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## Ceratonia siliqua - L.

<b>Common Name</b>	Carob, St. john's bread
<b>Family</b>	Fabaceae or Leguminosae
<b>Synonyms</b>	
<b>Known Hazards</b>	None known
<b>Habitats</b>	Rocky places near the sea shore[89].
<b>Range</b>	S. Europe.
<b>Edibility Rating</b>	
<b>Medicinal Rating</b>	
<b>Care</b>	



[http://commons.wikimedia.org/wiki/File:Illustration\\_Ceratonia\\_siliqua0.jpg](http://commons.wikimedia.org/wiki/File:Illustration_Ceratonia_siliqua0.jpg)



<http://commons.wikimedia.org/wiki/User:Helix84>

### Summary

Bloom Color: Green. Form: Rounded, Vase.

### Physical Characteristics



Ceratonia siliqua is an evergreen Tree growing to 15 m (49ft 3in) at a medium rate.

It is hardy to zone (UK) 8 and is frost tender. It is in leaf 12-Jan It is in flower from Aug to October. The flowers are dioecious (individual flowers are either male or female, but only one sex is to be found on any one plant so both male and female plants must be grown if seed is required) and are pollinated by wasps and flies. It can fix Nitrogen.

USDA hardiness zone : 9-11

Suitable for: light (sandy) and medium (loamy) soils, prefers well-drained soil and can grow in nutritionally poor soil. Suitable pH: acid, neutral and basic (alkaline) soils and can grow in very alkaline soils. It cannot grow in the shade. It prefers dry or moist soil and can tolerate drought. The plant can tolerate strong winds but not maritime exposure.

### Habitats

Woodland Garden Canopy; Secondary; South Wall. By. West Wall. By.

### Edible Uses

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Edible Parts: [Seed](#); [Seedpod](#).

Edible Uses: [Chocolate](#); [Coffee](#); [Egg](#); [Gum](#).

Seedpods - raw or ground into a powder[1, 7, 74, 89, 177]. The seedpods are filled with a saccharine pulp and can be eaten both green or dried[2]. They are very sweet but fibrous[183], the pulp can be used as a chocolate substitute in cakes, drinks etc[183]. It is rich in sugars and protein[183]. The pods contain about 55% sugars, 10% protein[100] and 6% fat[74]. Seed - rich in protein. A flour is made from them which is 60% protein, it is free from sugar and starch and is suitable for baking[64, 171]. It can be used as a chocolate substitute[148]. An edible gum is extracted from the seed, a substitute for Gum Tragacanth (see Astragalus species)[64]. A stabilizer and thickening agent[142, 183], it is also used as an egg substitute[61, 64, 142]. The roasted seed is a coffee substitute[61, 105, 183].

## Medicinal Uses

*Plants For A Future can not take any responsibility for any adverse effects from the use of plants. Always seek advice from a professional before using a plant medicinally.*

[Antidiarrhoeal](#); [Antiemetic](#); [Astringent](#); [Demulcent](#); [Emollient](#); [Purgative](#).

The pulp in the seedpods of carob is very nutritious and, due to its high sugar content, sweet-tasting and mildly laxative[254]. However, the pulp in the pods is also astringent and, used in a decoction, will treat diarrhoea and gently help to cleanse and also relieve irritation within the gut[240, 254]. Whilst these appear to be contradictory effects, carob is an example of how the body responds to herbal medicines in different ways, according to how the herb is prepared and according to the specific medical problem[254]. The seedpods are also used in the treatment of coughs[240]. A flour made from the ripe seedpods is demulcent and emollient[7]. It is used in the treatment of diarrhoea[7]. The seed husks are astringent and purgative[240]. The bark is strongly astringent[254]. A decoction is used in the treatment of diarrhoea[254].

## Other Uses

[Cosmetic](#); [Gum](#); [Tannin](#); [Wood](#).

A flour made from the seedpods is used in the cosmetic industry to make face-packs[7]. Tannin is obtained from the bark[7]. Wood - hard, lustrous. Highly valued by turners, it is also used for marquetry and walking sticks[7, 61, 89, 100].

## Xanthan Gum \$9.95 / Lbs.

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## Cultivation details

Landscape Uses: Aggressive surface roots possible. Requires a very sunny position in any well-drained moderately fertile soil[200]. Does well in calcareous, gravelly or rocky soils[132, 166]. Tolerates salt laden air[132]. Tolerates a pH in the range 6.2 to 8.6. The tree is very drought resistant, thriving even under arid conditions, the roots penetrating deep into the soil to find moisture[4, 64, 132, 200]. This species is not very hardy in Britain but it succeeds outdoors in favoured areas of S. Cornwall[1], tolerating temperatures down to about -5°C when in a suitable position[200]. The young growth in spring, even on mature plants, is frost-tender and so it is best to grow the plants in a position sheltered from the early morning sun[K]. The carob is frequently cultivated in warm temperate zones for its edible seed and seed pods[1]. Mature trees in a suitable environment can yield up to 400 kilos of seedpods annually[64]. There are named varieties with thicker pods[64, 183]. Seeds are unlikely to be produced in Britain since the tree is so near (if not beyond) the limits of its cultivation[K]. The seed is very uniform in size and weight, it was the original 'carat' weight of jewellers[1, 89]. This species has a symbiotic relationship with certain soil bacteria, these bacteria form nodules on the roots and fix atmospheric nitrogen. Some of this nitrogen is utilized by the growing plant but some can also be used by other plants growing nearby[200]. Special Features: Edible, Not North American native, Inconspicuous flowers or blooms.

## Propagation

Seed - pre-soak for 24 hours in warm water prior to sowing. If the seed has not swollen then give it another soaking in warm water until it does swell up. Sow in a greenhouse in April[200]. Germination should take place within 2 months. As soon as they are large enough to handle, prick the seedlings out into individual deep pots and grow them on in a greenhouse for at least their first winter. Plant them out into their permanent positions in late spring or early summer, after the last expected frosts. Give them some protection from the cold for their first few winters outdoors.

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## Expert comment

### Author

L.

## Botanical References

89200

## Links / References

[K] **Ken Fern** Notes from observations, tasting etc at Plants For A Future and on field trips.

[1] **F. Chittendon**. RHS Dictionary of Plants plus Supplement. 1956

Comprehensive listing of species and how to grow them. Somewhat outdated, it has been replaced in 1992 by a new dictionary (see [200]).

[2] **Hedrick, U. P.** Sturtevant's Edible Plants of the World.

Lots of entries, quite a lot of information in most entries and references.

[4] **Grieve**. A Modern Herbal.

Not so modern (1930's?) but lots of information, mainly temperate plants.

[7] **Chiej, R.** Encyclopaedia of Medicinal Plants.

Covers plants growing in Europe. Also gives other interesting information on the plants. Good photographs.

[61] **Usher, G.** A Dictionary of Plants Used by Man.

Forget the sexist title, this is one of the best books on the subject. Lists a very extensive range of useful plants from around the world with very brief details of the uses. Not for the casual reader.

[64] **Howes, F. N.** Vegetable Gums and Resins.

A very good book dealing with the subject in a readable way.

[74]**Komarov. V. L.** Flora of the USSR.

An immense (25 or more large volumes) and not yet completed translation of the Russian flora. Full of information on plant uses and habitats but heavy going for casual readers.

[89]**Polunin. O. and Huxley. A.** Flowers of the Mediterranean.

A very readable pocket flora that is well illustrated. Gives some information on plant uses.

[100]**Polunin. O.** Flowers of Europe - A Field Guide.

An excellent and well illustrated pocket guide for those with very large pockets. Also gives some details on plant uses.

[105]**Tanaka. T.** Tanaka's Cyclopaedia of Edible Plants of the World.

The most comprehensive guide to edible plants I've come across. Only the briefest entry for each species, though, and some of the entries are more than a little dubious. Not for the casual reader.

[132]**Bianchini. F., Corbetta. F. and Pistoia. M.** Fruits of the Earth.

Lovely pictures, a very readable book.

[142]**Brouk. B.** Plants Consumed by Man.

Readable but not very comprehensive.

[148]**Niebuhr. A. D.** Herbs of Greece.

A pleasant little book about Greek herbs.

[166]**Taylor. J.** The Milder Garden.

A good book on plants that you didn't know could be grown outdoors in Britain.

[171]**Hill. A. F.** Economic Botany.

Not very comprehensive, but it is quite readable and goes into some a bit of detail about the plants it does cover.

[177]**Kunkel. G.** Plants for Human Consumption.

An excellent book for the dedicated. A comprehensive listing of latin names with a brief list of edible parts.

[183]**Facciola. S.** Cornucopia - A Source Book of Edible Plants.

Excellent. Contains a very wide range of conventional and unconventional food plants (including tropical) and where they can be obtained (mainly N. American nurseries but also research institutes and a lot of other nurseries from around the world.

[200]**Huxley. A.** The New RHS Dictionary of Gardening. 1992.

Excellent and very comprehensive, though it contains a number of silly mistakes. Readable yet also very detailed.

[240]**Chopra. R. N., Nayar. S. L. and Chopra. I. C.** Glossary of Indian Medicinal Plants (Including the Supplement).

Very terse details of medicinal uses of plants with a wide range of references and details of research into the plants chemistry. Not for the casual reader.

[254]**Chevallier. A.** The Encyclopedia of Medicinal Plants

An excellent guide to over 500 of the more well known medicinal herbs from around the world.

## Readers comment

Elizabeth H.

**saracoglu ibrahim adnan** Sat Mar 23 16:11:14 2002

Link: [prof.dr.saracoglu](#) against low libido, asthma, and increase the active sperm level

Elizabeth H.

**saracoglu ibrahim** Sat Jan 15 07:17:28 2005

Link: [Prof.Dr.Saracoglu](#)

Elizabeth H.

**itai** Sun Dec 18 2005

when green the pods are extremely tannin and make the whole mouth numb. it is useful in that stage to temporary relief toothaches, and is used by beduins in the middle east in that manner.

Elizabeth H.

Sat Apr 1 2006

Where can this ingredient ceratonia siliqua be found or sold in bulk? Thanks! Dr.Howard Davis project333@yahoo.com

Elizabeth H.

**shy shahall** Sun Feb 17 2008

the flowers are not hermaphrodite, there are male trees, and female trees and it does not fix atmospheric nitrogen. it belongs to the Leguminose family, but to the Caesalpinaceae sub-family

Elizabeth H.

**Amanda Rofe** Wed Oct 15 2008

I grew this from seed obtained from Chiltern Seeds in the early 1990s. It was difficult to germinate because the seed is rock hard. I think I soaked it in hot water and then scarified it with a sharp knife. It has grown happily in Sussex and then I moved it in a pot to Kent where it has been growing in a sunny corner of my front garden. I kept it as a bush rather than let it grow as a tree. It has never flowered or produced the lovely seed pods which I am so keen to obtain. The leaves nearly always succumb to some sort of disease like black spot on roses. It is totally hardy here and has happily sat through hard frosts, snow and a few scorching hot dry periods.

Elizabeth H.

**pedro** Thu May 28 2009

Are you sure that these trees can fix nitrogen like the other leguminosae? i think i have read some articles that say that the carob does not do that.

luis O.

Jul 23 2011 12:00AM

simple correction to a previous post... The carob tree can be hermaphrodite but flowers are strictly male or female. it is very common, here in Portugal, to graft carob trees in order to enhance pollination resulting in a maximized production (its also current to graft hermaphrodite tree branches on female trees). Careful when buying carob seeds, this tree has also a very large genetic variability, at least 30 varieties are cultivated in the mediterranean basin, usually if it aint micropropagated u cant really guaranty the product.

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Subject : *Ceratonia siliqua*

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