Index

A
abattoirs see slaughterhouses .............................................. 51
abdominal mass .................................................. 13, 14, 28
abomasum .......................................................... 102
Acheson, Sir Donald .............................................. 46
ADAS see Agricultural Development and Advisory Service
added-value meat products ........................................... 113, 114
adhesives ............................................................. 11
Advisory Committee on the Microbiological Safety of Food (Richmond Committee) ..... 27
Agricultural Development and Advisory Service (ADAS) (of MAFF) ................... 97
agricultural merchants ............................................... 96
Agricultural Research Council (ARC) .................................. 101, 102
Agriculture Committee of the House of Commons ........................................... 38, 39, 48
Almond, Professor Jeffrey ........................................... 41
AMI see Authorised Meat Inspector
amino acids ................................................................... 102
ammonium nitrate ..................................................... 124
ammonium sulphate .................................................... 124
Anderson Carver-Greenfield rendering system ........................................... 88, 90, 92
Anglo Beef Processors ................................................. 38
animal by-products ................................................... 1, 4, 65, 67, 73
Animal By-Products Amendment Order 1996 ........................................... 84
Animal By-Products Order 1992 ........................................... 65, 84, 93
animal excreta .......................................................... 65
animal feed manufacturing industry ........................................... 95–111
animal feedstuff ................................................... 1, 2, 31, 60, 61, 63, 64, 67, 72, 73, 74, 76, 80, 81, 82, 95–111
animal feedstuff, delivery ............................................ 104
animal feedstuff, formulation ........................................... 99
animal feedstuff, labelling ............................................ 105
animal feedstuff, manufacture ........................................... 103–108
animal feedstuff, raw materials ........................................... 103
animal feedstuff, storage .............................................. 104
Animal Health (Disease Control) Division (of MAFF) ........................................... 50
Animal Health Act 1981 .............................................. 23, 31, 33, 65, 66, 84
Animal Health Division (of MAFF) ........................................... 61, 119
Animal Health Officer .................................................. 82
animal SBO ban ..................................................... 31, 63, 65, 81, 109
animal waste .......................................................... 67, 70
antelope, rendering .................................................... 73
ante-mortem inspection .............................................. 7, 9, 18, 23
anthrax ................................................................. 92
ARC see Agricultural Research Council
arsenic, in animal feedstuff ........................................... 100
Ashworth, Mr C E ................................................... 64
Assistant Chief Veterinary Officer ........................................... 44, 49, 50
Association of District Councils ........................................... 8, 54
Australia, import of raw materials for pet foods from ........................................... 122
Australia, use of rendered meat by-products ........................................... 101
Austria, rendering process ............................................ 93
Authorised Meat Inspector (AMI) ........................................... 18, 19, 37
autoclave ................................................................. 3
B
baby food, mechanically recovered meat in ........................................... 51
Bacon and Meat Manufacturers’ Association ........................................... 46
Bacon, Mr Bill ................................................... 74, 75, 89, 91
bacteria, heat-resistant spores ........................................... 84
Baker, Mr John ................................................... 15, 81
Baker, Mr Keith ................................................... 37, 49, 54, 55
band saw ................................................................. 36
barley ................................................................. 95, 99, 101
batch mixer ............................................................. 104
batch rendering systems .............................................. 68, 69, 72, 75, 76, 77, 78, 86, 89
batch rendering systems, temperature ........................................... 88, 89
batch rendering systems, time ........................................... 88
batch saponification ................................................... 86
beef, use in pet food ................................................... 118
Belgium, rendering process ............................................ 93
binding agents, brain homogenates used as ........................................... 46
Birmingham City Council .............................................. 27, 37, 115, 116
black offal .............................................................. 12
Black PN .............................................................. 32
black pudding ........................................................... 11
bladder ................................................................. 13, 72
bleeding ................................................................. 7, 10, 19
blenders, mobile mixers .............................................. 96
blood ................................................................. 12, 72
blood meal ............................................................. 118
blood, disposal ........................................................ 22
blood, exposure to .................................................. 8
blood, in fertilisers .................................................... 124
blood, processing .................................................... 74
blood, products ...................................................... 11
blood, vacuum collection ............................................ 10
BMMA Code of Practice .............................................. 52, 53, 54
BMMA see British Meat Manufacturers’ Association
BOCM Pauls Ltd .................................................... 106
BOCM Silcock ........................................................ 96
bone dust .............................................................. 15
<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>bone pulp</td>
<td>53</td>
</tr>
<tr>
<td>bone-in beef</td>
<td>15</td>
</tr>
<tr>
<td>bones</td>
<td>12, 60, 72, 73, 79</td>
</tr>
<tr>
<td>bones, gelatine manufacture</td>
<td>122</td>
</tr>
<tr>
<td>bones, processing for mechanically</td>
<td>53</td>
</tr>
<tr>
<td>recovered meat</td>
<td>118</td>
</tr>
<tr>
<td>bones, use in pet food</td>
<td>37, 40</td>
</tr>
<tr>
<td>boning plants</td>
<td>73</td>
</tr>
<tr>
<td>boning-out</td>
<td>37</td>
</tr>
<tr>
<td>Bovine Offal (Prohibition) (Amendment) Regulations</td>
<td>42</td>
</tr>
<tr>
<td>Bovine Offal (Prohibition) (Amendment) Regulations (Northern Ireland) 1995</td>
<td>32</td>
</tr>
<tr>
<td>Bovine Offal (Prohibition) (Scotland) Amendment Regulations 1992</td>
<td>31, 116</td>
</tr>
<tr>
<td>Bovine Offal (Prohibition) (Scotland) Amendment Regulations 1994</td>
<td>32</td>
</tr>
<tr>
<td>Bovine Offal (Prohibition) (Scotland) Amendment Regulations 1995</td>
<td>32</td>
</tr>
<tr>
<td>Bovine Offal (Prohibition) (Scotland) Regulations 1990</td>
<td>24</td>
</tr>
<tr>
<td>Bovine Offal (Prohibition) Regulations 1989</td>
<td>31, 24, 28, 30, 38, 59, 62, 66, 80, 85, 109, 115, 121</td>
</tr>
<tr>
<td>Bovine Offal (Prohibitions) Regulations 1989</td>
<td>40, 42, 55</td>
</tr>
<tr>
<td>Bovine Spongiform Encephalopathy (Amendment) Order 1996</td>
<td>80</td>
</tr>
<tr>
<td>bovine spongiform encephalopathy (BSE) legislation see legislation</td>
<td></td>
</tr>
<tr>
<td>Bovine Spongiform Encephalopathy (No. 2) Amendment Order 1990</td>
<td>31, 63, 81, 109, 122</td>
</tr>
<tr>
<td>Bovine Spongiform Encephalopathy Order 1988 (ruminant feed ban)</td>
<td>23, 65, 80, 95, 98, 109, 121</td>
</tr>
<tr>
<td>Bovine Spongiform Encephalopathy Order 1991</td>
<td>65, 66, 84, 85, 110, 126</td>
</tr>
<tr>
<td>Bradley, Mr Raymond</td>
<td>14, 20, 44, 55</td>
</tr>
<tr>
<td>brain matter, leakage</td>
<td>26, 41</td>
</tr>
<tr>
<td>brain matter, on pithing rod</td>
<td>27</td>
</tr>
<tr>
<td>brain products, use in processed</td>
<td>45</td>
</tr>
<tr>
<td>meat products</td>
<td></td>
</tr>
<tr>
<td>brain products, use in products for human consumption</td>
<td>45</td>
</tr>
<tr>
<td>brains</td>
<td>24, 27, 30, 32, 37, 38, 47, 62, 115, 116</td>
</tr>
<tr>
<td>brains, bovine</td>
<td>116</td>
</tr>
<tr>
<td>brains, recovery</td>
<td>2</td>
</tr>
<tr>
<td>brains, removal</td>
<td>31, 33, 34, 35, 36, 37, 39, 41, 42, 60, 115</td>
</tr>
<tr>
<td>brains, sale by butchers</td>
<td>115</td>
</tr>
<tr>
<td>brains, sale for human consumption</td>
<td>47</td>
</tr>
<tr>
<td>brains, shelling out</td>
<td>36</td>
</tr>
<tr>
<td>brains, use in pet food</td>
<td>118, 120, 121</td>
</tr>
<tr>
<td>brawn</td>
<td>46</td>
</tr>
<tr>
<td>brewing, by-products</td>
<td>99</td>
</tr>
<tr>
<td>Brilliant Black BN</td>
<td>32</td>
</tr>
<tr>
<td>British Meat Export Council</td>
<td>48</td>
</tr>
<tr>
<td>British Meat Manufacturers’ Association (BMMA)</td>
<td>52, 113, 115</td>
</tr>
<tr>
<td>British Meat Manufacturers’ Association (BMMA), Code of Practice</td>
<td>52, 53, 54</td>
</tr>
<tr>
<td>British Retail Consortium</td>
<td>45</td>
</tr>
<tr>
<td>brokers</td>
<td>71</td>
</tr>
<tr>
<td>Brown, Mrs Katherine</td>
<td>51</td>
</tr>
<tr>
<td>Brown, Paul</td>
<td>125</td>
</tr>
<tr>
<td>BSE Order 1988</td>
<td>23</td>
</tr>
<tr>
<td>BSE Working Party</td>
<td>123</td>
</tr>
<tr>
<td>bung</td>
<td>13</td>
</tr>
<tr>
<td>bung, dropping</td>
<td>12</td>
</tr>
<tr>
<td>bungs, for captive bolt hole</td>
<td>26</td>
</tr>
<tr>
<td>Burgess, Mr Keith</td>
<td>28, 41</td>
</tr>
<tr>
<td>burial</td>
<td>65, 82, 84</td>
</tr>
<tr>
<td>butcher’s shops</td>
<td>116, 121</td>
</tr>
<tr>
<td>butchers</td>
<td>5, 7, 11, 34, 35, 38, 40, 73, 112, 113, 115</td>
</tr>
<tr>
<td>butchers, independent</td>
<td>112, 113</td>
</tr>
<tr>
<td>butchers, supermarket</td>
<td>112, 113</td>
</tr>
<tr>
<td>butchers, waste</td>
<td>75</td>
</tr>
<tr>
<td>butchery</td>
<td>112, 113, 114</td>
</tr>
</tbody>
</table>

C

calcium                                                          | 102  |
calves, milk fed to                                               | 100  |
calves, processing by knackers                                    | 59   |
calves, stunning                                                  | 9    |
Canada, import of raw materials for pet foods from                | 122  |
candles                                                           | 67, 85 |
canned meats                                                      | 113  |
Canvins                                                           | 55   |
Capstick, Mr Charles                                              | 17   |
captive bolt hole                                                 | 35, 36, 37, 41 |
captive bolt stunners                                              | 9, 26, 27, 35, 116 |
carcass meat                                                      | 114  |
carcass, collection of                                             | 60   |
carcass, colour                                                   | 19   |
carcass, condemned                                                | 19   |
carcass, dressing                                                 | 7, 8, 11 |
carcass, handling                                                 | 60   |
carcass, inspection                                               | 7, 17 |
carcass, odour                                                    | 19   |
carcass, parasitic infection                                      | 19   |
carcass, removal of SBO                                            | 25   |
carcass, tagging                                                  | 21   |
carcass, washing                                                  | 17   |
carcass, weighing                                                  | 21   |
carcass-splitting                                                 | 14–16, 28 |
INDEX

Carrigan, Mr Peter ........14, 20, 22, 37, 47, 49
cats, BSE infection ......................120
cats, encephalopathy ...................63
cats, pet food ..............................117
cattle ........................................1

cattle, by-products ...................100
cattle, compound feed ..............95, 96, 98, 99, 101

cattle, green offal .......................12
cattle, heads ..............................54
cattle, mechanically recovered meat ...50, 51

cattle, processing by knackers ..........59
cattle, rendering ..........................72
cattle, stunning ............................9

cawthorne, Mr Richard ...............48

Central Veterinary Laboratory

(CVL) .........................11, 14, 20, 34, 55, 67
cereal by-products ....................99
cereals, in animal feedstuff ..........95, 96, 99, 101
cerebrospinal fluid, leakage ..........26
cetyl alcohols ............................85
channel (opening) fats ................73

Chartered Institute of Environmental Health (CIEH) ..................9, 55, 59

Cheale Meats ................................23
Cheale, Mr ..............................23
cheek meat ..............................26, 31, 34, 40
cheese .......................................20

Chemical Safety of Food Division

(of MAFF) ..............................97
chemicals ...............................72, 85
Chief Medical Officer ..............32, 46
Chief Veterinary Officer ..........20, 41, 46
chops .......................................114

CIEH see Chartered Institute of Environmental Health
circular electrical knife ............36
Clark, Dr Martin .......................102
Clark, Mr Christopher ..............15, 18, 37, 55
clean areas ...............................20
Cockbill, Mr Charles .................45, 47

Code of Practice for Cross Contamination in Animal Feedingstuffs Manufacture (UKASTA) ..........................106
coiled spring pithing rod ..........27
collection of animals and carcasses ..60
colour, of carcass .......................19
colour, of tallow .........................72
Commission Decision 90/200/EC ....31
Commission Decision 92/562/EEC ..................84
Commission Decision 94/381/EC ......110, 124
Commission Decision 94/474/EC ......110
Commission Decision 95/287/EC 110
Commission Decision 95/60/EC ....124
Committee on Safety of Medicines ....123

Common Agricultural Policy

(of EU) .................................96, 102
compound feed ......................95, 96, 99, 105, 106

compound feed producers see Compounds

compound feed, raw materials ..........99

compound feed, regional production ..........98

compounds ..............................95, 96, 97, 99, 101

compounds, country .....................97

compounds, independent ...............97

compounds, national .....................97

compounding ............................95

condemning of carcass .................19

conditioning ............................103

Consumers’ Association ................57

contamination of personnel .............8

continuous rendering systems ..........68, 69, 72, 75, 76, 77, 78, 87, 90

continuous rendering systems, temperature ..........88, 90, 92

continuous rendering systems, time ..........88

continuous saponification ..............85

Control of Pollution Act ................22

c Convenience foods ....................113

Cooke, Dr Brian .......................84, 100

cooking of meat .......................60

cooking oils, use of by-products ..........95

copper additives ......................106, 107

cornish pasties ..........................46

cosmetics ...............................85, 122
cottonseed protein ....................95


country compounders .................97

cow Mate ...............................20

Cracknell, Mr Richard ...............38, 39
cradle system of carcass dressing .....7, 8, 11

crawford, Mr lain ......................17, 22, 24, 64, 65

croda ....................................68

cross-contamination ....................2, 27, 95, 116
cross-contamination, of feed ..........103, 105
cured meats .............................113

curry, Mr David .........................55

CVL see Central Veterinary Laboratory

D

Dalgety Agriculture .................84, 96, 100, 111

DANI see Department of Agriculture for Northern Ireland
defatting ...............................21
delivery of animal feedstuff ..........104
demanuring ...............................21

Denmark, import of raw materials for pet foods from ........122

Denmark, rendering process ..........93

Department of Agriculture for Northern Ireland (DANI) ...........42
deslimer .................................21
destructor plants .......................93
detained area ............................22
diaphragm ...............................19, 72
diet, formulation ......................99

Directorate-General for Agriculture ..........8

Diseases of Animals (Feeding Stuffs) Order (NI) 1989 ...........109
Diseases of Animals (Feedingstuffs) (Amendment) Order (Northern Ireland) 1995 .........32
Diseases of Animals (Protein Processing) Order 1981 ........................................80
disposal of contaminated meat and bone meal ............................................82
distilling, by-products ..........96, 99
Divisional Executive Officer ..........41
Divisional Veterinary Officer ..........23, 41
dogs, BSE infection ......................120
dogs, pet food ................................117
dorsal root ganglia .................................16
dressing ...........................................7, 8, 11, 55
dried citrus fruit pulp ..................100
dried coffee residues ..................100
dry rendering ..........................3, 86, 89
Duncrue Food Processors ..........69
duodenum ........................................20

E

EC Decisions see Commission Decisions
edible fat ....................72, 73, 75, 81, 85, 88
eggs .............................................3
ELISA test ........................................110
EMEA see European Agency for the Evaluation of Medicinal Products
England, ante-mortem inspection ..........9, 18
England, compound feedstuffs ..........96
England, export-approved
slaughterhouses ............................11
England, hunt kennels in ...................59
England, knackers in ...................59
England, number of slaughterhouses ........4, 5
England, ownership of slaughterhouses ......6
England, rendering industry ............68
England, ruminant feed ban ...........23
Etheridge, Mr Brian .........................8, 58
EU see European Union
Europe, rendering process ...........78, 92
European Agency for the Evaluation of Medicinal Products (EMEA) ..........85
European Union (EU), approved
slaughterhouses .............................6
European Union (EU), Codes on Good Manufacturing Practice .............108
European Union (EU), Common Agricultural Policy .......................96, 102
European Union (EU), Scientific Veterinary Committee .........................124
European Union (EU), subsidy .............21
evisceration .....................7, 12, 19, 28
excepted premises ......................26, 31, 62
Expert Group on Animal Feedingstuffs (Lamming Committee) ..........91, 96, 97, 108
extruded feeds .........................108
eyes ..................................................19, 33, 37

F

faecal contents .........................12, 13
fallen stock .........................2, 59, 63, 73
farmer cooperatives .....................97
farmers ......................4, 72, 96, 101, 124
farms ........................................73, 96
fat ........................................20, 60, 67, 72, 73, 86
fat melting ...................................92
fat traps ........................................22
fat, addition to heating medium in rendering .........................79
fat, edible ....................67, 73, 75, 81, 85, 88
fat, in animal feedstuff ....................99
fatstock inspector ...........................21
fatty acids ....................................85
fatty alcohols .................................85
fatty amides .................................85
fatty amines .................................85
fatty esters .................................85
feather meal ...............................100
feathers, processing .........................74
Federation of Fresh Meat Wholesalers ........52
feed compounders .........................71
feeding meals .................................3

Feeding Stuffs (Amendment) Regulations 1976 ..........105
Feeding Stuffs (Regulation of Manufacture) (Amendment No. 10) Order 1946 ..........101
Feeding Stuffs Regulations 1982 ..........105
Feeding Stuffs Regulations 1986 ..........100, 105, 117
Feeding Stuffs Regulations 1991 ..........108, 110
Feedingstuffs (Establishments and Intermediaries) Regulations 1999 ..........108
feedmills .....................95, 103, 105, 107
feet, removal .........................95, 105, 117
Fertiliser and Feedingstuffs Act 1926 ..........101
Fertiliser Manufacturers' Association ........124
fertilisers ...................3, 11, 22, 72, 82, 84, 124–126
Fertilisers (Mammalian Meat and Bone Meal) Regulations 1996 ..........126
fertilisers, use of bovine material in ..........124
fibre, in animal feedstuff ...............99, 105
fishmeal ........................................95, 99, 102
fitness for human consumption ..........17, 18, 21
flaying ...........................................58
Fleetwood, Mr Andrew ...................26, 84
flour manufacture, use of by-products ..........95
fluorine, in animal feedstuff ................100
foam fire extinguishers ...................11
Food Act 1984 .................6, 24, 31, 32, 58, 113
Food and Drugs Act 1955 .................62
food factories .................................73
food industry, use of by-products in animal feedstuff ......................95
Food Labelling Regulations 1984 ..........45
Food Safety Act 1990 ...............6, 113
Food Safety Directorate .................17
foot and mouth disease .....................93
foramen magnum .............................36, 37
INDEX

Foxcroft, Mr Paul ........................................ 20, 22, 23, 68, 74, 77, 81, 82, 89, 91, 109
France, rendering process ........................................ 92
free fatty acids ..................................................... 72
Fresh Meat (Hygiene and Inspection) Regulations 1992 .................. 33
Fresh Meat Export (Hygiene and Inspection) (Amendment) Regulations 1990 .......... 16
Fresh Meat Export (Hygiene and Inspection) Regulations 1981 .................. 16, 27
Fry, Mr Duncan .................................................. 7, 16
G
GAFTA see Grain and Feed Trade Association
Gajdusek, D Carleton ........................................ 125
gelatine ................................................................. 12, 100, 122
gelatine, acid ........................................................... 122
Germany, rendering process ........................................ 92, 93
giraffe, rendering ................................................... 73
glue ........................................................................ 3, 11, 122
glycerine ................................................................. 85, 86
glycerol ................................................................. 85, 86
Government Ministers ................................................. 56
Gracey, Dr Joseph ........................................ 10, 27, 29, 89
Grain and Feed Trade Association (GAFTA) ........................................ 98
grain merchants .................................................... 96
grass stagers ............................................................. 22
greaves ................................................................. 3, 67, 72, 73, 76, 77, 78, 79, 89, 90
greaves, purchase for further processing ........................................ 77, 82
green offal ............................................................. 12, 22, 73
grinding, of raw materials ........................................... 103
gristle .................................................................... 52
ground meat .......................................................... 113, 114
groundnut protein .................................................... 95
guillotine .............................................................. 10, 37, 49
gut room ............................................................... 14, 19, 20, 28, 30, 74
halal .......................................................................... 10
hamburgers .............................................................. 35, 46, 47, 51, 113, 114
hamburgers, economy .............................................. 50, 51
hammer mill ........................................................... 104
hamsters, pet food .................................................. 117
hamsters, scrapie in brains of ....................................... 125
hand-held cleaver .................................................... 37
hanking ................................................................. 21
Head Boners’ Association ............................................. 45
head meat .............................................................. 27, 34, 52, 54, 116
head meat, contamination ........................................ 41
head meat, harvesting .............................................. 36, 43
head-boning ........................................................... 11, 30, 31, 34–49, 60, 115
head-boning plants .................................................. 34, 35, 36, 39, 44
heads ...................................................................... 73, 115
heads, condition of .................................................. 35
heads, crushed .......................................................... 118
heads, handling ........................................................ 31
heads, inspection .................................................... 7, 11, 19
heads, removal ...................................................... 7, 11, 27
heads, storage .......................................................... 40
heads, transport for boning ........................................ 35, 41
head-splitting ........................................................... 36–37, 39, 41, 44, 48, 49
Health and Safety Executive (HSE) .................................. 8, 60
heart .............................................................. 12, 13, 39, 52, 72
heart, use in pet food .............................................. 118
Hewson, Mr Peter .................................................. 60
Hibbert, Mr Nicholas ................................................. 9, 59
hide ........................................................................ 58, 60
hide, gelatine manufacture ........................................... 122
hide, removal .......................................................... 12
Hogg, Mr Douglas ................................................... 56
hoisting .................................................................... 10
holding area ............................................................ 7
holding bin ................................................................ 104
Holland ................................................................. 93
Holland, rendering process ........................................... 92, 93
Holt, Dr Timothy ..................................................... 45, 47
Homogeneity ........................................................... 79
hooves .................................................................... 73
horns, removal ........................................................ 11
horses, feed ............................................................ 101
horses, monensin additives in feed .................................. 107
Hovi, Ms Marja-Liisa .............................................. 27, 35, 36, 41
HSE see Health and Safety Executive
human consumption, meat for ....................................... 4
human SBO ban ...................................................... 31, 38, 55, 62, 63, 115
hunt kennels ........................................................... 2, 58, 59, 60, 61, 62, 63, 65, 66, 73
Hutchins, Mr Stephen ................................................36, 40, 42
hydrolysis ............................................................... 85
hygiene ................................................................. 2, 4, 61
I
IEHO see Institute of Environmental Health Officers
inactivation of BSE ................................................... 3, 78
incineration ............................................................. 65, 66, 84
independent compounders ............................................ 97
infectivity ............................................................... 78
infectivity, of tallow .................................................. 85
infectivity, packet theory ............................................. 79
inspection, ante-mortem .......................................... 7, 9, 18, 23
inspection, of carcass .............................................. 17
inspection, of knacker’s yards .................................... 62
inspection, post-mortem .......................................... 11, 13, 16, 18–19, 30
Institute of Environmental Health Officers (IEHO) ......................... 40
insulin .................................................................... 20
intake pit ................................................................ 103
intestines ............................................................... 12, 13, 19, 20, 24, 28, 30, 32, 62, 72, 115, 116
intestines, contents ................................................. 20, 74
intestines, protein digestion in ................................... 102
intestines, use in pet food ......................................... 118, 121
Italy, rendering process ............................................. 94
meat processing ........................................... 112, 113
meat processors ........................................... 112, 113
Meat Products and Spreadable Fish Products
Regulations 1984 .......................................... 45, 52
meat spreads ............................................... 113
meat, recovery see mechanically recovered meat
mechanical cleaving machine .......................... 37
mechanically recovered meat (MRM) .................. 2, 14, 50–57
mechanically recovered meat (MRM),
definition .................................................... 50
mechanically recovered meat (MRM),
in baby food ............................................... 51
mechanically recovered meat (MRM),
market for .................................................. 56
mechanically recovered meat (MRM),
nature and use .......................................... 50
mechanically recovered meat (MRM),
process ........................................................ 53
mechanically recovered meat (MRM),
regulation of production .............................. 52
mechanically recovered meat (MRM),
supply and price ........................................ 51
mechanically recovered meat plants .................. 51
mechanically recovered meat plants,
registration ................................................. 56
medicinal additives ........................................ 103, 104
medicinal additives,
cross-contamination ................................. 106
medicinal additives, Group II ......................... 108
medicinal additives, point of addition .......... 107
medicinal additives, storage and
handling ..................................................... 106
medicinal additives, time of addition .......... 108
Medicines Act 1968 ........................................ 106
Meldrum, Mr Keith .................................... 41, 46
merchants .................................................... 71
mercury, in animal feedstuff ......................... 100
methanol .................................................... 85
methyl ester ................................................ 85
MHS see Meat Hygiene Service
microbial protein ........................................ 102
microbiological contamination ..................... 3
micro-organisms ........................................ 80, 101
micro-organisms, spore-forming ................. 93
Midland Meat Packers ................................. 81
Midland Shires Farmers (MSF) .................... 102, 104
midrum ..................................................... 20
milk fever ............................................... 102
milk quotas ................................................ 96
milk yield .................................................. 102
milling, by-products .................................... 96, 99
minced meat .............................................. 113, 114
minerals .................................................... 99, 102, 103
Ministry of Agriculture, Fisheries and Food
(MAFF) ................................................... 7, 16, 17, 19,
................................. 20, 22, 24, 26, 34, 36, 37, 40,
................................. 41, 44, 45, 46, 47, 49, 50, 51, 52,
................................. 54, 55, 56, 57, 58, 60, 61, 62, 64, 65,
................................. 66, 77, 82, 84, 85, 89, 90, 102, 118, 119
mixers ..................................................... 104
mixing, of raw materials ............................ 103
mixing, on-farm .................................. 97, 101, 108
MLC see Meat and Livestock Commission
Mobsby, Mr Philip ..................................... 46
molasses .................................................. 99
monensin ................................................. 107
Monopolies and Mergers Commission
(MMC) .................................................... 68
mouth ...................................................... 19
MRM see mechanically recovered meat
MSF see Midland Shires Farmers
mucosal stripping ...................................... 21
muscle ..................................................... 60
Muslim slaughter practices ......................... 10
N
National Federation of Meat Trades ............. 113, 115
national, compounders ............................. 97
New Zealand, use of rendered meat
by-products ............................................. 101
Nitrovit .................................................... 96
non-penetrating concussion stunners .......... 9
non-ruminant protein sources ..................... 109
Northern Ireland, ante-mortem
inspection ............................................. 9, 18
Northern Ireland, rendering industry ............ 69
Northern Ireland, ruminant feed ban .......... 24
Northern Ireland, slaughterhouse
numbers ............................................... 5
Nunn, Mrs Janet ........................................ 45
O
Oberst, Mr Hylton ...................................... 47
oesophagus .............................................. 12, 13, 19
offal ...................................................... 12, 14, 20, 60, 62, 72, 73, 74, 79
offal room .............................................. 14
offal, disposal ............................................ 22
offal, parasitic infection ............................. 19
offal, use in pet food ................................. 118
Official Veterinary Surgeon ....................... 27, 28,
.......................................................... 35, 36, 41
oils, in animal feedstuff .......................... 99, 102, 104, 105
oilseed meals ........................................... 99
on-farm mixing ...................................... 97, 101, 108
oxtails, use in pet food ............................ 118
P
packet theory of infectivity ......................... 79
pancreas ................................................. 13, 20
parasitic infection .................................... 19
Parliamentary Secretary (MAFF) ................. 55, 57
Patent Blue V ........................................... 32, 33, 66
pâtés ...................................................... 113
Pauls Agriculture ..................................... 97
PDM see Prosper De Mulder
Pedigree Masterfoods ............................. 61, 118, 119, 120
pellets ................................................... 103
### INDUSTRY PROCESSES AND CONTROLS

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>bikes</td>
<td>53</td>
</tr>
<tr>
<td>pet food</td>
<td>11, 20, 48, 58, 59, 60, 61, 63, 66, 72, 73, 74</td>
</tr>
<tr>
<td>pet food manufacture</td>
<td>116–122</td>
</tr>
<tr>
<td>pet food manufacturers, voluntary measures adopted by</td>
<td>120</td>
</tr>
<tr>
<td>Pet Food Manufacturers’ Association (PFMA)</td>
<td>61, 63, 117</td>
</tr>
<tr>
<td>Pet Food Manufacturers’ Association (PFMA), voluntary ban</td>
<td>121</td>
</tr>
<tr>
<td>pet food, raw materials</td>
<td>118, 122</td>
</tr>
<tr>
<td>pets, rendering</td>
<td>73</td>
</tr>
<tr>
<td>PFMA see Pet Food Manufacturers’ Association</td>
<td></td>
</tr>
<tr>
<td>pharmaceuticals</td>
<td>1, 11, 85, 122</td>
</tr>
<tr>
<td>Phillips, Ms Julie</td>
<td>45, 47, 102</td>
</tr>
<tr>
<td>photographic chemicals</td>
<td>122</td>
</tr>
<tr>
<td>pies</td>
<td>35, 46, 47, 50, 51, 113</td>
</tr>
<tr>
<td>pigs</td>
<td>1, 24</td>
</tr>
<tr>
<td>pigs, black offal</td>
<td>12</td>
</tr>
<tr>
<td>pigs, by-products</td>
<td>100</td>
</tr>
<tr>
<td>pigs, copper additives in feed</td>
<td>106</td>
</tr>
<tr>
<td>pigs, feed</td>
<td>80, 95, 101, 102</td>
</tr>
<tr>
<td>pigs, mechanically recovered meat</td>
<td>50, 51</td>
</tr>
<tr>
<td>pigs, rendering</td>
<td>72</td>
</tr>
<tr>
<td>pigs, use of material in ruminant feed</td>
<td>109, 110</td>
</tr>
<tr>
<td>pithing</td>
<td>9, 27, 35</td>
</tr>
<tr>
<td>pizzle, removal</td>
<td>11</td>
</tr>
<tr>
<td>Plant, Mr Terry</td>
<td>117</td>
</tr>
<tr>
<td>pork, use in pet food</td>
<td>118</td>
</tr>
<tr>
<td>post-mortem inspection</td>
<td>11, 13, 16, 18–19, 30</td>
</tr>
<tr>
<td>po</td>
<td>124</td>
</tr>
<tr>
<td>poultry</td>
<td>22, 24, 63, 74</td>
</tr>
<tr>
<td>poultry, feed</td>
<td>80, 95, 101, 102</td>
</tr>
<tr>
<td>poultry, meal</td>
<td>100, 118</td>
</tr>
<tr>
<td>poultry, mechanically recovered meat</td>
<td>50, 51</td>
</tr>
<tr>
<td>poultry, rendering</td>
<td>72, 92</td>
</tr>
<tr>
<td>poultry, use in pet food</td>
<td>118, 120</td>
</tr>
<tr>
<td>poultry, use of material in ruminant feed</td>
<td>109</td>
</tr>
<tr>
<td>poultry, waste</td>
<td>68</td>
</tr>
<tr>
<td>premix</td>
<td>104, 107</td>
</tr>
<tr>
<td>pre-packing operations</td>
<td>73</td>
</tr>
<tr>
<td>processed meat products</td>
<td>112</td>
</tr>
<tr>
<td>Prosper De Mulder (PDM)</td>
<td>20, 22, 23, 30, 68, 74, 77, 79, 82, 86, 88, 89, 92, 109</td>
</tr>
<tr>
<td>Protec rendering system</td>
<td>88, 90</td>
</tr>
<tr>
<td>protein</td>
<td>99</td>
</tr>
<tr>
<td>protein concentrates</td>
<td>101, 108</td>
</tr>
<tr>
<td>Protein Processing Order</td>
<td>93</td>
</tr>
</tbody>
</table>

### R

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>rabbits, pet food</td>
<td>117</td>
</tr>
<tr>
<td>races</td>
<td>7</td>
</tr>
<tr>
<td>Raine, Dr Helen</td>
<td>109</td>
</tr>
<tr>
<td>rapeseed oil</td>
<td>99</td>
</tr>
<tr>
<td>raw materials for animal feedstuff</td>
<td>103</td>
</tr>
<tr>
<td>raw materials for pet food</td>
<td>118, 122</td>
</tr>
<tr>
<td>RDP see rumen degradable protein</td>
<td></td>
</tr>
<tr>
<td>ready meals</td>
<td>113</td>
</tr>
<tr>
<td>rectums</td>
<td>52</td>
</tr>
<tr>
<td>red offal</td>
<td>12, 14</td>
</tr>
<tr>
<td>reduced temperature rendering systems</td>
<td>92</td>
</tr>
<tr>
<td>Reed, Mr James</td>
<td>100, 102</td>
</tr>
<tr>
<td>re-formed meats</td>
<td>113</td>
</tr>
<tr>
<td>refrigeration</td>
<td>40</td>
</tr>
<tr>
<td>Regional Meat Hygiene Adviser</td>
<td>41</td>
</tr>
<tr>
<td>Regional Veterinary Officer</td>
<td>41</td>
</tr>
<tr>
<td>Render, Dr Tim</td>
<td>50</td>
</tr>
<tr>
<td>renderers</td>
<td>2, 11, 20, 23, 25, 30, 34, 60, 64, 67, 71, 72, 75, 77, 78, 80, 81, 82, 86, 88, 90, 94, 95, 100</td>
</tr>
<tr>
<td>rendering</td>
<td>1, 14, 22, 44, 30, 64, 67, 72, 75, 76, 78, 86, 88, 89, 91, 92, 95, 100</td>
</tr>
<tr>
<td>rendering plants</td>
<td>68, 72, 74, 75, 77</td>
</tr>
<tr>
<td>rendering plants, Anderson</td>
<td></td>
</tr>
<tr>
<td>Carver-Greenfield</td>
<td>88, 90, 92</td>
</tr>
<tr>
<td>rendering plants, location</td>
<td>69</td>
</tr>
<tr>
<td>rendering plants, Protec</td>
<td>88, 90</td>
</tr>
<tr>
<td>rendering plants, reduced temperature</td>
<td>92</td>
</tr>
<tr>
<td>rendering plants, sources of supply</td>
<td>70</td>
</tr>
<tr>
<td>rendering plants, Stord Bartz</td>
<td>87, 90</td>
</tr>
<tr>
<td>rendering plants, Stord Bartz De-watering</td>
<td></td>
</tr>
<tr>
<td>Rendering Process</td>
<td>88</td>
</tr>
<tr>
<td>rendering plants, Stork Duke</td>
<td>87, 90</td>
</tr>
<tr>
<td>rendering process</td>
<td>93</td>
</tr>
<tr>
<td>rendering, and inactivation of BSE</td>
<td>78</td>
</tr>
<tr>
<td>rendering, batch rendering systems</td>
<td>68, 69, 72, 75, 76, 77, 78, 86, 88, 89</td>
</tr>
<tr>
<td>rendering, comparison with other countries</td>
<td>78, 91–94</td>
</tr>
<tr>
<td>rendering, continuous rendering systems</td>
<td>68, 69, 72, 75, 76, 77, 78, 86, 87, 88, 90, 92</td>
</tr>
<tr>
<td>rendering, dry</td>
<td>3, 86, 89</td>
</tr>
<tr>
<td>rendering, edible</td>
<td>73</td>
</tr>
<tr>
<td>rendering, high grade tallow</td>
<td>73</td>
</tr>
<tr>
<td>rendering, low temperature</td>
<td>88</td>
</tr>
<tr>
<td>rendering, raw materials</td>
<td>72–74</td>
</tr>
<tr>
<td>rendering, regulation</td>
<td>79</td>
</tr>
<tr>
<td>rendering, skull</td>
<td>37</td>
</tr>
<tr>
<td>rendering, technical</td>
<td>73</td>
</tr>
<tr>
<td>rendering, temperature</td>
<td>86, 87, 90</td>
</tr>
<tr>
<td>rendering, time</td>
<td>88</td>
</tr>
<tr>
<td>rendering, wet</td>
<td>86</td>
</tr>
<tr>
<td>Retail Butchers Trade Association</td>
<td>113, 115</td>
</tr>
<tr>
<td>Reynolds, Mr Charles</td>
<td>86, 88, 92</td>
</tr>
<tr>
<td>RFB see rumen degradable protein</td>
<td></td>
</tr>
<tr>
<td>ribs</td>
<td>50, 53</td>
</tr>
<tr>
<td>Richmond Committee see Advisory Committee on the Microbiological Safety of Food</td>
<td></td>
</tr>
<tr>
<td>Richmond, Sir Mark</td>
<td>27</td>
</tr>
<tr>
<td>Ridge, Mr Stephen</td>
<td>51, 57</td>
</tr>
<tr>
<td>rind</td>
<td>52</td>
</tr>
<tr>
<td>Robertson, Dr Alastair</td>
<td>56</td>
</tr>
</tbody>
</table>
INDUSTRY PROCESSES AND CONTROLS

Specified Bovine Offal (SBO), handling in rendering plants ...........................................83
Specified Bovine Offal (SBO), human ban ................31, 38, 55, 62, 63, 115
Specified Bovine Offal (SBO), removal from carcass ..............................................25
Specified Bovine Offal (SBO), separation and storage ...........................................25
Specified Bovine Offal (SBO), staining .................................................25, 30
Specified Bovine Offal (SBO), sterilising ..................................................25
Specified Bovine Offal (SBO), transportation .................................................26
Specified Bovine Offal (SBO), use in pet food ..............................................122
Specified Bovine Offal (Treatment and Disposal) Regulations (Northern Ireland) 1995 ......................33
Specified Bovine Offal Order 1995 ................33, 43, 66, 84
Specified Bovine Order (Northern Ireland) 1995 ......................33
Spellman, Mr Ron ........................................23, 28
Spillers Petfoods ..................................61, 117, 119, 120
spinal cord ...........................................24, 30, 32, 47, 54, 55,
..................................................57, 62, 63, 64, 81, 115, 116, 124
spinal cord, blowing out ..........................29
spinal cord, laser cutting ........................................9
spinal cord, removal .................................14, 15, 16, 28, 33
spinal cord, suction devices ........................................9
spinal cord, use in pet food ..................120, 121
spine ...................................................13
spleen ...........................................12, 13, 14, 19, 24, 28, 30,
..................................................32, 47, 62, 72, 116
spleen, use in pet food ....................118, 120, 121
Spongiform Encephalopathy (Miscellaneous Amendments) Order 1994 ......................110
Spongiform Encephalopathy Advisory Committee (SEAC) ..................3, 32, 41, 52,
..................................................57, 85, 124, 125
staining ...........................................19, 22, 23, 25, 29, 30, 31, 32,
..................................................38, 42, 62, 74, 116
staining, Black PN ..................................32
staining, Brilliant Black BN ........................32
staining, Patent Blue V ..................32, 33, 66
starch extraction, by-products ..................99
State Veterinary Service (SVS) ..................43, 59, 61
Static Pot solvent extraction plants ..................91
steaks ................................................114
stearyl alcohols ...................................85
sterilisation ........................................2, 22, 23, 25, 31, 33, 38,
..................................................42, 59, 60, 61,
..................................................62, 88, 89, 92, 116
sterilisation, canned pet foods ..................119
sticking ..................................................10
stomach ...........................................12, 13, 20, 72
stomach, contents ...............................20, 74, 75
storage of animal feedstuff ..................104
Stord Bartz De-watering Rendering
Process .............................................88
Stord Bartz rendering system ..................87, 90
Stork Duke rendering system ..................87, 90
strains ...............................................96, 97
straw, nutritionally improved ..................100
stunning ...........................................7, 9, 26, 60
stunning box .......................................10
suet ...................................................73
sunflower oil .......................................99
supermarket butchers ..........................112, 113
supermarkets ......................................44, 46, 51, 53, 56,
..................................................57, 73, 112, 113
sutures .............................................20, 30
SVS see State Veterinary Service
Swann, Dr William .........................16, 19, 37
Sweden, rendering process ..................93
Switzerland, rendering process .................93
T
tail .....................................................73
tail, pulling ...........................................12
tallow ...........................................1, 3, 67, 71, 72, 73, 75, 76, 77,
..................................................79, 80, 81,
..................................................82, 85, 86, 88, 91
tallow, as fat supplement ......................100
tallow, colour .........................................72
tallow, derivatives ..................................85
tallow, in animal feedstuff ......................100
tallow, infectivity ....................................85
tanneries ............................................60, 73
tanners ................................................12
Taylor, Mr David ...................................19
Taylor, Mr Kevin .................................44, 49
temperature, rendering .......................86, 87, 89
testicles ...............................................52
Thompson, Mr Donald .......................46, 104
three-tier mixer ....................................104
thymus .............................................14, 15, 24, 30, 32,
..................................................47, 62, 115, 116
thymus, removal ..................................16, 30
thymus, use in pet food .......................118, 121
tongue .............................................12, 19, 24, 34
tongue, removal ..................................11, 27, 28, 35
tonsils .........................................19, 30, 32, 47, 62, 115, 116
tonsils, removal ..................................11, 27, 35
tonsils, use in pet food .......................118, 121
Townsend, Mrs S .................................65
trachea .............................................12, 13, 19
trade associations see individual trade associations
transesterification .................................85
transportation, material for rendering ..........75
transportation, of heads for boning ...........35, 41
transportation, of sheep for slaughter ..........71
transportation, Specified Bovine Offal ........26
tripe .................................................20
tripe dressers .......................................73
tripe, use in pet food ..............................122
turning tank ........................................21
U
udder .............................................................72
udder, removal ..............................................11
UDP see undegraded protein
UK Agricultural Supply Trade Association (UKASTA) .......79, 81, 98, 100, 102, 109
UK Agricultural Supply Trade Association (UKASTA), Code of Practice for Cross Contamination in Animal Feedingstuffs Manufacture .........................................................106
UK Renderers’ Association (UKRA) ..........74, 75, 81, 84, 89, 91, 124
UKASTA see UK Agricultural Supply Trade Association
UKRA see UK Renderers’ Association
Ulster Farm By-Products ..............................69
undegraded protein (UDP) ............. 101, 102
unfit meat ............... 22, 32, 52, 59, 62, 63, 73, 74
United States, import of raw materials for pet foods from .................................................122
United States, rendering process ..........78, 91
urea ..............................................................124
uterus .............................................................13
V
vagina ............................................................13
Verdrager, Mr J .............................................46
vertebrae ........................................................53
vertebrae, use in pet food ..................... 118, 120
vertebral column ................................ 53, 54, 56
Veterinary Field Service (of MAFF) .... 17, 64
vitamins ..................................................99, 100, 103, 104
vol-au-vent ....................................................46
W
Wales, ante-mortem inspection .......... 9, 18
Wales, compound feedstuffs .........................96
Wales, export-approved slaughterhouses .... 11
Wales, hunt kennels in ..............................59
Wales, knackers in ................................. 59
Wales, number of slaughterhouses .......... 4, 5
Wales, ownership of slaughterhouses ............6
Wales, rendering industry .........................68
Wales, ruminant feed ban ...................... 23
waste ................................................ 20, 60, 64
Waste Food Order 1973 ................. 22
waste, disposal .........................................21
waste, slaughterhouse ......................... 68
waste, water ...............................................22
water, waste ...............................................22
weighing of raw materials ......................103
wet rendering ...............................................86
wheat ..................................................... 95, 99
wheat feed .................................................95
Wildman, Mr Michael ................. 44, 46, 53, 57
Wilesmith, Mr John ......................... 67, 76, 90
William Forrest & Son .............. 30, 68, 77
Woodgate, Mr Stephen .........................79
Z
zoo animals, rendering ......................... 73
Zootechnical Products Regulations 1999 108