Food Plants International

Helping the hungry feed themselves well through being good stewards of God's amazing resources

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Food and Nutrition

It's time we thought about good nutrition, not just profits

Apparently, there is some connection between food production and nutrition! But these days when everybody works in splendid isolation in their academic ghettoes or silos, agriculturalists rarely think about nutrition and nutritionists rarely think about agriculture. I look back with gratitude to 46 years ago when I was teaching food crop production at what is now the Papua New Guinea University of Natural Resources and Environment, when they sent me to a nutrition course in the highlands. It was the final day when they took us to visit the malnutrition ward of Goroka hospital where about 27 babies and children were all dying of malnutrition. I burst into tears and walked out having my own children of that age and decided someone should do something. After about 46-50 years I feel I am starting to make some progress. There have been jumps and insightful occasions along the way, but the journey has been fascinating and the need increasingly critical.

On a return visit to Papua New Guinea in 2017, the newspaper had a large and dramatic article on the lack of supplies of Vitamin A. I went down to the local markets and there was an amazing collection of dark green provitamin A-rich leafy plants and what surprised me more were the variety of edible oils being squeezed from local plants to cook the leaves in. Lack of Vitamin A can show itself as decreasing ability to see as evening approaches, and this can lead to total blindness. One third of the children of the world suffer Vitamin A deficiency. It also reduces illness due to infections and diarrhoea.

Vaitamin A saplai i go daun

Benorah C Hesehing i raitim

RIPOT bilong stadi i soim olsem mak bilong bringim Vaitamin A sut marasin na salim i go long ol haus sik i go daun.

Nesenel Polisi bilong helt i tok long olgeta pikinini aninit long 5-pela krismas i mas kisim Vaitamin A sut.

Long 2007 i kam long 2011, mak bilong bringim marasin i stap wankain na 70 pesen bilong ol liklik pikinini i kisim.

Vaitamin A sut marasin i save wok long banisim ol pikinini long kisim sik na strongim banis bilong bodi long paitim wantaim binatang bilong givim sik.

Em i save helpim pikinini long kamap bikpela, i gat gutpela ai na stap helti.

Long taim bebi i gat 6-pela mun, em i mas kisim Vaitamin A sut na bihain em i mas kisim tupela taim long olgeta yia inap em i gat 5 krismas.

Dispela bai wok olsem banis long kisim sik olsem dairia (pekpek wara), misels, ai pas long lukluk long nait.

Em bai helpim banis bilong bodi long daunim sik bai pikinini i no ken dai.

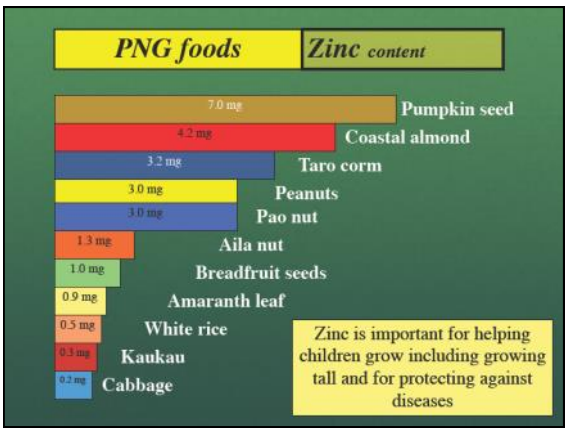
Sapos piknini i no kisim dispela marasin, em i gat bikpela sans long kisim sik nimonia (pilim pen long taim em pulim win) na ol narapela sik na inap long dai sapos em i no kisim helpim hariap.

Teknikel Edvaisa bilong Helpt Dipatmen, Eileen Dogma i soim dispela ripot long bung bilong NDOH wantaim UNICEF, long Pot Mosbi, las wik.

Long narapela sait, ol pikinini i save pilai long graun o kaikai ol doti samting na kisim hukwom i go insait long bel.

Health News written by Benorah C Hesehing in a Papua New Guinean newspaper, in 2017

Once I went with my daughter to a nutrition conference in Sydney as she was studying her postgraduate degree in Tropical Health and Nutrition. She has done the nutrition in our database. They were highlighting zinc deficiency as a major problem. I thought zinc was what you covered roofing iron with to stop it rusting. But apparently over 100 enzymes in our bodies need zinc. Once my old university contacted me about TB and malaria in the Western Province of Papua New Guinea, and I felt like telling them to go and see a doctor and to not bother an agriculturalist with health problems. But then I discovered that good levels of zinc and Vitamin A gave much improved resistance to these problems. And along almost every beach in the tropical world there is a lovely shady tree with the nuts packed full of zinc. It is the coastal almond or *Terminalia catappa*. Many other seeds and nuts are rich in zinc.

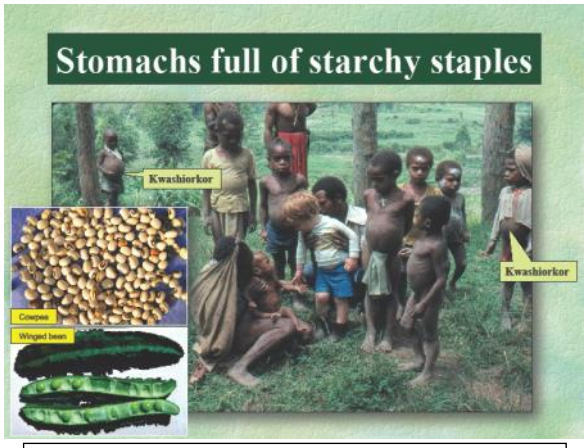


Zinc levels in some Papua New Guinean food plants

Dark green leaves are usually rich in iron and folates. There are over 9,500 plant species where the leaves are edible. These already grow in almost every environment in the world. About 1/3 of the women in the world are anaemic or iron deficient and folates or folic acid is crucial for protein

development of developing of babies in the womb. So folate levels have to be up to good levels before a woman gets pregnant. Lack of folates can cause birth defects. Iron and folates are linked, and as folates are not stored, dark green leaves need to be eaten regularly. People who are obese have also been called 'salad avoiders'!

In at least our 'Western' world there has been a fad towards low-carb diets. Carbohydrates are possibly the most essential nutrient for everybody everywhere. Without them we lack energy. And if we try to use high meat diets, especially red meats as a substitute, this causes cancer and a shorter life. But what is most important is to choose good carbohydrate foods. Normally un-refined grains are valuable, but in Australia we have pushed wheat production further and further out into the arid zone with the consequence that the gluten content gets higher, and so we have the highest level of coeliac problems in the world. You would almost think that there weren't other cereals lower in gluten or better adapted to arid zones. Of the 430 or so different cereal species in the world, 5 cause coeliac problems and 130 suit arid zones.

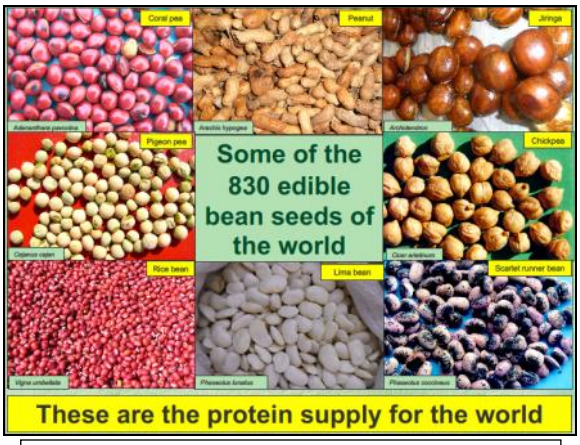


Lack of protein shown in young children compared to author's son

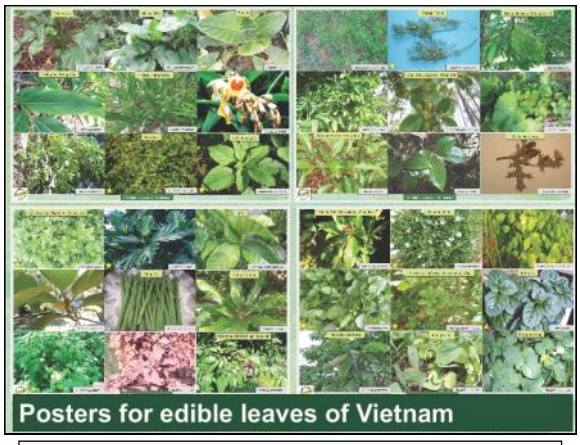
I personally love root crop cultures so the different taro and yam species occurring with hundreds of cultivated varieties, fascinate me. There are only about 3,700 species of plants where the roots are edible. And in many cultures lack of protein can easily be seen by the greatly enlarged stomachs of the children. They have stomachs full of a starchy staple and not enough protein. Given that 85% of the farms of the world are less than 2 hectares, the protein must come from plants with meat as a small supplement. Thankfully there are 2,128 bean family plants that are usually rich in protein. They can normally fix their own nitrogen which improves the protein levels.

With thanks for your interest,

Bruce



Examples of beans used for protein in the world



A poster showing edible leaves grown in Vietnam

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