

### **Impact of Molasses and Foxtail Millet Incorporation on Physicochemical, Organoleptic and Biological Properties of Traditional Cereal Bread**

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Molasses is a viscous product originated from the refining of sugarcane, which has a high content of total sugar. Common bread is made from wheat flour with different extraction rates. This study is aimed at investigating the impact of molasses (M) and foxtail millet (FM) incorporation on the physicochemical, biological and organoleptic properties of traditional cereal bread. The standard bread preparation was done with four combinations namely MB (10% M), FMB (10% FM), MFMB (M and FM, 5% each) and WB (100% wheat flour) and baked at 180 °C for 35 minutes. As the control commercial bread (CB) was used. The analysis of variance (ANOVA) was done with MINITAB-18 and Friedman rank test was performed to identify significant differences ( $p < 0.05$ ) among treatments. The highest overall acceptability was for CB followed by MB and MFMB. The whiteness increased in the order MFMB (40.60±1.47), MB (42.62±1.05), FMB (58.87±1.66), WB (61.64±2.45) and CB (63.30±4.07), whereas the hardness increased in the order CB (262.6±63.4 g), WB (371.8±115.9 g), MB (428.0±174.0 g) MFMB (557.9±199.1 g) and FMB (673.1±119.3 g). The adhesiveness of the bread was 0.0240±0.028, 0.0740±0.074, 0.1680±0.168, 0.2000±0.200, and 0.5600±0.335 mJ for WB, FMB, MFMB, MB and CB, respectively. The FMB and MFMB recorded significantly high crude protein percentage as 15.56±0.74% and 15.05±0.74%, and the total plate count and yeast and mould count were below the detection limit until four days. The molasses and foxtail millet incorporation has improved the organoleptic and physicochemical properties of traditional cereal bread.

**Keywords:** Bread, Molasses, Foxtail millet, Sensory-evaluation