

Zambia 2010



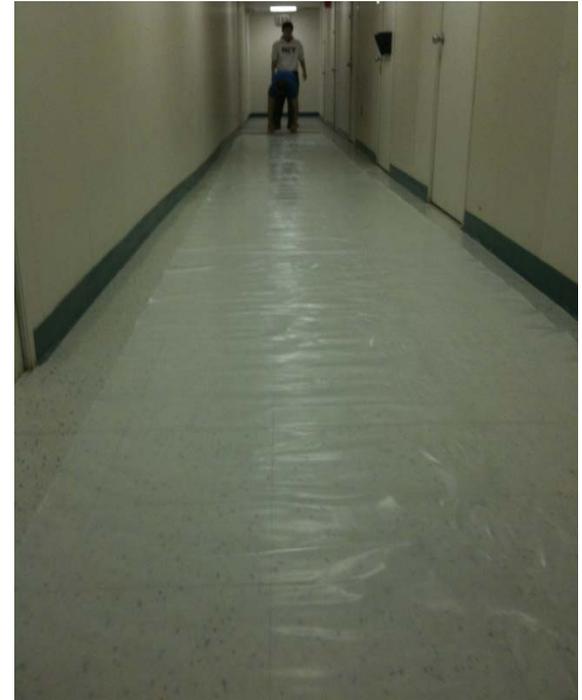
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Corey Kubber and four anonymous MIT students
D-Lab Fall 2009 Country Presentation

Biodigester

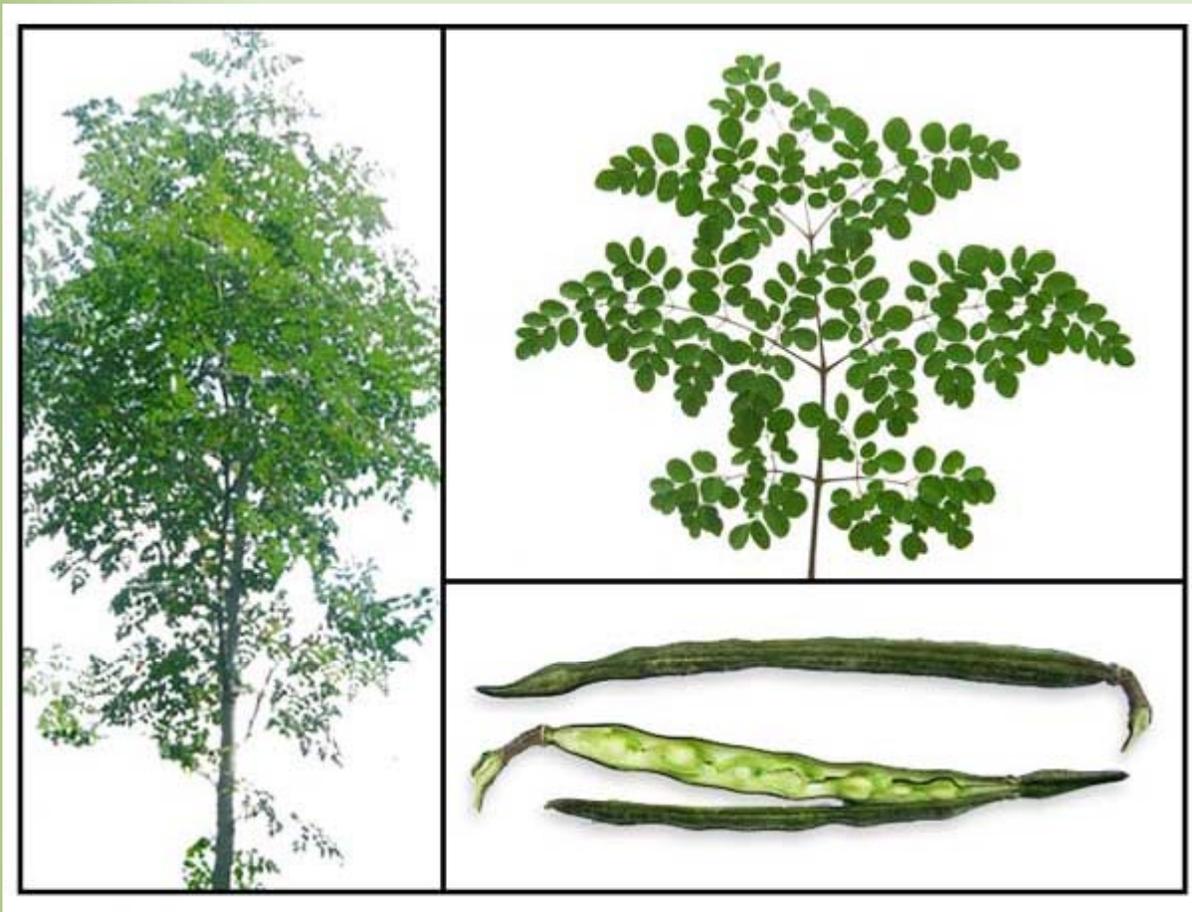


Preparation



End goal

Moringa



Courtesy of Dr. Godofredo Stuart, Compilation on Philippine Medicinal Plants, StuartXchange <http://stuartxchange.org>. Used with permission.

Moringa Facts

- 4x Vitamin A of carrots -- protects against eye/skin/heart diseases and diarrhea
- 4x Calcium of milk -- builds strong bones & teeth; prevents osteoporosis
- 3x Potassium of bananas -- essential for brain & nerve function
- 2x Protein of milk -- essential for cell function, growth, muscle
- All of the essential amino acids
- Plus a wealth of other vitamins and minerals

Part of this Complete Breakfast!

Nutrient	Unit of Measure	Daily Values	100 g Moringa Leaf Powder	% Daily Value
Vitamin A	International Unit (IU)	5000	31506	630%
Vitamin C	milligrams (mg)	60	17.3	29%
Calcium	milligrams (mg)	1000	2003	200%
Iron	milligrams (mg)	18	28.2	157%
Thiamin	milligrams (mg)	1.5	2.64	176%
Riboflavin	milligrams (mg)	1.7	20.65	1215%
Niacin	milligrams (mg)	20	8.2	41%
Phosphorus	milligrams (mg)	1000	204	20%
Magnesium	milligrams (mg)	400	368	92%
Zinc	milligrams (mg)	15	3.29	22%
Copper	milligrams (mg)	2	0.57	29%
Total Fat	grams (g)	65	2.3	4%
Potassium	milligrams (mg)	3500	1324	38%
Total carbohydrate	grams (g)	300	38.2	13%
Fiber	grams (g)	25	19.2	77%
Protein	grams (g)	50	27.1	54%

But wait..There's more!!

Amino acid	mg per kg body weight	mg per 70 kg	100 g Moringa Leaf Powder	% Daily Value
Isoleucine	20	1400	825	59%
Leucine	39	2730	1950	71%
Threonine	15	1050	1188	113%
Valine	26	1820	1063	58%

Health and Education

Coluvert + Pathscreen

collect water

Pour sample

Mix water and powder

Place tube in pouch

Wear belt for 24 hours

Shine UV light on sample

Clear water	Yellow water	Yellow water that glows
Safe	Safe	Unsafe

Petrifilm Test

collect water

Squeeze bulb to remove water

Transfer 5 drops

Slowly layer top

Materials

2 layers

Cover top and bottom

Put in pouch

Wear belt for 24 hrs

Lift top layer

Look for red and blue dots

Red dots	Blue dots
Safe	Unsafe

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SP.721/ 11.025J / 11.472 D-Lab I: Development
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