



CITRUS COMMERCIAL CITRUS INVENTORY
PRELIMINARY REPORT

Cooperating with the Florida Department of Agriculture and Consumer Services
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All Citrus Acreage Down 4 Percent, and Trees Down 3 Percent

Results of the annual Commercial Citrus Inventory show total citrus acreage is 480,121 acres, down 4 percent from the last survey and the lowest in a series which began in 1966. The gross loss of 31,365 acres is the largest loss recorded in a single season since beginning one year interval surveys in 2009. New plantings, at 10,090 acres is less than each of the last two seasons. Of the 27 counties included in the survey, 24 recorded decreases in acreage, 3 showed increases. Polk County had the largest decrease in acreage, down 4,033 acres from last year, while Hillsborough County had the highest percentage net loss, with a 33 percent reduction in acreage. Hendry County had the highest gain with 512 acres and 275,200 trees, followed by De Soto and Charlotte counties. Polk remains the leader in acres with 76,455 acres, while Hendry County has the most trees with nearly 10.0 million trees.

Orange acreage declined to 425,728, continuing a trend that began after the 2000 survey. However, oranges represent 89 percent of all citrus acreage, the highest in the series. The Central, Western, and Southern areas each have about 130,000 orange acres, while the remaining two areas combined have just under 35,000 acres. Valencia acreage accounts for over 54 percent of the total orange acreage, non-Valencia acreage represents just under 43 percent, and unidentified acreage is 3 percent.

Grapefruit acreage is now at 40,316, the lowest in the series. White grapefruit sustained the greater loss at 17 percent, while red seedless grapefruit lost only 4 percent of its total. The Indian River District has the most grapefruit with 73 percent of the total grapefruit acreage.

Specialty fruit acreage continued to decline and is now at 14,077 acres, down 11 percent from the last survey. Tangelo acreage decreased 17 percent to 2,623. All tangerine acreage fell 17 percent to 8,799 acres. Honey tangerines account for 49 percent of the total tangerine acreage with 4,337 acres, while early tangerines with 4,462 acres still make up the majority with 51 percent of the total. Other citrus acreage included in specialty fruit increased by 32 percent to 2,655 acres.

All Citrus Acreage, by Variety and Survey Year, and Changes Between Surveys – Florida: 1986-2016

Survey ¹ year	Oranges (acres)	Grapefruit (acres)	Specialty fruit (acres)	Total (acres)	Change ¹		Net change (acres)
					Gross loss (acres)	New plantings (acres)	
1986 ²	466,252	117,845	40,395	624,492	185,598	48,725	-136,873
1988	536,737	119,606	41,586	697,929	52,240	125,677	+73,437
1990 ²	564,809	125,300	42,658	732,767	85,858	120,696	+34,838
1992	608,636	135,166	47,488	791,290	74,704	133,227	+58,523
1994	653,370	146,915	53,457	853,742	45,214	107,666	+62,452
1996	656,598	144,416	56,673	857,687	35,947	39,892	+3,945
1998	658,390	132,817	54,053	845,260	49,325	36,898	-12,427
2000	665,529	118,145	48,601	832,275	59,516	46,531	-12,985
2002	648,806	105,488	43,009	797,303	77,197	42,225	-34,972
2004 ³	622,821	89,048	36,686	748,555	88,875	40,127	-48,748
2006 ³	529,241	63,419	28,713	621,373	150,805	23,623	-127,182
2008	496,518	56,881	23,178	576,577	66,924	22,128	-44,796
2009	492,529	53,863	22,422	568,814	19,918	12,155	-7,763
2010	483,418	50,189	20,430	554,037	25,109	10,332	-14,777
2011	473,086	48,990	19,252	541,328	21,769	9,060	-12,709
2012	464,918	48,191	18,384	531,493	19,383	9,548	-9,385
2013	459,311	47,656	17,673	524,640	15,115	8,262	-6,853
2014	452,364	45,922	16,861	515,147	21,041	11,548	-9,493
2015	441,628	43,962	15,806	501,396	26,094	12,343	-13,751
2016	425,728	40,316	14,077	480,121	31,365	10,090	-21,275

¹ One year survey beginning in 2009.

² January freezes in 1985 and 1986. December freezes in 1985 and 1989.

³ August and September hurricanes in 2004. October hurricane in 2005.

All Citrus Acreage, by Variety and Year Set – Florida: Crop Year 2015-2016

Year set	All citrus	Oranges						Tangelos	Other citrus
		Early	Midseason	Temples	Late	Unidentified	Total		
	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)
Pre-1972.....	15,924	3,870	1,754	447	6,907	-	12,978	179	13
1972-1981.....	16,648	4,544	1,117	30	5,840	-	11,531	21	8
1982-1991.....	145,670	50,496	4,290	359	72,267	-	127,412	1,039	352
1992-1994.....	44,307	11,501	2,348	36	22,849	-	36,734	402	118
1995-1997.....	29,404	8,258	1,194	77	17,786	-	27,315	129	111
1998-2000.....	39,079	11,996	1,766	53	23,340	-	37,155	117	66
2001-2003.....	39,802	15,554	2,026	48	19,854	-	37,482	208	123
2004-2006.....	31,102	13,298	1,268	19	14,304	-	28,889	148	52
2007-2009.....	34,916	14,661	1,769	5	16,266	7	32,708	55	94
2010-2012.....	40,015	14,047	1,922	5	17,977	923	34,874	155	605
Bearing.....	436,867	148,225	19,454	1,079	217,390	930	387,078	2,453	1,542
2013.....	16,253	5,123	706	21	5,453	3,149	14,452	85	423
2014.....	16,911	3,571	522	15	5,437	5,527	15,072	74	377
2015.....	10,090	2,824	337	-	4,005	1,960	9,126	11	313
Non-bearing.....	43,254	11,518	1,565	36	14,895	10,636	38,650	170	1,113
Total.....	480,121	159,743	21,019	1,115	232,285	11,566	425,728	2,623	2,655

See footnote(s) at end of table.

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All Citrus Trees, by Variety and Year Set – Florida: Crop Year 2015-2016

Year set	All citrus	Oranges						Tangelos	Other citrus
		Early	Midseason	Temples	Late	Unidentified	Total		
(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)
Pre-1972.....	1,669.7	412.7	198.7	47.9	759.3	-	1,418.6	18.1	1.5
1972-1981.....	1,854.8	533.5	136.3	3.0	690.1	-	1,362.9	2.5	0.8
1982-1991.....	20,167.2	6,895.7	577.8	46.0	10,392.0	-	17,911.5	143.3	50.5
1992-1994.....	6,279.2	1,558.0	354.4	4.6	3,328.3	-	5,245.3	53.5	20.5
1995-1997.....	4,072.8	1,115.4	158.2	9.9	2,518.4	-	3,801.9	18.4	16.1
1998-2000.....	5,100.0	1,551.6	240.0	6.5	3,057.6	-	4,855.7	15.6	9.6
2001-2003.....	5,101.7	1,993.7	274.5	5.7	2,562.7	-	4,836.6	26.2	14.9
2004-2006.....	3,907.2	1,663.8	158.1	2.5	1,798.9	-	3,623.3	19.0	8.0
2007-2009.....	4,604.8	1,927.2	230.0	0.4	2,177.3	0.6	4,335.5	7.0	15.3
2010-2012.....	5,498.8	1,961.0	279.4	0.9	2,440.8	129.4	4,811.5	23.6	110.8
Bearing.....	58,256.2	19,612.6	2,607.4	127.4	29,725.4	130.0	52,202.8	327.2	248.0
2013.....	2,376.3	767.3	99.5	2.4	773.7	465.8	2,108.7	13.8	82.7
2014.....	2,603.2	542.0	70.5	1.5	815.2	882.2	2,311.4	8.5	79.0
2015.....	1,487.3	393.7	47.2	-	603.0	285.3	1,329.2	1.3	71.0
Non-bearing.....	6,466.8	1,703.0	217.2	3.9	2,191.9	1,633.3	5,749.3	23.6	232.7
Total.....	64,723.0	21,315.6	2,824.6	131.3	31,917.3	1,763.3	57,952.1	350.8	480.7

See footnote(s) at end of table.

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All Citrus Acreage, by Variety and Year Set – Florida: Crop Year 2015-2016

(continued)

Year set	Grapefruit					Tangerines				
	White seedless	Red seedless	Seedy	Unidentified	Total	Fallglo	Sunburst	Early ¹	Honey	Total
	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)
Pre-1972.....	1,754	753	132	-	2,639	-	-	-	115	115
1972-1981	1,202	3,731	27	-	4,960	-	19	19	109	128
1982-1991	3,534	10,280	135	-	13,949	327	1,509	1,836	1,082	2,918
1992-1994	904	3,928	46	-	4,878	417	808	1,225	950	2,175
1995-1997	557	516	6	-	1,079	90	177	267	503	770
1998-2000	288	855	21	-	1,164	45	109	154	423	577
2001-2003	445	1,175	18	-	1,638	18	77	95	256	351
2004-2006	117	1,556	6	-	1,679	19	107	126	208	334
2007-2009	173	1,561	5	-	1,739	51	98	149	171	320
2010-2012.....	147	3,571	40	13	3,771	100	202	302	308	610
Bearing.....	9,121	27,926	436	13	37,496	1,067	3,106	4,173	4,125	8,298
2013	13	954	-	137	1,104	55	80	135	54	189
2014	67	914	-	271	1,252	26	33	59	77	136
2015	5	430	-	29	464	26	69	95	81	176
Non-bearing.....	85	2,298	-	437	2,820	107	182	289	212	501
Total.....	9,206	30,224	436	450	40,316	1,174	3,288	4,462	4,337	8,799

- Represents zero.

¹ Fallglo and Sunburst varieties.

All Citrus Trees, by Variety and Year Set – Florida: Crop Year 2015 - 2016

(continued)

Year set	Grapefruit					Tangerines				
	White seedless	Red seedless	Seedy	Unidentified	Total	Fallglo	Sunburst	Early ¹	Honey	Total
	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)
Pre-1972.....	139.2	66.1	12.8	-	218.1	-	-	-	13.4	13.4
1972-1981	116.3	355.9	2.4	-	474.6	-	2.0	2.0	12.0	14.0
1982-1991	404.8	1,173.1	13.4	-	1,591.3	54.0	238.4	292.4	178.2	470.6
1992-1994	99.6	508.8	4.2	-	612.6	65.5	120.5	186.0	161.3	347.3
1995-1997	59.8	54.5	0.4	-	114.7	15.4	28.4	43.8	77.9	121.7
1998-2000	27.9	104.1	2.0	-	134.0	7.1	15.3	22.4	62.7	85.1
2001-2003	45.3	131.6	1.6	-	178.5	3.0	9.8	12.8	32.7	45.5
2004-2006	13.1	194.2	0.5	-	207.8	3.0	15.0	18.0	31.1	49.1
2007-2009	17.8	182.6	0.5	-	200.9	7.4	12.9	20.3	25.8	46.1
2010-2012.....	14.9	445.9	3.9	1.3	466.0	14.0	27.8	41.8	45.1	86.9
Bearing.....	938.7	3,216.8	41.7	1.3	4,198.5	169.4	470.1	639.5	640.2	1,279.7
2013	1.6	124.5	-	16.1	142.2	8.8	12.0	20.8	8.1	28.9
2014	6.0	128.5	-	47.8	182.3	5.2	5.4	10.6	11.4	22.0
2015	0.6	53.9	-	4.5	59.0	6.1	9.0	15.1	11.7	26.8
Non-bearing.....	8.2	306.9	-	68.4	383.5	20.1	26.4	46.5	31.2	77.7
Total.....	946.9	3,523.7	41.7	69.7	4,582.0	189.5	496.5	686.0	671.4	1,357.4

- Represents zero.

¹ Fallglo and Sunburst varieties.

All Citrus Acreage and Trees, by County and Year of Inventory – Florida: 2013-2016

County	2013	2014	2015	2016	2013	2014	2015	2016
	(acres)	(acres)	(acres)	(acres)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)
Brevard.....	3,062	2,990	2,100	2,055	360.6	357.5	261.9	257.2
Charlotte.....	13,213	13,273	13,492	13,655	1,887.6	1,896.7	1,928.9	1,963.6
Collier.....	30,410	30,099	29,893	29,253	4,452.0	4,420.5	4,393.4	4,317.2
De Soto.....	65,187	66,104	66,302	66,672	8,732.4	8,864.9	8,921.9	8,973.3
Glades.....	8,222	8,009	7,118	6,163	1,253.3	1,220.9	1,103.4	877.2
Hardee.....	46,690	47,069	47,121	44,476	5,732.0	5,847.5	5,954.3	5,692.5
Hendry.....	63,291	63,355	64,063	64,575	9,500.1	9,530.9	9,680.0	9,955.2
Hernando.....	839	832	766	693	98.5	98.3	92.5	84.8
Highlands.....	61,685	60,391	58,287	57,921	7,960.5	7,888.6	7,671.9	7,651.8
Hillsborough.....	7,342	6,535	5,902	3,963	870.1	778.8	739.7	514.6
Indian River.....	31,922	31,606	29,500	26,218	3,527.4	3,514.8	3,294.8	3,060.5
Lake.....	10,311	10,141	9,719	8,766	1,480.5	1,463.6	1,399.8	1,264.4
Lee.....	10,415	10,498	10,571	10,267	1,419.7	1,430.1	1,440.4	1,398.8
Manatee.....	17,939	17,565	16,974	16,231	2,320.2	2,276.0	2,208.7	2,110.7
Marion.....	1,154	1,100	1,063	1,047	138.0	132.2	128.0	125.0
Martin.....	5,949	4,366	3,219	2,530	928.7	710.5	555.5	447.0
Okeechobee.....	6,650	6,358	6,253	6,000	797.7	758.2	749.4	750.8
Orange.....	3,238	2,958	2,315	1,993	389.4	359.2	282.8	248.1
Osceola.....	9,218	8,858	8,502	8,172	1,135.0	1,102.9	1,066.2	1,033.0
Pasco.....	6,846	5,912	5,529	3,722	964.8	834.5	788.8	531.3
Polk.....	81,696	81,810	80,488	76,455	9,923.8	9,997.4	9,915.1	9,544.7
Putnam.....	184	167	^{1/}	^{1/}	28.2	24.6	^{1/}	^{1/}
St. Lucie.....	36,247	32,378	29,559	26,744	4,737.2	4,302.0	3,973.8	3,615.6
Sarasota.....	1,335	1,263	1,197	1,173	152.4	145.2	142.5	143.1
Seminole.....	401	378	362	354	49.6	47.1	44.7	44.1
Volusia.....	825	765	785	784	86.8	83.8	85.9	86.9
Other Counties ²	369	367	316	239	47.3	47.6	42.8	31.6
Total.....	524,640	515,147	501,396	480,121	68,973.8	68,134.3	66,867.1	64,723.0

¹ Included in other counties beginning in 2015.

² Includes Citrus, Palm Beach, and Pinellas in 2013-2014; includes Citrus and Putnam in 2015-2016.

All Citrus Acreage and Trees, by Variety and Year of Inventory – Florida: 2013-2016

Variety	2013	2014	2015	2016	2013	2014	2015	2016
	(acres)	(acres)	(acres)	(acres)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)
Oranges:								
Hamlin.....	152,566	150,040	146,010	141,004	19,877.2	19,714.7	19,338.4	18,825.0
Parson Brown.....	9,044	8,370	7,402	6,875	1,209.1	1,114.1	996.8	923.0
Navel.....	8,337	8,236	8,115	8,295	1,068.4	1,058.8	1,053.0	1,096.2
Ambersweet.....	1,070	989	844	608	144.9	135.4	116.1	82.0
Other early.....	3,575	3,313	3,270	2,961	466.2	431.6	427.4	389.4
Pineapple.....	18,901	18,072	16,500	14,695	2,386.7	2,318.9	2,126.7	1,928.9
Other mids.....	7,016	6,868	6,410	6,324	978.6	961.2	905.3	895.7
Temples.....	1,474	1,355	1,212	1,115	172.0	160.6	141.0	131.3
Non-Valencia.....	201,983	197,243	189,763	181,877	26,303.1	25,895.3	25,104.7	24,271.5
Valencia.....	251,770	247,077	241,036	232,285	34,119.0	33,554.1	32,936.8	31,917.3
Unidentified.....	5,558	8,044	10,829	11,566	744.9	1,096.1	1,529.7	1,763.3
Total Oranges.....	459,311	452,364	441,628	425,728	61,167.0	60,545.5	59,571.2	57,952.1
Grapefruit:								
Seedy.....	529	500	464	436	49.5	46.5	43.5	41.7
White seedless.....	12,599	11,960	11,051	9,206	1,291.0	1,232.6	1,135.4	946.9
Red seedless.....	33,987	32,614	31,568	30,224	3,846.1	3,724.6	3,625.2	3,523.7
Unidentified.....	541	848	879	450	64.6	114.3	129.0	69.7
Total Grapefruit.....	47,656	45,922	43,962	40,316	5,251.2	5,118.0	4,933.1	4,582.0
Specialty:								
Tangelos:								
Orlando Tangelos.....	2,239	2,061	1,717	1,264	292.5	272.4	233.7	178.0
Minneola Tangelos.....	1,541	1,451	1,298	1,237	186.8	179.0	158.6	154.1
Other Tangelos.....	205	186	154	122	30.4	27.2	22.4	18.7
Total Tangelos.....	3,985	3,698	3,169	2,623	509.7	478.6	414.7	350.8
Tangerines:								
Fallglo Tangerines.....	1,315	1,306	1,283	1,174	209.3	206.7	203.7	189.5
Sunburst Tangerines.....	4,863	4,613	4,233	3,288	722.5	687.5	640.0	496.5
Early Tangerines.....	6,178	5,919	5,516	4,462	931.8	894.2	843.7	686.0
Honey Tangerines.....	5,930	5,491	5,111	4,337	884.0	825.2	772.5	671.4
Total Tangerines.....	12,108	11,410	10,627	8,799	1,815.8	1,719.4	1,616.2	1,357.4
True Lemons.....	104	98	97	95	14.3	13.3	13.2	12.7
Other Citrus ¹	1,476	1,655	1,913	2,560	215.8	259.5	318.7	468.0
Total Specialty.....	17,673	16,861	15,806	14,077	2,555.6	2,470.8	2,362.8	2,188.9
Total Citrus.....	524,640	515,147	501,396	480,121	68,973.8	68,134.3	66,867.1	64,723.0

¹ Includes Meyer Lemons, Robinson and Dancy Tangerines.

All Citrus Acreage, by Production Area and Year of Inventory – Florida: 2015-2016

Production Area	Oranges		Grapefruit		Specialty		Total	
	2015	2016	2015	2016	2015	2016	2015	2016
	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)
Indian River	24,520	20,222	32,401	29,518	2,327	2,638	59,248	52,378
Northern	17,145	14,618	820	695	2,611	2,004	20,576	17,317
Central	135,446	131,934	4,052	3,669	5,897	4,962	145,395	140,565
Western.....	134,291	129,661	1,251	1,208	1,954	1,646	137,496	132,515
Southern	130,226	129,293	5,438	5,226	3,017	2,827	138,681	137,346
Total	441,628	425,728	43,962	40,316	15,806	14,077	501,396	480,121

CITRUS INVENTORY PROCEDURES

This inventory is the eighth annual survey following a biennial series which began in January 1966. Following the 2008 survey, the work was divided between 2 years with part of each county being visited each year. Florida uses the Public Land Survey System with the units of townships and sections to describe land. Each township contains 36 sections, each 1 square mile in size. The township is divided into four quadrants of 9 square miles each. In each survey period, one-half of the quadrants will be inspected. Quadrants with citrus groves in the northern half of each township will be visited in the odd years and those with citrus groves in the southern half are visited in even years.

In 2005, all mapped records were transferred to a geographical information system (GIS) for use with digital imagery. Base maps are 2004 Digital Ortho Quarter Quads with newer high resolution imagery provided by the Florida Department of Transportation, as they become available. Changes are now detected by comparing digital imagery taken at different times. Each change observed by the photo interpreter is followed by a ground check which usually results in a revised tree count for the grove. Acreages can be verified using the GIS. Tree numbers are from actual tree counts or from measured acreage. Block sizes are reduced as necessary for dead trees or empty spaces, as well as barnyards, turn rows, swale ditches, and irrigation ponds.

A record for each separate planting or block is maintained in the data system. A new record is created for each new planting, and records of plantings which no longer exist are transferred to an inactive layer. For this inventory period, 51 percent of the state's total citrus acreage was visited to update the records. In combination with the citrus inventory, abandoned citrus groves are identified and their locations mapped.

Production areas were redesigned in 1986 to give greater efficiency for objective forecasting purposes. The principal change was to place all the northern freeze-prone regions in a single area and to set apart the southern flatwoods plantings. The Indian River District follows the boundary of the Indian River Marketing District. This stratification provides greater homogeneity within each sampling stratum.

