



United States Department of Agriculture
National Agricultural Statistics Service

2021 California Raisin Grape Mechanical Harvest Report



Cooperating with the California Department of Food and Agriculture

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RESULTS

Total acreage to be harvested by mechanical means was 41,502, 31% of the State's total raisin-type grape acreage, according to the Pacific Region Office of USDA's National Agricultural Statistics Service. The Overhead Trellis System was used on 12,644 acres in 2021, accounting for 9% of the total raisin-type grape acreage. Fresno and Madera County growers have 48% and 43% of the Overhead Trellis acreage in the State, respectively. Kern and Tulare County growers have 6% and 2% of the Overhead Trellis acreage, respectively. Other mechanical harvest systems include Continuous Tray at 20% of the raisin acreage, South Side Trellis with 0.5% and Open Gable with 1.3% of the raisin-type grape acreage.

Although Fresno County has the most acreage mechanically harvested, at 30,056, that acreage only represents 32% of the Fresno County raisin-type grape acreage. Madera County growers harvested 44% of their raisin-type grape acreage by mechanical means.

By variety, Thompson Seedless grape acreage harvested mechanically is 28,582, or 26% of the total Thompson Seedless grape acreage. Forty-eight percent of the Fiesta grape acreage is harvested mechanically and 64% of the Selma Pete acreage is harvested mechanically.

Most California grape varieties (intended for raisins) are harvested by hand and placed on paper trays between vine rows for sun drying. The Overhead Trellis System, however, has led to increased production of dried-on-the-vine raisins which are machine harvested.

PROCEDURES

The Pacific Region Office of USDA's National Agricultural Statistics Service, in cooperation with the California Department of Food and Agriculture, conducts an annual grape acreage survey. The 2021 Grape Acreage Report, published in April 2022, summarized the latest survey results. A questionnaire was mailed to all known grape growers from our list of grape vineyards. The mailing was made in October 2021 to approximately 1,900 raisin-type grape growers. The questionnaire contained previously reported crop, variety, and acreage information preprinted. Producers were asked to update the information with new plantings, removals, and any other corrections; new growers were mailed a blank questionnaire. At the request of the raisin industry, an additional question was added to the grape acreage survey to gather information on raisin-type acreage that is harvested mechanically. This report summarizes data for mechanical harvest methods of raisin-type grapes only from growers that indicated their harvest method on the acreage survey.

ACKNOWLEDGMENTS

We sincerely thank the many vineyard operators, owners, and management firms for providing their information. Funding for the raisin-type grape acreage report was provided by the Raisin Administrative Committee.

Raisin-Type Grapes: Acreage by County, California, 2021 ¹

County	Total acreage	Mechanical harvest		Type of mechanical harvest			
		Acres	Percent of total acreage	Overhead trellis acres	Continuous tray acres	South side trellis acres	Open gable acres
Fresno	95,217	30,056	32	6,088	21,954	554	1,459
Kern	9,133	1,055	12	809	207	²	²
Madera	21,751	9,592	44	5,470	4,016	²	²
Tulare	5,768	709	12	275	376	²	²
Other Counties	1,899	90	5	2	6	56	230
Total	133,770	41,502	31	12,644	26,558	610	1,689

¹ Totals may not add due to rounding.

² Included in Other Counties to avoid disclosing data for individual operations.

Raisin-Type Grapes: Acreage by Variety, California, 2021 ¹

Variety	Total acreage	Mechanical harvest		Type of mechanical harvest			
		Acres	Percent of total acreage	Overhead trellis acres	Continuous tray acres	South side trellis acres	Open gable acres
Black Corinth	1,243	439	35	184	204	²	²
Dovine	433	240	55	131	²	²	²
Fiesta	16,405	7,842	48	5,793	1,979	²	²
Selma Pete	6,706	4,321	64	1,872	²	²	1,242
Thompson Seedless ³	108,225	28,582	26	4,591	23,089	562	340
Other Raisin-Type	758	79	10	73	1,287	48	107
Total Raisin-Type	133,770	41,502	31	12,644	26,558	610	1,689

¹ Totals may not add due to rounding.

² Included in Other Raisin-Type varieties to avoid disclosing data for individual operations.

³ Minor adjustments were made to the Thompson Seedless total acreage after the Grape Acreage Report was released.

MECHANICAL HARVEST METHODS

OVERHEAD TRELLIS – Grapes are dried directly on the vine, forming a canopy over the rows. It allows the mechanical grape harvester to get underneath and gather the dried fruit.

SOUTH SIDE TRELLIS – In an east-west row orientation vineyard, an angled cross-arm is added to each trellis stake to support two wires on which fruiting canes are tied. The southern exposure of the fruit facilitates drying. The raisins may be harvested mechanically with a south side harvester.

CONTINUOUS TRAY – Grapes are mechanically harvested and laid out on a continuous (rather than individual) thin sheet of paper where they dry in the sun for two to three weeks.

OPEN GABLE – Trellis wires are connected between rows of V-shaped supports. The unique V-shape lets in additional sunlight and traps the heat. This greatly improves ripening and drying. Raisins are harvested mechanically with a harvester that has been modified to place the raisins in bins instead of gondolas.