

CULTIVATION OF PERSIMMON IN INDIA

Dr. BRAJESHWAR SINGH, Dr. J.N. SRIVASTVA, Dr. V.S. VERMA¹ AND Dr. V.K. RAZDAN¹

Regional Horticulture Research Sub Station, SKUAST-Jammu, BHADERWAH (J &K) INDIA

¹Division of Plant Pathology, Sher-e-Kashmir University of Agricultural Sciences and Technology, JAMMU (J &K) INDIA

The persimmon (*Diospyros kaki*) belongs to family Ebenaceae. In India persimmon is locally called Japani phal, the Japanese fruit. It is the most important temperate deciduous tree. The major producers of persimmon are China, Japan, Brazil and Italy while U.S.A., Spain Egypt, Australia and India are the minor producers. In India, persimmon is grown in the states like Himachal Pradesh,



Jammu and Kashmir, Uttarakhand and Tamil Nadu. Persimmon resembles ripened tomatoes and thus attracts fruit lovers. The fruit is very

sweet with an admirable flavour. Persimmon makes its debut when not many fruits are there in the market. Its admirers impatiently hang around fruit markets to discover its entry to gulp the fruit and enjoy the different delight, besides being full of fragrance and rich in sugar. The fruit must be fully ripe before being consumed or else it leads to puckering of mouth due to its astringent taste of tannic acid, yet the ripe fruit is a real treat. Fruit with enormous appeal has a great demand in most of the metros and the nearby states. Persimmon fruits are delicious when still fresh, or they can be used in a variety of baked goods such as puddings, breads, and cookies. The non-astringent varieties, such as *Fuyu* and *Jirg*, may be consumed when the fruits have developed full colour. The non-astringent fruit can be eaten while still firm. The flavour and texture of the fruit are quite pleasant. However, the astringent varieties such as *Hachiya* must be softened completely before use and are preferable for use in baked goods. The tree has a compact spreading growth habit and low maintenance requirements. The ornamental beauty of its orange coloured fruit and bright red foliage in the fall makes it an attractive plant in the local landscape of the area where it is grown. The tree is winter-hardy.

Origin: The tree is native of Japan, China, Burma, the Himalayas and Khasi Hills of northern India. Different cultivars spread to Japan and Korea from China many years ago where additional cultivars were developed. In India, the fruit was introduced by European settlers around twentieth century.

Nutritional value: Persimmon fruit is rich in health promoting nutrients such as minerals, vitamins, antioxidants that are vital for optimum health. The fruits are good source of Vitamin C. It is low in calories (70cal/100g) and fats, but rich source of dietary fibre.

Cultivation

Food value per 100 g of edible portion*

Calories	77
Moisture	78.6 g
Protein	0.7 g
Fat	0.4 g
Carbohydrates	19.6 g
Calcium	6 mg
Phosphorus	26 mg
Iron	0.3 mg
Sodium	6 mg
Potassium	174 mg
Magnesium	8 mg
Carotene	2,710 I.U.
Thiamine	0.03 mg
Riboflavin	0.02 mg
Niacin	0.1 mg
Ascorbic acid	11 mg

*Average values

Soil: Persimmon grows on almost all kinds of soils. It is recommended that the soil should be well drained sandy loam with a preferred pH range of 6.5 - 7.5. The soil should be well prepared, deeply ploughed and enriched with organic matter.

Planting: Young plantation should be laid at a wide range spacing of 15 ft x 5 ft (4m x 4m) to 20 ft x 20 ft (6 m x 6 m), depending on the habit of the cultivar. A proper layout should be worked out prior to planting. In hilly terrain, contour system should be adopted. Seedlings planted in good soil and a sunny location can begin fruiting in about 5 years. In India grafted plants are transplanted with the

onset of spring.

Fertilizers: Good results have been obtained with a fertilizer mixture of 4 to 6% N, 8-10% P and 3-6% K at the rate of 500g per tree per year of age. The fertilizer is usually applied in spring, but some growers apply half dose in the spring and the other half in July. Over-fertilization or excessive amounts of nitrogen fertilizers should be avoided as it causes shedding of fruits.

Pruning: Young trees should be pruned back to a height of 2.5-3 ft, when planted and later the new shoots are thinned with a view to forming a well-shaped tree. Avoid development of weak branches which break away when they bear fruit. Annual pruning during the first 4 to 5 winters is done (as desired). If a tree tends to overbear and shows signs of decline, it should be drastically cut back to give it a fresh start.

Irrigation: Plants should be irrigated every 3 weeks on light soil and every month on heavier soil until the fruit is ready for harvest. During rainy seasons irrigation may be omitted.

Intercropping: Since it takes around five years to bear fruit, persimmon plantations can be intercropped with annuals such as pulses, grasses and leafy vegetables.

Varieties: Persimmon tree is regular bearer and bears numerous fruits. Shape of the fruit varies depending on cultivar, from spherical to heart to flattened or squash in shape. The colour of the ripened fruit varies from light yellow-orange to dark orange-red. Few varieties which are available for cultivation are:

Astringent varieties: Eureka, Hachiya, Honan Red, Saijo, Tamopan, Tanenashi and Triumph.

Non astringent varieties: Fuyu, Gosho, Imoto, Izu, Jiro, Maekawajiro, Okugosho and Suruga.

Regional Horticulture Research Sub Station, SKUAST-Jammu, Bhaderwah is successfully growing persimmon in district Doda and has disseminated the production technology among farmers across Jammu and Kashmir State.

Propagation: For rootstock, Indian persimmon called

Amlook is usually preferred. The seeds are sown with the onset of spring as low temperature hampers seed germination. Sandy loam soil rich in organic matter is desired for raising nursery. Partially shaded and insect-pest protected area is suitable for nursery raising. Seedling rootstocks are chip-budded either at the beginning of August or tongue grafted at the beginning of April. The best results are obtained with chip budding performed in April.

Pests and diseases:

Persimmon does not require any special plant protection measures since it is relatively free from serious pests and diseases. Occasional pests include white flies, thrips which cause skin blemishes and a mite that is blamed for the "brown lace collar" near the calyx. Premature fruit fall is observed due to infestation by the mite, *Aceria diospyri*. Spraying with Sevin 85 ppm 3 times at 30-day intervals right after petal fall controls the mite and increases yield. San José scale is also seen rarely which can be managed by a dormant application of soap-diesel oil emulsion.

Harvest and yield: The fruits should be harvested when it turns bright red. Generally, month of October is the right time for harvest, when the fruit is soft, but not completely ripe. A fully grown tree yields around 150-200 kg fruit annually, but yield varies with the cultivar and the cultural practices adopted.

Storage: Being a climacteric fruit, persimmon has medium to long period of storage. It can be stored for two to three months at a temperature of 0-2°C, because there are two limiting factors viz., cold damage and mould caused by *Alternaria alternata*.

Processing: Persimmon fruit is rich in sugars (16-20%) and is usually eaten out-of-hand or cut in half and served with a spoon, preferably after chilling. The flesh may be added to salads, blended with ice cream mix or yoghurt. The fruit can be used in cakes, gingerbread, cookies, gelatine desserts and puddings. Jam or marmalade can also be made out of fruit pulp. The pureed pulp can be blended with cream, cheese, orange juice, honey and a

patch of salt to make an excellent dressing.

RNI : UPENG/2010/03673

ONLINE ISSN : 2231-6434

ISSN : 2229-7278

INTERNATIONAL RESEARCH JOURNAL OF AGRICULTURAL ECONOMICS AND STATISTICS

Internationally Refereed Research Journal

Visit : www.hindagrihorticulturalsociety.co.in