

# Composition, Cultivation and Medicinal Purpose of New Zealand Spinach

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## Commentary

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## DESCRIPTION

New Zealand spinach is native to the islands of New Zealand, as many coastal parts of New Zealand have been the homes to this creeping plant prior to the colonial period. For more than 200 years, it was only exported vegetable native to New Zealand or Australia. This herb is found growing wild along the margins of salty marshy lands, in protected sites all along the coast, in all parts of New South Wales, Chile, Japan, across the Australia, Argentina and surrounding areas. It can be found as an invasive plant in North and South America and has been cultivated along the East Asian rim. After exploring the coasts of New Zealand, Captain Cook recognized it to be a nutritious vegetable and introduced it to the world in the 17<sup>th</sup> century. New Zealand spinach also known as Botany Cooks Cabbage, bay spinach, sea spinach, ever bearing spinach, everlasting spinach, perpetual spinach, Warringal greens, tetragon and Della Nuova Zelanda, is a leafy ground cover vegetable and is an evergreen perennial plant in cold climate but widely grown as an annual herbaceous tender plant. The native people of New Zealand also call it Maori spinach, because of its succulent leaves; it is sporadically referred to as ice plant. In spite, of having similarity in name, it is entirely different from common spinach but used in same way and is more resistant to bolting during the hot summer months as compared to regular spinach.

It can be grown in tropical, subtropical, Mediterranean or temperate climatic regions. It is a warm season perennial often used as an excellent alternative to regular spinach since it thrives well in hot and dry conditions. It can be grown until frost in temperate areas and year round in subtropical areas. Its flavor is very similar to common spinach with the same sharp taste but it does not get bitter taste.

Composition of New Zealand spinach is nutritionally almost similar to common spinach. It is excellent source of minerals like iron, potassium, sodium and magnesium. Vitamin A, vitamin B1, vitamin B2, vitamin C and Vitamin K. It is low in fat, fiber and calorie. Medicinally, it is used to lower cardiovascular diseases, lowering blood pressure, makes arteries work in a proper medium, supports healthy skin, etc. Majorly spinach can also act as anti-inflammatory as it has wound healing property and also has antioxidant properties.

It has a balance of calcium to phosphorous levels that make it ideal for calcium absorption in the body. It is perennial and annual crop. A low growing weak, fragile vine like stem produces brittle small abundant green fleshy leaves and young stem tips. The stems and leaves of this spreading herb are covered with small blisters filled with shiny liquid. Foliage color is medium green. Lower portion of the plant is large and hardy. It grows to a foot in height and spreads 30-90 cm. The leaves are fleshy and triangular to oval shaped, smaller and fuzzier than regular spinach and are pale to dark green and grow from 5 cm to 10 cm long. Its yellow flowers are pollinated by wind. Fruits are small, hard, conical capsules covered with small horns, containing several seeds which are covered with wooly wings which help in dispersion by wind or water.

The leaves and young shoot of this spinach are eaten raw or cooked as green veggie. It is effective in fighting against scurvy disease. It reduces the risk of heart disease, cancer, Alzheimer's, sleep disorders, macular degeneration and several other degenerative diseases. Its leavers are rich in carotenoids, which reduce the damage caused by the super oxides to the body. Its consumption regulates body metabolism, aids in digestion, prevents people suffering from constipation and itching, ulcers and dryness of eyes due to Vitamin A deficiency and keeps the hair moisturized through increased sebum production. Its intake not only improves the immune system but can also create and maintain collagen, an essential protein found in hair and skin. Its vitamin K improves calcium absorption, reduces urinary excretion of calcium and acts as a modifier of bone matrix proteins.

Spinach is a cool-season crop that should be planted in early spring, about 4 weeks before the area's average date of last frost. Ideal spinach weather is 50-60 °F. Spinach does best in well-drained soil rich in organic matter and will tolerate partial shade. Plant seeds 1-4 inches apart and about ½ inch deep. The optimum temperature for getting higher yield ranges from 15 to 25 °C. It prefers moist weather for its growth. Being an halophyte, it grows well in coastal saline soils and can withstand conditions of drought. Bolt resistant varieties for later planting are preferred. Planting time is early spring in tropical and subtropical regions. Seed propagation where 10-15 Kg seeds are used in a hectare land area for New Zealand spinach and it is harvested in 40-80 days after sowing depending on the variety and growing conditions. The yield 10 quintals per hectare at first yield and a total yield of 30 quintals with continuous harvesting.