

# Traditional Enset (Ensete ventricosum) Fermentation in the Gamo Highlands of Ethiopia

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# **Background and objective**

## Materials and methods

Enset (*Ensete ventricosum* (Welw.) Cheesman, *Musaceae*) is one of the most important food security crops for about 20 million Ethiopian population [1]. The plant does not produce edible fruit, but its corm and pseudostem are scraped and fermented to produce the main food product kocho [2]. One of the processing methods of enset involves the fermentation of scrapped corm and pseudostem in an underground pit [3]. The objective of this study was to investigate the current practices of traditional enset fermentation in Gamo highlands of Ethiopia by a survey of the local population. The study was conducted in Chencha, Bonke and Dita Districts of the Gamo Gofa Zone in Southern Ethiopia. A detailed survey and field observations were conducted to generate information on traditional enset fermentation practices, storage conditions, the use of a starter culture, fermentation time, sensory properties of the fermented enset and the tools used to process enset. A total of 60 enset producing households were assessed using an open-ended and semi-structured questionnaire. In addition, the processors were interviewed in their native language for additional information.

# 50% 45% 40% -30% 25% 23.30% 16, 20% -10% 1.70% 1.70% 1.70% 1.70% 6ena Maze Katisha Bodha Feleke Zinkie Beshera H

Fig. 1 Preferred enset accession (or variety) for kocho and bulla preparation.





Fig. 2 Reason for preference.

- High kocho and bulla yield (HY)
- High kocho quality (HQ)
- Short fermentation time (SFT)
- $\succ$  High quality and yield (HQY)
- Yield and short fermentation time (YFT)



Fig. 5 Enset plant in a farmers' backyard.



## Results



Fig. 4 Schematic diagram of the traditional enset fermentation process.

Fig. 6 Enset processing for fermentation.



**Fig.7** Fermenting enset in a bamboo basket or "erosa" (A) and in a pit (B).

#### **Discussion**

• The length of enset fermentation varies depending on several factors, such as incubation temperature, accession used and storage condition. That

- finding is comparable with those obtained in previous observations [2], [4].
- No starter culture is currently used in Gamo highlands.
- Odour, color change and elasticity were used to check the completion of the fermentation process.
- Materials made from bamboo were used to process pseudostem and corm. In other regions animal shoulder bone were used to process the corm [4].
- Enset fermentation in Gamo highlands is an old-age technique. There is a need to optimize the fermentation process by developing a starter culture and by introducing appropriate modern processing technology.

#### References

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