



# Agricultural Journals

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# **Czech J. Food Sci.**

**Hussein A.S., Ibrahim  
G.S., Asker M.M.S.,**

**Mamoud M.G..**

# **Exopolysaccharide from *Lactobacillus helveticus*: identification of chemical structure and effect on biscuit quality**

Czech J. Food Sci., 28 (2010): 225-232

Exopolysaccharide (LB-gum) was produced from *Lactobacillus helveticus* by ethanol precipitation and gel-permeation chromatography. The structures of LB1 and LB2 were estimated by sugar composition analysis, methylation, and FT-IR analysis. The results proved the contents of glucose and galactose in molar ratio of 2:1 and 2.3:1, and molecular weights  $\sim 5.4 \times 10^5$  Da and  $\sim 20.3 \times 10^5$  Da, respectively. Xanthan and LB-gum were added to wheat flour during biscuits making at levels of 0, 0.5, 1.0, 1.5, and 2.0%. Rheological properties and chemical

quality attributes of the biscuits during storage for six months were evaluated. The data revealed slight increases in water absorption, dough development time, and dough stability but weakening decreased about 50 %. Also, height, weight, volume, and specific volume were found to increase as xanthan and LB-gum level increased. The colour was slightly affected. There were no significant differences between the samples containing xanthan and LB-gum at different levels with respect to all parameters tested except for the taste. Shelf – life of biscuit prolonged as a result of xanthan or LB-gum addition. The