United States Department of Agriculture
National Agricultural Statistics Service

2011 California Walnut Objective Measurement Report

Cooperating with the California Department of Food and Agriculture

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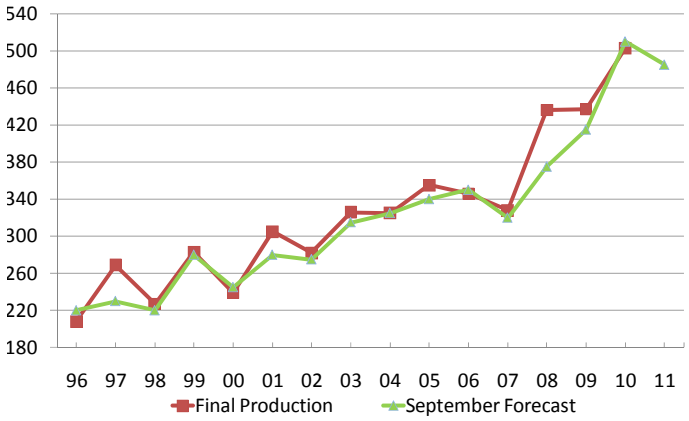
WALNUT PRODUCTION FORECAST DOWN

The 2011 California walnut production is forecast at 485,000 tons, down 4 percent from 2010's production of 503,000 tons. This forecast is based on the 2011 Walnut Objective Measurement (O.M.) Survey, which was conducted August 1 through August 24, 2011.

This year's growing season was very similar to the 2010 growing season with adequate chilling hours, above average rainfall, and a generally mild summer. Bloom was approximately one week behind last year due to rain and cool weather. Bloom timing was also compressed into a shorter bloom period due to the cooler spring temperatures in March and April. Mild weather during the growing season has resulted in a crop of excellent quality. Harvesting is expected to start a few days later than last year, and about two weeks behind normal.

The 2011 Walnut O.M. Survey utilized a total of 730 blocks with two sample trees per block. Survey data indicated an average nut set of 1,388 per tree, down 18 percent from 2010's average of 1,690. Percent of sound kernels in-shell was 98.7 percent Statewide. In-shell weight per nut was 23.6 grams, while the average in-shell suture measurement was 32.7 millimeters. The in-shell cross-width measurement was 33.1 millimeters and the average length in-shell was 39.4 millimeters.

CALIFORNIA WALNUTS
Sept. Objective Forecast vs. Final Production



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 441,000 tons to 529,000 tons.

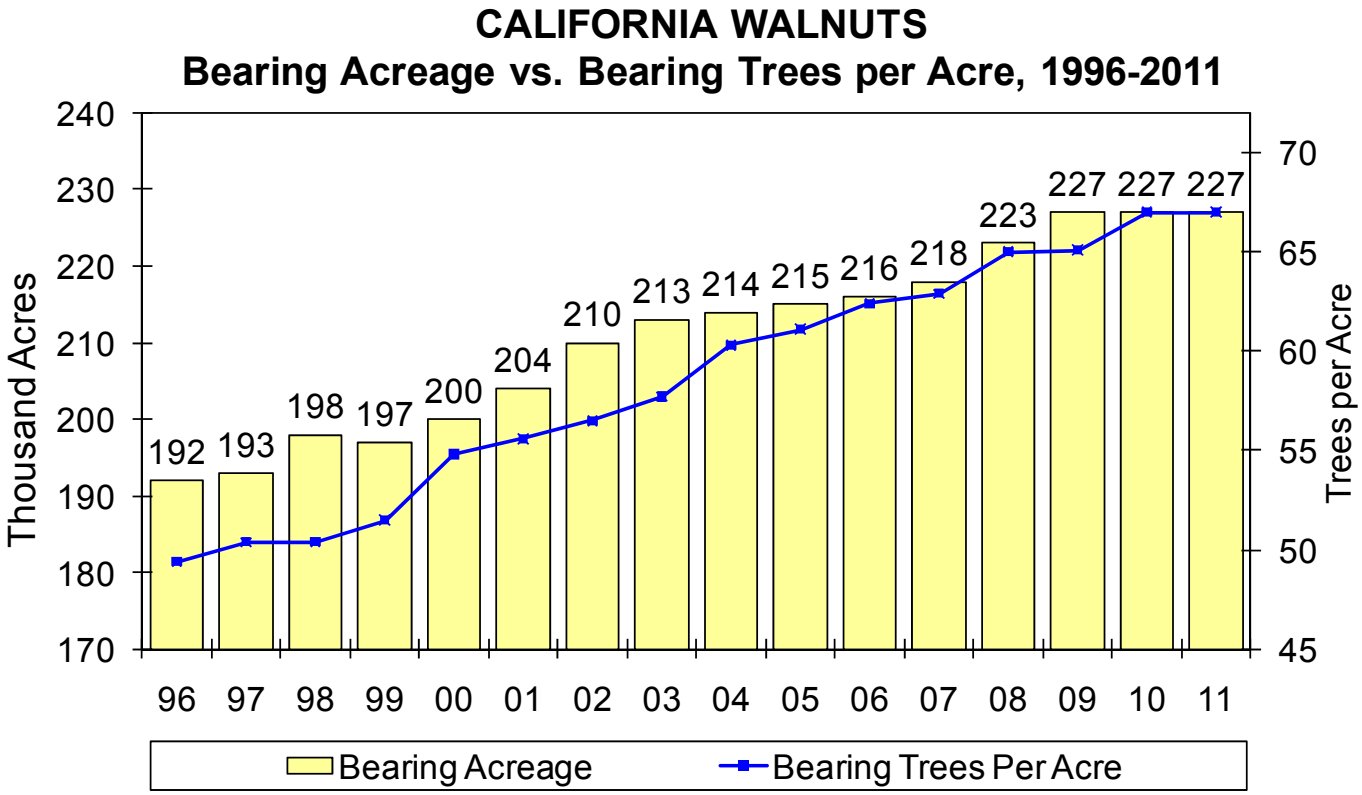
CALIFORNIA ENGLISH WALNUT ACREAGE, PRODUCTION, PRICE AND VALUE IN-SHELL

Year	Bearing Acres	Trees Per Acre	Per Bearing Acre	Total Production	Price Per Ton	Total Value
			Tons		*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	557,350
2006	216,000	62.4	1.60	346,000	1,630	563,980
2007	218,000	62.9	1.50	328,000	2,290	751,120
2008	223,000	65.0	1.96	436,000	1,280	558,080
2009	227,000	65.1	1.93	437,000	1,710	747,270
2010 1/	227,000	67.0	2.22	503,000	2,110	1,061,330
2011 2/ 3/	227,000	67.0	2.14	485,000		

1/ Price Per Ton and Total Value are July 2011 preliminary data.

2/ Bearing years include plantings of the following: Chandler, Chico, Howard, Tulare (2007 & 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 (2006 and Earlier); Franquette, Franquette Scharsch, Mayette, Placentia, Poe, Willsons/Willsons Wonder, Woodland (2004 & Earlier); all other varieties not specified (2005 & Earlier).

3/ Price Per Ton and Total Value preliminary data will be released July 2012.



WALNUT OBJECTIVE MEASUREMENT SURVEY DATE, BY DISTRICT

Measurement	Year	Coast 1/	Sacramento Valley 2/	San Joaquin Valley 3/	State 4/
In-Shell Weight (gm)	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
	2005	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
	2008	20.0	23.5	20.7	22.2
	2009	17.0	23.1	20.6	22.0
	2010	20.8	22.5	19.3	21.3
	2011	20.6	25.1	21.3	23.6
In-Shell Width (mm)	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
	2009	29.8	32.5	32.9	32.5
	2010	32.1	32.1	32.1	32.1
	2011	31.6	32.8	32.6	32.7
In-Shell Cross-Width (mm)	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
	2009	29.9	33.1	33.1	33.0
	2010	31.6	32.2	32.0	32.1
	2011	31.3	33.3	32.9	33.1
In-Shell Length (mm)	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
	2004	37.7	39.1	38.7	39.0
	2005	42.0	38.4	38.7	38.6
	2006	38.6	39.6	39.5	39.5
	2007	37.4	37.3	38.1	37.6
	2008	39.2	39.5	39.1	39.3
	2009	36.9	39.6	39.1	39.3
	2010	39.8	38.4	38.7	38.5
	2011	39.0	39.4	39.3	39.4
Kernel Grade - Percent Sound	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
	2009	94.9	97.0	99.6	97.9
	2010	98.9	97.8	97.8	97.8
	2011	99.4	98.2	99.6	98.7
Nuts Set Per Tree	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
	2007	1,221	1,548	1,162	1,357
	2008	973	1,592	1,270	1,416
	2009	1,531	1,758	1,250	1,523
	2010	1,263	2,047	1,313	1,690
	2011	1,594	1,606	1,119	1,388

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

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 (gm)	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
	2008	19.7	22.2	21.1	20.3	25.0	23.8	18.4	18.6	22.5	22.8	20.0	19.3
	2009	19.9	22.9	21.0	19.3	23.7	22.3	18.2	18.5	20.6	21.8	18.7	17.3
	2010	18.5	21.7	19.7	20.4	23.4	21.9	18.1	16.8	18.9	22.1	18.7	18.0
	2011	21.0	23.7	20.4	20.4	25.7	23.5	20.3	20.5	19.9	23.6	21.1	21.5
In-Shell Width (mm)	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	---	32.7	32.9	31.4	---	30.5	32.1
	2007	31.0	31.7	31.1	29.9	32.3	32.0	32.1	32.5	31.0	34.5	30.3	30.3
	2008	32.0	32.3	31.2	31.0	33.6	32.1	32.6	32.7	32.8	34.8	31.4	31.1
	2009	32.4	32.4	31.6	30.1	33.2	32.1	32.7	33.1	32.0	34.3	30.7	31.5
	2010	31.6	31.8	30.3	30.9	32.8	31.6	32.1	32.2	32.0	34.3	30.3	30.3
	2011	32.3	32.5	30.9	30.8	33.3	31.9	33.7	33.5	33.2	34.6	31.0	31.2
In-Shell Cross-Width (mm)	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	30.9	31.1	31.7	31.4	32.1	---	31.4	31.5	30.1	---	31.6	32.6
	2006	32.1	33.9	32.9	32.2	34.0	---	32.6	33.0	32.9	---	33.1	34.0
	2007	31.6	32.7	32.0	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
	2009	32.6	33.0	32.3	30.7	33.2	33.8	32.7	32.7	32.4	34.3	32.0	32.5
	2010	31.4	32.2	31.0	31.0	32.4	32.5	31.7	31.0	31.5	34.1	30.8	30.8
	2011	31.9	33.3	31.5	30.5	33.4	33.0	32.8	32.2	32.3	34.6	31.7	31.7
In-Shell Length (mm)	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	36.4	39.6	41.3	39.3	39.7	---	37.0	37.1	36.4	---	37.4	38.8
	2005	36.3	38.4	41.6	40.3	39.8	---	37.2	37.0	36.0	---	38.0	38.4
	2006	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
	2009	38.0	39.9	43.5	38.1	40.2	38.0	38.6	38.2	37.7	38.9	37.9	40.1
	2010	36.9	38.6	41.8	39.1	39.6	36.6	38.7	37.4	36.7	39.4	37.6	38.8
	2011	38.0	39.5	43.6	37.8	40.5	37.1	39.3	38.6	37.8	39.4	38.7	39.2
Kernel Grade - Percent Sound	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	96.1	---	96.8	93.3	98.3	---	97.0	96.8
	2003	97.5	97.4	98.8	97.0	97.2	---	99.2	96.1	91.8	---	96.9	95.1
	2004	97.9	99.0	98.4	95.6	98.2	---	99.4	98.3	99.1	---	98.0	96.7
	2005	96.7	96.9	99.8	95.7	97.0	---	98.4	99.5	97.0	---	99.1	97.9
	2006	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
	2009	96.9	98.6	99.2	98.3	97.3	98.1	99.2	98.8	99.7	96.3	97.7	91.0
	2010	98.4	98.5	99.9	98.4	98.2	96.7	96.1	96.3	95.1	97.3	95.2	98.3
	2011	95.5	99.3	100.0	96.7	98.2	98.2	99.7	97.7	97.5	99.5	99.1	97.9
Nuts Set Per Tree	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	1,534	1,315	1,246	2,072	1,961	---	1,246	1,259	1,446	---	1,611	1,642
	2003	1,421	1,594	1,858	1,195	1,735	---	1,995	1,679	1,021	---	1,544	1,377
	2004	1,504	1,381	1,223	2,108	2,046	---	1,152	1,172	1,488	---	1,471	1,167
	2005	1,323	1,783	1,639	1,267	1,729	---	1,443	1,429	1,067	---	1,251	1,256
	2006	1,129	1,386	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
	2009	1,691	1,346	1,512	2,220	2,001	1,419	1,306	1,066	1,893	1,281	1,755	1,074
	2010	2,630	1,683	1,165	1,891	2,076	1,609	1,294	1,647	1,383	1,000	1,407	1,729
	2011	1,093	1,415	1,052	1,670	1,840	1,272	906	1,129	721	1,065	1,197	984

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

District and Variety	U.S. Standards Size Intervals 1/																											
	2007						2008						2009						2010						2011			
	Mth	Jmb	Lge	Med	Bby	Oth	Mth	Jmb	Lge	Med	Bby	Oth	Mth	Jmb	Lge	Med	Bby	Oth	Mth	Jmb	Lge	Med	Bby	Oth	Mth	Jmb	Lge	Med	Bby	Oth
	- - - - - - - - - - - - - - - - Percent of Total 2/ - - - - - - - - - - - - - - - -																											
DISTRICTS:																												
Coast	9	30	17	24	20	0	0	49	18	17	15	0	0	25	13	25	37	0	1	60	15	16	8	0	0	50	20	18	12	0
Sacramento Vly.	1	50	16	17	15	1	0	68	15	11	5	0	0	66	14	11	8	0	0	60	18	13	8	0	1	71	15	9	4	0
San Joaquin Vly.	1	63	16	11	8	0	1	66	16	10	6	1	1	70	14	9	5	0	1	55	20	15	8	0	1	66	16	10	7	0
VARIETIES:																												
Ashley	5	31	16	23	21	3	0	60	18	15	7	1	0	66	13	11	10	0	0	45	30	18	6	1	0	67	12	9	10	2
Chandler	1	54	17	15	13	1	0	63	19	11	6	0	0	67	16	10	6	0	0	54	21	16	8	0	0	68	18	10	4	0
Eureka	0	48	28	9	16	0	0	34	40	19	7	0	0	46	40	9	5	0	0	21	37	27	13	1	0	43	24	17	16	0
Franquette	0	23	17	30	28	1	0	43	18	23	15	0	0	27	18	25	31	0	0	34	21	28	16	1	0	37	24	20	18	1
Hartley	1	63	14	13	9	0	0	83	9	4	3	1	0	79	11	6	4	0	0	74	13	8	5	0	1	79	12	6	2	0
Howard	1	55	19	15	10	0	0	58	21	15	6	0	0	61	18	12	9	0	0	53	21	16	9	1	1	56	18	14	10	1
Payne	0	60	19	12	8	1	1	73	14	8	4	0	2	70	13	9	6	0	2	56	18	13	11	0	1	80	6	8	6	0
Serr	1	69	11	10	8	1	0	73	11	9	5	1	0	74	13	7	6	0	1	62	16	13	8	0	1	81	9	6	4	0
Tehama	0	38	26	21	14	1	0	74	10	10	6	0	0	62	19	10	9	0	0	67	15	13	4	1	0	78	6	8	7	0
Tulare	8	76	7	6	3	0	7	82	5	4	2	0	5	80	6	4	3	0	7	75	9	6	3	0	7	79	7	3	3	0
Vina	0	32	21	21	23	2	1	44	24	19	12	0	0	31	21	27	20	1	0	27	22	27	22	1	0	39	24	21	15	2
Other	0	29	18	22	30	0	2	37	15	29	16	1	3	42	13	18	23	1	0	32	16	21	30	1	0	48	14	16	20	1
STATE	1	55	16	15	12	1	1	67	16	11	6	0	1	66	14	11	8	0	1	58	18	14	9	0	1	69	15	9	5	0
Number of Shells Measured	13,219						13,485						14,625						14,154						14,427			

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".

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

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

VIC TOLOMEO, Director
SARAH HOFFMAN – KELLY KRUG, Deputy Directors

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Statisticians – Estimates Group

USDA, NASS, California Field Office publications are available free-of-charge on the Internet at:

www.nass.usda.gov/ca