CANTALOUPES

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Presented by





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This production summary provides an overview of growing, harvesting, and post harvesting practices. There are some common practices that many large commercial growers use when producing cantaloupes, and though there are variations in these practices, having an understanding of the most common methods used will be helpful when carrying out regulatory activities.

By the end of this summary, you will be able to:

- 1. List the top cantaloupe producing regions in the U.S.
- 2. Identify common farming practices used in the production of cantaloupes.



Cantaloupes grow on a vine and, similar to squash, pumpkin, zucchini, watermelon, and cucumbers, belong in the Cucurbitaceae family. In the U.S., cantaloupes are identified as being one of

four varieties: Western Shipper types, Athena type (which are both characterized by a lattice-like textured gray-colored skin), less common Harper Tropical types (which have light green skin), and old line heirloom/Tuscan types (which are available in many colors and textures).



China is by far the largest producer of cantaloupes worldwide. However, melons are grown in many temperate countries around the world, including the U.S., which is the 5th largest global producer.

In the U.S., California is the largest producer of cantaloupes producing almost three times as much as Arizona, the second largest producing state. Other states with significant amounts of production include Georgia, southern Indiana, and eastern Colorado (Fig 1). In California, there are two primary growing areas: the southern desert valley area that includes Imperial and Riverside Counties, and the more northern San Joaquin Valley that includes Fresno, Kern, Kings, Merced, and Stanislaus Counties.



Cantaloupes are warm-season annual plants that are sensitive to freezing temperatures. Growers use methods to protect the plants from cooler temperatures and promote early growth,

such as shaping the beds with a deep trench to collect heat for plantings done early in the year.

Cantaloupes grow best in soil with good drainage, such as sandy or loam soils. These soils are composed mostly of sand, silt, and a smaller amount of clay that help prevent root rot.



Fig 1 - Top Cantaloupe Producing States in the US



Raised tilled beds, 40 to 80 inches in height, are prepared for planting. Seeds are planted in a single line, three to six inches deep. Some producers cover the seed beds with polyethylene sheets. This helps keep the soil warm, retains soil moisture, and speeds up the germination process. Once the seeds have germinated, the polyethylene caps are removed. In areas outside of California, the polyethylene caps are generally left on top of the rows to extend the harvest into September. When this method is used, seedlings are often placed at regular intervals in holes made in the polyethylene cover.

Cantaloupe flowers require bee pollination. Weather conditions that reduce bee activity such as cold, rain, wind, or prolonged cloud cover tend to reduce yields.

In California, planting is staggered between the two growing regions to assure a continuous supply of melons from May through October. Cantaloupes grown in the southern desert valley are planted from late December through March and are harvested from May through early July. In the San Joaquin Valley, planting begins in February and continues through July, with harvest from late June through October.

Most California cantaloupe fields are furrow irrigated, but many are drip irrigated. Drip irrigation lines are typically buried in the center of the soil beds to deliver the water directly to the root system. Some growers may use drip irrigation that is placed on top of the row prior to capping with polyethylene. Other types of irrigation systems sometimes include center pivot, linear move, traveling big gun, or portable pipes.

Preventing overwatering and minimizing fruit contact with moist soil is important because this can result in surface spots, fruit rot, or transfer of pathogens. Depending on the soil type and location, cantaloupe plants may require applications of nitrogen, phosphorus, potassium, and other microelements. Fertilization, or chemigation, is accomplished by chemical or compost application, or by injection into the irrigation water prior to distribution through drip lines.

Like most commodities, annual and perennial weeds can be serious problems for production yields. Some producers apply herbicides to the fields before planting seeds. After planting, most fields are weeded manually and also thinned. Thinning alleviates overcrowding and damage to the mature fruit. Cantaloupes are susceptible to damage from a variety of insect, nematode, viral, and fungal agents so pesticide applications may be required during cantaloupe production.



Cantaloupes are normally hand-harvested when the fruit will cleanly separate from the vine with a slight pressure. This stage is called "full-slip." Depending on the variety, the external color may still be

greenish. Fields are typically harvested eight to 10 times over a 10 to 14 day period.



PACKING

Cantaloupes are either packed directly in the field or transported to another location for final packing. Field packed melons are collected on a mobile platform that moves slowly down a row. The individual melons

are harvested and placed on the platform. The melons are then placed in retail or wholesale boxes. Those boxes are closed and stacked on pallets on an open bed platform truck and transported to a location where the melons are cooled. Alternatively, melons can be taken to an offsite packinghouse. For this type of packing, loose melons are loaded from the field onto a gondola, trucked to a packinghouse, and offloaded. Some operations immerse the melons in a flotation tank and others place them on a conveyor line, which leads to a water flume. The cantaloupes are brushed to remove soil, rinsed with a sanitizing solution, dried, sized, and packed. After packing, melons are cooled by forced air to increase shelf life and reduce the risk of pathogen growth. Properly cooled cantaloupes can be stored two or more weeks at 34° to 40°F. Once cooled, melons are shipped to terminal markets where they are distributed to retail shelves.





Having a basic understanding of the way cantaloupes are grown, harvested, and cooled will provide the basic background information that will be helpful to regulators when completing inspections or investigations in the field.

The agricultural practices described in this production summary are common on most large commercial farms like those found in major cantaloupe producing regions in the United States. There are undoubtedly variations in these practices depending on the region, operation size, and individual grower preferences. This is especially true of farms outside of the U.S.

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