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

A thesis presented in partial fulfilment of the
requirements for the degree of Master of Food Technology

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2017

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*.

Acknowledgements

First and foremost, I would like to express my deep sense of appreciation to Professor Steve Flint, my supervisor, for the valuable guidance and encouragement every week over the last year, and the critical advice on the writing of this thesis. It was and will always be an honour to be his student and I appreciated learning from him.

In the microbiology lab, I especially wish to thank Ann-Marie Jackson, Kylie Evans, and Haoran Wang for the assistance they kindly provided. Their knowledge and experience have helped me a lot during my study. In particular, I am grateful to Ann-Marie Jackson and Haoran Wang for providing the *S. aureus* strains and Baird-Parker agar plates.

I would like to thank Christine Ramsay for helping me order all experimental kits and milk. I also thank Steve Glasgow for his guidance and assistance in the chemistry lab.

Finally, I am extremely grateful to my parents for their unconditional support and encouragement.

Abbreviations

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

Table of Contents

Abstract.....	1
Acknowledgements.....	2
Abbreviations.....	3
Table of Contents.....	4
List of Figures.....	7
List of Tables.....	10
1 Introduction.....	14
1.1 Research questions.....	14
1.2 Hypothesis.....	14
1.3 Purpose of Research.....	14
2 Literature Review.....	15
2.1 <i>Staphylococcus aureus</i>	15
2.1.1 Emergence of Staphylococcal Food Poisoning (SFP).....	15
2.1.2 Growth Boundaries of <i>Staphylococcus aureus</i>	16
2.1.3 Survival and resistance.....	17
2.1.4 Presence of <i>Staphylococcus aureus</i> in Cheese and food poisoning Outbreaks.....	18
2.1.5 Anti-staphylococcal Activity of Starter Lactic Acid Bacteria (LAB).....	19
2.2 Camembert Cheeses.....	20
2.2.1 Background.....	20
2.2.2 Manufacturing Process, Technology and Biochemical Changes.....	21
2.2.3 Biochemistry of Camembert Ripening.....	26
2.3 Summary and Hypothesis.....	35
3 Materials and Methods.....	36
3.1 Manufacture of Camembert Cheeses.....	36

3.1.1	Materials and Equipment	36
3.1.2	Experimental design.....	36
3.1.3	Sterilisation	37
3.1.4	Cheese Curd Preparation and <i>S. aureus</i> Inoculation	37
3.1.5	Cutting, Moulding and Draining the Curds	37
3.1.6	Salting the cheese	38
3.1.7	Maturing the Cheeses	38
3.1.8	Flow Chart of Cheese Manufacture	39
3.2	Bacterial Enumeration.....	40
3.2.1	Experimental Design	40
3.2.2	Plate Count Method.....	40
3.2.3	Procedure.....	40
3.2.4	Physico-chemical Analysis.....	41
4	Results.....	43
4.1	Survival of <i>S. aureus</i> During the Manufacture and Ripening Period of Camembert Cheese	43
4.1.1	Early Stages of Cheese Manufacture	43
4.1.2	Survival of <i>S. aureus</i> in different part of the cheese	46
4.2	Salt content	74
4.3	Control groups (Cheeses Without Culture Blend).....	74
4.3.1	Surface of the controlled Cheeses	75
4.3.2	Core of the Controlled cheeses	84
5	Discussion	93
5.1	Results discussion.....	93
5.1.1	Survival of <i>S. aureus</i> During the Manufacture and Ripening of Camembert cheese	93

5.2	Importance and Methods for Preventing the Contamination of Camembert cheese with <i>S. aureus</i>	95
6	Conclusion	98
6.1	Limitations and Further recommendations	98
7	Bibliography	99
8	Appendix	107
8.1	Bacterial Enumeration.....	107
8.1.1	Regular Camembert Cheeses.....	107
8.1.2	Control groups	127
8.2	Calculations	130
8.2.1	T-tests Results Between Strains.....	130
8.2.2	Salt content	134

List of Figures

Figure 1 The number of reported foodborne <i>S. aureus</i> outbreaks out of all associated cases during 2007 and 2016 in New Zealand ((Pattis et al., 2017)	16
Figure 2 Relation between a_w and pH of different cheeses (Shaw, 1981)	22
Figure 3 Changes caused by the growth of <i>P. camemberti</i> during the ripening of Camembert cheese (McSweeney, 2004)	28
Figure 4 Changes in pH during the ripening of Camembert (P. F. Fox et al., 2004)	30
Figure 5 Changes in the activities of the aspartate proteinases and the metalloproteinase during the ripening of Camembert (Guinee & Fox, 1987; Spinnler & Gripon, 2004).....	32
Figure 6 Catabolism of phenylalanine (McSweeney, 2004)	33
Figure 7 Pathways for the catabolism of leucine and the formation of volatile flavour compounds (McSweeney, 2004).	34
Figure 8 Cutting and ladle the cheese curds before drainage.....	38
Figure 9 Survival of <i>S. aureus</i> at the beginning stages of Camembert cheese manufacture ..	44
Figure 10 Changes of pH at the early stages of Camembert cheese manufacture	45
Figure 11 Changes of a_w at the beginning stages of Camembert cheese manufacture	46
Figure 12 Survival of <i>S. aureus</i> at the mould rind of Camembert cheese throughout manufacture and ripening stages	48
Figure 13 Survival of <i>S. aureus</i> in the rind of Camembert during the ripening period	49
Figure 14 Changes of pH at the mould rind of Camembert cheese throughout manufacture and ripening	50
Figure 15 Changes of pH in the rind of Camembert cheese during manufacture	51
Figure 16 Changes of pH in the rind of Camembert cheese during the ripening period	52
Figure 17 Changes of a_w at the mould rind of Camembert cheese throughout the manufacture and ripening period.....	53
Figure 18 Changes of a_w at the mould rind of Camembert cheese during manufacture.....	54
Figure 19 Changes of a_w at the mould rind of Camembert cheese during the ripening period	55
Figure 20 Survival of <i>S. aureus</i> at the Surface of Camembert cheese throughout manufacture and ripening stage	56

Figure 21 Survival of <i>S. aureus</i> at the surface of Camembert cheese during manufacture.....	57
Figure 22 Survival of <i>S. aureus</i> at the surface of Camembert cheese throughout ripening period	58
Figure 23 Changes of pH at the surface of Camembert cheese throughout the manufacture and ripening period.....	59
Figure 24 Changes of pH at the surface of Camembert cheese during manufacture	60
Figure 25 Changes of pH at the Surface of Camembert cheese during ripening period.....	61
Figure 26 Changes of a_w at the surface of Camembert cheese throughout the manufacture and ripening period.....	62
Figure 27 Changes of a_w at the surface of Camembert cheese during manufacture.....	63
Figure 28 Changes of a_w at the surface of Camembert cheese during the ripening period ...	64
Figure 29 Survival of <i>S. aureus</i> at the core of Camembert cheese throughout manufacture and ripening stage.....	65
Figure 30 Survival of <i>S. aureus</i> at the core of Camembert cheese during manufacture	66
Figure 31 Survival of <i>S. aureus</i> at the core of Camembert cheese throughout the ripening period	67
Figure 32 Changes of pH at the core of Camembert cheese throughout the manufacture and ripening period.....	68
Figure 33 Changes of pH at the core of Camembert cheese during manufacture.....	69
Figure 34 Changes of pH at the core of Camembert cheese during the ripening period	70
Figure 35 Changes of water activity at the core of Camembert cheese throughout the manufacture and ripening period.....	71
Figure 36 Changes of a_w at the core of Camembert cheese during manufacture.....	72
Figure 37 Changes of a_w at the core of Camembert cheese during the ripening period	73
Figure 38 Salt content in cheese samples at the 14 days of ripening	74
Figure 39 Survival of <i>S. aureus</i> at the surface of controlled Camembert cheese (without culture blend) throughout manufacture and ripening period	75
Figure 40 Survival of <i>S. aureus</i> at the surface of controlled Camembert cheese (without culture blend) during manufacture	76
Figure 41 Survival of <i>S. aureus</i> at the surface of controlled Camembert cheese (without culture blend) during ripening period.....	77

Figure 42 Changes of pH at the surface of controlled Camembert cheese (without culture blend) throughout manufacture and ripening period	78
Figure 43 Changes of pH at the surface of controlled Camembert cheese (without culture blend) during manufacture	79
Figure 44 Changes of pH at the surface of controlled Camembert cheese (without culture blend) during ripening period	80
Figure 45 Changes of a_w at the surface of controlled Camembert cheese (without culture blend) throughout manufacture and ripening period	81
Figure 46 Changes of pH at the surface of controlled Camembert cheese (without culture blend) during manufacture	82
Figure 47 Changes of a_w at the surface of controlled Camembert cheese (without culture blend) during ripening period	83
Figure 48 Survival of <i>S. aureus</i> at the core of control Camembert cheese (without culture blend) throughout manufacture and ripening period	84
Figure 49 Survival of <i>S. aureus</i> at the core of control Camembert cheese (without culture blend) during manufacture	85
Figure 50 Survival of <i>S. aureus</i> at the core of control Camembert cheese (without culture blend) during the ripening period	86
Figure 51 Changes of pH at the core of control Camembert cheese (without culture blend) throughout manufacture and ripening period	87
Figure 52 Changes of pH at the core of control Camembert cheese (without culture blend) during manufacture	88
Figure 53 Changes of pH at the core of control Camembert cheese (without culture blend) during the ripening period	89
Figure 54 Changes of a_w at the core of control Camembert cheese (without culture blend) throughout manufacture and ripening period	90
Figure 55 Changes of a_w at the core of controlled Camembert cheese (without culture blend) during manufacture	91
Figure 56 Changes of a_w at the core of control Camembert cheese (without culture blend) during the ripening period	92

List of Tables

Table 1 Conditions for the growth of <i>S. aureus</i> and production of toxin (Stewart, 2003).....	17
Table 2 Storage categories of products based on pH and a_w (Shaw, 1981)	22
Table 3 Viable Cells (CFU/g) at the beginning stages of Camembert cheese manufacture ..	107
Table 4 Log Viable Cell (log CFU/g) at the beginning stages of Camembert cheese manufacture	108
Table 5 Viable Cells (CFU/g) at the mould Rind of Camembert cheese during manufacture and ripening	108
Table 6 Log Viable Cell (log CFU/g) at the mould Rind of Camembert cheese during manufacture and ripening	109
Table 7 Viable Cells (CFU/g) at the Surface of Camembert cheese during manufacture and ripening	109
Table 8 Log Viable Cell (log CFU/g) at the Surface of Camembert cheese during manufacture and ripening	110
Table 9 Viable Cells (CFU/g) at the Core of Camembert cheese during manufacture and ripening	111
Table 10 Log Viable Cell (log CFU/g) at the Core of Camembert cheese during manufacture and ripening	111
Table 11 Viable Cells (CFU/g) at the beginning stages of Camembert cheese manufacture	112
Table 12 Table Log Viable Cell (log CFU/g) at the beginning stages of Camembert cheese manufacture.....	113
Table 13 Mean Values of all three trials of Each Strain at different manufacturing stages..	113
Table 14 Viable Cells (CFU/g) at the mould Rind of Camembert cheese during manufacture and ripening	114
Table 15 Log Viable Cell (log CFU/g) Viable Cells (CFU/g) at the mould rind of Camembert cheese during manufacture and ripening.....	114
Table 16 Mean Values of all three trials from Each Strain at different time points.....	115
Table 17 Viable Cells (CFU/g) at the surface of Camembert cheese during manufacture and ripening	115

Table 18 Log Viable Cell (log CFU/g) at the surface of Camembert cheese during manufacture and ripening	116
Table 19 Mean Values of all three trials from Each Strain at different manufacturing stages	117
Table 20 Viable Cells (log CFU/g) at the core of Camembert cheese during manufacture and ripening	117
Table 21 Log Viable Cell (log CFU/g) at the core of Camembert cheese during manufacture and ripening	118
Table 22 Mean Values of all three trials from Each Strain at different manufacturing stages	118
Table 23 pH at the beginning stages of Camembert cheese manufacture.	119
Table 24 Mean Values of all three trials from Each Strain at different manufacturing stages	119
Table 25 pH of Camembert cheese mould rind during manufacture and ripening.	120
Table 26 Mean Values of all three trials from Each Strain at different manufacturing stages	120
Table 27 pH at the surface of Camembert cheese during manufacture and ripening.....	121
Table 28 Mean Values of all three trials from Each Strain at different manufacturing stages	121
Table 29 pH at the core of Camembert cheese during manufacture and ripening	122
Table 30 Mean Values of all three trials from Each Strain at different manufacturing stages	122
Table 31 Water activity at the beginning stages of Camembert cheese manufacture.	123
Table 32 Mean Values of all three trials from Each Strain at different manufacturing stages	123
Table 33 Water activity at the mould Rind of Camembert cheese during manufacture and ripening	124
Table 34 Mean Values of all three trials from Each Strain at different manufacturing stages	124
Table 35 Water activity at the mould Rind of Camembert cheese during manufacture and ripening	125

Table 36 Mean Values of all three trials from Each Strain at different manufacturing stages	125
Table 37 Water activity at the mould Rind of Camembert cheese during manufacture and ripening	126
Table 38 Mean Values of all three trials from Each Strain at different manufacturing stages	126
Table 39 Viable Cells (CFU/g) at the surface of controlled Camembert cheese (without culture blend) during manufacture and ripening.	127
Table 40 Log Viable Cells (log CFU/g) at the surface of controlled Camembert cheese (without culture blend) during manufacture and ripening.	127
Table 41 Viable Cells (CFU/g) at the core of controlled Camembert cheese (without culture blend) during manufacture and ripening	127
Table 42 Log Viable Cells (CFU/g) at the core of controlled Camembert cheese (without culture blend) during manufacture and ripening	128
Table 43 pH at the surface of controlled Camembert cheese (without culture blend) during manufacture and ripening	128
Table 44 pH at the core of controlled Camembert cheese (without culture blend) during manufacture and ripening	129
Table 45 Water activity at the surface of controlled Camembert cheese (without culture blend) during manufacture and ripening	129
Table 46 Water activity at the core of controlled Camembert cheese (without culture blend) during manufacture and ripening.....	129
Table 47 T-tests results of <i>S. aureus</i> between different strains at the mould rind of cheeses	130
Table 48 T-tests results of <i>S. aureus</i> between different strains at the surface of cheeses...	130
Table 49 T-tests results of <i>S. aureus</i> between different strains at the core of cheeses	130
Table 50 T-tests results of <i>S. aureus</i> between different strains at the surface of controlled cheeses (without culture blend)	131
Table 51 T-tests results of <i>S. aureus</i> between different strains at the core of controlled cheeses (without culture blend).....	131
Table 52 T-tests results of pH between different strains at the mould rind of cheeses	131
Table 53 T-tests results of pH between different strains at the surface of cheeses	132

Table 54 T-tests results of pH between different strains at the core of cheeses.....	132
Table 55 T-tests results of pH between different strains at the surface of controlled cheeses (without culture blend).....	132
Table 56 T-tests results of pH between different strains at the core of controlled cheeses (without culture blend).....	132
Table 57 T-tests results of water activity between different strains at the mould rind of cheeses.....	133
Table 58 T-tests results of water activity between different strains at the surface of cheeses	133
Table 59 T-tests results of water activity between different strains at the surface of cheeses	133
Table 60 T-tests results of water activity between different strains at the surface of controlled cheeses (without culture blend).....	134
Table 61 T-tests results of water activity between different strains at the core of controlled cheeses (without culture blend).....	134
Table 62 Volume (ml) usage of ammonium thiocyanate during titration.....	134