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Acid production, growth kinetics and aroma profiles of *Lactobacillus* flora from Stilton cheese

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Highlights

- Fortuitous *Lactobacillus* affects aroma inconsistency during cheese



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Table 1

Table 2

production.

- Salt had minimal effect on volatiles produced by *Lactobacillus* isolates.

Abstract

The effect of *Lactobacillus plantarum* isolates from Stilton cheese on aroma profiles of milk fermentation was examined. Representative *Lb. plantarum* isolates were cultured alone and in combination with acid-producing and non-acid producing *Lactococcus lactis* NCIMB 9918 in UHT milk at 30 & 18 °C for 48 h & 12 weeks, respectively in presence and absence of salt, simulating cheese production and ripening. During long-term ripening, *Lb. plantarum* grew faster when co-cultured with non-acid producing *Lc. lactis* in the presence of salt. One isolate of *Lb. plantarum* produced the highest concentration of alcohols, organic acids and acetoin. Co-culture of *Lb. plantarum* with acid-producing *Lc. lactis* enhanced acid and alcohol production, whereas co-inoculation with non-acid producing *Lc. lactis* increased acetoin synthesis. *Lb. plantarum* is an incidental organism in cheese and its presence is unpredictable. Occurrence of different genotypes of *Lb. plantarum* could contribute to batch to batch variation in the cheese aroma characteristics.



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Keywords

Stilton; Aroma; *Lactobacillus*; *Lactococcus*

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