Applying HACCP-based Quality Risk Management on dairy farms

edited by:
Jos Noordhuizen
Joao Cannas da Silva
Siert-Jan Boersema
Ana Vieira

Wageningen Academic Publishers
Contents

List of abbreviations ..........................................................9
Preface ...........................................................................11

Chapter 1. Introduction ..................................................13
Chapter 2. Assessment of strengths and weaknesses ..........21
Chapter 3. Good Dairy Farming codes of practice ..........33
Chapter 4. The HACCP-concept, the 7 principles and 12 steps (general issues) .................................................63
Chapter 5. Flow diagrams of the production process .......79
Chapter 6. Identification of hazards and evaluation of risks .95
Chapter 7. Critical Control Points (CCP) and Points of Particular Attention (POPA): their standards & tolerances or targets, their monitoring, and corrective measures ........................................109
Chapter 8. Support programmes in a HACCP-based Quality Risk Management programme ..............................127
Chapter 9. Documentation in HACCP-like Quality Risk Management programmes ..............................................157
Chapter 10. Validation & verification of the HACCP-based Quality Risk Management programme ...........................163
Chapter 11. Application of the HACCP principles to multifunctional farms open to the general public ..................169
Chapter 12. Applications of the HACCP principles to milking goat farms in France ..............................................199
Chapter 13. Veterinary advice to entrepreneur-like dairy farmers regarding Quality Risk Management ............219
Chapter 14. Communication in the veterinary advisory practice: practical application of behavioural economics and communication skills ......................................249
Chapter 15. Final remarks ..................................................271

Literature references .........................................................291
Acknowledgements ..........................................................305
Index .............................................................................307

Applying HACCP-based Quality Risk Management on dairy farms .................................7
Keyword index

A
ACA See: adaptive conjoint analysis (ACA) 67, 74, 97, 152, 176, 208, 279
active listening 267
adaptive conjoint analysis (ACA) 67, 74, 97, 152, 176, 208, 279
added value 239
advisor 239
agreements 143
AIDA formula 241, 256
amount of speech 262
animal
– cuddling 169, 173
– health 95, 100, 169, 173, 217, 275
– welfare 95, 100, 169, 173, 217
application of NSAID 39
attitude 229
attributes 74
auditing
– checklists 164
– logs 164
awareness 229
cleaning & disinfection 57
closed questions 266
coaching 217, 237, 239, 277
Codex Alimentarius 16
communication 221, 231, 240, 249, 274, 278
to
consumer information 278
contracts 128
corrective actions 69, 104, 117, 182, 194
– lists 118
cost-benefit 116, 216
costs
– fixed 229
– of ketosis 136
– of mastitis 134, 136
– opportunity 133
– variable 229
cow comfort 127, 149
– five freedoms 149
critical control points (CCP) 68, 79, 101, 109, 114, 117, 178, 192, 210, 278
– criteria 109
decision making 130, 269, 285
diagnosis 132
diagnostic tests 63
disease management 134
dominate 262
dominance 262
domestic needs 150
domestic security 103
– assurance plan (BAP) 19, 49, 52, 83, 142, 153, 191, 236
– measures 99
business administration 222

B
BAP See: biosecurity assurance plan
behavioural economics 221, 230, 256, 274
bio-sensors 112
biosecurity 103
– assurance plan (BAP) 19, 49, 52, 83, 142, 153, 191, 236
– measures 99
business administration 222
consumer information 278
contracts 128
corrective actions 69, 104, 117, 182, 194
– lists 118
cost-benefit 116, 216
costs
– fixed 229
– of ketosis 136
– of mastitis 134, 136
– opportunity 133
– variable 229
cow comfort 127, 149
– five freedoms 149
critical control points (CCP) 68, 79, 101, 109, 114, 117, 178, 192, 210, 278
– criteria 109
decision making 130, 269, 285
diagnosis 132
diagnostic tests 63
disease management 134
dominance 262

domestic needs 150
domestic security 103
– assurance plan (BAP) 19, 49, 52, 83, 142, 153, 191, 236
– measures 99
business administration 222

C
cattle welfare 127, 149
CCP See: critical control points
children’s farm 93, 169
choice behaviour 230
city farm 170, 184

Applying HACCP-based Quality Risk Management on dairy farms
entrepreneurship 220

**F**
normal expression 251

farm
- accounting 131
- advisor 234
- business plan 223
- economics 245
- FX 29, 53, 85, 120
- income 227
- management planning calendar 129
- quality management team 64, 82, 154
- visit 140, 144
- ZZ 201, 206

farmers'
- attitude 14
- study groups 270

flow diagram 70, 79, 174, 187, 204
- general 80
- specific 83

food safety 95, 217, 275

frisbee 250, 259

**G**
GAP  See: Good Agricultural Practice
GDF  See: Good Dairy Farming
General Food Law 14, 33, 170, 200
General Preventive Measures 106, 157
gerographical map 79
gestures 251
GFP  See: Good Farming Practice
GMP  See: Good Manufacturing Practice
goat kid rearing 199, 202
Good Agricultural Practice (GAP) 33
Good Dairy Farming (GDF) 18, 33, 52, 53,
  56, 117, 120, 127, 153, 183, 195, 278
Good Dehorning Practice 216
Good Farming Practice (GFP) 214
good housing hygiene of neonatal calves 34

Good Manufacturing Practice (GMP) 15, 33, 114
Good Medicine Application 34, 36, 147
Good Veterinary Practice guidelines 34, 99, 214

H

HACCP 200, 271, 275
- applications 271
- concept 15, 17, 28, 63, 65, 156, 275, 289
- principles 14

HACCP-like programme 63, 64, 71, 79, 116, 184, 279
- 12 steps 69

handbook 18, 83, 103, 157, 160, 194, 279

hazard 66, 74, 79, 83, 85, 95, 103, 123, 174, 187, 199, 203, 204
- and risk list 98, 119
- chemical 66, 175, 189, 206
- environmental 160
- identification 190
- managerial 66, 175, 190, 192, 206
- microbiological 16, 66, 175, 187, 206
- physical 66, 175, 190, 206

- protocol 143

Herd Treatment Advisory Plan (HTAP) 30, 46, 49, 59, 60, 61, 147, 214

HHPM  See: Herd Health & Production Management
HTAP  See: Herd Treatment Advisory Plan

human resource management 127

hygiene
- directive 14, 33, 170, 200, 290
- instructions for visitors 34
- rules 56

Applying HACCP-based Quality Risk Management on dairy farms
Applying HACCP-based Quality Risk Management on dairy farms

I
impact 192
injection fluids 40
injuries 174, 177, 179
International Standardisation Organisation 15
intimacy 263
inventory logs 158
ISO 22000 16, 17

L
level of elasticity 236
location maps 79
loosers 235

M
management-diseases 13
market
  – analysis 232
  – orientation 222
marketing 238
medicinal products
  – fluid 41
  – in pellets or powder 41
medicine log 214
mentally disabled people 169
milking goat farms 199
milk quota 137
monitoring 21, 68, 79, 104, 109, 113, 116,
  123, 138, 139, 180, 181, 193, 211
  – lists 181
  – results sheet 194
multifunctional farms 90, 169

N
nonverbal communication 250

O
observational-analytic epidemiological surveys 210
occupational disease 192

Index

P
paralinguistic signals 251
Plan of Action 30, 140, 232, 242
points of particular attention (POPA) 68,
  79, 101, 104, 109, 114, 117, 178, 179,
  192, 210, 278
POPA See: points of particular attention
posture 251
practice
  – business plan 232
  – management 237
precautionary principle 191
precision-dairy-farming 112
preventive actions 103, 139, 142, 208
probability 192
  – diagnosis 39
problem analysis 139
process capability indexes 73, 279
production
  – capacity 225
  – diseases 13, 131, 137
  – disorders 131
  – losses 131
  – methods 14
  – process 14, 70, 187, 289
  – process decomposition diagrams 79
product quality 15, 133
  – testing 13
products 234, 254, 269
profiles 238
public health 95, 169, 217
Applying HACCP-based Quality Risk Management on dairy farms

<table>
<thead>
<tr>
<th>Index</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Q</strong></td>
</tr>
<tr>
<td>QRM  See: Quality Risk Management (QRM)</td>
</tr>
<tr>
<td>qualitative methods</td>
</tr>
<tr>
<td>quality</td>
</tr>
<tr>
<td>- assurance</td>
</tr>
<tr>
<td>- control measures</td>
</tr>
<tr>
<td>- drinking water</td>
</tr>
<tr>
<td>- environmental</td>
</tr>
<tr>
<td>- failure</td>
</tr>
<tr>
<td>Quality Policy Statement</td>
</tr>
<tr>
<td>Quality Risk Management (QRM)</td>
</tr>
<tr>
<td>quantitative</td>
</tr>
<tr>
<td>- epidemiological methods</td>
</tr>
<tr>
<td>- parameters</td>
</tr>
<tr>
<td><strong>R</strong></td>
</tr>
<tr>
<td>record keeping</td>
</tr>
<tr>
<td>residue</td>
</tr>
<tr>
<td>risk</td>
</tr>
<tr>
<td>- assessment</td>
</tr>
<tr>
<td>- attitude</td>
</tr>
<tr>
<td>- factors</td>
</tr>
<tr>
<td>- identification</td>
</tr>
<tr>
<td>- management</td>
</tr>
<tr>
<td>role-relations</td>
</tr>
<tr>
<td>routing</td>
</tr>
<tr>
<td><strong>S</strong></td>
</tr>
<tr>
<td>scale</td>
</tr>
<tr>
<td>- effects</td>
</tr>
<tr>
<td>- increase</td>
</tr>
<tr>
<td>segmentation</td>
</tr>
<tr>
<td>Semantic Modelling</td>
</tr>
<tr>
<td>sender-receiver model</td>
</tr>
<tr>
<td>sensitivity</td>
</tr>
<tr>
<td>services</td>
</tr>
<tr>
<td>shortcomings</td>
</tr>
<tr>
<td>sleepers</td>
</tr>
<tr>
<td>SMART</td>
</tr>
<tr>
<td>SOP  See: standard operating procedures</td>
</tr>
<tr>
<td>specificity</td>
</tr>
<tr>
<td>standard operating procedures (SOP)</td>
</tr>
<tr>
<td>- rules</td>
</tr>
<tr>
<td>standards</td>
</tr>
<tr>
<td>strategic planning</td>
</tr>
<tr>
<td>strengths, weaknesses, opportunities and threats assessment (SWOT)</td>
</tr>
<tr>
<td>strengths and weaknesses assessment (SWA)</td>
</tr>
<tr>
<td>support programmes</td>
</tr>
<tr>
<td>SWA  See: strengths and weaknesses assessment</td>
</tr>
<tr>
<td>SWOT  See: strengths, weaknesses, opportunities and threats assessment</td>
</tr>
<tr>
<td><strong>T</strong></td>
</tr>
<tr>
<td>target</td>
</tr>
<tr>
<td>team</td>
</tr>
<tr>
<td>teat end callosity (TEC)</td>
</tr>
<tr>
<td>TEC  See: teat end callosity</td>
</tr>
<tr>
<td>tolerance</td>
</tr>
<tr>
<td>total quality management (TQM)</td>
</tr>
<tr>
<td>TQM  See: total quality management</td>
</tr>
<tr>
<td>training</td>
</tr>
<tr>
<td>trust</td>
</tr>
<tr>
<td><strong>U</strong></td>
</tr>
<tr>
<td>udder health control</td>
</tr>
<tr>
<td><strong>V</strong></td>
</tr>
<tr>
<td>validation</td>
</tr>
<tr>
<td>verification</td>
</tr>
<tr>
<td>- external</td>
</tr>
<tr>
<td>veterinary</td>
</tr>
<tr>
<td>- advisory practice</td>
</tr>
</tbody>
</table>
Applying HACCP-based Quality Risk Management on dairy farms