

# **Making the most of HACCP**

Learning from others' experience

**Edited by  
Tony Mayes and Sara Mortimore**



**CRC Press  
Boca Raton Boston New York Washington, DC**

**WOODHEAD PUBLISHING LIMITED**  
Cambridge England

# Contents

<i>Preface and acknowledgements</i> .....	xi
<i>List of contributors</i> .....	xiii
<i>List of acronyms and abbreviations</i> .....	xvii
<b>1 Introduction</b> .....	1
<i>T. Mayes, Unilever Research, Sharnbrook and S. Mortimore, Pilsbury Europe, Uxbridge</i>	
1.1 The development of HACCP .....	1
1.2 HACCP in practice .....	2
1.3 Key themes .....	3
1.4 References .....	8
<b>Part I Small and medium-sized enterprises (SMEs), retailers and HACCP systems</b> .....	11
<b>2 HACCP and SMEs: problems and opportunities</b> .....	13
<i>E. Taylor, The University of Salford</i>	
2.1 HACCP and SMEs .....	13
2.2 Setting up the HACCP system .....	16
2.3 Operating the HACCP system .....	23
2.4 Conclusions .....	29
2.5 References .....	30
<b>3 HACCP and SMEs: a case study</b> .....	32
<i>N. Route, formerly Food and Spice Group, Tunbridge Wells</i>	
3.1 Why bother with HACCP? .....	32
3.2 The company .....	33

3.3	Scope and resources .....	34
3.4	HACCP planning and implementation .....	36
3.5	HACCP and supplier operations .....	38
3.6	Keeping up to date with HACCP .....	40
3.7	Summary .....	41
<b>4</b>	<b>Supplier HACCP systems: a reetailer's perspective .....</b>	<b>43</b>
	<i>M. Kane, Food Control Limited, Cambridge (formerly Head of Product Safety, Sainsbury's Supermarkets Limited)</i>	
4.1	Introduction .....	43
4.2	Retailers and the development of supplier HACCP systems ..	43
4.3	Assessing the effectiveness of supplier HACCP systems ....	45
4.4	Gauging the success of HACCP systems: customer complaint data analysis .....	47
4.5	Common weaknesses in HACCP systems .....	48
4.6	The future development of HACCP .....	52
4.7	Conclusions .....	56
<b>Part II</b>	<b>Larger manufacturers and HACCP systems .....</b>	<b>59</b>
<b>5</b>	<b>HACCP implementation in the United States .....</b>	<b>61</b>
	<i>T. R. McAloon, Cargill Inc., Minneapolis</i>	
5.1	Introduction .....	61
5.2	Setting up the HACCP system .....	63
5.3	Implementation challenges and solutions .....	69
5.4	Surprises in HACCP implementation .....	72
5.5	Operating the HACCP system .....	73
5.6	HACCP management challenges and solutions .....	75
5.7	The benefits of a HACCP system .....	77
5.8	The future evolution of HACCP systems .....	78
5.9	Conclusion .....	78
<b>6</b>	<b>HACCP implementation: the Indian experience .....</b>	<b>81</b>
	<i>B. Marthi, Hindustan Lever Limited, Mumbai</i>	
6.1	Introduction .....	81
6.2	The food industry in India .....	81
6.3	Food safety in India .....	82
6.4	The development of HACCP systems in India .....	84
6.5	HACCP implementation: the Unilever approach in India ....	85
6.6	HACCP implementation in practice: the marine products model	86
6.7	Maintaining HACCP systems .....	91
6.8	The benefits of HACCP implentation .....	91
6.9	Difficulties in HACCP implementation .....	93
6.10	The future of HACCP implementation in India .....	94
6.11	Bibliography .....	96

<b>7 Implementing HACCP systems in Europe:</b>	
<b>Kerry Ingredients</b> .....	98
<i>D. Rudge, Kerry Ingredients, Bristol</i>	
7.1 Introduction .....	98
7.2 HACCP and business strategy .....	99
7.3 How big is the job? .....	100
7.4 Prioritisation in the project plan .....	101
7.5 The Polish experience .....	103
7.6 Expansion of the Polish operation .....	108
7.7 Kerry Ingredients, Portbury, UK .....	110
7.8 The benefit of hindsight .....	115
7.9 References .....	118
<b>8 Implementing HACCP systems in Europe: Heinz</b> .....	119
<i>D. Killen, H. J. Heinz, Wigan</i>	
8.1 Introduction .....	119
8.2 The manufacturing background .....	120
8.3 The main hazards .....	120
8.4 Introducing the HACCP programme at Kitt Green .....	122
8.5 Scope, approach and timing .....	123
8.6 Setting up the managing HACCP teams .....	124
8.7 Prerequisites .....	127
8.8 Hazards and CCPs .....	129
8.9 Implementation and verification .....	129
8.10 Keeping up to date .....	131
8.11 Benefits and drawbacks of HACCP implementation .....	133
8.12 References .....	135
<b>Part III Regulation and training</b> .....	137
<b>9 HACCP enforcement in New Zealand</b> .....	139
<i>J. A. Lee, Food Assurance Authority, Ministry of Agriculture     and Forestry, Wellington</i>	
9.1 Introduction .....	139
9.2 Developing HACCP assessment .....	143
9.3 Assessment of the HACCP system .....	149
9.4 Conclusion .....	160
9.5 References .....	163
<b>10 Enforcing safety and quality: Canada</b> .....	165
<i>V. McEachern, A. Bungay, S. Bray Ippolito and S. Lee-Spiegelberg,     Canadian Food Inspection Agency, Nepean</i>	
10.1 Introduction .....	165
10.2 The background to food safety inspection in Canada .....	166
10.3 Enforcement: from product to systems inspection .....	166

10.4	HACCP as an industry control system .....	168
10.5	Government food safety programs .....	169
10.6	Regulatory verification versus audit .....	170
10.7	Regulatory verification of company food safety systems ....	172
10.8	Common barriers to regulatory verification .....	177
10.9	Future trends: the Integrated Inspection System .....	179
10.10	Summary .....	182
<b>11</b>	<b>HACCP implementation in the Thai fisheries industry .....</b>	<b>183</b>
	<i>S. Suwanrangsi, Department of Fisheries, Bangkok</i>	
11.1	Introduction .....	183
11.2	The international fish trade .....	183
11.3	The fisheries industry in Thailand .....	184
11.4	The Fish Inspection and Quality Control Division .....	185
11.5	The need for HACCP in the fisheries industry .....	186
11.6	Hazards associated with fishery products .....	187
11.7	Key issues in HACCP implementation .....	187
11.8	Preparing for HACCP implementation .....	189
11.9	Designing the HACCP system .....	193
11.10	Implementation issues .....	196
11.11	Measuring success: the benefits of HACCP implementation .	199
11.12	Conclusions: the future of HACCP .....	199
11.13	References .....	200
<b>12</b>	<b>Implementation and enforcement in the United Kingdom ....</b>	<b>202</b>
	<i>J. Barnes, Food Standards Agency, London</i>	
12.1	Background .....	202
12.2	UK legal requirements for HACCP .....	203
12.3	The regulatory authorities .....	203
12.4	Take-up of HACCP by the UK food industry .....	204
12.5	HACCP and enforcement .....	206
12.6	Common problems with HACCP systems .....	209
12.7	Future HACCP arrangements .....	210
12.8	A personal perspective .....	211
12.9	References .....	212
<b>13</b>	<b>Effective HACCP training .....</b>	<b>213</b>
	<i>C. Wallace, Reading Scientific Services Limited, Reading</i>	
13.1	Introduction .....	213
13.2	Training needs analysis .....	214
13.3	Training and effective learning styles .....	217
13.4	Appointing HACCP trainers .....	219
13.5	Training and senior management .....	221
13.6	Training the HACCP team and team leader .....	223
13.7	Training CCP monitors and others .....	226

13.8	Special issues in training .....	227
13.9	Summary .....	229
13.10	References .....	230
<b>Part IV</b>	<b>Conclusion .....</b>	<b>233</b>
<b>14</b>	<b>Conclusions .....</b>	<b>235</b>
	<i>S. Mortimore, Pillsbury Europe, Uxbridge and T. Mayes, Unilever Research, Sharnbrook</i>	
14.1	Introduction .....	235
14.2	Learning 1: drivers for HACCP .....	237
14.3	Learning 2: people .....	240
14.4	Learning 3: preparation for HACCP .....	247
14.5	Learning 4: HACCP plan development and implementation .	253
14.6	Learning 5: HACCP maintenance activities .....	258
14.7	Where next for businesses with HACCP systems? .....	261
14.8	Summary .....	262
14.9	References .....	264
<b>15</b>	<b>The future of HACCP .....</b>	<b>265</b>
	<i>T. Mayes, Unilever Research, Sharnbrook and S. Mortimore, Pillsbury Europe, Uxbridge</i>	
15.1	Globalisation and harmonisation of trade .....	266
15.2	Changing role of governments and regulatory bodies .....	268
15.3	The role of HACCP in new science/food safety initiatives ...	270
15.4	Application of HACCP further along the supply chain .....	272
15.5	The continued development of HACCP .....	273
15.6	Summary .....	275
15.7	References .....	276
<i>Index</i>	.....	278