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Effect of natural fermentation on nutritive value and in vitro protein digestibility of pearl millet

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Abstract

Two pearl millet cultivars: Composite Population III, obtained from the Department of Agronomy, Faculty of Agriculture, University of Khartoum and Baladi, obtained from El Obeid Research Station, were used in this study. Investigation showed that Composite Population III is of higher tannin, total polyphenols and phytic acid and lower in in vitro protein digestibility (IVPD), which was found to be 60.5%. The two cultivars were naturally fermented for 36 h at room temperature (30 $\pm$ 2 $^{\circ}$ C) and pH, moisture content, protein, tannin, total polyphenols, phytic acid content and IVPD were determined at 4-h intervals. Fermentation was found to cause a significant reduction in total polyphenols and phytic acid content for the two cultivars. Fermentation for 36 h at room temperature was found to cause no changes in tannin content of fermented dough for the two millet cultivars. © 2002 Published by Elsevier Science Ltd.

Keywords: Fermentation; In vitro protein digestibility; Pearl millet; Phytic acid; Tannins; Total polyphenols.

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