packaging, light excluding, 622, 640	soft coating (panning), 433, 434, 439
packaging, the Robinson test for flavour	solid fat content
pickup, 552	blends of cocoa butter & CBEs, 163
rework and, 452	cocoa butter compared to other fats,
storage temperature and, 453	109-110
shellac, 442–445	cocoa butter-milk fat mixtures, 117
shell moulding, 364–365, 374, 414, 423, 498	effect of origin for cocoa butter,
shipping of chocolate products, 548,	153–155
621–622, 635	measurement by NMR spectroscopy,
shipping of cocoa, 29	323–324, 588
shrinkage, 19, 377, 435, 551, 594, 673	solidification, 64, 317–318, 342, 387, 535
shrink-wrap, 552, 626, 639, 642	solids bed density, 236–237
sieve	Sollich
chocolate enrober, 385, 388	cooler for enrobing systems, 395–396
chocolate feed tank to temperer, 312	decorating, 394
cocoa powder quality assessment, 68	enrobers, 385–386
microbiological sampling from, 613	stick extruder, 411
monitoring grinding of cocoa nib, 540	tempering machines, 336
removal of foreign materials at intake	tempermeters, 326
points, 600–604	soluble cocoa fibre (SCF), 525
silicates see sand	sorbitan tristearate, 294, 330, 487
silos	sorbitol, 86, 89–92
belt weighers, 563	sorption isotherm, 76–77
cocoa bean storage, 31, 535	soxhlet, 587, 595
fill level recording, 562	soya, 479, 614, 730 see also lecithin
milk crumb storage, 145, 146	*
simulation, 581, 586	soya oil, 178 Spain, 696
	*
sincor, 635	specific heat, 367–368
single-shot depositor, 413, 417	specific surface areas, 236, 267, 290
skim milk powder (SMP)	Spectator, The, 1
bakery and ice cream coatings, 494	spices, 30, 462
chocolate flavour, 128, 207	spinning moulds, 375
chocolate processing and hardness, 111,	Spira®, 418
120, 497	spraying, 128, 253, 485, 501–502
composition, standards & shelf life,	Sri Lanka, 10
115, 118	Staphylococci, 120
compound coatings, 486	starch
refining, 227	biomaterial packaging, 627, 645–646
Skywin, 483	chocolate familiar a la taza, 678, 684
slaked lime, 73–74	chocolate a la taza, 684, 685
slaty beans see cocoa bean, slaty	cocoa beans, 188, 224
slip point, 501	moulded centres, 459
smallholder, 10, 20–21, 43, 44	panned centres, 435, 437
Smarties®, 431, 433	polishing & sealing, 442
smoke off-flavour in cocoa, 5, 25, 42–45,	potential source of Salmonella, 611
190, 241	saccharification of, 82
snacking, 662	static electricity, 638
snap, 314, 349, 490, 551	static mixer, 342, 343, 345
Snickers®, 709	stearic acid (C18), 153, 166, 171–172,
sodium, 114, 648, 693	180, 522

stearin	dust explosions, 77, 79
kokum gurgi oil, 168	grades, 74, 75
lauric CBRs, 177	icing, 75, 79, 80
mango kernel oil, 169	substitutes, 83-98, 232 (see also sugar
milk fat, 117	alcohols)
palm oil, 165	sugar
shea oil, 166, 180	cane, 72, 73
solvent fractionation, 172-173	crystallised, 74–80
stereochemistry of triglycerides, 108, 160	sugar alcohols, 83–98
sterilization, 495, 539	syrup, 442, 459, 505, 603
sterol, 106, 292, 593	transport, 76
stevia, 94, 511, 673	sugar alcohols, 72, 81, 83, 85, 86, 88-94, 98,
stickers	244
product stuck in moulds, 371, 381	sugar bloom, 368, 369, 372, 397, 486, 550,
Self-adhesive, 626	552, 570
stock keeping unit (SKU), 561	sugar storage, 75–77, 79
storage	Sulawesi, 30, 44
chocolate, 466	sulphitation, 73
chocolate chip cookies & biscuits, 504	sulphur, 201
chocolate compounds, 487	sulphur dioxide, 73, 586
chocolate, issue of thickening in tanks,	Sumatra, 44
245, 287	sunflower, 171, 293, 482, 730
cocoa beans, 30, 535, 605, 610	supercoatings, 163, 174–175
containers in production areas, 603	supercompounds, 174
in-line storage systems, 373	supermarket, 668–669
liquid chocolate, 308	surface-active agents, 291, 546 see also
milk crumb, 150	emulsifiers
milk derived materials, 119	surface wetting, 223
packaging, 551	suspension coating, 433
storage tanks, 309, 425, 570, 612	sustainabilty see cocoa bean, sustainability
sugar, 75	sustainable
strecker degradation reactions, 105, 191,	cocoa, 19, 31–34, 489, 656, 729
196, 198, 201	consumer demand, 457
Streptococcus mutans, 87	packaging, 646–648
stress, 78, 217–220, 226	palm oil, 489
suck back, 417	sweatings, 20
sucralose, 94, 672	sweet chocolate, 671, 678, 687, 689, 690
sucrose, 72–81, 140, 203, 226, 506, 522	sweetened condensed milk, 137, 142, 407
sucrose dipalmitate, 294	sweeteners, 72–98, 690
sucrose esters, 294	cariogenic, 89
sucrose-free chocolate, 232, 506, 672	melting point, 95, 96
sufactants, 220, 255, 257, 360, 381 see also	non-cariogenic (tooth friendly), 87, 89, 91
emulsifiers	solubility, 96, 140
sugar, 72–81	sweetening power (also degree of sweetness),
beet, 494	88, 92–93, 507
bloom, 368-369, 372, 397, 486, 550,	Swiss roll, 502
552, 570	Switzerland, 2, 493, 655, 661, 686
brown or raw, 73	
confectionery, 656–658, 673	tagatose, 83, 89, 90, 94
crust coating, 437	tailing, 363, 391, 417