

Food plants for healthy diets in Timor Leste



Practical ways of growing local food plants, and doing it well

Bruce R French

LEARN
GROW

Helping the hungry feed themselves



A Project of the Rotary Club of Devonport North District 9830
& Food Plants International

www.learn-grow.org

Food Plants for Healthy Diets in Timor Leste

This is one of three versions of this publication produced for the Learn♦Grow™ Timor Leste project.

Other publications have been produced in the Indonesian and Tetun languages and are titled:

Tanaman pangan sebagai makanan yang sehat bagi Timor Leste

Kuda ai-han ba dieta saudavel iha Timor-Leste

This project has been developed by the District 9550 Learn♦Grow project team led by PDG Phil Dempster from the Rotary Club of Cairns Earlville, email: lad@iig.com.au

All publications will be made available as pdf books on the Learn♦Grow™ website (www.learn-grow.org) and the Food Plants International website (www.foodplantsinternational.com)



© 2011 Food Plants International Inc.
ISBN 978 0 9808182 3 9

Learn♦Grow™ - A project of the Rotary Club of Devonport North,
Rotary District 9830 & Food Plants International



Using food plant resources well



The health, well-being and food security of a nation requires making the best use of all available food plant resources.



Food plants for healthy diets in Timor Leste



With a rich, diverse tropical climate, a variety of soils, altitudes, and rainfall patterns, it is time to discover and explore the amazing range of frequently over-looked tropical food plants that suit the locations, are rich in nutrients, and are adapted to this climate. It is time for Timor Leste to be proud of its own tropical foods.



They are God's gifts to the nation.



There are lots of tropical food plants in nearby countries - Indonesia has 1,800, Papua New Guinea has 1,260 and Malaysia has 1,800



Healthy diets



Simeon from Arop village in Papua New Guinea



Sweet
potato

Energy food



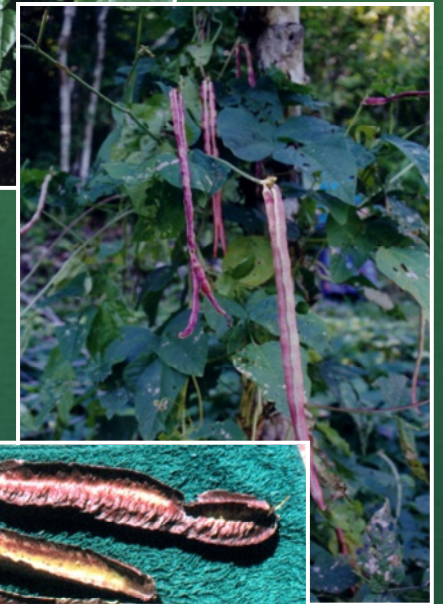
Health food

Growth food

To stay healthy all people, and especially children, should eat a wide range of food plants. This should include some plants from each of the food groups - energy foods, growth foods and health foods. Then each of the nutrients required by our bodies will be met in a balanced manner.



Food security



To be sure that gardens and food supplies don't fail in bad seasons, a range of local food plants should be grown. And to be sure that food doesn't become short in some seasons, people should grow a range of different food plants, planted at different times throughout the year. This should include fruit & nut trees.

Foods to be proud of



Edible hibiscus



Amaranth

Dark green tropical leaves are an important source of iron, protein and other vitamins and minerals essential for healthy diets. Everybody, especially women and children, should eat a fish tin full each day.



Sweet fern



Fig leaf

Foods to be enjoyed



Melimjo

A taro leaf a day gives a child their Vitamin A

Eat dark green leaves every day



Taro



Sweet leaf

Sweet leaf - good for hedges around houses!

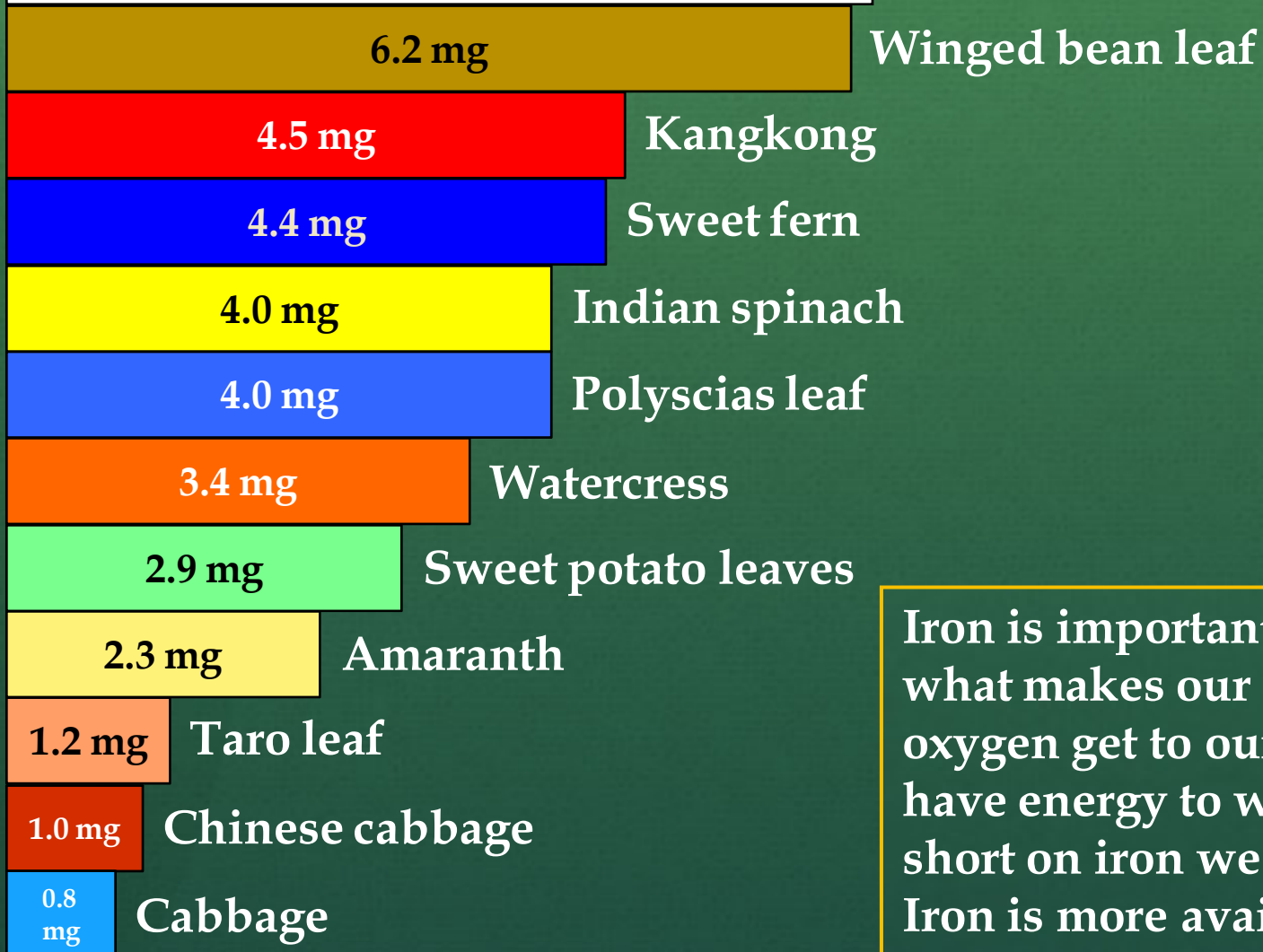
Kangkong - great for swamps



Kangkong

Iron for healthy blood

Leafy greens - Iron content

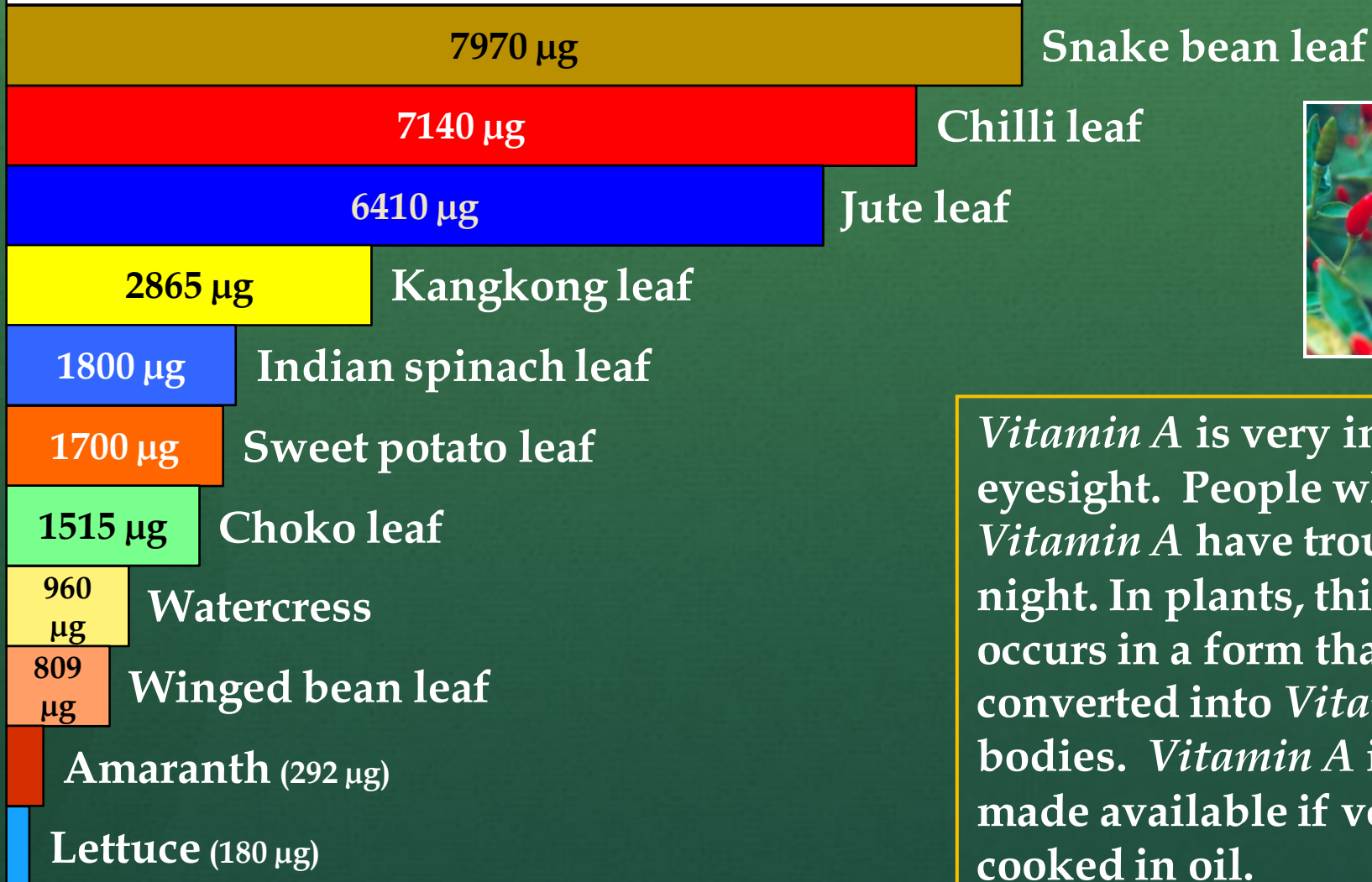


Winged bean leaves & flowers

Iron is important in our blood. It is what makes our blood red. Iron helps oxygen get to our lungs. This helps us have energy to work. When we are short on iron we are called anaemic. Iron is more available when Vitamin C is also present.

Vitamin A for good eyesight

Leafy greens - Vitamin A content



Vitamin A is very important for eyesight. People who are short of *Vitamin A* have trouble seeing at night. In plants, this chemical occurs in a form that has to be converted into *Vitamin A* in our bodies. *Vitamin A* is more easily made available if vegetables are cooked in oil.

Cereal crops, the backbone of the nation



Rice and corn
need plenty of
water



Cereals need
careful storage
after harvest to
stop loss to rats
and insects



Sorghum and
millet have better
drought tolerance



Root crops are perfect plants for hot humid tropical climates

Starchy staple foods are the lifeblood of Timor Leste. Rice, corn and root crops supply energy.

We need to look out for pests, disease, and signs that the plants are growing in poor soil.



Taro



Cassava



Tannia



Greater yam



Lesser yam

Pests, disease and deficiencies



Banana scab moth damage

The very small moth hides from the sun under the flower bracts

The taro blight fungus washes in the rain on hot wet nights

If plants are grown well, they get less damaged by insect pests, diseases and they do not go dry or pale showing that the soil is poor. Good farmers learn how to recognise these signs and act early.



Taro blight

Cassava growing in very poor coral soil cannot take up enough plant food



Cassava short of nutrients

This fungus scab gets bad when soils are poor, and also on varieties from overseas



Wrinkled sweet potato leaves

This fungus makes leaves die off early when the leaves get damaged



Yam anthracnose

Other starchy staple foods



Coconut



Cooking bananas



Corypha palm for sago, sap and seeds

Bananas with green stems and tight leaf canals indicate easier to grown kinds with less disease and better drought survival

Nuts are nutritious and can be stored

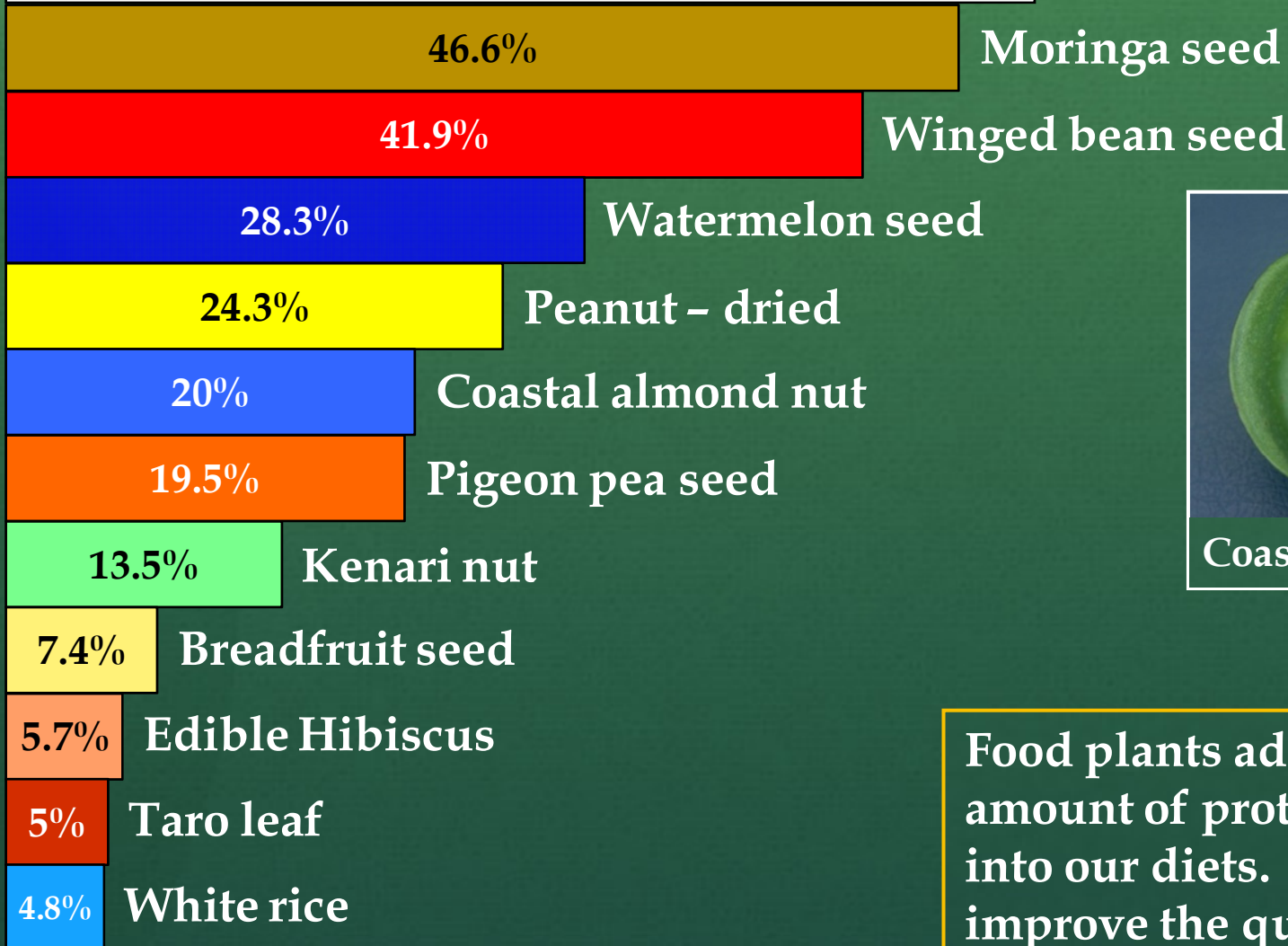


You need to plant some trees now for your children to enjoy in future years. They are better food than snack foods from stores.



Protein foods

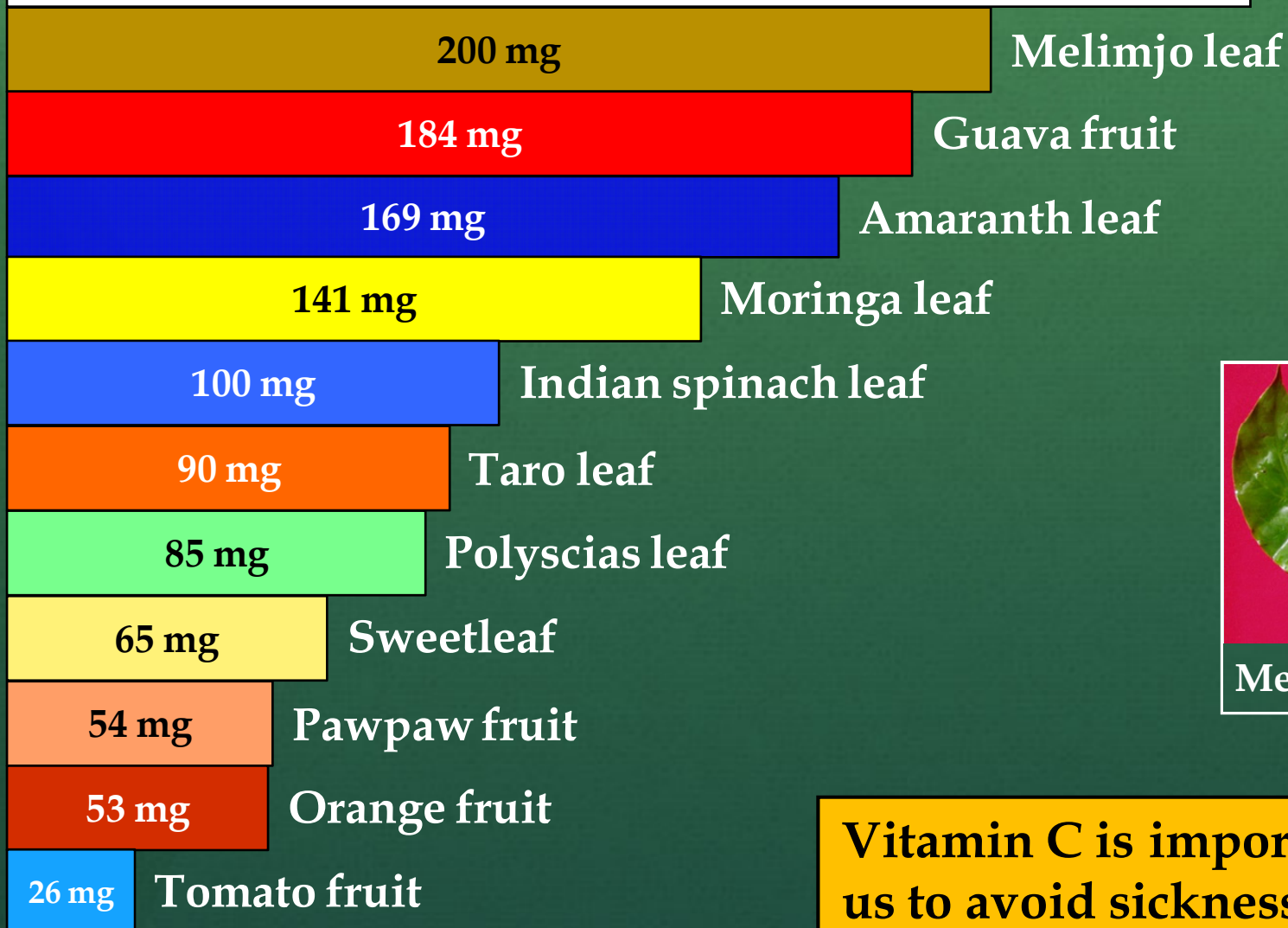
Timor's plants - Protein content



Food plants add an important amount of protein or growth food into our diets. Fish and meat can improve the quality of the protein.

Vitamin C for good health

Fruit & leafy greens - Vitamin C content



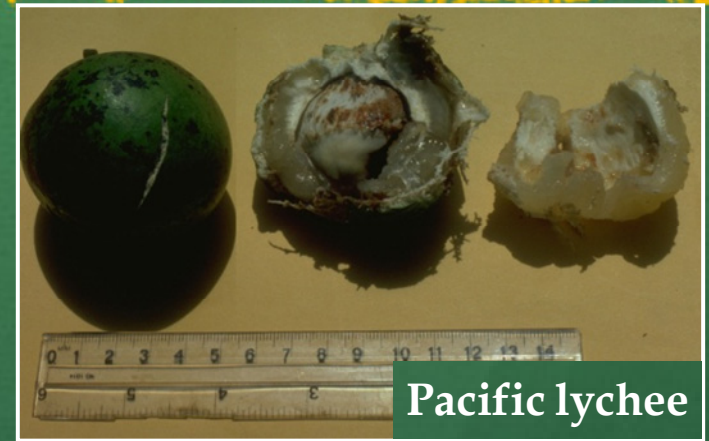
Vitamin C is important for helping us to avoid sickness.

Fruit taste good and keep us well



New Guinea walnut

Fruit provide
minerals and
vitamins and other
important nutrients
that everybody needs
to stay healthy and
well.

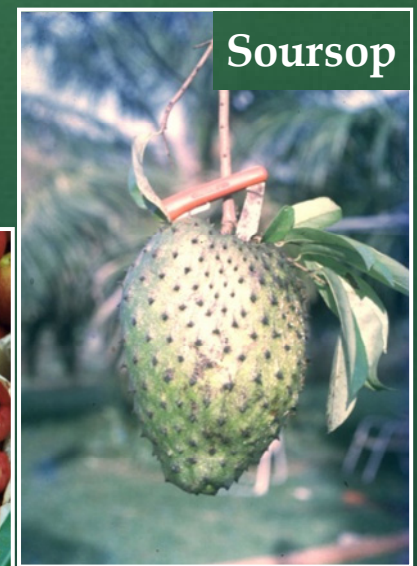


Pacific lychee



Carambola

Everybody should eat some fruit
every day.



Soursop

Clever people plant
several kinds of fruit
trees



Golden apple



Malay apple

Beans provide protein and restore soils



Winged bean

Beans have special bacteria attached to their roots that allow them to take nitrogen from the air and put it into the soil for plants to use. It is free fertiliser!



Peanut

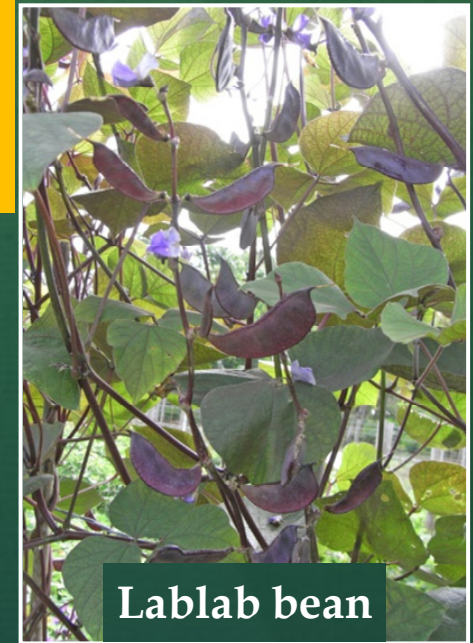
Climbing beans can be allowed to climb up corn in gardens and still get good crops of beans and corn.



Snake bean



Pigeon pea



Lablab bean

Vegetables for variety and nutrition



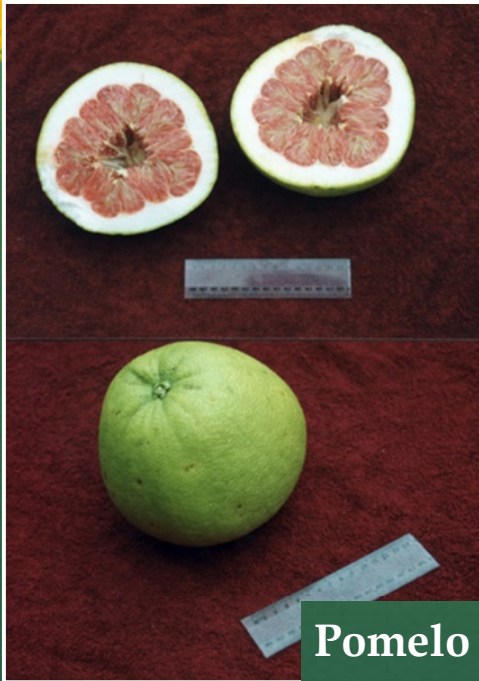
As some vegetables only grow in certain seasons, families should plant a wide range to provide food all year.



Some vegetables and edible leaves should be planted near houses so they are easily available even on wet days, or when people are too tired or busy to go to distant gardens.



Fruit for hot humid climates



Pomelo



Pineapple



Mango



Soursop



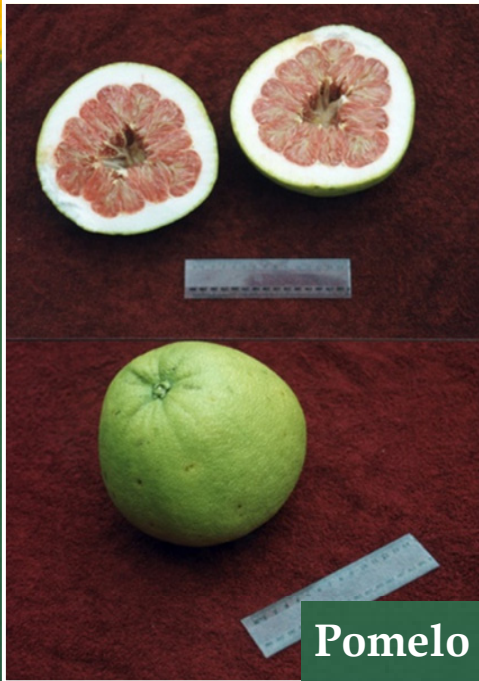
Pawpaw

Fruit to be enjoyed by all.
Some need to be planted
for the future.
Many fruit are seasonal.
Some grow quickly.



Watermelon

Fruit for hot humid climates



Pomelo



Pineapple



Mango



Soursop



Pawpaw

Fruit to be enjoyed by all.
Some need to be planted
for the future.
Many fruit are seasonal.
Some grow quickly.



Watermelon

Plants for edible hedges



Salak palm



Sweet leaf



Fig leaf



Melimjo

Many shrubs can be trained as hedges around houses and gardens and help provide additional food

Foods for flavoring



Onion



Garlic



Spring onion



Chinese chives



Ginger



Turmeric



Chilli



Galangal



Basil

The way to make nutritious food tasty!



Bilimbi

Plants for swampy places



Swamp taro



Tespong



Kangkong



Food plants can be grown in all sorts of locations



Water chestnut



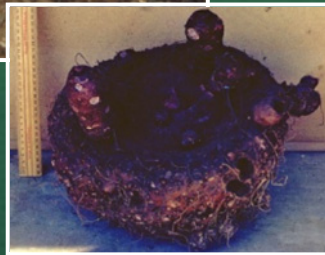
Lotus root



Storable foods



Elephant foot
'yam' is a taro
that will store
well



The '*antiquorum*' variety
of taro can be stored



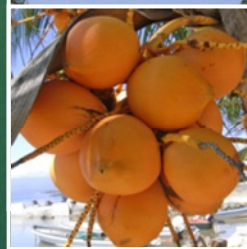
Great yam
tubers will
store well

Lots of seeds, nuts and cereals can also be stored if kept protected from rats and insects

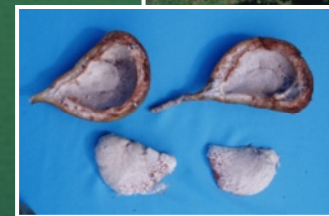
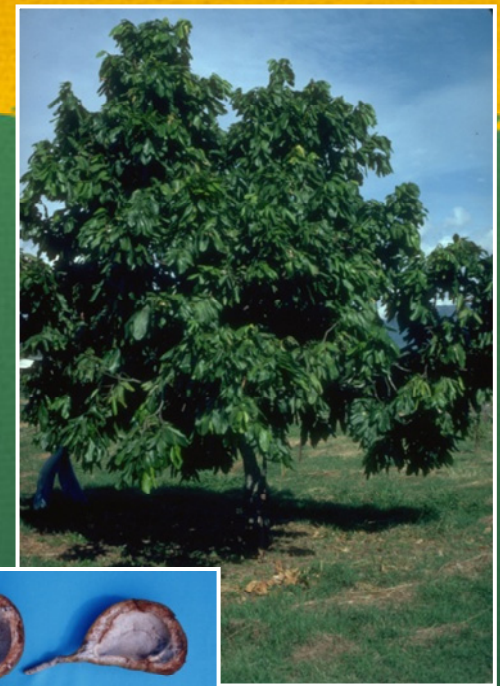
Food plants near the sea



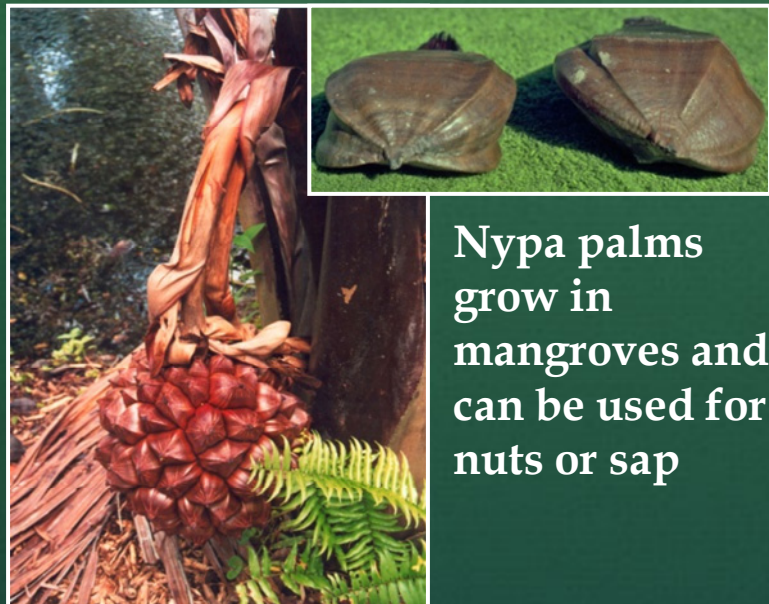
Sea almond nut trees will grow along the beach



Coconuts thrive near the sea



Tahitian chestnut suits coastal areas



Nypa palms grow in mangroves and can be used for nuts or sap



Red-fruited mangrove can be processed and eaten



Scientific name	English	Tetun	Indonesian	Fataluka
<i>Abelmoschus esculentus</i>	Okra		Kacang bendi/ Daun gedi, daun dedi, daun belender	
<i>Abelmoschus manihot</i>	Sunset hibiscus			
<i>Aleurites moluccana</i>	Candle nut	Ai-kami	Kemiri	Hai
<i>Allium ascalonicum</i>	Shallot		Bawang bombay	
<i>Allium cepa</i>	Bulb onion		Bawang merah	
<i>Allium sativum</i>	Garlic		Bawang putih	
<i>Allium tuberosum</i>	Chinese chives		Bawang kucai/ daun bawang kucai/ bawang bakung	
<i>Alpinia galanga</i>	Galangal		Laos/Lengkuas	
<i>Amaranthus tricolor</i>	Amaranth		Bayam	
<i>Amorphophallus paenifolius</i>	Elephant foot yam		Bunga Rafflesia/ bunga bangkai	Maek
<i>Anacardium occidentale</i>	Cashew	Caju	Jambu mete	
<i>Ananas comosus</i>	Pineapple	Ai-Nanas	Nanas	
<i>Annona muricata</i>	Soursop	Ai-ata boot	Sirsak	
<i>Annona squamosa</i>	Custard Apple	Ai-ata	Srikaya	
<i>Apium graveolens v dulce</i>	Celery		Seledri/ daun sup	
<i>Arachis hypogea</i>	Peanut	Forae	Kacang tanah	
<i>Artocarpus altilis</i>	Breadfruit	Kulu	Sukun	
<i>Artocarpus heterophyllus</i>	Jackfruit	Kulu jaka	Nangka	
<i>Averrhoa bilimbi</i>	Bilimbi	Bilimbi	Belimbing	
<i>Averrhoa carambola</i>	Carambola		Belimbing manis/ belimbing besi	

Scientific name	English	Tetun	Indonesian	Fataluka
<i>Basella rubra</i>	Indian spinach		Gendola/remayong	
<i>Borassus flabellifer</i>	Toddy palm	Acadiru	Lontar	Kaakala
<i>Brassica oleracea v capitata</i>	Cabbage	Repolya	Kol Daun	
<i>Cajanus cajan</i>	Piegon pea		Kedelai putih	
<i>Canarium indicum</i>	Canarium nut		Kenari	
<i>Capsicum annum</i>	Capsicum		Paprika/cabe besar	
<i>Capsicum frutescens</i>	Chilli	Ai-manas	Cabe kecil/lombok	
<i>Carica papaya</i>	Papaya	Ai-dila	Pepaya	Aidila
<i>Citrullus lanatus</i>	Watermelon	Pateka	Semangka	
<i>Citrus aurantifolia</i>	Lime		Jeruk limau	
<i>Citrus maxima</i>	Pomelo	Jambua	Jeruk Bali	
<i>Citrus reticulata</i>	Mandarin		Jeruk Mandarin	
<i>Citrus sinensis</i>	Orange	Sabraka	Jeruk manis	
<i>Cocos nucifera</i>	Coconut	Nuu	Kelapa	
<i>Colocasia esculenta</i>	Taro	Talas	Talas	
<i>Corypha utan</i>	Buri palm		Gebang/Agel	Komolu
<i>Cucumis sativus</i>	Cucumber	Pepinu	Ketimun/Mentimun	
<i>Cucurbita moschata</i>	Tropical pumpkin	Lakenu	Labu/Labu kuning	
<i>Curcuma longa</i>	Turmeric	Kinur	Kunyit/Kunir	
<i>Dimocarpus longan</i>	Longan		Lengkeng	Aja loloru
<i>Dioscorea alata</i>	Greater yam		Ubi Jalar ungu	Churailahoo
<i>Dioscorea esculenta</i>	Lesser yam		Ubi Jalar kuning	
<i>Diplazium esculentum</i>	Sweet fern		Pakis/Paku	
<i>Dracontomelon dao</i>	Argus pheasant tree		Dahu	

Scientific name	English	Tetun	Indonesian	Fataluka
<i>Eleocharis dulcis</i>	Waterchestnut		Palau-Palau/Ciperus Tanduk Rusa	
<i>Ficus carica</i>	Turkish fig		Ancak	
<i>Ficus wassa</i>	Fig leaf		Ficus	Ho holu
<i>Flacourtia indica</i>	Governer's plum		Lobi-Lobi	Ukulau
<i>Garcinia mangostana</i>	Mangosteen		Manggis	
<i>Gnetum gnemon</i>	Spinach joint fir		Melimjo	Kusalu
<i>Inocarpus fagifer</i>	Tahitian chestnut		Gatep (Bali), Bosua (Sulawesi), Gayam	
<i>Ipomoea aquatica</i>	Water Spinach	Kanko	Kangkung	
<i>Ipomoea batatas</i>	Sweet potato	Fehuk midar	Ubi Jalar/Ubi Manis	
<i>Lablab purpureus</i>	Lablab bean		Kacang Kara, Kerara (Jawa), Komak	
<i>Lansium domesticum</i>	Langsat		Langsat	
<i>Litchi chinensis</i>	Litchi		Kalengkeng, Lici, Litsi	
<i>Luffa acutangula</i>	Angled loofah		Gambas (Jawa), Hoyong	
<i>Luffa cylindrica</i>	Smooth loofah		Patola	
<i>Lycopersicon esculentum</i>	Tomato	Tomati	Tomat	
<i>Mangifera indica</i>	Mango	Has timor	Mangga	Muapayahu
<i>Manihot esculentum</i>	Cassava	Ai-Farina	Ubi Kayu/Singkong	
<i>Metroxylon sagu</i>	Sago	Akar	Sagu	Akar
<i>Momordica charantia</i>	Bitter cucumber		Paria (Kupang)/Pare (Jawa)	
<i>Morinda citrifolia</i>	Indian mulberry	Ai-nenuk	Noni, Pace, Mengkudu	Nenuka
<i>Moringa oleifera</i>	Horseradish tree	Marungi	Marungga	
<i>Morus alba</i>	Mulberry		Bebesaran	

Scientific name	English	Tetun	Indonesian	Fataluka
<i>Mucuna pruriens var. utilis</i>	Velvet bean		Kacang Benguk	Kavaha vaha
<i>Muntingia calabura</i>	Panama berry		Kersen	
<i>Musa spp.</i>	Bananas	Hudi	Pisang	
<i>Nelumbo nucifera</i>	Lotus root		Teratai/Lotus	
<i>Nephelium lappaceum</i>	Rambutan		Rambutan	
<i>Ocimum basilicum</i>	Basil	Ruku	Kemangi/Selasih	Chan mukia
<i>Oenanthe javanica</i>	Water dropwort		Tespong	
<i>Oryza sativa</i>	Rice	Foos	Padi	
<i>Pachira aquatica</i>	Panama waterchestnut		Bunga bakung api/Mawar porselen	
<i>Pandanus tectorius</i>	Coastal screwpine		Pandan Pantai	
<i>Persea americana</i>	Avocado	Abokat	Avokat	
<i>Phaseolus vulgaris</i>	Common bean	Fore/ Koto	Buncis	
<i>Pometia pinnata</i>	Pacific lychee	Ai-maras	Leungsir	Malahu
<i>Psidium guajava</i>	Guava	Guyana	Jambu Biji/Kujawas	
<i>Psophocarpum tetragonolobus</i>	Winged bean		Kecipir/Kacang Botor	
<i>Punica granatum</i>	Pomegranate	Rumaun	Delima	
<i>Saccharum edule</i>			Tebu Telur	
<i>Saccharum officinarum</i>	Sugarcane	Tahu	Tebu ungu	
<i>Salacca zalacca</i>	Snake skin fruit		Salak	
<i>Sauropus androgynus</i>	Sweet leaf		Katuk/Chang Kok	
<i>Sechium edule</i>	Choko	Lekeru mutin	Labu Siam	
<i>Setaria italica</i>	Foxtail millet		Rumput Gajah/Rumput Benggala	

Scientific name	English	Tetun	Indonesian	Fataluka
<i>Spondias cytherea</i>	Golden apple		Kedondong Manis	
<i>Syzygium malaccense</i>	Malay apple		Jambu Bol	
<i>Tamarindus indica</i>	Tamarind	Sukaer	Asam jawa	
<i>Terminalia catappa</i>	Coastal almond		Ketapang	
<i>Vigna unguiculata var sesquipedalis</i>	Yardlong bean		Kacang Panjang	
<i>Xanthosoma sagittifolium</i>	Tannia		Tajam Molek	
<i>Zingiber officinale</i>	Ginger	Ai-Lia	Jahe	

Notes

Notes

Acknowledgements

This publication has been developed as part of a project undertaken by the Learn♦Grow project team from Rotary International District 9550, led by PDG Phil Dempster from the Rotary Club of Cairns Earlville. The production of this booklet has been made possible through the support of the Food Plants International and Learn♦Grow project team from Rotary District 9830.

Learn♦Grow and Food Plants International acknowledge the extensive indigenous knowledge that has assisted, both directly and indirectly, in the production of this book.

Nothing would have been possible without the commitment and support of the volunteers, some affiliated with Rotary Clubs, and some not, who have shared the vision, and unselfishly given their time and energy over several years to support this project.

Cover design – Kieran Bradley (Workhorse Design Group)
Layout and formatting – John McPhee

LEARN GROW™

Helping the Hungry Feed Themselves



A Project of the Rotary Club of Devonport
North, District 9830, District 9600
& Food Plants International

www.learn-grow.org