

## Introduction

Attieke is fermented and gelatinized cassava meal which originated from south of Côte d'Ivoire and is popular in the country and gaining ground in West Africa countries (Aboua, 1998). The production process of attieke is long, tedious and most of the unit operations are done manually except for grating. The processors prefer traditional steamer which is time consuming, laborious with high degree of variability in the quality attributes of the product (Pierre, 2010). Many research work exists (Pierre et al., 2014; Alfred et al., 20017 etc.) on attieke processing but little on steamers. Improving steaming method would help reduce the labour associated with the traditional cooking produces attieke of similar quality.

A cross-cutting initiative, is conducted by IITA, CIAT and LAUTECH to address the issue of developing an improved steamer for attieke cooking.



Fig. 1: Attieke processing center at Brofodume, Cote d'Ivoire; Source Field trip, 2018

## Objectives

- to develop a steam-cooker for attiéké production to reduce the steaming time and labour associated with the traditional method
- to optimize the steamer for higher beta-carotene retention in Attieke produced from yellow roots cassava



Fig. 2: Picture of the Traditional Steamer; Source Field trip, 2018

## Materials and methods

Literature review on attieke production was followed by field trips to Abidjan, Cote d'Ivoire. Information were collected from local processors and the unit operations on attieke processing were studied with focus on steaming unit (Figs 1 and 2). The design was made using AUTOCAD software based on the information from the trip. Appropriate materials acquired and the steamer was constructed at IITA, fabrication Workshop (Figs 3 and 4). A trial attieke production was made and data are being collected for evaluation of the steamer

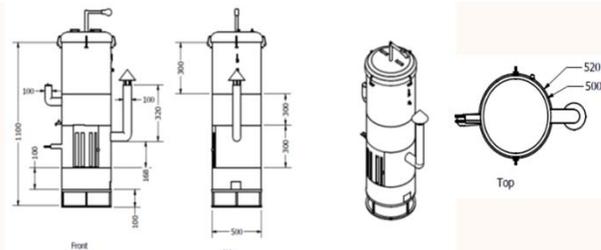


Fig. 3: Design Drawing of the proposed steamer

## Results and Discussion

The field trip enabled the team to have a good understanding of attieke processing and types of steamers.

The main findings:

- The main food items from cassava in cote d'Ivoire were found to be: Fresh roots, cossettes, placali, starch, tapioca, garba and attieke;
- Many research work conducted on attieke processing and quality improvement but little on steamers;
- Processing centers use traditional steamers to produce attieke despite numerous attempts to introduce new ones;
- Introduction of new steamers failed as they did not meet the requirement(s) and were rejected
- The causes for these rejections were; high cost of gas (that most of the proposed steamers were intended to use), difficulties to operate and poor quality of the attieke produced among others
- The newly constructed steamer is expected to be suitable for attieke production to reduce the labour of the traditional steamer



Fig. 4: Picture of the fabricated Steamer

## Conclusion

The study gives good understanding of cassava processing and peculiarity attieke production in Cote d'Ivoire and concluded by the design and construction of a steamer expected to complement or replace the traditional steamers.

## Next steps

Further evaluation and optimization of the constructed steamer for:

- technical performance
- higher retention of beta carotene in Attieke produced from yellow roots cassava

## Acknowledgement

This research was undertaken as part of, and funded by, the CGIAR Research Program on Roots, Tubers and Bananas (RTB) and supported by CGIAR Fund Donors.

## References

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