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Paper Title **Bacteriocin Production By Lactobacillus Pentosus ST712BZ Isolated From Boza**

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**ABSTRACT**

Cereals are fermented in most regions of the world and a variety of raw materials and fermentation conditions are used, mostly with lactic acid bacteria and yeast as starter cultures. Lactic acid bacteria play an important role in the preservation, microbiological stability and production of aroma compounds in these products. A few papers have been published on the microbial composition of boza, a beverage traditionally produced in Bulgaria and prepared from a combination of different cereals. Bacteriocin ST712BZ (14.0 kDa in size) inhibits the growth of *Lactobacillus casei*, *Escherichia coli*, *Pseudomonas aeruginosa*, *Enterococcus faecalis*, *Klebsiella pneumoniae* and *Lactobacillus curvatus*. Growth of strain ST712BZ in BHI, M17, soy milk and molasses were similar to growth in MRS, with optimal bacteriocin production (12 800 AU/ml) recorded in MRS after 24 h. The same level of bacteriocin production (12 800 AU/ml) was recorded in MRS broth with an initial pH of 6.5, 6.0 and 5.5. However, MRS broth (pH 6.5) supplemented with 1 mM EDTA, yielded only 6 400 AU/ml. Low levels of bacteriocin activity were recorded in MRS broth with an initial pH of 5.0 and 4.5. Of all media compositions tested, MRS supplemented with tryptone (20.0 g/l), glucose (20.0 to 40.0 g/l), mannose (20 g/l), vitamin B12, or vitamin C yielded the highest activity (12 800 AU/ml). Glycerol concentrations of 1.0 g/l and higher repressed bacteriocin production. Maximal bacteriocin activity (25 600 AU/ml) was recorded in MRS supplemented with Vit. B1 or DL-6,8-thioctic acid.