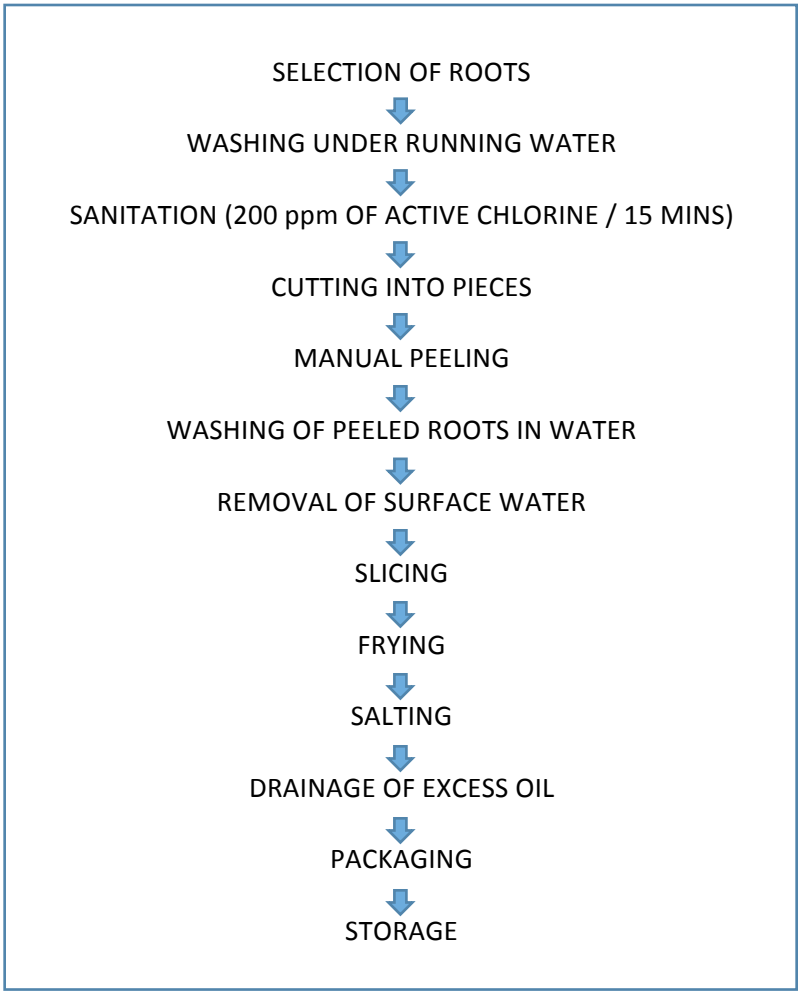
CASSAVA CHIPS

PROCESSING STAGES



CASSAVA CHIPS

Luciana Alves de Oliveira[1]
Rossana Catie Bueno de Godoy[2]

The cassava (*Manihot esculenta* Crantz) is the basis of food consumption in various tropical countries and plays an important role within the scope of family farming, especially in the Northeast region of Brazil. However, one of the greatest obstacles to the greater utilization of cassava is its high perishability, as it has a very restricted shelf life when stored at ambient conditions. In Brazil, an estimated 23% of the production of

[1] Researcher at *Embrapa Mandioca e Fruticultura Tropical*, Cruz das Almas, BA, luciana@cnpmf.embrapa.br
[2] Researcher at *Embrapa Florestas*, Colombo, PR, catie@cnpf.embrapa.br

cassava roots are lost after harvesting, due to the lack of knowledge of appropriate processing and storage techniques. Therefore, the development of new processing technologies for these roots can provide a range of products with a higher added value, which are not easily perishable and are widely accepted by the consumer market, such as cassava chips.

PREPARATION STAGES

1- Use healthy cassava roots harvested on the day of processing, or the previous day. When harvested the previous day, store them overnight in chlorinated water tanks (1 teaspoon of commercial 2% sodium hypochlorite solution for 10 litres of solution). Storage in water facilitates the peeling the next day.

2- The roots that are harvested on the same day must be immersed in clean, treated water. Then, wash and scrub the roots to remove any organic material and impurities from the field.

3- Sanitize the unpeeled roots for 15 minutes, using a sodium hypochlorite solution containing 200 ppm of active chlorine. To prepare 10 litres of solution, add 100 mL (20 teaspoons) of 2% commercial sodium hypochlorite (sanitary water, registered with the Ministry of Health).

4- Before peeling, discard the tips of the roots and cut the middle section into cylinders, using a stainless steel knife, to ease the removal of the inner skin.

5- After peeling, immerse the cylinders in treated water to remove any adhered skin. Then, drain the surface water with the use of a sieve.

6- Slice the cassava in slices approximately 0.6 mm thick, using a slicer. Thin slices tend to produce a crisper final product.

7- Fry the slices in vegetable oil (150°C to 160°C). The quality of the oil used will influence the quality of the product and its storage time. The oil monitoring kits that is on the market may be used.

8- Salt the product with 1% sodium chloride (NaCl). At this stage, one can also add additional condiments and flavourings.

9- Drain the excess oil on absorbent paper or in a basket centrifuge.

10- Package in polypropylene packages with aluminium barriers associated with nitrogen injection. Packaging with aluminium barriers and modified atmosphere can delay the spoiling of the product and allows for a longer storage time. If the product is packaged in polyethylene bags and stored in the shade, it must be consumed in 10 days.

11- Label the product.