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W A L N U T

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OBJECTIVE MEASUREMENT SURVEY



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1988 AUGUST SURVEY RESULTS

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September 2, 1988

California Agricultural Statistics Service

U.S. Dept. of Agriculture - California Dept. of Food & Agriculture  
1220 N Street - P.O. Box 1258, Sacramento, CA 95812

## 1988 CALIFORNIA WALNUT ESTIMATE

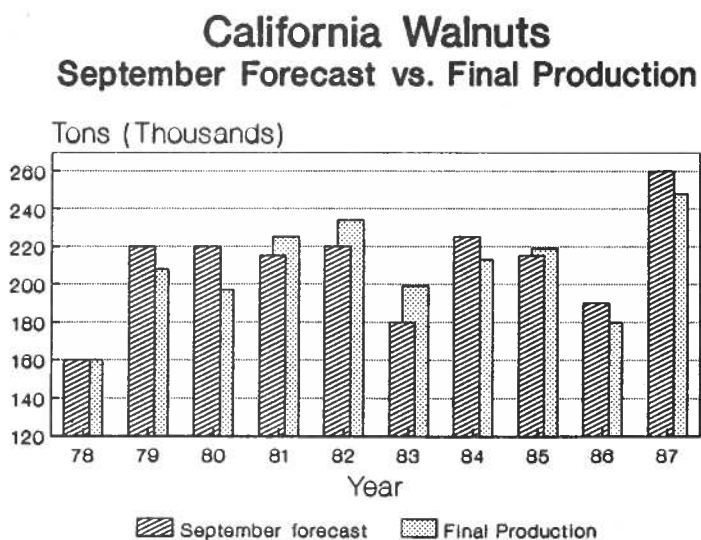
The September estimate for California walnut production is 200,000 tons. This is a 19 percent decrease from the 1987 crop of 247,000 tons. The 200,000 ton estimate is down from the July estimate of 210,000 tons. The July estimate is based on subjective information provided by growers, while the September estimate is based on the Walnut Objective Measurement Survey and subjective grower information.

The average nut set was 2,008 nuts per tree, down 13 percent from the 1987 average set of 2,320. The percent of sound kernels was 96.2. This is about average compared to other years. The average in-shell weight per nut was 21.2 grams, while the average in-shell width measurement was 32.5 millimeters. These measurements are also average compared to the last few years.

Estimated nut sets, sizing measurements, average number of trees per acre, and estimated bearing acreage were used in the regression formulas utilizing the years 1978-1987.

### 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 acreage beginning to bear, 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 fifteen 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 fifth nut 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. Width of hull at widest point.
2. Width of hull 90 degrees to widest point (cross-width).
3. Length of hull.
4. Grade in-hull.
5. Weight of nut including hull.
6. Width of shell at suture.
7. Width of shell 90 degrees to suture line (cross-suture).
8. Length of shell.
9. Kernel Grade.
10. Weight of nut.

## ACREAGE

The acreage tables (Tables 2 and 7) have been updated since the release of the 1987 California Fruit and Nut Acreage publication. These numbers are preliminary and may be revised in the 1988 Fruit and Nut Acreage publication to be released in June of 1989.

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

| Year | Bearing Acres<br>a/ | Total Production |            | Per Bearing<br>Acre | Price Per<br>Short Ton | Total<br>Value   |
|------|---------------------|------------------|------------|---------------------|------------------------|------------------|
|      |                     | Metric Tons      | Short Tons | Short Tons          | Dollars                | 000 Dollars      |
| 1980 | 179,900             | 179,000          | 197,000    | 1.10                | \$936.00               | \$184,392,000    |
| 1981 | 175,100             | 204,000          | 225,000    | 1.28                | \$1,014.00             | \$228,150,000    |
| 1982 | 178,000             | 212,000          | 234,000    | 1.31                | \$1,020.00             | \$238,680,000    |
| 1983 | 175,700             | 181,000          | 199,000    | 1.13                | \$631.00               | \$125,569,000    |
| 1984 | 178,200             | 193,000          | 213,000    | 1.20                | \$730.00               | \$155,490,000    |
| 1985 | 178,600             | 199,000          | 219,000    | 1.23                | \$798.00               | \$174,762,000    |
| 1986 | 179,800             | 163,000          | 180,000    | 1.00                | \$1,080.00             | \$194,400,000    |
| 1987 | 175,200             | 236,000          | 247,000    | 1.41                | \$950.00 b/            | \$234,650,000 b/ |
| 1988 | 176,400             | 182,000          | 200,000    | 1.13                |                        |                  |

a/ Eight years and older for the Franquette variety, 6 years and older for Payne variety, and 7 years and older for all other varieties.

b/ Preliminary figures as of July 1, 1988.

TABLE 2 -- Walnut Acreage by County as of 1987

| County       | Bearing | Non-Bearing | Total  | County          | Bearing | Non-Bearing | Total   |
|--------------|---------|-------------|--------|-----------------|---------|-------------|---------|
| Alameda      | 418     | 0           | 418    | Sacramento      | 205     | 0           | 205     |
| Amador       | 661     | 3           | 664    | San Benito      | 4,013   | 213         | 4,226   |
| Butte        | 12,871  | 2,090       | 14,961 | San Joaquin     | 24,404  | 5,107       | 29,511  |
| Calaveras    | 767     | 1           | 768    | San Luis Obispo | 2,330   | 516         | 2,846   |
| Colusa       | 4,695   | 42          | 4,737  | Santa Barbara   | 801     | 227         | 1,028   |
| Contra Costa | 2,533   | 290         | 2,823  | Santa Clara     | 1,591   | 2           | 1,593   |
| El Dorado    | 301     | 1           | 302    | Shasta          | 1,495   | 51          | 1,546   |
| Fresno       | 3,097   | 296         | 3,393  | Solano          | 2,533   | 930         | 3,463   |
| Glenn        | 5,773   | 503         | 6,276  | Sonoma          | 372     | 26          | 398     |
| Kern         | 1,780   | 20          | 1,800  | Stanislaus      | 21,225  | 3,000       | 24,225  |
| Kings        | 4,251   | 1,676       | 5,927  | Sutter          | 13,447  | 1,112       | 14,559  |
| Lake         | 8,838   | 83          | 8,921  | Tehama          | 10,681  | 822         | 11,503  |
| Madera       | 1,534   | 276         | 1,810  | Tulare          | 22,929  | 2,079       | 25,008  |
| Mendocino    | 164     | 1           | 165    | Ventura         | 709     | 0           | 709     |
| Merced       | 7,575   | 868         | 8,443  | Yolo            | 6,763   | 808         | 7,571   |
| Monterey     | 207     | 72          | 279    | Yuba            | 4,905   | 95          | 5,000   |
| Napa         | 691     | 0           | 691    | Other           | 217     | 7           | 224     |
| Placer       | 472     | 304         | 776    | TOTAL           | 175,248 | 21,521      | 196,769 |

TABLE 3 -- Total Nut Set per Tree, by District a/

| Average Set Per Tree |             |                         |                          |             |      |             |                         |                          |             |
|----------------------|-------------|-------------------------|--------------------------|-------------|------|-------------|-------------------------|--------------------------|-------------|
| Year                 | Coast<br>b/ | Sacramento<br>Valley c/ | San Joaquin<br>Valley d/ | State<br>a/ | Year | Coast<br>b/ | Sacramento<br>Valley c/ | San Joaquin<br>Valley d/ | State<br>a/ |
| 1981                 | 1,124       | 2,424                   | 2,244                    | 2,132       | 1985 | 1,512       | 2,457                   | 1,982                    | 2,099       |
| 1982                 | 1,419       | 2,674                   | 2,047                    | 2,158       | 1986 | 1,579       | 2,008                   | 1,321                    | 1,613       |
| 1983                 | 1,178       | 2,151                   | 1,741                    | 1,787       | 1987 | 1,883       | 2,696                   | 2,143                    | 2,320       |
| 1984                 | 1,795       | 2,850                   | 2,114                    | 2,357       | 1988 | 1,359       | 2,390                   | 1,837                    | 2,008       |

See Page 4, Table 4 for footnotes.

TABLE 4 -- Survey Averages for In-Shell Measurements, by Districts

| District Averages e/       |                           |          |                      |                       |          |
|----------------------------|---------------------------|----------|----------------------|-----------------------|----------|
| Measurement                |                           | Coast b/ | Sacramento Valley c/ | San Joaquin Valley d/ | State a/ |
| In-Shell Weight (gm)       |                           |          |                      |                       |          |
|                            | 1982                      | 21.9     | 23.2                 | 22.2                  | 22.4     |
| A                          | 1983                      | 23.3     | 21.9                 | 22.0                  | 22.1     |
| U                          | 1984                      | 20.5     | 21.2                 | 21.1                  | 21.1     |
| G                          | 1985                      | 20.2     | 21.1                 | 20.6                  | 20.7     |
| U                          | 1986                      | 22.9     | 23.7                 | 19.9                  | 22.1     |
| S                          | 1987                      | 20.7     | 22.5                 | 20.9                  | 21.5     |
| T                          | 1988                      | 20.6     | 22.0                 | 20.5                  | 21.2     |
| In-Shell Width (mm)        |                           |          |                      |                       |          |
|                            | 1982                      | 32.8     | 33.3                 | 33.6                  | 33.4     |
| O                          | 1983                      | 32.6     | 32.2                 | 32.1                  | 32.2     |
| B                          | 1984                      | 31.7     | 32.2                 | 32.4                  | 32.2     |
| J                          | 1985                      | 31.5     | 32.0                 | 32.1                  | 32.0     |
| E                          | 1986                      | 32.8     | 33.3                 | 32.3                  | 32.9     |
| C                          | 1987                      | 31.9     | 33.0                 | 32.6                  | 32.7     |
| T                          | 1988                      | 31.7     | 32.6                 | 32.6                  | 32.5     |
| I                          |                           |          |                      |                       |          |
| V                          | In-shell Cross-Width (mm) |          |                      |                       |          |
| E                          | 1982                      | 31.6     | 32.2                 | 32.4                  | 32.2     |
|                            | 1983                      | 32.6     | 32.0                 | 31.7                  | 31.9     |
|                            | 1984                      | 32.1     | 32.4                 | 32.2                  | 32.3     |
|                            | 1985                      | 31.9     | 32.5                 | 32.3                  | 32.4     |
| M                          | 1986                      | 32.7     | 33.5                 | 32.3                  | 33.0     |
| E                          | 1987                      | 32.2     | 33.8                 | 32.9                  | 33.2     |
| A                          | 1988                      | 32.3     | 32.9                 | 32.4                  | 32.7     |
| S                          |                           |          |                      |                       |          |
| U                          | In-Shell Length (mm)      |          |                      |                       |          |
| R                          | 1982                      | 39.9     | 39.6                 | 40.4                  | 40.0     |
| E                          | 1983                      | 41.1     | 39.1                 | 39.6                  | 39.7     |
| M                          | 1984                      | 40.0     | 39.3                 | 39.3                  | 39.2     |
| E                          | 1985                      | 38.9     | 39.4                 | 39.6                  | 39.4     |
| N                          | 1986                      | 40.4     | 40.6                 | 39.2                  | 40.0     |
| T                          | 1987                      | 38.9     | 40.2                 | 39.5                  | 39.7     |
|                            | 1988                      | 39.0     | 39.4                 | 38.9                  | 39.1     |
| Kernel Grade-Percent Sound |                           |          |                      |                       |          |
| S                          | 1982                      | 92.5     | 97.3                 | 96.8                  | 96.3     |
| U                          | 1983                      | 92.4     | 97.6                 | 93.5                  | 94.6     |
| R                          | 1984                      | 91.4     | 98.3                 | 94.4                  | 95.9     |
| V                          | 1985                      | 97.2     | 97.3                 | 94.1                  | 95.8     |
| E                          | 1986                      | 97.2     | 98.0                 | 91.3                  | 95.3     |
| Y                          | 1987                      | 99.1     | 97.9                 | 96.6                  | 97.3     |
|                            | 1988                      | 88.7     | 97.8                 | 95.9                  | 96.2     |

a/ District and State averages are derived by weighting county averages by county bearing acreage figures.

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

c/ Sacramento Valley includes: Butte, Colusa, Glenn, Placer, Sacramento, Shasta, Solano, Sutter, Tehama, Yolo, and Yuba counties.

d/ San Joaquin Valley includes: Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare counties.

e/ 1984 - 1988 measurements are weighted by nuts set by tree.

TABLE 5 -- Average Survey Measurements, by Variety e/

|                                             | Measurement | Ashley | Eureka | Franquette | Hartley | Mayette |
|---------------------------------------------|-------------|--------|--------|------------|---------|---------|
| In-Shell Weight (gm)                        |             |        |        |            |         |         |
| A<br>U<br>G<br>U<br>S<br>T                  | 1982        | 21.0   | 23.6   | 20.8       | 24.6    | 21.3    |
|                                             | 1983        | 18.7   | 19.8   | 22.4       | 25.5    | 23.3    |
|                                             | 1984        | 17.5   | 21.1   | 20.2       | 24.2    | 20.6    |
|                                             | 1985        | 19.8   | 21.0   | 17.6       | 23.5    | 19.4    |
|                                             | 1986        | 20.4   | 18.4   | 21.0       | 24.7    | 22.3    |
|                                             | 1987        | 20.3   | 23.1   | 19.7       | 23.7    | 19.6    |
|                                             | 1988        | 18.7   | 21.9   | 19.7       | 23.4    | 19.7    |
| In-Shell Width (mm)                         |             |        |        |            |         |         |
| O<br>B<br>J<br>E<br>C<br>T<br>I<br>V        | 1982        | 32.6   | 32.8   | 32.6       | 34.2    | 33.0    |
|                                             | 1983        | 31.2   | 30.5   | 31.7       | 33.5    | 32.3    |
|                                             | 1984        | 31.2   | 31.2   | 31.4       | 33.5    | 31.1    |
|                                             | 1985        | 32.5   | 31.2   | 29.7       | 33.3    | 30.1    |
|                                             | 1986        | 32.7   | 30.4   | 31.7       | 34.0    | 32.1    |
|                                             | 1987        | 32.6   | 32.4   | 31.1       | 33.6    | 30.3    |
|                                             | 1988        | 32.0   | 31.4   | 30.9       | 33.5    | 30.8    |
| In-shell Cross-Width (mm)                   |             |        |        |            |         |         |
| E<br><br><br><br>M<br>E<br>A<br>S<br>U<br>R | 1982        | 31.5   | 31.5   | 31.4       | 33.2    | 31.0    |
|                                             | 1983        | 30.9   | 30.6   | 31.5       | 33.3    | 34.0    |
|                                             | 1984        | 31.2   | 31.9   | 31.5       | 33.3    | 32.4    |
|                                             | 1985        | 32.5   | 31.7   | 30.5       | 33.5    | 32.0    |
|                                             | 1986        | 32.7   | 30.7   | 32.0       | 34.0    | 33.5    |
|                                             | 1987        | 33.2   | 32.7   | 32.0       | 34.0    | 32.5    |
|                                             | 1988        | 32.1   | 32.1   | 31.4       | 33.4    | 32.3    |
| In-Shell Length (mm)                        |             |        |        |            |         |         |
| E<br>M<br>E<br>N<br>T                       | 1982        | 38.2   | 43.7   | 39.3       | 40.7    | 38.0    |
|                                             | 1983        | 37.1   | 41.4   | 39.9       | 41.1    | 39.0    |
|                                             | 1984        | 36.5   | 42.5   | 38.8       | 40.5    | 37.2    |
|                                             | 1985        | 38.4   | 43.3   | 37.3       | 40.2    | 37.1    |
|                                             | 1986        | 39.1   | 40.7   | 39.8       | 40.8    | 39.1    |
|                                             | 1987        | 38.7   | 44.0   | 38.2       | 40.3    | 36.5    |
|                                             | 1988        | 37.3   | 43.0   | 38.6       | 39.6    | 37.0    |
| Kernel Grade-Percent Sound                  |             |        |        |            |         |         |
| S<br>U<br>R<br>V<br>E<br>Y                  | 1982        | 95.9   | 92.9   | 94.5       | 98.5    | 92.9    |
|                                             | 1983        | 95.6   | 88.5   | 95.4       | 98.3    | 95.4    |
|                                             | 1984        | 95.0   | 93.4   | 95.7       | 98.1    | 97.6    |
|                                             | 1985        | 96.7   | 89.0   | 97.4       | 96.3    | 96.5    |
|                                             | 1986        | 95.9   | 79.8   | 96.0       | 97.0    | 97.3    |
|                                             | 1987        | 95.1   | 98.1   | 98.1       | 97.4    | 99.2    |
|                                             | 1988        | 94.3   | 97.9   | 95.1       | 98.1    | 93.8    |
| Nuts Set Per Tree                           |             |        |        |            |         |         |
|                                             | 1982        | 1,585  | 1,986  | 3,249      | 2,466   | 3,870   |
|                                             | 1983        | 1,636  | 2,057  | 2,227      | 2,131   | 2,276   |
|                                             | 1984        | 2,063  | 2,297  | 3,406      | 2,497   | 3,402   |
|                                             | 1985        | 1,460  | 2,721  | 2,728      | 2,135   | 1,950   |
|                                             | 1986        | 808    | 1,076  | 2,474      | 2,220   | 2,082   |
|                                             | 1987        | 2,029  | 2,633  | 3,267      | 2,595   | 2,826   |
|                                             | 1988        | 1,599  | 1,789  | 2,482      | 2,414   | 2,565   |

See page 4, Table 4 for footnotes.

TABLE 5 -- Average Survey Measurements, by Variety e/

|                                                     | Measurement | Payne | Serr  | Tehama | Vina  | Other |
|-----------------------------------------------------|-------------|-------|-------|--------|-------|-------|
| In-Shell Weight (gm)                                |             |       |       |        |       |       |
| A<br>U<br>G<br>U<br>S<br>T                          | 1982        | 21.0  | 23.5  | 22.6   | 21.8  | 21.0  |
|                                                     | 1983        | 20.5  | 20.5  | 21.8   | 20.2  | 21.4  |
|                                                     | 1984        | 18.8  | 21.5  | 20.4   | 18.2  | 20.4  |
|                                                     | 1985        | 20.1  | 20.9  | 20.5   | 18.3  | 20.3  |
|                                                     | 1986        | 18.5  | 19.9  | 21.4   | 20.5  | 21.4  |
|                                                     | 1987        | 19.3  | 20.5  | 22.1   | 18.8  | 22.1  |
|                                                     | 1988        | 19.3  | 20.9  | 19.0   | 19.5  | 21.3  |
| In-Shell Width (mm)                                 |             |       |       |        |       |       |
| O<br>B<br>J<br>E<br>C<br>T<br>I<br>V<br>E           | 1982        | 32.8  | 34.9  | 34.1   | 33.0  | 33.0  |
|                                                     | 1983        | 31.8  | 32.5  | 33.0   | 30.8  | 31.6  |
|                                                     | 1984        | 32.1  | 34.2  | 32.8   | 30.5  | 31.6  |
|                                                     | 1985        | 32.5  | 34.1  | 32.8   | 30.3  | 31.3  |
|                                                     | 1986        | 31.9  | 33.4  | 33.7   | 31.6  | 32.5  |
|                                                     | 1987        | 32.5  | 34.2  | 33.8   | 30.9  | 32.6  |
|                                                     | 1988        | 32.4  | 34.1  | 31.8   | 31.2  | 32.2  |
| In-shell Cross-Width (mm)                           |             |       |       |        |       |       |
| M<br>E<br>A<br>S<br>U<br>R<br>E<br>M<br>E<br>N<br>T | 1982        | 31.7  | 33.7  | 32.9   | 31.5  | 31.3  |
|                                                     | 1983        | 31.5  | 31.2  | 32.3   | 30.7  | 31.1  |
|                                                     | 1984        | 32.0  | 33.2  | 32.6   | 31.2  | 32.3  |
|                                                     | 1985        | 32.4  | 33.4  | 32.6   | 31.1  | 32.3  |
|                                                     | 1986        | 31.7  | 32.8  | 33.0   | 32.0  | 32.7  |
|                                                     | 1987        | 32.7  | 33.4  | 34.1   | 32.7  | 33.5  |
|                                                     | 1988        | 32.5  | 33.5  | 31.6   | 32.1  | 32.9  |
| In-Shell Length (mm)                                |             |       |       |        |       |       |
| S<br>U<br>R<br>V<br>E<br>Y                          | 1982        | 38.6  | 41.0  | 39.1   | 41.2  | 39.7  |
|                                                     | 1983        | 38.3  | 38.2  | 38.8   | 39.4  | 39.3  |
|                                                     | 1984        | 37.7  | 39.0  | 37.7   | 38.6  | 39.9  |
|                                                     | 1985        | 38.3  | 39.8  | 38.7   | 38.0  | 39.8  |
|                                                     | 1986        | 38.4  | 39.3  | 38.7   | 40.2  | 39.8  |
|                                                     | 1987        | 38.1  | 39.5  | 39.4   | 39.2  | 41.4  |
|                                                     | 1988        | 37.6  | 39.1  | 37.5   | 39.1  | 40.5  |
| Kernel Grade-Percent Sound                          |             |       |       |        |       |       |
| S<br>U<br>R<br>V<br>E<br>Y                          | 1982        | 96.5  | 97.7  | 97.6   | 96.7  | 95.2  |
|                                                     | 1983        | 91.3  | 95.2  | 94.8   | 99.3  | 93.5  |
|                                                     | 1984        | 92.8  | 95.8  | 97.4   | 99.1  | 96.0  |
|                                                     | 1985        | 95.2  | 96.7  | 96.2   | 98.3  | 97.2  |
|                                                     | 1986        | 90.6  | 96.3  | 96.8   | 98.9  | 96.0  |
|                                                     | 1987        | 96.2  | 96.7  | 98.5   | 97.8  | 97.6  |
|                                                     | 1988        | 93.2  | 94.9  | 95.0   | 97.6  | 97.1  |
| Nuts Set Per Tree                                   |             |       |       |        |       |       |
|                                                     | 1982        | 2,230 | 1,002 | 1,229  | 2,289 | 1,898 |
|                                                     | 1983        | 1,574 | 1,148 | 1,502  | 2,103 | 1,702 |
|                                                     | 1984        | 2,335 | 857   | 2,282  | 2,281 | 2,287 |
|                                                     | 1985        | 1,863 | 1,354 | 1,997  | 2,239 | 2,530 |
|                                                     | 1986        | 1,062 | 846   | 1,290  | 1,430 | 1,478 |
|                                                     | 1987        | 1,853 | 1,204 | 2,031  | 2,561 | 2,424 |
|                                                     | 1988        | 1,885 | 1,084 | 2,224  | 2,006 | 1,799 |

See page 4, Table 4 for footnotes.

TABLE 6 - - Percentage distribution of Walnut Shell Suture Sizes, by District and Variety

| District & Variety        | U.S. Standards Size Intervals a/ |     |     |             |        |     |     |             |        |     |     |             |        |     |     |             |        |     |     |             |    |    |    |   |   |    |    |    |    |   |  |  |
|---------------------------|----------------------------------|-----|-----|-------------|--------|-----|-----|-------------|--------|-----|-----|-------------|--------|-----|-----|-------------|--------|-----|-----|-------------|----|----|----|---|---|----|----|----|----|---|--|--|
|                           | 1984                             |     |     |             | 1985   |     |     |             | 1986   |     |     |             | 1987   |     |     |             | 1988   |     |     |             |    |    |    |   |   |    |    |    |    |   |  |  |
|                           | 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 b/       |                                  |     |     |             |        |     |     |             |        |     |     |             |        |     |     |             |        |     |     |             |    |    |    |   |   |    |    |    |    |   |  |  |
| DISTRICTS:                |                                  |     |     |             |        |     |     |             |        |     |     |             |        |     |     |             |        |     |     |             |    |    |    |   |   |    |    |    |    |   |  |  |
| Coast                     | 2                                | 47  | 18  | 20          | 13     | 0   | 1   | 47          | 19     | 20  | 13  | 1           | 3      | 66  | 14  | 9           | 8      | 0   | 0   | 55          | 19 | 17 | 8  | 0 | 1 | 47 | 20 | 20 | 12 | 0 |  |  |
| Sacramento Valley         | 0                                | 62  | 14  | 14          | 10     | 1   | 1   | 57          | 16     | 14  | 12  | 1           | 2      | 71  | 12  | 9           | 6      | 0   | 0   | 70          | 13 | 10 | 6  | 0 | 1 | 64 | 13 | 13 | 9  | 0 |  |  |
| San Joaquin Valley        | 1                                | 61  | 19  | 13          | 7      | 0   | 1   | 57          | 17     | 14  | 10  | 0           | 1      | 60  | 15  | 12          | 11     | 1   | 1   | 65          | 17 | 11 | 6  | 0 | 0 | 66 | 15 | 12 | 7  | 0 |  |  |
| VARIETIES:                |                                  |     |     |             |        |     |     |             |        |     |     |             |        |     |     |             |        |     |     |             |    |    |    |   |   |    |    |    |    |   |  |  |
| Ashley                    | 0                                | 49  | 14  | 18          | 17     | 2   | 0   | 63          | 16     | 12  | 9   | 0           | 0      | 69  | 11  | 14          | 5      | 1   | 0   | 63          | 12 | 16 | 8  | 0 | 0 | 57 | 17 | 17 | 9  | 0 |  |  |
| Eureka                    | 1                                | 38  | 35  | 16          | 9      | 0   | 0   | 40          | 35     | 16  | 9   | 0           | 0      | 32  | 23  | 18          | 25     | 2   | 1   | 65          | 25 | 6  | 1  | 0 | 0 | 45 | 33 | 11 | 11 | 0 |  |  |
| Franquette                | 0                                | 46  | 19  | 23          | 10     | 0   | 0   | 19          | 16     | 31  | 32  | 0           | 1      | 50  | 22  | 14          | 12     | 1   | 0   | 41          | 24 | 20 | 14 | 0 | 0 | 37 | 20 | 24 | 18 | 1 |  |  |
| Hartley                   | 1                                | 81  | 8   | 5           | 4      | 0   | 1   | 77          | 11     | 7   | 4   | 0           | 3      | 81  | 8   | 5           | 3      | 0   | 0   | 82          | 8  | 6  | 3  | 0 | 1 | 79 | 10 | 7  | 3  | 0 |  |  |
| Mayette                   | 1                                | 30  | 29  | 22          | 18     | 0   | 0   | 24          | 19     | 31  | 26  | 0           | 4      | 47  | 21  | 21          | 7      | 0   | 0   | 26          | 22 | 28 | 25 | 0 | 0 | 39 | 14 | 30 | 16 | 1 |  |  |
| Payne                     | 0                                | 57  | 21  | 14          | 8      | 0   | 0   | 65          | 15     | 12  | 7   | 0           | 0      | 55  | 18  | 14          | 12     | 1   | 0   | 67          | 18 | 10 | 5  | 0 | 0 | 64 | 14 | 13 | 9  | 0 |  |  |
| Serr                      | 3                                | 86  | 6   | 3           | 2      | 0   | 4   | 81          | 6      | 5   | 3   | 0           | 3      | 74  | 10  | 7           | 6      | 0   | 2   | 85          | 7  | 5  | 1  | 0 | 1 | 88 | 5  | 3  | 3  | 0 |  |  |
| Tehama                    | 0                                | 75  | 10  | 8           | 5      | 1   | 0   | 74          | 10     | 6   | 9   | 0           | 1      | 81  | 9   | 6           | 3      | 0   | 0   | 83          | 12 | 4  | 1  | 0 | 0 | 56 | 18 | 14 | 12 | 0 |  |  |
| Vina                      | 1                                | 31  | 22  | 23          | 22     | 2   | 0   | 27          | 27     | 19  | 24  | 3           | 1      | 52  | 19  | 17          | 10     | 1   | 0   | 35          | 22 | 26 | 15 | 1 | 0 | 43 | 22 | 19 | 14 | 2 |  |  |
| Other                     | 0                                | 52  | 15  | 18          | 13     | 2   | 0   | 44          | 19     | 22  | 14  | 1           | 2      | 60  | 13  | 13          | 11     | 1   | 1   | 60          | 15 | 19 | 5  | 0 | 0 | 61 | 16 | 16 | 7  | 0 |  |  |
| State                     | 1                                | 60  | 16  | 14          | 9      | 1   | 1   | 56          | 16     | 15  | 11  | 1           | 2      | 66  | 14  | 10          | 8      | 0   | 1   | 66          | 15 | 12 | 6  | 0 | 1 | 63 | 15 | 13 | 8  | 0 |  |  |
| Number of Shells Measured | 5,671                            |     |     |             | 11,348 |     |     |             | 11,558 |     |     |             | 10,174 |     |     |             | 13,705 |     |     |             |    |    |    |   |   |    |    |    |    |   |  |  |

a/ 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".

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

TABLE 7 - - Walnut Acreage, by Variety and Year of Plant

| CROP AND VARIETY         | 1975<br>AND<br>EARLIER | 1976  | 1977  | 1978  | 1979  | 1980  | 1981  | 1982  | 1983  | 1984  | 1985  | 1986  | 1987  | ACRES STANDING IN 1987<br>BEARING BEARING NON-<br>TOTAL |
|--------------------------|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------------------------------------------------------|
| WALNUT ENG               |                        |       |       |       |       |       |       |       |       |       |       |       |       |                                                         |
| AMIGO                    | 508                    | 4     | 7     | 0     | 2     | 0     | 0     | 37    | 0     | 11    | 0     | 0     | 0     | 521                                                     |
| ASHLEY                   | 11,457                 | 72    | 14    | 56    | 297   | 179   | 190   | 140   | 80    | 76    | 11    | 18    | 29    | 12,085                                                  |
| BLACKBURN                | 72                     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 72                                                      |
| BLACKBURN/HAUTNER/VAUGHN | 1,613                  | 1     | 20    | 1     | 0     | 17    | 0     | 0     | 0     | 37    | 0     | 0     | 0     | 1,652                                                   |
| CARMELLO                 | 22                     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 20    | 0     | 0     | 35    | 58    | 37                                                      |
| CHANDLER                 | 141                    | 0     | 28    | 48    | 263   | 408   | 277   | 679   | 770   | 668   | 702   | 391   | 350   | 113                                                     |
| CHICO                    | 1,344                  | 145   | 24    | 123   | 299   | 634   | 373   | 206   | 50    | 209   | 127   | 31    | 0     | 888                                                     |
| CONCORD                  | 258                    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 2,569                                                   |
| EUREKA                   | 11,471                 | 36    | 18    | 43    | 11    | 93    | 40    | 43    | 26    | 46    | 36    | 48    | 27    | 258                                                     |
| FRANQUETTE               | 22,138                 | 45    | 52    | 49    | 50    | 112   | 49    | 248   | 60    | 57    | 36    | 28    | 16    | 266                                                     |
| GROVE                    | 99                     | 0     | 0     | 0     | 0     | 0     | 0     | 17    | 0     | 10    | 0     | 0     | 0     | 22,284                                                  |
| GUSTINE                  | 772                    | 0     | 1     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 99                                                      |
| HARTLEY                  | 45,579                 | 793   | 1,273 | 1,187 | 1,553 | 1,378 | 1,223 | 997   | 997   | 1,193 | 839   | 770   | 295   | 773                                                     |
| HOUSTON                  | 100                    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 51,763                                                  |
| HOWARD                   | 3                      | 0     | 0     | 4     | 86    | 0     | 0     | 21    | 39    | 70    | 6     | 9     | 29    | 100                                                     |
| HYBRID                   | 35                     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 31    | 2     | 8     | 0     | 0     | 93                                                      |
| LOMPOC                   | 132                    | 0     | 0     | 0     | 0     | 6     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 174                                                     |
| MARCHETTI                | 678                    | 0     | 0     | 0     | 10    | 32    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 41                                                      |
| MAYETTE                  | 1,989                  | 0     | 3     | 12    | 0     | 1     | 1     | 1     | 0     | 3     | 0     | 0     | 1     | 35                                                      |
| MIDLAND                  | 296                    | 0     | 0     | 0     | 2     | 2     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 138                                                     |
| NUGGETT                  | 1,201                  | 0     | 0     | 2     | 19    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 720                                                     |
| PAYNE                    | 22,874                 | 80    | 85    | 132   | 165   | 574   | 369   | 578   | 350   | 107   | 120   | 59    | 38    | 2,016                                                   |
| PEDRO                    | 445                    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0                                                       |
| PIONEER                  | 72                     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 7     | 0     | 0     | 0     | 1,222                                                   |
| PLACENTIA                | 168                    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0                                                       |
| POE                      | 980                    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 300                                                     |
| PRIDE OF VENTURA         | 145                    | 0     | 0     | 0     | 3     | 10    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0                                                       |
| SERR                     | 17,429                 | 1,018 | 957   | 1,050 | 1,546 | 1,006 | 542   | 342   | 233   | 229   | 118   | 29    | 44    | 1,222                                                   |
| SUNLAND                  | 14                     | 0     | 0     | 0     | 70    | 49    | 145   | 193   | 133   | 65    | 46    | 6     | 3     | 24,206                                                  |
| TEHAMA                   | 5,379                  | 155   | 19    | 69    | 44    | 39    | 138   | 66    | 13    | 48    | 33    | 0     | 0     | 133                                                     |
| TRINTA                   | 1,572                  | 0     | 1     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 5,705                                                   |
| VINA                     | 3,888                  | 151   | 193   | 514   | 449   | 1,185 | 857   | 516   | 624   | 820   | 236   | 145   | 109   | 1,573                                                   |
| WATERLOO                 | 983                    | 3     | 1     | 0     | 4     | 3     | 42    | 1     | 42    | 4     | 0     | 0     | 1     | 6,380                                                   |
| WESTSIDE                 | 108                    | 23    | 0     | 0     | 2     | 14    | 27    | 0     | 15    | 0     | 0     | 0     | 0     | 90                                                      |
| WOODLAND                 | 360                    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 1     | 0     | 0     | 0     | 0     | 147                                                     |
| 4946                     | 88                     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 42                                                      |
| OTHER                    | 960                    | 108   | 33    | 36    | 59    | 88    | 96    | 76    | 342   | 427   | 113   | 59    | 215   | 361                                                     |
| CROP TOTAL               | 155,583                | 2,634 | 2,729 | 3,328 | 4,934 | 5,833 | 4,369 | 4,161 | 3,826 | 4,091 | 2,434 | 1,628 | 1,219 | 1,284                                                   |
|                          |                        |       |       |       |       |       |       |       |       |       |       |       |       | 175,248                                                 |
|                          |                        |       |       |       |       |       |       |       |       |       |       |       |       | 21,521                                                  |
|                          |                        |       |       |       |       |       |       |       |       |       |       |       |       | 196,769                                                 |