

d) Sieving

This separates the crumbs, removes fibres and poorly grated pulp material.

e) Roasting / drying



Drying of cassava

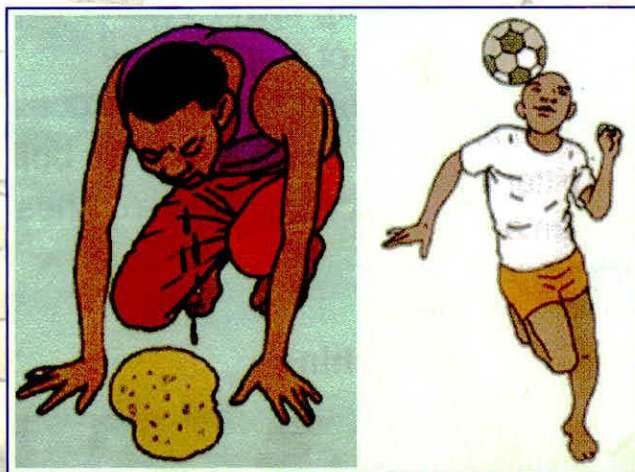
Roast the crumbs in a wide and shallow pan over the fire. Stir the crumbs continuously until they become light and dry. By the time drying or roasting stage is completed, the amount of harmful substances left in the cassava will only be 3 percent.

Advantages of processed cassava

- It is safe for consumption.
- It enhances the shelflife of cassava products and stabilises seasonal fluctuation in food availability.
- Makes transportation easy.
- Better quality and value of products for markets.

Conclusions

Bitter cassava is a safe and nourishing food as long as it is processed. Children in particular should be strongly discouraged from eating tubers of bitter cassava that are not properly processed. Avoid suffering ill health because of eating bitter cassava that is not processed or is poorly processed and eaten without foods high in protein such as meat, fish and vegetables.



Be wise - Stay safe and healthy

For further information contact:

The National Cassava Program,
Namulonge Agricultural and Animal Production
Research Institute
27 Km Kampala - Gayaza - Ziobwe Road
P.O. Box 7084 Kampala.
Tel: 077 41 950
E-mail: casug@naro-ug.org

Axim Graphics Tel: 077 335 313

MAKE BITTER CASSAVA SAFE FOR



CONSUMPTION



**NATIONAL CASSAVA PROGRAM
(UGANDA)**

Introduction

Both sweet and bitter cassava varieties are grown by farmers in Uganda. NARO encourages farmers to grow improved and sweet cassava varieties. In some areas, bitter cassava varieties are popular because of the following reasons:

- Bitter cassava varieties produce cassava flour with high dry matter content.
- Plants of bitter cassava varieties are not destroyed by wild animals.
- During periods of scarcity and famine, bitter cassava varieties are not prone to theft.

Cassava plants contain potentially harmful substances like the cyanogens.

'Sweet' varieties generally contain low amounts of the harmful substances while bitter varieties contain high amounts of cyanogens. The harmful substances are dangerous to human and livestock, hence they need to be removed from cassava.

Stages in processing bitter cassava

Stages to be followed in succession in order to process bitter cassava to make it safe for both human and livestock consumption are:

a) Peeling and washing



Peeling



Washing

This involves the removal of outer peel and skin of the tuberous root and washing. The effects of the harmful substances are significantly reduced from 100 to 40 percent.

b) Grating and chipping



Grating and chipping process

The breaking of storage roots into small pieces allows effective removal of harmful substances to 35 percent. Furthermore, it makes it easier to carry out subsequent steps. Grating greatly improves the removal of harmful substances and water during fermentation.

c) Water removal and fermentation



An effective presser



Cassava fermenting

- Ferment the grated cassava pulp in a cloth bag, jute sack or clean woven polypropylene bag.
- Press the sack between the boards tied together with ropes.
- Tighten the ropes to put pressure on the sack and squeeze water from the pulp.
- Fermentation and removal of water on a large scale for commercial purposes can be achieved in big troughs with perforated bottoms. It will take one day if mild tasting flour is required or 4 to 5 days for more acidic flours.
- Remove water from cassava pulp using pressure either by weighted bag or wooden press techniques. This removes the poisonous substance to 15 percent.