Survival of *Staphylococcus aureus* During the Manufacture and Ripening of Camembert Cheese

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Abstract

Staphylococcal Food Poisoning (SFP) is the third most common cause of food poisoning internationally, caused by an enterotoxin produced by *Staphylococcus aureus. S. aureus* contamination in dairy products, including cheese, can lead to SFP. The survivability of *S. aureus* during the manufacture and ripening of Camembert cheese was the focus of this study. Camembert cheeses were manufactured using pasteurized milk inoculated with one of three *S. aureus* strains, comprising two reference strains ATCC 4163, ATCC 9144 and one dairy strain 172 RR. Each strain was tested in triplicate. The results showed that manufacturing and ripening of Camembert cheese reduced the risk of food safety associated with contamination with *S. aureus* with a 1.6 to 3.1 log reduction. The largest decrease occurred following drainage, which was particularly evident in 172 RR, and coincided with the lowest pH. The combined effect of culture blend (starter and secondary flora) activity and low pH are believed to contribute to the death of *S. aureus*.

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Abbreviations

AOC	appellation d'origine contrôlée
APHA	American Public Health Association
a_w	water activity
CFU/g	colony forming units per gram
CMP	caseinomacropeptide
g	gram
h	hour (s)
min	minute (s)
MSSA	methicillin susceptible *Staphylococcus aureus*
NSLAB	non-starter lactic acid bacteria
SC+	coagulase-positive staphylococci
SFP	Staphylococcal food poisoning

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