1992 ALMOND OBJECTIVE MEASUREMENT SURVEY RESULTS

PERMANENT RECORD

RELEASED: JUNE 30, 1992
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CALIFORNIA AGRICULTURAL STATISTICS SERVICE

1992 CALIFORNIA ALMOND FORECAST

The 1992 California almond production is forecast at 550 million meat pounds. This is based on 380,000 acres. The July forecast is down 3.5 percent from June's forecast but up 12 percent from last year's crop. The Nonpareil variety is forecast at 270 million meat pounds, up 4 percent from last season. The Nonpareil variety represents 49 percent of the total almond production.

The average nut set per tree was 7217, up 18 percent from 1991. The Nonpareil average nut set of 6567 represents a 7 percent increase from last year's set. The average kernel weight for all varieties sampled was 1.65 grams, down 7 percent from last year. A total of 98.1 percent of the nuts sized were sound. The 1992 bearing acreage forecast of 380,000 acres is the same as 1991 final estimate but down 7.5 percent from 1990.

The California almond crop appears to be in good condition. It is progressing approximately two weeks ahead of last year's crop. Generally, trees in the southern San Joaquin Valley are showing a lighter nut set and trees in the northern Sacramento Valley a heavier set. It is believed that the low set in the lower San Joaquin Valley was a result of last year's short water supply. A potential problem later in 1992's season could be insects. This is a concern, because in 1992 insects appeared earlier and in larger numbers than past years.

SAMPLING PROCEDURES

To determine tree set, nuts are counted along a path within a randomly selected tree. Work begins at the trunk and progresses to the end of the terminal branch. At each fork one branch is randomly selected to continue the path. A branch's probability of selection is directly proportional to it's cross-sectional area. This methodology is used because of its statistical efficiency. The random nature of this method also makes it possible to end up at any one of the tree's numerous terminal branches. Since the selected path has a probability of selection associated with it, the probability is used to expand counts along the chosen path and then arrive at an estimated set for the entire tree.

Along intermediate stages (i.e. the bearing surface between forkings), every fifth nut is picked. All nuts on the terminal branch are picked. These nuts are used to determine size and weight measurements.

FIELD SAMPLING ACTIVITIES

The survey began May 23. Sampling was completed by June 13. There were 1,356 trees sampled for the 1992 survey in 678 orchards. An additional 152 orchards were not sampled for one of the following reasons:

1) Orchard had been sprayed.
2) Orchard was wet.
3) Orchard had been pulled.
4) Owner refused to cooperate or could not be contacted.

The Objective Measurement Survey is funded by monies provided by the Almond Board of California in cooperation with the California Department of Food and Agriculture.

TABLE 1: COMPARISON OF NUT ESTIMATES AND ORCHARDS SAMPLED BY DISTRICT AND VARIETY, JUNE OBJECTIVE MEASUREMENT SURVEY COUNTS

District and Variety	1988		1989		1990		1991		1992	
	Nuts Per Tree	Orchards Sampled	Nuts Per Tree	Orchards Sampled	Nuts Per Tree	Orchards Sampled	Nuts Per Tree	Orchards Sampled	Nuts Per Tree	Orchards Sampled
ALL DISTRICTS										
(All Varieties)	8,386	850	6,352	796	9,333	796	6,134	775	7,217	678
BY DISTRICTS										
District I										
Sacramento Valley	9,835	177	5,136	172	10,709	165	6,802	166	8,171	139
District II										
San Joaquin Valley	8,123	661	6,765	615	9,045	625	5,952	609	6,908	535
BY VARIETIES										
California Types a/	8,253	154	7,421	153	10,068	142	6,406	144	8,406	113
Carmel b/	8,184	88	7,855	90	9,776	88	6,116	94	8,301	73
Merced	7,199	51	6,581	43	8,773	47	5,518	43	6,618	34
Mission	8,479	87	6,768	78	9,018	85	6,197	76	8,097	70
Ne Plus Ultra	6,354	43	5,639	38	7,853	32	6,681	32	6,479	25
Nonpareil	8,843	457	6,019	431	9,378	438	6,163	429	6,567	376

a/ California types include the following varieties: Ballico, Carmel, Davey, Fritz, Harvey, Le Grand, Mono, Monterey, Norman, Price Cluster, Ruby, Tokoyo and Yosemite.
b/ Carmel breakdown was first provided in 1988. Please Note: Carmel variety is also included in California Types.

TABLE 2: WEIGHT, SIZE AND GRADE OF AVERAGE ALMOND SAMPLE

District and Variety	Weight (Grams)		Size (Millimeters)					Grade (Percent of Nuts) a/						
			Suture		Kernel			Edible Nuts		Insect Damage	Shrivel	Natural Gum	Blank	Other
	In-Hull	Kernel	In-Hull	In-Shell	Length	Width	Thickness	Singles	Doubles					
ALL DISTRICTS						(Weighted by Bearing Acreage)								
1988	10.91	1.57	26.30	20.73	22.75	13.20	10.21	93.7	3.1	b/	1.2	0.6	0.1	1.2
1989	11.52	1.54	26.34	20.79	23.84	13.04	9.64	95.1	2.1	b/	1.1	0.3	0.1	1.3
1990	10.51	1.53	25.73	20.71	23.36	12.98	9.94	92.6	5.3	b/	0.9	0.1	0.1	1.0
1991	f/	1.77	f/	f/	23.47	13.97	10.44	93.9	3.5	b/	1.2	0.2	0.1	1.0
1992	f/	1.65	f/	f/	23.80	13.24	9.90	95.3	2.8	b/	1.2	0.2	0.1	0.4
BY DISTRICT c/														
Sacramento Valley														
1988	10.46	1.50	25.69	22.22	22.58	12.74	10.00	93.8	3.9	b/	0.7	0.2	0.2	0.9
1989	12.70	1.60	27.67	23.94	24.60	13.30	9.46	93.0	5.0	b/	0.5	0.4	0.3	0.7
1990	9.31	1.39	24.85	19.58	21.85	12.63	9.70	91.4	7.4	b/	0.3	0.1	b/	0.8
1991	f/	1.68	f/	f/	22.23	13.68	10.19	93.7	4.2	b/	0.4	0.1	b/	1.5
1992	f/	1.59	f/	f/	23.56	13.25	9.81	95.1	3.3	b/	1.0	0.2	b/	0.3
San Joaquin Valley														
1988	11.06	1.59	26.49	20.26	22.82	13.35	10.29	93.7	2.8	b/	1.4	0.7	0.1	1.3
1989	11.27	1.53	26.06	20.10	23.69	12.99	9.69	95.6	1.5	b/	1.2	0.3	b/	1.4
1990	10.88	1.57	26.01	21.07	23.84	13.09	10.02	92.9	4.6	b/	1.1	0.1	0.1	1.1
1991	f/	1.79	f/	f/	23.84	14.06	10.51	94.0	3.2	b/	1.5	0.2	0.2	0.8
1992	f/	1.67	f/	f/	23.88	13.24	9.94	95.4	2.6	b/	1.3	0.2	b/	0.5
BY VARIETY														
California Types d/														
1988	9.28	1.45	24.29	18.87	22.22	12.31	10.07	93.0	3.3	b/	1.8	0.7	0.1	1.2
1989	9.58	1.38	23.87	18.76	23.58	11.98	9.48	94.4	2.3	b/	1.4	0.1	b/	1.7
1990	8.57	1.39	23.47	18.96	23.19	12.01	9.93	89.9	7.8	b/	1.0	b/	b/	1.2
1991	f/	1.55	f/	f/	23.25	12.62	10.12	93.6	3.7	b/	1.3	0.3	b/	1.1
1992	f/	1.52	f/	f/	23.69	12.32	9.84	94.0	4.5	b/	0.9	0.1	b/	0.5
Carmel e/														
1989	9.44	1.39	23.56	18.37	23.96	11.89	9.47	95.3	1.7	b/	1.0	0.1	b/	1.8
1990	8.77	1.42	23.56	19.41	23.91	11.95	9.91	90.3	7.7	b/	1.1	b/	b/	0.7
1991	f/	1.61	f/	f/	24.22	12.74	10.11	94.7	2.8	b/	1.3	0.2	b/	1.0
1992	f/	1.54	f/	f/	24.27	12.27	9.81	94.2	4.5	b/	0.7	0.1	b/	0.5
Merced														
1988	11.04	1.59	26.34	20.08	21.92	13.35	10.65	88.0	4.1	b/	2.0	3.6	0.3	2.1
1989	10.42	1.49	25.28	19.18	22.30	12.77	10.07	92.6	3.6	b/	1.5	1.2	b/	1.1
1990	10.03	1.53	25.55	20.74	22.55	12.91	10.33	90.1	6.6	b/	2.1	0.4	b/	0.8
1991	f/	1.71	f/	f/	22.13	13.73	10.87	90.5	5.6	b/	2.1	0.8	b/	0.9
1992	f/	1.59	f/	f/	22.34	12.81	10.24	90.7	6.8	b/	1.2	0.8	0.1	0.3
Mission														
1988	8.22	1.33	24.77	19.19	19.36	12.61	10.76	95.5	1.4	b/	0.7	0.2	b/	2.0
1989	8.60	1.25	24.69	18.92	20.23	12.14	9.84	96.6	1.4	b/	0.4	0.2	b/	1.4
1990	7.45	1.31	23.46	18.17	19.43	12.17	10.62	85.9	11.1	b/	0.9	b/	0.1	1.9
1991	f/	1.43	f/	f/	19.68	13.11	10.74	95.2	2.2	b/	0.9	0.2	0.5	1.0
1992	f/	1.31	f/	f/	19.71	12.16	10.07	96.9	0.4	b/	1.6	0.3	0.2	0.5
Ne Plus Ultra														
1988	12.61	1.88	27.65	21.95	26.64	13.65	10.27	78.3	16.3	b/	3.0	0.6	b/	1.4
1989	12.04	1.77	26.84	21.36	26.91	13.22	9.71	86.3	9.7	b/	1.9	0.2	b/	1.8
1990	11.44	1.79	26.35	20.97	26.84	13.39	10.20	85.1	12.2	b/	1.1	0.1	b/	1.3
1991	f/	1.98	f/	f/	26.58	13.99	10.37	85.2	12.0	b/	0.6	0.1	b/	1.8
1992	f/	1.87	f/	f/	26.61	13.37	10.05	87.8	10.1	b/	1.2	0.4	b/	0.4
Nonpareil														
1988	11.82	1.64	27.20	21.65	23.52	13.59	10.13	95.5	2.2	b/	1.0	0.3	0.1	0.8
1989	12.99	1.67	27.80	22.06	24.73	13.73	9.64	96.5	1.1	b/	1.0	0.2	0.1	1.1
1990	11.74	1.61	26.94	21.83	24.14	13.46	9.78	95.7	2.3	b/	0.8	b/	0.1	0.8
1991	f/	1.91	f/	f/	24.28	14.65	10.47	95.4	2.2	b/	1.3	0.1	0.1	0.8
1992	f/	1.80	f/	f/	25.01	13.95	9.87	96.6	1.7	b/	1.3	0.1	b/	0.3

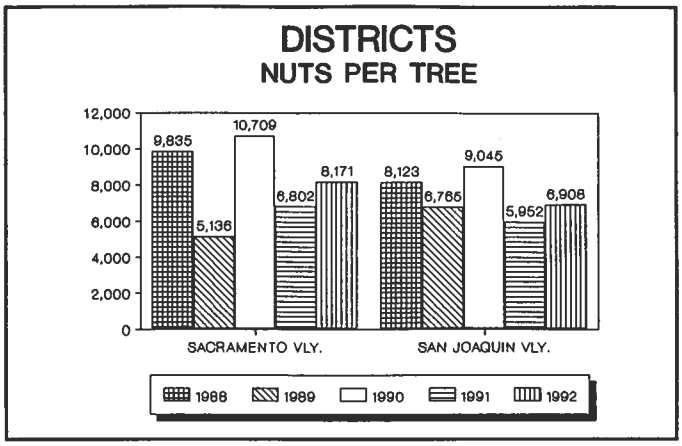
a/ Percentages may not add to 100 due to rounding.
b/ Not shown if less than 0.07 percent.
c/ San Luis Obispo County will no longer be published separately to maintain data integrity.
d/ California types include the following varieties: Ballico, Carmel, Davey, Fritz, Harvey, Le Grand, Mono, Monterey, Norman, Price Cluster, Ruby, Tokoyo and Yosemite.
e/ The Carmel breakdown was available for the first time in 1988. Carmel variety is still included in California Types.
f/ In-Hull and In-Shell measurements and In-Hull weight were not taken in 1991 and will not be shown in future reports.

NOTE: Sacramento Valley includes these counties: Butte, Colusa, Glenn, Solano, Sutter, Tehama, Yolo and Yuba.
San Joaquin Valley includes these counties: Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus and Tulare.

TABLE 3: CALIFORNIA ALMOND ACREAGE, PRODUCTION AND TREES/ACRE, 1986-92

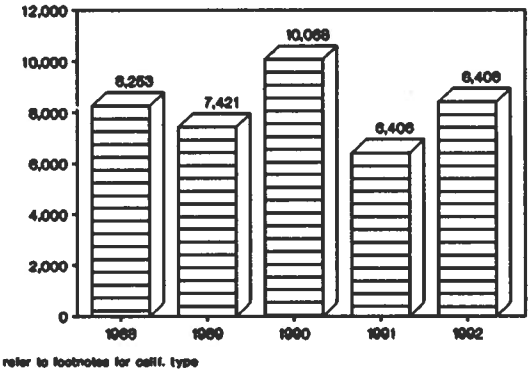
Year	Bearing Acres a/	Total Meat Production			Average Trees Per Acre
		Metric Ton b/	Million Lbs.	Lbs Per Acre	
1986	416,000	113,000	250	601	84.0
1987	417,000	299,000	660	1,580	85.4
1988	419,000	268,000	590	1,410	86.3
1989	411,000	222,000	490	1,190	87.3
1990	411,000	299,000	660	1,610	88.4
1991	380,000	222,000	490	1,290	89.6
1992 c/	380,000	250,000	550	1,450	89.6

a/ Bearing acreage defined to be plantings 4 years and older.
b/ Rounded to nearest thousand.
c/ July forecast.



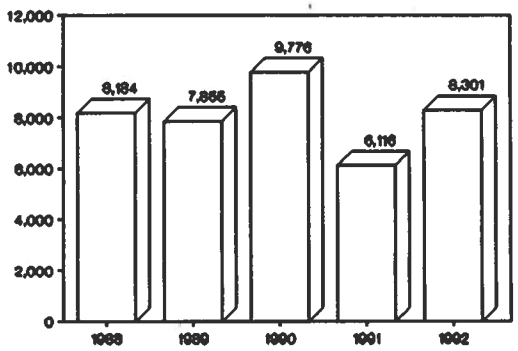
NUTS PER TREE

CALIFORNIA TYPES

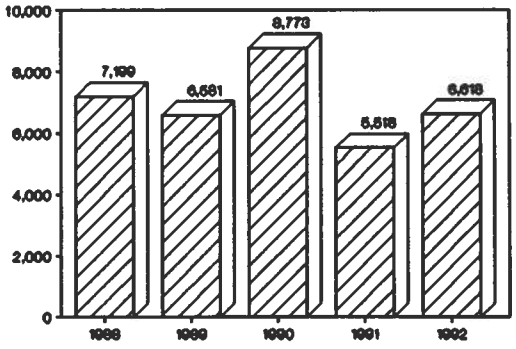


refer to footnotes for calif. type

CARMEL



MERCED



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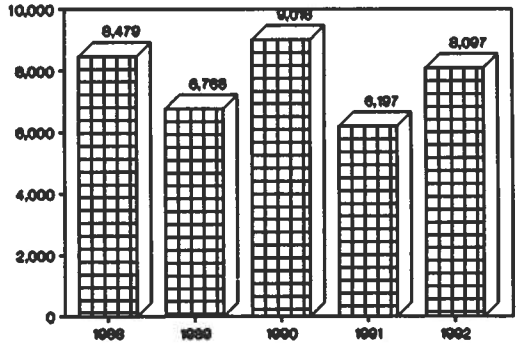
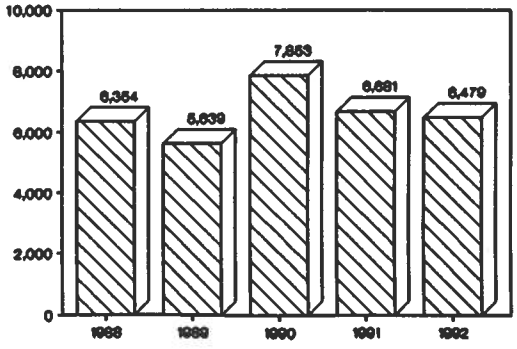
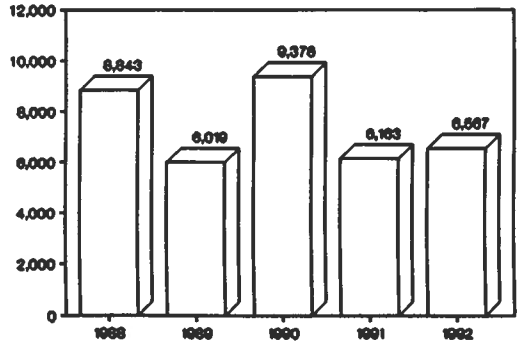


NE PLUS



NONPAREIL



CALIFORNIA FRUIT AND NUT ACREAGE AS OF 1991--VARIETIES AND AGE GROUPS--STATE SUMMARY
ACREAGE PLANTED DURING YEARS SHOWN AND STANDING IN 1991

CROP AND VARIETY	1979 AND EARLIER	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	ACRES STANDING IN 1991: NON-BEARING	ACRES STANDING IN 1991: BEARING	ACRES STANDING IN 1991: TOTAL
ALMONDS																
ALDRICH	7	0	0	7	3	6	14	6	13	13	26	9	63	69	98	167
BALLICO	61	0	0	0	0	0	0	0	0	0	0	0	0	61	0	61
BUTTE	636	535	1,363	846	377	262	216	197	407	940	813	1,094	1,060	5,779	2,967	8,746
CALIFORNIA/CA PAPERSHELL	18	0	0	1	13	6	2	3	0	19	10	0	0	62	10	72
CARMEL	18,929	6,232	9,443	6,452	2,551	2,411	1,789	1,654	1,970	2,846	2,711	1,805	1,426	54,277	5,942	60,219
CARRIENS	29	84	50	9	18	0	1	4	11	13	12	0	0	219	12	231
DAVEY	526	0	0	0	0	0	0	0	1	0	0	0	0	527	0	527
DOTTIE WON	20	5	0	11	4	0	0	0	0	0	0	5	5	40	10	50
DRAKE	1,166	0	0	0	0	0	0	1	3	1	0	0	3	1,171	3	1,174
EARLY MISSION	50	1	5	0	0	0	0	0	0	0	5	0	0	56	5	61
FRITZ	765	246	669	256	103	142	371	214	176	403	634	215	349	3,345	1,198	4,543
HARVEY	2,010	81	57	3	0	5	2	4	0	0	5	3	36	2,162	44	2,206
HASHAM	307	170	0	77	36	0	31	40	0	0	0	0	0	661	0	661
IXL	376	0	0	0	0	0	0	1	0	0	0	0	0	377	0	377
JEFFRIES	212	131	225	0	0	0	0	0	0	0	0	0	7	568	7	575
JORDANOLO	195	0	0	0	1	0	0	0	1	0	0	2	0	197	2	199
KAPAREIL	204	25	4	32	11	1	2	0	0	0	0	1	0	279	1	280
LE GRAND	714	414	116	57	41	0	3	8	8	0	0	8	0	1,361	8	1,369
LIVINGSTON	91	30	7	11	4	0	0	40	0	28	6	12	93	211	111	322
MERCED	16,569	203	98	15	24	29	111	23	14	63	13	13	23	17,149	49	17,198
MILO	192	0	0	0	0	0	0	0	0	0	0	0	0	192	0	192
MONO	927	172	74	115	24	117	17	34	0	5	0	28	8	1,485	36	1,521
MONTEREY	390	428	560	1,112	315	163	131	38	379	322	214	189	141	3,838	544	4,382
N-43	0	77	0	0	0	0	0	0	0	0	0	0	0	77	0	77
NE PLUS ULTRA	12,151	632	922	377	80	79	55	71	46	94	28	18	24	14,507	70	14,577
NONPAREIL	134,724	12,858	17,710	8,497	3,083	2,827	2,626	2,489	2,524	4,220	4,863	3,683	2,519	191,558	11,065	202,623
NORMAN	682	1	0	12	0	0	0	0	0	0	0	0	0	695	0	695
PADRE	5	0	0	37	19	4	6	32	100	284	242	441	412	487	1,095	1,582
PEERLESS	5,610	1,220	1,347	755	197	239	238	161	124	223	138	120	61	10,114	319	10,433
PRICE CLUSTER	6,569	2,574	4,301	1,726	655	589	713	397	451	672	759	609	232	18,647	1,600	20,247
RUBY	855	404	402	479	179	176	65	87	164	268	131	89	118	3,079	338	3,417
SAURET #1	226	110	64	37	7	2	15	0	1	3	0	8	0	465	8	473
SAURET #2	215	123	44	10	0	3	10	0	0	0	0	2	1	405	3	408
SCHELETTER	80	0	0	0	0	0	0	0	0	0	0	0	0	80	0	80
SONORA	0	0	0	0	0	18	40	8	27	142	686	443	98	235	1,227	1,462
TEXAS/MISSION	27,538	1,598	1,634	1,149	713	342	161	333	324	738	354	336	401	34,530	1,091	35,621
THOMPSON	7,391	101	56	184	172	23	9	0	7	28	5	10	11	7,971	26	7,997
TIOGA	30	22	12	1	0	0	0	0	0	0	0	0	0	65	0	65
TOKOYO	556	72	49	44	0	4	24	0	21	6	14	0	14	776	28	804
WOOD COLONY	1	23	0	0	0	2	6	0	14	38	108	75	71	84	254	338
YOSEMITE	515	112	52	99	11	4	0	0	0	0	0	4	0	793	4	797
OTHER	669	88	88	84	16	23	4	12	6	13	34	9	145	1,003	188	1,191
CROP TOTAL	242,211	28,772	39,352	22,495	8,657	7,477	6,662	5,857	6,792	11,382	11,811	9,231	7,321	379,657	28,363	408,020

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