

INDEX

A

- Acetic acid, intestinal antibacterial activity, 14, 15, 35
- Acetobacter calcoaceticus*, 323
- Acidolin, 14
- Acidophilin, 14
- Acinetobacter* attachment/detachment, 332, 349
- Aeromonas* spp., 323
- Amino acids, microwave effects, 92
- Anaphylactic reactions, 199
 - annatto extract, 207, 208
 - carmine, 203, 204, 205–206
 - saffron, 211
- Anaphylactoid reactions, 201
- Annatto extract, 196, 207
 - adverse reactions, 202, 207–209, 213
 - anaphylactic, 207, 208
 - asthma, 208
- Antioxidants, oriental noodles, 160
- Asparagus, inulin content, 9
- Asthmatic reactions
 - annatto extract, 208
 - carmine, 206–207

B

- Bacillus* spp. attachment, 334
 - S layers, 323
- Bacterial cell envelope, 321–323
 - capsules, 321–322
 - fimbriae (pili), 322
 - outer membrane polymers, 322–323

- response to environmental change, 324
- S layers, 323
- surface active polymers, 321, 322–323
- Bacteroides*, 12, 13
 - inulin substrate, 18
- Beta-carotene, 196, 210
 - adverse reactions, 210–211
- Beta-fructofuranisidase*, 6
- Bifidobacteria, 12
 - bacteriocidal substances production, 14
 - exogenous/endogenous modifiers, 13
 - impact of antibiotics, 13
 - intestinal anticarcinogenic activity, 35, 36, 38
 - intestinal microflora, 10, 11
 - beneficial health effects, 12, 13
 - inulin fermentation products, 23
 - lactase production, 15
 - optimum pH, 15
 - prebiotics, 16
 - carbohydrate substrates, 20
 - dose-response relations, 21
 - inulin substrate, 18, 20, 21, 22
 - probiotics, 15, 34
 - vitamins production, 15, 34
- Bifidobacterium angulatum*, 18
- Bifidobacterium bifidum*, 18, 20
 - antibacterial activity, 14
- Bifidobacterium breve*, 20
- Bifidobacterium cuniculi*, 20
- Bifidobacterium infantis*, 18, 20
- Bifidobacterium longum*, 18, 38
- Bifidobacterium minimum*, 20

- Bifidobacterium pseudolongum*, 18
Bifidobacterium thermophilum, 20
 Biofilm glycoalkal
 bacterial slimes, 323
 formation, 348
 sanitizer resistance, 347
 Bovine prion protein gene (PrP), 266
 Bovine spongiform encephalopathy,
 265–308
 cattle by-products, 296–299
 gelatin, 298–299, 303, 305
 tallow, 296–297, 303, 305
 characteristics, 266–271
 clinical signs, 267
 diagnostic tests, 299–301
 EC control measures, 302, 303
 incidence in non-UK countries, 267
 incidence in UK, 266, 267, 268, 269
 infected feed as primary cause, 267–268
 feeding practices changes, 272
 mechanism of CNS infection, 269
 rendering practices changes, 270,
 271, 297
 infective tissues, 269–270
 new variant Creutzfeldt-Jakob disease
 (vCJD) link, 289–290, 292–293
 oral transmission route, 268
 origins, 270–271
 prions (disease-causing agent), 272–275
 inactivation, 295–296
 infectivity, 294–295
 strains, 288–289
 related prion diseases, 275–285
 surveillance, 299–301, 306
 UK control measures, 301–304
 USA preventive measures, 304–307
 vertical transmission, 268–269
 World Health Organization
 recommendations, 305
 Bulgarican, 14
- C**
- Calcium absorption,
 inulin/fructooligosaccharide effects,
 32, 33, 34, 43
 Camas lily (*Camassia quamash*), 40
 Canthaxanthin, 210
 adverse reactions, 210–211
 Capsules, bacterial, 321–322
 Caramel coloring agent, 196
 Carcinogens, intestinal microflora
 metabolism, 13, 35, 36
 Carmine, 202
 adverse reactions, 202, 203–207, 213
 anaphylactic, 203, 204, 205–206
 asthma, 206–207
 Carotenoids, 210
 adverse reactions, 210–211
 Cassava starch, 231
 Cavity perturbation, dielectric properties
 measurement, 79, 80, 82
 Celiac disease, 197, 198
 Chicory *see Cichorium intybus*
 Chinese raw noodles, 148, 156, 168, 181
 quality evaluation, 171, 173, 175
 see also Oriental noodles
 Chinese wet noodles, 148, 160, 162
 quality evaluation, 171, 175, 176
 see also Oriental noodles
 Chronic wasting disease (CWD) of mule
 deer/rocky mountain elk, 277–278, 296
 Chuka-men, 148
 quality evaluation, 171, 177
 see also Oriental noodles
Cichorium endivia, 10
Cichorium intybus (chicory), 6, 7–8, 48
 cultivation, 9–10
 inulin, 3, 5, 6
 production, 9, 10
Clostridium difficile infection, inulin
 supplements, 18
Clostridium spp. S layers, 323
Clostridium thermocellum detachment,
 350
 Coaxial open-ended probe, dielectric
 properties measurement, 80, 81, 82
 Cochineal, 196
 see also Carmine
 Colon cancer, inulin inhibitory effect,
 34–39
 Color additives
 food labeling regulations, 197
 natural, 196
 adverse reactions, 202–213
 oriental noodles, 162
 safety standards, 196
 synthetic, 196
 Compositae, inulin, 3, 9
 Composite bread-making flours, 229
 applications, 231

- chemical additives (dough improvers), 230
 - emulsifiers, 230
 - mechanical dough development (Chorleywood) process, 229–230
 - Confocal scanning laser microscopy, microbial attachment to foods, 354–357
 - Creutzfeldt-Jakob disease, 281–283
 - genetic predisposition, 287
 - human risk, 292–294
 - iatrogenic acquisition, 282, 283
 - inherited form, 281, 282
 - prion precursor protein (PrP) gene mutations, 282
 - new variant (vCJD), 283–284, 289–290, 292–293
 - sporadic cases, 280, 281, 292, 307
 - Crocin, 211
 - Curcumin *see* Turmeric/curcumin
 - Cutting boards, microbial attachment, 332
- D**
- Dahlia, inulin, 6, 9, 48
 - Dandelion (*Taraxacum officinalis*), inulin, 3, 9, 39–40
 - Delayed hypersensitivity reactions, 197–198
 - contact sensitivity, 200–201
 - mechanisms, 199–201
 - Dental health, inulin carbohydrate replacement, 43
 - Diabetes mellitus, inulin effects, 39–41
 - Dielectric constant, 69, 78
 - water content relationship, 71
 - Dielectric loss factor, 69, 78
 - water content relationship, 71
 - Dielectric properties of foods, 69–74
 - absorbed microwave power calculation (power equation), 70–71
 - frozen foods, 71, 73–74
 - ionic content effects, 74
 - measurements, 78–82
 - foods development, 82
 - frequency domain spectroscopy, 82
 - resonant cavity method, 79
 - time domain spectroscopy, 82
 - waveguide/coaxial lines, 79, 80–82
 - microwave foods, 103–104
 - microwave penetration depth, 71, 72, 74
 - rate of microwave power absorption, 71
 - selective heating effects, 76
 - water content relationship, 71, 72
 - DLVO theory of colloidal stability, 325
- E**
- Echinacea angustifolia*, 41
 - Eggs, oriental noodle content, 161
 - Elecampane (*Inula helenium*), inulin, 3, 6, 40
 - Emulsan, 323, 349, 350
 - Emulsifiers
 - composite wheat-sorghum breads, 230
 - oriental noodles, 162
 - sorghum cookies, 233
 - wheatless sorghum breads, 231
 - Enocianina (grape skin extract), 212
 - Enterobacter cloacae* attachment, 324, 347
 - Enterobacter faecalis* attachment, 335
 - Escherichia coli*
 - attachment, 325, 328, 335, 338
 - confocal scanning laser microscopy, 355
 - inhibition methods, 353
 - plant surfaces, 345
 - detachment of daughter cells, 350
 - Eubacterium*, 12
 - Extrusion cooking, sorghum ready-to-eat products, 237
- F**
- Fatal familial insomnia, 273, 285
 - Fats/fatty acids, microwave effects, 92
 - Feline spongiform encephalopathy (FSE), 278–279
 - Fermented flat breads, 229
 - Fiberoptic thermometry, microwave temperature measurements, 84–85, 86
 - Fimbriae (pili), 322
 - Flavor compounds, microwave effects, 94–95
 - Flexibacter* spp., growth conditions and adhesion, 324
 - Food allergy, 195–213
 - allergens, 197, 198
 - definition, 197–198
 - delayed hypersensitivity reactions, 197–198
 - contact sensitivity, 200–201
 - mechanisms, 199–201

Food allergy – *contd*
 immediate hypersensitivity reactions,
 197, 198–199
 anaphylactic shock, 199
 mechanisms, 198–199, 200
 symptoms, 199
see also Food intolerance

Food intolerance, 197, 201
 anaphylactoid reactions, 201
 definition, 198
 idiosyncratic reactions, 201
 metabolic disorders, 201
see also Food allergy

Food labeling
 color additives, 197
 inulin/oligofructose, 48–50
 Frequency domain spectroscopy, dielectric
 properties measurement, 82
 Fried instant noodles, 148, 155, 160, 162,
 170
 quality evaluation, 178, 179
see also Oriental noodles

Fructan-fructan fructosyl transferase, 3, 5
 Fructans, 3
 Fructooligosaccharides, 2, 6
 dental health effects, 43
 intestinal microflora response, 16, 18
 lipid metabolism effects, 29
 mineral absorption effects, 32
see also Oligofructose

G

Garlic, inulin, 9
 Gastrointestinal health, inulin effects, 42–43
 Gelatin, 298–299, 303, 305
 Gerstmann-Straussler-Scheinker
 syndrome, 284–285, 287
 Glass thermometers, microwave
 temperature measurements, 83–84
 Globe artichoke, inulin, 9
 Glycerol monostearate, 230, 231
 Grape anthocyanins, 212
 adverse reactions, 212–213
 Grape skin extract, 196

H

Haptens, contact sensitivity, 200–201
 Heart disease, inulin effects, 41
Helianthus tuberosus see Jerusalem
 artichoke

Hira-men, 146
 Hiya-mugi, 146
 Human spongiform encephalopathies,
 280–285
 transmission, 280

I

Idiosyncratic food/food additive reactions,
 201

IgE antibodies
 carmine, 203, 204, 205–206
 immediate hypersensitivity reactions,
 198, 199
 saffron, 212

Immediate hypersensitivity reactions, 197,
 198–199
 anaphylactic shock, 199
 mechanisms, 198–199, 200
 symptoms, 199

Immune system, inulin effects, 41–42

Infrared imaging, microwave temperature
 measurements, 84

Intestinal microflora
 beneficial health effects, 10–11, 12
 breastfed infants, 12
 exogenous/endogenous modifiers, 13
 impact of antibiotics, 13
 modification
 prebiotics, 16, 17
 probiotics, 15–16, 17
 synbiotics, 16, 17
 pathogenic bacteria, 12, 13–14
 toxic metabolites/carcinogens, 13, 35,
 36

Inula helenium (elecampane), inulin, 3, 6,
 40

Inulin, 1–51
 anticancer activity, 34, 37
 bifidogenic properties, 10–26
 biosynthesis, 3, 5
 calorific value, 28
 characteristics, 3–6
 functional, 45–46
 dental health, 43
 diabetes mellitus, 39–41
 dietary supplementation
 applications, 18
 intestinal microflora response, 16, 19
 estrogen recycling enhancement, 44
 fermentation products, 23–26

- carbon dioxide/hydrogen gas, 23, 25, 26
- short-chain fatty acids, 24–26, 32
- food applications, 45–46
- food sources, 6, 7, 8, 9
- functions in plants, 6
- gastrointestinal health benefit, 42–43
- gastrointestinal side effects, 42–43, 46–47
- glucose absorption influence, 26
- heart disease, 41
- historical background, 6–8
- immune system effects, 41–42
- intake, 8
- intestinal/hepatic enzyme responses, 22–23
- legal/regulatory status, 48
- lipid metabolism effects, 28–32, 41
- mineral metabolism effects, 32–34
- nutritional labeling, 48–50
- origin, 6
- osteoporosis prevention, 43–44
- prebiotic substrate, 18, 20, 21, 22
- production, 8–10, 11
- safety/tolerance, 46–47
- soluble dietary fiber properties, 26–27
- structural aspects, 3, 4, 5
- Iron absorption, fructooligosaccharide effects, 33, 34
- Irritable bowel syndrome, 203
- inulin effects, 43

J

- Japanese cup noodles, microwave drying, 123
- Japanese udon noodles, 146, 148, 155, 168, 181
- quality evaluation, 171, 174
- see also* Oriental noodles
- Jerusalem artichoke (*Helianthus tuberosus*), inulin, 3, 6, 8, 9, 40, 46, 48

K

- Kafirins, 235, 242
- Klebsiella pneumoniae*, fructooligosaccharide substrate, 20
- Korean fried instant noodles, 155
- quality evaluation, 179
- see also* Oriental noodles
- Kuru, 280, 281, 293

L

- Lactacin B, 14
- Lactacin F, 14
- Lactic acid
 - intestinal antibacterial activity, 14, 15, 34
 - sorghum foods fermentation, 252–254
- Lactobacilli, 12
 - adhesion to gut, 322
 - cancer protective effects, 36, 37
 - intestinal microflora, 10, 12, 14
 - health benefit, 14
 - inulin fermentation products, 23
 - prebiotics, 16
 - probiotics, 15
- Lactobacillus acidophilus*, 36, 44
 - bacteriocidal substances production, 14
- Lactobacillus bulgaricus*, 14
- Lactobacillus casei*, 36, 37
- Lactobacillus delbrueckii*, 253
- Lactocidin, 14
- Lactocin 27, 14
- Lactose intolerance, 201
- Leeks, inulin, 9
- Lettuce, inulin, 9
- Lipid metabolism, inulin effects, 28–32, 41
- Lipomannan, 322
- Lipopolysaccharide, 322
- Lipoproteins, bacterial cell envelope, 322
- Lipoteichoic acid, 322, 324
- Listeria monocytogenes* attachment, 327, 328
 - glass surfaces, 330
 - growth condition effects, 324
 - inhibition methods, 353
 - meat tissue, 335, 339
 - properties of attached cells, 347, 348
 - stainless steel surfaces, 330, 331, 333
 - starvation stress, 325
- Long life (LL) noodles, 159, 167
- see also* Oriental noodles

M

- Magnesium absorption, inulin/fructooligosaccharide effects, 32, 33
- Malting, sorghum, 238–243
 - applications, 238–239
 - technologies, 239–243

- Meat tissue, microbial attachment,
 - 334–339
 - attachment sites, 336
 - bacterial motility, 336
 - confocal scanning laser microscopy, 355
 - contamination of food processing environment, 339
 - cultural condition effects, 338
 - extracellular polymer secretion, 338
 - hydrophobic/electrostatic interactions, 337
 - lean versus adipose tissue, 335
 - penetration of muscle tissue, 337–338
 - physical entrapment, 335–336, 347
 - physicochemical detachment, 351
- Mechanical dough development
 - (Chorleywood) process, 229–230
- Metabolic disorders, food intolerance, 201
- Methyl cellulose, 231
- Microbial attachment, 319–357
 - attached cells, 347–349
 - heat resistance, 348
 - microbial activity, 348–349
 - sanitizer resistance, 347
 - bacterial cell envelope, 321–323
 - conditioning films, 326–327
 - confocal scanning laser microscopy, 354–357
 - cutting boards, 332
 - detection methods, 351–352
 - excreted polymers, 323, 327, 328–329,
 - 330, 331, 338, 347, 348
 - food contact surfaces, 329–334
 - arrival at surface, 329–330
 - food matrix effects, 333
 - food processing equipment, 333–334
 - growth media influences, 324–325, 338
 - inhibition methods, 353–354
 - initial reversible stage, 325–326
 - DLVO theory of colloidal stability, 325
 - electrostatic interactions, 328, 337
 - hydrophobic effects, 327–328, 337
 - irreversible stage, 326, 328–329
 - meat tissue, 334–339
 - mechanisms, 325–329
 - microbial footprints, 327
 - microbial motility, 330, 336
 - microbial survival function, 320
 - physical entrapment, 341, 343, 347, 355
 - plant tissues, 344–347
 - poultry skin, 339–343
 - response to environmental change,
 - 324–325
 - selective, 332
 - stainless steel, 330–331, 348
 - starvation stress response, 325
 - stationary phase cells, 325
- Microbial detachment, 320, 349–351
 - attachment polymer oxidation, 350–351
 - cell-directed, 349–350
 - enzymatic release, 350
 - physicochemical, 351
- Microwave exposure effects
 - heating mechanism, 68–78
 - absorbed microwave power
 - calculation (power equation), 70–71
 - dielectric properties, 69–74
 - dipolar water molecule rotation, 68, 69
 - frozen foods, 71, 73–74
 - ion movements, 69, 70
 - microbiological, 87–92
 - athermal, 89–92
 - selective power absorption, 89
 - spore growth, 88
 - thermal, 87–89
 - non-thermal, 86–87, 89–92
 - adverse health effects, 129
 - nutritional, 92–93
 - safety aspects, 88, 128–130
 - selective heating effects, 74–78
 - concentration effects, 76–78
 - in-depth heating, 75–76
 - sensory, 93–95
 - flavor compounds, 94–95
 - spluttering/superheating, 87, 99
 - temperature measurement methods,
 - 82–85
 - fiberoptic thermometry, 84–85, 86
 - glass thermometers, 83–84
 - infrared imaging, 84
 - problems, 83
 - thermocouple probes, 83
- Microwave foods, 67, 102–105
 - chain of development, 105
 - composition/formulation effects,
 - 104–105
 - dielectric properties, 103–104

- flavors, 103, 104
 - geometry, 103
 - packaging, 67, 106–109, 131
 - active packaging, 107–109
 - materials, 106–107
 - metals, 107
 - susceptors (receptors), 108–109
 - surface browning/crisping, 105, 108
 - texture, 103, 105
 - Microwave industrial equipment, 109–128, 131
 - applicators, 110–114
 - cavity, 110–111
 - horn, 111, 112
 - periodic structure, 111, 112, 113
 - single mode, 113–114, 115
 - travelling wave (Meander), 113
 - components, 109–110
 - design, 109–114
 - frequencies, 109–110
 - heating applications, 67, 114–128
 - advantages/disadvantages, 116–117
 - basic requirements, 116
 - blanching, 117
 - cooking-coagulation, 117–118
 - dehydration, 122–124
 - killing insects/moulds/bacteria, 119
 - pasteurization/sterilization, 125–128
 - preconditioning, 119
 - tempering/thawing, 119–122
 - volume expansion, 118–119
 - Microwave oven, 95–96, 130
 - IEC standard performance test, 100
 - oven field distribution, 96–100
 - computer simulations, 100, 131
 - confined modes, 97
 - mode stirrer, 97
 - power ratings/rate of heating, 100–102, 130
 - differential heating, 102
 - spluttering/bumping, 99
 - Microwave technology, 65–131
 - domestic use *see* Microwave oven
 - emission (leakage) standards, 129
 - exposure limits, 129
 - historical development, 66
 - industrial use *see* Microwave industrial equipment
 - interference, 130
 - vacuum drying, 123, 124
 - Microwaves, definition, 68
 - Mineral nutrients
 - absorption, inulin effects, 32–34
 - microwave exposure effects, 92
 - Murnong, 6–7, 46
- N**
- Neosugar, 5–6
 - intestinal microflora response, 21
 - intestinal/hepatic enzyme response, 23
 - Nixtamalization, 236
 - Non-digestible carbohydrate, 2, 6
 - intestinal microflora response, 16, 19
 - ENDO project, 18
 - potential physiological effects, 27
 - prebiotics, 16
 - Norbixin *see* Annatto extract
 - Nutritional labeling *see* Food labeling
- O**
- Occupational asthma, carmine reactions, 206–207
 - Oils for frying oriental noodles, 160
 - Oligofructose, 5
 - anticancer activity, 37
 - food sources, 7, 9
 - intake, 8
 - lipid metabolism effects, 28, 29, 30, 31, 41
 - nutritional labeling, 48
 - soluble dietary fiber properties, 27
 - Onion, inulin, 9
 - Opportunistic infection, probiotics in prevention, 44–45
 - Oriental noodles, 141–189
 - alkaline salt content, 143, 146, 148, 158–159, 187
 - antioxidants, 160
 - buckwheat, 159
 - classification, 143–148
 - color, 162
 - evaluation, 173–175
 - factors affecting, 178–183
 - differences from pasta, 143
 - egg content, 161
 - emulsifiers, 162
 - flour
 - color determinants, 178–180, 181
 - protein quantity/quality, 181, 187
 - specification, 154–156

Oriental noodles – *contd*

- formulation, 148, 149
- historical aspects, 142–143
- ingredients, 156–162, 187–188
- oil content, 160
- polyphosphates, 161
- preparation procedure, 143
- preservatives, 161–162
- processing, 146, 147, 148, 188
 - evaluation, 172
- production, 162–171
 - compounding/sheeting, 165–166
 - cooking, 167
 - dough resting, 165
 - drying, 168–171
 - air drying, 168–170
 - deep frying, 170
 - mixing, 162, 164–165
 - slitting/waving, 166
- quality evaluation, 171–178
 - scoring factors, 172, 173, 175, 176, 177, 178, 179, 180, 181
- raw materials, 143, 146
- salt (white; common salt) content, 143, 146, 157–158
- size (width), 146, 147, 166
- stabilizers, 161
- starch, 159, 183–186, 187–188
 - amylose content, 185
 - pasting properties, 156, 184–185
 - swelling power/volume, 185–187
- texture
 - evaluation, 175–178
 - factors affecting, 183–188
- vital gluten powder, 161
- water content, 157
- wheat, 150–156
 - ash, 154, 155
 - color, 154, 156
 - millable wheat value index (MWVI), 152–153
 - protein content, 153–154, 155, 159
 - single kernel characteristics, 153
 - soundness, 153
 - source, 150–151
 - test weight, 152
 - thousand-kernel weight, 152
- Osteoporosis prevention, inulin, 43–44
- Outer membrane polymers, 322–323

P

- Packaging
 - microwave foods, 67, 106–109, 131
 - sorghum brewed products, 245–246
- Pasteurization, microwave heating, 125–126
- Permittivity, 69, 78
- Phosphate absorption, inulin effects, 32
- Plant tissues, microbial attachment, 344–347
 - confocal scanning laser microscopy, 355
 - surface structural aspects, 344
- Polyphosphates, 161
- Poultry skin, microbial attachment, 339–343
 - confocal scanning laser microscopy, 355
 - inhibition methods, 353
 - mechanisms, 341, 342, 399
 - physical entrapment, 341, 347
 - physicochemical detachment, 351
 - process treatment effects, 341, 343
 - properties of attached bacteria, 348
 - structural aspects, 339, 340
- Prebiotics, 16, 18, 20, 21, 35
 - dose-response relations, 21
 - estrogen recycling enhancement, 44
- Preservatives, oriental noodles, 161–162
- Prion diseases, 275–285
 - genetics, 285–287
 - species barriers to transmission, 290–292, 293
 - see also* Bovine spongiform encephalopathy
- Prion precursor protein (PrP), 272
 - infective conformation (PrP^{Sc}), 272, 273, 274, 279
 - nervous tissue damage, 274–275
 - pre-clinical detection, 300, 301
 - strains, 288
- Prion precursor protein (PrP) gene, 272–273, 285
 - CJD susceptibility-associated polymorphism, 282, 293
 - knockout mice, 273
 - mutation, 273, 274
 - inherited human spongiform encephalopathies, 280, 281, 285, 287
 - spontaneous PrP^{Sc} formation, 287
 - scrapie susceptibility, 286, 287
- Prions, 272–275
 - infectivity, 294–295

- Probiotics, 15, 21
 anticarcinogenic properties, 34
 colonic survival, 16
 opportunistic infection prevention, 44–45
- Protein quality
 microwave exposure effects, 92
 oriental noodle flours/wheat, 153–154,
 155, 159, 181, 187
 sorghum, 223, 239
- Protein-containing conditioning films,
 326–327
- Pseudomonas* spp. attachment
 confocal scanning laser microscopy, 355
 detachment, 349, 350
 excreted substances, 323, 327, 329
 glass surfaces in milk, 332
 growth condition influences, 324
 inhibition methods, 353
 meat tissue, 334, 335, 336
 plant surfaces, 345, 346
 S layers, 323
 stainless steel surfaces, 330, 331, 333
 transfer from meat, 339
- R**
- Rendering practices, 270, 271
 tallow production, 297
- S**
- S layers, 323
- Saffron, 196, 211
 adverse reactions, 211–212
- Salmonella* attachment
 confocal scanning laser microscopy,
 355
 inhibition methods, 353
 meat tissue, 336, 337
 plant surfaces, 345
 poultry skin, 341, 342, 343
 properties of attached cells, 347, 348
 stainless steel, 331, 333
 transfer from chicken skin, 339
 starvation stress, 325
- Scrapie, 272, 275–277
 endemic infection, 296
 genetic susceptibility, 285–286
 infectivity, 295, 298
 mouse bioassay, 300
 prion inactivation, 295, 296
 strains, 288
- Serratia marcescens*, excreted substances,
 323
- Short chain fatty acids, inulin effects, 32
- Sinc* (Scrapie Incubation Period), 286, 291
- Sip* (Scrapie Incubation Period), 286
- Slimelectins, 323
- So-men, 146
- Soba (buckwheat noodles), 146, 159
see also Oriental noodles
- Soluble dietary fiber
 inulin/fructooligosaccharide, 26–27
 nutritional labeling, 48, 49
 physiological definition, 27
- Sorghum, 217–255
 bread-making, 228–233
 custard/batter process, 232
 wheat composite bread, 229–231
 wheatless bread, 231–233
 brewing, 243–250
 conventional beer, 247–250
 packaging, 245–246
 sorghum beer, 243–247
 cakes, 233
 condensed tannins (proanthocyanins), 222
 inactivation for malting, 241
 reduction during decortication, 224
 cookies, 233–234
 texture, 234
 endosperm anti-fungal proteins,
 241–242
 enzymatic modification of flour, 235
 fermentation, 250–254
 alcoholic, 250–252
 fusel oils, 251
 lactic acid, 252–254
 grain chemistry, 219, 222–223
 grain structure, 219, 220–221
 granolas, 237–238
 importance in semi-arid areas, 218–219
 instant/ready-to-eat products, 236–238
 malt, 223, 238, 249–250, 251
 malting, 221, 238–243
 applications, 238–239
 floor malting, 242, 243
 free amino nitrogen (FAN) content,
 240, 241, 250, 251–252
 outdoor system, 243
 pneumatic malting, 242, 243
 steeping conditions, 240–241
 technologies, 239–243

- milling, 221, 224–228
 - dehulling (decortication), 224–226
 - dry, 224–228
 - roller mills, 226–228
 - wet, 228
 - pasta/noodles, 235–236
 - pigments, 223
 - production, 218
 - protein quality, 223, 239
 - rice substitutes, 235
 - starch gelatinization temperature, 223
 - tortillas, 236
 - water-insoluble
 - glucuronoarabinoxylans, 223, 250
 - weaning porriges, 237
 - critical control points in fermented products, 253, 254
 - malt addition (power flour), 238–239
 - Stabilizers, oriental noodles, 161
 - Stainless steel surfaces, microbial attachment, 330–331
 - Staphylococcus aureus* attachment, 324, 328, 333, 335
 - Staphylococcus epidermidis* attachment, 324, 328
 - Sterilization, microwave heating, 127–128
 - Streptococci
 - bacteriocidal substances production, 14
 - probiotics, 15
 - Sucrose-sucrose fructosyltransferase, 3
 - Sulfite-induced asthma, 201
 - Surfactant antiadhesive agents, 353
 - Synbiotics, 16, 17
- T**
- Tallow, 296–297, 303, 305
 - Taraxacum officinalis* (dandelion), inulin, 3, 9, 39–40
 - Thai bamee noodles, 148
 - quality evaluation, 171, 175, 180, 181
 - see also* Oriental noodles
 - Thermocouple probes, microwave temperature measurements, 83
 - Time domain spectroscopy, dielectric properties measurement, 82
 - Transmissible mink encephalopathy (TME), 279–280
 - Turmeric/curcumin, 196, 209
 - adverse reactions, 210
- U**
- Ulcerative colitis, inulin effects, 18, 43
- V**
- Variant Creutzfeldt-Jakob disease (vCJD), 266, 283–284, 289–290, 292–293
 - prion susceptibility polymorphism, 293
 - Very low density lipoprotein (VLDL), inulin response, 29
 - Viscosin, 323
 - Vitamins
 - bifidobacteria synthesis, 34
 - microwave exposure effects, 92, 93
- W**
- Waveguide measurement method, 79–80, 81
 - Wheat
 - dough properties, 228–229
 - oriental noodles *see* Oriental noodles
- Y**
- Yacon, inulin, 6, 8, 9
 - Yeasts, intestinal overgrowth, 20–21
 - Yersinia*, attachment to meat tissue, 336
- Z**
- Zinc absorption, inulin effects, 33