

Soy: The Super Bean



Soybeans are a super food for children:

- Soy protein is a complete protein for growth and healing.
- Soy protein is as good as meat, milk and egg protein.
- Soy protein is easily digestible even for infants and sick children.
- Soy is naturally rich in fat for brain growth, energy and vitamin absorption.
- Soy is good for children with diarrhea.
- Soy is available in many parts of the world, but is often not fed to children.
- Soy is usually an inexpensive food.
- Soy is very useful in community nutrition and school lunch programs, nutritional rehabilitation centers and family meals.
- Soy beans can be milled into flour to be added to food that is being cooked for children.

Soy meal:

- Soy meal is produced when soy beans are processed for cooking oil.
- Soy meal produced in a factory by **extrusion** is actually a **cooked food**.
- Soy **anti-protease enzymes** that make raw beans hard to digest are **denatured** by the extrusion process.
- Soy meal that is produced by extrusion **can be eaten without further cooking**.
- Soy meal is dry, and can be milled in the community into **defatted soy flour**.
- Soy meal, added to other foods, should be enriched with cooking oil since the natural oil that is important for children's health has been removed.
- Soy meal, milled to defatted soy flour, is used to produce **Soy Super Drink** an inexpensive nutritionally dense milk substitute for the early refeeding stage of rehabilitation of severely malnourished children, for the prevention of malnutrition, and for feeding of sick children who are not able to eat solid foods. See directions.

Soy Super Drink



Recipe for Soy Super Drink:

Mix :

1. 2/3 cup defatted soy flour (160ml)
2. 1/4 cup sugar (60ml)
3. 1/3 cup cooking oil (80ml)

Add to 4 cups (1 liter) of cooled boiled water.

Stir well.

Refeeding schedule for severely malnourished children with & without oedema:					
Weight in Kilos	Weight in Pounds	mL each day	mL each time (6 times a day)	Cups each time (approx)	If severe oedema 2/3cc
2	4.4	300	50	1/4 cup	30 cc
4	8.8	600	100	1/2 cup	60 cc
6	13.2	900	150	2/3 cup	100 cc
8	17.6	1200	200	3/4 cup	130 cc
10	22	1500	250	1 cup	160 cc
12	26.4	1800	300	1 1/4 cup	200 cc
14	30.8	2100	350	1 1/2 cup	230 cc
16	35.2	2400	400	1 2/3 cup	260 cc
18	39.6	2700	450	1 3/4 cup	300 cc
20	44	3000	500	2 cups	330 cc

- Do not boil the drink or the oil will separate.
- Without refrigeration, the drink will spoil in 6 hours.
- Soy, sugar and oil mixture without water can be stored unrefrigerated for one month in a sealed container.
- Substitute dry skim milk for soy flour, if available for use, with severely malnourished children (to avoid phosphorus depletion with refeeding).
- Advance diet to include solid foods when tolerated. Extra water & oral rehydration solution may be needed if child dehydrated or sweating. Give fluids cautiously to children with oedema.
- **Soy Super Drink** can be fortified with MAMA's Essential Micronutrients according to directions. If you must use in micronutrients in the drink, be sure to keep stirring the bottom to consume all of the micronutrients.
- A similar drink can be made with other cereal mixtures and other micronutrient mixtures. Detailed recommendations for refeeding, including other recipes can be found in the IMCI hospital level manual POCKET BOOK of Hospital care for children from WHO and UNICEF.
- **Soy Super Drink** contains 1 calorie per milliliter.
- To produce mixture in larger amounts, multiply quantities and add ¾ cup (180ml) to liter water.