Celtis australis

L.

Ulmaceae

 nettle wood, brimji

LOCAL NAMES
 English (the honey berry tree,European hackberry,hackberry,nettle tree,mediterranean hackberry); French (micocoulier); German (Zurgelbaum); Hindi (ku,batkar,khark,khirk,roku); Italian (perlaro,bogolaro); Nepali (khari); Spanish (alneez,lodono); Trade name (nettle wood,brimji)

BOTANIC DESCRIPTION
Celtis australis is a medium to large-sized deciduous tree with straight stem up to 25 m tall and 60 cm dbh; crown spreading; bark bluish-grey, smooth or with horizontal wrinkles when older; branchlets and twigs smooth and greenish-grey.

Leaves alternate, obliquely ovate to lanceolate, 7-13 cm long and 3-7 cm wide, base serrate or sometimes smooth, strongly 3-neved.

Flowers small, greenish, in axillary shoots on year-old twigs.

Fruits a drupe, ovoid or cylindrical, 6-12 mm long, yellow then purple or black, fleshy with one white seed.

BIOLOGY
Old leaves are shed in December-January, new ones appear in March-April simultaneously with flowers. Fruits ripen in October-November. Seeds are dispersed by wildlife and birds. The species is self-compatible, and bears bisexual and male flowers.

Fruits and leaves. (Arnoldo Mondadori Editore SpA)

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ECOLOGY
C. australis is a tree of sub-tropical to temperate climate. In western Himalaya forests, it grows in association with horse chestnut, maple, birdcherry and oak in moist localities of blue pine and deodar forests. In Turkey, the tree occurs on open rocky slopes, thickets and maquis but it is not gregarious. Most of the areas where it grows experience frost in winter.

BIOPHYSICAL LIMITS
Altitude: 500-2 500 m
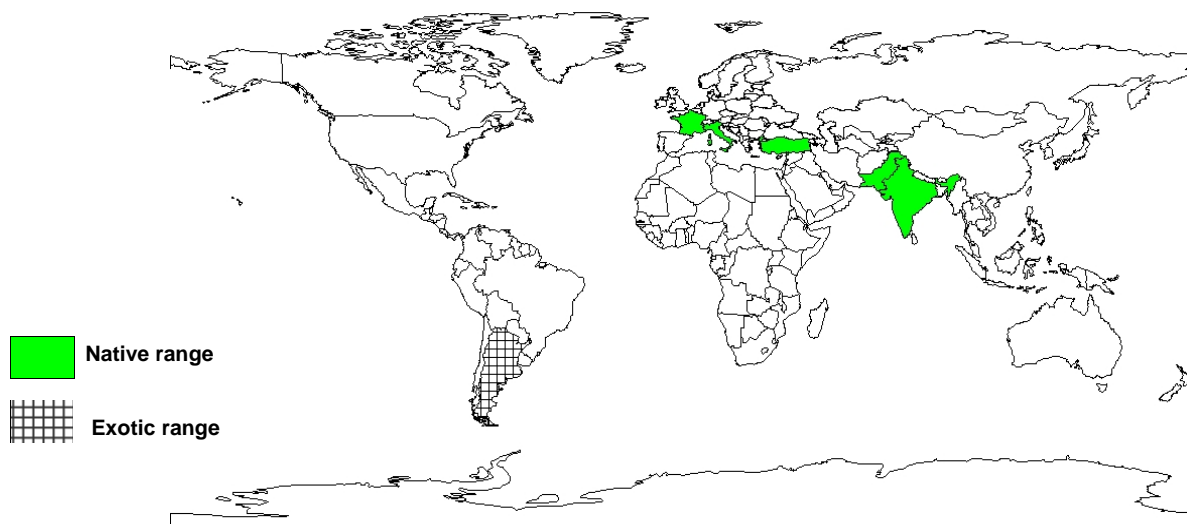Mean annual temperature: -8-38 deg C
Mean annual rainfall: above 500-2 500 mm
Soil type: It is tolerant of a wide range of soils, preferring deep loamy silts and clays; it can also survive on shallow, gravelly and rocky sites.

DOCUMENTED SPECIES DISTRIBUTION

Native: France, India, Italy, Pakistan, Turkey, Yugoslavia (Former)
Exotic: Argentina

Native range

Exotic range

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.

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PRODUCTS

Food: Leaves and fruits are eaten in soups and salads.

Fodder: Leaves and twigs are lopped for fodder in the dry season; quality is reported to be high, with 15% crude protein, good palatability and digestibility.

Fibre: Inner bark yields a tough fibre used in ropes and for weaving mats.

Timber: C. australis wood is of good quality and is suitable for poles.

Poison: Extracts are used as vermifuge.

Medicine: Extracts from the tree are used to treat edema, headache and boils.

SERVICES

Shade or shelter: The European hackberry is planted for shade.

Nitrogen fixing: Vesicular arbuscular mycorrhiza associated with the tree are Glomus fasciculatum and G. macrocarpum, followed by G. constrictum, G. fulvum, G. mosseae and Sclerocystis coremioides.

Ornamental: The tree is planted as a street specimen.

Boundary or barrier or support: Trees are planted around cultivated fields.

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TREE MANAGEMENT
Planting out is carried out in December-January (autumn), when seedlings are leafless. Weeding and protection from livestock and fire are essential both in the nursery and after planting. C. australis is a light demander and is adversely affected by drought. The tree pollards and coppices well.

GERMPLASM MANAGEMENT
Seeds are obtained by rubbing the flesh off fruits as they turn yellow. There are 4 000-10 000 seeds/kg. Pretreatment involves placing seeds in boiling water and then soaking for 48 hours. Germination starts in about 10 days and is complete in 3 weeks. Germination of fresh seed is about 70 %.

PESTS AND DISEASES
Defoliators are the most serious pests including the larvae of Libythea lepita lepita, L.myrrha sanguinalis, Diagora persimilis and the beetles of Mimastra cyanura. The Coleoptera Diorhabda lusca is a serious pest of the foliage and Aceria bezzii, an eriophyid mite injures the buds of C. australis L. The fungus, Helicoeras celtidis has been isolated from C. australis leaves in Argentina and Ganoderma lucidum causes decay.

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