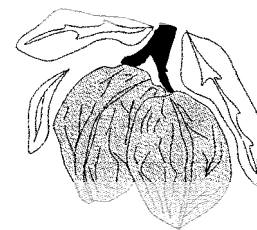


# 2003 California Walnut Objective Measurement Survey Report



Released: September 3, 2003  
12:00 NOON PDT



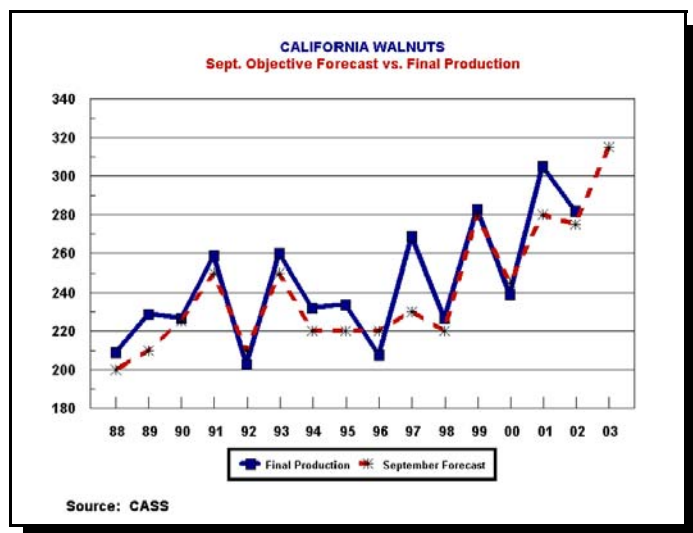
CALIFORNIA AGRICULTURAL  
STATISTICS SERVICE

## WALNUT PRODUCTION FORECAST UP

The 2003 California walnut production is forecast at a record 315,000 tons, up 12 percent from 2002's production of 282,000 tons. This forecast is based on the 2003 Walnut Objective Measurement (O.M.) Survey, which was conducted August 1 through August 25, 2003.

The 2003 Walnut O.M. Survey utilized a total of 686 blocks with two sample trees per block. Survey data indicated an average nut set of 1,599, up 2 percent from 2002's average of 1,572. The Hartley nut set was down 12 percent; Chandler, was up 21 percent; Serr, was up 33 percent; Franquette, was down 42 percent from 2002. Percent of sound kernels in-shell was 97.0 percent Statewide. In-shell weight per nut was 22.4 grams, while the average in-shell suture measurement was 32.5 millimeters. The average length in-shell was 39.1 millimeters.

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



## 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 O.M. 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 285,000 tons to 345,000 tons. This means there is an 80 percent chance the 2003 production will fall within this range.

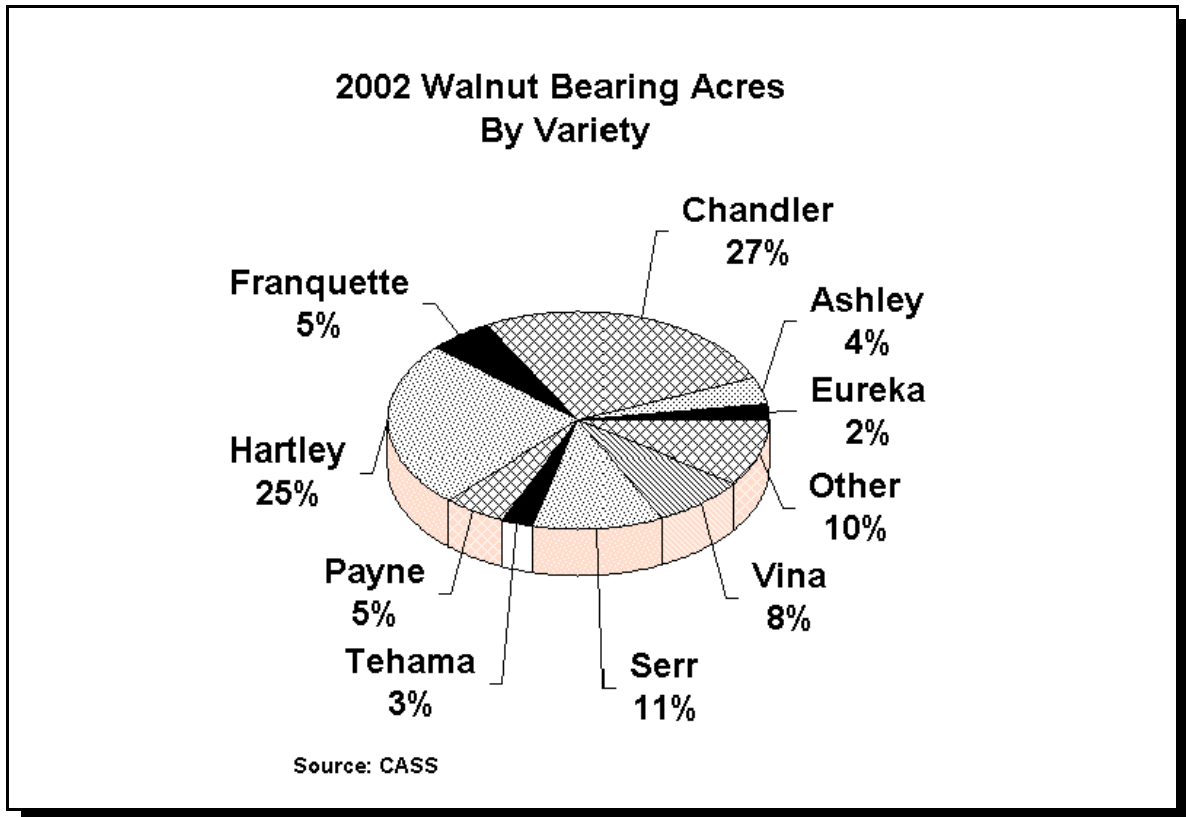
**California English Walnut Acreage, Production, Price And Value In-Shell**

Year	Bearing Acres	Total Production	Per Bearing Acre	Price Per Ton	Total Value
		Tons		Dollars	
1987	176,000	247,000	1.40	984.00	243,048,000
1988	177,000	209,000	1.18	922.00	192,698,000
1989	179,000	229,000	1.28	1,070.00	245,030,000
1990	181,000	227,000	1.25	1,040.00	236,080,000
1991	181,000	259,000	1.43	1,060.00	274,540,000
1992	178,000	203,000	1.14	1,410.00	286,230,000
1993	185,000	260,000	1.41	1,390.00	361,400,000
1994	189,000	232,000	1.23	1,030.00	238,960,000
1995	193,000	234,000	1.21	1,400.00	327,600,000
1996	192,000	208,000	1.08	1,580.00	328,640,000
1997	193,000	269,000	1.39	1,430.00	384,670,000
1998	193,000	227,000	1.18	1,050.00	238,350,000
1999	191,000	283,000	1.48	886.00	250,738,000
2000	193,000	239,000	1.24	1,240.00	296,360,000
2001	196,000	305,000	1.56	1,120.00	341,600,000
2002 <sup>a/</sup>	200,000	282,000	1.41	1,080.00	304,560,000
2003 <sup>b/ c/</sup>	205,000	315,000	1.54	---	---

<sup>a/</sup> Price Per Ton and Total Value are July 1, 2003 preliminary data.

<sup>b/</sup> Bearing years include plantings of the following: Chandler, Chico, Howard, Tulare (1999 & 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 (1998 and Earlier); Franquette, Franquette Scharsch, Mayette, Placentia, Poe, Willsons/Willsons Wonder, Woodland (1996 & Earlier); all other varieties not specified (1997 & Earlier).

<sup>c/</sup> Price Per Ton and Total Value preliminary data will be released July 2004.



**NOTE:** Pie chart percentages are based on the sum of grower acreage reported and may not add to 100 due to rounding.

Walnut Objective Measurement Survey Data, By District

Measurement	Year	Coast <sup>1/</sup>	Sacramento Valley <sup>2/</sup>	San Joaquin Valley <sup>3/</sup>	State <sup>4/</sup>
In-Shell Weight (gm)	1992	21.4	23.8	21.6	22.7
	1993	23.5	23.7	21.7	22.9
	1994	20.9	23.6	20.7	22.1
	1995	19.8	21.3	20.3	20.8
	1996	20.0	24.4	19.9	22.1
	1997	20.9	23.7	22.2	22.9
	1998	21.2	22.4	20.3	21.4
	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
	In-Shell Width (mm)	1992	32.1	32.7	32.6
1993		32.2	32.4	32.9	32.6
1994		31.4	32.4	32.2	32.2
1995		30.6	31.7	32.0	31.7
1996		31.4	32.5	32.2	32.3
1997		32.3	33.0	31.1	32.3
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
In-Shell Cross-Width (mm)		1992	32.5	33.1	32.8
	1993	32.0	32.3	32.9	32.5
	1994	31.3	32.4	32.3	32.2
	1995	30.2	31.3	31.7	31.3
	1996	31.4	32.6	32.5	32.5
	1997	32.3	33.2	31.9	32.6
	1998	31.2	32.1	31.5	31.8
	1999	31.6	33.3	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
	In-Shell Length (mm)	1992	39.0	39.7	39.5
1993		39.9	40.1	39.8	40.0
1994		38.7	39.7	39.3	39.4
1995		39.2	39.0	39.5	39.2
1996		38.4	39.4	38.7	39.0
1997		38.2	39.4	37.6	38.6
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
Kernel Grade – Percent Sound		1992	93.6	96.9	97.6
	1993	93.2	95.2	97.2	95.8
	1994	92.6	94.7	97.5	95.6
	1995	89.2	91.4	96.1	93.1
	1996	92.6	93.8	95.3	94.4
	1997	97.8	97.4	97.3	97.3
	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
	Nuts Set Per Tree	1992	1,567	1,902	1,380
1993		1,530	2,703	1,596	2,068
1994		1,813	1,961	1,602	1,773
1995		1,420	2,253	1,451	1,777
1996		1,362	1,836	1,497	1,630
1997		1,128	2,233	1,439	1,753
1998		1,070	1,654	1,253	1,407
1999		1,355	2,180	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

<sup>1/</sup> Coast includes: Contra Costa, Lake, Monterey, Napa, San Benito, San Luis Obispo, Santa Clara, and Sonoma counties.

<sup>2/</sup> Sacramento Valley includes: Butte, Colusa, El Dorado, Glenn, Sacramento, Solano, Sutter, Tehama, Yolo, and Yuba counties.

<sup>3/</sup> San Joaquin Valley includes: Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare counties.

<sup>4/</sup> District and State averages are derived by weighting county averages by county bearing acreage figures.

Walnut Objective Measurement Survey Data, By Variety

Measurement	Year	Ashley	Chandler	Eureka	Franquette	Hartley	Payne	Serr	Tehama	Vina	Other
In-Shell Weight (gm)	1992	19.1	24.9	22.3	20.7	25.5	19.4	21.4	21.8	20.5	19.9
	1993	19.8	23.5	21.7	21.2	25.2	20.8	20.8	20.3	20.2	21.7
	1994	19.3	24.3	20.9	20.3	24.7	19.7	20.0	21.1	19.7	21.0
	1995	18.0	20.7	19.1	18.6	23.1	19.5	18.6	18.7	18.4	19.3
	1996	20.0	23.3	20.6	20.1	24.8	18.1	19.8	21.2	20.1	21.1
	1997	19.8	24.4	23.2	21.1	24.8	20.4	21.3	20.5	20.5	22.2
	1998	19.2	21.9	20.8	20.2	24.0	19.6	19.5	19.5	19.2	19.9
	1999	20.3	24.9	22.1	20.0	24.6	19.0	20.3	19.1	20.7	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
In-Shell Width (mm)	1992	32.0	33.3	31.6	30.9	33.6	32.3	34.1	33.1	31.3	31.0
	1993	32.3	32.5	30.9	31.3	33.2	33.3	33.6	31.5	30.5	31.6
	1994	31.8	32.7	30.9	30.8	33.2	32.1	33.3	32.4	30.5	30.8
	1995	31.0	31.7	30.6	30.1	32.6	31.9	32.4	31.6	29.7	30.6
	1996	31.7	32.4	31.6	31.1	33.0	32.2	33.0	32.3	30.9	31.2
	1997	31.8	32.3	30.7	30.6	33.3	31.5	33.3	32.0	31.0	30.8
	1998	31.2	31.8	30.2	30.7	33.0	31.4	32.1	31.2	30.6	31.1
	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
In-Shell Cross-Width (mm)	1992	32.0	34.3	32.4	31.6	33.9	32.1	33.0	33.0	32.6	32.1
	1993	32.2	32.9	31.7	31.4	33.0	33.0	32.7	31.3	30.8	32.1
	1994	31.6	33.2	31.4	31.3	33.0	31.9	32.3	31.9	31.6	31.9
	1995	30.6	31.7	30.5	30.1	32.1	31.3	30.9	30.7	30.1	31.0
	1996	31.7	33.1	32.1	31.5	32.9	32.2	32.1	32.5	32.1	32.3
	1997	31.9	33.0	32.2	31.3	33.2	32.0	33.0	32.1	32.1	32.0
	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
In-Shell Length (mm)	1992	37.2	40.5	42.8	37.9	40.6	38.0	38.8	38.3	39.3	38.7
	1993	37.5	40.2	42.5	39.6	41.1	39.2	37.7	37.0	38.9	39.8
	1994	37.1	40.9	43.0	38.7	40.3	37.9	37.9	38.0	38.6	39.2
	1995	36.8	39.6	41.2	38.8	40.1	38.4	37.5	37.8	38.6	38.6
	1996	37.0	39.4	41.4	38.6	40.0	37.8	37.3	37.6	38.8	39.2
	1997	36.2	39.2	41.0	37.8	39.5	36.6	37.4	37.2	38.1	38.5
	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
Kernel Grade – Percent Sound	1992	94.7	99.2	96.1	96.7	97.2	95.4	96.5	99.1	98.0	96.9
	1993	89.8	99.0	92.5	93.9	97.4	94.0	95.3	94.5	94.9	94.8
	1994	91.3	96.6	95.7	95.7	95.3	96.9	96.9	96.4	94.0	97.3
	1995	91.6	93.6	93.4	89.8	93.8	95.2	95.6	88.7	92.4	93.5
	1996	92.3	95.1	93.4	89.8	95.1	95.4	96.6	92.7	95.8	94.2
	1997	96.2	97.8	94.9	96.6	98.1	96.5	97.0	96.7	97.5	96.6
	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	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
Nuts Set Per Tree	1992	1,072	1,645	1,585	2,012	2,008	1,487	915	1,082	1,385	1,626
	1993	1,147	2,099	1,452	2,532	2,742	1,444	1,626	1,653	1,654	1,818
	1994	1,391	1,711	1,905	2,781	1,974	1,540	1,154	1,207	1,619	1,643
	1995	1,392	1,912	1,590	2,348	2,284	1,404	984	1,961	1,260	1,157
	1996	1,353	1,659	1,296	2,356	1,853	1,285	1,417	958	1,355	1,472
	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	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

**Percentage Distribution Of Walnut Shell Suture Sizes, By District And Variety**

District And Variety	U.S. Standards Size Intervals 1/																																																											
	1999					2000					2001					2002					2003																																							
	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/ -----																																																											
<b>DISTRICTS:</b>																																																												
Coast	0	39	17	24	17	0	0	49	10	18	20	1	5	40	20	22	13	0	6	34	12	19	27	1	1	56	14	16	13	0	1	56	14	16	13	0																								
Sacramento Vly.	1	65	14	10	8	0	1	58	14	13	11	1	1	54	16	15	13	1	0	61	13	13	11	0	1	70	13	10	6	0	1	70	13	10	6	0																								
San Joaquin Vly.	0	48	19	16	13	3	0	56	19	13	8	0	0	48	23	17	12	0	1	68	15	10	6	0	0	56	19	16	8	0	0	56	19	16	8	0																								
<b>VARIETIES:</b>																																																												
Ashley	0	33	23	20	18	2	0	41	21	13	18	2	0	28	21	24	26	1	1	54	17	13	14	0	1	34	19	26	19	0	1	34	19	26	19	0																								
Chandler	1	66	15	10	5	0	2	64	14	9	7	0	1	55	21	16	8	0	0	74	13	9	3	0	0	74	14	8	4	0	0	74	14	8	4	0																								
Eureka	0	19	37	24	17	0	0	38	28	18	9	0	0	50	36	13	2	0	0	49	35	13	2	0	0	63	26	6	4	0	0	63	26	6	4	0																								
Franquette	0	38	20	23	16	0	0	28	21	28	20	1	0	27	25	29	18	1	0	19	15	31	33	1	0	65	15	13	6	0	0	65	15	13	6	0																								
Hartley	1	70	12	9	7	0	1	68	11	9	8	0	1	63	14	11	10	0	0	72	11	9	7	0	1	76	12	7	4	0	1	76	12	7	4	0																								
Payne	0	47	20	14	13	1	0	59	21	10	7	0	0	40	26	20	14	0	4	65	10	11	10	0	0	49	27	15	8	1	0	49	27	15	8	1																								
Serr	0	68	14	9	7	0	0	73	12	8	5	0	0	56	17	14	12	1	1	70	13	9	6	0	0	48	19	22	10	1	0	48	19	22	10	1																								
Tehama	0	46	15	10	26	0	0	43	22	14	16	1	0	48	16	20	15	1	0	55	18	14	12	1	0	52	17	15	16	0	0	52	17	15	16	0																								
Vina	0	26	24	24	22	1	0	33	23	26	15	1	1	28	16	25	28	2	0	40	21	22	16	1	0	34	19	26	19	1	0	34	19	26	19	1																								
Other	1	41	19	17	20	0	1	35	19	20	21	1	1	36	15	22	22	3	2	44	12	21	20	0	4	52	15	16	14	0	4	52	15	16	14	0																								
STATE	1	58	16	13	10	0	1	57	16	13	10	1	1	51	18	16	13	1	1	63	14	13	10	0	1	64	15	12	7	0	1	64	15	12	7	0																								
Number of Shells Measured	12,753															12,252															13,338															13,539														

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!***

CALIFORNIA AGRICULTURAL STATISTICS SERVICE  
P.O. BOX 1258  
SACRAMENTO, CA 95812-1258  
(916) 498-5161  
FAX: (916) 498-5186

VIC TOLOMEO  
State Statistician

JACK RUTZ  
Deputy State Statistician

GARY NELSON -- DOUG FLOHR -- JENNIFER VAN COURT  
Agricultural Statisticians -- Estimates Group

**California Agricultural Statistics Service publications are available on the Internet at:  
<http://www.nass.usda.gov/ca>**