

# Effect Of Particulate Materials On Lactic Fermentation Of New Local White Variety Cassava (“Bianbasse”) Using Both Spontaneous And Starter Culture

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### Abstarc :

Lactic acid bacteria isolated in the fermentation of cassava for ‘fufu’ were *Lactobacillus plantarium*, *Lactobacillus* sp and *Leuconostoc mesenterodes*. *L. plantarium* was identified as the most predominant lactic acid bacteria and was used as a starter culture for the fermentation of ‘fufu’ production. The mean value counts during spontaneous fermentation, the total dissolved loads in all the samples, the total reducing sugars of all samples, the microbial loads in all the samples, the contents of crude protein, crude fiber, ash, crude fat, phytic acid and Tannin were determined. The mean value counts during spontaneous fermentation process from zero hour to 72 hours were found to increase  $0.67 \times 10^{12}$  cfu/ml to  $3.56 \times 10^{12}$  in lactic acid bacteria than total bacteria with an increase from  $0.69 \times 10^{12}$  to  $2.94 \times 10^{12}$  cfu/ml and yeasts which increased from  $0.07 \times 10^{12}$  to  $2.06 \times 10^{12}$  cfu/ml. There was corresponding increase in total dissolved solids of sample from 600mg/l to 2500mg/l, when varying the concentration of particulate materials for 72 hours and from 500mg/l to 1400mg/l when varying the concentration of Osmoregulators. The total reducing sugar for all the samples ranged from 5.8mg/l to 5.7mg/l at zero hour. At 24 hours, it ranged from 3.0mg/l to 5.4mg/l, at 48 hours it ranged from 3.5mg/l to 6.2mg/l and 72 hours, it ranged from 4.8mg/l to 6.4mg/l. Sample A inoculated with starter culture highest counts of Lactic acid bacteria ranged from 3.35 to  $5.50 \times 10^9$  cfu/ml while total bacterial counts ranged from 1.23 to  $1.32 \times 10^9$  cfu/ml. Other samples with supplemented materials had lactic acid bacterial counts ranged from 2.60 cfu/ml to  $3.92 \times 10^9$  cfu/ml while bacterial counts ranged from 3.15 to  $3.80 \times 10^9$  cfu/ml. Control had LAB counts ranged from 2.52 to  $3.04 \times 10^9$  cfu/ml while total bacterial counts ranged from 2.48 to  $2.80 \times 10^9$  cfu/ml.

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### Key Word :

*Lactobacillus plantarium*, *Lactobacillus* sp, *Leuconostoc mesenterodes*, fufu, Osmoregulators, Lactic acid bacteria and fermentation.