

# TE KAITURAM

**Arana ae kinaki:** Moringa oleifera (Moringaceae)

**Arana ni kabuta n taabo ake a kuneaki iai:** te kai turam(Kiribati), saitani (Tuvalu), moringa, sajan, horseradish tree, malungay.

**Aron teina ao kinaakina:** Bon te aroka ae kona ni bwebwerake nakon te bubura ae bon, 4 nakon 6 te miita rietatana. E kona ni kateimatoaaki buburana ma rietatana man te ereaki ke n tiri mwaangaki ao mani kona naba ni maiu ke n tei ba te oo. Te ara ae kai turam e reke man tein nanan atina ae ababaki aika a kona n tinetine ni mwangana.

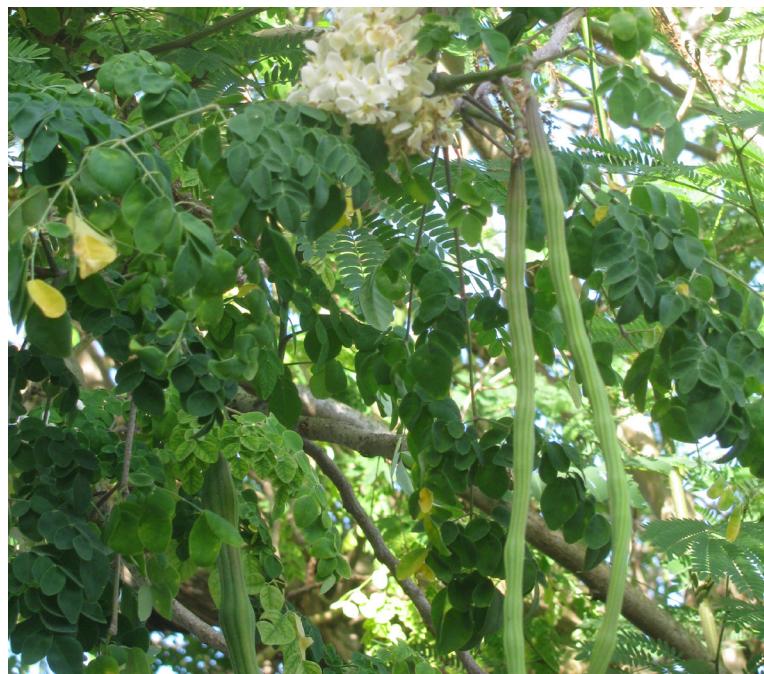
**Bonganana:** Baanikai aika a rangi n raoiroi nte katauraoaki imwin anaakina. Baan aika a uarereke a raoiroi ibukin te amarake ae te salad ngkana a kaitiakaki raoi e ngae ngke iai matoan kanakina irouia tabemaang. Ma tiaki aio te kangangangkana e karauaki n tubunaki ma te kare. N aron baanikai aika a rangi ni kaubwai ake a tia ni kaotaki n taiani beebe ni kaongora, ao e riai ni kamwaaki ma te ranniben; tiaki ti ibukin katamaroan kangkangina, ma e na kakerakea maitin oeran te karetinoiti, ao ni kabirimaaka bitakin te B-carotene nakon te vitamin A. Ngkana e aki tauraoi te ranniben ao e kona ni kabonganaki te oera ni kuuka ao oeran te peanut.

Aio aron kuukanakina ae bebete ae na kona n angan te amarake te Tamaroa ao te kangkang; karekei baanikai 6 te abuta ni bai ae on aika a bon tai. Kanakoi baana mani kaina, (aikai a na aki kamwaaki ni kamaraauaki), ikotia ma 1 te riita ranin te ika, ao kaboiarara ma 2 baan te lime ke baa n lemon ae korekoreaki ni kamaniiaki, renganna ma te taoro, te beba ao te beneka nakon are ko tangiria. Katikua ba ena bureoburo inanon 1 te miniti. Aio e rangi n tau ibukiia 4 aomata.

Te kaituram e kabonganaki naba ibukin kanaia maan, te oo ao kanan te aroka ae itiaki ao ibukin raumeaan ke kaitiakakin raoi te ran (ni kabonganaki atina).

**Ibukin te bainaoraki:** Baan te kaituram e boni kanaokoro ma aroka nako ibukin kaubwaina nte amarake ao te bainaoraki. N rongorongan aaba aika Inria, Baketitan ao Sri Lanka ao te kaituram ea tia ni kabongaaki ba bainaorakian te maneka, taian maninaoraki ao manin te kaentia. Iai kakoauuaaki ae kamatoaaki iai ibukin bainaorakian te tioka ao aroakin te buroo, rinanon ana makuri ni kauarerekea te tioka inanon te rara, te kiriti inanon te rara ao te riestaata n rara. Aio e rangi ni kakawaki nakon aban te betebeke ao makoron Aotiteria meang, aika a rangi ni maiti iai aorakin te buro ao te tioka. Te kaituram e rangi ni ibuobuoki naba nakon te ranni mamma.

**Aron rekena:** Te aroka ae te kaituram ea rangi ni kabuta iaon Biiti ao mani karoko n tabeua aban te betebeke ao ni makoron Aotiteria meang. E moan karokoaki atina mai Biiti nako Kiribati nte ririki 1992/1993. N ana onikabwebwe te botaki n ununiki I Kiribati bon te tabo ae kona n reke iai te aroka ae te kaituram, ao atina aika a maiti kurikuri n ana aobiti t botaki n ununiki are I tanaea iaon Tarawa teinainano.



## FACTSHEET 4 : TE KAITURAM

**Aron kabwebweana:** Aroka a kona ni kabwebweaki man te mwanga ao te koraa; aroka ake a kabwewbeaki man atina a kakoauaaki ba e iremwe ni ikawai rake ma a kona ni kaotinakoi waaka aika a nene mani matoa. Te mwaanga ae tairaoi, 200 nakon 600 mm abakina, ae unikaki tabona 1/3 inanon te tano, ngaii ae rangi n Tamaroa ibukin ribanaakina.

**E kanga unikakina:** Te kaituram bon te aroka ae aki kanganga aron unikakina. Ngkana e maiu, ao bon te aroka ae kona ni maiu n akea ana kanganga ma te mwautakataka, te taoro ao tea ng, mani kona ni maiu n taabo aika a remweman aki raoiroi tanoia ao rangi n rokoraoi aron maiu naba n te riringa ae korakora. Kaituram ake a boni ikawai a kainnanoa te tiri mwanga ke te tiri mateaki ibukin bukan teimatoan reereken te baanikai aei.

**Kanganga:** Te man ma te aoraki bon tiaki te kanganga; e ngae n anne ao wakana e kona n rotaki maiuna n te mka ngkana e unikaki te aroka ae n te tano ae rang n aoneinei

**Aron taina:** Te Kaituram e bon rang ni maiureirei mani teutana kangangana n tai ao ni manga okira bon okira oin arona. E rang Tamaroa karaokin aei n te aoa ae nang maitoro ibukin totokoan baana bwa e naki rai.

**Imwin taina ao kawakina:** Baana ni kabane ma kain baana a kona ni n tebokaki raoi ma te ran ke taari ae itiaki. Baana e kona n tiki ngkana e kabonganaki imiina. Ngkana e bwantoronaki man niniraki n rabunaki te beebea ae maraurau baan te kaituram ao mani kawakinaki n te tabo ae mwaitoro, e na ti kona n kawakinakinaki inanon tebongina. Baana e kona n aki buakaka n te man ae kaani wiiki ngkana e katukaki inanon te kaonteina ae uarereke ao man kawakinaki inananon te ruu ni kamaitoro ke te aitibaoki. Ngkana e mautakataka baana ao e nako n aki ni mmwa baana tabeua imiin tabeua ao man aki bongana baana.

**Taian Kukune/Bongana nakon te amarake:** A tia n rikoaki taian aroka ae Kaituram mai Kiribati, Tuvalu, Torres Strait Island, Solomon Islands and Samoa. Uoua baim ae oon (100 grams) ae kona ni angan temanna te aomata bwai ae a bongana nakoina n anganna te birirake n te minerals, vitamins (A, B, C,), protein, caroteinoids ao taian phytochemicals n aron te anitcancer compounds glucosinolates and isothiocyanates.

**Protein:** E rang bongana ibukin te mwatireti, Cell membranes, enzymes. Blood components, antibodies, DNA ao te RNA. Ngke e katineaki raoiroin te kaituram ao e kuneaki bwa e bon rang tamaroa n te proteiun level ae kania te 22 % ni kabotauaki ma taian aroka ae ake a tamatama ke ni maiu iaon raoia n aroka ibukin ana ibuobuoki n anga te nitrogen nakon raona n aroka.

**Carotenoids:** Te Kaituram mai Toromon bon te kabanea n mwaiti mwaitin ana beta-carotene(pro vitamin A), ao e mwaiti naba ana lutein, are e rang ni bongana ibukin marurungin te mata.

**Iron:** E bongana ibukin marurungin te rara ao te korakora.

**Selenium:** E bongana ibukin te antioxidant enzymes ibukin te thyroid ao biribirin te kaburoro ao ibukin nab ate antivirals ao te anticancer effects. Baan te Kaituram bon 10-12 te tai rawatan mwaitin te selenium nakoia aroka tabeua ake a maiu irakina.

Te taibora ae oti inano aei e kabotaui taian minerals nutrients ao te carotenoids n baan te aroka ae te kaituram ao te bere ake a maiu ni kabane n te Burn Creek, Honiara, Solomon Islands ni 2012 ao te Kabiti ni matang ( Mwaitina ae kaboaki man ana mwakete Honiara, Solomon Islands ao ai ana mwakete Nukualofa, Tonga ni 2012) (Rawawatan mwautakatakana e bon anaki n te mg/kg ma ti te Nitrogen:e anaki rawawatan mwautakatakana n %. Mwaitin karinanin te bere bon 3.

	Fe	Cu	Zn	Ca	Mg	S	N %	Se	lutein	alpha carotene	beta carotene
Drumstick	<b>82</b>	7	31	<b>20000</b>	3700	<b>12300</b>	<b>5.1</b>	<b>2.0</b>	<b>773</b>	0	<b>427</b>
Bele	<b>73</b>	8	<b>44</b>	<b>23600</b>	<b>7100</b>	4500	<b>4.9</b>	0.17	<b>1006</b>	31	<b>358</b>
Cabbage	40	2	20	5700	1450	3750	2.8	na	5	0	2

Fe: iron; 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

Te beebea aei boni ngaii naba rinanin nako te beebea ae koaua(Fact Sheet) are e katauaraoki man te tienta mai Australia ibukin katabanin nako te rabakau ibukin te ununiki(ACIAR) ma ni manenaki te makuri aei man te karikirake ae " Kateimatoan tikiraon te tano,karikirakean te ununiki ao te tararu iaon te amarake n aba aika marawa nuukaia(Improving soil health, agricultural productivity and food security on atolls: SMCN2014/089)".E boboto te beebea ae koaua aei iaon karinan nako iteran baana ae no.4 ni kabobongaki arona inanon ana tai te karikirake ae ACIAR PC/2010/063.

E katabaninaki te rongorongo n te beebea aei mai iroia G.Lyons,G.Dean,R.Goebel,M.taylor,R.Kiata. Tein te beebea (layout) aei e katauaraoki mai iroun S.Tukidua.



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