

Welcome to **Soya Nutrition in Uganda**

Village-based, hands-on cooking and health classes training on the benefits of soy beans already grown by local farmers!



How did Soy Nutrition get started?

Through a partnership of USAID and CRS/FRB partnership in East Africa in the Farmer to Farmer (F2F) Program. Joy Kauffman, MPH F2F Volunteer



USAID
FROM THE AMERICAN PEOPLE



Foods Resource Bank
A Christian Response to World Hunger

Joy accepted F2F assignment and then went to IntSoy at U of I



Thankfully I received a partial scholarship and met my first dear Ugandan Soy Friends, Dennis and Mercy Agaba!



Teaching rural
farmers to treasure
the seeds they grow...
Soya in new forms!

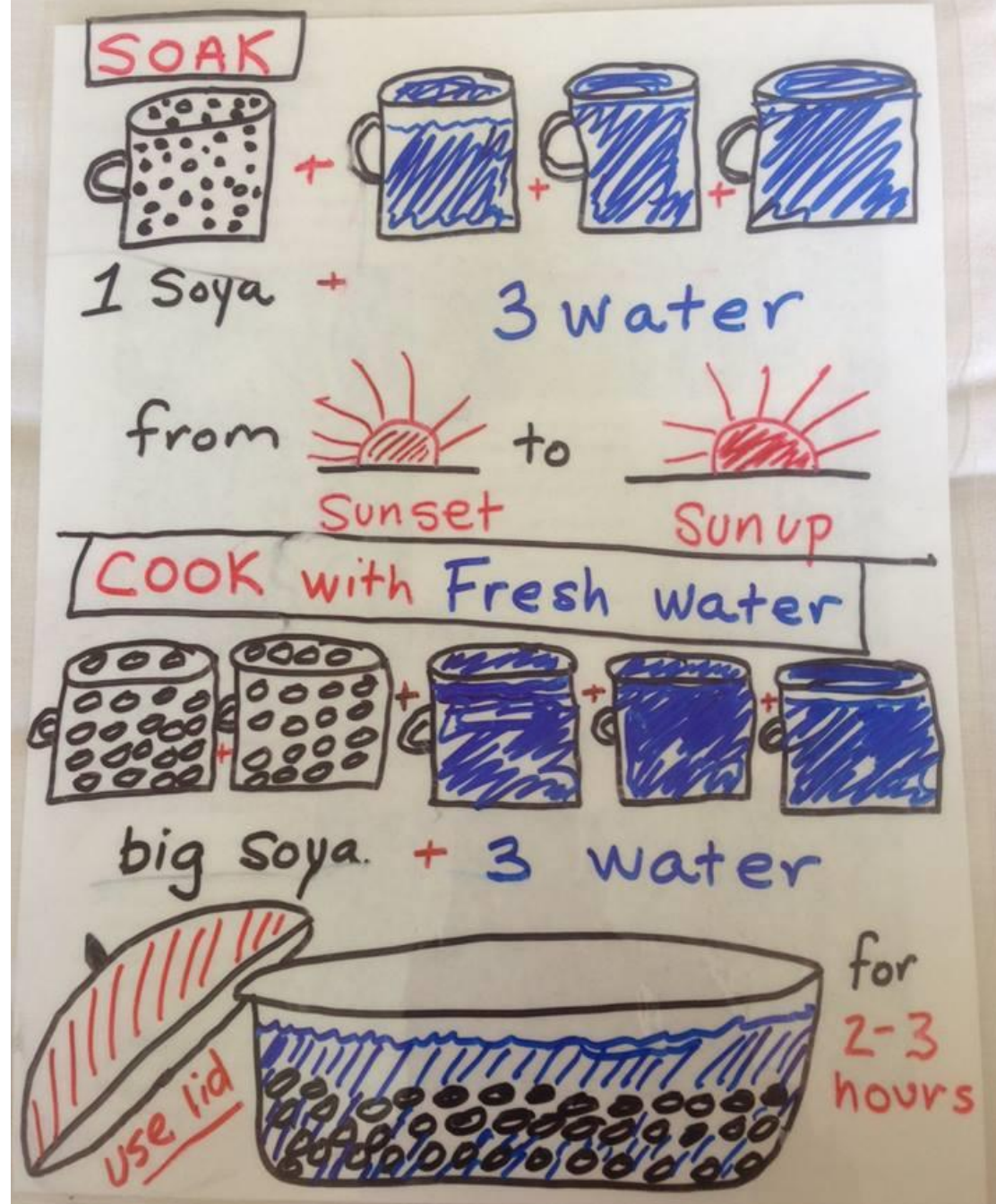
Soaked and boiled
soya was a new
concept!



Teaching a new way to prepare soy beans ...



Robert with the Pot of Gold!!
Soaked, cooked soya!



One of many
“classrooms” and
test “kitchens” for
Soya Nutrition!

All had in common:

- 3 stone fires
- Water in yellow jugs
- Kids and babies
- Lots of fun!!



Making Soya Milk a High Protein Treat



Men don't normally even touch the pots and pans but the idea of making soya milks was so fascinating that the men volunteered....

Viola... a Soya Milk Tea party!



The most important participants of the Soy Milk Tea Party, the very young and the old.





Using the residual, “Okara” to making a complete, plant-based, high Protein Porridge for Breakfast

This impressive lady was making a soy enriched porridge that the children eat every morning.

One man made all his children come and get some of this miracle food!

They were so happy because it was all made from things they grow!

Why teach how to eat soya to people who grow soya? Don't they know how? Do we?

- ▶ Interestingly, whole soybeans are rarely consumed in Western countries. The majority of soy in the diet comes from the refined products that are processed from the soybeans.
- ▶ Most of the soy crop in the U.S. is used to produce soybean oil. The majority of soybean meal is used to feed livestock, but it can also go through further processing to produce isolated soy protein and other products.
- ▶ These products are all used in our industrial food system. We don't eat unprocessed soy!
- ▶ A Ugandan subsistence farmer does not eat industrial food system. They eat what they grow.
- ▶ Here's how they eat Soya: Ugandan Soy Beans are traditionally dried, then roasted and salted and washed down with tea.



A hunger to learn... Nawansega's Children

Soya Nutrition seeks to address “persistently high rates of malnutrition in Uganda: [where] 38% of children under 5 suffer from chronic malnutrition” according to the World Health Organization.

Soya is a great source of proteins, fiber vitamins and minerals, but....

The way soya is prepared leaves the phytates in tact and the texture will reduce nutrient absorption!

Children under 4 can barely even crunch the soy beans the way Ugandans' prepare them.



What does Chronic Malnutrition look like?



Most the children and adults never get any animal protein and they don't understand or can't access the protein combination of grains and legumes! Little Jessica (in the "Joy" shirt) here had grey hair that shows protein deficiency and skin that shows vitamin deficiencies! I don't know the boys' name but what cuties!!

What does the Bible say about what to eat?



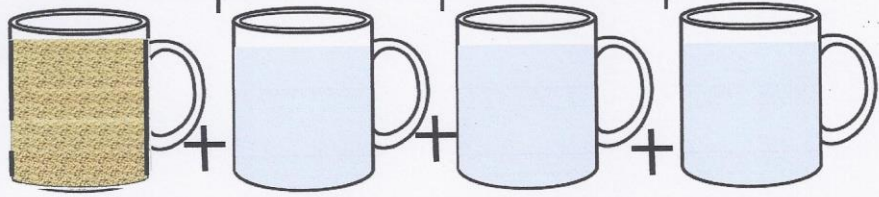
Genesis 1:29 for God's first dietary guidelines. *"God said, **"See, I have given you every plant yielding seed that is upon the face of all the earth, and every tree with seed in its fruit; you shall have them for food."***

Soy is a seed, like all grains, legumes (beans) and nuts.

Ezekiel 4:9 focuses on mixing grains and legumes (like soy) to make a plant based complementary protein! God got the ratio right too! ***"And you, take wheat and barley [Grains], beans and lentils [Legumes], millet and spelt [Grains]; put them into one vessel, and make bread for yourself....."*** Ezekiel ate only this for 390 days, so it can sustain life!

PREPARING SOYA

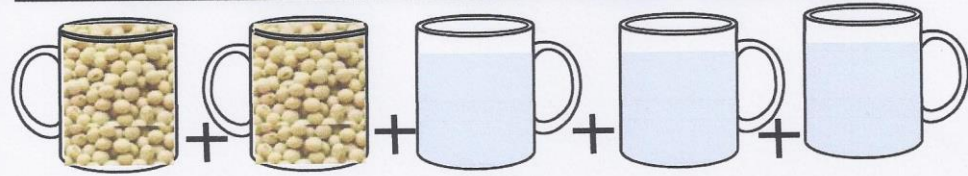
1. Soak in Water



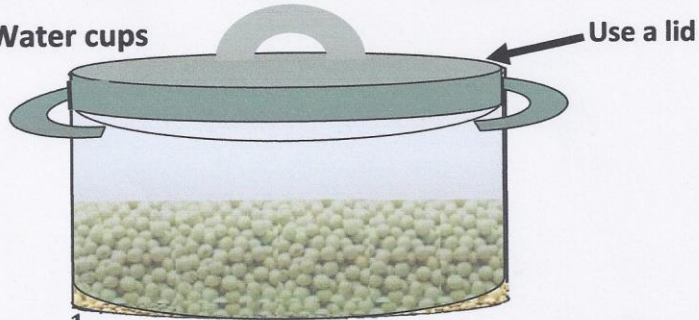
1 Soya cup + 3 Water cups



2. Cook With Fresh Water



Big soya + 3 Water cups

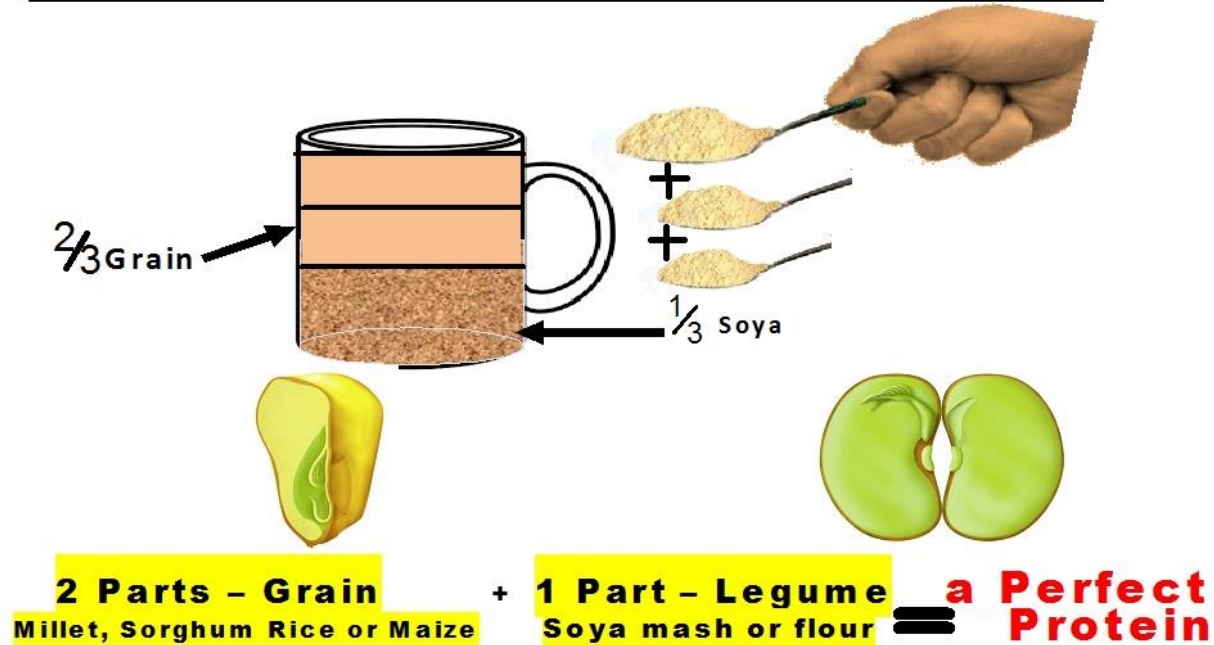


For Milk Soya boil $\frac{1}{2}$ hour, mash and add in golden water, filter.
To eat beans, boil for 2-3 hours. Use Fireless cooker to cook for 1 hour.

Materials transformed by the Soya Nutrition Team



Soya Posho or Busera



3 Parts of Seed



Ezekiel's Recipe: Plant-Based Proteins are essential!!

UDHA did a “short study that found that most families in Naigobya only access Meat during the festive season, (X-mass).”



What does The Secretary of Health and Human Services (HHS) 2015 Dietary Guidelines Advisory Committee's Report say about what to eat?

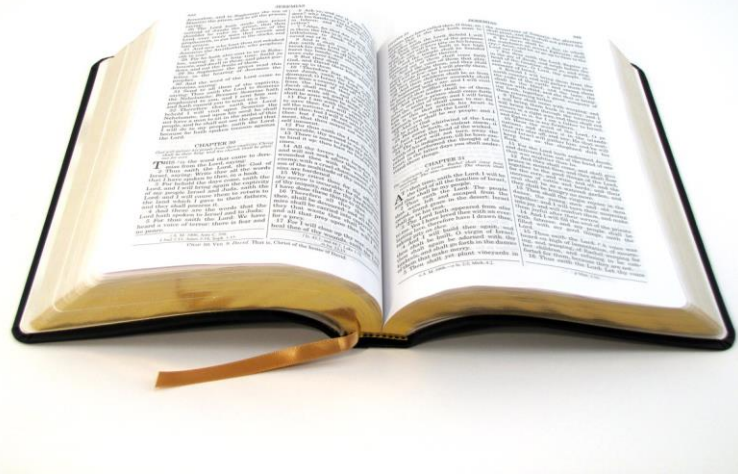
- ▶ The summary recommendations include: that a healthy dietary pattern is higher in vegetables, fruits, whole grains, low- or non-fat dairy, seafood, legumes, and nuts; moderate in alcohol (among adults); lower in red and processed meat; and low in sugar- sweetened foods and drinks and refined grains.
- ▶ Vegetables and fruit are the only characteristics of the diet that were consistently identified in every conclusion statement across the health outcomes.
- ▶ Whole grains were identified in every conclusion with moderate to strong evidence.



Health benefits of phytochemicals in whole foods = food synergy

- ▶ The benefit of a diet rich in fruits, vegetables, and whole grains is attributed to the complex mixture of phytochemicals present in these and other whole foods.
- ▶ This explains why no single antioxidant can replace the combination of natural phytochemicals in fruits and vegetables and achieve their health benefits.
- ▶ Therefore, the evidence suggests that antioxidants are best acquired through whole food consumption, not from expensive dietary supplements.





What else does the Bible say about what to eat?

God is a great teacher. So just to make sure we understood what to eat, God set an example and God repeated Himself.

*In Genesis 2:8-9, it says, “The **LORD God** planted a Garden...and there He put humans...and out of the ground the Lord God made all kinds of trees grow —trees that were pleasing to the eye and good for food.”*

God told Jeremiah to tell His people to, “Build houses and settle down; plant gardens and eat what they produce.” Jer. 2:29





Eat a rainbow of fruits and Vegetables



NEW START



4



12



18



24



30



38



46



52

NUTRITION

Discover why what you eat is the foundation of better health — and how healthy eating can be a lot more fun than you thought!

EXERCISE

Everyone knows they need exercise, but you won't believe how far even a little exercise will go in keeping you fit!

WATER

Millions are chronically dehydrated, and they're aging quicker and dying younger because of it! Get the facts about H₂O!

SUNLIGHT

For years the sun has endured a bad reputation — but it is a key ingredient for better health!

TEMPERANCE

Add years to your life by learning to use the good things moderately and avoiding the bad things entirely.

AIR

The air you breathe and how well you breathe it has a huge impact on how long you remain a living being!

REST

Considering that sleep is a crucial element in healing, most people are in for a disease-ridden wake-up call.

TRUST

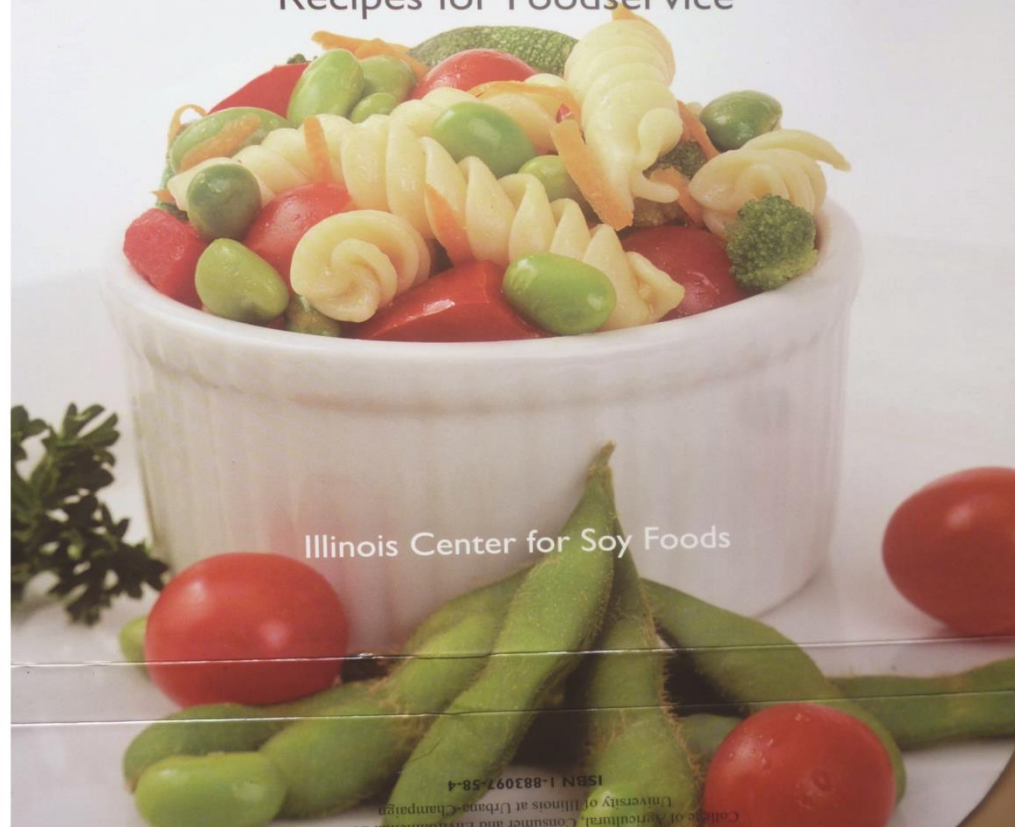
Nothing you've learned so far will make as much difference in your life as putting your faith in the One who made you.



The head Chef for the Soya vegetable group! Behind her a woman that came the first day is educating the new, Day 2 only ladies! The desire for this "new knowledge" and their passion to share it was so impressive.

Soy on the Menu

Recipes for Foodservice



Nutrient Information

Soy Product	Amount	Calories	Protein	Fat	Carbohydrate
Soy flour, full-fat	1/4 cup	92	7 g	4 g	7 g
TVP®	1/2 cup	126	25 g	0 g	14 g
Soymilk, plain	1 cup	100	7 g	4 g	8 g
Tofu, firm silken	3 oz.	53	6 g	2 g	2 g
Tofu, firm regular	3 oz.	84	9 g	5 g	1 g
Edamame	1/2 cup	100	8 g	3 g	9 g

Rainbow of Vegetables...
the colors of promise



“EDAMAME”

The idea of eating green Soya Beans was a totally novel one... yet with succession planting, it could provide a high quality, high protein vegetable all year round.



The women who attended the first day of class explained to the others that you could really eat these beans when they are green... REALLY!!

Will this village
of Namutumba
be effected by
the training?

Will their leaders
help to effect
dietary change?

We are following
up to make a
lasting impact!





Pastor Robert with the Seventh-day Adventist Church was happy with his first taste of Soya Milk!

- ▶ He pastors 36 churches and does not even own a bike!! He wants to mobilize these churches to learn and teach soya in their communities.
- ▶ He oversees the SDA Light school with 1,200 children, the majority are Muslim.
- ▶ “With more than 80% of all black Africans having lactose intolerance (which makes it difficult for them to digest dairy milk), and with the tsetse fly greatly limiting the areas suited to cattle rearing, soymilk can fill the milk gap.”
- ▶ “In December 1964 the Uganda Government, Buganda Region, hired Dr. D.W. Harrison to serve as Director of Nutrition and Health Education. A black American and self-supporting Seventh-day Adventist medical missionary, Dr. Harrison had previously done work with soybeans and soyfoods in Ghana (1960-63). In Uganda in 1965 Harrison founded Africa Basic Foods, which did pioneering work in developing soybeans as a food.”

Another challenge for Ugandan Women: Kitchen 3-stone fire/smoke

- ▶ Just as in colonial America, skirt fires are not uncommon
- ▶ Cutting and hauling firewood leads to deforestation and a ton of work
- ▶ Keeping food warm or reheating it with husbands or children return home is a major part of the day



“Fireless Cooker” or Hot Pot
Keeps food cooking for 1 hour and
warm for much longer..



Robert leading the
demonstration...



Tucking in the boiling pot with blankets!



Fireless Cooker

This experiment involved taking two hot pots of soy beans and leaving one on the fire and putting the other in the fireless cooker for ne hour. After the hour we would test both beans. The community would be elated with cries of, “They are the same!!”.

This class participant gets to take home her “new technology.”

Income generating project ideas....

Steven, who volunteered with me, sharing his Soya Cacao!

Very tasty, healthy and a good product to sell.



Taking the class to the mat
with the women & children...



Steven with humility and breaking
all sorts of cultural norms, takes
the class to the mat!!

Trainings conducted on Soy Nutrition during my F2F Assignment

<u>Name of Community</u>	<u>Host Organization (optional)</u>	<u>First Date of Training</u>	<u>Number of days</u>	<u>Hours of training</u>	<u>TOTAL Participants</u>	<u>FEMALE Participant s</u>	<u>MALE Participant s</u>	<u>Lead trainer(s)</u>
Nawansega	IDFA	11-Oct-15	2	6.0	16	3	13	Joy
Buyanga	IDFA	13-Oct-15	2	3.5	18	8	11	Joy
Kalalu	IDFA	14-Oct-15	1	3.5	30	10	20	Joy and Robert
SDA Light School Busei	F2F	15-Oct-15	1	0.5	1200	600	600	Joy and Steven
Namungalwe	IDFA	15-Oct-15	2	7.0	43	28	15	Joy and Robert
SDA Church of Busei	F2F	17-Oct-15	1	3.5	54	17	37	Joy and Steven
NAMUBUKA	Lutheran World Relief	18-Oct-15	1	2.5	37	19	18	Joy
Namusisi	Namusisi Development Association	19-Oct-15	2	7.0	46	31	15	Joy and Robert
Namutumba	NACWOLA	22-Oct-15	1	3.5	11	1	10	Robert and Steven
Nakigo	IDFA	21-Oct-15	2	7.0	47	44	6	Joy and Robert
IDFA Review with Board	IDFA	23-Oct-15	1	1.0	6	2	4	Joy
SDA Chrurch of Iganga	F2F	24-Oct-15	1	3.5	41	19	22	Robert and Joy
TOTALS			17	48.5	1549	782	771	

The Soy Nutrition team keeps up the work!!

Just in the two ½ weeks since I left, they've prepared 50 training packs, trained 135 people in 4 communities, and will be presenting at a national conference Dec. 7th!



Supply List and Class Plan For Soya Nutrition Village Level Training Program

All training materials are available at: <https://www.facebook.com/soyanutrition>
Email joykauff@gmail.com for electronic copies of documents.

Supply List:

These items should be gathered in advance in order to do the Soya Nutrition Class. Having items ready will assure that hen all can fully participate, especially the women!

1. 1 kg of beans that have soaked in 8 L of water over night (10-12 hours)
2. 4 large pots with at least 2 lids that fit tightly
3. Cups and serving bowls for all (plan on at least 15)
4. A white cloth for filtering the soy milk
5. A mortar and pestle
6. 2 fires and sufficient firewood or charcoal
7. 8 L water
8. ½ K sugar
9. Ginger, or something natural to flavor milk
10. Salt just a bit
11. Liquid ash (Oluvu) or Baking Soda
12. Dodo, Tomatoes, Eggplant, carrots, squash, Onion or any colorful vegetables that are in season
13. 1/2 K Green Soya beans, left in their pods
14. 100 ml Cooking Oil
15. Spoons -- 2 large ladles and several smaller ones (bijiko)
16. Curry powder or other local, affordable seasoning
17. ½ K Millet flour
18. Large basket
19. Dried Grasses or leaves
20. Blankets
21. Paper and pen/pencils for participants (or encourage them to bring their own)

Class Schedule:

It is best if you have two days, in a row, with about 3 hours per day. It is also best if the time is decided well in advance and people know to come on time. There is a lot to do in the class and it is best if all can hear at once. Also, more time means more interaction and discussion time which is always the best way to learn.

Day One:

1. Why did you come to learn about soya? How do you eat soya now?
2. God as a nutritionist-(Genesis 1:29)- Soya is a seed (from Bible Study)
3. How to process the seeds at home? Processing card, soak, rinse, cook. How to make milk? "Golden Water"
4. Parts of the seed. Why it is best to eat all three parts?
5. What is Edamame (Green Soya)? (Daniel eating vegetables)
6. How soya covers all food groups except fruit (Flour, Vegetable, Milk, Oil, Meat substitute)
7. Make the milk. Be sure not to add salt until after you have used the 'Golden Water'
8. What is okara and what to do with it? (Bran- the hull is sold for medicine. You can eat it!)
9. Hot pot explanation, plan for experiment the following day. Thick blanket keeps you warm, Thick pot, Thick grass.
10. Rainbow of natural colors in the food means balanced nutrition. Fruits/veggies each color. Soya the pot of gold!
11. What have you learned?
12. Drink milk! Have the students teach each other using the visual aid cards. Fact check each other.
13. Send Participants home with cooked beans and Okara (residue) to share with family. Plan for the next day.

Day Two

1. Have participants review the previous day's material, using visual aids. Class teaches new members!
2. Have them share perceptions of the Soya beans and Okara from their family.
3. Talk about Combined Proteins (2 Parts grain for 1 part Legume). Bible Study (Ezekiel 4:11- God's recipe)
4. Make Green Soya (Boil in pod for just 5 minutes), Busera (using 2 parts whole grain flour, 1 part soya mash), Rainbow Pot (add all colors of veggies in pot with cooked beans). (Noah given Rainbow promissr Genesis 9:12-17)
5. Experiment with the Hot Pot. Have two hot pans with beans boiling. Put one in, keep one cooking. 1 hour. Same?
6. Teach and review the content, leave lots of time for questions, eating and fun together!

Reviewing materials in Nawankaso village!



SOYA NUTRITION – Uganda

TRAINING ATTENDANCE/ DIRECT ASSISTANCE RECORD To be filled by the volunteer during training/
direct assistance activities

Volunteer: <u>Robert</u>		Host: <u>Nabirye Kaura Hasipher</u>		Date: <u>18/11/2015</u>	
Venue: <u>Namukeso - Namungabwe</u>		Subject: <u>Soya Nu</u>		Type of training(DT/T): _____	
No	Name	Sex (M/F)	Type of Individual (member, Non-member, employee)	Tel Number	Signature
1	Kisukuru Frederick	M	Member	0773139252	<i>[Signature]</i>
2	Nawenge Amos	M	Non-member employee	085599209	<i>[Signature]</i>
3	NOMU	M	MUSENDA		
4	NAMAGANDA SAMIRAH	F	member	079268443	<i>[Signature]</i>
5	NAMWANGA HADIJA	F		0720565262	Hadija
6	MYAMUGOMA MARIAM	F	Non member	0714137172	<i>[Signature]</i>
7	NANIGORI ARDHA	F		0734359321	Nanigori
8	NAMUSOBYA AMINA	F		0787771625	<i>[Signature]</i>
9	NABIRYE HASIPHER	F		—	Nabirye
10	KAUMA MARIA	F		—	
11	BIRYERI SARAH	F		—	
12	KASABALI NAI?	F		077429223	KASBALI
13	NAMUSUSWA HAMIDA	F		—	NI
14	BIRYERI JESIC	F		—	
15	KAGOLA JANET	F		—	
16	MUGABI BIRALI	M		0784381211	<i>[Signature]</i>
17	KATA-BI AHAMANDA	M		0778621993	<i>[Signature]</i>
18	NAMUKOSE EDITH	F		—	<i>[Signature]</i>
19	MUSOBYE GARY	M		0789212972	<i>[Signature]</i>
20					



Women who can learn and then teach the Soy Nutrition material....
We are making training packs to share with each community we go to!

Taking the message and running with it!





Please Pray
with me that
the Lord will lead
in this Soya
Nutrition
work!



THANKS and please contact:

Joy Kauffman, MPH joykauff@gmail.com 815-200-4925 (call or text)

Soya Nutrition team in Uganda: (Left to Right)

- ▶ Robert Lugeba, Agricultural Extension Agent for Iganga District Farmers Association, Phiona Educator, Betty Mwesigwa, Educator, Steven Ndobu Soya Entrepreneur and Educator
- ▶ Missing: Edward Kaweesa IT, Graphic Design, Media and Communications edwardkaweesa@gmail.com 0787135984 (Phone and e-mail will work)



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