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Probiotic Bacteria in Functional Meat Products

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12.1 Introduction

Nowadays, several fermented foods are being praised for their nourishing and beneficial features. The post-Metchnikoff emergence of a multitude of health-promoting fermented milks and other probiotic fermented foods has largely advocated the case, due to the health-promoting effects of certain beneficial microorganisms that are abundantly present in the food.

The health-beneficial effect of consuming food with probiotic bacteria is a factor contributing to the development of research on the new segment of functional food that is meat processing.

Different kinds of raw ripened sausage and cured meat products are traditionally produced with the use of a fermentation process, that is, a guided decomposition process involving the meat's own enzymes and enzymes of microbiological origin. The traditional production of raw meat products is based on the fermentation of native or added carbohydrates by natural lactic acid bacteria (LAB). Several substances come into being during fermentation (lactic acid, acetic acid, aldehydes, alcohols, ketones, bacteriocins). The quality, safety, and storage stability of a raw meat product depend on these components. Nowadays, it is quite a common practice in manufacturing raw ripened meat products to apply starter cultures (Incze 1998, Khan et al. 2011, Kołożyn-Krajewska and Dolatowski 2009).

Probiotic bacteria strains are successfully used in the production of processed milk products and vegetable and fruit juices; however, their use in dry fermented meat products is not common yet. Probiotic stability in the food matrix depends on factors such as pH, storage temperature, oxygen levels, and presence of competing microorganisms and inhibitors (Coman et al. 2012).