## INDEX

Α	к-carrageenan, air, 226–227
AFM. See Atomic force microscopy Atomic force microscopy (AFM) carrageenan gelation mechanism components, 222 i-carrageenan, 224–225 κ-carrageenan, 222–223 rheological behaviour, 223 side-by-side aggregation, 225–226 casein micelle structure and nanorheology carrageenans, 220 decomposition, 218 description, 218 graphite surface, 221 HOPG, 218, 220	molecular assemblies, 228–229 potassium and sodium cation, 230 interface phenomenon displacement processes, 235–236 DPPC monolayer structures, 237 interfacial rheology characteristics, 237 Langmuir–Blodgett techniques, 234 phospholipids, 235 surfactants/proteins, 234 nanofabrication, 202 principles cantilevers, 205 commercial tips, 206 contact mode, 203 dynamic imaging mode categories,
milk, 217 pressure-treated, 219 rheological properties, 220–221 surface tension-based model, 222 Young moduli, 221 description, 202 food structure, 206 gelatin nanostructure and elastic property alkaline and acid pretreatment, 212 ampholyte macromolecules, 208 annular pores, 212, 214 Catfish skin, 208–210 dependence, viscoelastic parameters,	interaction force and physical properties, 205 noncontact techniques, 204 operating modes, 204 sharp tip scanning, 202–203 tip-to-sample distance, 203 starch nanostructure and degradation mechanism glucoamylase–amylose complexes, 233 glucoamylases, 231 molecule types, 230–231 potato and rice amylose, 231–232 SBD, 231–232, 234
elasticity determination, 215 error-signal mode images, 211 fibril structure, 212, 214 force-distance curves, 212, 215	B  Botanical and geographical origin discrimination, honey aliphatic acid
high-friction layer, 207 hydrolysis, 207 pretreatment, 212–214 viscous response, 216 Young's modulus calculation, 216 gellan gum gelation acyl contents and cations, 227–228 continuous network structures, 230	capillary electrophoresis (CE), 116 chromatographic methods, 115 enzymatic methods, 114 IC-CD method, 115 uses, 113–114 amino acids lavender and eucalyptus, 101
description, 226	linear discriminant analysis, 99–100

Botanical and geographical origin	energy, milk plants, 76
discrimination, honey (cont.)	high heat operations, 59
nitrogen content, 98	procedures, 76
pollen and proline, 99	process, 57
aroma compounds definition, 101–102	Codex alimentarius (CA), 90
volatile concentrations and isolation,	D
102–103	
carbohydrates	Dairy proteins
chromatography methods, 104–105	casein, 174
fructose and glucose, 103–104	extrusion texturized (see Extrusion
HMF, 104	texturized dairy proteins)
Lithuanian honeys, 104	functional properties
maltose, 104	caseinates, 177
enzyme activity	conformational state, β-LG folding,
	179
amylase types, 105–106	emulsification and foaming, 177
description, 105 diastase, 106	extrusion texturization, 178
	molecular simulations, apoprotein, 178
storage, 107	thermal denaturation, whey, 177
fermentation products, 107–108	health benefits
flavonoids	casein-derived phosphorylated
flavanones and flavanones/flavanols,	peptides, 176
108–109	casein types, 175
patterns, 110	whey protein, 176–177
Portuguese and Spanish samples, 109	sweet whey, 174-175
quinoline alkaloids, 108	ultra filtered and dried WPC, 175
minerals and trace elements	Detection methods regulation, food
ion chromatographic (IC) technique,	allergenic ingredients
112	banana
metal content, 113	high specificity, 167
potassium, 112–113	latex-fruit syndrome, 166
phenolic compounds	ELISA (see Enzyme-linked
Folin–Ciocalteu method, 117–118	immunosorbent assay)
HPLC, 118	guideline criteria, validation protocol
hydroxybenzoic and hydroxycinnamic	ELISA performance, 153
acids, 116–117	quantitative and qualitative, 152
polyphenols, 116	kiwifruit, 166
pollen analysis, 110–112	limits of detection (LOD), 147
proteins, 98	meat, 167
stable isotopes	PCR method
<sup>13</sup> C values, 120	DNA extraction, 156
honey proteins values, 118–119	target genes, 156-157
isotope ratio mass spectrometry, 121	Western blotting and PCR kits, 156, 158
radioactive isotopes, 118	practical test, monitoring
SIRA, 119–120	decision tree, 163–164
Bovine somatotropin (bST), 65–66	outline, local government inspection
bST. See Bovine somatotropin	center, 159, 163
C	quantitative analyses, ELISA kits, 159
С	reference material and calibrator
CA. See Codex alimentarius	procedure, preparation, 149
CIP. See Cleaning-in-place	protein concentration determination,
Cleaning-in-place (CIP)	151

raw materials and extraction methods, 149–150 SDS-PAGE, 150–151 specifications and standardization, 149 soybean ELISA, 163, 165	meat analogs and extenders, 193 nutritional bars, 194 processing definition, 179 flavor, 187–188 functionality, 186–187
high specificity, 165	proteins, 181–186
threshold, 147–148	single-screw, 179
validation	soy proteins and gluten, 181
buckwheat, 161	temperature, 180
egg, 160	thermal denaturation, 180
evaluation method, interlaboratory, 157, 159	transmission electron microscopy (TEM), 181
homogeneity test, 157, 159	twin-screw extruders, 179–180
milk, 160	puffed snacks
model processed foods, 156–157	corn starch levels, 193
peanut, 162	high-protein corn meal products, 192
protocol criteria, 148	whey, 192
shrimp/prawn, 162	whey and soy crisps, 194
wheat, 161 walnut, 165–166	F
Western blotting, egg and milk	1
flowchart, 156	FCV. See Feline calicivirus
specificity, 155	Feline calicivirus (FCV)
specificity, 100	chlorine, 18
E	inactivation, 17
	resistance, 12–14
ELISA. See Enzyme-linked immunosorbent	survival, 16–17
assay	Fluid milk production
Environmental protection agency (EPA)	EPA, 43
CO <sub>2</sub> emissions, 56	FAO estimation, 43–44
GHG emissions, 79	food processing industries, 44
Enzyme-linked immunosorbent assay	GHG emissions
(ELISA)	atmospheric concentration, 42–43
allergenic ingredients detection antibodies, 153	on-farm, 62–70
commercial kits, 155	processing plants, 70–79 LCA
FASPEK KIT <sup>®</sup> , 154	components, 45–46
FASTKIT ELISA Ver.II <sup>®</sup> , 153	LCIA, 46
retorted and canned foods, 154	milk supply chain, 46–62
limits of detection, 147	plants, 70–79
processed foods., 153	sustainable development, 44–45
EPA. See Environmental protection agency	
Extrusion texturized dairy proteins	
cheese analogs, 193	G
development	9
coextrusion, 190–191	Gibbs-Marangoni mechanism, 234
cold extrusion, 191	Greenhouse gas (GHG) emissions, 52-61
corn meal and WPI, 192	See also On-farm GHG emission,
extrudate expansion, 188-189	mitigation; Processing plants and GHG
functionality, 189-190	emission mitigation
supercritical fluid extrusion, 191	carbon dioxide estimation
high-fibre products, 193–194	electricity usage, 55–56

Greenhouse gas (GHG) emissions, 52-61	High-temperature short time (HTST)
See also On-farm GHG emission,	pasteurization
mitigation; Processing plants and GHG	GHGs, 72
emission mitigation (cont.)	heat demand, 77
farm, 54	milk nutrition, 75
manure storage, 55	replacements, 73
carbon footprint, 56	temperature, 57
methane emissions estimation	UHT, 73
dairy cows, 53	HMF. See Hydroxymethylfurfural
fermentation pathways, 53	Hole-in-the-pipe (HIP) model, 52
microorganisms, 54	Honey
milk processing plant	analytical techniques, 93–94
benchmarking, 58	authentication
CIP operations, 59	additives and water removal, 95–96
HTST pasteurization, 57	botanical origin and mislabeling, 96–97
refrigerants loss, 59	geographical origin and mislabeling, 97
SEC, 57–58	industrial processing, 93, 95
	CA, 90–91
nitrous oxide estimation	chemical composition and analytical
crop production, 52 direct and indirect, 53	methods, 98–121
soils, 53	definition, 90
packaging	hesperetin and methyl anthranilate, citrus
gallon containers, 60–61	honey, 121
plastic bottles, 59	marker compounds
retail, 61	abscisic acid, heather honey, 121
transportation	3-aminoacetophenone, chestnut honey,
and distribution, packaged milk, 61	122
farm to processing plant, 56	hesperetin and methyl anthranilate, citrus honey, 121–122
Н	minerals and elements analysis, 92
11	mislabeling and adulteration, 91
Hertz model	protein, identification, 92–93
elastic deformation, 215	HPH. See High pressure homogenization
force-distance curves, 222	HPLC. See High-performance liquid
Highly ordered pyrolytic graphite (HOPG)	chromatography
casein micelles, 218, 220	HTST. See High-temperature short time
milk/κ-carrageenan mixtures, 220	Hydroxymethylfurfural (HMF)
High-performance liquid chromatography	adulteration, 104
(HPLC)	content value, 107
detectors, 116	content variacy 10.
and GC, 115	I
honey	
amino acids, 100	IC–CD. See Ionic
authentic honeys, 105	chromatography-conductivity
enantiomeric ratios, 100	detection
polyphenols, 116	Ionic chromatography-conductivity
oligosaccharide profile, 105	detection (IC-CD), 115
phenolic acids, 115	
	J
polyphenolic compounds, 118	James food allowers 1-1-15
solid phase extraction (SPE), 114	Japan food allergen labeling regulation
High pressure homogenization (HPH),	characteristics, 146–147
74–75	detection methods, ingredients

banana, 166–167	M
ELISA, 153–155	Melissopalynology, 110
guideline criteria, validation protocol,	Milk supply chain, LCA
152–153	dairy products consumption, 46–47
kiwifruit, 166	GHG emissions, 47–48
limits of detection (LOD), 147	goal and scope definition
meat, 167	boundaries, 48–49
PCR method, 156	ECM formula, 49
practical test, monitoring, 159, 163	inventory analysis
reference material and calibrator,	crop/milk production, 50
149–151	distribution, 51–52
soybean, 163–165	GHG emissions sources, 52–61
threshold, 147–148	
validation study, 156–157,	milk processing, 51
159–162	packaging, 51
walnut, 165–166	retail/consumer, 52
Western blotting, egg and milk,	transportation, 50–51
155–156	LCIA, 61–62
Food Sanitation Law, 144-145	MNV. See Murine norovirus
immediate-type, assessment	Murine norovirus (MNV)
anaphylaxis cases, 144	disinfection, 11
cases, 1998–1999, 142	inactivation, 18
cases, 2001–2002, 143	removal, fruits and vegetables, 17–18
food sanitary law, 140	resistance, 12–14, 17
questionnaire, 141	N
survey, 141	11
ingredients, MHLW, 145	Norovirus (NoV)
ingredients, MHLW, 145 mandatory and recommended stages,	Norovirus (NoV) description, 2
ingredients, MHLW, 145 mandatory and recommended stages, 145	
mandatory and recommended stages, 145	description, 2 fomite contamination
mandatory and recommended stages, 145 patient evaluation	description, 2
mandatory and recommended stages, 145	description, 2 fomite contamination epidemiological links, 15
mandatory and recommended stages, 145 patient evaluation characteristics, surveyed subjects, 168	description, 2 fomite contamination epidemiological links, 15 MNV and FCV, 10–14
mandatory and recommended stages, 145 patient evaluation characteristics, surveyed subjects,	description, 2 fomite contamination epidemiological links, 15 MNV and FCV, 10–14 food handlers characteristics, 15–16
mandatory and recommended stages, 145 patient evaluation characteristics, surveyed subjects, 168 comprehension and understanding, 169	description, 2 fomite contamination epidemiological links, 15 MNV and FCV, 10–14 food handlers
mandatory and recommended stages, 145 patient evaluation characteristics, surveyed subjects, 168 comprehension and understanding, 169 incidence, accidental intake, 169	description, 2 fomite contamination epidemiological links, 15 MNV and FCV, 10–14 food handlers characteristics, 15–16 poor personal hygiene practices, 15 transmission control, 16
mandatory and recommended stages, 145 patient evaluation characteristics, surveyed subjects, 168 comprehension and understanding, 169	description, 2 fomite contamination epidemiological links, 15 MNV and FCV, 10–14 food handlers characteristics, 15–16 poor personal hygiene practices, 15 transmission control, 16 genetic types and outbreak association
mandatory and recommended stages, 145 patient evaluation characteristics, surveyed subjects, 168 comprehension and understanding, 169 incidence, accidental intake, 169 questionnaire, 167	description, 2 fomite contamination epidemiological links, 15 MNV and FCV, 10–14 food handlers characteristics, 15–16 poor personal hygiene practices, 15 transmission control, 16 genetic types and outbreak association GI and GII genotypes, 7
mandatory and recommended stages, 145 patient evaluation characteristics, surveyed subjects, 168 comprehension and understanding, 169 incidence, accidental intake, 169	description, 2 fomite contamination epidemiological links, 15 MNV and FCV, 10–14 food handlers characteristics, 15–16 poor personal hygiene practices, 15 transmission control, 16 genetic types and outbreak association GI and GII genotypes, 7 GII.4 cluster, 3, 7
mandatory and recommended stages, 145 patient evaluation characteristics, surveyed subjects, 168 comprehension and understanding, 169 incidence, accidental intake, 169 questionnaire, 167	description, 2 fomite contamination epidemiological links, 15 MNV and FCV, 10–14 food handlers characteristics, 15–16 poor personal hygiene practices, 15 transmission control, 16 genetic types and outbreak association GI and GII genotypes, 7 GII.4 cluster, 3, 7 infection, 3
mandatory and recommended stages, 145 patient evaluation characteristics, surveyed subjects, 168 comprehension and understanding, 169 incidence, accidental intake, 169 questionnaire, 167  L LCA. See Life cycle analysis	description, 2 fomite contamination epidemiological links, 15 MNV and FCV, 10–14 food handlers characteristics, 15–16 poor personal hygiene practices, 15 transmission control, 16 genetic types and outbreak association GI and GII genotypes, 7 GII.4 cluster, 3, 7 infection, 3 open reading frames, 2
mandatory and recommended stages, 145 patient evaluation characteristics, surveyed subjects, 168 comprehension and understanding, 169 incidence, accidental intake, 169 questionnaire, 167  L LCA. See Life cycle analysis LCIA. See Life cycle impact assessment	description, 2 fomite contamination epidemiological links, 15 MNV and FCV, 10–14 food handlers characteristics, 15–16 poor personal hygiene practices, 15 transmission control, 16 genetic types and outbreak association GI and GII genotypes, 7 GII.4 cluster, 3, 7 infection, 3 open reading frames, 2 person to person
mandatory and recommended stages, 145 patient evaluation characteristics, surveyed subjects, 168 comprehension and understanding, 169 incidence, accidental intake, 169 questionnaire, 167  L LCA. See Life cycle analysis LCIA. See Life cycle impact assessment Life cycle analysis (LCA)	description, 2 fomite contamination epidemiological links, 15 MNV and FCV, 10–14 food handlers characteristics, 15–16 poor personal hygiene practices, 15 transmission control, 16 genetic types and outbreak association GI and GII genotypes, 7 GII.4 cluster, 3, 7 infection, 3 open reading frames, 2 person to person closed/semiclosed settings, 8–9
mandatory and recommended stages, 145 patient evaluation characteristics, surveyed subjects, 168 comprehension and understanding, 169 incidence, accidental intake, 169 questionnaire, 167  L LCA. See Life cycle analysis LCIA. See Life cycle impact assessment Life cycle analysis (LCA) application, 46	description, 2 fomite contamination epidemiological links, 15 MNV and FCV, 10–14 food handlers characteristics, 15–16 poor personal hygiene practices, 15 transmission control, 16 genetic types and outbreak association GI and GII genotypes, 7 GII.4 cluster, 3, 7 infection, 3 open reading frames, 2 person to person closed/semiclosed settings, 8–9 GII.4, 8
mandatory and recommended stages, 145 patient evaluation characteristics, surveyed subjects, 168 comprehension and understanding, 169 incidence, accidental intake, 169 questionnaire, 167  L LCA. See Life cycle analysis LCIA. See Life cycle impact assessment Life cycle analysis (LCA) application, 46 components, 45	description, 2 fomite contamination epidemiological links, 15 MNV and FCV, 10–14 food handlers characteristics, 15–16 poor personal hygiene practices, 15 transmission control, 16 genetic types and outbreak association GI and GII genotypes, 7 GII.4 cluster, 3, 7 infection, 3 open reading frames, 2 person to person closed/semiclosed settings, 8–9 GII.4, 8 hospitals, 9
mandatory and recommended stages, 145 patient evaluation characteristics, surveyed subjects, 168 comprehension and understanding, 169 incidence, accidental intake, 169 questionnaire, 167  L LCA. See Life cycle analysis LCIA. See Life cycle impact assessment Life cycle analysis (LCA) application, 46 components, 45 fluid milk supply chain	description, 2 fomite contamination epidemiological links, 15 MNV and FCV, 10–14 food handlers characteristics, 15–16 poor personal hygiene practices, 15 transmission control, 16 genetic types and outbreak association GI and GII genotypes, 7 GII.4 cluster, 3, 7 infection, 3 open reading frames, 2 person to person closed/semiclosed settings, 8–9 GII.4, 8 hospitals, 9 hotels/schools, 9
mandatory and recommended stages, 145 patient evaluation characteristics, surveyed subjects, 168 comprehension and understanding, 169 incidence, accidental intake, 169 questionnaire, 167  L LCA. See Life cycle analysis LCIA. See Life cycle impact assessment Life cycle analysis (LCA) application, 46 components, 45 fluid milk supply chain dairy products, 46	description, 2 fomite contamination epidemiological links, 15 MNV and FCV, 10–14 food handlers characteristics, 15–16 poor personal hygiene practices, 15 transmission control, 16 genetic types and outbreak association GI and GII genotypes, 7 GII.4 cluster, 3, 7 infection, 3 open reading frames, 2 person to person closed/semiclosed settings, 8–9 GII.4, 8 hospitals, 9 hotels/schools, 9 human volunteer studies, 7–8
mandatory and recommended stages, 145 patient evaluation characteristics, surveyed subjects, 168 comprehension and understanding, 169 incidence, accidental intake, 169 questionnaire, 167  L LCA. See Life cycle analysis LCIA. See Life cycle impact assessment Life cycle analysis (LCA) application, 46 components, 45 fluid milk supply chain dairy products, 46 GHG emissions, 47–48	description, 2 fomite contamination epidemiological links, 15 MNV and FCV, 10–14 food handlers characteristics, 15–16 poor personal hygiene practices, 15 transmission control, 16 genetic types and outbreak association GI and GII genotypes, 7 GII.4 cluster, 3, 7 infection, 3 open reading frames, 2 person to person closed/semiclosed settings, 8–9 GII.4, 8 hospitals, 9 hotels/schools, 9 human volunteer studies, 7–8 infection control measures, 10
mandatory and recommended stages, 145 patient evaluation characteristics, surveyed subjects, 168 comprehension and understanding, 169 incidence, accidental intake, 169 questionnaire, 167  L LCA. See Life cycle analysis LCIA. See Life cycle impact assessment Life cycle analysis (LCA) application, 46 components, 45 fluid milk supply chain dairy products, 46 GHG emissions, 47–48 goal and scope, 48–49	description, 2 fomite contamination epidemiological links, 15 MNV and FCV, 10–14 food handlers characteristics, 15–16 poor personal hygiene practices, 15 transmission control, 16 genetic types and outbreak association GI and GII genotypes, 7 GII.4 cluster, 3, 7 infection, 3 open reading frames, 2 person to person closed/semiclosed settings, 8–9 GII.4, 8 hospitals, 9 hotels/schools, 9 human volunteer studies, 7–8 infection control measures, 10 prevention and limitation, 9–10
mandatory and recommended stages, 145 patient evaluation characteristics, surveyed subjects, 168 comprehension and understanding, 169 incidence, accidental intake, 169 questionnaire, 167  L  LCA. See Life cycle analysis LCIA. See Life cycle impact assessment Life cycle analysis (LCA) application, 46 components, 45 fluid milk supply chain dairy products, 46 GHG emissions, 47–48 goal and scope, 48–49 inventory analysis, 49–61	description, 2 fomite contamination epidemiological links, 15 MNV and FCV, 10–14 food handlers characteristics, 15–16 poor personal hygiene practices, 15 transmission control, 16 genetic types and outbreak association GI and GII genotypes, 7 GII.4 cluster, 3, 7 infection, 3 open reading frames, 2 person to person closed/semiclosed settings, 8–9 GII.4, 8 hospitals, 9 hotels/schools, 9 human volunteer studies, 7–8 infection control measures, 10 prevention and limitation, 9–10 reports, outbreak, 4–6
mandatory and recommended stages, 145 patient evaluation characteristics, surveyed subjects, 168 comprehension and understanding, 169 incidence, accidental intake, 169 questionnaire, 167  L  LCA. See Life cycle analysis LCIA. See Life cycle impact assessment Life cycle analysis (LCA) application, 46 components, 45 fluid milk supply chain dairy products, 46 GHG emissions, 47–48 goal and scope, 48–49 inventory analysis, 49–61 LCIA, 61–62	description, 2 fomite contamination epidemiological links, 15 MNV and FCV, 10–14 food handlers characteristics, 15–16 poor personal hygiene practices, 15 transmission control, 16 genetic types and outbreak association GI and GII genotypes, 7 GII.4 cluster, 3, 7 infection, 3 open reading frames, 2 person to person closed/semiclosed settings, 8–9 GII.4, 8 hospitals, 9 hotels/schools, 9 human volunteer studies, 7–8 infection control measures, 10 prevention and limitation, 9–10 reports, outbreak, 4–6 water and food
mandatory and recommended stages, 145 patient evaluation characteristics, surveyed subjects, 168 comprehension and understanding, 169 incidence, accidental intake, 169 questionnaire, 167  L  LCA. See Life cycle analysis LCIA. See Life cycle impact assessment Life cycle analysis (LCA) application, 46 components, 45 fluid milk supply chain dairy products, 46 GHG emissions, 47–48 goal and scope, 48–49 inventory analysis, 49–61	description, 2 fomite contamination epidemiological links, 15 MNV and FCV, 10–14 food handlers characteristics, 15–16 poor personal hygiene practices, 15 transmission control, 16 genetic types and outbreak association GI and GII genotypes, 7 GII.4 cluster, 3, 7 infection, 3 open reading frames, 2 person to person closed/semiclosed settings, 8–9 GII.4, 8 hospitals, 9 hotels/schools, 9 human volunteer studies, 7–8 infection control measures, 10 prevention and limitation, 9–10 reports, outbreak, 4–6

Norovirus (NoV) (cont.)	amino acids, 181
cooking, 20	denaturation and aggregation, whey,
9	182
fruits and vegetables, 20	
MNV and FCV, 16–17	digestibility, 184
shellfish, 19–20	disulfide bonds, 181–182
temperature control, 17	electron-density mapping, 185
waterborne, 18–19	electron micrographs, WPI, 183
NoV. See Norovirus	extrusion melt temperatures, 182–183
	Fourier transforms, 186
0	insolubility test, 182
On form CHC amission mitigation	polyacrylamide gel electrophoresis,
On-farm GHG emission, mitigation	182
carbon dioxide	SDS-PAGE, 184-185
NT methods, 69	spatial spectral analyses, 185
SOC, 68–69	single-screw, 179
methane	soy proteins and gluten, 181
anaerobic digestion, 67	temperature, 180
biochar, 68	thermal denaturation, 180
bST uses, 66	
digesters types, 67–68	transmission electron microscopy (TEM)
feeding practices, 64	181
management practices, 66–67	twin-screw extruders, 179–180
manure management, 67	Processing plants and GHG emission
methanogenesis process, 65–66	mitigation
oil and oilseeds, 64–65	CIP procedures, 76
probiotics, 65–66	energy information data, 71
	energy management systems
propionate precursors, 66	CHP, 78
thermochemical conversion, 68	dairy industry, 76
models, predictions, 69–70	pinch technology, 77
nitrous oxide	fluid milk process, 72–73
N inputs, soil, 62–63	implementation
practices, 63–64	energy efficiency, 70–71
_	tools, 71
P	LCA and GHG audits, 72
Pollen analysis	packaging
authentication, botanical origin honey,	LCA, 78
	•
111–112	milk containers manufacture, 78–79
melissopalynology, 110	recycled HDPE resin, 78
royal jelly, 110–111	pasteurization technologies
usage, 97	bactofugation and HPH, 74
Processing, extrusion texturized dairy	CIP operation, 74
proteins	HTST and UHT, 73–74
definition, 179	sustainability, 75–76
flavor	transportation, 79
carbohydrates and lipids, 187	
retention, 187	R
vitamins, 188	B
functionality	Rennet casein, 174, 190
foaming and digestibility, 186	S
partial denaturation, 187	3
physical properties, WPI, 186	SEC. See Specific energy consumption
proteins, effect	SIRA. See Stable isotopic ratio analysis

SOC. See Soil organic carbon
Soil organic carbon (SOC)
carbon storage, 68
sequestration, 69
Specific energy consumption (SEC), 57–58
Stable isotopic ratio analysis (SIRA), 119, 121

Τ

Texturized WPI (TWPI) digestibility, 184 functionality, 186 spatial spectral analyses, 185 Triple Bottom Line, 44 TWPI. See Texturized WPI

U

UHT. See Ultrahigh temperature

Ultrahigh temperature (UHT) milk, 73 pasteurization, 57 process, 73 Unifloral honey, 111

W

Whey protein isolate (WPI) extruded, fat mimic, 194 extrusion melt temperatures, 183 heat-treated, 184 microstructural changes, 182–183 physical properties, 186 solubility, 190 twin-screw extrusion, 179 WPI. See Whey protein isolate