

Flavour Compounds in Backslop Fermented Uji (An East African Sour Porridge)

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Abstract

The potential of *Lactobacillus plantarum*, *Pediococcus acidilactici*, *Pediococcus pentocaceus*, *Lactobacillus cellobiosus*, different mixtures of these lactic acid bacteria and backslop starter cultures to acidify and form flavour compounds in uji was investigated. The bacteria chosen are the most prevalent species in fermented uji. Flavour compounds were analysed using GC-MS and GC-FID with HP5 non-polar column and DB-Wax polar columns respectively. Use of pure single or mixed cultures did not improve the flavour profile of fermented uji. On the basis of peak areas of unfermented and fermented uji aromagrams, pentanal, hexanal and hexadecanoic, 9,12-octadecadienoic, oleic and octadecanoic acids were found to be native to the flours, while 3-methyl-1-butanol, octanoate, nonanoate, hexadecanoate, linoleate, oleate and hexanoic, heptanoic, octanoic and nonanoic acids were synthesised during submerged culture fermentation. Ethanol, 1-pentanol, 1-hexanol, lactic acid and ethylacetate were synthesised prior to fermentation and synthesis of these compounds continued during fermentation.

Keywords

Flavour compounds, backslop ,fermented uji