

Garden Pea

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Family:	Fabaceae
Subfamily:	Faboideae
Genus & species:	<i>Pisum sativa</i>
Common names:	Garden pea, green pea, field pea, snap pea, snow pea, split pea, marrowfat pea

Biogeography:

Peas probably originated in the region of northern India, Pakistan and Afghanistan, and then spread to other parts of India, the Mediterranean and China. They were first domesticated around 8,000 years ago and archaeologists have found dried peas in Egyptian tombs. Peas were a very important protein source in Europe and the United Kingdom during the Middle Ages.

Peas were introduced to North America with the first European settlers and are now the world's fourth largest legume crop. Important centres of production include Europe, China, India, North America, New Zealand and Australia.

Botanical features:

Peas are annual herbaceous plants that can be either bushy or climbing. They have generally weak stems up to 150 cm long. The compound leaves have from one to three pairs of leaflets that are usually covered with a wax-like coating. This coating helps limit water loss and protect the plant against disease. Whitish areas often appear on the leaf where the outermost layer of cells, the **epidermis**, separates from the inner layers, forming an air pocket. The leaves terminate in branched curling tendrils that help the plant climb.

White, pink or lavender flowers develop on stalks in elongated clusters called **racemes**. The flowers on each raceme produce pods that develop at different times, with the one at the tip maturing last.

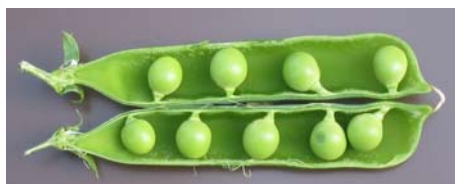


Photo by S. Morris

Peas need moderate temperatures and relatively high humidity. They are grown as a summer crop in cool climates or as winter crop in hot regions. Most varieties can tolerate light frost, but may be adversely affected by temperatures above 27°C.

General:

The first edible pod variety, called 'sugar pea' in English or 'mange-tout' (eat all) in French, was probably developed in Holland in the 16th century. They were enthusiastically endorsed by the Chinese and have now become known as Chinese snow peas. 'Sugar snaps,' which have larger seeds and a sweeter taste, are a cross between snow peas and regular garden peas. They may have been developed shortly after snow peas, but did not become commercially available until the 1970s.



Pisum sativa (Photo by S. Morris)

Peas are also famous because of research done by Austrian monk Gregor Mendel in the 1860s. Mendel developed the fundamental laws of genetic inheritance by studying traits and identifying patterns in successive generations of garden peas.



Chinese snow peas

A major increase in pea yield was achieved in the 20th century by the introduction of a mutant gene into the garden pea. The gene was one of those studied by Mendel and causes dwarfism, leading to better crop stature and enhanced resource distribution to pods and seeds. Dwarf lines are still widely used today.

Uses:

Peas are eaten fresh, canned and frozen. Some varieties have thin pod membranes and are consumed whole, while others must be shelled.

Mature peas are usually dried and split, and often used in soups and purees. Mushy peas are dried peas that have been rehydrated and mashed; they are a popular accompaniment to fish and chips or meat pies in England and Australia. Immature peas have a higher sugar content and are eaten as a green vegetable.

In many Asian countries, peas are roasted and salted or flavoured with wasabi (a green horseradish) and eaten as a snack food. They may also be soaked overnight, coated with seasoned rice flour and then fried in vegetable oil until crunchy.

In some parts of Asia and Africa, leaves of the pea plant are cooked and eaten like spinach.

Field peas are also used as animal feed, with plants commonly grazed after the pods on the first few nodes have filled.

Human health benefits & concerns:

Peas are a high protein food (about 25%) but as with most legumes, the protein is low in the amino acid **methionine**. They are high in dietary fibre, high in potassium and low in sodium. They are a good source of B-vitamins, especially folate and thiamine, as well as vitamins A, C, and E.

Snow peas are lower in protein and B-vitamins than shelled peas, but they provide almost twice as much calcium as well as more vitamin C and iron.

References:

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<http://www.hort.purdue.edu/newcrop/cropfactsheets/pea.html>

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