Comparative studies of sensory attributes of akamu produced from yellow maize with pure and mixed microbial cultures

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Akamu (Igbo), Ogi (Yoruba) or Pap is a Nigerian corn (Zea mays) meal made from wet corn starch. It has a distinctive sour taste that makes people crave for it. It is processed from dry white or yellow corn. Akamu can also be produced from millet or sorghum. It is often fermented to get the best quality of akamu. Ideally, the moulds implicated in the fermentation of maize varieties are Aspergillus niger, Penicillium sp., Mucor mucedo, Rhizopus stolonifer and a yeast, Saccharomyces cerevisiae. The bacteria ideally implicated in the fermentation of maize are: Corynebacterium sp., Lactobacillus planatarum, Lactobacillus fermentum, Leuconostoc mesenteroides, Clostridium bifermentans and Staphylococcus aureus. I0 kg of yellow maize was processed into akamu through the conventional processes of allowing natural microbiota to progress in fermenting the corn. Another 10 kg of yellow maize was also processed into akamu using the conventional processes but fermented under controlled environment using pure cultures of Lactobacillus planatarum and Saccharomyces cerevisiae. Both products were evaluated for sensory attributes using Acceptance tests' classic 9-point scale. Coded samples were evaluated in triplicates by the same panel on three separate days to ascertain consistency and to avoid fatigue. Three samples were evaluated and coded 421, 452, and 464; of the three samples, 464 and 421 were the same product of the sample fermented under controlled conditions with the pure cultures of Lactobacillus planatarum and Saccharomyces cerevisiae. The results showed that the akamu produced with pure cultures (421 and 464) ranked higher in appearance, colour, taste, and mouth feel while the sample produced with the mixed cultures (452) ranked higher in aroma and general acceptability. it is therefore, recommended that further studies be carried out to further improve on the quality of the akamu to make it more useful as probiotic food.

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