

- Stir to break the coagulum.
- Flavour if preferred.
- Pack into clean packages.

4. Marketing

- Store refrigerated the packed fermented milk at temperatures less than 10°C to prevent spoilage and over fermentation.
- The product should be well stored away from direct sunlight, any contaminants or leaks.



GUIDELINES FOR FERMENTED (CULTURED) MILK PRODUCTION (MALA/ LALA)



Compiled by: Macharia E.W., Kanegeni N.N. and Mathai N.M

Editors: Nyabundi K.W., Mukundi K.T., Omondi, S.P., Maina P., Wanyama H.N. and Otieno A.S.

For more information contact:
The Centre Director,
KALRO Ol joro orok
Phone: 0710854357
Email: kalrooljk@kalro.org
kalrooljk@gmail.com

Design and layout by Emma. Nyaola

KALRO/NAVCDP/ BROCHURE No.025/2024

Introduction

Mala/lala is Kiswahili name used to refer to one of the fermented milk product largely produced and marketed in Kenya. It is a common beverage in many communities in Kenya and was traditionally produced by spontaneous fermentation of milk done in gourds and referred to by different local language names such as *Mursik*, *Kule nato*, *Suusa* among others depending on the community. Today, *Mala/lala* is produced by culturing milk with mesophilic (moderate temperature) lactic acid producing bacteria under controlled conditions. Fermented milk is commonly consumed as a beverage, as an accompaniment to other dishes, as a dessert or in baking.

Why milk is fermented

- **Taste and aroma.** With fermentation, the milk acquires appealing and acceptable taste and aroma.
- **Nutritional benefits.** The lactic acid bacteria improve the nutritional value of the milk by breaking down the lactose making it easier to digest as well as improving the gut microbial health.
- **Longer shelf life.** The fermented milk has a longer shelf life under the recommended storage conditions as compared to raw milk thus allowing a wider market distribution and consumption.
- **Increase profits.** Due to the better nutrition qualities and longer shelf life the fermented products are more profitable as compared to sale of raw milk.

Basic equipment required include

1. Milk batch pasteurizer



- used in milk pasteurization

2. Milk dispenser



-used in packaging

Ingredients required include

1. Good quality milk
2. Starter culture- Lactic acid bacteria used to ferment the milk
3. Sweetener (Optional)- Add a sweet taste to the fermented milk
4. Flavour (Optional)- Impacts a preferred essence/smell/aroma to the fermented milk

Procedure

1. Pasteurization

- Quality check. Upon reception of the raw milk, do quality checks to ensure that the milk is free from contaminants hygienically stored and transported.
- Sieving. Sieve the milk into the pasteurizer to remove any dirt particles
- Heating. Heat the milk up to 85°C and sweeten if preferred while stirring to homogenize (reduce the fat globules) and hold for 30 minutes to reduce the microbial load.

2. Fermentation

- Cool the milk to 30-36°C.
- Add starter culture and hold for 8-10 hours for fermentation to take place.

3. Cooling and packaging

- Cool the fermented milk to room temperature.