

PORK SAFETY

Title: Competitive Inhibition of *Listeria monocytogenes* in Ready to Eat Pork Products – **NPB #99-216**

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I. Abstract

Lactic acid bacteria (LAB) were isolated from ready-to-eat (RTE) pork products. The inhibitory action towards *Listeria monocytogenes* (LM) was observed in agar spot tests, laboratory media and in RTE pork products. A total of 49 isolates were obtained with 15 showing significant inhibition towards LM in agar spot tests. The six most inhibitory isolates were chosen for quantification of inhibition in laboratory media. API identification of these isolates indicated that 5 were *Lactobacillus plantarum* while one was *Lactobacillus brevis*. In laboratory media there was a 4 log reduction in numbers of LM after a 28 day storage period at 5 C while control samples increased more than 3 log cycles. Ultimately there was more than a 6 log reduction of LM on day 28 compared with the control samples. A mixture of the LAB was added to hot dogs and ham cold cuts along with LM. The LAB had a bacteriostatic effect on the LM completely inhibiting growth of the organism in the RTE products. After 28 days of storage, there was greater than a 4 log difference in the amount of LM in the RTE products containing LM compared to the controls. There were no significant increases in the numbers of LAB so their presence should not have significant impacts on shelf life.

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