

THE SAFETY, TECHNOLOGY AND SENSORY ASPECTS OF PASTEURIZED AND RAW MILK TREATED BY SOLID-STATE FERMENTED GRAIN EXTRUDATES INOCULATED WITH CERTAIN LACTOBACILLI

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Abstract. The study mainly focused on the influence of *Lactobacillus sakei* KTU05-6 and *Pediococcus pentosaceus* KTU05-8 fermentations, after their cultivation on a solid-state medium substrate (pre-ferment) of extruded grain (corn and rice), and on the safety, technology and sensory properties of raw and pasteurized milk products treated with fermented grain extrudates.

The strains investigated showed different behavior in pre-fermentation processes: *P. pentosaceus* KTU05-8 multiplied more actively and *L. sakei* KTU05-6 produced more organic acids. Both strains were able to reduce the numbers of coliform in fermented raw milk. *P. pentosaceus* and *L. sakei* produced more (from 2.2 till 2.8 times) L(+) than D(-) isomer (in milk samples fermented with *P. pentosaceus* cultivated in extruded corn substrate and milk samples fermented with *L. sakei* cultivated in extruded rice substrate, respectively).

The results show that certain lactobacilli such as *L. sakei* and *P. pentosaceus* in a pre-ferment of extruded grain (corn and rice), added to pasteurized and/or raw milk, lower pH and fat content of the final product, improve the acceptability of the end product and reduce coliform bacteria in the final product derived from raw milk.

Keywords: *Lactobacillus sakei* KTU05-6, *Pediococcus pentosaceus* KTU05-8, extruded grain, milk products.