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Effect of fermentation by *Lactobacillus fermentum* strains on the properties of whole grain ting

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The effect of single and co-starter culture additions (*L. fermentum* (FUA 3165 and 3321)) on *ting* properties obtained from whole grain sorghum types (High Tannin (HT) and Low Tannin (LT)) were studied. Ting samples were obtained from the different sorghum types after fermentation. Starter culture addition (singly and in combination) significantly ($p \leq 0.05$) decreased pH, Tannin Content (TNC), Phenolic Content (TPC) and Flavonoid Content (TFC), with increasing Titrable Acidity (TTA) and Antioxidant Activity (AA). Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS) quantification of phenolic compounds showed that WG-ting samples from HT-sorghum fermented with *L. fermentum* FUA 3321 had significantly ($p \leq 0.05$) higher bioactive compounds. Physicochemical characterization on Scanning Electron Microscopy (SEM) showed pronounced variations in the cellular morphology of the *L. fermentum* ting samples. Sorghum type and fermentation with *L. fermentum* significantly influenced fermentation and subsequently the WG-ting composition. Fermenting HT sorghum type with *L. fermentum* FUA 3321 yielded WG-ting with desirable biochemical properties and better phenolic composition.

Biography

Oluwafemi Ayodeji Adebo is a Lecturer at the Department of Biotechnology and Food Technology in the University of Johannesburg. He is a recipient of numerous awards and has published in reputable journals and contributed to book chapters.

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