



PERSIMMON

PERSIMMON (*Diospyros kaki* L.), Persian “**ĶORMĀLU**,” of the *Ebenaceae* or ebony family, is an edible fruit with an astringent taste that turns sweet when fully ripe. This species, also called Chinese, Japanese, *oriental persimmon* or simply kaki persimmon, has been introduced from China to Iran and acclimatized to various climatic conditions of Iran. The genus *Diospyros* (Gk. *Diós pyrós*, lit. “Zeus’s wheat”) has given rise to popular interpretations, such as “divine fruit” or “fruit of god” (Janick, 2005). In Persian, *ķormālu*, literally means “date-plum,” referring probably to its sweetness, shape, and color. The word persimmon (lit. “dry fruit”) is an Algonquian word and is not related to Persia.



Other species include Caucasian persimmon (*Diospyros lotus* L.) that grows wild in the forests of the southern Caspian littoral in Iran, often referred to by the local names *kormandi* and *kalhu*, and is similar to American persimmon or common persimmon (*Diospyros virginiana* L.). These two species are used as rootstocks for *Diospyros kaki*. *Kaki* has practically replaced *Diospyros lotus* in Europe and West Asia.

The persimmon tree is typically either male or female, but occasionally both types of flowers are produced on the same tree. The sexual expression of a tree may vary from year to year. Some varieties produce seedless fruit by parthenocarpy, i.e., without pollination, which is preferred by consumers.

The unripe, firm persimmon has a high tannin content that makes it astringent and bitter. These water-soluble tannins have strong protein binding. As the fruit ripens, the tannin level is much reduced, giving a sweet and slightly tangy taste to the fruit with a thick, pulpy, jelly-like texture encased in a waxy, thin-skinned shell (Matsuo and Ito, 1978). The fruits ripen in late fall, when the leaves have mostly fallen off the tree. Often, the fully colored, unripe persimmons are harvested and allowed to rest and soften. The high content of the carotenoids in the flesh and peel, in particular betacryptoxanthin and zeaxanthin, along with some lutein, make the *kaki* fruit nutritionally valuable (Zhou et al. 2011). The phenolic extract from persimmon fruits of *Diospyros lotus* also showed that it is a potential source of

natural antioxidants (Gao et al. 2014). Beverages made of persimmon leaves are commonly used in China (Sun et al. 2011).

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