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Nutritional Value of Local Foods or How to Provide Adequate Essential Nutrients for Humans

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**Nutritional value starts with
the understanding of what
good nutrition means.**



4 Core Nutrition Concepts

“Too often forgotten”

- 1. Homeostasis** – continual replacement of cells and tissues

Homeostasis Requires



4 Core Nutrition Concepts

“Too often forgotten”

1. Homeostasis – continual replacement of cells and tissues

2. **Essential Nutrients**

a) Substances the body requires for normal function

b) **CANNOT** make from other substances or enough to meet needs



**No single food, food group or
“superfood?!@#” contains all of the
essential nutrients**

**Consuming a wide variety of foods -
best chance to meet essential
nutrient requirements**



4 Core Nutrition Concepts

“Too often forgotten”

1. Homeostasis – continual replacement of cells and tissues
2. Essential Nutrients
3. **Bioavailability**



Nutrient Bioavailability

- The amount of an ingested nutrient that can be digested, absorbed, and assimilated.
- Amount consumed **does NOT** = amount absorbed into the body



Spinach does not equal Beef in terms of Iron Bioavailability

•Total Iron = 2.43mg Iron / 3 oz



Approx. Bioavailability
2% =

0.049 mg Iron

•Total Iron = 2.21 mg Iron / 3 oz



Approx. Bioavailability
20 %

0.442 mg Iron



4 Core Nutrition Concepts

“Too often forgotten”

1. Homeostasis – continual replacement of cells and tissues
2. Essential Nutrients
3. Bioavailability
4. **Food Composition**



4 Core Nutrition Concepts

“Too often forgotten”

4. **Food Composition**

Knowing what nutrients are in foods will allow us to make appropriate recommendations based on science - not superfood hype.



Food Composition Pioneers

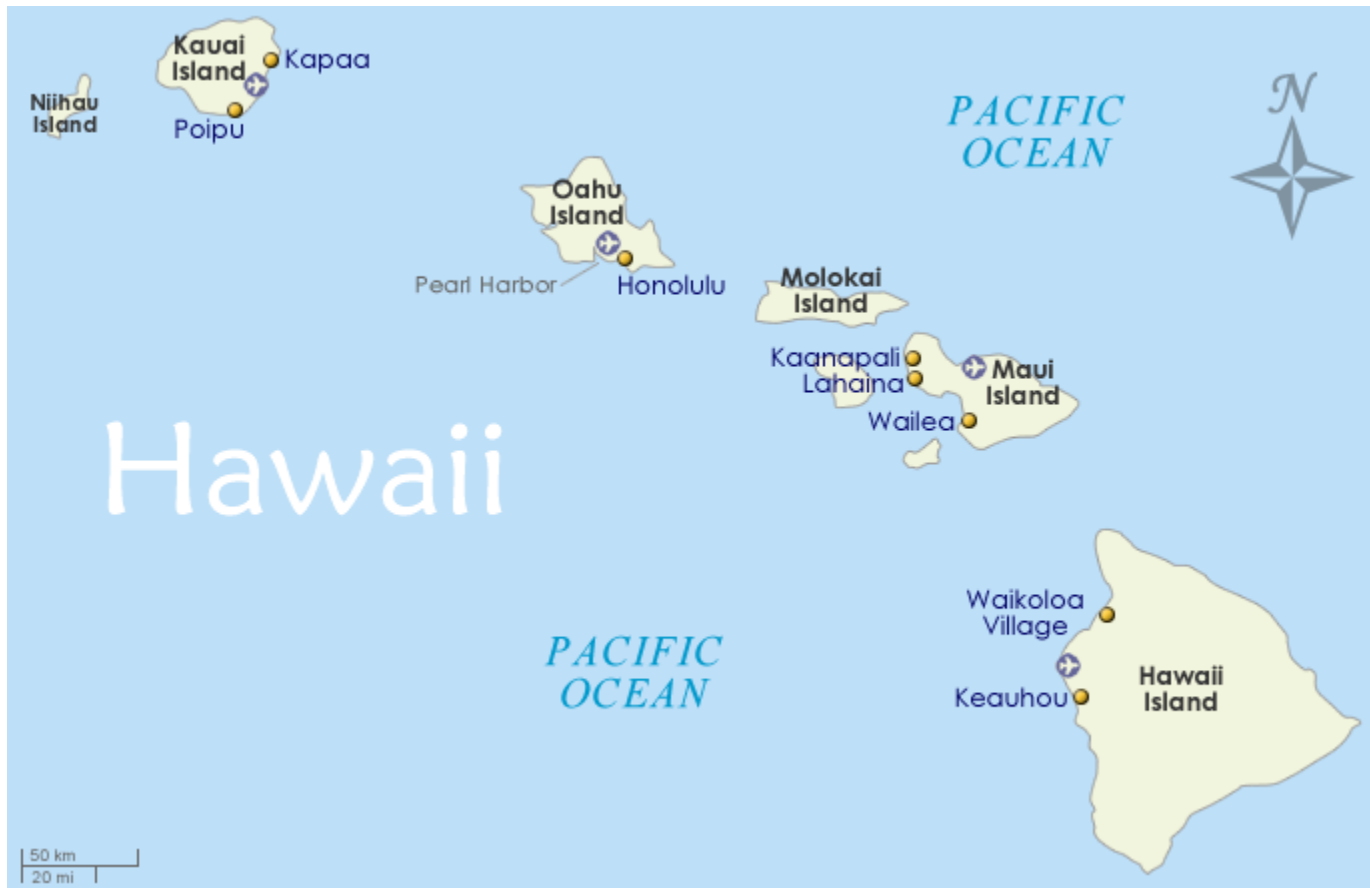
**Carrie D Miller,
Bluebelle Standall,
Nao Wenkam
Stacy K. Evensen**



Why local?



Distance = Time to Freshness



Freshness = >> Vitamins



**Freshness [especially in
produce generally means
more vitamins].**



Freshness Matters

- Available within hours or a day of harvest.
- Farmers can harvest more fully mature produce.
- Freshness = translates into better taste and texture for the majority of vegetables.
- MORE NUTRIENTS



Examples of Local Foods that provide important nutritional benefits



Mango – b-carotene and Vitamin C





Tomatoes & Citrus Vitamin C



Consuming Fruit instead sugar cane offers more

Banana – Potassium





Chinese cabbages – Good bioavailable calcium



Seaweed - minerals!!



Coffee potassium



Distance = Need to build Sustainability Infrastructure



Breadfruit

Energy

Fiber



Local milk does not need repasteurization



Rising CO₂ Poses Major Threat to Human Nutrition, Study Says

Crops that provide dietary zinc and iron will have significantly reduced concentrations of those nutrients by 2050.

By [Melissa Malamut](#) | [Hub Health](#) | May 20, 2014 1:31 pm

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The majority of extinct and endangered species in the world were on islands!!



The most endangered human species live ...



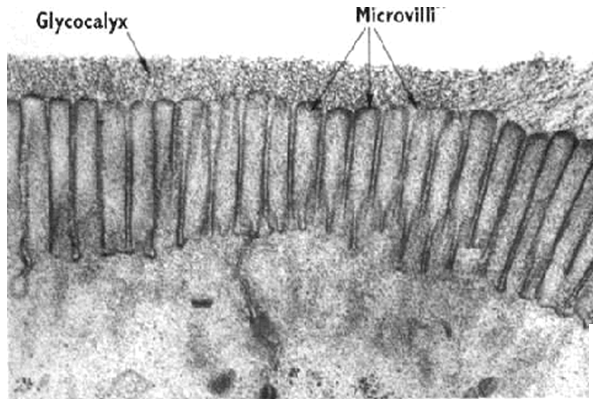


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Intestinal Tract



Normal Villi



**Slightly Abnormal –
e.g low Protein**



FIG. 2. Case D. Prior to iron therapy. There is milk propra of the villi giving a somewhat broadened. There is only meager apparent shortening of villi change. The whole picture is one of modest alter

Iron Deficiency in a Child –
Naiman 1964



Possible Nutritional Causes of Non-Alcoholic Fatty Liver

