



2008 California Walnut Objective Measurement Report



Cooperating with the California Department of Food and Agriculture

California Field Office · P.O. Box 1258 · Sacramento, CA 95812 · (916) 498-5161 · (916) 498-5186 Fax · www.nass.usda.gov/ca

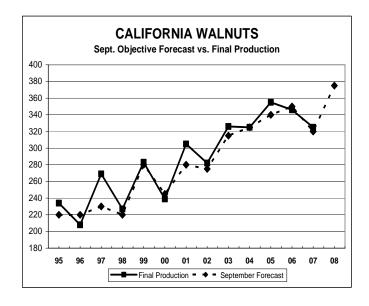
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WALNUT PRODUCTION FORECAST UP

The 2008 California walnut production is forecast at 375,000 tons, up 15 percent from 2007's production of 325,000 tons. This forecast is based on the 2008 Walnut Objective Measurement (O.M.) Survey, which was officially conducted August 1 through August 25, 2008. There were a few samples completed before August 1 for training and scheduling purposes.

The 2008 Walnut O.M. Survey utilized a total of 689 blocks with two sample trees per block. Survey data indicated an average nut set of 1,416 per tree, up 4 percent from 2007's average of 1,357. The Hartley nut set was down 14 percent; Chandler was up 33 percent; Serr was down 20 percent from 2007. Percent of sound kernels in-shell was 98.0 percent Statewide. In-shell weight per nut was 22.2 grams, while the average in-shell suture measurement was 32.6 millimeters. The in-shell cross-width measurement was 32.9 and the average length in-shell was 39.3 millimeters.

Estimated nut sets, sizing measurements, average number of trees per acre, and estimated bearing acreage were used in the statistical models.



SURVEY HISTORY

The Walnut O.M. Survey began in 1958 to fulfill industry needs for an accurate walnut production forecast prior to harvest. The original sample was chosen proportionally to county and variety of bearing acreage. With each succeeding year, additions and deletions have been made in the sample to adjust for acreage removed, new bearing acreage, and operations that choose not to participate in the survey.

SAMPLING PROCEDURES

Once a block is randomly selected and permission is granted by the operation for enumerators to enter the block, two trees are randomly selected. An accessible branch is chosen, which is 5-15 percent of the total cross-sectional area of the primary limbs and reachable with a twelve-foot ladder. Measurements are made on the trunk, each primary, and each split leading to and including the accessible branch. The sample tree and accessible branch are marked by a single tag.

On the accessible branch, every first of five nuts is picked for use in size and grade determinations. If available, at least ten nuts are harvested from the accessible branch for this purpose.

The following measurements are made on nuts selected for sizing:

- 1. Weight of nut including hull
- 2. Width of shell at suture
- 3. Width of shell 90 degrees to suture line (cross-suture)
- 4. Length of shell
- 5. Kernel grade
- 6. Weight of nut in-shell

DATA RELIABILITY

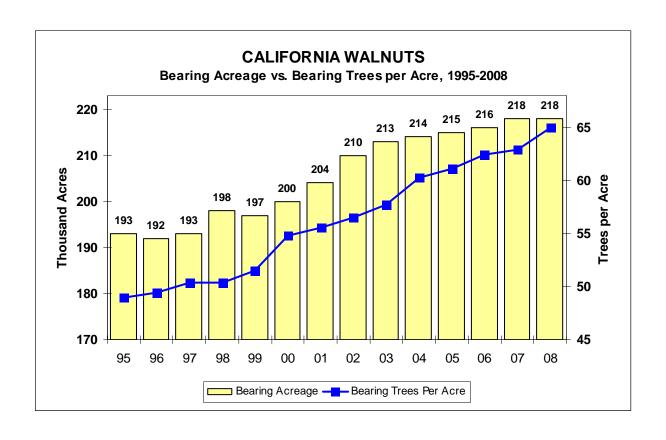
The 80 percent confidence interval is from 338,000 tons to 412,000 tons. This means there is an 80 percent chance the 2008 production will fall within this range.

California English Walnut Acreage, Production, Price And Value In-Shell

Year	Bearing Acres	Trees Per Acre	Per Bearing Acre	Total Production	Price Per Ton	Total Value		
i eai	bearing Acres	Tiees Pel Acie	To	ns	Dollars	1,000 Dollars		
1988	177,000	43.8	1.18	209,000	922	192,698		
1989	179,000	45.3	1.28	229,000	1,070	245,030		
1990	181,000	45.7	1.25	227,000	1,040	236,080		
1991	181,000	46.8	1.43	259,000	1,060	274,540		
1992	178,000	47.5	1.14	203,000	1,410	286,230		
1993	185,000	47.9	1.41	260,000	1,390	361,400		
1994	189,000	48.7	1.23	232,000	1,030	238,960		
1995	193,000	49.0	1.21	234,000	1,400	327,600		
1996	192,000	49.4	1.08	208,000	1,580	328,640		
1997	193,000	50.4	1.39	269,000	1,430	384,670		
1998	198,000	50.4	1.15	227,000	1,050	238,350		
1999	197,000	51.5	1.44	283,000	886	250,738		
2000	200,000	54.8	1.20	239,000	1,240	296,360		
2001	204,000	55.6	1.50	305,000	1,120	341,600		
2002	210,000	56.5	1.34	282,000	1,170	329,940		
2003	213,000	57.7	1.53	326,000	1,160	378,160		
2004	214,000	60.3	1.52	325,000	1,390	451,750		
2005	215,000	61.1	1.65	355,000	1,570	539,600		
2006	216,000	62.4	1.60	346,000	1,630	563,980		
2007 a/	218,000	62.9	1.49	325,000	2,320	754,000		
2008 b/ c/	218,000	65.0	1.72	375,000				

a/ Price Per Ton and Total Value are July 2008 preliminary data.

c/ Price Per Ton and Total Value preliminary data will be released July 2009.



Bearing years include plantings of the following: Chandler, Chico, Howard, Tulare (2004 & Earlier); 50-55, 59-124, 4946, Amigo, Ashley, Bardoni, Cisco, Earhorn, Grove, Gustine, Honeycutt, Houston, Jensen, Lompoc, Marchetti, Nuggett, Payne, Pedro, Serr, Sunland, Tehama, Trinta, UCD 67-13, Vina, Westside (2003 and Earlier); Franquette, Franquette Scharsch, Mayette, Placentia, Poe, Willsons/Willsons Wonder, Woodland (2001 & Earlier); all other varieties not specified (2002 & Earlier).

Walnut Objective Measurement Survey Date, By District

		Walnut Object	tive Measurement Survey Date,		
Measurement	Year	Coast 1/	Sacramento Valley 2/	San Joaquin Valley 3/	State 4/
In-Shell Weight	1997	20.9	23.7	22.2	22.9
(gm)	1998	21.2	22.4	20.3	21.4
(3 /	1999	21.0	24.9	19.5	23.0
	2000	19.7	22.4	19.7	21.2
	2001	21.9	23.7	18.1	21.5
	2002	19.1	22.9	20.5	22.0
	2003	23.0	24.6	19.2	22.4
	2004	22.0	24.1	19.7	22.5
	2004	23.1	21.3	18.1	20.0
	2006	19.8	24.1	21.0	22.7
	2007	19.1	21.4	18.7	20.3
1 01 11 11 11	2008	20.0	23.5	20.7	22.2
In-Shell Width	1997	32.3	33.0	31.1	32.3
(mm)	1998	31.4	32.2	31.5	31.9
	1999	31.2	32.6	31.6	32.2
	2000	31.5	32.4	32.1	32.2
	2001	31.7	31.8	31.6	31.7
	2002	31.4	32.2	32.7	32.4
	2003	32.1	32.8	32.0	32.5
	2004	31.4	32.5	32.7	32.6
	2005	32.9	31.4	32.1	31.7
	2006	29.5	30.3	32.9	31.4
	2007	31.6	31.5	32.4	31.9
	2008	31.4	32.7	32.6	32.6
In-Shell Cross-Width	1997	32.3	33.2	31.9	32.6
(mm)	1998	31.2	33.2 32.1	31.5	31.8
(11111)	1999		33.3		
		31.6		31.8	32.7
	2000	31.3	33.0	32.6	32.8
	2001	31.1	31.7	31.5	31.6
	2002	31.0	32.6	33.1	32.7
	2003	31.7	32.7	32.0	32.4
	2004	31.5	32.2	33.1	32.5
	2005	32.2	31.3	32.0	31.6
	2006	32.3	34.0	33.2	33.6
	2007	31.6	32.5	32.9	32.6
	2008	31.4	33.2	32.6	32.9
In-Shell Length	1997	38.2	39.4	37.6	38.6
(mm)	1998	39.1	40.0	39.0	39.5
` '	1999	38.3	39.7	38.9	39.4
	2000	37.4	38.2	38.4	38.2
	2001	38.6	38.5	37.9	38.3
	2002	37.5	38.4	38.8	38.5
	2003	38.8	39.7	38.3	39.1
	2003	37.7	39.1	38.7	39.0
	2005	42.0	38.4	38.7	38.6
	2006 2007	38.6 37.4	39.6 37.3	39.5 38.1	39.5 37.6
		37.4			37.6
Kamada d	2008	39.2	39.5	39.1	39.3
Kernel Grade -	1997	97.8	97.4	97.3	97.3
Percent Sound	1998	79.9	93.2	98.3	94.4
	1999	96.8	98.2	97.4	97.9
	2000	98.0	96.7	97.0	96.9
	2001	98.3	97.5	98.1	97.8
	2002	96.0	95.3	98.7	96.3
	2003	95.5	95.4	99.3	97.0
	2004	97.6	97.7	99.2	98.2
	2005	97.4	96.5	98.8	97.5
	2006	98.1	98.5	97.2	98.0
	2007	97.8	97.9	99.2	98.4
	2008	96.4	98.6	97.3	98.0
Nuts Set Per Tree	1997	1,128	2,233	1,439	1,753
140.0 Oct 1 Gt 1166	1998	1,070	2,233 1,654	1,253	1,407
	1999	1,355	2,180 1,813	1,250	1,709
	2000	1,195	1,812	1,204	1,483
	2001	937	2,020	1,478	1,719
	2002	1,254	1,982	1,142	1,572
	2003	640	1,846	1,429	1,599
	2004	924	1,943	1,168	1,526
	2005	818	1,854	1,372	1,575
	2006	1,316	1,660	1,267	1,458
I	2007	1,221	1,548	1,162	1,357
	2008	973	1,592	1,270	1,416
1/ Coast includes: Contra			enito, San Luis Obispo, Santa Cla		.,

Coast includes: Contra Costa, Lake, Monterey, Napa, San Benito, San Luis Obispo, Santa Clara, and Sonoma counties. Sacramento Valley includes: Butte, Colusa, El Dorado, Glenn, Sacramento, Solano, Sutter, Tehama, Yolo, and Yuba counties. San Joaquin Valley includes: Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare counties. District and State averages are derived by weighting county averages by county bearing acreage figures.

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Walnut Objective Measurement Survey Date, By Variety

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	Walnut Objective Measurement Survey Date, By Variety Measurement Year Ashley Chandler Eureka Franquette Hartley Howard Payne Serr Tehama Tulare Vina Other 1													
													•	
In-Shell Weight	1997	19.8	24.4	23.2	21.1	24.8		20.4	21.3	20.5		20.5	22.2	
(gm)	1998 1999	19.2 20.3	21.9 24.9	20.8 22.1	20.2 20.0	24.0 24.6		19.6 19.0	19.5 20.3	19.5 19.1		19.2 20.7	19.9 20.9	
	2000	17.5	22.9	21.7	18.3	22.8		18.8	19.3	19.8		19.3	19.9	
	2001	17.8	22.7	20.0	21.2	23.2		16.9	17.8	21.7		19.9	19.3	
	2002	18.0	24.1	20.8	18.3	23.6		19.3	19.4	19.6		20.0	21.0	
	2003	17.1	23.6	21.0	23.7	25.2		16.6	17.2	20.8		19.8	22.1	
	2004	18.4	23.4	20.4	22.1	24.5		17.7	18.5	20.3		19.1	22.2	
	2005	16.3	19.8	18.9	20.3	22.9		16.4	16.7	16.6		18.1	20.0	
	2006	18.1	23.0	22.3	19.2	24.8		19.0	20.4	21.8		21.3	22.6	
	2007	15.8	21.5	21.0	18.6	22.2	22.5	17.2	15.7	16.8	22.2	18.2	17.5	
In-Shell Width	2008 1997	19.7 31.8	22.2 32.3	21.1 30.7	20.3 30.6	25.0 33.3	23.8	18.4 31.5	18.6 33.3	22.5 32.0	22.8	20.0 31.0	19.3 30.8	
(mm)	1998	31.0	31.8	30.7	30.0	33.0		31.4	32.1	31.2		30.6	31.1	
(11111)	1999	30.7	32.8	30.4	31.0	32.8		31.5	32.6	30.9		30.4	31.2	
	2000	31.0	32.8	31.3	30.6	32.8		32.3	33.1	31.1		30.9	31.0	
	2001	30.3	32.0	32.0	30.5	32.3		31.2	31.8	31.3		30.3	30.7	
	2002	31.7	32.9	31.8	29.8	32.8		33.0	32.9	31.7		31.0	31.7	
	2003	31.0	32.9	32.1	32.4	33.2		31.7	31.5	31.6		30.8	32.3	
	2004	32.1	32.5	31.5	31.8	32.8		32.9	33.4	31.5		30.8	33.4	
	2005	31.4	31.1	30.7	31.6	32.5		31.7	32.2	31.0		31.4	32.4	
	2006	31.0	31.1	31.9	28.8	31.4	22.0	32.7	32.9	31.4	24.5	30.5	32.1	
	2007 2008	31.0 32.0	31.7 32.3	31.1 31.2	29.9 31.0	32.3 33.6	32.0 32.1	32.1 32.6	32.5 32.7	31.0 32.8	34.5 34.8	30.3 31.4	30.3 31.1	
In-Shell Cross-Width	1997	31.9	33.0	32.2	31.3	33.2		32.0	33.0	32.1		32.1	32.0	
(mm)	1998	31.2	30.9	30.5	31.2	32.5		31.4	31.6	30.8		30.8	31.7	
	1999	30.8	34.0	31.0	31.2	33.2		31.4	31.9	30.8		31.5	32.0	
	2000	31.2	33.9	32.0	30.5	33.2		32.7	32.6	31.6		32.0	32.3	
	2001	30.1	32.0	31.1	30.6	32.2		31.0	31.2	30.9		30.6	30.8	
	2002	31.8	33.7	32.7	30.1	32.9		33.1	32.6	31.8		31.8	32.4	
	2003	30.6	33.1	32.2	32.3	33.1		31.2	30.6	31.6		31.3	32.2	
	2004	32.0	32.6	32.3	31.3	32.8		33.1	33.4	31.0		30.9	33.1	
	2005 2006	30.9 32.1	31.1 33.9	31.7 32.9	31.4 32.2	32.1 34.0		31.4 32.6	31.5 33.0	30.1 32.9		31.6 33.1	32.6 34.0	
	2007	31.6	32.7	32.9	30.9	32.8	34.1	32.4	32.3	31.4	34.8	31.7	31.9	
	2008	32.0	32.9	31.6	31.5	33.4	34.1	32.2	31.9	32.5	34.5	32.2	32.1	
In-Shell Length	1997	36.2	39.2	41.0	37.8	39.5		36.6	37.4	37.2		38.1	38.5	
(mm)	1998	37.2	40.0	40.8	39.6	40.9		38.0	37.7	37.7		38.4	39.6	
, ,	1999	36.9	40.4	42.6	38.2	39.6		38.1	38.5	37.3		38.7	39.5	
	2000	35.8	39.4	43.0	37.4	38.2		38.2	37.6	36.9		37.3	38.3	
	2001	35.2	38.7	41.6	38.4	38.9		37.0	36.4	37.2		37.4	38.3	
	2002	36.1	39.7	41.4	37.0	38.7		38.2	37.5	36.8		37.6	38.5	
	2003	35.7	39.7	41.7	40.9	40.4		36.5	36.0	37.6		38.0	39.1	
	2004 2005	36.4 36.3	39.6 38.4	41.3 41.6	39.3 40.3	39.7 39.8		37.0 37.2	37.1 37.0	36.4 36.0		37.4 38.0	38.8 38.4	
	2005	37.4	39.5	44.2	38.5	40.4		38.1	39.2	37.8		39.3	38.7	
	2007	35.7	38.1	43.3	36.8	37.9	37.4	37.3	36.4	36.7	38.9	36.8	37.7	
	2008	37.4	39.2	43.4	39.3	40.9	38.0	37.4	37.6	37.7	39.3	38.4	39.7	
Kernel Grade -	1997	96.2	97.8	94.9	96.6	98.1		96.5	97.0	96.7		97.5	96.6	
Percent Sound	1998	94.4	91.4	99.8	89.5	94.4		96.3	97.9	94.3		95.2	95.2	
	1999	96.1	98.1	97.1	98.3	98.1		95.0	98.3	96.4		98.2	97.3	
	2000	95.6	96.7	93.1	97.8	96.4		97.3	97.7	96.4		98.2	97.3	
	2001	94.3	98.8	98.9	98.8	97.4		97.3	96.3	98.0		98.7	97.5	
	2002	96.4	96.8	98.6	97.2 97.0	96.1		96.8	93.3	98.3		97.0	96.8	
	2003 2004	97.5 97.9	97.4 99.0	98.8 98.4	97.0 95.6	97.2 98.2		99.2 99.4	96.1 98.3	91.8 99.1		96.9 98.0	95.1 96.7	
	2004	96.7	96.9	99.8	95.6 95.7	96.2 97.0		99.4 98.4	99.5	99.1		99.1	96.7 97.9	
	2003	98.4	99.2	95.1	99.6	97.7		91.8	96.0	99.1		98.2	97.7	
	2007	96.5	99.4	99.5	96.0	98.5	98.5	99.3	98.5	93.5	99.0	97.7	95.9	
	2008	93.5	98.7	91.7	97.6	99.2	99.0	99.0	94.5	96.5	98.1	99.1	93.5	
Nuts Set Per Tree	1997	1,406	1,570	1,414	2,162	2,228		1,304	796	1,703		1,894	1,839	
	1998	1,221	1,306	1,380	1,512	1,457		1,170	1,622	1,347		1,504	1,290	
	1999	1,073	1,540	1,369	2,818	2,241		1,076	989	1,210		1,374	1,536	
	2000	1,633	1,212	1,325	1,899	1,878		1,696	886	1,167		1,566	1,379	
	2001	1,510	1,741	1,718	1,819	2,049		1,443	1,342	1,560		1,488	1,533	
	2002 2003	1,534 1,421	1,315 1,594	1,246 1,858	2,072	1,961 1,735		1,246	1,259	1,446 1,021		1,611	1,642	
	2003	1,421	1,594	1,858	1,195 2,108	1,735 2,046		1,995 1,152	1,679 1,172	1,021		1,544 1,471	1,377 1,167	
	2004	1,304	1,783	1,639	1,267	1,729		1,152	1,429	1,466		1,251	1,167	
	2006	1,129	1,786	1,687	2,004	1,883		1,345	1,172	462		1,266	1,319	
	2007	1,875	1,069	1,731	1,569	1,738	1,197	1,202	1,710	2,058	963	1,183	1,640	
	2008	1,688	1,425	2,271	1,343	1,498	1,156	1,395	1,371	1,127	1,438	1,235	1,712	
1/ Beginning in 2007	the Hear	ord and Ti	loro variation	vuoro tok	on out of "Otho	r" and nubli	ahad aana	rotoly.						

^{1/} Beginning in 2007, the Howard and Tulare varieties were taken out of "Other" and published separately.

Percentage Distribution of Walnut Shell Suture Size, By District and Variety

	U.S. Standards Size Intervals 1/																														
District and Variety				04						05			2006 Mth Jmb Lge Med Bby Oth						2007 2/							2008					
	Mth	Jmb	Lge	Med	Bby	Oth	Mth	Jmb	Lge	Med	Bby	Oth							Mth	Jmb	Lge	Med	Bby	Oth	Mth	Jmb	Lge	Med	Bby	Oth	
														Perc	ent o	of To	tal 3/														
DISTRICTS:																															
Coast	0	50	12	20	16	1	1	71	15	9	4	0	0	30	15	18	26	11	9	30	17	24	20	0	0	49	18	17	15	0	
Sacramento Vly.	2	62	15	11	10	1	1	47	19	15	12	3	0	38	11	16	28	5	1	50	16	17	15	1	0	68	15	11	5	0	
San Joaquin Vly.	2	65	15	11	7	0	1	56	20	17	6	0	2	68	16	9	5	0	1	63	16	11	8	0	1	66	16	10	6	1	
VARIETIES:																															
Ashley	1	56	16	12	16	1	1	47	17	17	16	1	0	46	19	15	18	2	5	31	16	23	21	3	0	60	18	15	7	1	
Chandler	1	63	16	11	8	0	0	42	23	21	10	3	1	48	15	14	19	3	1	54	17	15	13	1	0	63	19	11	6	0	
Eureka	1	47	30	10	12	0	0	29	37	21	11	1	1	56	34	4	5	0	0	48	28	9	16	0	0	34	40	19	7	0	
Franquette	0	51	21	18	9	1	0	53	19	17	11	0	0	21	15	19	34	12	0	23	17	30	28	1	0	43	18	23	15	0	
Hartley	1	69	14	9	6	1	1	64	14	9	7	2	0	52	10	14	20	4	1	63	14	13	9	0	0	83	9	4	3	1	
Howard																			1	55	19	15	10	0	0	58	21	15	6	0	
Payne	1	67	13	10	8	0	1	51	19	19	8	1	0	72	16	5	7	1	0	60	19	12	8	1	1	73	14	8	4	0	
Serr	2	77	10	6	5	0	2	60	16	11	11	0	2	69	11	8	10	1	1	69	11	10	8	1	0	73	11	9	5	1	
Tehama	0	53	13	18	15	1	0	45	19	18	15	1	1	52	14	12	17	5	0	38	26	21	14	1	0	74	10	10	6	0	
Tulare																			8	76	7	6	3	0	7	82	5	4	2	0	
Vina	0	39	18	18	22	2	4	32	27	21	12	1	0	39	18	18	20	4	0	32	21	21	23	2	1	44	24	19	12	0	
Other	8	60	11	12	9	0	2	57	15	12	11	1	4	54	10	12	16	3	0	29	18	22	30	0	2	37	15	29	16	1	
STATE	2	63	15	11	9	1	1	51	19	16	10	2	1	51	13	13	18	3	1	55	16	15	12	1	1	67	16	11	6	0	
Number of																															
Shells Measured	13,822						12,736						13,491					13,219							13,485						

^{1/} Sizes used are as follows: Mammoth -- Larger than 96/64" in diameter; Jumbo -- 80/64" to 96/64"; Large -- 76/64" to 80/64" for Eureka variety, 77/64" to 80/64" for all other varieties; Medium -- 73/64" to 76/64" for Eureka, 73/64" to 77/64" for all others; Baby -- 60/64" to 73/64"; and Others -- below 60/64".

The California Walnut Industry has been very supportive. We appreciate your continued cooperation!

VIC TOLOMEO, Director JACK RUTZ – SARAH HOFFMAN, Deputy Directors

DOUG FLOHR – JENNIFER VAN COURT Statisticians – Estimates Group

^{2/} Beginning in 2007, the Howard and Tulare varieties were taken out of "Other" and published separately.

^{3/} Percentage distributions based upon nut samples taken in the field may not equal 100 percent due to rounding.