

How Dates Are Grown and Harvested

Date palms are grown either from offshoots of the mother tree or from seeds. To insure desired qualities, most commercial date trees are from offshoots. The scientific name for commercially grown date palms is *Phoenix dactylifera*, feather palms that may grow 100 feet or more planted in gardens or orchards. Since date palms are *dioecious* -- male and female -- commercial date gardens have one male tree and up to 50 female trees per acre. Females bear the fruit; males produce pollen.

Female trees must be pollinated in order to produce fruit; natural pollination by the wind is not efficient. Hand pollination, practiced for thousands of years, is one of man's oldest agricultural techniques. In both male and females, large clusters of flowers are produced in a spathe or sheath that grows in the axils of the previous year's growth.

The most common method of hand pollination is to cut the stands of freshly opened male flowers and invert two or three of them between the strands of female flower cluster during the first 2 or 3 days after the clusters open. In mechanical pollination, pollen is collected from the male, mixed with a carrier such as flour, and mechanically dusted into the just opened female cluster.

Feet in Water, Head in Fire

Date palms are said to live with "their feet in water and their heads in the sun," which means they must have plenty of ground water, yet thrive in arid, high heat to produce fruit. This is why date palms grow only in hot, dry desert climates throughout the world.

Though the date palm is drought resistant, it uses ground water lavishly and need regular irrigation to produce a good commercial crop. The exact amount of water depends on the weather, soil and age of the trees. Younger trees need less water more frequently, while mature gardens may be irrigated by flooding every 7 to 14 days during midsummer and every 20 to 30 days during winter. In heavier soils, irrigation is less frequent.

Wind and rain during ripening may cause considerable damage to the crop, creating conditions for yeast, fungal and bacterial infestation. Paper cones placed over ripening bunches helps protect from wind, rain and insects.

Dates ripen in six to seven months, harvested from September through December. Date harvesters or *palmeros* climb up ladders or are lifted by a mechanical lifts or towers high into the tops of mature trees. Hand harvested dates are picked into flat baskets that are lowered to the ground where the fruit transferred to wooden boxes and hauled to the packing house.

Mechanical harvesting, now standard practice in the Coachella Valley, still requires *palmeros* to ascend the trees to cut off mature bunches, dropping them into mechanical containers that vertically shake off the ripe dates. As dates ripen at various rates, two properly spaced mechanical harvests are required.

Dates are fumigated and cleaned with water sprays, roller brushes, or soft towels, dried with warm air and graded by hand (see Grades below) in the packing house. Unless intended for immediate consumption, dates with very high moisture content must be dried and stored at low temperatures. Those that are too dry may be re-hydrated with steam at controlled times and temperatures.

Grades and Quality

Based on a total of 100 points, USDA rating factors include: color, 20 points; uniform size, 10 points; absence of defect, 30 points; and character, 40 points.

U.S. Grade A or U.S. Fancy are given to whole or pitted dates of one variety that achieve a score of 90 and above. They possess good color, are practically uniform in size, free from defects, and possess a good character.

Lesser grades include of dates include U.S. Grade B or U.S. Choice; and U.S. Grade C or U.S. Standard. Defects that reduce their score include damage such as discoloration, broken skin, deformity, decay, puffiness, scars, sunburn, insect injury, improper hydrating, and mechanical injury, lack of pollination, black nose, side spot, black scald, improper ripening, mold, dirt, and infestation of any kind.

Quality refers to the flavor, texture and color. Dates that are acceptable in other respects have adequate sugar content. In general dates should be soft with a smooth texture.

Date Products

Dates are available in a variety of forms – whole pitted and un-pitted, dehydrated pieces, diced dates, extruded date pieces, macerated, date paste, and syrup

Sources:

“Date Varieties and Suggested Uses” published by Oasis Date Gardens, 59-111 Highway 111, Thermal, CA 92274

“Fruits & Vegetable Facts & Pointers” by R.A. Seelig, published by United Fresh Fruit & Vegetable Association, 101 19th Street, NW Washington, DC, August, 1974.

“Romance of the Date,” “A Date Glossary: From Barhi to Zahidi” by David Karp published by Los Angeles Times, Food Section H, Wednesday, September 21, 2001.