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# Raisins

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#### Introduction

In the 18<sup>th</sup> century, Spanish missionaries brought their grape-growing and winemaking knowledge to Mexico, California and other areas within the United States. Other than fresh grapes and wine, the missionaries made raisins from Muscat grapes. Eventually, the San Joaquin Valley in California became the most desirable location for raisin production due to its long hot growing season and abundant water supply (California Raisin Marketing Board - History, 2014).



In the late 1800s, an English immigrant, William Thompson, developed the Thompson seedless grape, which currently makes up 90 percent of the total U.S. raisin supply. The remaining percent of raisins mainly come from the varieties Selma Pete, Fiesta, DOVine, Zante Currant, Muscat, Monnuka, and Sultana. Raisins are the most popular dried fruit in the United States, and California is the only state in the United States that commercially produces raisins (Bhat, 2006) (California Raisin Marketing Board - History, 2014).

#### **Marketing Channels**

According to the National Agricultural Statistics Service, the marketing season for California raisins is from June 5 to July 31 (NASS, 2015).

The Raisin Administrative Committee (RAC) was established through the federal Raisin Marketing Order. It regulates raisins produced from California grapes and has authority to determine the quality, volume and price of raisins that may be shipped by handlers in any marketing channel or that must be placed in a reserve pool for the RAC to dispose. In years of oversupply, the RAC can also implement the Raisin Industry Diversion Program, in which growers voluntarily participate in programs aimed at reducing supply. Program participants are reimbursed for either removing vines or spur pruning to reduce fruit production (due to a recent U.S. Supreme Court decision, these provisions are currently suspended, being reviewed, and will be amended) (Raisin Administrative Committee, 2015) (USDA – AMS, 2015).

Green grapes have about 24 percent sugar. However, by reducing water in grapes, the proportion of sugar increases to roughly 60 percent by weight in raisins. It takes between 4 to 4.5 pounds of green grapes to make a pound of raisins (Martin & Mason, 2009).

Another way to add value to your raisins is by processing them. Raisin paste can be used as a binder in fruit bars in place of other, more expensive fruit pastes, such as date paste. Raisin paste can add healthy fiber to baked goods, and its rich deep color can add visual appeal. Raisin juice concentrate can be used as a natural coloring agent and can add flavor to sauces and marinades, as well as be used as syrup for yogurts, ice cream and chocolate milk. Raisins also have antimicrobial properties, thus adding value to products in which they're used by extending the shelf life (Fuentes, 2014).

Golden raisins account for 4 to 6 percent of the total raisin crop. Processing your crop to produce Golden raisins is another way to add value. Due to their beautiful golden color they are often used in more festive baked goods and recipes. Golden raisins are produced from the same grape varieties as sun-dried raisins; however, they are dried differently. Once picked, Golden raisins are immediately dehydrated and are treated with sulfur dioxide to produce their color (California Raisin Marketing Board – Harvest Methodology, 2014).

### Production

For the 2021 year, 1.07 million tons of fresh and processed raising were produced. Fresh raisins were sold for \$1,300 per ton and processed raisins sold for \$369 per ton, which totaled to \$397.8 million (NASS 2022.)

California raisin acreage (essentially accounting for all U.S. raisin acreage) peaked in 2000 at 280,000 acres. Since then, bearing acreage has declined. In 2014 the bearing acreage for raisins was 190,000 acres (ERS, 2015). In 2021 California continued to lead most acres of raisins at 136,000 acres (NASS 2022).

The United States and Turkey take turns as top raisin producer. Currently, Turkey is the leading producer of raisins as well as the largest exporter of raisins. (FAS, 2017).

Raisin production was once one of the most labor-intensive crop activities in North America, needing 40,000 to 50,000 workers for a typical six-week harvest, cutting bunches of green grapes, and laying them to dry in the sun on paper trays. Due to labor shortages, another method known as dried-on-the vine (DOV) is now also being used. DOV facilitates machine harvesting of the dried raisins, eliminating the need for large labor forces (California Raisin Marketing Board – Harvest Methodology, 2014) (Martin, 2014). Varieties that ripen early in the season are best suited for the DOV method reducing the risk associated with rain damage (Fidelibus, et al, 2008).

### **Exports/Imports/United States Consumption**

The United States is a net exporter (more exports than imports) of raisins. Only Turkey and Iran export more raisins (FAS, 2018).

For the 2021-2022 year, U.S. exports were 159.6 million tons (FAS, 2018).

Per person consumption of raisins was roughly 1.3 pounds in 2017. Annual consumption of raisins fluctuates, with the lowest being 1.2 pounds per person in 1976, and the highest being 2.5 pounds per person in 1988 (ERS, 2021).

### Management

As with all grape vineyards, vineyards grown for raisin production require certain establishment and management practices for a successful operation, such as location of the vineyard; site preparation; trellis system; planting (including spacing and vine variety); training and pruning; irrigation pest management; fertilization; and harvesting. Before establishing any commercial vineyard, it is best to consult with an expert in viticulture from your area (University of California – Cooperative Extension, 2003).

One of the more distinct differences when managing a vineyard for raisin production is how the grapes are dried. Grapes produced for raisins can be dried on paper trays, dried on the vine (DOV) or mechanically dried (as is the case for Golden raisins) (California Raisin Marketing Board – Harvest Methodology, 2014) (Lee, 2010).

The most traditional method of drying grapes involves handpicking the grapes and sun drying them on individual paper trays. This method is said to produce the best quality raisins; however, it is costly due to the considerable manual labor involved (California Raisin Marketing Board – Harvest Methodology, 2014) (Western Farm Press, 2010).

The continuous tray method and the DOV method for drying grapes almost always utilize machine harvesting, thus cutting back on manual labor. The continuous tray method is similar to the traditional method; however, a machine combs through the grape vines releasing the grapes instead of a person. The machine then lays the grapes between the vineyard rows on long continuous paper trays to be sun dried. Grapes dried by traditional and continuous tray methods become raisins within two to three weeks. The DOV method employs some manual labor along with machine harvesting. Workers must first sever the canes from the plant, thus stopping the intake of water and nutrients to the fruit. The grapes are then left on the trellis to dry. Roughly

eight weeks later a machine harvester drives under the trellis combing out the raisins (California Raisin Marketing Board – Harvest Methodology, 2014). A newer raisin grape variety named Sunpreme is currently being researched for its ability to dry on the vine without its canes needing to be severed. Nurseries are expected to release cuttings of the variety sometime in 2017 (Romero, 2015).

Although machine harvesting cuts back on manual labor, there are some costs involved. Mechanical harvesters are themselves a large expense and can take several seasons to be paid for. Grape vines that are machine harvested often must be trellised in a special manner for the machine to access the grapes appropriately (California Raisin Marketing Board – Harvest Methodology, 2014) (Western Farm Press, 2010).

# Financial

Helpful enterprise budgets for raisins:

- 2003 Sample Costs to Establish a Vineyard and Produce Dried-On-Vine Raisins (Early Maturing Varieties) in the San Joaquin Valley, University of California – Cooperative Extension.
- 2006 Sample Costs to Establish and Produce Grapes for Raisins (Tray Dried) in the San Joaquin Valley, University of California Cooperative Extension.

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