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Czech J. Food Sci. Kristek S., Bešlo D., Pavlović H., Kristek A.

Effect of starter cultures *L. mesenteroides* and *L. lactis* ssp. *lactis* on sauerkraut fermentation and quality

Czech J. Food Sci., 22 (2004): 125-132

Abstract: Sauerkraut fermentation course was observed in 3 cycles and 4 replicates under controlled conditions (2.5% NaCl, 21° C) using starter cultures (control; Leuconostoc meseneroides – 700 mil. cfu/ml; Lactococcus lactis ssp. lactis -500 mil. cfu/ml; preceding fermentation juice). Each of the above mentioned cycles lasted for 28 days. Microbiological and chemical characteristics of the sauerkraut during the 28-day fermentation period were investigated. Lactic acid bacteria content, the concentration of lactic acid, and pH of the medium were monitored daily. The completion of each cycle fermentation

was followed by the determination of the final product organoleptic properties which were observed for 6 months with the aim to define the expiration date. The best results relative to sauerkraut quality were obtained by using starter culture L. lactis ssp. lactis, followed by fermentation conducted by natural, spontaneous sauerkraut flora (control variant). Organoleptic properties and expiration date of the final product obtained by the use of lactic acid bacterium L. mesenteroides as a starter culture were better compared to the use of sauerkraut juice obtained from the preceding fermentation cycles and possessing the best organoleptic properties.

Keywords:

fermentation; lactic acid bacteria; *L. lactis* ssp. *lactis*; *L. mesenteroides*; organoleptic properties; sauerkraut

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