

TECHNICAL SHEET

Processing table of the artisanal peanut oil

Presentation of the peanut

Cultivated peanut (*Arachis hypogaea* L.) belongs to the genus *Arachis*, subtribe *Stylosanthinae*, tribe *Aeschynomeneae* and family *Leguminosae*. It is a self-pollinating annual legume (Ntare and al, 2006). In places where bee activity is high, allogamy (cross-pollination) can occur (Nigam and al., 1983 cited by Ntare and al, 2006). The cultivated peanut has two subspecies, *hypogaea* and *fastigiata* (Ntare and al, 2006). Each of these botanical varieties differ in plant, pod, and seed characteristics (Ntare and al, 2006). However, most commercial varieties are the *hypogaea*, *fastigiata* and *vulgaris* varieties (Ntare and al, 2006).

Peanut, native to South and Central America yields oil-bearing grains (ACMA 2, 2019). It is mostly cultivated in several countries but particularly in Asia and Africa especially in Nigeria, Senegal, Republic of Democratic Congo, and Benin (ACMA 2, 2019). Peanut is a plant with multiple benefits and diverse uses (ACMA 2, 2019).

Peanuts are consumed either as seeds (after shelling the pods), as oil (after industrial or artisanal crushing of the seeds), or in elaborate forms from the food and confectionery peanut market ("butter," paste, flour, confectionery, etc.) (SCHILLING, 2001). The by-products have various uses: fodder for the straws; fuel, composting, chipboard for the empty shells; human or animal food for the oil cakes (SCHILLING, 2001). It is a valuable food crop because of its high oil (43-55%) and protein (25-28%) content and provides vitamins and minerals to millions of households (Reddy et al., 2003 cited by Bakoye, 2019).

Peanut pod

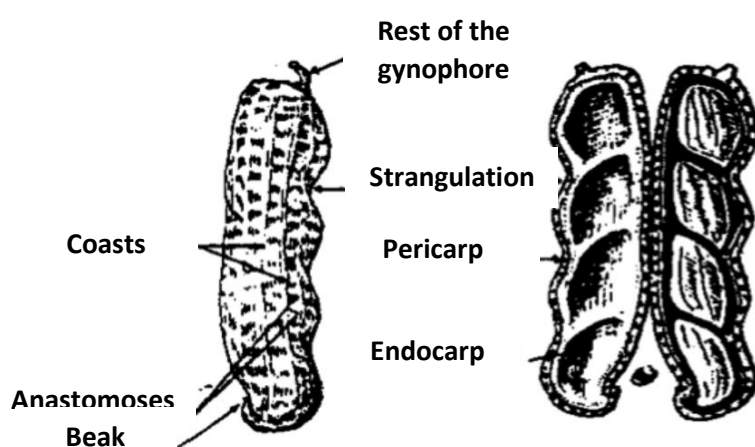


Figure 1 : peanut scheme (source : <http://www.koki-krok.fr/2017/06/un-peu-de-botanique-noisetier-et-arachide-n-appartiennent-pas-a-la-meme-famille.html>)

Project for the dissemination of the groundnut oil processing table in Senegal

Artisanal oil production occupies an important place in the value chain of the groundnut sector in the intervention areas of the project to disseminate the groundnut oil processing table in the Senegalese groundnut basin (CRES, 2017). In order to address the precarious conditions of artisanal groundnut oil processing, the Fonds national de recherches agricoles et agro-alimentaires (FNRAA) was designated by the Senegalese government to coordinate the development and dissemination of improved technologies within the framework of the West African Agricultural Productivity Program (PPAAO). Thus, the groundnut oil processing unit was installed for each target group in the groundnut basin (Fatick, Diourbel, Kaolack, Kaffrine), Tambacounda and Louga, in order to evaluate its impact on production. Indeed, the oil processing table aims to improve product quality by reducing aflatoxin levels (CRES, 2017).

Importance and impact of the peanut oil processing table

The process of processing peanut oil is long and complex. In addition to the processing of the raw material itself, the set-up includes techniques for detoxification, clarification and preservation of the product (CRES, 2017). To make it easier and more time-efficient for the processors, additional equipment was made available (processing aprons, plastic drums, bags, masks, bag packs and shovels) (CRES, 2017). Nine of the 10 beneficiary groups in the pilot phase of the groundnut oil processing table dissemination project in the Groundnut Basin over the period 2012/2013 to 2014/2015 in Senegal have adopted and operated their processing table (CRES, 2017). The quantities of oil produced by these groups between 2014 and 2015 increased overall and provided them with significant income (CRES, 2017).

As the most vulnerable populations (women and youth) are the most involved in the processing and sale of groundnut products, the use of the processing table can be an effective means of fighting their marginalization and improving their living conditions (CRES, 2017). The dissemination of the groundnut processing table must be accompanied by the establishment of financing structures to facilitate the acquisition of basic equipment as well as the inputs and spare parts necessary for the proper functioning of the technology (CRES, 2017).

Characteristics of the technology

- 90% reduction in aflatoxin content in oil
- 118% increase in revenue from oil sales

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Regional Center of Excellency on Dry Cerals and Associated Crops ; HOST INSTITUTION: CENTRE D'ETUDES RÉGIONAL POUR L'AMÉLIORATION DE L'ADAPTATION À LA SECHERESSE (CERAAS) ; Host country: Senegal; Coordinator: Ndjido KANE; Email: ndjido.Kane@isra.sn; ndjido.Kane@isra.sn; Telephone: +221 777232019 / +221 339514693