

# APPENDIX 11

## RECIPES FOR SUPPLEMENTARY FEEDING PROGRAMMES

Wherever possible, base your recipes on locally available foods, such as the local cereal, peas, beans or lentils and oil. Local foods may be used to show how to prepare nutritious weaning foods that cause malnourished children to gain weight. Imported foods may encourage people to think that imported foods are 'better'.

The amount of energy, protein and fat in the following recipes was calculated using the table in Appendix 8: The nutrient content of some common foods. The recipes given below meet the recommendations in Section 4.3 about the nutritional composition of foods used as food supplements: above 20 per cent of total energy from fat and about 12 per cent of total energy from protein.

Quantities of ingredients in the recipes are given in weights, which are more accurate than using volumes. However, scales are not always available and so volume measures must be used.

Dried milk powder	650g – 750g
Dried milk powder (granules)	350g – 400g
Millet, Rice, Wheat grain, Sorghum	710g – 860g
Wheat flour	550g – 600g
Bean flour	850g
Chickpeas, split peas, kidney beans, lentils	800g – 900g
Groundnuts, soya beans, butter beans	700g – 800g
Oil	900g – 950g
Sugar	900g – 950g

*Table 11: The approximate weight of one litre volume of foods*

Label all containers used for measuring volumes so they are used correctly. The volume of some ingredients, such as dried milk powder, varies with different brands. Always check new ingredients to see if their weight volume ratio differs.

### Malted grain

Porridge made with flour from malted grain is more **energy dense** than porridge made with ordinary flour. This is because flour from malted grain does not thicken as much when cooked and so less water is needed to make a porridge of the same thickness. Malted grain has been dampened to allow it to

germinate, then sun dried and milled into flour. This is a common practice in Africa.

### Important rules

- Only use **safe water** – safe, piped water or water that has either been boiled and cooled or has been adequately chlorinated.
- Keep to the recipes – if you change them, make sure that fat still provides more than 20 per cent of total energy and protein about 12 per cent total energy.
- The calculation of the amount needed in the recipes is based on servings of 300mls of ready to eat food, which is all most small children are able to eat at one time.
- Keep the kitchen area clean and tidy and teach basic hygiene to the staff.
- The storage life of pre-mix is two weeks if kept in a clean, covered container. Prepared milk and porridge should never be kept longer than a few hours.

### RECIPE 1: Porridge based on local ingredients

	Weight g	Energy Kcal	Protein g	Fat g
Sorghum flour	400	1340	44	12
Bean flour	200	670	44	3
Oil	100	900	-	100
Onion	50	19	-	-
Total weight	750	2929	88	115
Composition of 100g	100	390	12	15
Per cent of total energy:			12%	35%

#### To calculate quantities:

Quantity	6L	15L
Number of 300ml servings	20	50
Sorghum flour	860g	2.2kg
Bean flour	430g	1.1kg
Onion	60g	0.3kg
Oil	115g	0.55kg
Water	4.5L	11.2L
(one part of porridge mix to approximately 3 parts water)		

**Preparation:** The bean flour is made from dried beans ground to a fine powder. Mix the bean flour to a smooth paste with some of the **safe** cold water. Add some more water. Bring to the boil and cook gently with the chopped onion. When nearly cooked, add the sorghum flour and stir well until cooked. Stir in the oil. The amount of water needed depends on how much the beans and flour will absorb.

(This recipe has been adapted from the recipes in: Cameron, M. and Hofvander, Y. (1983), *Manual on Feeding Infants and Young Children*, Oxford: Oxford University Press. This book contains numerous recipes based on locally available ingredients. The next three recipes are based on those found in: *Selective Feeding, Oxfam Practical Health Guide 1* and have all been successfully used in feeding programmes.)

## **RECIPE 2: Porridge based on a locally available flour and dried skimmed milk (DSM)**

	Weight g	Energy Kcal	Protein g	Fat g
Pre-mix				
Maize flour	500	1800	45	19
Sugar	125	500	-	-
Dried skimmed milk	250	900	90	-
Oil	200	1800	-	200
Total weight	1075	5000	140	219
Composition of 100g	100	465	13	20
Percent of total energy:			11%	39%

### **To calculate quantities:**

Amount of prepared porridge	3L	15L
Number of 300ml servings	10	50
Amount of pre-mix	750g	3.75kg
Maize flour	350g	1.75kg
Sugar	90g	0.44kg
DSM	175g	0.87kg
Oil	140g	0.70kg
Water	2.25L	11.25L

(one part pre-mix to three parts water)

**To prepare pre-mix:** Stir dry ingredients together until well mixed through.

**To prepare porridge from pre-mix:** Add enough **safe** cold water to the pre-mix to mix to a smooth paste. Gradually stir in the rest of the water. Bring to the boil and stir continuously until it is smooth and thick. Where large quantities are prepared the porridge may burn on the bottom of the pan. To prevent this bring the water to the boil before adding the water-pre-mix paste and stir until it is smooth and thick.

### RECIPE 3: Porridge based on Corn Soya Milk (CSM)

	Weight g	Energy Kcal	Protein g	Fat g
Pre-mix				
Corn Soya Milk	550	2090	99	33
Sugar	100	400	-	-
Oil	100	900	-	100
Total weight	750	3390	99	133
Composition of 100g	100	452	13	18
Per cent of total energy:			12%	35%

#### To calculate quantities:

Quantity of prepared porridge	3L	18L
Number of 300ml servings	10	60
Amount of pre-mix	750g	4.5kg
Corn Soya Milk	550g	3.3kg
Sugar	100g	0.6kg
Oil	100g	0.6kg
Water	2.25L	13.5L

(One part pre-mix to three parts water)

#### Prepare as for recipe 2.

Corn Soya Milk (CSM) is a blend of cereal flour, beans and DSM and fortified with vitamins and minerals. CSM is an American food aid commodity. Other cereal legume porridge mixes may be substituted for CSM. For example *faffa* is a similar porridge mix produced in Ethiopia.

#### RECIPE 4: High energy milk

	Weight g	Energy Kcal	Protein g	Fat g
Pre-mix				
Sugar	250	1000	-	-
Dried skimmed milk	420	1512	151	-
Oil	320	2880	-	320
Total weight	990	5392	151	320
Composition of 100g	100	545	15	32
Per cent of total energy:			11%	53%

#### To calculate quantities:

Quantity of prepared milk	6L	15L
Number of 300ml servings	20	50
Amount of pre-mix	1.2kg	3kg
Dried skimmed milk	510g	1.3kg
Sugar	300g	0.8kg
Oil	390g	1.0kg
Water	4.8L	12L

(one part pre-mix plus four parts water)

#### Prepare as for Recipe 2.

High energy milk should only be prepared under the strictest supervision with particular attention to hygiene, as it is an ideal medium for bacteria to grow in. Discard any left over milk or porridge and **never** keep it over night. High energy milk is an excellent food for treatment of malnourished children. **Do not reduce the amount of oil.**