TITLE: BACON AS SOURCE OF BACTERIOCINOGENIC LACTIC ACID BACTERIA

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Bacteriocin production by lactic acid bacteria (LAB) has been considered an alternative for biopreservation of food, once it can reduce the use of synthetic preservatives and/or the intensity of heat treatment during food production. In addition, consumers are increasingly demanding for natural foods, without chemical substances to enhance their shelf-life. This study aimed to isolate LAB naturally present in bacon that present antimicrobial and bacteriocinogenic activity against *Listeria monocytogenes.* A total of 40 vacuum packed bacon samples was obtained from retail sale and subjected to LAB enumeration, according to ISO 15214: samples were diluted in peptone water and pour plated into MRS agar, pH 5.7, incubated at 30 ° C for 72 h in aerobic condition. Isolated colonies were subjected to Gram staining and catalase production, followed by DNA extraction and rep-PCR (GTG_5) of presumptive LAB isolates (Gram positive, catalase negative). Based on the obtained genetic profiles, isolates were selected and tested for bacteriocin production using the spot-on-the-lawn method, considering *L. monocytogenes* ATCC 7644 as target. LAB counts in bacon samples varied from 5.18 and 8.43 log UFC/g, with an average of 7.36 log UFC/g. From 268 isolates selected in this preliminary step, 258 were Gram positive and catalase negative, confirming typical features of LAB. Rep-PCR was performed for 227 isolates, generating a dendrogram with 4 clusters and 82 distinct profiles, of which 79 isolates were selected for bacteriocin production test: *L. monocytogenes* ATCC 7644 was inhibited by 6 LAB isolates. The obtained results highlight the predominance of LAB naturally present in vacuum packed bacon and their potential for bacteriocin production against *L. monocytogenes.*

Key words: Bacon, BAL, bacteriocinogenic

Development Agency: CAPES, CNPq and FAPEMIG