

Production of Concentrated "Mala" Cultures for Direct VAT Inoculation by Small Scale 'Mala' Manufacturers in East Africa.

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Abstract

The production of Mala (a mesophilic cultured sour milk), by manufacturers processing less than 500-3000 litres per day In Kenya, Uganda and Tanzania is faced with problems of unavailability of good quality culture, and lack of skills and appropriate equipment for propagation of conventional liquid cultures aseptically. Studies to produce concentrated "Mala" cultures for direct VAT inoculation were therefore carried out, using buffered and unbuffered skim milk, whey and tryptone media. The cells obtained were then concentrated by centrifugation, and subsequently resuspended in skim milk for studies of their "Mala" production functionalities. The functionality characteristics analysed included activity, aroma production and effect on mala physio-chemical and sensory characteristics. Buffered whey produced the highest growth, leading to concentrated culture with highest viable cells. The concentration process through centrifugation had significant effect on both the aroma-bacter proportions and diacetyl production but decreased the culture activity by about 10%. This decline in culture activity was however recovered by pre-incubation of the culture prior to direct VAT inoculation. The concentrated culture produced mala with insignificant difference organoleptically from that produced by conventional liquid cultures in quantity 200 times as much. This means that 500 ml. concentrated culture can successfully ferment 100 litres of milk to mala, compared to equivalent amount of 2-3 litres of conventional liquid culture. **KEY WORDS:** Concentration; Mala cultures; Direct-Vat Inoculation.