

Prunus armeniaca

L.

Rosaceae

LOCAL NAMES

English (Apricot)

BOTANIC DESCRIPTION

Prunus armeniaca is a small to medium sized deciduous tree with spreading shape, typically fast growing to 3.6 m tall and wide, but able to get much larger and taller reaching 14 m in its native range, size varies with the variety and rootstock.

Leaves elliptic to cordate, with acute to acuminate tips, about 7.5 cm wide, finely serrate with red-purple petioles, 1.27-2.5 cm long.

Flowers sessile, white, tinged dusky red, borne solitary in leaf axils of 1-yr old wood, or in leaf axils on short spurs in clusters, with five regular sepals and petals and many stamens opening early in spring.

Fruit a drupe, globose to slightly oblong, about 3.8-6.4 cm wide, with a prominent suture, yellow to orange and red blush, pubescent when young, but nearly smooth when ripe. The pit is generally smooth, enclosing a single large seed. Flesh color is mostly orange, but a few white-fleshed cultivars exist.

BIOLOGY

Apricot trees are fairly precocious, and begin fruiting in their second year, but substantial bearing does not begin until 3-5 years. The flowers are hermaphrodite and are pollinated by insects. The plant is self-fertile, flowering mostly between March and April, fruit ripening July to September. The bloom to harvest season therefore takes about 70-100 days.



Leaves; taken at: Lotusland - Santa Barbara, CA (W. Mark and J. Reimer)



Bark; taken at: Lotusland - Santa Barbara, CA (W. Mark and J. Reimer)



Fruit (close-up); taken at: Lotusland - Santa Barbara, CA (W. Mark and J. Reimer)

ECOLOGY

Dry, rocky hillsides or on mountain slopes in sparse forests.

BIOPHYSICAL LIMITS

Altitude: 700-3000 m

Temperature: 7.2-40°C. Chilling requirements range from 400-1000 hrs, winter minimum of -24°C

Rainfall: 600-1295 mm

Soil type: deep, fertile, well-drained loamy soils with pH 6.5-7.5

DOCUMENTED SPECIES DISTRIBUTION

Native: China

Exotic: Afghanistan, Armenia, Australia, Czechoslovakia (Former), France, Greece, Hungary, Iran, Iraq, Italy, Morocco, New Zealand, Pakistan, Romania, South Africa, Spain, Syrian Arab Republic, Turkey, US



The map above shows countries where the species has been planted. It does neither suggest that the species can be planted in every ecological zone within that country, nor that the species can not be planted in other countries than those depicted. Since some tree species are invasive, you need to follow biosafety procedures that apply to your planting site.

PRODUCTS

Food: The fruit can be eaten fresh, canned, dried, and made into preserves or juice, used for jams or flavourings. It is a good source of vitamin A and is also high in potassium. Seeds can be used as a substitute for almonds in making marzipan, or crushed for almond-like cooking oil. The fruit also contains sugars, protein, ash, pectin and vitamin C. The French liqueur Eau de Noyaux is prepared from bitter apricot kernels. An edible gum is obtained from the trunk.

Medicine: Apricot fruits contain citric and tartaric acid, carotenoids and flavonoids, which are nutritious, cleansing and mildly laxative. They are a valuable addition to the diet working gently to improve overall health. The salted fruit is anti-inflammatory and antiseptic. It is used medicinally in Vietnam in the treatment of respiratory and digestive diseases. The flowers are tonic, promoting fecundity in women. The bark is astringent. The seed is analgesic, anthelmintic, antiasthmatic, antispasmodic, antitussive, demulcent, emollient, expectorant, pectoral, sedative and vulnerary. It is used in the treatment of asthma, coughs, acute or chronic bronchitis and constipation. The seed contains 'laetrile', a substance that has also been called vitamin B17. This is said to have a positive effect in the treatment of cancer, but with little evidence. In small amounts this exceedingly poisonous compound stimulates respiration, improves digestion and gives a sense of well-being.

Essential oils: Apricot oil is used as a substitute for Oil of Almonds, which it very closely resembles. It is far less expensive and is used in cosmetics, for its softening action on the skin. It is often added to genuine Almond oil and used in the manufacture of soaps, cold creams and perfumery. It is also used for lighting.

Apiculture: Apricot flowers is a source of nectar to honeybees.

Tannin and dyestuff: A dark grey to green dye can be obtained from the leaves and the fruit.

Timber: The wood is handsome, hard, and durable and is used in making agricultural implements' handles.

Poison: Like all stone fruits, apricot leaves, flowers, and especially seeds and bark contain toxic compounds which generate cyanide, which is of course toxic or lethal in large doses.

SERVICES

Ornamental: The showy nature of its flowers makes apricot a candidate for ornamental planting.

Reclamation: A suitable species in revegetation programmes.

TREE MANAGEMENT

Apricot trees can be planted in solid blocks. Spacing of about 6-7 m between trees and rows are necessary for vigorous trees on apricot stocks, but closer spacing can be used for less invigorating rootstocks.

Pruning should be done in the summer to allow rapid healing and trees should be trained as open center trees, to improve fruit color and reduce unevenness of ripening. Apricots can be pruned fairly heavily, since they bear too many fruits and are vigorous. Severe pruning is needed to renew fruiting wood. Generally, all new growth and interfering wood should be removed each year, to expose the spurs to maximal sunlight. Moderate regular watering is necessary with good drainage.

Cultivation of apricots requires routine fungicide applications since trees often succumb to bacterial diseases. Tomatoes, potatoes and oats should not be grown near apricots since their roots have an antagonistic effect on those of apricot.

Apricots for fresh consumption or processing should be picked by hand and carefully handled. Fruits should be picked over 2-3 times each day, when fruits are firm. Trunk shaking can be used for processed fruit.

GERMPLASM MANAGEMENT

Seed requires 2-3 months cold stratification and is best sown in a cold frame as soon as it is ripe. The seed should be protected from mice etc. Germination can be rather slow, sometimes taking 18 months.

PESTS AND DISEASES

Apricots are relatively free of pests and diseases. However, in areas where humidity tends to be high, brown rot disease at harvest causes fruit loss and can be very serious. It is also susceptible to honey fungus and to all post-harvest diseases (e.g., *Rhizopus* fruit rot). Aside from the plum curculio, the occasional codling moth, and stray peach tree borer, few insects bother these trees. Trees should be protected from gophers when planting.

FURTHER READING

- Allardice P. 1993. A - Z of Companion Planting. Cassell Publishers Ltd. London.
- Bean W. 1981. Trees and Shrubs Hardy in Great Britain. Vol 1 - 4 and Supplement. Murray
- Bown D. 1995. The Royal Horticultural Society encyclopedia of herbs and their uses. London, Dorling Kindersley.
- Chevallier. A. 1996. The Encyclopedia of Medicinal Plants. Dorling Kindersley. London
- Duke JA & Ayensu ES. 1985. Medicinal Plants of China. Reference Publications, Inc. Algonac, MI.
- Facciola S. 1990. Cornucopia - A Source Book of Edible Plants. Kampong Publications. Vista, CA.
- Gur A. 1985. Rosaceae - deciduous fruit trees. In: A.H. Halevy (ed). CRC handbook of flowering, volume 1. CRC Press, Boca Raton, Fla.
- Huxley A. 1992. The New RHS Dictionary of Gardening. 1992. MacMillan Press. London.
- Mehlenbacher SA, Cociu V & Hough LF. 1990. Apricots (Prunus). In: J.N. Moore and J.R. Ballington (eds). Genetic resources of temperate fruit and nut crops. Acta Horticulturae 290.
- Nguyen Van Dan & Doan Thi Nhu. 1989. Medicinal Plants in Vietnam. World Health Organisation.
- Ogawa JM, Zehr EI, Bird GW, Ritchie DF, Uriu K & Uyemoto JK. 1995. Compendium of stone fruit diseases. Amer. Phytopathological Soc., St. Paul, MN.
- Parmar C & Kaushal MK. 1982. Wild Fruits of the Sub-Himalayan Region. Kalyani Publishers. New Delhi.
- Paunovic SA. 1988. Apricot germplasm, breeding, selection, cultivars, rootstocks, and environment. Acta Horticulturae 209.
- Simmons AE. 1972. Growing Unusual Fruit. Walker and Company, New York.
- Usher G. 1974. A Dictionary of Plants Used by Man. Constable, London.
- Yeung Him-Che. 1985. Handbook of Chinese Herbs and Formulas. Institute of Chinese Medicine, Los Angeles.

SUGGESTED CITATION

Orwa C, Mutua A, Kindt R, Jamnadass R, Simons A. 2009. Agroforestry Database: a tree reference and selection guide version 4.0 (<http://www.worldagroforestry.org/af/treedb/>)