

1995 California Walnut Objective Measurement Survey Results

PERMANENT RECORD



Released: September 1, 1995
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CALIFORNIA AGRICULTURAL
STATISTICS SERVICE

WALNUT PRODUCTION FORECAST

The 1995 California walnut production forecast is 220,000 tons, down 5 percent from 1994's production of 232,000 tons. This is down 10 percent from the July forecast. The July forecast was based on subjective information provided by growers, while the September forecast is based on the Walnut Objective Measurement Survey. The Objective Measurement Survey was conducted July 24 through August 17, 1995.

The 1995 Objective Measurement Survey utilized a total of 647 blocks with two sample trees per block. The survey data indicated an average number of nuts per tree of 1,777, nearly unchanged from 1994's average of 1,773. The Hartley nut set was up 16 percent; the Franquette, down 16 percent; and the Serr, down 15 percent. The percent of sound kernels in-shell was 93.1 percent Statewide. The in-shell weight per nut was 20.8 grams, while the average in-shell suture measurement was 31.7 millimeters. The average length in-shell was 39.2 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 Objective Measurement 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 refusals.

SAMPLING PROCEDURES

Once a block is randomly selected and permission is granted, two trees are randomly selected. An accessible branch is chosen which is five to 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.

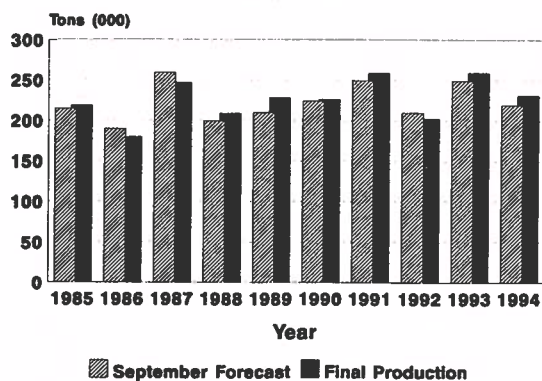
The following measurements are made on nuts selected for sizing:

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.

ACREAGE

Estimated bearing acreage for 1995 is 170,000 acres. The acreage table 2 is a county summary of the data published in the 1994 California Walnut Acreage Survey release.

CALIFORNIA WALNUTS
September Forecast vs. Final Production



California Ag. Statistics Service

TABLE 1 -- California English Walnut Acreage, Production, Price And Value In-Shell

Year	Bearing Acres ^{a/}	Total Production	Per Bearing Acre	Price Per Ton	Total Value
		-- Tons --		-- Dollars --	
1985	179,000	219,000	1.22	798.00	174,762,000
1986	180,000	180,000	1.00	1,080.00	194,400,000
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	176,000	260,000	1.48	1,390.00	361,400,000
1994 ^{b/}	171,000	232,000	1.36	1,030.00	238,960,000
1995	170,000	220,000	1.29	7/96	7/96

^{a/} Eight years and older for the Blackmer, Carmelo, Concord, Franquette, Grove, Mayette, Placentia, Poe, and Pride of Ventura varieties, 6 years and older for the Amigo, Ashley, Chandler, Gustine, Howard, Lompoc, Midland, Payne, Pedro, Serr, Sunland, Tehama, Trinta, Vina, Westside, and 4946 varieties, 5 years and older for the Chico and Marchetti varieties, and 7 years and older for all other varieties.

^{b/} Price Per Ton and Total Value are July 1, 1995 preliminary figures.

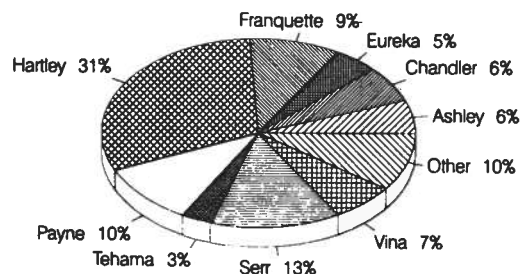
TABLE 2 -- Walnut Acreage By County As Of 1994

County	Bearing	Non-Bearing	Total
Alameda	155	1	156
Amador	450	23	473
Butte	15,807	1,938	17,745
Calaveras	757	53	810
Colusa	4,392	271	4,663
Contra Costa	1,229	132	1,361
El Dorado	277	0	277
Fresno	2,875	585	3,460
Glenn	5,785	742	6,527
Kern	1,488	77	1,565
Kings	4,994	1,282	6,276
Lake	6,479	130	6,609
Madera	871	178	1,049
Mendocino	122	0	122
Merced	5,251	1,011	6,262
Monterey	272	105	377
Napa	245	2	247
Placer	1,439	0	1,439
Sacramento	127	0	127
San Benito	3,232	176	3,408
San Joaquin	27,752	2,441	30,193
San Luis Obispo	2,733	291	3,024
Santa Barbara	739	25	764
Santa Clara	711	28	739
Shasta	1,275	3	1,278
Solano	3,355	771	4,126
Sonoma	300	6	306
Stanislaus	19,520	2,197	21,717
Sutter	12,409	2,094	14,503
Tehama	10,949	801	11,750
Tulare	20,666	2,569	23,235
Ventura	259	0	259
Yolo	7,784	1,079	8,863
Yuba	5,420	767	6,187
Other Counties	89	0	89
TOTAL	170,208	19,778	189,986

TABLE 3 -- Walnut Acreage By Variety As Of 1994

County	Bearing	Non-Bearing	Total
Ashley	9,682	86	9,768
Chandler	10,754	10,402	21,156
Eureka	7,914	139	8,053
Franquette	15,721	479	16,200
Hartley	52,260	4,020	56,280
Payne	17,804	479	18,283
Serr	22,306	688	22,994
Tehama	5,525	42	5,567
Vina	11,521	1,754	13,275
All Others	16,721	1,689	18,410
TOTAL	170,208	19,778	189,986

**1994 WALNUT BEARING ACRES
By Variety**



Source: CA Ag. Statistics Service

TABLE 4 -- Walnut Objective Measurement Survey Data, By District

Measurement	Year	Coast 1/	Sacramento Valley 2/	San Joaquin Valley 3/	State 4/
In-Shell Weight (gm)	1985	20.2	21.1	20.6	20.7
	1986	22.9	23.7	19.9	22.1
	1987	20.7	22.5	20.9	21.5
	1988	20.6	22.0	20.5	21.2
	1989	19.7	22.0	21.4	21.5
	1990	21.3	21.8	21.9	21.8
	1991	20.7	22.1	19.6	20.8
	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
In-Shell Width (mm)	1985	31.5	32.0	32.1	32.0
	1986	32.8	33.3	32.3	32.9
	1987	31.9	33.0	32.6	32.7
	1988	31.7	32.6	32.6	32.5
	1989	31.2	32.3	32.7	32.3
	1990	31.5	31.9	33.0	32.3
	1991	31.1	31.4	31.7	31.5
	1992	32.1	32.7	32.6	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
In-Shell Cross-Width (mm)	1985	31.9	32.5	32.3	32.4
	1986	32.7	33.5	32.3	33.0
	1987	32.2	33.8	32.9	33.2
	1988	32.3	32.9	32.4	32.7
	1989	32.0	33.0	32.2	32.6
	1990	31.6	32.3	32.7	32.4
	1991	30.5	31.2	31.2	31.1
	1992	32.5	33.1	32.8	32.9
	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
In-Shell Length (mm)	1985	38.9	39.4	39.6	39.4
	1986	40.4	40.6	39.2	40.0
	1987	38.9	40.2	39.5	39.7
	1988	39.0	39.4	38.9	39.1
	1989	38.2	39.1	39.3	39.1
	1990	38.5	38.3	39.5	38.8
	1991	38.9	39.0	39.1	39.0
	1992	39.0	39.7	39.5	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
Kernel Grade -- Percent Sound	1985	97.2	97.3	94.1	95.8
	1986	97.2	98.0	91.3	95.3
	1987	99.1	97.9	96.6	97.3
	1988	88.7	97.8	95.9	96.2
	1989	94.4	97.8	96.8	97.0
	1990	96.1	97.1	95.4	96.3
	1991	97.3	96.6	94.1	95.5
	1992	93.6	96.9	97.6	96.9
	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
Nuts Set Per Tree	1985	1,512	2,457	1,982	2,099
	1986	1,579	2,008	1,321	1,613
	1987	1,883	2,696	2,143	2,320
	1988	1,359	2,390	1,837	2,008
	1989	1,427	2,182	1,537	1,785
	1990	1,637	2,380	1,835	2,028
	1991	1,955	2,620	2,210	2,340
	1992	1,567	1,902	1,380	1,604
	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

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

2/ Sacramento Valley includes: Butte, Colusa, El Dorado, Glenn, Placer, Sacramento, Shasta, 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.

TABLE 5 -- Walnut Objective Measurement Survey Data, By Variety

Measurement	Year	Ashley	Chandler	Eureka	Franquette	Hartley	Payne	Serr	Tehama	Vina	Other
In-Shell Weight (gm)	1985	19.8	N/A	21.0	17.6	23.5	20.1	20.9	20.5	18.3	20.3
	1986	20.4	N/A	18.4	21.0	24.7	18.5	19.9	21.4	20.5	21.4
	1987	20.3	N/A	23.1	19.7	23.7	19.3	20.5	22.1	18.8	22.1
	1988	18.7	N/A	21.9	19.7	23.4	19.3	20.9	19.0	19.5	21.3
	1989	19.1	24.8	21.0	20.4	24.7	20.4	19.6	21.5	20.1	20.2
	1990	19.5	23.2	22.1	19.9	23.7	20.5	20.9	19.8	19.4	20.7
	1991	18.7	22.8	20.1	19.2	23.4	18.2	18.7	20.3	18.8	19.9
	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
In-Shell Width (mm)	1985	32.5	N/A	31.2	29.7	33.3	32.5	34.1	32.8	30.3	31.3
	1986	32.7	N/A	30.4	31.7	34.0	31.9	33.4	33.7	31.6	32.5
	1987	32.6	N/A	32.4	31.1	33.6	32.5	34.2	33.8	30.9	32.6
	1988	32.0	N/A	31.4	30.9	33.5	32.4	34.1	31.8	31.2	32.2
	1989	31.9	33.1	31.2	31.0	33.7	32.1	33.0	32.8	31.3	31.5
	1990	32.3	32.8	31.1	30.7	33.1	33.0	34.2	31.4	30.0	31.4
	1991	31.4	31.9	30.4	30.0	32.4	31.6	32.7	32.0	29.8	30.3
	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
In-Shell Cross-Width (mm)	1985	32.5	N/A	31.7	30.5	33.5	32.4	33.4	32.6	31.1	32.3
	1986	32.7	N/A	30.7	32.0	34.0	31.7	32.8	33.0	32.0	32.7
	1987	33.2	N/A	32.7	32.0	34.0	32.7	33.4	34.1	32.7	33.5
	1988	32.1	N/A	32.1	31.4	33.4	32.5	33.5	31.6	32.1	32.9
	1989	31.8	33.9	31.0	31.8	34.1	31.8	32.4	32.6	32.2	32.4
	1990	32.3	32.8	31.2	31.1	33.1	32.8	33.4	31.5	31.1	32.3
	1991	30.7	32.3	30.5	30.1	32.1	30.7	30.7	31.0	30.2	30.5
	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
In-Shell Length (mm)	1985	38.4	N/A	43.3	37.3	40.2	38.3	39.8	38.7	38.0	39.8
	1986	39.1	N/A	40.7	39.8	40.8	38.4	39.3	38.7	40.2	39.8
	1987	38.7	N/A	44.0	38.2	40.3	38.1	39.5	39.4	39.2	41.4
	1988	37.3	N/A	43.0	38.6	39.6	37.6	39.1	37.5	39.1	40.5
	1989	37.3	40.8	42.5	38.4	40.1	37.6	38.1	38.8	39.3	39.3
	1990	36.9	39.7	42.6	37.5	39.7	38.1	38.9	37.1	37.3	38.4
	1991	36.7	39.9	43.3	38.2	39.8	37.2	37.4	36.8	38.6	39.2
	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	38.5
Kernel Grade -- Percent Sound	1985	96.7	N/A	89.0	97.4	96.3	95.2	96.7	96.2	98.3	97.2
	1986	95.9	N/A	79.8	96.0	97.0	90.6	96.3	96.8	98.9	96.0
	1987	95.1	N/A	98.1	98.1	97.4	96.2	96.7	98.5	97.8	97.6
	1988	94.3	N/A	97.9	95.1	98.1	93.2	94.9	95.0	97.6	97.1
	1989	97.3	98.3	93.9	97.8	97.5	95.2	97.0	97.2	98.7	96.8
	1990	96.6	99.5	94.2	96.7	97.7	94.5	91.0	98.5	94.1	96.8
	1991	91.0	99.9	87.1	97.2	96.1	94.7	94.2	96.7	98.1	98.5
	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
Nuts Set Per Tree	1985	1,460	N/A	2,721	2,728	2,135	1,863	1,354	1,997	2,239	2,530
	1986	808	N/A	1,076	2,474	2,220	1,062	846	1,290	1,430	1,478
	1987	2,029	N/A	2,633	3,267	2,595	1,853	1,204	2,031	2,561	2,424
	1988	1,599	N/A	1,789	2,482	2,414	1,885	1,084	2,224	2,006	1,799
	1989	1,338	2,761	2,051	2,411	1,767	1,543	1,603	1,461	1,645	1,877
	1990	1,399	2,716	2,058	2,706	2,662	1,648	884	1,683	2,216	1,708
	1991	1,372	3,092	3,212	3,116	2,712	2,067	1,553	1,487	2,055	2,161
	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

TABLE 6 -- Percentage Distribution Of Walnut Shell Suture Sizes, By District And Variety

District And Variety	U.S. Standards Size Intervals 1/																								
	1991					1992					1993					1994					1995				
	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	0	42	14	20	23	1	0	58	13	15	11	2	4	49	18	16	12	1	1	47	16	15	19	1	
Sacramento Valley	0	48	17	19	15	1	1	65	13	12	8	0	1	65	13	11	10	1	0	64	12	12	10	1	
San Joaquin Valley	0	51	21	16	11	0	1	64	15	12	8	0	1	72	12	10	6	0	0	60	18	13	9	0	
VARIETIES:																									
Ashley	0	47	20	18	14	0	0	58	14	15	13	0	0	63	16	12	9	0	0	54	18	16	12	0	
Chandler	0	56	24	14	5	0	1	75	13	6	4	0	0	64	17	11	7	0	0	69	17	9	5	0	
Eureka	0	21	36	24	18	1	1	50	29	12	9	0	0	39	28	15	18	0	0	28	38	20	13	0	
Franquette	0	23	20	27	29	1	0	36	21	25	17	1	0	46	17	21	14	2	0	39	21	18	21	1	
Hartley	0	66	15	12	7	0	1	79	10	6	4	0	1	77	10	7	5	0	0	78	10	7	4	0	
Payne	0	49	21	17	11	1	1	59	15	15	10	0	4	70	12	8	7	0	1	56	17	15	9	1	
Serr	1	65	16	12	4	1	2	83	7	6	2	0	2	79	7	8	4	0	1	78	9	7	5	0	
Tehama	0	61	16	14	10	0	1	75	11	8	6	0	0	51	20	16	13	1	0	66	12	11	10	0	
Vina	0	20	17	30	31	1	0	46	20	18	15	1	0	36	17	19	24	3	0	30	22	26	21	1	
Other	0	30	17	26	26	1	1	36	18	26	19	1	0	50	17	18	14	1	0	38	15	24	21	1	
STATE	0	48	19	18	14	1	1	64	14	13	9	0	1	66	13	11	9	1	0	60	15	13	10	1	
Number of Shells Measured	11,611					11,563					11,605					12,215					12,558				

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!***

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