

## **CASHEW PROCESSING**

This involves the separation (decortication) of the kernel from the shells.

There are 2 methods of nut processing,

a) Traditional artisanal cashew processing

b) Industrial processing

### **Traditional artisanal cashew processing.**

The nuts are put in an open pan over an open fire and stirred continuously to avoid scorching until they start burning, then they are thrown on sand to extinguish the fire and to remove the remaining humidity on the outer skin.



**Industrial processing.** The nuts are graded in different size classes and dehumidified at about 16% moisture by spreading water over them for about two days to make the kernel elastic and to fill the cells of the shell with water. Then, they are roasted in a hot oil bath heated to 192°C for about 90 seconds depending on the size of the nuts. Through the roasting process, the

cells of the shell break and about 25 % of the shell liquid flows into the bath. The remaining liquid on the outer shell is removed with sawdust. Both the artisanal and the industrial methods make the shell brittle so that they can be broken easily.



## **SHELLING**

This is the most difficult operation in cashew processing. Shelling is mostly done by cheap female labour. Shelling is carried out by using special wooden mallets and pieces of bent wire, at a rate of about 200 nuts per hour.



There are different methods for manual cashew shelling. The simplest consist of placing the prepared nuts on a stone using a hardwood stick to crack the shell. A semi-mechanized process uses a pair of knives shaped in

the contour of half a nut. The knife system is also used in industrial plants. In another industrial processing method centrifuges are used to crack the shells; shells and kernels are then separated in an air stream, heated shells are lighter and blow away.

After shelling the kernels have to be dried to about 6% moisture content, thereafter the testa can be peeled off easily. Kernels are then graded, rehumidified to 8% and packed in airtight containers filled with carbon dioxide (CO<sub>2</sub>) and sealed. The CO<sub>2</sub> inhibits infestation by insects and is slowly absorbed by the nuts thus producing a vacuum that prevents shaking and breaking of the nuts during transportation.

## **Grading**

Kernels, whole and broken, are sorted into 6 grading schedules. There is only a small demand for broken or dark and unevenly roasted kernels.



## **Packaging**

- Kernels are dried to 3 % moisture content before they are packed.

- Drying is necessary to extend shelf life and prevent fungal and other infections.
- Dried kernels do not become rancid.
- Nut kernels of export quality are vacuum packed in tins.

### **By-products**

Shell oil represents about a quarter of the mass of an unshelled nut and approximately equal to that of the kernel. This fluid, that is not an oil as the term "shell oil" indicates, but a mixture of anacardic acid and cardol is the main by-product.

### **Cashew apple processing:**

Apples are steamed under pressure or cooked in a 2% salt solution to remove the astringency. Addition of gelatine, pectin or lime juice clears the cashew juice from remaining undesirable contents.