

CEYLON SPINACH

FACTSHEET no: 9



• Harvested Spinach leaves



• Green form of Ceylon Spinach

Botanical name: *Basella alba* (Basellaceae).

Location specific common names: Malabar greens, Indian spinach, vine spinach

Plant characteristics: Ceylon spinach is a fast growing, vine like plant with fleshy leaves that will climb over other plants and structures. It grows vigorously in reasonably fertile soils with regular watering and is suitable for container growing. Vines grow to around 3 m long. There are two recognized varieties: variety *B. alba* with green leaves and light green stems and variety *B. rubra* with green leaves, dark red/purple stems and red flowers. Both have purple berries.

Uses: The leaves and young tips are best prepared fresh. After thorough washing short succulent tips can be used fresh in salads or liquidized for adding to vegetable drinks. Older leaves require a little steaming or can be added to dishes like soups, curries and stews. Medicinally Ceylon spinach has been traditionally used as an anti-inflammatory, antifungal, anticancer agent; to lower high blood pressure, and to treat dysentery.

Availability: This plant can be grown all year in most tropical locations and seasonally in sub tropical areas.

Propagation methods: New plants are produced from cuttings or seed. Plants often self-seed and the seedlings easily transplant. Preferably cuttings (200 to 600 mm long) should be taken after harvesting the tip; care with watering is needed until the cuttings are established. Cuttings can be stored or transported for a few days provided they are kept in the shade, and in a little water, which must be changed regularly to reduce the possibility of stem rots.

How to grow: This plant is well suited to growing in large pots. A pot of 20 litres capacity or larger should be used, filled with a well drained loam and compost mix. About 4 seeds or a rooted cutting can be placed in the pot along with a strong climbing structure, such as bamboo stems. Ceylon spinach will grow well if water is readily available. It can grow in full sun but a little shade is preferable. It usually behaves as an annual with a lifespan in the tropics of around 6 months. Soils of poorer fertility and insufficient water will produce slower growing, smaller leaved plants with thinner stems, and which flower earlier.

Threats: Pests and diseases are not usually a limiting factor in growing Ceylon spinach. Leaf eating insects like grasshoppers and some caterpillars are occasional pests that may become a problem in drier conditions. Selecting healthy planting material and providing good growing conditions can reduce the occurrence and impact of these pests.

Harvesting: Harvesting can start around 5 weeks after planting; regular harvesting is recommended to encourage plant growth. The tips, usually back to the third newest full leaf, and fresh looking older leaves should be neatly picked, ideally in the cooler part of the day to prevent wilting. The cut tips and leaves can be loosely packed in moist paper. Where a tip has been harvested, that runner should produce one or more new tips suitable for picking in a week or two.

Post harvest and storage: Leaves should be washed carefully with water of drinking quality or clean seawater; they can be bundled with their stems



• *Flowers and fruit with seed*



• *Mature plant of Alba (green stem) type at Violets and Lace Nursery, North Queensland*



• *Mature plant of Rubra (red stem) type in Samoa*

trimmed and stood upright in a small amount of clean fresh water. If kept cool and covered with a clean plastic bag, they should store for a day or two. If placed in an airtight container in a cool room or refrigerator, they can last for up to a week.

Project findings/nutritional value: Samples of Ceylon spinach for analysis were collected from north Queensland, Tonga, Samoa and Solomon Islands. Around 100 grams of fresh vegetable (about 3 handfuls) per person for a meal serving will provide useful nutrition. It is strong in:

Magnesium: This mineral is important in bone formation, energy transfer in cells, and nerve and muscle function.

Calcium: The most important mineral for the growth and maintenance of bones and teeth. Calcium is also important for cellular physiology.

Zinc: Important for immunity, growth, carbohydrate metabolism, and DNA and protein formation. Humans have around 600 different Zn-containing enzymes/proteins.

This table compares selected mineral nutrients and carotenoids in leaves of Ceylon spinach and ivy gourd (*Coccinia grandis*) grown together at Leififi, Upolu, Samoa 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	Cu	Zn	Ca	Mg	K	S	N %	lutein	alpha carotene	beta carotene
Ceylon spinach	70	8	41	26000	15500	22000	3300	4.1	na	na	na
Ivy gourd	81	7	30	97000	11300	16200	10000	3.6	556	17	256
Cabbage	40	23	20	5700	1450	29000	3750	2.8	5	0	2

Mn: manganese; Cu: copper; Zn: zinc; Ca: calcium; Mg: magnesium; K: potassium; S: sulphur; N: nitrogen. na: not analyzed.

The Ca level for ivy gourd leaves of 97000 mg/kg is easily the highest recorded in this project.

Analyses conducted by Waite Analytical Services and the Mares Laboratory, University of Adelaide, South Australia



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The factsheets are intended to provide information on some of the most nutritious leafy green vegetables suitable for growing in tropical areas.