Development of a novel white soft cheese using kefir starter cultures: Microbiological, physicochemical and sensory properties

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Abstract

Kefir health promoting effects have created increasing demands and research efforts to develop new kefir products. So, this study aimed at developing novel functional white-soft-cheeses (WSC) using kefir cultures. Kefir WSCs were produced from cow's milk with and without thyme. Microbiological, physicochemical and sensory criteria were examined during storage at 4°C for 15 days. Total aerobes, yeasts, and lactococci variably decreased in counts, whereas lactobacilli count significantly increased in both cheeses. Kefir addition significantly affected acidity, pH and proteolytic criteria. Kefir cheese without thyme scored highest sensory acceptability. Nevertheless, final counts of kefir cultures (>5x10^{7}CFU/ml) were far above the minimum therapeutic requirements (10^6 CFU/ml), and kefir cheeses sensory scored good acceptability, indicating the suitability of WSC as a potential vehicle of kefir. The current results indicate a new and interesting perspective in the development of new functional foods through using of kefir starters in various dairy and non-dairy products with acceptable sensorial criteria, and hence expand the range of kefir containing products for the consumers around the world.

Key words: Kefir, Starter cultures, White soft cheese, Lactobacilli, Probiotics, Proteolytic activity.