Raphanus sativus - L.

Common Name	Radish
Family	Brassicaceae or Cruciferae
Synonyms	R. raphinastrum sativus.
Known Hazards	The Japanese radishes have higher concentrations of glucosinolate, a substance that acts against the thyroid gland. It is probably best to remove the skin[160].
Habitats	Not known in the wild.
Range	A plant of cultivation. the origin of which is obscure. It probably arose through cultivation.
Edibility Rating	
Medicinal Rating	
Care	

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Summary

Physical Characteristics

Raphanus sativus is a ANNUAL growing to 0.5 m (1ft 8in) by 0.2 m (0ft 8in) at a fast rate.
It is not frost tender. It is in flower from Jun to August, and the seeds ripen from Jul to September. The flowers are hermaphrodite (have both male and female organs) and are pollinated by Bees, flies.

Suitable for: light (sandy), medium (loamy) and heavy (clay) soils. Suitable pH: neutral and basic (alkaline) soils. It can grow in semi-shade (light woodland) or no shade. It prefers moist soil.

Habitats

Cultivated Beds;

Edible Uses

Edible Parts: Flowers; Leaves; Oil; Oil; Root; Seed; Seedpod.
Edible Uses: Oil; Oil.

Young leaves - raw or cooked[37, 52, 104, 183]. A somewhat hot taste, and the texture is somewhat coarse[K]. As long as they are young, they make an acceptable addition in small quantities to chopped salads and are a reasonable cooked green[K]. A nutritional analysis is available[218]. Young flower clusters - raw or cooked[183]. A spicy flavour with a crisp pleasant texture, they make a nice addition to salads or can be used as a broccoli substitute[9, K]. Seeds - raw. The seed can be soaked for 12 hours in warm water and then allowed to sprout for about 6 days[244]. They have a hot spicy flavour and go well in salads[183, 244]. Young seedpods - raw[2, 37, 52, 104]. Crisp and juicy with a mildly hot flavour[K]. They must be eaten when young because they quickly become tough and fibrous[183]. Root - raw or cooked[2, 37, 52]. Crisp and juicy, they have a hot and spicy flavour and are a very popular addition to salads[183, K]. The summer crops do not store well and should be used as soon as possible after harvesting[K]. The winter varieties (including the Japanese forms) have much larger roots and often a milder flavour. These store well and can be either harvested in early winter for storage or be harvested as required through the winter[K]. An edible oil is obtained from the seed[2, 183].

Composition

Figures in grams (g) or miligrams (mg) per 100g of food.

Leaves (Dry weight)

- 287 Calories per 100g
- Water : 0%
- Protein: 28.7g; Fat: 5.2g; Carbohydrate: 49.6g; Fibre: 9.6g; Ash: 16.5g;
- Minerals - Calcium: 1913mg; Phosphorus: 261mg; Iron: 35.7mg; Magnesium: 0mg; Sodium: 956mg; Potassium: 4348mg; Zinc: 0mg;
- Vitamins - A: 21mg; Thiamine (B1): 0.7mg; Riboflavin (B2): 2.43mg; Niacin: 34.8mg; B6: 0mg; C: 704mg;
- Reference: [218]
- Notes: Vitamin A is mg not IU

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.

Anthelmintic; Antibacterial; Antifungal; Antiscorbutic; Antispasmodic; Appetizer; Astringent; Cancer; Carminative; Cholagogue; Digestive; Diuretic; Expectorant; Laxative; Poultice; Stomachic.

Radishes have long been grown as a food crop, but they also have various medicinal actions. The roots stimulate the appetite and digestion, having a tonic and laxative effect upon the intestines and indirectly stimulating the flow of bile[254]. Consuming radish generally results in improved digestion, but some people are sensitive to its acridity and robust action[254]. The plant is used in the treatment of intestinal parasites, though the part of the plant used is not specified[147]. The leaves, seeds and old roots are used in the treatment of asthma and other chest complaints[218]. The juice of the fresh leaves is diuretic and laxative[240]. The seed is carminative, diuretic, expectorant, laxative and stomachic[176, 218, 240]. It is taken internally in the treatment of indigestion, abdominal bloating, wind, acid regurgitation, diarrhoea and bronchitis[238]. The root is antiscorbutic, antispasmodic, astringent, cholagogue, digestive and diuretic[21, 218]. It is crushed and used as a poultice for burns, bruises and smelly feet[218]. Radishes are also an excellent food remedy for stone, gravel and scorbutic conditions[4]. The root is best harvested before the plant flowers[21]. Its use is not recommended if the stomach or intestines are inflamed[21]. The plant contains raphanin, which is antibacterial and antifungal[218, 238]. It inhibits the growth of Staphylococcus aureus, E. coli, streptococci, Pneumococci etc[176]. The plant also shows anti-tumour activity[218].

Other Uses

Green manure; Oil; Oil; Repellent.

The growing plant repels beetles from tomatoes and cucumbers[20, 201]. It is also useful for repelling various other insect pests such as carrot root fly[201]. There is a fodder variety that grows more vigorously and is used as a green manure[87].

Cultivation details

Very easily cultivated fast-growing plants which prefer a rich light soil with ample moisture[16, 52, 264]. They dislike very heavy or acid soils[16, 37]. Plants are susceptible to drought and require irrigation during dry spells in the summer or the root quality will rapidly deteriorate and the plant will go to seed. Radishes are widely cultivated for their edible roots. There are many named varieties[183] that are able to supply edible roots all year round. Over the centuries a number of distinct groups have evolved through cultivation, these have been classified by the botanists as follows. A separate entry has been made for each group:- R. sativus. The common radish. Fast maturing plants with small roots that can be round or cylindrical and usually have red skins. They are grown primarily for their roots which in some varieties can be ready within three weeks from sowing the seed and are used mainly in salads. These are mainly grown for spring, summer and autumn use and can produce a crop within a few weeks of sowing. R. sativus caudatus. The rat-tailed radishes. This group does not produce roots of good quality, it is cultivated mainly for the edible young seedpods which are harvested in the summer. R. sativus niger. The Oriental and Spanish radishes. These are grown for their larger edible root which can be round or cylindrical and can be available throughout the winter. R. sativus oleiformis. The fodder radishes. These are grown mainly for their leaves and oil-rich seeds, they are used as a green manure or stock feed though they can also be eaten by people. The roots of these plants soon become fibrous, though they make acceptable eating when young. Radishes are a good companion plant for lettuces, nasturtiums, peas and chervil, tomatoes and cucumbers[18, 20]. They are said to repel cucumber beetles if planted near cucumber plants and they also repel the vine borers which attack squashes, marrows and courgettes[238]. They grow badly with hyssop[18, 20] and with grape vines[201].

Propagation

Seed - sow outdoors in situ in succession from late winter to the middle of summer. Germination takes place within a few days of sowing the seed. If you want a constant supply of the roots then you need to sow seed every 2 - 3 weeks.

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Expert comment

Author

L.

Botanical References

200

Links / References

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

[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.

[9]**Launert. E.** Edible and Medicinal Plants.

Covers plants in Europe. a drawing of each plant, quite a bit of interesting information.

[16]**Simons.** New Vegetable Growers Handbook.

A good guide to growing vegetables in temperate areas, not entirely organic.

[18]**Philbrick H. and Gregg R. B.** Companion Plants.

Details of beneficial and antagonistic relationships between neighbouring plants.

[20]**Riotte. L.** Companion Planting for Successful Gardening.

Fairly good.

[21]**Lust. J.** The Herb Book.

Lots of information tightly crammed into a fairly small book.

[37]**Thompson. B.** The Gardener's Assistant.

Excellent general but extensive guide to gardening practices in the 19th century. A very good section on fruits and vegetables with many little known species.

[52]**Larkcom. J.** Salads all the Year Round.

A good and comprehensive guide to temperate salad plants, with full organic details of cultivation.

[87]**Woodward. L. Burge. P.** Green Manures.

Green manure crops for temperate areas. Quite a lot of information on a number of species.

[104]**RHS.** The Garden. Volume 111.

Snippets of information from the magazine of the RHS, including an article in Crambe maritima and another on several species thought to be tender that are succeeding in a S. Devon garden.

[147]**?** A Barefoot Doctors Manual.

A very readable herbal from China, combining some modern methods with traditional chinese methods.

[176]**Yeung. Him-Che.** Handbook of Chinese Herbs and Formulas.

An excellent Chinese herbal giving information on over 500 species. Rather technical and probably best suited to the more accomplished user of herbs.

[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.

[201]**Allardice.P.** A - Z of Companion Planting.

A well produced and very readable book.

[218]**Duke. J. A. and Ayensu. E. S.** Medicinal Plants of China

Details of over 1,200 medicinal plants of China and brief details of their uses. Often includes an analysis, or at least a list of constituents. Heavy going if you are not into the subject.

[238]**Bown. D.** Encyclopaedia of Herbs and their Uses.

A very well presented and informative book on herbs from around the globe. Plenty in it for both the casual reader and the serious student. Just one main quibble is the silly way of having two separate entries for each plant.

[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.

[244]**Phillips. R. & Foy. N.** Herbs

Deals with all types of herbs including medicinal, culinary, scented and dye plants. Excellent photographs with quite good information on each plant.

[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.

[264]**Phillips. R. & Rix. M.** Vegetables

Excellent and easily read book with good information and an excellent collection of photos of vegetables from around the world, including many unusual species.

Readers comment

Elizabeth H.
Fri Aug 7 2009

Is there any products that we can make out of radish

Elizabeth H.
aNNe Thu Oct 8 2009

what is/are the chemical component(s) on the radish leaves that can be anti fungal?...

Elizabeth H.
argie Wed Dec 2 2009

it gives me someideas but i think you still need to add more info...I suggest you to add its different varieties, different ways of cultivating,number of days for yield and mst of all, maybe yu could add some recipes about it...well thanks for the informations i've got

moralesargie.multiply.com it'smy multiply address

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