BELE

Botanical name: *Abelmoschus manihot* (Malvaceae)

Location specific common names: te nambere (Kiribati), bele (Tuvalu), nambelle, slippery cabbage (Pidgin: sliperi kabis, Solomon Islands), aibika (Papua New Guinea), pele, Pacific cabbage, edible hibiscus, hibiscus manihot, neka

Fakamatalaga ote Bele: A lau ote bele e uke ona vaega e isi e pukupuku pela mese tifa, loaloa kae mafai o lauliki. A mulo mote kau koi tama e mafai o kai mata. Ko lau tai matua e tau o saka, falai io me tao. Ate bele se vaega meakai e lei mo tamaliki foliki mafai e saka, tuki kae pulutasi mo nii vesiapolo. Mafai e saka te bele e tau o mutana a vai e fakaoga me maa galo minelolo taua pela mo potesiamu (potassium), makenesiamu (magnesium), siniki (zinc), fiti (iron) mote kalasiamu (calcium). Ko vai e toe ite sakaga o mulo e mafai o fai pela mese suupu. A lau ote bele e mafai o pulutaki mo niisi lau o lau-vesiapolo, fai ki lolo ke maluga te aofaki o (beta-carotene) mote fuliga ki vaitamini (vitamin A).

Vailakau mo masaki/niutulisini: Ite lasiga o fenua o Asia mote pasefika, ate bele e fakaoga mo fakalei a isu mafa, mae ote kato, tinae mae, te sana, te suka kae fesoasoani kite fakaleiga o ivi mo susu i failele.

Te mafai o maua: Te lakau tenei e ola iloto i tausaga takitasi i fenua ote (tropics) kae masani o tai tuai te ola i fenua tai moko kae toetoe foki a aso mo taimi ote taula.

E fakaola pefea: A bele e mafai o fakaola mai fuaga io me mai katiiga. A lakau ne fakaola mai fuaga e masani o tuai te ola kae mafai foki o se pau mote matua (e mafuli). Ko kaatiga e maua mai foitino o lakau ko maatua, te loa e manakogina ke mafai o kati ke fakaola kiei e nofo ite 20 – 60 cm, kae fakagalo kite one e 1/3 ote foitino ote katiiga. A katiiga o bele e mafai o tausi ke mafai o toe fakaoga io me ave kite sua koga. E tau o tausi fakalei ise koga malu kae ke isi ne vai ise paketi. A vai e tau o sui i aso kote mea ke se pala te kaatiga (cuttings).

E toki pefea: Te bele e faigofie o toki kae ola lei foki mafai te laukele ne faka-kaiao kae e isi foki ne vai. A lakau e mafai o ola lei ite laa mo naai malumaluga ite tutonu. Te pulou o kaiao (mulching) I tafito o lakau ka fesoasoani kite fakamokomokoga o lakau. Ke puipui te pala o pakili o tafito o lakau, a kaiao e see faaii ki pakili o lakau kae tai fakamao malie. Te velevele o lakau e fesoasoani kite ola lei o lakau.

Pokotiaga: Bele, e se pela mote chaya, e lasi e pokotia ne manu pela mo shot-hole beetle (*Nisotra basselae*), cotton semi-looper (*Anomis flava*), green coconut bug (*Amblypelta cocophaga*), spherical mealybug (*Nipaecoccus viridis*), corn earworm (*Helicoverpa armigera*), red cotton bug (*Dysdercus cingulatus*), red spider mite (*Tetranychus urticae*) and white fly (*Hemiptera* species). E lasi atu te fakamasei mafai e lasi te laa mote malo ote laukele. Filiga o lakau ola lei e taua kii kote mea ke mafai o se lasi te pokotia ne manu mo masaki.

Te tauga: Te bele e mafai o tau i aso takitasi mafai e ola lei. Fili fakalei a lau e paki pela foki mote mulo e kati kite toe

lau foou foliki. Te galuega tenei e tau o fai ite taimi e mokomoko te aso

Te tauga mote tausiga: A lau mo mulo e tau o fulu ke maa i vai io mene suatai. E mafai foki o kofu kise pepa siusiu kae tausi ite malu mose aso e tasi. Mafai o tausi ite aisa e tau o fakaoga i loto ote 2 -3 aso.

Molimau ne maua mai sukesukega/Niutulisin: A lau o bele ne fakamaua ite sukesukega ne mai Kiribati, Tuvalu, the Torres Strait Islands, Tonga, Samoa mo Solomona. Te bele se lakau e maluga tena aoga mote niutulisini. E 2-3 lima fonu lau mo mulo ote bele ko lava lei ate fakatokaga mose meakai mose tino tokotasi ka lava foki levolo ote niutulisin ite meakai tena.

Carotenoids: Te bele se lakau e maluga ite (lutein), tela e aoga mote tausiga o mata (e fakafoliki te pokotia i cataracts) i lau mo mulo katoa ne fait e sukesukega kiei. E maluga i beta-carotene (pro-vitamin A), e taua mo mata, te puipui mai masaki mote tausiga o ivi ote foitino. Carotenoids seki fai tena sukesukega kiei mail au mo mulo i Kiribati mo Tuvalu.

Polotini (Protein): E taua ite faitega o kano, te faitega o uufi o sela (cell membranes), sua mo vaega ote toto, manu teke ki masaki, (DNA and RNA). Ate levolo ote polotini ne maua i bele mai Tuvalu e 16% kae ko Kiribati e 20%, a pasene konei e maluga atu ki levolo ote polotini i niisi lakau e ola ite laukele e tasi.

Fiti (Iron): E taua mote galue lei ote toto pela foki mote enetise ite foitino.

Siniki (Zinc): E taua ite puipuiga mai masaki, te gasolo ote foitino, te fakagaluegaga o masoa i meakai, mote DNA mote faitega ote polotini. E tusa mote 600 a vaega kesekese o sua mo polotini e isi iei ne siniki (zinc) ite foitino.

Kalasiamu (Calcium): E taua te minelolo tenei ite faitega mote tausiga o ivi mo nifo. Te kalasiamu (Calcium)e taua foki i galuega a sela (cellular physiology) ite foitino.

Makanesiamu (Magnesium): E taua ite faitega o ivi, enetise mote fakagaluegaga o uaua mo kano ote foitino.

Saofa (Sulphur): E taua ite fakagaluegaga o uaua mo kano ote foitino kola e fesoasoani ite taofiga ote levolo ote suka. Te saofa (Sulphur) e taua foki mo lauulu ote ulu, aoga mo ive pela foki mo sokoga o tuli mo kano ite foitino.

This table compares selected mineral nutrients in leaves of bele, *Casuarina equisetifolia* and *Asplenium nidus* (bird's nest fern) growing near each other on the lagoon side of the airfield on Funafuti atoll, Tuvalu in 2014, 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).

	Fe	Mn	B	Cu	Zn	Ca	Mg	K	P	S	N%
Bele	56	9	26	9	**62**	**40000**	**7800**	12600	4000	3700	3.6
Casuarina	40	10	17	3	37	9000	1830	8300	1010	1450	1.7
Asplenium	13	8	**65**	3	22	17100	5400	**39000**	3100	1100	1.7
Cabbage	40	23	12	2	20	5700	1450	**29000**	3750	3750	2.8

Fe: iron; Mn: manganese; B: boron; Cu: copper; Zn: zinc; Ca: calcium; Mg: magnesium; K: potassium; P: phosphorus; S: sulphur; N: nitrogen. Asplenium, although low in iron, manganese and nitrogen, looked healthy with no chlorosis. Our other samples were similar. This plant appears to be, like hedge panax, very iron efficient.

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