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Natural Whey Cultures

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Abstract

Microorganisms are a major component of all natural cheese varieties. During both cheese manufacture and ripening, these organisms play important roles. The microorganisms used in cheesemaking carry out some function throughout ripening of the cheese such as production of lactic acid, a wide range of enzymes and metabolic products, flavor-aroma substances and antimicrobial substances. Microorganisms are classified two main groups; primary starters and secondary starters. Natural whey cultures are one of the primary starters and derived from the previous day's whey under more or less specific conditions. Previous whey is incubated overnight at a gradually decreasing temperature (from 54°C to room temperature), resulting in pH 4.0-4.5. This method promotes the growth of a great number of viable thermophilic lactic acid bacteria (LAB). The microflora of natural whey is mainly composed of aciduric and/or thermophilic strains such as *Lactobacillus helveticus*, which is the dominant flora, *Lactobacillus delbrueckii* subsp *lactis*/*bulgaricus*, *Lactobacillus fermentum* and *Streptococcus thermophilus*. These starters are used in the production of pasta filata cheeses, extra hard and hard types of cheeses. Grana Padano, Parmigiano Reggiano, Provolone cheeses in Italy, Argentinian-type cheeses, Swiss-type cheeses and Cómte in France are the best known of the cheeses produced using these cultures. The contribution to final product typical flavor and aroma, attributed to the complex microflora and the resistance to phage attack due to the multi strain culture are the advantages of using natural whey starter cultures.

Keywords: Natural whey starter (NWS), Natural whey culture (NWC), Natural starter culture (NSC), cheese starter.