

CHILLI

Botanical name: *Capsicum spp.* (Solanaceae)

Location specific common names:), *C. frutescens* (Birdseye and Tabasco), te beneka (Kiribati), chili, chile

C. annuum (Sweet peppers or capsicum)

Plant Characteristics: Chilli plants are small bushes that usually grow for a year or more in warm locations. They are suitable for container growing. There are many recognised species and varieties ranging from sweet capsicums that have no heat to the fieriest hot-fruited forms. Birds are not affected by the heat component (capsaicin) in chilli, therefore birds, after eating the fruits, scatter seeds, allowing volunteer plants to grow often in unusual places.

Uses: Leaves and young tips can be used fresh or in cooked dishes. They have a mild distinctive flavour that is not hot to taste. **Medicinal:** Juice from chilli fruits and leaves has been used traditionally in some countries for skin problems, including psoriasis and pain. Capsaicin is the most studied active compound in chilli plants, and has been shown to be useful against pathogenic bacteria, cancer, heart disease, diabetes, obesity and arthritis.

Availability: This plant can be grown all year in most tropical and sub tropical areas. It has been grown in Kiribati and Tuvalu for a long time and is well accepted, although more for the fruits than the leaves.

Propagation methods: New plants are produced from seed. Plants often self-seed and with a little care, the seedlings easily transplant.

How to grow: Chilli plants can be easily grown in large pots. A pot of 20 litres capacity or larger should be used, filled with a well drained, composted soil, in which four seeds or young plants can be placed. These plants like more alkaline soils than most tropical plants so coral sand in the mix will promote growth. They are deep rooted but even when established require occasional watering during drier conditions. Chilli plants will grow in full sun but a little shade produces larger, more tender leaves. For a continuous supply of leaves two or three staggered plantings of ten or more plants will be required each year. Leaf production is reduced when the plants fruit.



Threats: Pests like scales and spiralling whitefly will reduce plant vigour, resulting in smaller leaves or even death of the plant. Scales can be controlled by reducing ant populations with well mulched, moist soils. Spiralling whitefly populations can be decreased by mulching the soil with light coloured materials such as shredded paper and spraying the undersides of leaves with jets of water.

Harvesting: Leaves and tips can be neatly picked or cut with a sharp knife. Harvesting in the cooler hours of the day will prevent wilting. Leaves should not be harvested too often (a good guide is to remove no more than a quarter of the leaf area/volume/weight) as plant vigour may be affected, and fast growing younger plants produce the best leaves.

Post harvest and storage: Leaves should be washed carefully with water of drinking quality or clean seawater. If loosely bundled in moist paper and kept in a cool location, leaves should keep fresh for a day or two. If placed in an airtight container in a refrigerator, they can last for up to a week. Chilli leaves are firm and therefore can be frozen.

Project findings/nutritional value: Samples of chilli leaves for analysis were collected from Solomon Islands, Samoa and the Torres Strait Islands. About two handfuls (100 grams) of fresh leaf per person for a meal serving will provide useful nutrition.

We found chilli leaf to be a consistently rich source of potassium and copper, as well as being relatively high in most other minerals and carotenoids: for example, at a Burns Creek, Honiara (Solomon Islands) site, chilli leaf was found to contain 829, 32 and 340 mg/kg dry weight of lutein, alpha-carotene and beta-carotene, respectively, all excellent levels.

Carotenoids: Lutein is important for eye health (e.g. reducing risk of cataracts) and beta-carotene (pro-vitamin A) is important for vision, immunity and bone health.

Potassium: Controls body water balance through its interactions with sodium and chloride ions, and is involved in electrical stimulation of nerves and muscles. Deficiency can cause muscle weakness, cramps and irregular heartbeat.

Copper: Component of enzymes, involved in iron metabolism, therefore supports production of healthy blood and generation of energy.

This table compares selected mineral nutrients in leaves of Chilli and “sandpaper cabbage” (*Ficus spp.*) grown together at Aruligo, Guadalcanal, Solomon Islands in 2012 and English cabbage (average of samples bought from Honiara market, Solomon Islands and Nukualofa market, Tonga in 2012) (concentration in mg/kg dry weight, except N: % dry weight).

	Mn	B	Cu	Zn	Ca	Mg	K	P	S	N
										%
Chilli	32	72	26	22	19900	4600	50000	4900	3800	3.2
<i>Ficus</i>	26	54	8	18	25000	3200	22000	2100	2100	3.1
Cabbage	23	12	2	20	5700	1450	29000	3750	3750	2.8

Fe: iron; Mn: manganese; Cu: copper; Zn: zinc; Ca: calcium; Mg: magnesium; K: potassium; S: sulphur; N: nitrogen
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