in the west coast states, the southeast and northeast. However, there is also considerable acreage in the northern corn belt states. The value of nursery production, not illustrated, is similarly distributed to vegetable acreage, however, it is much more widespread nationally, showing significant acreage through the midwest and southwest, such as in Colorado and New Mexico.

Figure 1. **Total Acres in Orchards, 2007**



07-M233, U.S. Department of Agriculture. National Agricultural Statistics Service

Figure 2. **Total Acres in Vegetables, 2007**



07-M233, U.S. Department of Agriculture. National Agricultural Statistics Service

Role of Specialty Crops in Crop Insurance

Table 2 shows the share of specialty crops in total U.S. farm cash receipts for crops in 2011, compared with the share of specialty crops in total crop insurance premiums for the 2011 crops. The data indicate that major field crops, such as corn, soybeans, wheat and cotton, have a higher share in total premiums than in U.S. cash receipts, while specialty crops account for a smaller portion of crop insurance premiums than of U.S. farm cash receipts. In 2011—excluding nursery—fruits, nuts, vegetables and melons accounted for nearly 22 percent of cash

Table 2. **Specialty Crops in U.S. Farm Cash Receipts and Crop Insurance, 2011**

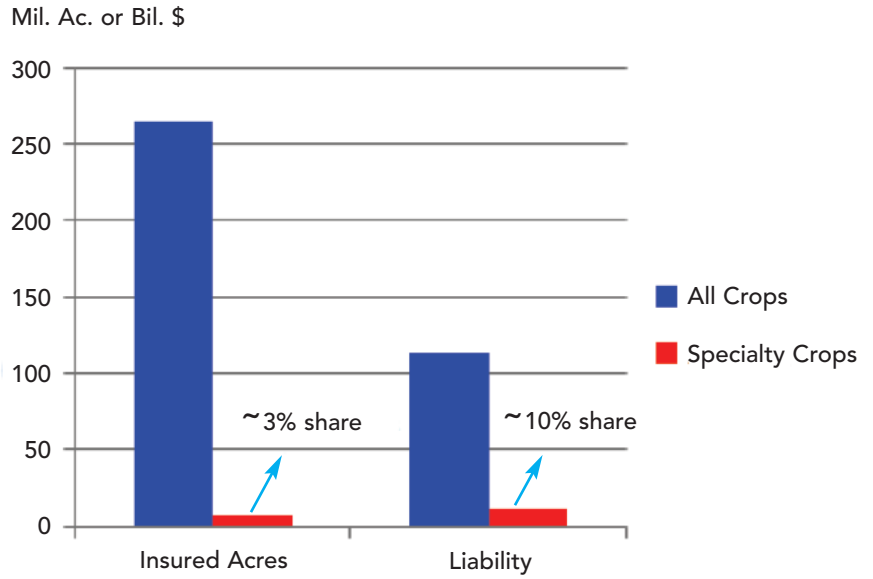
Crop	Cash Receipts, 2011 Est. (bil $)	% of Total	Crop Insurance Premiums, 2011 (bil $)	% of Total
Fruits & Nuts	22.2	11.3	0.35	2.9
Vegetables & Melons	20.9	10.6	0.24	2.0
Corn	58.8	29.9	4.76	39.8
Soybeans	33.9	17.2	2.62	21.9
Wheat	13.9	7.1	1.80	15.1
Up. Cotton	8.0	4.1	1.21	10.1
Other Crops	39.2	19.9	0.99	8.3
Total Crops	**196.9**	**100.0**	**11.97**	**100.0**

Source: Economic Research Service, USDA, farm income database; greenhouse & nursery cash receipts not reported separately for 2011 and are included in "Other Crops." Premium data from RMA's Summary of Business.

receipts but only about five percent of crop insurance premiums. While this disproportionate share of premiums mainly reflects lower participation and coverage levels as discussed next, there are some additional comparisons that favor specialty crops.

One comparison of interest is acreage enrolled in crop insurance and the liability insured under the program (Figure 3). In aggregating enrolled acres in specialty crops, no acreage is available for crops enrolled in AGR and AGR-Lite plans of insurance, and no acreage is reported for the nursery plan of insurance. For simplicity, this article assumes crops covered under AGR and AGR-Lite are all specialty crops. Specialty crops accounted for about 6.8 million insured acres in 2011, about 2.6 percent of total insured acres. But specialty crops accounted for about $11.8 billion in insured liability, about 10.3 percent of 2011's total insured liability of $114.2 billion. This much higher share of liability is due to the high value per acre of specialty crops. The average liability per acre of all insured crops in the United States in 2011 was $430, but the average liability of specialty crops was over $1,730 per acre (including $2,155 per acre for fruits and nuts and $675 per acre for vegetables and melons).

Figure 3. **Specialty Crops in Crop Insurance, 2011**



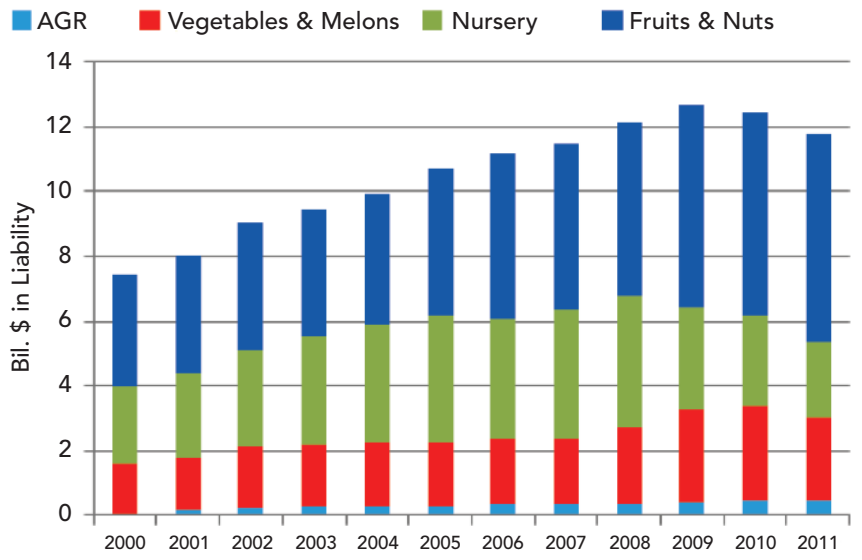
Source: Aggregated from RMA's Summary of Business.

The insured liability of specialty crops has trended up over the past decade, reflecting the growth in production and consumption (Figure 4). Liability has increased from less than $8 billion in 2000 to nearly $12.7 billion in 2009. However coverage declined the past two years, falling to about $11.8 billion by 2011. Coverage of fruits and nuts has shown the strongest growth, rising in both 2010 and 2011. Coverage of vegetables and melons and AGR and AGR-Lite have also shown steady increases until 2011, when both categories declined slightly. Nursery accounts for most of the overall decline in liability in 2010 and 2011. Nursery coverage is primarily for wholesale nurseries and was affected by the sharp financial downturn in 2009 and the decline in housing construction and sales. In addition, nursery insurance involves substantial inventory record keeping, and complexity has been cited by some producers as a contributing factor in lower participation.

A concern sometimes expressed about specialty crop insurance is that coverage levels are low relative to major field crops. One way to assess that issue is to examine the premium and enrolled acres for specialty crops insured under CAT (Catastrophic Coverage, the lowest level of coverage which protects 50 percent of yield at 55 percent of price) as a share of total premium and enrolled acres. The specialty crop shares can then be compared with CAT participation of all crops. Figure 5 presents those comparisons for 2011. For all U.S. insured crops, only 2.4 percent of total premium and a little over seven percent of total insured acreage was enrolled in CAT.

Breaking down specialty crops into its components, 12 percent of the total vegetables and melons premium and 21 percent of acreage was in CAT. These levels are higher than the levels of all crops, but are not excessive and suggest generally high coverage levels for vegetables and melons. However, for fruits and nuts, nearly 20 percent of total fruits and nuts premium and 46 percent of acreage was in CAT. These data indicate much lower purchases of buy-up coverage for fruits and nuts producers than for producers of vegetables or the major field crops. For nursery, an even

Figure 4. **Insured Liability of Specialty Crops**



Source: 2001-2008 from RMA's Report to Congress: Specialty Crop Report, Nov. 2010; 2009-2011 aggregated from RMA's Summary of Business.

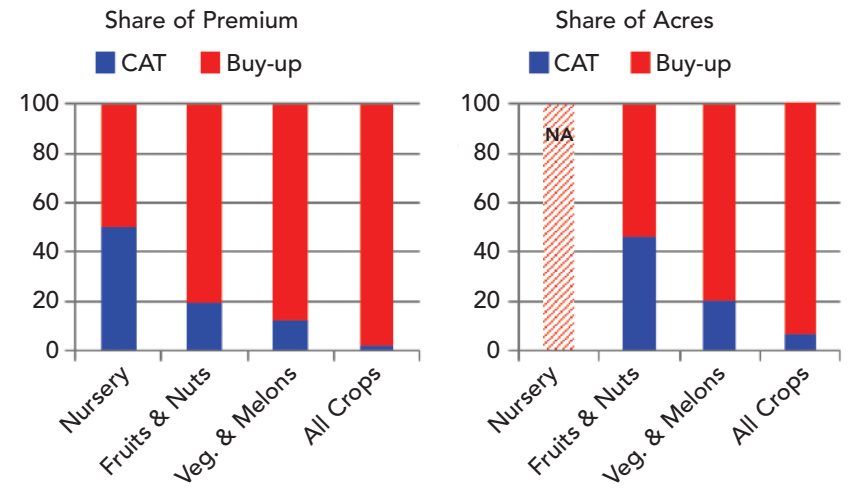
higher 50 percent of premium is at the CAT level of coverage, far above the U.S. average for all crops. Since acreage data is not relevant for nurseries, no acreage comparison is available.

A point to be made about the relatively higher use of CAT and lower use of buy-up by specialty crop producers is that lower coverage levels, and lower participation for that matter, do not necessarily indicate a problem with crop insurance or that crop insurance is not working well. For example, for specialty crops in the west or the south, weather may be better than in other areas, irrigation may be heavily used, producers may be highly diversified and plant multiple crops in a calendar year and planting dates may be flexible, so that yield risk may be less important than it is for other crops and regions. In addition, much of the price risk for some specialty crops may be offset using contracts with handlers or processors. Some of the key risks some farms or crops face may not be related to natural disasters or price. Consequently, if a producer chooses not to participate in crop insurance, or to participate at low coverage levels, that may be an optimal decision for the producer and not represent a deficiency in crop insurance.

Participation in crop insurance varies widely among individual specialty crops. Participation is measured as acres enrolled in the program as a share of total acres planted (for vegetables and melons) or bearing acres (for orchards for fruit and nut production). The planted and bearing acreage data are from USDA's National Agricultural Statistics Service (NASS) and may overstate the acres eligible for crop insurance coverage. Figure 6 shows the enrolled acreage of principal insured specialty crops as a share of planted or bearing acres in 2011. The participation rates range from three percent for fresh beans (2011 is the first year of coverage for fresh beans) to over 95 percent for dry peas and beans. Overall, insurable specialty crops enrolled 75 percent of their planted or bearing acres in crop insurance in 2011. While this participation level is below the 84 percent of U.S. principal crop acres enrolled in crop insurance in 2011, it nevertheless represents a high level of participation.

While insurable specialty crops are well represented in crop insurance, there are specialty crops that do not have insurance available, and overall program participation would be reduced, if the acreage of these crops was considered in estimating participation. Table 3 presents specialty crops whose acreage is reported by NASS and that did not have crop insurance available in 2011. The table shows the reported level of acreage planted or bearing acreage in 2011 for each crop. Some of these crops had crop insurance available at some point in the past, such as processing cucumbers, raspberries and watermelons, and some will have policies available for the first time in 2012, such as olives and pistachios. Just because there are crops that do not have insurance available does not mean that immediate efforts should be made to implement new policies for these crops. Many issues must be considered to determine the efficacy

Figure 5. **Coverage Levels: CAT versus Buy-up, 2011**



Source: Aggregated from RMA's Summary of Business.

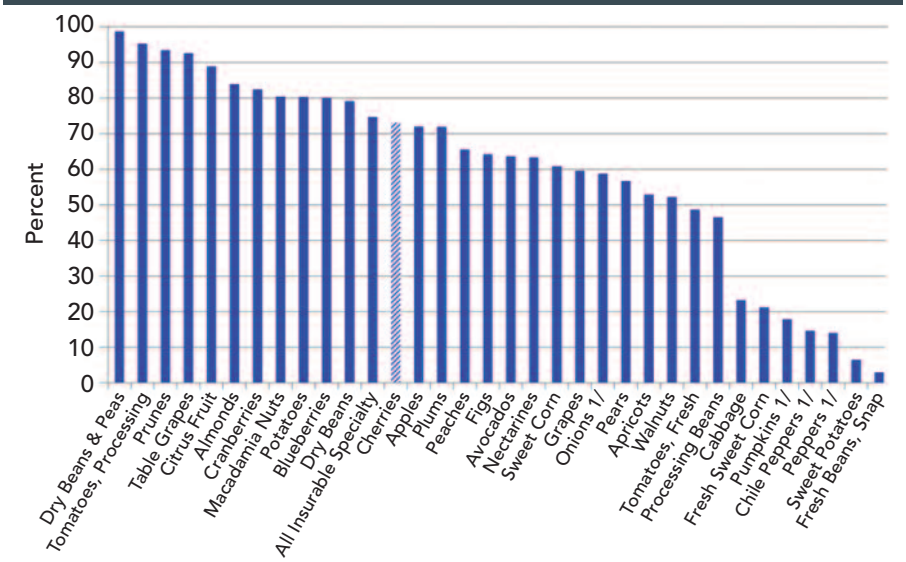
of a new crop insurance product introduction and these issues are discussed in the next section.

Challenges in Expanding Insurance Coverage for Specialty Crops

Developing, improving and expanding specialty crop insurance faces special challenges. These challenges explain why some specialty crops are not insurable, their plans of insurance and coverage levels are often limited, and participation levels are lower than for major field crops. Here are some key issues that must be addressed:

* **Small acreages.** Many specialty crops have small levels of acreage. Small acreage and production means the potential market for selling crop insurance is also small. This reduced marketability reduces the sales incentive. In addition, since delivery costs and agent commissions are based on the premium earned by sale of the policy, small acreage means small premium, thus the cost of selling and servicing that policy may exceed the income to the company and agent from the sale. Small acreages also affect the overall costs and benefits of developing and approving a new policy for sale. Any new policy comes with substantial variable and overhead costs, including development of underwriting standards and actuarial ratings, IT development, agent and company training and sales and marketing. If the potential market is very small, the benefits of developing and selling the product may fall short of the costs.
* **Complex farming practices.** While farming methods are similar for major field crops that occupy tens of millions of acres, practices for many specialty crops are unique and vary from crop to crop. For example, some crops may need to be planted in raised beds, use plastic, or have stringent requirements for crop rotations, inter-planting, row width, etc. These practices must be known and their effects on yields must be understood. These practices are the basis for establishing the required good farming practices and underwriting standards that determine what is insurable. In addition, the complexity of valuing production has led to complex products such as AGR, AGR-Lite and the nursery plan of insurance, which discourage some producers from buying coverage. The Senate-passed 2012 Farm Bill seeks to create a simpler whole farm insurance product to mitigate some of these concerns (Section 11016).
* **Loss adjustment.** Determining losses is a very complex task. Much research must be conducted to provide loss adjusters with the tools needed to accurately assess the effects of weather on crop production. Highly varied crops, varieties, perennial trees, etc. add to the difficulty and costs in establishing loss

Figure 6. **Specialty Crops: Insured Share of Planted or Bearing Acres, 2011**



1/ Includes fresh and processing.
Source: RMA's Summary of Business and USDA/ NASS Crop Production 2011 Summary, Vegetables 2011 Summary, Citrus 2011 Summary and Non-Citrus Fruit and Nuts 2011 Summary.

Table 3. **Uninsurable Specialty Crops in 2011 and NASS 2011 Acreage**

Crop	Acres	Crop	Acres
Carrots, processing	12,790	Squash 1/	50,200
Cucumbers, processing	85,000	Watermelons, fresh	138,600
Spinach, processing	10,200	Blackberries	7,300
Artichokes 1/	7,400	Boysenberries	500
Asparagus 1/	28,900	Raspberries	17,500
Broccoli 1/	133,300	Strawberries	58,660
Cantaloupes, fresh	72,590	Tart cherries	36,000
Carrots, fresh	75,400	Dates	8,200
Cauliflower 1/	37,680	Guavas	110
Celery 1/	28,700	Kiwi fruit	4,200
Cucumbers, fresh	42,850	Olives	41,500
Garlic 1/	25,650	Papayas	1,300
Honeydews, fresh	14,750	Hazelnuts	29,500
Lettuce, fresh	273,000	Pistachios	153,000
Spinach, fresh	35,700	**Total**	**1,157.480**

1/ Includes fresh and processing.
Source: NASS Vegetables 2011 Summary and Non-citrus Fruits and Nuts 2011 Summary.

adjustment standards for specialty crops. Understanding, measuring, valuing and insuring quality losses are also major challenges.

While there are numerous challenges in designing, selling and servicing specialty crop insurance compared with more homogeneous, large-acreage field crops, excellent progress has been made in expanding coverage and participation for specialty crops.

* **Price discovery.** For many specialty crops, the only plan of insurance available is Actual Production History (APH). Some producers would like revenue insurance such as the Revenue Protection (RP) plan of insurance. However, revenue plans that guarantee expected revenue require forecasted prices that are transparently and appropriately determined. Many specialty crops do not have organized exchanges where such prices may be discovered, preventing the use of revenue insurance, such as RP. Some specialty crops are sold at retail prices, so a loss of production may have an insurance value that is well below the producer's loss of revenue. Value-added on-farm activities are not normally covered under the Federal Crop Insurance Act. Other crops, such as organic crops, may be sold at a price premium. The Senate-passed 2012 Farm Bill partially addresses price issues by calling for wholesale and retail prices to be used for organic crops (Section 11021).
* **Insurance effects on production.** Because production volumes are small for many specialty crops, to the extent that crop insurance might encourage more production by reducing production risk, the price and producer income effects could be magnified because of the thinness of these markets. (One example of research in this area is by Ligon, E., *Supply and Effects of Specialty Crop Insurance.* NBER Working Paper No. 16709, January 2011.)
* **Grower interest.** Some specialty crop producers have many alternative risk reduction methods available, such as irrigation and diversification, which reduce their interest in multi-peril crop insurance, and they may prefer to self-insure. Some specialty crop producers simply do not want crop insurance to be made available for their commodity, fearing that crop insurance may result in new production in their markets. The Senate-passed 2012 Farm Bill partially addresses this concern with a provision requiring that new products must involve a "consultation with groups representing producers of commodities in all major producing areas for the commodities to be served or potentially impacted, either directly or indirectly" (Section 11009).
* **Rating and adverse selection/moral hazard.** The unique features of many specialty crops may make premium rating difficult. Misrating leads to charging too much and causing low participation and adverse selection or charging too little causing adverse selection and excessive program costs. Often incomplete crop and market information and uncertainty in product performance results in coverage limitations, such as setting the maximum coverage level at 75 percent.
* **Specific perils.** Because some specialty crop producers have alternative risk reduction methods, they may face only one or two primary perils, such as a freeze affecting fruit trees in April, and insurance against a specific peril would be preferable to more costly multi-peril insurance. Some single peril products are available from the private sector outside of the Federal crop insurance program.
* **Non-weather risks.** The major risks for some specialty crop producers are from perils that are not natural disasters, such as food safety scares that disrupt demand or labor shortages that disrupt planting or harvesting. Such risks are not insurable under the Federal Crop Insurance Act. The Senate-passed 2012 Farm Bill does contain a provision requiring a study on insurance for producer losses due to food safety and contamination issues (Section 11017).

Conclusion

Specialty crop agriculture is a very significant part of the farm economy. Specialty crops are increasingly important in addressing diet and health issues. While there are numerous challenges in designing, selling and servicing specialty crop insurance compared with more homogeneous, large-acreage field crops, excellent progress has been made in expanding coverage and participation for specialty crops. Considering the different perils faced and the available alternative risk management approaches, the average participation rate for insurable specialty crops is a respectable 75 percent. There are excellent new product development processes that have been responsive to the needs of specialty crop producers. The Section 508(h) process and USDA's Risk Management Agency's (RMA's) own authority to contract for new and improved products have resulted in over 50 new product introductions since 2000. For 2012 alone, seven new or improved products were introduced: popcorn, strawberries, tangerine trees, citrus, camelina, pistachios and olives.

Specialty crops are an important and growing sales opportunity for the crop insurance industry. The industry would welcome any improvements in specialty crop insurance products that increase customer satisfaction. The 2012 Farm Bill is likely to feature a number of provisions directed at specialty crops that should complement the strong new product processes in place and help crop insurance to be even more effective in meeting the risk management needs of the nation's specialty crop producers.