TREE FOODS FOR HEALTHY DIETS IN SOUTH SUDAN

PRACTICAL WAYS OF GROWING LOCAL FOOD PLANTS AND DOING IT WELL

Solutions to Malnutrition and Food Security
Tree foods for healthy diets in South Sudan

The South Sudan Integrated Food Security and Livelihood Project, which is funded by the Australian Government - Department for Foreign Affairs and Trade (DFAT) through the Australia NGO Cooperative Programme (ANCP) funding mechanism, aims to achieve improved household food and income security through increasing agricultural production, productivity and increasing incomes, which can be used to enable families to purchase food and diversify diets.

Food Plant Solutions publications provide educational resources to different stakeholders in South Sudan, with special support to FMNR (Farmer Managed Natural Regeneration) introduction and promotion work, by providing good reference to food plant trees, creating awareness and enabling a better understanding of the nutritional value of their local food plants.

For further details about the project please contact us at: info@foodplantsolutions.org

We welcome and encourage your support.

Food Plant Solutions - A project of the Rotary Club of Devonport North, Rotary District 9830 & Food Plants International.

Food Plant Solutions operates in accordance with Rotary International Policy but is not an agency of, or controlled by Rotary International.
The health, well-being and food security of a nation requires making the best use of all available food plant resources.
Tree food plants for healthy diets in South Sudan

With a climate ranging from semi-desert to high rainfall woodlands, and a variety of soils, it is time to discover and explore the amazing range of nutrient-rich and frequently overlooked tropical tree food plants that suit South Sudan.
Healthy diets

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 - e.g. Goat’s horns
Growth foods - e.g. African locust bean
Health foods - e.g. Moringa
Then each of the nutrients required by our bodies will be met in a balanced manner.
Food security

Grow a range of different tree food plants that produce at different times throughout the year, so food doesn’t become short in some seasons. This should include trees that provide fruit, nuts, leaves and starch.
Protein foods

Some tree food plants can be important sources of protein, particularly if fish and meat are not readily available.

- Maroola
- African locust bean
- Maroola plum - kernel
- African star-chestnut - seed
- Apple ring acacia - seed
- Goat’s horns - leaf
- Desert date - nut (dry)
- Camel’s foot leaf tree - seed
- Oil bean tree
- White tree
- Ball head cabbage - leaf

**Protein (g/100 g)**

- African locust bean - seed (dry)
- Maroola plum - kernel
- African star-chestnut - seed
- Apple ring acacia - seed
- Goat’s horns - leaf
- Desert date - nut (dry)
- Camel’s foot leaf tree - seed
- Oil bean tree
- White tree
- Ball head cabbage - leaf
Vitamin A for good eyesight

Vitamin A is very important for eyesight and fighting disease, particularly in infants, young children and pregnant women.

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 C for good health

Vitamin C is important for helping us to avoid sickness.

![Boabab](image)

![Cashew](image)

![Chart](chart)

### Vitamin C Content (mg/100 g)

- **Boabab - fruit**: 350 mg
- **Cashew - fruit**: 250 mg
- **Small-leaved white raisin - fruit**: 150 mg
- **Key apple - fruit**: 100 mg
- **Indian jujube - fruit**: 50 mg
- **Mobola plum - fruit**: 25 mg
- **Tamarind - fruit**: 12 mg
- **Pawpaw - fruit**: 5 mg
- **Moringa - leaf (boiled)**: 1 mg
- **Mango - fruit**: 0 mg
Iron for healthy blood

Iron is important in our blood. It is what makes our blood red.

Iron helps oxygen get to our lungs. This helps us to have energy to work.

When we are short of iron we are called anaemic. Iron is more available when Vitamin C is also present.
Zinc for growing bodies

Zinc is particularly important for young children and teenagers to help recover from illness and be healthy.

![Catkin blooming](image)

![Apple ring acacia](image)

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<table>
<thead>
<tr>
<th>Food Item</th>
<th>Zinc (mg/100 g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boabab - fruit</td>
<td>8</td>
</tr>
<tr>
<td>African star-chestnut - seed</td>
<td>7</td>
</tr>
<tr>
<td>Catkin blooming - leaf</td>
<td>6</td>
</tr>
<tr>
<td>Apple ring acacia - seed</td>
<td>5</td>
</tr>
<tr>
<td>White-leaved raisin - fruit (dry)</td>
<td>4</td>
</tr>
<tr>
<td>Carob - pod</td>
<td>3</td>
</tr>
<tr>
<td>Camel's foot leaf tree - seed</td>
<td>2</td>
</tr>
<tr>
<td>Tamarind - fruit</td>
<td>1</td>
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<tr>
<td>Lettuce - leaf</td>
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</table>
A number of trees in South Sudan can be grown for starch

Starchy staple foods are important energy foods for people in South Sudan.

Starch foods provide a good basis for the rest of the diet.
Some starch trees are suited to drier climates
Some starch trees are suited to wetter climates.
Legumes 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!

- African locust bean
- Tamarind
- Apple ring acacia
- Camels foot leaf tree
- African locust bean
- Tamarind
There are tree legumes that grow in dry climates.
Moist areas also grow tree legumes
Leafy green foods are important

Dark green leaves are an important source of iron, protein and other vitamins and minerals essential for healthy diets.

Dark green leaves contain folate which all women of child-bearing age need.

Low levels of folate at conception can lead to serious birth defects.

Everybody, especially women and children, should eat a hand full of leafy greens each day.
Leafy green foods can be harvested from a variety of trees
Everyone should eat some fruit everyday

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

Fruit add flavour to life and make good, quick snacks.
Fruit trees for dry climates

- Boabab
- Sycamore fig
- Indian jujube
- Pomegranate
- Date palm
- Maroolla plum
Fruit trees for wet climates

- Paw paw
- Hybrid plantains
- Governor’s Plum
- Monkey guava
- Wild custard apple
- Cape fig
- Paw paw

[Images of fruit trees and fruits]
Nuts for snacks and nutrition

Nuts are nutritious and storable.

Nuts are tasty.

Nuts are rich in protein, vitamins and minerals.

Nuts can be stored to provide food out of season.
Nut trees for dry climates

Desert date

Shea butter nut

African star chestnut
Nut trees for moist climates

African breadfruit

Tamarind

African wild mango

Cashew
<table>
<thead>
<tr>
<th>Scientific name</th>
<th>English</th>
<th>Dinka</th>
<th>Arabic</th>
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<tbody>
<tr>
<td><em>Adansonia digitata</em></td>
<td>Boabab</td>
<td>Dunybud, Zuony</td>
<td>Tebeldi, Humar</td>
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<td><em>Amblygonocarpus andongensis</em></td>
<td>Scotsman's rattle</td>
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<td>Hashrajat almawt</td>
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<tr>
<td><em>Anacardium occidentale</em></td>
<td>Cashew</td>
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<td>Alkajw</td>
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<td><em>Annona senegalensis</em></td>
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<td>Chewing gum tree</td>
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<td><em>Balanites aegyptiaca</em></td>
<td>Desert date</td>
<td>Thou, Apamthou</td>
<td>Higlig, Lalob</td>
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<td><em>Bauhinia thonningii</em></td>
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<td>Mokheit</td>
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<td>Monkey guava</td>
<td>Cum</td>
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<td>Key apple</td>
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<td><em>Faidherbia albida</em></td>
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<td>Ngaap</td>
<td>Gameiz</td>
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</table>
Acknowledgements

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