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## Fruit and Tree Nuts Outlook: Economic Insight

### 2012 Census of Agriculture: Overview of Fruit and Tree Nut Sector

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World Agricultural  
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#### *The 2012 Census Shows Change in U.S. Fruit and Tree Nut Sector*

The 2012 Census of Agriculture, released in May 2014 by USDA, National Agricultural Statistics Service (NASS), reported the number of U.S. farms growing tree fruit, vine fruit, berries, and tree nuts fell 6 percent to 105,737 farms from the last census in 2007 (results were released in February 2009). Total acreage for these crops, on the other hand, increased 4 percent between 2007 and 2012, reaching 5.49 million acres. Acreage gains in noncitrus fruit, berry, and tree nut production offset the 13-percent reduction in total citrus acreage.

The U.S. farm sales of fruit, tree nuts, and berries in 2012 totaled \$25.9 billion, 7 percent of total agricultural sales and the fifth highest of all surveyed agricultural industries (table 1). The 2012 value increased 39 percent from the \$18.6 billion in farm sales in 2007. Fruit, tree nuts, and berries are only outranked in value by the following agricultural product groupings: grains, oilseeds, dry beans, and dry peas; cattle and calves, poultry and eggs, and dairy milk.

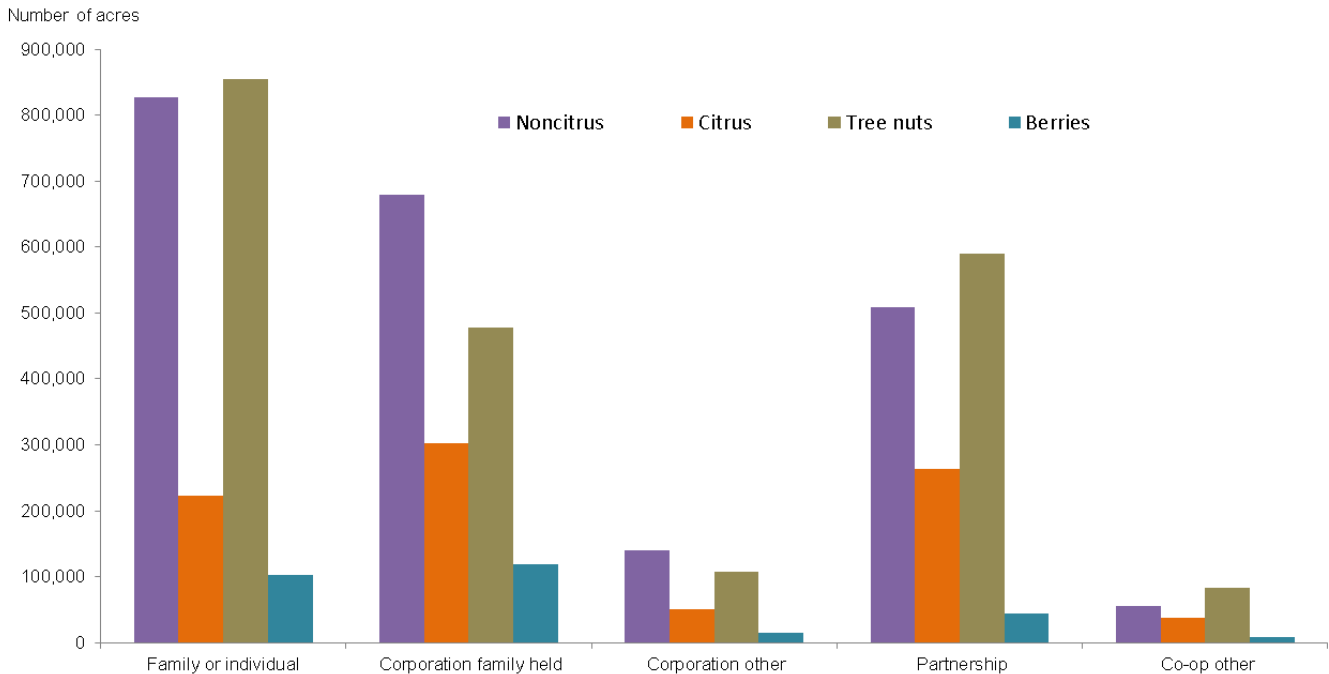
California continues to dwarf other States' fruit, tree nut, and berry production sectors. Of the U.S. totals in 2012, California accounted for 31 percent of the total number of farms and 80 percent of the acreage, far more than those reported in the No. 2 State, Florida, with 10 percent and 17 percent, respectively. Fruit, tree nut, and berry farm's market value of products sold was \$17.6 billion in California, 68 percent of U.S. total value for these crops. The 2012 Census of Agriculture's Specialty Crops supplement, issued in February 2015, indicated that roughly 98 percent of land in orchards in California and all of the State's land dedicated to berries was irrigated in 2012. These irrigated acreage made up more than half of total irrigated land in orchards and almost a quarter of total irrigated land in berries in the United States.

Table 1--Ranking of market value of agricultural products sold in United States, 2012

Commodity group	Farms	Sales	Rank by	Percent of
	Number	\$1,000	sales	total sales
				- Percent -
Grains, oilseeds, dry beans, and dry peas	503,315	131,135,151	1	33.2
Cattle and calves	740,978	76,380,153	2	19.4
Poultry and eggs	137,541	42,751,468	3	10.8
Milk from cows	50,556	35,512,150	4	9.0
Fruits, tree nuts, and berries	105,737	25,869,700	5	6.6
Hogs and pigs	55,882	22,492,611	6	5.7
Vegetables, melons, potatoes, and sweet potatoes	72,267	16,851,235	7	4.3
Other crops and hay	478,632	16,061,669	8	4.1
Nursery, greenhouse, floriculture, and sod	52,751	14,517,593	9	3.7
Cotton and cottenseed	18,143	6,137,649	10	1.6
Aquaculture	5,533	1,552,375	11	0.4
Tobacco	10,001	1,491,208	12	0.4
Horses, ponies, mules, burros, and donkeys	114,255	1,390,703	13	0.4
Other animals and animal products	46,971	1,228,315	14	0.3
Sheep, goats, wool, mohair and milk	114,746	939,662	15	0.2
Cut Christmas Trees and short-rotation woody crops	12,976	332,870	16	0.1
<b>Total sales</b>	<b>2,109,303</b>	<b>394,644,481</b>		<b>100.0</b>

Source: USDA, National Agricultural Statistics Service, Census of Agriculture, 2012.

Figure 1  
Legal status of owners of U.S. farms with specialty crops, 2012



Types of farm ownership, Corporation other and co-op other are both defined by federal tax filings to determine operations legal status  
Source: USDA, National Agricultural Statistics Service, 2012 Census of Agriculture, Specialty Crop Supplement, 2015.

### ***Fruit and Tree Nut Farms Mostly Family or Individual Operations***

The Specialty Crops supplement to the 2012 Census of Agriculture reported U.S. fruit and tree nut farms are predominantly family or individual operations (fig. 1). Nationally, 80 percent of fruit, nut, and berry farms are run by families or individuals. Only 8 percent of farms are operated by corporations. Partnership operated farms account for roughly 9 percent of total farms growing specialty crops but account for about 23 percent of all acres.

Family farms account for the most acreage in specialty crops with 39 percent and while number of farms operated by corporations is small in number, that group of farms does control 30 percent of acreage under production. California represents 65 percent of national family-farm acreage, which equates to 29 percent of the State's fruit, nut, and berry acreage being owned and operated by families. Thirty percent of California's total specialty-crop acreage is operated by corporations but those crops are only grown by 9 percent of total farms, while family farms account for 73 percent of the 45,646 California farms.

The big orchards, however, produce the bulk of the fruit. The 2012 Census reports that only 3 percent of the 106,488 farms with orchard land had 1,000 or more acres in 2012 but these farms accounted for 33 percent of the acreage. The number of farms in the 1,000-acre or more category declined 6 percent from the 2007 Census and although acreage for these farms all together has increased, their share of orchard acreage also fell from 41 percent in 2007. Nearly half of U.S. fruit, tree nut, and berry farm sales come from farms with 1,000 or more acres. The census only reported 15 States that had farms with at least 1,000 acres in orchards, with California accounting for 14 percent of the farms but 53 percent of the acreage. More than half of this acreage in California in 2012 is from farms with at least 3,000 acres in fruit and tree nut production.

### ***Characteristics of Nationally Classified Fruit and Tree Nut Farms***

The number of farms classified as fruit and tree nut farms under the North American Industry Classification System (NAICS) totaled 93,020 in 2012, 88 percent of the 105,737 farms that were reported by the census growing these commodities. A vast majority of these fruit and tree nut farms have growers who fully own the farms that they operate, with only 9 percent of the farms having growers who are part owners and only 4 percent of the farms tended by tenants. Due to the particular nature of growing most fruit, nut trees, and fruit vines, where land needs to be dedicated to the production of these crops for many years, as well as specialized production practices, producers tend to concentrate their production in growing just these crops. Some growers, however, also grow other agricultural crops and/or have some livestock, but the returns from these enterprises, on average, account for only a small part of total sales for these farms. In 2012, fruit, tree nuts, and berries accounted for 96 percent of the market value of agricultural products sold by these enterprises.

Because they are heavily reliant on the production of fruit and tree nuts, these operations do not receive many Government payments. In 2012, only 9 percent (or 8,549 farms) of fruit, tree nut, or berry farms reported under the NAICS system received Government payments valued at \$76.6 million. The only agricultural industries to receive lower payments were vegetables and melons, greenhouse, nursery, and floriculture, tobacco, poultry and egg, and sheep and goat farming producers. Only 2 percent of the fruit and tree nut farms participated in Federal conservation practice programs, such as the Conservation Reserve, Wetlands Reserve, Farmable Wetlands, or Conservation Reserve Enhancement programs and only about 20 percent of the farms had land enrolled in crop insurance programs.

Farm expenses took up a big portion of total market value of the total agricultural products sold and government payments received by NAICS fruit and tree nut farms. Of the total \$25.6 billion received by these producers, 79 percent went to production expenses. Hired-labor costs remained the single biggest expense for these operations, which accounted for 24 percent of all production expenditures. Fruit operations, in particular, rely heavily on labor for harvesting and other production practices, such as orchard maintenance. Since the fresh market is the first choice for many fruit producers, hand picking insures minimal damage to the fruit, assuring a greater share of the crop will meet fresh-market standards. Mechanical harvesting can damage and alter appearance of fruit, making it an unviable option for most fresh-market-bound fruit. While there are growers who produce for processing, there are few

mechanical harvesters available because of the prohibitive cost of crop-customized harvesters. Mechanized harvesters would have to be different for citrus trees than noncitrus trees, because, on citrus trees, the following season's crop is already forming on the trees that are being harvested. Each crop would also have different requirements for harvest based on fruit softness, how the fruit is attached to plant, and tree growth heights and habits. Tree shakers are used for nut trees since the nuts are protected by a hard shell and are easily recovered from orchard floors.

Other major expenses incurred in fruit and tree nut operations include: chemicals; plants, trees, and vines; fertilizer; lime; soil conditioners; equipment and capital depreciation; supplies; repairs and maintenance; utilities; gasoline, fuels, and oils; interest payments; and property taxes.

Almost all of the capital assets on fruit and nut farms were land and buildings. Machinery and equipment accounted for only about 5 percent of the total. Most of the producers own the land on which they plant their orchards or vines. About 96 percent of the farms and 95 percent of the acreage in fruit and nut production is owned by the operators.

### ***Number of Farms Drop But Orchard Acreage Increases***

The number of farms with orchard land in the United States fluctuated since 1997 (table 2). From 2007 to 2012, this number dropped 8 percent to 106,288 farms, reflecting declines in noncitrus, citrus, and tree nut orchards. Total orchard acreage (including vineyards), meanwhile, grew 3 percent over the same period, totaling 5,199,729 acres, reversing the downward trend in acreage since 1997. Though up, orchard acreage has not surpassed the 5,349,292 acres in 1997 and 5,330,439 acres in 2002.

Citrus orchards slipped the most in farm numbers, down 17 percent to 13,055 farms in 2012 from 2007. These farms generally declined in number for all types of citrus orchards, except for lemons, which grew 15 percent. Over the same period, a rise in the number of farms growing almonds and pistachios was offset by fewer farms for most other tree nuts reported in the census, including pecan farms, which continued to account for more than half of the 36,302 farms with tree nut acreage. Farms with noncitrus fruit orchards declined the least between the two census years, down 5 percent to 69,233 farms in 2012 and continued to comprise well over half of all the U.S. farms with orchard acreage.

### ***Noncitrus Fruit and Nut Trees Continue To Comprise Most Orchard Acreage***

Acres planted to noncitrus and tree nut crops accounted for 83 percent of all orchard acreage in 2012, with citrus crops accounting for the remaining 17 percent (table 2). Overall orchard composition has not deviated much from the previous census, which reported noncitrus fruit and nut trees at 80 percent of orchard acreage and citrus trees the balance in 2007. The shares are almost equally split between noncitrus fruit (42 percent) and tree nuts (41 percent) in 2012. Tree nut production, however, has expanded since the previous census to account for 41 percent of total orchard acreage, up from 37 percent in 2007.

Noncitrus crops were produced on approximately 2.21 million acres, up 2 percent from total orchard acreage in 2007. Production area rose for 11 of 24 noncitrus fruit crops reported in the census, including the category "other noncitrus fruit." Among the traditional major noncitrus fruit crops, acreage expanded for grapes and sweet cherries, but declined for apples, peaches, pears, and plums and prunes. Noncitrus fruit acreage is more widely spread across the 50 States; citrus acreage is mostly limited to California, Arizona, Florida, and Texas due to their subtropical climates. Due in large part to disease pressures, citrus acreage declined 13 percent from 2007 to 2012. Total citrus acreage amounted to 877,701 acres in 2012, witnessing reduced acreage to nearly all citrus crops, except for tangerines.

Table 2 --Number of fruit and nut farms and acreage in the United States, 2002, 2007, and 2012

Commodity	Total farms			Percent	Share of	Total acres			Percent	Share of
	2002	2007	2012	change	total farms	2002	2007	2012	change	total acreage
				--Percent--					--Percent--	
<b>Noncitrus</b>	67,113	72,757	69,233	-4.8	65.0	2,322,905	2,176,511	2,209,192	1.5	42.5
Apples	23,853	25,591	25,129	-1.8	23.6	464,025	398,770	384,237	-3.6	7.4
Apricots	2,698	3,141	2,305	-26.6	2.2	18,191	13,750	12,863	-6.5	0.2
Avocados	6,254	8,245	7,495	-9.1	7.0	75,570	82,647	73,534	-11.0	1.4
Bananas	765	1,326	1,169	-11.8	1.1	1,975	2,547	2,444	-4.0	0.0
Sweet cherries	8,043	8,051	7,663	-4.8	7.2	91,735	100,705	105,244	4.5	2.0
Tart cherries	2,955	3,028	3,052	0.8	2.9	47,138	49,561	49,785	0.5	1.0
Cherries, not specified	--	--	--	--	--	--	--	--	--	--
Coffee	1,202	1,521	1,577	3.7	1.5	7,986	7,891	9,872	25.1	0.2
Dates	209	168	213	26.8	0.2	7,585	7,669	10,981	43.2	0.2
Figs	812	1,101	989	-10.2	0.9	14,274	9,739	7,084	-27.3	0.1
Grapes	23,856	25,892	27,878	7.7	26.2	1,060,295	1,051,407	1,139,146	8.3	21.9
Guava	308	487	399	-18.1	0.4	1,213	883	1,733	96.3	0.0
Kiwifruit	474	430	345	-19.8	0.3	4,984	4,509	4,395	-2.5	0.1
Mangoes	623	877	933	6.4	0.9	1,938	2,259	3,006	33.1	0.1
Nectarines	2,261	2,269	1,275	-43.8	1.2	45,645	31,846	22,368	-29.8	0.4
Olives	1,549	1,696	2,092	23.3	2.0	39,591	39,540	51,150	29.4	1.0
Papayas	451	586	401	-31.6	0.4	3,001	2,501	2,272	-9.2	0.0
Passion fruit	66	129	153	18.6	0.1	53	93	125	34.4	0.0
Peaches	14,526	13,582	13,916	2.5	13.1	184,495	149,237	128,480	-13.9	2.5
Pears	10,809	9,878	10,246	3.7	9.6	80,801	68,215	56,749	-16.8	1.1
Persimmons	1,425	1,505	1,389	-7.7	1.3	4,855	4,191	1,968	-53.0	0.0
Pluots	--	308	223	--	0.2	--	4,332	3,317	-23.4	0.1
Plums/prunes	7,300	6,987	5,888	-15.7	5.5	148,839	109,319	88,122	-19.4	1.7
Pomegranates	369	599	1,056	76.3	1.0	9,535	24,517	32,887	34.1	0.6
Other noncitrus	1,640	4,866	3,096	-36.4	2.9	9,184	10,383	14,428	39.0	0.3
<b>Citrus</b>	17,727	15,658	13,055	-16.6	12.3	1,279,324	1,005,806	877,701	-12.7	16.9
Grapefruit	4,006	2,923	2,144	-26.7	2.0	156,869	102,578	88,393	-13.8	1.7
Kumquats	114	154	102	-33.8	0.1	192	183	136	-25.7	0.0
Lemons	2,142	2,607	3,007	15.3	2.8	80,898	66,972	62,324	-6.9	1.2
Limes	633	862	583	-32.4	0.5	1,368	1,251	820	-34.5	0.0
Oranges	14,288	12,116	9,437	-22.1	8.9	987,743	785,856	670,386	-14.7	12.9
Tangelos	961	800	507	-36.6	0.5	14,382	9,694	8,548	-11.8	0.2
Tangerines	1,731	1,976	1,395	-29.4	1.3	31,419	36,965	42,289	14.4	0.8
Honey tangerines	--	--	--	--	--	--	--	--	--	--
Other tangerines	--	--	--	--	--	--	--	--	--	--
Temples	345	116	37	-68.1	0.0	3,678	1,211	491	-59.5	0.0
Other citrus	461	407	873	114.5	0.8	2,624	1,097	4,313	293.2	0.1
Tree nuts	--	39,480	36,302	-8.0	34.1	--	1,857,179	2,112,869	13.8	40.6
Almonds	6,482	6,700	7,052	5.3	6.6	696,635	790,245	936,248	18.5	18.0
Chestnuts	--	1,200	919	--	0.9	--	3,334	3,784	13.5	0.1
Filberts (hazelnuts)	1,231	1,557	1,458	-6.4	1.4	33,801	34,465	38,082	10.5	0.7
Macadamia nuts	1,059	1,150	995	-13.5	0.9	18,682	17,811	18,283	2.7	0.4
Pecans	22,371	21,856	19,253	-11.9	18.1	545,344	581,809	543,486	-6.6	10.5
Pistachios	1,320	1,306	1,496	14.5	1.4	126,569	154,103	232,653	51.0	4.5
English walnuts	7,025	7,161	6,656	-7.1	6.3	292,691	267,751	332,045	24.0	6.4
Other nuts	--	1,302	1,126	-13.5	1.1	--	7,661	8,289	8.2	0.2
Other fruit and nuts	--	--	--	--	--	--	--	--	--	--
<b>Total land in orchards<sup>1</sup></b>	113,649	115,935	106,488	-8.1	111.4	5,330,439	5,039,476	5,199,729	3.2	100.0
<b>Berries</b>										
Blackberries & dewberries	--	5,694	7,291	28.0	23.9	--	14,874	14,982	0.7	0.3
Blueberries	--	9,991	13,432	34.4	44.0	--	77,150	96,169	24.7	1.8
Wild blueberries	--	907	1,297	43.0	4.2	--	45,763	41,087	-10.2	0.8
Boysenberries	--	304	375	23.4	1.2	--	1,068	542	-49.3	0.0
Cranberries	--	1,134	1,040	-8.3	3.4	--	41,310	43,918	6.3	0.8
Currants	--	323	528	63.5	1.7	--	382	580	51.8	0.0
Loganberries	--	97	135	39.2	0.4	--	93	160	72.0	0.0
Raspberries	--	6,588	8,052	22.2	26.4	--	21,554	23,104	7.2	0.4
Strawberries	--	8,638	10,388	20.3	34.0	--	58,718	67,467	14.9	1.3
Other berries	--	856	1,286	50.2	4.2	--	828	1,913	131.0	0.0
<b>Total land in berries<sup>1</sup></b>	--	25,017	30,538	22.1	143.5	--	261,733	289,913	10.8	100.0

-- = Not available. <sup>1</sup>Share of total farm over 100 percent because farms may grow more than one fruit, tree nut, or berry crop.

Source: USDA, National Agriculture Statistics Service, Census of Agriculture, 2007 and 2012.

## ***Grapes Still Top Fruit and Tree Nut Crops in Farm Numbers and Acreage***

Of all the individual fruit, tree nut, and berry crops produced in 2012, grapes represent the largest number of farms and the greatest acreage in production. Grape vineyards accounted for over a quarter of U.S. farms producing noncitrus fruit crops, with production on nearly a quarter of total noncitrus fruit acreage in 2012. The current census totals for grapes well exceed farm number and acreage totals for “all” citrus and berry crops and stand at more than three-quarters of the total number of tree nut farms and more than half the acreage devoted to tree nuts, re-emphasizing grapes’ importance in the fruit and tree nut sector. Grapes have historically been the highest valued fruit and tree nut crop produced in the United States, with almost 8.0 million tons in production each year valued at around \$6.0 billion. In recent years, however, above-average production, robust demand, and resulting strong prices have pushed the almond crop value to No.1 rank, slightly exceeding grapes.

The number of grape vineyards has continued to rise since 2002 (table 3). Along with the rise in the number of farms, total grape acreage increased 8 percent from 2007 to 2012, to approximately 1.14 million acres. California continued to claim over 80 percent of U.S. grape acreage in 2012. Although grape vineyards exist all across the United States, most of the remaining grape acreage in 2012 was in Washington, New York, Oregon, Michigan, and Pennsylvania. The other minor grape States combined made up 39 percent of the grape vineyards but only 4 percent of total grape acreage.

Due to California’s vast production for the crop, the State grows nearly all the U.S. grapes for fresh use, even though the processing sector is the destination for almost 90 percent of the State’s annual grape crop. Wineries utilize nearly three-fourths of California’s annual processed-grape volume. Other leading grape States also produce primarily for the processing sector, especially Michigan, Oregon, and Washington. In those three States, grape production is entirely destined for the wine and juice sector. Unlike in California, where farm numbers for grapes declined slightly over 1 percent in 2012 from the previous census year, Washington and Michigan reported more farms.

### ***Trend Continues as Citrus Acreage Declines in 2012***

Total number of farms producing citrus—oranges, grapefruit, lemons, limes, tangerines, mandarins, and tangelos—declined 17 percent between the 2007 and 2012 (table 4). Arizona was the only State to increase the number of citrus farms in 2012 while the other major citrus-producing States—California, Florida, and Texas—witnessed a decline. In conjunction with fewer farms, total citrus acreage declined 13 percent from 2007 to 877,701 acres in 2012—a

Table 3 --U.S. grape farms and acreage, 2002, 2007, and 2012

Commodity	Total farms			Percent change 2007-12	Share of total farms 2012	Total acres			Percent change 2007-12	Share of total acres 2012
	2002	2007	2012			2002	2007	2012		
				--Percent--					--Percent--	
California	11,128	11,623	11,462	-1.4	41.1	890,896	868,330	940,177	8.3	82.5
Washington	1,199	1,219	1,355	11.2	4.9	62,515	61,056	71,494	17.1	6.3
New York	1,384	1,438	1,392	-3.2	5.0	36,716	42,544	39,216	-7.8	3.4
Oregon	1,220	1,380	1,305	-5.4	4.7	14,262	18,192	20,090	10.4	1.8
Michigan	678	711	745	4.8	2.7	13,420	14,701	15,037	2.3	1.3
Pennsylvania	768	812	806	-0.7	2.9	12,565	14,113	12,415	-12.0	1.1
Sub-total	16,377	17,183	17,065	-0.7	61.2	1,030,374	1,018,936	1,098,429	7.8	96.4
Other States	7,479	8,709	10,813	24.2	38.8	29,921	32,471	40,717	25.4	3.6
United States	23,856	25,892	27,878	7.7	100.0	1,060,295	1,051,407	1,139,146	8.3	100.0

-- = Not available.

Source: USDA, National Agricultural Statistics Service, Census of Agriculture, various years.

trend that has continued since 1997 (fig. 2). All major citrus producing States experienced acreage reductions with Florida having the most dramatic decline. Since 2002, the State has lost 38 percent of total citrus acres, mostly attributed to urbanization and disease pressures. Florida's acreage loss is even higher since 1997, at 44 percent.

Most citrus farms and acreage are in orange production, with orange acreage representing 76 percent of total citrus acreage in 2012, down marginally from 77 percent in 2002 (table 5). Arizona was the only major producing State to see an increase in both orange farms and acreage since 2007, but have not rebounded to historical levels. Plant diseases, resource competition from urban development, and diminishing consumer demand stemming from a broader mix of fruit available to consumers are all contributing factors to the overall orange acreage decline in all major citrus producing States. Canker and citrus greening disease (Huanglongbing) created systematic tree removal and disease loss which has reduced acres planted to oranges, particularly in Florida and Texas. Controlling the Asian Citrus Psyllid (ACP), the known vector for citrus greening, has posed a problem in all citrus States. California has recently discovered the ACP infected with HLB but have yet to see expansive greening in commercial orchards. This, however, would not have been captured in the 2012 census as discovery was after surveying concluded.

Valencia orange acres have declined a bit more drastically than other oranges (which includes navels), down 36 percent from 2002 to 290,905 acres in 2012 (table 6). Slight gains in navel orange acres in Hawaii and Louisiana have been unable to counter the substantial losses in the main citrus States. In the United States, Valencia oranges are primarily destined for the processing sector since the flavor profile and juice content characteristics of this variety lends itself to high quality orange juice. Partially behind the loss in Valencia acreage is the decline in domestic orange juice consumption—a double-edged sword of reduced production that has increased orange juice prices, reducing consumer demand further. Orange juice consumption has declined to 3.21 gallons per person in 2011/12 down from the high of 5.82 gallons per person in 1997/98. Florida has the most acres dedicated to Valencia orange production, with 243,150 acres in 2012, down 18 percent from 2007, due partly to a decline in the number of farms by nearly half, from 3,432 farms in 2007 to 1,841 farms in 2012.

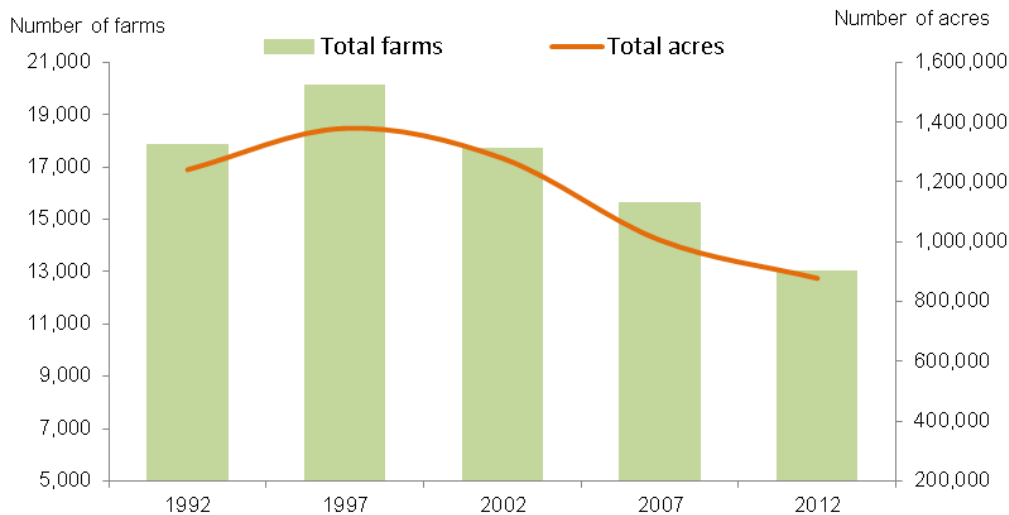
Table 4—U.S. Citrus fruit farm and acreage, 2002, 2007, and 2012

Commodity	Total farms			Percent change 2007-12	Share of total farms 2012	Total acres			Percent change 2007-12	Share of total farms 2012
	2002	2007	2012			2002	2007	2012		
	--Number--			--Percent--		--Number--			--Percent--	
Alabama	-	40	81	102.5	0.6	-	109	231	111.9	0.0
Arizona	695	329	528	60.5	4.0	33,129	18,261	17,830	-2.4	2.0
Arkansas			4		0.0			5		0.0
California	7,654	7,358	7,283	-1.0	55.8	342,053	303,101	293,387	-3.2	33.4
Florida	7,653	6,061	3,639	-40.0	27.9	871,733	654,747	539,181	-17.7	61.4
Georgia	-	6	17	183.3	0.1	-	6	25	316.7	0.0
Hawaii	474	884	616	-30.3	4.7	641	893	928	3.9	0.1
Illinois			3		0.0			(D)		
Kentucky			6		0.0			3		0.0
Louisiana		210	216	2.9	1.7			957		0.1
Maryland			2		0.0			(D)		
Mississippi	15	14	53	278.6	0.4	72	(D)	246		0.0
Missouri			1		0.0			(D)		
Nevada			1		0.0			(D)		
North Carolina			6		0.0			2		0.0
North Dakota			4		0.0			(D)		
Oregon			11		0.1			71		0.0
New Mexico	-	2		-100.0	0.0	-	(D)			0.0
South Carolina	-	4	11	175.0	0.1	-	6	4	-33.3	0.0
South Dakota			10		0.1			6		0.0
Texas	1,053	750	553	-26.3	4.2	30,299	27,701	24,778	-10.6	2.8
Virginia			2		0.0			(D)		
Washington			8		0.1			1		0.0
United States	17,727	15,658	13,055	-16.6	100.0	1,279,324	1,005,806	877,701	-12.7	100.0

-- = Not available. D = Data not disclosed to prevent identification of producers.

Source: USDA, National Agricultural Statistics Service, Census of Agriculture, various years.

Figure 2  
**Total citrus farms and acres, 1992-2012**



Source: USDA, National Agricultural Statistics Service, Census of Agriculture, various years.

Though less extreme, other-oranges (mostly navel oranges) have also experienced a decline in both total farms and acres since the 2007 census (fig. 3). Total farms dropped 14 percent while total acres declined 12 percent. California is the main producer of fresh navel oranges, with the number of farms increasing almost 2 percent to 4,114 in 2012 from 2007, but has yet to rebound to 2002 farm levels. California navel orange acreage continues to decline, with a 6-percent drop in the most recent period and a 13-percent drop over the past decade. Most of the acreage decline can be attributed to land competition for alternative crops (i.e., mandarin oranges, almonds) and urbanization. Florida continues to see reductions in total navel orange farms, declining 47 percent from 2002 to 2012, with a corresponding 16 percent reduction in acreage. Even with the decline in acres, Florida navel orange production still accounts for just below 60 percent of total navel/other orange acres in the United States. Over the last decade, Florida lost 61 percent of its non-Valencia acres.

Grapefruit farms in the United States have declined 27 percent since 2007 and 46 percent since 2002, with only 2,144 farms reported in 2012. Nationwide, grapefruit acreage dropped almost in half in a decade, falling from 156,869 acres in 2002 to 88,393 total acres in 2012. Arizona and Louisiana have increased plantings but still remain miniscule producers when compared to Florida, California and Texas. As with their orange crop, Florida's grapefruit is mostly destined for the juice market and have been affected by disease pressures, urbanization, and weakening consumer demand. Total farms with grapefruit production in the State declined by 35 percent since 2007 and by 60 percent over a decade. Total Florida grapefruit acres have been cut in half since 2002, illustrating the change in consumer preference and challenges to Florida grapefruit growers to keep pests and diseases at bay.

California grapefruit is preferred for the fresh-fruit market. The States' grapefruit acreage has only declined in 3 percent since 2007 but experienced a 10-year decline of 32 percent to reach 10,447 acres in 2012. Texas is similarly struggling with pest and disease problems, specifically the ACP that carries citrus greening, as well as periods of drought in which production declined. Overall Texas has lost the least amount of grapefruit acres of all States, only declining 17 percent in a decade to reach 16,561 acres. Grapefruit grown in Texas has a strong market, particularly "Ruby" red grapefruit, a variety that has international and domestic consumer recognition that helps keep demand high and potentially has reduced the speed of acreage decline witnessed in other states.

The number of U.S. farms growing lemons has increased 15 percent since 2007 and has grown 40 percent since 2002 topping 3,007 in 2012. Gains in lemon farm numbers in Arizona and California—the major lemon producing areas—offset losses in the other minor lemon States. Lemon acres have dropped 4 percent in Arizona since 2007 and



Table 5 --U.S. grapefruit, lemon, tangerine, and lime farms and acreage, 2002, 2007, and 2012

Commodity State	Total farms			Percent change 2007-12	Share of total farms 2012	Total acres			Percent change 2007-12	Share of total farms 2012
	2002	2007	2012			2002	2007	2012		
	--Number--			--Percent--		--Number--			--Percent--	
Orange, all										
Alabama		7	8	14.3	0.1		6	9	50.0	0.0
Arizona	453	163	299	83.4	3.2	6,795	2,616	3,304	26.3	0.5
California	5,731	5,254	5,204	-1.0	55.1	250,329	212,313	193,087	-9.1	28.8
Florida	7,072	5,561	3,123	-43.8	33.1	719,674	561,324	465,001	-17.2	69.4
Hawaii	259	543	268	-50.6	2.8	237	322	377	17.1	0.1
Louisiana	153	130	164	26.2	1.7	969	542	777	43.4	0.1
Texas	620	458	371	-19.0	3.9	9,740	8,732	7,831	-10.3	1.2
United States	14,288	12,116	9,437	-22.1	100.0	987,743	785,856	670,386	-14.7	100.0
Grapefruit										
Arizona	221	63	120	90.5	5.6	2,192	537	604	12.5	0.7
California	955	879	714	-18.8	33.3	15,349	10,725	10,447	-2.6	11.8
Florida	1,861	1,185	771	-34.9	36.0	119,364	72,611	60,732	-16.4	68.7
Hawaii	77	201	104	-48.3	4.9	105	45	39	-13.3	0.0
Louisiana	20	22	36	63.6	1.7	20	10	11	10.0	0.0
Texas	872	573	399	-30.4	18.6	19,840	18,650	16,561	-11.2	18.7
United States	4,006	2,923	2,144	-26.7	100.0	156,869	102,578	88,393	-13.8	100.0
Lemons										
Arizona	234	172	312	81.4	10.4	17,537	12,891	12,370	-4.0	19.8
California	1,649	1,880	2,320	23.4	77.2	62,407	53,232	49,631	-6.8	79.6
Florida	49	60	56	-6.7	1.9	807	621	77	-87.6	0.1
Hawaii	122	406	250	-38.4	8.3	40	127	131	3.1	0.2
Louisiana	25	35	21	-40.0	0.7	9	8	8	0.0	0.0
Texas	63	54	48	-11.1	1.6	97	93	107	15.1	0.2
United States	2,142	2,607	3,007	15.3	100.0	80,898	66,972	62,324	-6.9	100.0
Tangerines										
Alabama			10		0.7			26		0.1
Arizona	83	36	38	5.6	2.7	3,290	544	429	-21.1	1.0
California	568	706	755	6.9	54.1	8,058	21,528	33,465	55.4	79.1
Florida	879	839	353	-57.9	25.3	19,696	14,604	8,122	-44.4	19.2
Hawaii	131	300	200	-33.3	14.3	75	87	115	32.2	0.3
Louisiana	26	36	10	-72.2	0.7	123	28	7	-75.0	0.0
Texas	44	59	29	-50.8	2.1	177	174	126	-27.6	0.3
United States	1,731	1,976	1,395	-29.4	100.0	31,419	36,965	42,289	14.4	100.0
Limes										
Arizona	26	3	5	66.7	0.9	(D)	(D)	1		0.1
California	354	363	296	-18.5	50.8	564	525	460	-12.4	56.1
Florida	81	57	40	-29.8	6.9	660	518	241	-53.5	29.4
Hawaii	171	427	232	-45.7	39.8	(D)	204	110	-46.1	13.4
Louisiana	-	6		-100.0	0.0	-	(D)			0.0
Texas	1	6	10	66.7	1.7	(D)	(D)	8		1.0
United States	633	862	583	-32.4	100.0	1,368	1,251	820	-34.5	100.0

= -- Not available. D=Data not disclosed to prevent identification of producers.

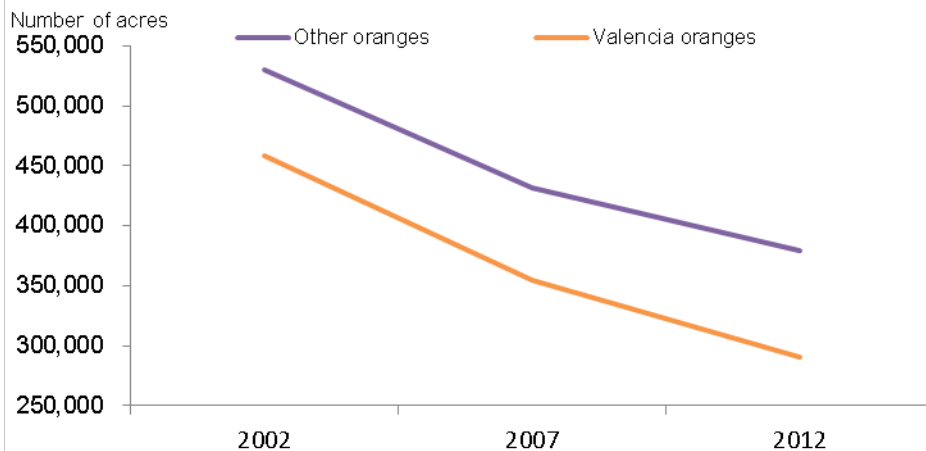
Source: USDA, National Agricultural Statistics Service, Census of Agriculture, various years.

Table 6--U.S. other and Valencia oranges farms and acreage, 2002, 2007 and 2012

Commodity/ State	Total Farms			Percent change 2007-12	Share of total farms 2012	Total Acres			Percent change 2007-12	Share of total farms 2012
	2002	2007	2012			2002	2007	2012		
	--Number--			--Percent--		--Number--			--Percent--	
<b>Other oranges</b>										
Alabama		7	8	14.3	0.1		6	9	50.0	0.0
Arizona	358	118	251	112.7	3.4	3,632	1,718	2,106	22.6	0.6
California	4,368	4,052	4,114	1.5	55.2	170,845	158,263	149,177	-5.7	39.3
Florida	6,183	4,575	2,421	-47.1	32.5	346,115	264,751	221,851	-16.2	58.5
Hawaii	203	407	206	-49.4	2.8	118	186	176	-5.4	0.0
Louisiana	134	116	148	27.6	2.0	840	503	728	44.7	0.2
Texas	540	384	304	-20.8	4.1	8,241	6,141	5,434	-11.5	1.4
United States	11,786	8,635	7,452	-13.7	100.0	529,821	431,568	379,481	-12.1	100.0
<b>Valencia oranges</b>										
Arizona	245	80	168	110.0	3.6	3,163	898	1,198	33.4	0.4
California	3,272	2,620	2,431	-7.2	52.0	79,454	54,051	43,910	-18.8	15.1
Florida	4,863	3,432	1,841	-46.4	39.4	373,559	296,574	243,150	-18.0	83.6
Hawaii	70	240	77	-67.9	1.6	119	136	201	47.8	0.1
Louisiana	21	23	26	13.0	0.6	129	39	49	25.6	0.0
Texas	164	142	131	-7.7	2.8	4,199	2,591	2,398	-7.4	0.8
United States	8,635	6,537	4,674	-28.5	100.0	457,922	354,288	290,905	-17.9	100.0

Source: USDA, National Agricultural Statistics Service, Census of Agriculture, various years.

Figure 3  
**Valencia and other orange acreage, 2002-12**



Source: USDA, National Agricultural Statistics Service, Census of Agriculture, various years.

by 30 percent over the past 10-year period. Even with the decline, Arizona lemon acres account for 20 percent of total U.S. lemon acreage. Lemon acreage in California, on the other hand, declined 7 percent in 2012 from the previous census.

A bright spot for the U.S. citrus industry is the continued growth of tangerine/mandarin orange acres as the fruit continues to grow in consumer popularity. While total acreage has increased, the total number of farms growing tangerines has contracted by 30 percent from 2007 to 2012, with major losses stemming from Florida, Hawaii, Texas and Louisiana. Total tangerine acreage increased 14 percent between the latest census periods, and over 35 percent since 2002. California accounts for most of the acreage increase since 2007. Overall, California has increased acreage over fourfold from 8,058 acres in 2002 to 33,465 acres in 2012, accounting for 80 percent of all mandarin acres in the United States. Florida tangerine acreage, meanwhile, has declined almost 60 percent in the past decade

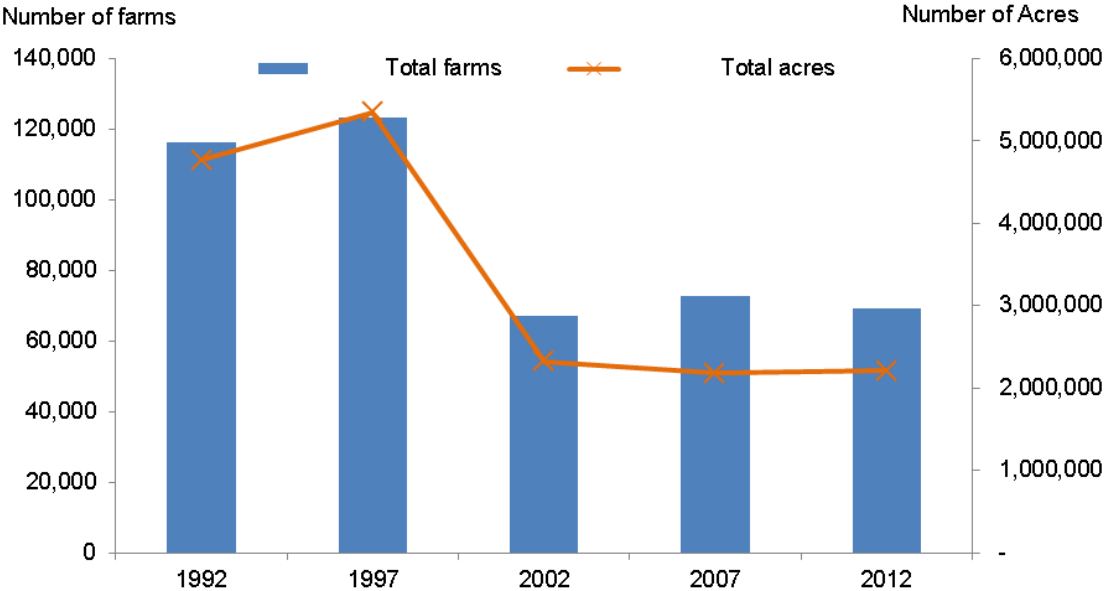
and by 44 percent since 2007, bottoming at 8,122 acres in 2012. Total farms growing mandarins in California has risen at a slower pace than gain in acreage, suggesting existing mandarin farms expanding acreage faster than new growers are entering the industry.

Limes are grown domestically but on a very minor scale, with only 820 acres in 2012. Most lime acreage has declined as a result of citrus canker and citrus leafminer infestations in the early 1990s in Florida, previously the major commercial lime State. Since 2000, lime production in Florida has been very small scale as imports from Mexico replaced domestic production's in the U.S. lime market. Hence, U.S. lime acreage spiraled down over the last 4 census years. The 2012 census indicated California surpassed Florida in lime acreage, accounting for more than half of the U.S. total. There were 296 farms engaged in lime production in California in 2012, covering 460 acres. This averages to about 1.55 acres per farm operation, demonstrating the smaller scale of the production. Farms in Florida declined in number to only 40 in 2012, from 270 farms in 1992. Mexico has the comparative advantage in lime production and continues to expand production to meet the ever-growing demand for this fruit in the United States.

**Nearly Two-Thirds of U.S. Orchards Grow Noncitrus Fruit**

Sixty-five percent of the 106,488 U.S. farms with orchards in 2012 engaged in noncitrus fruit production (table 2). These crops were produced on a total of approximately 2.2 million acres, making up 42 percent of the total orchard land in 2012 (fig. 4). Noncitrus fruit acres increased 2 percent in 2012 from 2007, largely reflecting expanded grape acreage that made up more than half of total noncitrus fruit area. Total acreage for 13 of the 24 listed noncitrus fruit crops reported reduced acreage, including among the major noncitrus crops—apples, peaches, and pears. The number of farms producing noncitrus fruit declined over the last 2 census years, from 72,757 in 2007 to 69,233 in 2012. Farm numbers were down for several noncitrus crops except for tart cherries, dates, grapes, mangoes, olives, passion fruit, peaches, pears, and pomegranate. Decline in farm numbers were most noticeable for nectarines, papayas, and apricots while the biggest gains were for pomegranates, dates, olives, and passion fruit. Noncitrus crops with the most significant increases in both farm numbers and acreage were those with relatively miniscule domestic production. Expansion in the production sectors of these relatively minor crops have been influenced by increasing domestic demand for these fruit and their products.

**Figure 4  
Total farms and acres growing noncitrus fruit in the United States<sup>1</sup>**



<sup>1</sup> Excluding berries.  
Source: USDA, National Agricultural Statistics Service, Census of Agriculture, various issues.

## California Dominates U.S. Noncitrus Fruit Production Sector

All 50 U.S. States reported having farms producing noncitrus fruit in 2012, but California remains a primary production area, accounting for over a third of the noncitrus farms and nearly two-thirds of total noncitrus acreage (table 7). Domestic grape production—the Nation’s No. 1 noncitrus fruit crop—is heavily concentrated in California, accounting for 41 percent of all the nation’s grape vineyards and 83 percent of total grape acreage in 2012 (table 3).

Acreage for apricots, avocados, figs, kiwifruit, nectarines, olives, persimmons, plums and prunes, and pomegranates were also predominantly in California, with the State’s share of U.S. total acreage for each crop in the range of 81 to 98 percent in 2012. California’s shares of date fruit and peach acreages also dwarfed other States but stood at 66 percent and 40 percent, respectively, and the States’ acreage for apples, sweet cherries, and pears were among the largest in the country. The other States with the highest noncitrus acreage in 2012 were Washington, Michigan, New York, and Oregon. Combined with California, these top five States made up approximately 87 percent of total noncitrus acreage in 2012, relatively unchanged from 2007.

## Farm Numbers and Acreage for Other Leading Noncitrus Fruit Crops Mostly Down

While trailing grapes at a distance, the combined total acres planted to apples, peaches, sweet cherries, plums and prunes, and avocados made up approximately 35 percent of total U.S. noncitrus fruit acreage in 2012. Acreage for each of these crops in 2012 declined from 2007, except for sweet cherries whose production area increased 5 percent (table 8). Correspondingly, total farm numbers were down, except for those growing peaches.

Apples are grown widely across the Nation but Washington produces more than half of U.S. apples, mostly for the fresh market, based on annual NASS data. More than one-tenth of U.S. farms growing apples in 2012 were in Washington, accounting for nearly half of the total apple acreage that year. With production largely geared toward the processing sector, New York, Michigan, Pennsylvania, California, and Virginia, combined made up 31 percent of the apple farms and 37 percent of the total apple acreage that year. Industry-wide financial struggles, caused by low apple prices in the late 1990s and early 2000s, resulted in consolidation of the U.S. apple production sector, forcing out many smaller and less efficient growers (U.S. International Trade Commission, 2010). In Washington, the total number of apple orchards declined from each census year since 1997 (with 4,207 farms reported). Correspondingly, total production area (bearing and nonbearing) also fell from 204,674 acres in 1997 to 165,215 acres in 2007, but increased 5 percent in 2012. Though planted acreage declined over time (except during the 2012 census year), trees per acre increased by planting smaller trees for easier harvest. Hence, except for some annual fluctuations due to natural forces, annual production volumes in Washington have increased over time to a record 7.3 billion pounds in 2014.

Table 7 --U.S. noncitrus fruit (excluding berries) farms and acreage, 2002, 2007, and 2012.

Commodity	Total farms			Percent change 2007-12	Share of total farms 2012	Total acres			Percent change 2007-12	Share of total acres 2012
	2002	2007	2012			2002	2007	2012		
	--Number--			--Percent--		--Number--			--Percent--	
California	23,540	24,910	23,941	-3.9	34.6	1,418,093	1,312,994	1,346,040	2.5	60.9
Washington	5,984	5,363	4,769	-11.1	6.9	310,403	298,587	314,899	5.5	14.3
Michigan	2,501	2,581	2,394	-7.2	3.5	117,075	113,624	110,163	-3.0	5.0
New York	2,703	2,639	2,598	-1.6	3.8	98,460	99,658	93,304	-6.4	4.2
Oregon	3,148	3,171	2,751	-13.2	4.0	(D)	64,125	59,520	-7.2	2.7
Top 5-States	37,876	38,664	36,453	-5.7	52.7	1,944,031	1,888,988	1,923,926	1.8	87.1
Other States	29,237	34,093	32,780	-3.9	47.3	378,874	287,523	285,266	-0.8	12.9
United States	67,113	72,757	69,233	-4.8	100.0	2,322,905	2,176,511	2,209,192	1.5	100.0

-- = Not available. D = Data not disclosed to prevent identification of producers.

Source: USDA, National Agricultural Statistics Service, Census of Agriculture, 2007 and 2012.

Table 8 --Number of farms and acres for selected noncitrus fruit in the United States, 2002, 2007, and 2012

Commodity/ State	Total farms			Percent change	Share of total farms	Total acres			Percent change	Share of total acres
	2002	2007	2012	2007-12	2012	2002	2007	2012	2007-12	2012
	--Number--			--Percent--		--Number--			--Percent--	
Apples:										
Washington	3,870	3,052	2,839	-7.0	11.3	172,810	165,215	174,152	5.4	45.3
New York	1,447	1,350	1,365	1.1	5.4	53,233	49,966	47,148	-5.6	12.3
Michigan	1,750	1,772	1,584	-10.6	6.3	50,539	44,189	43,240	-2.1	11.3
Pennsylvania	1,777	1,886	1,542	-18.2	6.1	28,110	23,552	21,556	-8.5	5.6
California	2,120	2,074	2,527	21.8	10.1	38,268	22,184	18,205	-17.9	4.7
Virginia	746	626	733	17.1	2.9	19,331	13,774	11,929	-13.4	3.1
Sub-total	11,710	10,760	10,590	-1.6	42.1	362,291	318,880	316,230	-0.8	82.3
Other States	15,143	14,831	14,539	-2.0	57.9	101,734	79,890	68,007	-14.9	17.7
United States	26,853	25,591	25,129	-1.8	100.0	464,025	398,770	384,237	-3.6	100.0
Peaches:										
California	2,446	2,005	2,201	9.8	15.8	93,257	66,408	51,948	-21.8	40.4
South Carolina	380	283	319	12.7	2.3	15,069	16,160	16,274	0.7	12.7
Georgia	304	279	225	-19.4	1.6	13,242	12,356	12,318	-0.3	9.6
Sub-total	3,130	2,567	2,745	6.9	19.7	121,568	94,924	80,540	-15.2	62.7
Other States	11,396	11,015	11,171	1.4	80.3	62,927	54,313	47,940	-11.7	37.3
United States	14,526	13,582	13,916	2.5	100.0	184,495	149,237	128,480	-13.9	100.0
Plums and prunes:										
California	2,852	2,024	1,656	-18.2	28.1	141,494	102,860	82,910	-19.4	94.1
Oregon	441	546	302	-44.7	5.1	2,096	1,921	1,446	-24.7	1.6
Michigan	230	313	286	-8.6	4.9	1,012	907	729	-19.6	0.8
New York	183	208	324	55.8	5.5	373	367	584	59.1	0.7
Idaho	118	152	96	-36.8	1.6	609	610	462	-24.3	0.5
Washington	317	418	281	-32.8	4.8	1,034	699	398	-43.1	0.5
Sub-total	4,141	3,661	2,945	-19.6	50.0	146,618	107,364	86,529	-19.4	98.2
Other States	3,159	3,326	2,943	-11.5	50.0	2,221	1,955	1,593	-18.5	1.8
United States	7,300	6,987	5,888	-15.7	100.0	148,839	109,319	88,122	-19.4	100.0
Sweet cherries:										
Washington	2,432	2,160	1,958	-9.4	25.6	34,835	38,811	38,457	-0.9	36.5
California	1,334	1,291	1,226	-5.0	16.0	26,440	30,433	37,944	24.7	36.1
Oregon	922	896	777	-13.3	10.1	15,018	17,288	15,602	-9.8	14.8
Michigan	690	683	639	-6.4	8.3	10,082	9,295	9,158	-1.5	8.7
Sub-total	5,378	5,030	4,600	-8.5	60.0	86,375	95,827	101,161	5.6	96.1
Other States	2,665	3,021	3,063	1.4	40.0	5,360	4,878	4,083	-16.3	3.9
United States	8,043	8,051	7,663	-4.8	100.0	91,735	100,705	105,244	4.5	100.0
Avocados:										
California	4,801	6,230	5,602	-10.1	74.7	67,553	74,767	59,814	-20.0	81.3
Florida	839	951	1,088	14.4	14.5	7,254	6,861	12,930	88.5	17.6
Hawaii	601	1,047	781	-25.4	10.4	628	974	726	-25.5	1.0
Sub-total	6,241	8,228	7,471	-9.2	99.7	75,435	82,602	73,470	-11.1	99.9
Other States	10	17	24	41.2	0.3	135	45	64	42.2	0.1
United States	6,251	8,245	7,495	-9.1	100.0	75,570	82,647	73,534	-11.0	100.0

-- = Not available.

Source: USDA, National Agricultural Statistics Service, Census of Agriculture, various issues.

Though still down from 2002, the number of U.S. peach farms increased almost 3 percent from 2007 to 2012 but total peach acreage continued to slip. The U.S. peach production sector is still largely concentrated in California with 40 percent of total acres in 2012. South Carolina and Georgia also remain in the top three and, combined with California, make up nearly two-thirds of the total acreage and, based on annual NASS data, over 80 percent of U.S. peach volume. Even though California supplies about half of all U.S. peaches for fresh consumption, over 65 percent

of the State's crop moves through the processing sector, mainly for canning. South Carolina and Georgia, on the other hand, specialize in fresh-market production as do most other peach-producing States. While the number of peach farms grew in California and South Carolina from 2007 to 2012, total acres in California declined by 22 percent, mostly reflecting tree removal of clingstone peaches in response to generally declining grower prices for canning peaches in the years between 2007 and 2012. Total acres increased only marginally in South Carolina while both farm numbers and acreage fell in Georgia.

Production sector growth was vast in smaller performing peach States, especially in Florida where the number of farms rose from 145 in 2007 to 345 in 2012 accompanied by acreage expansion from 234 acres in 2007 to 1,231 acres in 2012—more than a fivefold increase and the largest rate of growth among all producing States. New varieties more adaptable to Florida's tropical climate have been bred over the past years that require fewer chill hours to produce a strong crop as well as to ripen before summer, before Georgia and California peaches reach the market. This has opened high-price market opportunities for the State's peach industry, especially as major citrus diseases (citrus canker and citrus greening) have and continue to force more citrus acreage out of production, prompting Florida growers to find alternative crops as profitable replacements. Also worth noting are the new winter-hardy varieties that have been developed that withstand very cold winters, leading to increased plantings in Maine in recent years. Though still small in scale like Florida, the number of peach farms and acreage in Maine more than doubled from 2007 to 2012.

Plums and prunes were produced on about 9 percent of all U.S. farms growing noncitrus fruit crops in 2012, covering 88,122 acres, 4 percent of total noncitrus fruit acreage. Both the number of farms and production area for plums and prunes has continued to decline since 2002, mostly depicting the trend seen in California's production sector, which represents more than one-fourth of all U.S. farms producing plums and prunes and over 90 percent of total acreage. According to industry sources, California's steadily declining prune acreage may be attributed to the conversion of some prune-bearing acreage into higher valued tree crops such as almonds and walnuts.

There were 5 percent fewer farms growing sweet cherries in the United States in 2012 than in 2007 but total area in production rose 5 percent to 104,244 acres. Sixty percent of these 7,663 sweet cherry farms in 2012 were in Washington, California, Oregon, and Michigan, covering 96 percent of the 105,244 acres in sweet cherry production during 2012. Farm numbers and acreage declined in the top 4 States, except in California where total acreage rose 25 percent. Strong domestic and export demand for sweet cherries have led to high grower prices during the 2000s (except during the bumper crop years of 2009 and 2012), stimulating further expansion in production. California has the advantage of marketing sweet cherries before northern U.S. producers begin harvesting, thereby capturing the high-price timing advantage in the domestic and export markets, particularly exports to Japan. With the desire to capture more of that early market, cherry plantings in California have steadily increased in the past two decades, spreading production regions further south from the traditional growing areas in the San Joaquin and Santa Clara counties (American Society of Farm Managers and Rural Appraisers, 2012). With new varieties developed, earlier harvest dates are achievable from the warmer, drier climate in the southern San Joaquin Valley, specifically in the Fresno, Kings, and Kern counties.

The avocado production sector in the United States had 9 percent fewer farms and an 11-percent smaller acreage in 2012 from 2007. About 75 percent of these farms were in California, accounting for 81 percent of the Nation's total avocado acreage while most of the remaining farms and acreage were in Florida and Hawaii. Of these 3 States, farm numbers and acreage grew only in Florida from 2007 to 2012. In 2012, industry data indicated that abandoned acres in California since 2011 exceeded new/young acres, reducing the State's overall acres. This decline was partially prompted by urbanization and competition over limited water supply which has raised the cost to irrigate avocado orchards.

### ***Minor Crops Grew the Most in Noncitrus Fruit Farm Numbers and Acreage***

Noncitrus crops with the most significant increases in both farm numbers and acreage were pomegranates, dates, passion fruit, olives, and mangoes (table 2). Domestic production of these crops are relatively smaller in scale than most traditional U.S. fruit crops and largely concentrated in one (California for pomegranates, dates, and olives;

Florida for mangoes) or a few States (Florida, Hawaii, and California for passion fruit). Total acreage for guava grew the most (up 96 percent from 2007 to 2012) but contracted 18 percent in number of farms. Expansion in the production sectors of most these relatively minor crops has been spurred by the growing trend in health foods and the influence of a more ethnically-diverse U.S. consumer base.

Pomegranate and passion fruit have both been around for many years but their popularity grew over the last two decades, having been reintroduced to U.S. consumers as a super food. California's pomegranate production has increased more than sevenfold from 2007 to 2012, totaling 282,532 tons valued at \$115.4 million (County Agricultural Commissioners' Data, 2007 and 2012). Packed with nutritional benefits (high in antioxidants, potassium, and vitamin C) and a great source of fiber, pomegranate use extends beyond fresh fruit and juice (including juice blends) to include other freshly prepared products (such as salad garnish), tea, fruit and nut mixes, ingredients to various other food products (salad dressings, marinades, ice cream, chewing gum, and more), as well as nonfood products (University of Georgia Cooperative Extension, 2014). Passion fruit is widely used in juice form, although the growing popularity of tropical cuisines has increased the incorporation of this fruit in other food uses.

U.S. date fruit per capita use has seen a rebound in recent years to around the highs achieved in the mid- to late-1970s, drawing some benefits from national obesity awareness. Aside from the fruit's nutritional benefits, the sweet flavor of dates opened opportunities for the industry to promote the fruit as a natural alternative to sugar. The number of farms growing dates in California rose from 151 in 2007 to 169 in 2012 (up 6 percent), along with increased acreage from 6,315 acres to 7,257 acres (up 15 percent). Despite this growth, expansion in California has been limited by expanding vegetable acreage, urban encroachment, and water supply issues. Production expansion for dates appears to be moving more into Arizona, where the growth in farm numbers and total acreage have more than doubled from 2007 to 2012. While California remains the primary producer of dates, the State's share of all U.S. farms growing dates declined from 89 percent in 2007 to 79 percent in 2012 and correspondingly, total acreage share for the State fell 82 percent to 66 percent. Meanwhile, Arizona's share of all U.S. date farms grew from 10 percent to 17 percent from the 2007 census to the 2012 one, and from 18 percent to 34 percent of total U.S. acreage for dates.

California accounted for 93 percent of all U.S. farms with olive production and 97 percent of total olive acreage in 2012. Historically, California's olive production was destined mostly for canning; the State's olive oil industry existed mainly as a marketing option for olive producers during bumper crop years or when the harvested crop was of poor quality (Huntrods, AgMRC, 2013). In the 1990s and through 2007, the share of California olives for canning was nearly 90 percent of the State's total production, based on NASS annual production data. However, despite the United States remaining a minor olive oil producer on a global scale, increasing U.S. and global demand for olive oil, fueled in part by publicity surrounding its health benefits, has translated to rapidly increasing domestic olive oil production in recent years (U.S. International Trade Commission, 2013). Although olive farm numbers and acreage in California saw increases of just over 10 percent from 2007 to 2012, total crop use has shifted, closing the gap between output for canning (53 percent of total production in California in 2012) and for olive oil production (46 percent in 2012). Production crushed for oil has reached highs of over 70,000 short tons in recent years, up dramatically from over 6,000 short tons in the 1990s. Banking on the "locally grown" movement and the California brand, active marketing and promotion efforts led by the industry have also aided demand for California olive oil, even encouraging some foreign firms to invest in agricultural land in California to develop their own California product lines (U.S. International Trade Commission, 2013).

### ***The U.S. Berry Sector Continues To Grow***

There were more farms and acres in berry production in the United States in 2012 than in 2007. A total of 30,538 farms grew berries in 2012, up 22 percent from 2007. These farms had 11 percent more acres devoted to berries over the same period, for a total of 289,913 acres. Of these farms, the number of harvested farms increased significantly for most berries, except for cranberries (table 9). Correspondingly, harvested acres also rose for most berries from 2007 to 2012, except for wild blueberries and boysenberries.

Growing domestic and global demand for berries—spurred by healthy diet awareness, increased world supplies, and rising populations with higher per capita incomes—has influenced U.S. growers to increase new varietal plantings that extend typical marketing periods and/or thrive in other growing regions where previously no production existed, gaining market opportunities to fill these supply gaps.

Strawberry production has the largest annual volume among all the U.S. berry crops. Eighty-five percent of the 10,388 U.S. strawberry farms in 2012 harvested strawberries on 62,968 acres (table 10). Together, these farms produce, on average, an estimated 1.5 million tons of strawberries valued at over \$2.4 billion, next to grapes and apples in total noncitrus fruit crop value with a 16-percent share, based on annual NASS data. More than half of strawberry harvested acreage is in California and almost two-tenths in Florida. Both harvested-farm numbers and harvested acres increased in California and Florida while in Oregon, a 20-percent increase in harvested farms was met by an 11-percent decline in harvested acres. Harvested farms grew more rapidly in California than in Florida (up 23 percent versus up 15 percent from 2007 to 2012), but the increase in harvested acreage was more aggressive in Florida, up 74 percent versus a 14-percent increase in California. While harvested acreage reported in census has trended up over time, total planted acreage in California has declined in more recent years (California Strawberry Commission, 2015), mostly reflecting declining acreage in the Orange County/San Diego (southern region) growing district as agricultural land continues to face increased competition from urbanization. Some of the loss in strawberry acreage, however, is offset by acreage gains in the northern most growing districts, including additional planted acreage in the summer (for fall/winter harvests) that helps bring California strawberries closer to a year-round supply, and by the breeding of new varieties that tend to yield more and adapt to different growing climate.

Although strawberries still rank No. 1 in annual U.S. berry production, harvested acres for cultivated blueberries in 2012 continued to exceed those for strawberries as has been reported in 2007. Part of the expansion in blueberry acreage may be attributed to new entrants to the industry as the number of reported harvested cultivated-blueberry farms in 2012 grew 39 percent to 10,449 farms, 1,621 more than the number of harvested-strawberry farms. U.S. demand for blueberries has exploded in over the past decade, resulting in favorable grower prices that have encouraged significant supply adjustments from both domestic and import sources. Domestic production accounts for a majority of fresh blueberries consumed in the United States each year while imports fill in seasonal gaps. On a per capita basis, U.S. fresh-blueberry consumption has increased more than fourfold since 2000, now over 1.0 pound per person annually.

Table 9 --U.S. berry farms and acreage, 2002, 2007, and 2012

Commodity	Harvested farms			Percent	Harvested acres			Percent	Share of
	2002	2007	2012	change	2002	2007	2012	change	total acres
	--Number--			--Percent--	--Number--			--Percent--	2012
Blackberries <sup>1</sup>	3,565	4,471	5,580	24.8	10,210	10,728	10,586	-1.3	4.5
Blueberries, tame	6,428	7,516	10,449	39.0	52,002	60,353	81,953	35.8	34.5
Blueberries, wild	665	728	952	30.8	23,851	23,492	19,209	-18.2	8.1
Boysenberries	320	270	301	11.5	1,097	823	439	-46.7	0.2
Cranberries	1,099	1,088	965	-11.3	40,685	38,597	40,695	5.4	17.1
Currants	103	276	363	31.5	294	253	478	88.9	0.2
Loganberries	129	89	101	13.5	--	77	79	2.6	0.0
Raspberries	4,521	5,719	6,508	13.8	19,888	19,363	20,500	5.9	8.6
Strawberries	6,799	7,807	8,828	13.1	55,866	55,601	62,968	13.2	26.5
Other berries	353	691	760	10.0	--	503	916	82.1	0.4
Total <sup>2</sup>	18,234	--	--	--	206,034	209,790	237,823	13.4	100.0

-- = Not available. <sup>1</sup> Includes dewberries. <sup>2</sup> Total harvested farms and acres in 2002 are from 2002 Census of Agriculture.

Harvested acres in 2007 is the sum of individual berry crops.

Source: USDA, National Agricultural Statistics Service, Census of Agriculture, various issues.



Table 10 --Number of farms and acreage for selected berries in the United States and top states, 2002, 2007, and 2012

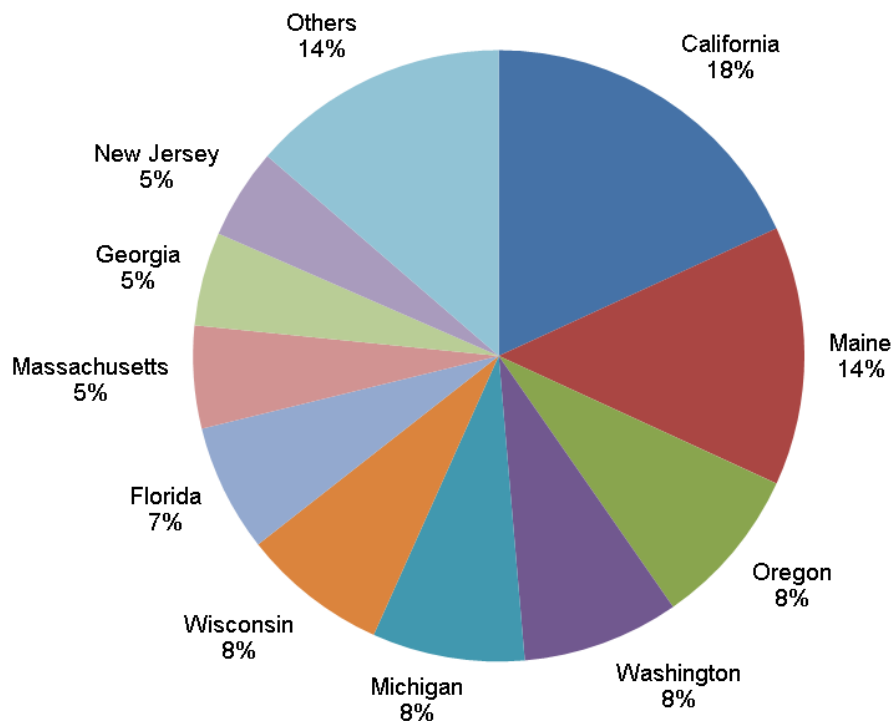
Commodity	Harvested farms			Percent	Share of	Harvested acres			Percent	Share of
	2002	2007	2012	change	total farms	2002	2007	2012	change	total acres
	--Number--			--Percent--		--Number--			--Percent--	
Strawberry:										
California	684	719	887	23.4	10.0	32,183	34,101	38,800	13.8	61.6
Florida	217	202	233	15.3	2.6	6,595	6,538	11,350	73.6	18.0
Oregon	328	285	342	20.0	3.9	3,013	1,960	1,742	-11.1	2.8
Top 3 States	1,229	1,206	1,462	21.2	16.6	41,791	42,599	51,892	21.8	82.4
Other States	5,570	6,601	7,366	11.6	83.4	14,075	13,002	11,076	-14.8	17.6
United States	6,799	7,807	8,828	13.1	100.0	55,866	55,601	62,968	13.2	100.0
Blueberry (cultivated):										
Michigan	590	758	591	-22.0	5.7	17,274	19,641	18,746	-4.6	22.9
Georgia	408	343	612	78.4	5.9	1,646	4,802	11,565	140.8	14.1
New Jersey	240	170	216	27.1	2.1	7,468	7,605	8,792	15.6	10.7
Oregon	659	713	767	7.6	7.3	3,887	5,185	8,484	63.6	10.4
Washington	289	475	639	34.5	6.1	2,569	3,926	7,758	97.6	9.5
Florida	343	442	825	86.7	7.9	1,646	2,376	6,179	160.1	7.5
North Carolina	267	297	711	139.4	6.8	5,009	5,323	5,747	8.0	7.0
California	97	186	324	74.2	3.1	827	2,232	4,187	87.6	5.1
Mississippi	249	317	361	13.9	3.5	1,289	2,209	2,050	-7.2	2.5
New York	351	407	552	35.6	5.3	842	1,097	1,194	8.8	1.5
Top 10 States	3,493	4,108	5,598	36.3	53.6	42,457	54,396	74,702	37.3	91.2
Other States	2,935	3,408	4,851	42.3	46.4	9,545	5,957	7,251	21.7	8.8
United States	6,428	7,516	10,449	39.0	100.0	52,002	60,353	81,953	35.8	100.0
Cranberry:										
Wisconsin	237	259	235	-9.3	24.4	17,494	17,752	19,377	9.2	47.6
Massachusetts	482	448	391	-12.7	40.5	14,707	12,521	13,058	4.3	32.1
New Jersey	41	39	28	-28.2	2.9	3,105	3,111	2,965	-4.7	7.3
Oregon	161	149	143	-4.0	14.8	2,958	2,766	2,822	2.0	6.9
Washington	131	123	106	-13.8	11.0	2,001	1,752	1,671	-4.6	4.1
Top 5 States	1,052	1,018	903	-11.3	93.6	40,265	37,902	39,893	5.3	98.0
Other States	47	70	62	-11.4	6.4	420	695	802	15.4	2.0
United States	1,099	1,088	965	-11.3	100.0	40,685	38,597	40,695	5.4	100.0

Source: USDA, National Agricultural Statistics Service, Census of Agriculture, various years.

Next to blueberries and strawberries, harvested-cranberry area ranked third among berry crops in 2012, totaling 40,695 acres, 17 percent of total harvested acres. There were 1,040 farms growing cranberries in 2012, and of these farms, 92 percent harvested a crop that year. Harvested farm numbers for cranberries declined 11 percent from 2007 and 2012 but harvested acreage increased 17 percent, mostly reflecting increased acreage in Wisconsin, the largest cranberry-producing State. Expanded acreage has contributed to large inventories in recent years, resulting in declining U.S. cranberry grower prices and consequently forcing some growers out of business.

California leads in U.S. berry production with 18 percent of total berry acres in 2012 (fig. 5). Aside from dominating in U.S. strawberry production, California is also the largest producing State for raspberries and the seventh-largest for cultivated blueberries. Maine accounted for the second-largest share of total berry acres, with a 14-percent share, principally attributed to wild blueberry production, although the State also reports acreage for strawberries, raspberries, cranberries, and blackberries and dewberries. Completing the top 10 berry States are Oregon, Washington, Michigan, Wisconsin, Florida, Massachusetts, Georgia, and New Jersey, also major producers of blueberries and/or strawberries.

Figure 5  
Top 10 U.S. berry-producing States share of total acres in 2012



Source: USDA, National Agricultural Statistics Service, Census of Agriculture, 2012.

### *Tree Nut Acreage Keeps Growing Nationwide*

Acreage planted to tree nuts increased 14 percent in 2012 since the 2007 census to reach 2.11 million acres, and accounted for 41 percent of all orchard land in 2012. Acreage increased for all tree nut varieties except pecans, which lost about 7 percent of total acreage. Almonds account for about 18 percent of all orchard acreage in 2012 up from 15 percent in 2007, illustrating the strong growth in demand for almonds worldwide. California is the predominant global almond producer, with nearly 936,248 acres in 2012, a 19-percent increase since the last census, and 35 percent above 2002 levels. Small acres of production occur in Arizona, with increased acreage in 2012 but levels are miniscule when compared to California (table 11). The total number of farms growing almonds increased 5 percent from 2007 to 2012 and is up 9 percent since 2002.

California dominates tree nut production in the United States, with the most acres in almonds, pistachios, and walnuts. For pistachios, California accounted for 98 percent of total acres in 2012, with 228,248 acres, a 51-percent increase from 2007's 151,484 acres and a nearly twofold increase from 2002. Arizona's pistachio acres have more than doubled, almost rebounding to 2002 levels. Acreage declined in the other States producing pistachios, but the increases in California and Arizona negated those losses to increase total pistachio acreage by 51 percent from 2007 to 2012. California alone increased acreage 88 percent since 2002. Total farms increased 15 percent in 2012, with Arizona jumping up to 77 farms from 50 in 2007, but still below 2002's total of 109 farms. California continues to increase acres and farms dedicated to pistachios, with a 14-percent increase of farms accounting for 87 percent of total pistachio farms in the United States. Overall, pistachio farms increased 15 percent between the most recent census years.

English walnut acreage continues to climb, extending the trend of increased tree nut acreage in the United States, with a 24-percent growth since 2007. Acres declined between 2002 and 2007 but the most recent census has that growth returning and adding 13 percent more acres in 2012 than in 2002. California represents almost all walnut

Table 11 --Almond, macadamia nut, pistachio nut and walnut farms and acreage, 2002, 2007, and 2012

Commodity/ State	Total farms			Percent change 2007-12	Share of total farms 2012	Total acres			Percent change 2007-12	Share of total farms 2012
	2002	2007	2012			2002	2007	2012		
	--Number--			--Percent--		--Number--			--Percent--	
<b>Almonds</b>										
Arizona	32	16	29	81.3	0.4	9	6	326	5333.3	0.0
California	6,391	6,474	6,841	5.7	97.0	696,424	790,161	935,804	18.4	100.0
New Mexico	14	15	29	93.3	0.4	11	6	13	116.7	0.0
Texas	10	12	13	8.3	0.2	(D)	2	24	1100.0	0.0
Utah	12	30	17	-43.3	0.2	8	11	39	254.5	0.0
sub-total	6,459	6,547	6,929	5.8	98.3	696,452	790,186	936,206	18.5	100.0
Other States	23	153	123	-19.6	1.7	183	59	42	-28.8	0.0
United States	6,482	6,700	7,052	5.3	100.0	696,635	790,245	936,248	18.5	100.0
<b>Hazelnuts</b>										
Oregon	958	850	827	-2.7	56.7	33,151	33,661	37,097	10.2	97.4
Washington	106	160	115	-28.1	7.9	282	298	228	-23.5	0.6
sub-total	1,064	1,010	942	-6.7	64.6	33,433	33,959	37,325	9.9	98.0
Other States	167	547	516	-5.7	35.4	368	506	757	49.6	2.0
United States	1,231	1,557	1,458	-6.4	100.0	33,801	34,465	38,082	10.5	100.0
<b>Macadamia nuts</b>										
California	159	139	146	5.0	14.7	213	184	277	50.5	1.5
Hawaii	900	1,011	849	-16.0	85.3	18,469	17,628	18,006	2.1	98.5
United States	1,059	1,150	995	-13.5	100.0	18,682	17,811	18,283	2.7	100.0
<b>Pistachio nuts</b>										
Arizona	109	50	77	54.0	5.1	3,509	1,523	3,645	139.3	1.6
California	1,055	1,141	1,305	14.4	87.2	121,562	151,484	228,248	50.7	98.1
Nevada	8	19	16	-15.8	1.1	85	154	85	-44.8	0.0
New Mexico	126	70	76	8.6	5.1	1,350	767	513	-33.1	0.2
Texas	15	16	15	-6.3	1.0	32	127	114	-10.2	0.0
Utah	7	10	7	-30.0	0.5	31	49	48	-2.0	0.0
United States	1,320	1,306	1,496	14.5	100.0	126,569	154,103	232,653	51.0	100.0
<b>Walnuts (English)</b>										
California	6,293	5,712	5,712	0.0	85.8	289,742	264,517	329,112	24.4	99.1
Oregon	379	354	205	-42.1	3.1	1,948	1,460	1,031	-29.4	0.3
Michigan	19	84	47	-44.0	0.7	114	219	239	9.1	0.1
Washington	132	173	119	-31.2	1.8	197	173	221	27.7	0.1
Kansas	1	-	23	-	0.3	(D)	-	173	-	0.1
sub-total	6,824	6,323	6,106	-3.4	91.7	292,001	266,369	330,776	24.2	99.6
Other states	201	838	550	-34.4	8.3	690	1,382	1,269	-8.2	0.4
United States	7,025	7,161	6,656	-7.1	100.0	292,691	267,751	332,045	24.0	100.0

- = Not applicable.

Source: USDA, National Agricultural Statistics Service, Census of Agriculture, various years.

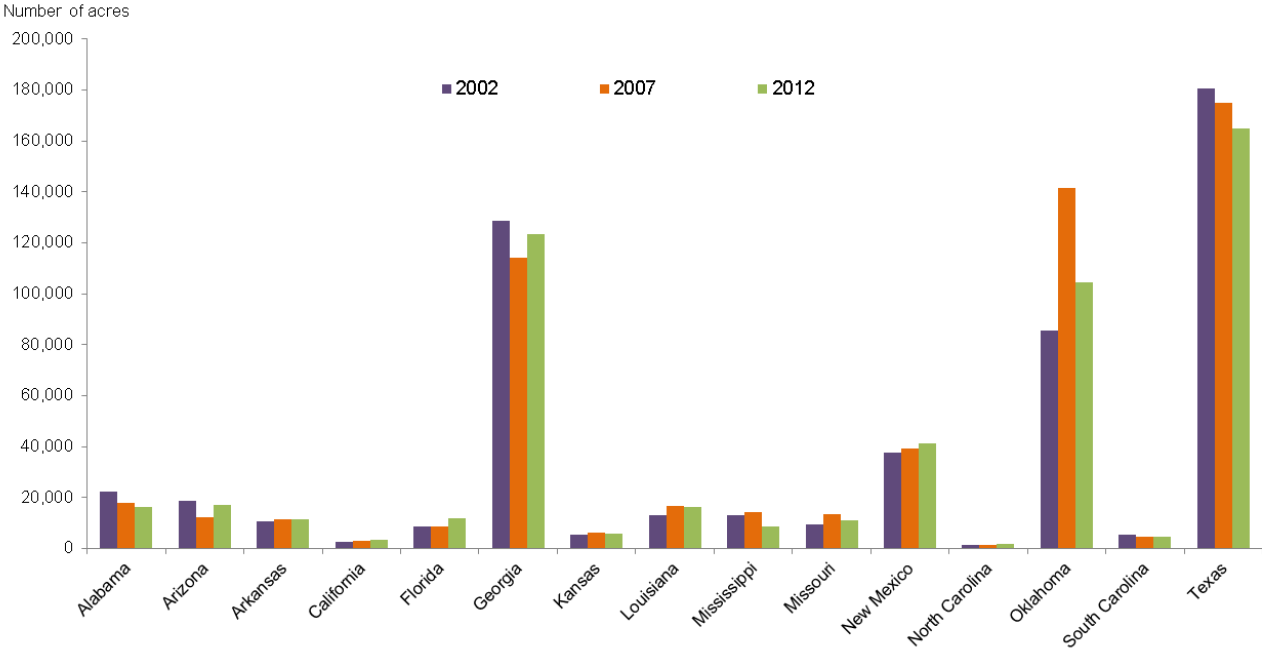
acres in the United States, with some acreage in Oregon. Oregon has experienced a 47-percent acreage loss since 2002. While acres have increased, total farms have declined, with losses in every State but California, which has remained stable since 2007, with 5,712 farms.

Pecans are grown across a larger geographic area than other tree nuts, with 39 States reporting some pecan acreage in 2012. Both total number of farms and acres dedicated to growing pecans have declined since 2007, 12 percent and 7 percent, respectively. The major pecan-producing States are Georgia, New Mexico and Texas. While both Georgia and Texas have witnessed a consolidation of pecan farms, New Mexico has seen a 19-percent increase in farms. Acreage in both Georgia and New Mexico gained ground, but in Texas, 6 percent of acres were lost between 2007 and 2012 and a 9-percent decline over the last decade (fig. 6). Some of the loss of Texas pecan acreage could be attributed to a few stints of drought, which stressed the trees and prompted removal of dead/damaged orchards. Even with some orchard removal, Texas accounts for the most pecan acreage, with 30 percent of the U.S. total. Though Georgia has added acreage since 2007, the State is still below the level of production seen in 2002.

Hazelnut acreage witnessed its first major gain in nearly 20 years, with almost an 11-percent jump from 2007 to 2012. Oregon, the main hazelnut-producing State, has spent many years combating the fungal disease Eastern Filbert

Blight, which has kept production constrained. The disease is native to the northeastern United States and, for native hazelnut trees, provides little effect on tree production and health. But the disease is quite deadly to the commercially produced European Hazelnut. Breeding programs have introduced several cultivars of blight-resistant trees that can grow well in Oregon conditions. This has helped increase hazelnut acreage and aided increased global demand for the nut. Since 1992, acreage has hovered in the low 30,000-acre range but by 2012, acreage was at 37,097 acres in Oregon, 15 percent above 1992 levels. As more blight-resistant trees begin to bear nuts, planting may increase in Oregon and Washington, adding larger production volumes of domestic hazelnuts.

**Figure 6**  
**Pecan acre by State, 2002, 2007, and 2012 <sup>1</sup>**



<sup>1</sup> Only shows states with 1,000 or more acres in 2012  
 Source: USDA, National Agricultural Statistics Service, Census of Agriculture, various years.

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