DRUMSTICK TREE

FACTSHEET no: 8

• *Leaf of the drumstick tree*

Botanical name: *Moringa oleifera* (Moringaceae)

Location specific common names: moringa, horseradish tree, mulangay

Plant characteristics: This plant grows into a medium sized tree, 4 to 6 m tall. It can be kept to a useful size by regular pruning, and can be trained to grow as a hedge. The name *drumstick* comes from the distinctive long tapered seedpods that hang from the branches.

Uses: Leaves are best prepared soon after picking. The tender small leaflets of the youngest leaves can be eaten in salads after washing. Slightly older leaflets can be steamed, boiled, fried or baked. Leaves can be frozen for later use. The following is a simple recipe which provides a very tasty and nutritious dish: rinse 6 handfuls of leaves (just fully developed). Strip the leaflets from the wiry stalks, (these do not soften with cooking), and add to 1 litre of fish soup base, flavoured with 2 finely shredded lime leaves or lemon grass, add salt, pepper and chilli to taste. Bring to simmer for 1 minute. This will serve 4 people.

The drumstick tree is also used for livestock fodder, living fences, fertilizer/green manure, purifying water (using seeds). Traditionally drumstick tree has been used medicinally as an antibacterial, antiviral, anti-diabetes agent, and has been shown to lower harmful blood fats and high blood pressure.

Availability: Drumstick trees are common in Fiji and Kiribati, but can be scarce in other Pacific islands and in northern Australia.

Propagation methods: Plants can be produced from cuttings or seed; seed-derived plants are usually slower to establish but develop a strong root system. Cuttings of mature wood, 200 to 600 mm long, planted with at least one-third of the cutting in the soil, are most suitable for propagation.

How to grow: Drumstick trees are not difficult to grow. Once established, the tree is drought tolerant, can survive on shallow soil of poor fertility, will grow in full sun and is wind tolerant. The canopy of cutting-grown plants can be pruned to increase wind tolerance. If growing conditions are poor, growth will be slower, and leaves smaller with a stronger flavour. For the first two years mulching is recommended, keeping the soil around the tree moist and free of grass and other weeds.

Threats: Pests and diseases are not usually a problem however root rot can occur if the tree is grown in waterlogged soils.

Harvesting: The leaves should be neatly picked, usually back to the third newest full leaf and ideally in the cooler hours of the day to prevent wilting.

Post harvest and storage: Full leaves (leaflets plus wiry stalks) should be washed carefully with water of drinking quality or clean seawater. If bundle wrapped in moist paper and kept in a cool location they should

• *Mature plant in northern Australia*

• *Potted seedling ready to transplant*

• *Drumstick leaves*

store for a day. Leaves can last for up to a week, if placed in an airtight container in a cool room or refrigerator. If the leaves dry they will drop their leaflets and lose their value as a food.

Project findings/nutritional value: Samples were collected from the Torres Strait Islands, Solomon Islands and Samoa. Around 100 grams of fresh vegetable (about 3 handfuls) per person for a meal serving will provide useful nutrition. The leaves are renowned for their high levels of minerals, vitamins, protein, carotenoids and other phytochemicals, including the anticancer compounds glucosinolates and isothiocyanates. Samples were collected from the Torres Strait Islands, Solomon Islands and Samoa.

Carotenoids: A Solomons drumstick tree sample was the highest of all of our leaf samples for beta-carotene (pro-vitamin A), and was also high in lutein, which is important for eye health.

Sulphur: This mineral is needed for production of the hormone insulin, which controls blood sugar level. Sulphur is also needed for the protein keratin, important for bone, cartilage and tendons. Drumstick tree leaves are usually 3-4 times higher in sulphur than leaves of other plants growing on the same soil.

Selenium: Important in antioxidant enzymes, for thyroid and brain function and for its antiviral and anticancer effects. Drumstick tree leaves are usually around 10 times higher in selenium than those of other plants growing nearby.

This table compares selected mineral nutrients and carotenoids in leaves of Drumstick tree and Aibika grown together at Burns Creek, Honiara, 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). Aibika data: average of 3 varieties.

	Cu	Zn	Ca	Mg	S	N %	Se	lutein	alpha carotene	beta carotene
Drumstick	7	31	20000	3700	12300	5.1	2.0	773	0	427
Aibika	8	44	23600	7100	4500	4.9	0.17	1006	31	358
Cabbage	2	20	5700	1450	5900	2.8	na	5	0	2

Cu: copper; Zn: zinc; Ca: calcium; Mg: magnesium; S: sulphur; N: nitrogen; Se: selenium;
na: not analysed
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.

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