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## Grape Variety Acreage in Arizona and California

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### Arizona<sup>2</sup>

Grape production in Arizona is confined to early table grapes produced in a hot, dry desert climate. The total acreage has not varied much during the last decade. The acreages for 1978 are given in Table 5. Thompson Seedless is the leading variety, followed by Perlette. Maturity is somewhat later than in California's Coachella Valley and the threat of rain damage during harvest is more likely.

There are two growing regions, one near Yuma, the other near Glendale in Maricopa County, northwest of Phoenix. Value of the crop was about 13.5 million dollars in 1978.

### California<sup>3</sup>

For statistical purposes, grape varieties in California are classified according to their traditional use; as wine, raisin, or table (fresh fruit). Of the total 645,510 acres, 327,132 acres are wine varieties (50.7 percent), raisin varieties occupy 250,734 acres (38.8

percent), and table varieties 66,000 acres (10.2 percent). Included in the total are 1,037 acres of field-planted rootstocks yet to be grafted (1.5 percent). In the tables presented, total acreage is given for 1969; the 1978 data is segregated as bearing or non-bearing. Non-bearing are the vines planted in 1976, 1977 and 1978 and reflect the most recent planting trends. The largest increase has been in the wine grape sector, where acreage has tripled in the last ten years.

By far the most important single variety is the multipurpose Thompson Seedless, which in 1978 occupied 36.6 percent of the total grape acreage. The annual diversion of this huge seedless grape crop from one use to another is the bane of all forecasters of grape economics. Traditionally classified as a raisin variety and averaging about 95 percent of California raisin production, it is also our most important table wine grape. In 1977, 22.8 percent of the wine crush was

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<sup>2</sup>Statistics on acreage from Arizona Fresh Fruit and Vegetable Standardization Service; April, 1978.

<sup>3</sup>Statistics on acreage from California Crop and Livestock Reporting Service, Sacramento, CA.

**Table 1. Table Grape Acreage, California, 1969 and 1978.**

Variety	1969 Total	Bearing	1978 Non-bearing	Total
1. Emperor	16,316	20,020	524	20,544
2. Flame Tokay	17,205	17,407	214	17,621
3. Ribier	5,238	5,925	129	6,054
4. Perlette	3,301	3,902	1,054	4,956
5. Calmeria	3,106	3,607	254	3,861
6. Malaga	2,181	2,785	83	2,868
7. Cardinal	1,772	2,146	147	2,293
8. Exotic	357	905	182	1,087
9. Superior Seedless	0	647	421	1,068
10. Italia	910	954	29	983
11. Ruby Seedless	24	316	646	962
12. Red Malaga	709	909	11	920
13. Almeria	771	783	10	793
14. Queen	193	489	83	572
15. Black Monukka	240	404	74	478
16. Flame Seedless	0	75	340	415
17. Beauty Seedless	105	161	19	180
18. Black Prince	112	116	0	116
19. Richards Black	2	103	0	103
20. All other table varieties <sup>1</sup>	442	591	157	748
Totals	52,984	62,245	4,377	66,622

<sup>1</sup>Includes varieties with less than 100 acres each.

Thompson Seedless; in 1978, 24.8 per cent (1). Close to 50,000 tons per year are processed as an ingredient in canned fruit cocktail.

Some table grapes are now utilized more for wine production (distillation) than for fresh market, such as Flame Tokay and White Malaga. The wine varieties, however, remain inflexible, they are not used for raisins or fresh fruit as is the case in some countries.

New plantings in 1978 of all types are estimated at 12,577 acres, compared to 9,875 acres planted a year earlier. The most favored variety is Thompson Seedless, with 4,882 acres; its largest increase since 1955. French Colombard, Chenin blanc, Chardonnay, and Sauvignon blanc were favored for new plantings of wine grapes, a trend following the increasing demand for white table wines. Some re-grafting of red wine varieties to whites is now occurring.

### Table Grapes

Several table grapes have lost their earlier prominence as dessert fruits. Malaga cannot compete with the Thompson Seedless. The Flame Tokay encounters fall rain in the most northerly table grape districts where it colors best. It cannot compete favorably with newer red varieties from the drier southern San Joaquin Valley, such as Cardinal and Queen. As a late storage grape it is much inferior to Emperor. The major outlet for such varieties that have lost consumer acceptance is now for wine and brandy.

The unique qualities of some fresh grape varieties to withstand periodic sulfur dioxide fumigation and long periods of cold storage accounts for the predominance of the red Emperor and its white counterparts, the Almeria and Calmeria. They are harvested in September and October and, in favorable seasons, marketed from

**Table 2. Acreage of Raisin Varieties, California, 1969 and 1978.**

Variety	1969 Total	Bearing	1978 Non-bearing	Total
1. Thompson Seedless	210,130	226,496	9,799	236,295
2. Muscat of Alexandria	8,383	11,146	185	11,331
3. Black Corinth	1,612	1,617	35	1,652
4. Sultana	792	792	0	792
5. Fiesta	0	128	254	382
6. Canner	99	99	74	173
7. Other varieties	28	70	39	109
Total raisin	221,044	240,348	10,386	250,734

cold stores until March. There is a great need for storage grapes of better palatability that are also seedless.

The decided preference of the American consumer for seedless grape varieties has led us to predict that most table grapes of the near future will be seedless. This trend is of much less concern in European and Asian countries.

The heaviest plantings in the past three years are seedless grapes, Perlette (1054), Ruby Seedless (646), Superior Seedless (421), and Flame Seedless (340). [Table 1].

The importance of early maturity is best illustrated by the success of the Perlette, introduced by the University of California in 1946. In the early desert region of southern California (Coachella Valley), harvest begins in the last week of May. The first grape on the market, it commands premium prices and has supplanted the Thompson Seedless in the early regions.

### Raisin Varieties

The Muscat of Alexandria, producing the Malaga type raisin of world commerce, was at one time the only raisin variety grown in California. The highest quality fruit was dried from selected clusters and packed as layers. Machines to remove the seeds were not successful and the muscat raisin has practically disappeared since the introduction of the Thompson Seed-

less. At present the Muscat of Alexandria is used for wine production.

The Black Corinth or Zante currant of Greece has retained a small but steady production, utilized principally in cakes and cookies. The Sultana is a white round seedless variety that preceded the introduction of the Thompson Seedless. The berry has soft flesh and seed traces and makes inferior raisins. It is rapidly becoming obsolete and the standing acreage is used for wine production.

Fiesta is the first new raisin variety to be introduced, released in 1973 by the U.S. Department of Agriculture. Ripening earlier than Thompson Seedless, it has not been accepted generally by raisin packers because seed traces are occasionally objectionable. Canner is a green seedless grape for canning use, the berries shelling from the capstem more readily than Thompson Seedless. It is not used for raisins.

### Wine Grapes

The wine grape planting boom began in 1970, reached its peak in 1973 and subsided to near normal levels by 1975. During the five-year expansion, approximately 196,000 acres were added to the existing 109,019 acres standing in 1969. Last year new plantings were again on the rise, but practically all to white fruited varieties, principally the standard varieties French Colombard (1465 acres) and

**Table 3. Acreage of White Wine Varieties, California, 1969 and 1978.**

Variety	1969 Total	Bearing	1978 Non-bearing	Total
1. French Colombard	9,687	26,774	2,211	28,985
2. Chenin blanc	3,907	19,671	2,719	22,390
3. Chardonnay	1,869	11,338	2,148	13,486
4. White Riesling	1,024	7,963	364	8,327
5. Sauvignon blanc	610	3,849	1,452	5,301
6. Palomino	3,849	4,016	23	4,039
7. Gewurztraminer	401	2,418	377	2,795
8. Semillon	750	2,709	55	2,764
9. Emerald Riesling	732	2,671	69	2,740
10. Grey Riesling	740	1,859	172	2,031
11. Burger	1,540	1,831	4	1,835
12. Pinot blanc	525	1,487	245	1,732
13. St. Emilion	157	1,505	12	1,517
14. Sylvaner	611	1,288	0	1,288
15. Muscat blanc	368	874	103	977
16. Malvasia bianca	152	810	0	810
17. Sauvignon vert	566	577	0	577
18. Peverella	9	417	0	417
19. Flora	164	416	0	416
20. Folle blanche	159	351	0	351
21. Green Hungarian	163	296	29	325
22. Feher Szagos	304	304	0	304
23. Pedro Ximenes	262	262	0	262
24. Other white wine <sup>1</sup>	364	367	97	464
Totals:	28,913	94,053	10,080	104,133

<sup>1</sup>Includes varieties with less than 100 acres in 1978.

Chenin blanc (1193 acres) to supply the market demand for moderately priced white table wines. The premium varieties Chardonnay (789 acres) and Sauvignon blanc (753 acres) also shared in the increase. Acreages planted in 1978 are given in parentheses.

In the red wine field new University varieties have assumed increasing importance. Of the new acreage planted in 1975, one-third were in this category (2).

For the first time, cultural methods have influenced choice of variety. Cabernet-Sauvignon has increased in acreage largely because the formerly high hand-harvest costs (small clusters and very small berries) have been cir-

cumvented by machine harvest. For seedless table grapes, the use of gibberellin is universal to increase size of berries, making the berry size advantage of seeded varieties less apparent. Thompson Seedless is one of the best adapted to mechanical harvest, but the long cane pruning will delay an easy solution to mechanical pruning. Wine varieties are needed that can be more easily harvested and pruned by machine.

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**Table 4. Acreage of Red Wine Varieties, 1969 and 1978.**

Variety	1969 Total	Bearing	1978 Non-bearing	Total
1. Zinfandel	14,901	30,449	975	31,424
2. Carignane	20,074	27,080	130	27,210
3. Cabernet Sauvignon	4,020	25,335	774	26,109
4. Barbera	1,488	21,045	40	21,085
5. Ruby Cabernet	2,097	18,833	30	18,863
6. Grenache	10,898	18,624	85	18,709
7. Petite Sirah	2,591	13,556	243	13,799
8. Rubired	1,943	11,959	62	12,021
9. Pinot noir	2,289	10,211	100	10,311
10. Alicante Bouschet	4,602	5,511	314	5,825
11. Napa Gamay	993	5,402	89	5,491
12. Mission	4,442	4,600	47	4,647
13. Gamay Beaujolais	1,033	4,243	34	4,277
14. Merlot	151	3,501	171	3,672
15. Carnelian	0	2,695	51	2,746
16. Salvador	782	2,704	3	2,707
17. Royalty	1,662	2,690	0	2,690
18. Valdepeñas	1,582	2,193	10	2,203
19. Tinta Madeira	440	1,289	0	1,289
20. Centurion	0	1,215	0	1,215
21. Mataro	1,202	1,203	5	1,208
22. Early Burgundy	384	725	10	735
23. Pinot St. George	142	684	0	684
24. Black Malvoisie	540	554	3	557
25. Nebbiolo	76	542	0	542
26. Aleatico	331	331	0	331
27. Souzao	51	223	103	326
28. St. Macaire	154	281	0	281
29. Perelli 101	260	260	0	260
30. Refusco	153	154	32	186
31. Malbec	7	129	5	134
32. Grignolino	115	131	0	131
33. Beclan	41	117	0	117
34. Cabernet franc	31	81	35	116
35. Grand noir	115	116	0	116
36. Muscat Hamburg	53	105	0	105
37. Other red wine varieties	463	738	140	878
Totals	80,106	219,509	3,491	223,000

**Table 5. Acres, by Varieties, Arizona, by Counties, 1978.**

Variety	Maricopa	County Yuma	Other	Arizona
Cardinals	220	120	*	340
Exotics	160	30	*	190
Perlettes	400	220	*	620
Thompson Seedless	1,430	720	*	2,050
Miscellaneous	20	20	*	40
Total	2,230	1,110	50	3,390

\*Acres too small to warrant quantitative estimate. Acres, if any, are included in State totals.