

Index

- absorptiometry *see* colorimetry
 accelerated shelf-life testing, 644
 acesulfam-K, 128
 acetic acid, 459
 in mincemeat, 231
 in vinegar, 461
 in pickles and sauces, 273
 acetyl value, of oils and fats, 627
 acid casein, 532
 acid-insoluble ash, determination, 14
 in flour, 290
 in herbs and spices, 393
 acidity, 15
 in beer, 453
 in butter, 577
 in cheese, 597, 601
 in condensed milk, 563
 in cream, 559
 in dried milk, 567
 in flour, 294
 in fruit juice, 263
 in gelatine, 519
 in honey, 220
 in jam, 227
 in lemon curd, 228
 in milk, 539, 544
 in mincemeat, 231
 in oils and fats, 639
 in spirits, 446
 in tea, 359
 in vinegar, 459
 in wine, 437
 acidity titratable *see* titratable acidity
 acid strengths, 676
 acid value of oils and fats, 639
 acrylonitrile, 169
 additives, 65 *see also* individual classes
 definition, 65
 E numbers, 670
 legislation, 65
 list of, 670
 miscellaneous, 122
 regulations, 667
 toxicological classification, 66
 uncontrolled groups, 129
 adulteration, 3
 of fruit juice, 265
 of lard, 610
 of milk, 542
 aflatoxin, 172
 in peanut butter, 275
 albumin, 532, 540
 albumin ammonia in vinegar, 463
 alcohol, 432
 in beer, 453
 in spirits, 439, 445
 in wine, 435
 alcoholometry, 432
 aldehydes in spirits, 447
 ale, 451
 alkaline oxidation value of vinegar, 464
 allspice, 409
 allyl isothiocyanate, 417
 almond oil, 277, 622
 aluminium
 in beer, 456
 ammonium salts in meat products, 500
 α -Amylase in egg products, 349
 amyloglucosidase, 204
 anabolic substances in meat, 476
 aniseed, 409
 anisidine value, 643
 annatto, 109, 549, 575, 589
 antibiotics, 97
 as preservatives, 97
 in milk, 549
 anti-foaming agents in frying oil, 615
 antithyroid substances in meat, 476
 antioxidants, 98, 638
 detection and determination, 99
 ethoxyquin, 102
 extraction, 100
 general TLC procedure, 100
 legislation, 98
 AOAC, 2
 apple puree, 249
 apricot-kernel oil, 622
 arabinose, 182
 arachis oil, 618
 arsenic, 144

- arsenic—*contd.*
 in beer, 456
 legislation, 144
 methods, 145
- articles in contact with food, 167
 legislation, 168
- artificial sweeteners, 125
- asbestos, 172
- ascorbic acid *see* vitamin C
- ash determination, 2, 13
 dry ashing, 142
 in beer, 455
 in bread, 314
 in butter, 577
 in cheese, 601
 in cocoa, 378
 in condensed milk, 563
 in cream, 559
 in dried milk, 565, 567
 in egg products, 349
 in fish products, 517
 in flour, 288
 in gelatine, 519
 in honey, 218
 in meat products, 498
 in milk, 533, 541
 in milk pudding, 323
 in protein extracts and hydrolysates, 522
 in spices, 393
 in spirits, 446
 in syrups, 212
 in tea, 359
 in vinegar, 462
 in wine, 437
 wet oxidation, 143
- aspartame, 127
- atomic absorption spectrometry, 47
 data for elements, 53
 gas mixtures, 50
 general methods, 162
 instrumentation, 48
 interferences, 51
 practical considerations, 52, 144
- atomic weights, 673
- automatic methods for nitrogen, 18, 19
- autoxidation of oils and fats, 638 *see also* rancidity
- azodicarbonamide, 302
- Babassu oil 616
- bacon *see* cured meat products
- Badcock method for fat, 25
- Bailey-Walker extractor for fat, 23
- baking powder, 337-43
 analysis, 338
 calcium, 342
 carbon dioxide, 339
 cream of tartar, 343
 phosphate, 342
 starch, 342
 sulphate, 342
 tartaric acid, 343
 composition, 337
- legislation, 338
- Banda nutmeg, 419
- Barfoed's reagent, for monosaccharides, 185
- barks, 398
- barley, 383
- basil, 396
- bay leaves, 396
- beans
 canned butter, 250
 in tomato sauce, 257
- beef *see* meat, 469
- beef canned *see* meat products, 477
- beer, 450-68
 analysis, 452
 acidity, 453
 alcohol, 453
 ash, 455
 bitter substances, 455
 carbon dioxide, 453
 chloride, 455
 colour, 456
 extract gravity, 453
 fixed acidity, 453
 flavour components, 456
 original gravity, 453
 preservatives, 456
 sample preparation, 453
 spoilt beer, 457
 tannins, 456
 total solids, 454
 trace elements, 456
 composition, 452
 legislation, 451
 manufacture, 450
 processing aids, 452
- beet sugar, 183, 209 *see also* sucrose
- Bellier test
 for groundnut oil, 618
 for olive residue oil, 619
- benne oil, 621
- benzoic acid, as preservative, 83
 determination of, 84
 direct method, 84
 separation method, 84
 in fruits, 242
 in soft drinks, 269
 tests for, 83
- benzoyl peroxide in flour, 302
- beverages and chocolate, 356-89
- biphenyls, as preservative, 92
 determination of, 93
 tests for, 92
- biscuits, 317
 analysis, 317
 cocoa, 318
 fat, 317
 sugar, 318
 composition, 317, (table) 319
- bitter lemon, orange, 265
- bitter substances, in beer, 455
- Bligh and Dyer method for lipid extraction, 23
- blue value *see* vitamin A

- Bolton extractor for fat, 23
- Bömer index of lard, 609, 611
- boric acid, 82
 - determination of, 82
 - in butter, 577
 - in milk, 547
 - tests for, 82,
- brawn *see* meat products, 477
- brandy, 439
- bread, 313
 - analysis, 313
 - ash, 314
 - B vitamins, 315
 - emulsifiers and stabilisers, 315
 - fibre, 314
 - improvers, 314
 - iron, 315
 - milk in, 316
 - moisture, 314
 - orotic acid, 316
 - phosphate, 315
 - propionic acid, 315
 - protein, 314
 - composition, 311, (table) 312, (table) 316
 - legislation, 312
- bromates, in flour, 301
- brominated vegetable oils, 118
- bromine, 164
- bun loaves, 313
- butter, 575-89 *see also* butter fat
 - analysis, 576
 - boric acid in, 577
 - colouring matter, 577
 - composition, 575
 - diacetyl in, 577
 - fat in, 575
 - examination of, 578
 - legislation, 575
 - microscopy, 588
 - sampling, 576
 - storage effects, 588
 - trace metals, 577
 - vitamins, 575
- butter fat, 578-88
 - adulteration, 588
 - butyric acid in, 586
 - characteristics, 578
 - chromatographic methods, 585
 - composition, 578
 - determination of, by colorimetry, 585
 - examination of, 578
 - fatty acids, 579
 - FFA, 588
 - hydrogenated oils in, 588
 - in ice cream, 604
 - interpretation of GLC data, 586
 - interpretation of RPK data, 583
 - Kirschner value, 580
 - Polenske value, 580
 - rancidity, 588
 - refractive index, 579
 - Reichert value, 580
 - sampling, 578
 - semi-micro RPK, 582
 - sterols in, 588
 - volatile acids in, 580
- buttermilk, 571
- butter oil, 614
 - standards, 614
- buttercream, 313
- butterscotch, 232
- butylated hydroxyanisole, as antioxidant, 99
- butylated hydroxytoluene, as antioxidant, 99
- butyric acid, 586
 - determination, by GLC of free acid, 586
 - in butter, 586
- cadmium, 151
 - methods, 151
- caffeine
 - in coffee, 368
 - in coffee products, 373
 - in cola drinks, 273
 - in tea, 360
- cakes, 317
- calcium, 31
 - determination, 32
 - by atomic absorption spectrometry, 33
 - by flame photometry, 32
 - by precipitation as oxalate, 32
 - in baking powder, 342
 - in flour, 299
 - in foods, (table) 681
 - in gelatine, 519
 - in ice cream, 605
- calorific value, 5,
 - table, 680
- cane sugar, 183, 209 *see also* sucrose
- cans
 - sizes, 247
 - standards of fill, 245
- capers, 401
- capsicum, 407
- caramel, 106
 - in vinegar, 462
- caraway, 412
- carbohydrates *see also* sugars
 - in foods, (table) 680
- carbon dioxide
 - in baking powder, 339
 - in beer, 453
 - in self raising flour, 310
- carbonated drinks, 272
 - sodium bicarbonate in, 272
 - quinine in, 272
- carboxymethyl cellulose, sodium, as emulsifier, 118
- cardamon seed, 421
- carob gum, 112, 602
- carotenes, 645
 - in butter, 575
 - in margarine, 589, 593
 - in oils and fats, 645
- carrageenan, 112

- Carrez, clearing reagents, 297
 Carr-Price method
 for vitamin A, 645
 modified, for vitamin D, 649
 casein
 in ice cream, 605
 in milk, 532
 casein number, 541
 caseinates, 532
 cassia
 bark, 399
 buds, 401
 catty odours, 174
 celery seed, 412
 cellobiose, 184
 cellulose ethers, as emulsifiers, 117
 cereal instant foods, 333
 analysis, 337
 composition, 325
 cereal milk puddings, 323
 analysis, 323
 calculation of composition, 323
 cereals and flour, 283-329
 composition of whole grains, 285
 legislation, 284
 chalk, in flour, 298
 cheese, 595-601
 acidity in, 459, 601
 analysis, 600
 composition, 596, 598, 599
 emulsifying salts in, 601
 fat in, 600
 hexamethylene tetramine in, 91
 histamine in, 597
 legislation, 596
 lipids in, 601
 manufacture, 595
 mould in, 597
 nisin in, 600
 preservatives in, 597
 processed, 596, 601
 salt in, 600, 601
 sampling, 600, 601
 sorbic acid in, 88, 597
 chicory, 363
 in coffee, 366
 chillies, 407
 chloramine-T method for aldose sugars, 199
 chitin, in tomato products, 255
 chloride *see also* salt
 in beer, 455
 in fish products, 517
 in milk, 541
 in protein extracts and hydrolysates, 522
 chlorine, in flour, 302
 chlorine dioxide, in flour, 302
 chocolate, 380
 analysis, 382
 composition, 382
 legislation, 381
 manufacture, 380
 cholecalciferol, 649
 cholesterol, 634
 chromatographic methods *see* instrumental
 methods
 cider and perry, 457
 analysis, 458
 composition, 458
 in wine, 438
 legislation, 457
 manufacture, 457
 vinegar, 459
 cinnamon, 398
 citric acid
 in condensed milk, 563
 in milk, 542
 clearing agents, 190
 Clerget-Hertzfeld method for sucrose, 193
 cloves, 401
 cobalt
 in beer, 456
 cocoa, 374-85
 adulteration, 380
 analysis, 376
 ash, 378
 fat, 378
 microscopy, 376
 shell, 379
 starch, 380
 sugars, 380
 thiobromine, 378
 composition, 375
 in flour confectionery, 318
 legislation, 375
 manufacture, 374
 cocoa butter, 385-7
 analysis, 387
 composition, 386
 legislation, 385
 manufacture, 385
 cocoa butter, equivalents, substitutes, 385, 616,
 636
 coconut, 274
 desiccated, 275
 coconut oil, 616
 codex Alimentarius, 2
 list of standards, 657
 see also individual items for standards
 codes of practice, table, 669
 canned fruit products, 248, 249
 canned vegetables, 251, 252
 fill of cans, 249, 251
 marzipan, 277
 coffee, 362-8
 adulteration, 364
 analysis, 365
 caffeine, 368
 chicory and Figs, 366
 contaminants, 368
 microscopy, 365
 moisture, 365
 composition, 363, 365
 legislation, 362
 manufacture, 362

- coffee products, liquid extracts, 368
 - analysis, 369
 - composition, 368
 - legislation, 368
- coffee products, solid extracts, 370
 - analysis, 370
 - caffeine, 371
 - chicory, 373
 - solvent residue, 373
 - composition, 370
 - legislation, 364
- cola drinks,
 - caffeine in, 273
- collagen, in meat products, 491
- colorimetry, 44-7
 - instrumentation, 44
 - practical considerations, 46
- colostrum, 531, 543
- colour
 - of beer, 456
 - of oils and fats, 625
 - of sugar, 210
- colouring matter, 102-9
 - extraction from foods, 104
 - identification, 103
 - confirmation, 105
 - general methods, 103
 - other methods for water soluble, 106
 - in butter, 577
 - in milk, 549
 - in sugar, 210
 - legislation, 102
 - natural, 109
 - oil soluble, 107
 - quantitative assessment, 106
- column chromatography, 55
- Colza oil, 621
- comminuted drinks, 265, 272 *see also* soft drinks
- composition, nutritional, of foods, tables, 680
- condensed milk, 560-4
 - analysis, 561
 - legislation, 560
 - manufacture, 561
- confectionery,
 - chocolate, 382
 - flour, 317
 - sugar, 232
- contaminants, 140-75
 - regulations and reports, (list), 667
 - surveillance reports (list), 670
- contamination of milk, 542, 548
- conversion factors
 - nitrogen to lean meat, 488
 - nitrogen to protein, 20
- Conway, 18
- cooking fats, 613
- copper, 158
 - determination, 159
 - legislation, 158
 - reduction method for sugars, 195
- coprecipitates, 533
- cordials, 265 *see also* soft drinks
- coriander seed, 412
- corn oil, 618
- corned beef, 484 *see also* cured meat products
- cottonseed oil, 616
- cream, 556-60
 - analysis, 558
 - bacteriology, 559
 - heat treatment, 559
 - imitation, 560
 - legislation, 556
 - reconstituted, 560
 - sour, 569
 - thickeners in, 559
- cream of tartar, in baking powder, 343
- cream powders, 338
- creatinine
 - in meat products, 503
 - in protein extracts and hydrolysates, 522
- creta, 298
- crude fat *see* fat
- crude fibre, 26-8
 - determination, 26
 - in bread, 314
 - in flour, 293
 - in milk pudding, 323
 - in tea, 361
- crude protein, 16
- cryptoxanthin, 645
- cubebs, 405
- cumin, 413
- curd, 595
 - in butter, 576
- curds, fruit, 228 *see also* lemon curd
- cured meat, 482 *see also* meat products
- curry powder, 425
- custard
 - canned, 337
 - powder, 333
- cyclamates, 125
 - in soft drinks, 270
- dairy ice cream, 603
- dairy products, 530-608
- dehydroacetic acid, as preservative, 87
- DE values *see* dextrose equivalent
- demerara sugar, 209
- dextrose 182, 208, 215 *see also* glucose
- dextrose equivalent, 195, 212
- diabetic jams, 222
- diacetyl
 - in butter, 577
 - in margarine, 589
- dietary fibre, 28
 - determination, 29
- diethyl pyrocarbonate, as preservative, 91
 - determination, 92
 - in wine, 438
 - test for, 92
- dill seed, 414
- dimethylpolysiloxane, in frying oils, 615
- formaldehyde in, 90
- diphenylamine, as antioxidant, 102

- direct distillation method for protein, 22
 dirt *see also* filth test
 in milk, 547
 distillation
 of beer, 453
 of spirits, 445
 of vinegar, 464
 of wine, 435
 dolphin oil, 623
 drained weight, 245, 250
 canned fruits, 245
 canned vegetables, 250
 drinks
 carbonated, 272
 soft, 265
 dripping, 612
 drying methods, 10
 dye-binding methods for protein, 21
 in milk, 540
- EC *see* European Economic Community
 edible tallow, 612
 egg products, 346–350
 analysis, 347
 α -amylase, sampling for, 349
 ash, 349
 free fatty acid, 349
 glucose, 349
 incubator rejects, 350
 lipids, 348
 lipid phosphorus, 349
 pH, 350
 protein, 349
 solubility, 350
 total solids, 348
 dried egg, 347
 frozen egg, 347
 legislation and standards, 346
 liquid egg, 346
 eggs, 344–6
 composition, 344
 examination, 345
 incubator rejects, 346
 in lemon curd, 229
 legislation, 344
 egg yolk, in salad cream, 252
 emulsifiers and stabilisers, 110–22
 artificial, identification and estimation, 113
 brominated vegetable oils, 118
 cellulose ether, 117
 glycerol esters, 113
 monostearin sodium sulphacetate, 116
 partial glycerol esters, 114
 partial polyglycerol esters, 115
 polyphosphates, 498
 propylene glycol esters, 116
 sodium carboxymethyl cellulose, 118
 sorbitan esters, 116
 stearyl tartrate, 113
 in bread, 311
 in cheese, 601
 legislation, 110
 natural, general methods, 111
 alginate, 112
 caseinate, 112
 gums, 112
 lecithin, 112
 emulsifying salts, in cheese, 601
 energy in foods, (table), 680
 energy conversion factors, 5
 enzymatic methods, 204
 for glucose/fructose, 205
 for lactose, 206
 for sugars, 204
 equilibrium relative humidity, 12
 ergocalciferol, 649
 ergot in rye flour, 320
 erucic acid, 636
 determination, 638
 in margarine, 592, 638
 legislation, 638
 erythrodil, 619
 essential oils, 392
 esters
 in spirits, 477
 in vinegar, 465
 ethanol, 432
 ether extract *see* fat
 ethoxyquin, as antioxidant, 102
 ethyl maltol, 184
 European Economic Community, (EEC), 5 *see also* specific topics
 Directives and regulations, 662
 evaporated milk *see* milk, condensed
 Ewers method for starch, 296
 extract, 453, 436
 gravity, 453
 in beer, 453
 in wine, 436
 extractives, from articles in contact with food, 168
 extract release volume of meat, 475
 extraneous matter, 38
- FAME, 630
 fat, 22–6
 content of foods (table), 680
 determination, 23
 solubilisation extraction, 24
 solvent extraction, 23
 volumetric methods, 25
 in bread, 313
 in butter, 575
 in cheese, 600
 in cocoa, 378
 in condensed milk, 562
 in cream, 558
 in dried milk, 566
 in egg products, 349
 in fish products, 517
 in flour, 290
 in ice-cream, 604
 in lemon curd, 228
 in meat products, 498

- fat—*contd.*
 - in milk, 537
 - in milk puddings, 323
 - in mincemeat, 231
- fats *see* oils and fats
- fat soluble vitamins, 644–51
 - carotenes, 645
 - cholecalciferol, 649
 - cryptoxanthin, 645
 - ergocalciferol, 649
 - isotachysterols, 649
 - previtamins, 649
 - retinol, 645
 - tocopherols, 650
 - vitamin A, 645
 - vitamin D, 644
 - vitamin E, 650
- fatty acid analysis, 629
 - argentation TLC, 633, 638
 - derivatisation, 630, 632
 - HPLC, 636
 - methyl esters, 630
 - 2-position, 633
 - TLC, 633, 638
 - trans isomers, 633
- fatty acid methyl esters, 630
- fatty acid profile, 620, 629
 - of margarines, 592
 - of milks, 579
 - of oils and fats, 620
- Fearon's test for lactose or maltose, 185
- Fehling's solution, 196
- fennel seed, 414
- fenugreek seed, 421
- fermentation products, 430–67
- fibre *see* crude fibre, dietary fibre
- filled milk, 571
- filled weight of cans, 245
- filth test, 38, 300, 393
- fish, 504–12
 - analysis, 509
 - non-volatile bases, 511
 - sample preparation, 509
 - species identification, 512
 - spoilage assessment, 509
 - trimethylamine, 510
 - volatile nitrogen, 510
 - composition, 505
 - content, 515
 - inspection, 506
 - legislation and standards, 505, 508
 - nitrogen in, 507
 - mercury in, 153
 - methyl mercury in, 155
- fish oils, 623
- fish products, 512–19
 - analysis, 517
 - ash, 517
 - chloride, 517
 - fat, 517
 - fish content, 515
 - mercury in, 153
 - methyl mercury in, 155
 - moisture, 517
 - nitrogen, 517
 - nitrogen factors, 516
 - phosphates, 518
 - composition, 513
 - legislation and standards, 514
 - fish protein, 521
 - fixed acidity
 - in beer, 453
 - in spirits, 446
 - in wine, 437
 - flame emission spectrometry, 47
 - gas mixtures, 50
 - instrumentation, 51
 - interferences, 51
 - practical considerations, 52
 - flame photometry *see* flame emission spectrometry
 - flavour components, of beer, 456
 - flavour enhancers, in protein extracts, 426
 - flavour modifiers,
 - general methods, 125
 - legislation, 124
 - flavoured milk, 435, 451
 - flesh foods, 469–529
 - flour, 283–329
 - additives, permitted in, 286
 - flour analysis, 287
 - acidity, 294
 - ash, 288
 - chalk, 298
 - fat, 290
 - fibre, 293
 - filth test, 300
 - gluten, 292
 - improvers, 300
 - iron, 299
 - maltose, 298
 - moisture, 287
 - pH, 295
 - protein, 290
 - sampling, 287
 - starch, 295
 - vitamins, 303
 - nicotinic acid, 306
 - riboflavin, 309
 - thiamin, 303
 - water solubles, others, 309
 - composition, 285
 - improvers in, 300
 - azodicarbonamide, 302
 - benzoyl peroxide, 302
 - bromates, 301
 - chlorine, 302
 - chlorine dioxide, 302
 - l-cysteine, 302
 - monocalcium phosphate, 301
 - persulphates, 301
 - sulphur dioxide, 302
 - vitamin C, 301
 - legislation and standards, 284, 289

- flour analysis—*contd.***
 self-raising, 310
 available carbon dioxide, 310
 composition, 310
 mineral, 311
 residual carbon dioxide, 310
 sodium bicarbonate, 310
 standards, 310
 total carbon dioxide,
 vitamin B group in, 303
 nicotinic acid, 306
 riboflavin, 309
 thiamin, 303
 water solubles, others, 309
 vitamin C, 301
 vitamin E, 309
flour confectionery, 317–18
 analysis, 317
 cocoa content, 318
 fat, 317
 sugars, 317
 composition, 317
fluorine, 163
folic acid, 309
food additives, 65–139 *see also* additives
 FAO/WHO Joint Expert Committee, 67
Food Additives and Contaminants Committee,
 reports, table, 667
Food and Drugs Act, 4
 regulations, table, 664
food carbohydrates *see* sugars
food, compositional, nutritional, (table), 680
food legislation and standards, 3
Food Standards Committee, 5
Food Surveillance Papers, (table), 670
 reports, 664
foreign bodies, 38
formaldehyde, as preservative, 90
 determination, 91
 in milk, 90
 tests for, 90
formic acid, as preservative, 91
formol titration, 21
 of fruit juices, 263
 of milk, 540
 of vinegar, 463
Foss–Let fat analyser, 23
free fatty acids, (FFA)
 in egg products, 349
 in oils and fats, 639
 in meat, 475
freezants, liquid, 122
 legislation, 122
freezing point of milk, 543–6
 Horvet method, 545
 thermistor cryoscope method, 546
fructose, 182
 determination
 by copper reduction methods, 195–9
 by enzymatic method, 205
 by GLC, 203
 by HPLC, 200
 by polarimetry, 193
 β -Fructosidase, 183, 204
fruit
 cordials, 265
 curds, 228
fruit juices, 259
 adulteration, 265
 analysis, 260
 acidity, 263
 ash, 263
 degree of concentration, 263
 ethanol, 264
 formol titre, 263
 hydroxymethyl furfural, 264
 phosphate, 263
 potassium, 263
 nitrogen, 263
 sugars, 263
 total solids, 263
 vitamin C, 264
 authenticity tests, table, 266
 composition, 261, 262
 legislation and standards, 260
fruit pie fillings, 250
fruit squashes, 265
fruit and vegetable products, 236–82
fruit content
 of jams, 224
 of mincemeat, 231
fruit juice content, of soft drinks, 271
fruits, analysis of, general methods, 237
 pectin, 242
 pentosans, 242
 vitamin C 243
 candied, 259
 canned, 246
 pie filling, 250
 standards of composition for
 fruit cocktail, 249
 fruit salad, 249
 standards of fill for
 drained weight, 245, 248, 249
 syrup strengths, 249
 composition, 236, 238
 crystallised, 259
 frozen, 258
 glace, 236
 spices, 402
 toxins, naturally occurring, 246
 umbelliferous, 409
fruit sugar *see* fructose
frying oils, 615
 anti-foaming agents, 615
 composition, 615
 degradation, 615
 polar compounds, 615
fungicides, post harvest, as preservatives, 92
furfural, in spirits, 448

galactinol, 204
galactose, 182
 β -Galactosidase, 183, 204, 206

- gallates, as antioxidants, 99
 - dodecyl, 101
 - octyl, 101
 - propyl, 101
- garlic, 401
- gas chromatography, 59–63
 - column packings, 60
 - detectors, 61
 - instrumentation, 59
 - of fatty acid esters, 629
 - of sugar alcohols, 204, 224
 - of sugars, 203
 - of triglycerides, 635
 - of vinegar, 465
 - practical considerations, 62
- gelatine, 518–19
 - analysis, 518
 - acidity, 519
 - ash, 519
 - calcium, 519
 - iron, 519
 - jelly strength, 519
 - moisture, 519
 - pH, 519
 - sulphur dioxide, 519
 - trace elements, 519
 - composition, 518
 - in cream, 559
 - in hams, 491
 - in protein hydrolysates, 522
 - legislation, 518
 - manufacture, 518
- gentobiose, 184
- Gerber method for fat, 26
 - amyl alcohol in, 537
 - in cheese, 600
 - in condensed milk, 562
 - in cream, 558
 - in dried milk, 566
 - in ice cream, 604
 - in milk, 537
- ghee, 613
 - characteristics, 614
 - manufacture, 613
 - standards, 614
 - substitutes, 614
- gin, 441
- gingelly oil, 621
- ginger, 422
- globulin, 532
- Glucono- δ -lactone, in meat products, 502
- glucose, 182
 - determination
 - by copper reduction methods, 195–99
 - by enzymatic method, 204
 - by GLC, 203
 - by HPLC, 200
 - by polarimetry, 190
 - in egg products, 349
 - glucose oxidase, 183, 204
 - glucose syrups, 212
 - composition, 213
 - determination of in foods, 214
 - dry matter in, 211
 - high fructose glucose syrups, 214
 - in honey, 219, 221
 - in ice cream, 602, 604
 - in jams, 221, 223
 - in syrups, 212
 - legislation, 208, 214
 - reducing sugars in, 211
 - sulphated ash in, 211
 - uses, 214
 - α -Glucosidase, 183, 204
 - glutamic acid, in meat products, 501
 - gluten, in flour, 292
 - glycerol, in wine, 436
 - glycerol esters, as emulsifiers, 113
 - complete, 113
 - partial, 114
 - goat milk, 535, 554, 579
 - golden raising powder, 338
 - golden syrup, 211
 - Grapeseed oil, 618
 - Griess-Illosvay reaction, for nitrite, 78
 - groundnut oil, 618
 - guanosine-5-disodium phosphate, as flavour modifier, 125, 522
- gum
 - carob bean, 112
 - Irish moss, 112
 - Karay, 112
 - tragacanth, 112
- gums, as stabilisers, 112
- halides, 163
- ham, 482 *see* cured meat products
- herbs, 396
 - mixed, 396
 - products, 425
- herbs and spices, 391–425
 - analysis, 392
 - oxygenated terpenoids, 392
 - terpene hydrocarbons, 392
 - volatile oil, 392
- herring oil, 623
- hexamethylene tetramine, as preservative, 91
- hexokinase, 204
- higher alcohols
 - in spirits, 448
 - in wine, 436
- high fructose, corn syrups *see* high fructose glucose syrups
- high fructose glucose syrups, 212 *see also* under glucose syrups
 - in foods, 214
 - in honey, 216, 219
- high performance liquid chromatography (HPLC), 56–9
 - instrumentation, 56
 - in triglyceride analysis, 636
 - of vitamin A, 647
 - of vitamin D, 650
 - of vitamin E, 651
 - of sugars, 200
 - of sugar alcohols, 224

- (HPLC)—*contd.*
 practical considerations, 58
- histamine,
 in cheese, 597
 in fish, 511
- HMF *see* hydroxymethylfurfuraldehyde
- honey, 215
 analysis, 218
 acidity, 220
 high fructose glucose syrup, 219
 HMF, 218
 invert sugar, 218
 microscopy, 221
 nitrogen, 218
 Pfund colour, 216
 proline, 218
 sampling, 218
 sugars, 220
 total solids, 218
 composition, 216
 legislation, 217
- honeydew honey, 216
- horsemeat, identification, 492
- horseradish, 423
 cream 423
- hortvet, 545
- Howard mould count, 255
- human milk, 579
- hydrolyzed vegetable protein, 521
- 4-hydroxybenzoic acid, as preservative, 85
 determination, 86
 tests for, 85
- 2-hydroxybiphenyl, as preservative, 92
 determination, 93
 tests for, 93
- hydroxyl value, of oils and fats, 627
- hydroxymethylfurfuraldehyde, in honey, 218
- hydroxyproline, in meat products, 500
- hypochlorite, in milk, 548
- hypoxanthine
 in fish, 512
- ice cream, 602
 additives, 602
 analysis, 604
 bacteriology, 605
 composition, 602
 heat treatment, 603
 legislation, 603
 manufacture, 602
 methylene blue test, 605
 overrun, 602, 605
 sampling, 604
 storage, 603
- icing sugar, 209
- ICUMSA, 2
- IFJU, 2
- imitation cream, 560
- immobilised enzymes, 204
- improvers and bleaching agents
 in bread, 311
 in flour, 300
- incubator reject eggs, 346
- indicators, 675
- infant formulae, 571
- infra-red analysers, 22
 for fat, 26
 for milk, 536
 for protein, 22
- inosine-5-disodium phosphate, as flavour
 modifiers, 125, 522
- insoluble solids, in jams, 224
- instant coffee, 370
 analysis, 370
 composition, 370
 legislation, 364
- instant tea, 362
- instrumental methods, 43-63
 chromatographic, 52-63
 column chromatography, 55
 gas chromatography, 59
 high performance liquid chromatography, 56
 liquid chromatography, 53
 paper and thin-layer chromatography, 54
 spectroanalytical, 43-52
 atomic absorption spectrometry, 47
 plasma emission spectrometry, 47
 spectrophotometry, 44
- inversion of sucrose, 183, 197
- invertase, 183, 204
- invert sugar, 183, 194 *see also* standard invert
 sugar solution
 in honey, 218
- iodine, 165
- iodine value, 626
 of lard, 610
 of oils and fats, 626
 of vinegar, 465
- iodised salt, 426, 427
- iodophors, in milk, 548
- iron
 in flour, 299
 in foods, (table), 681
 in gelatine, 519
- ISO, 2
- isoglucose *see* high fructose glucose syrups
- isomaltose, 184
- iso-oleic acid,
 in lard, 611
 in butter, 588
- isotachysterols *see* Sterols
- IUPAC, 2
- jam, 221-8
 analysis, 223
 acidity, 227
 colouring matter, 228
 insoluble solids, 224
 pectin, 226
 phosphorus, 226
 potassium, 226
 preservatives, 227
 seed count, 226
 soluble solids, 223

- jam—*contd.*
 sorbitol, 224
 sugars, 223
 diabetic jam, 222
 fruit content, 224
 jelly jam, 222
 legislation, 222
 manufacture, 221
 jelly jam *see* jam
 jelly strength, of gelatine, 519
 juice, fruit, 259
- Karaya gum, 112
 Karl Fischer moisture method, 10
 kefir, kephir, 571
 kidney *see* meat, 469
 Kirschner value, of butter fat, 580
 semi-micro method, 582
 Kjeldahl procedure for nitrogen, 17
 automatic methods, 18, 19
 Kjeltex system, 18
 macro-Kjeldahl, 17
 semi-micro method, 18
 Kjeltex system for nitrogen, 18
 koumiss, kumiss, 571
 Kreis test for oils and fats, 641
 K value *see* dextrose equivalent
- labelling, 5 *see also* specific items
 lactic acid
 in cheese, 597, 601
 in milk, 533, 540
 lactose, 183
 determination
 by copper reduction methods, 195
 by enzymatic method, 204, 206
 by GLC, 203
 by HPLC, 200
 by iodimetry, 199
 by polarimetry, 190
 by titrimetry, 199
 in butter, 577
 in condensed milk, 563
 in cream, 558
 in dried milk, 567
 in ice cream, 604
 in milk, 530, 542
 laevoglucosan, 184, 214
 laevulose *see* fructose
 lager, 451
 lamb *see* meat, 469
 Lane and Eynon titration, 196
 lard, 609–12
 adulterants, 611
 analysis, 610
 composition, 610
 legislation, 609
 standards, 609
 substitutes, 611
 lead, 148
 analysis for, 149
 destruction of organic matter, 149
 legislation, 148
 lead number, of jams, 226
 lecithin, 564, 567, 589, 602
 legislation, 3
 lemon curd, 228
 analysis, 228
 legislation, 228
 levoglucosan, 184
 lipid *see* fat
 liquid chromatography, 53
 liquid coffee products, 368
 analysis, 369
 caffeine, 369
 sugar, 369
 composition, 368
 legislation, 364
 liquid glucose *see* glucose syrups
 liver *see* meat, 469
 Luff–Schoorl method, for reducing sugars, 198
- mace, 419
 macedoine
 of vegetables, 252
 maize, 284
 maize oil, 618
 malt, 442, 450
 vinegar, 458
 maltase, 183, 204
 malto-dextrin, 212
 maltol, 184
 maltose, 183
 in flour, 298
 maltotriose, 184
 mannitol, 224
 determination
 by enzymatic method, 224
 by GLC, 204
 in jams, 224
 mannose, 183
 margarine, 589–95
 analysis, 590
 composition, 589, 591
 emulsifiers, 590
 erucic acid in, 590, 636
 fatty acid profiles, 591
 legislation, 590
 lipids in, 592
 polyunsaturated fatty acids, in, 592
 sterols in, 589, 592
 trans fatty acids in, 593
 vitamins in, 590, 593
 marjoram, 396
 wild, 397
 marine oils, 623
 marmalade, 221 *see also* jam
 marzipan, 277
 mayonnaise, 351
 meat, 469–77
 analysis, 474
 anabolic substances, 476
 antithyroid substances, 471
 chloramphenicol, 477

- meat—*contd.***
- extract release volume, 475
 - free fatty acid, 475
 - meat content, 487
 - peroxide value, 475
 - preservatives, 477
 - sample preparation, 474
 - speciation, 492
 - spoilage assessment, 474
 - sulphonamides, 477
 - thiobarbituric acid value, 475
 - thiouracil, 476
 - trenbolone acetate, 476
 - zeranol, 476
 - volatile nitrogen, 474
- composition, 470
- content, 487
- cured, 482
- extract, 519
- identification, 492
- legislation, 472
- pastes and spreads, 480
- pies, 480
- preservation, 477
- products, 477
- meat, cured, 482**
- additives in, 485
 - composition, 484
 - legislation and standards, 483, 484
 - manufacture, 482
- meat, extract, 519**
- analysis, 521
 - ash, 522
 - chloride, 522
 - creatine and creatinine, 522
 - gelatine, 522
 - nitrogen, 522
 - purines, 522
 - water, 522
 - composition, 520
 - manufacture, 519
- meat products, 477–504**
- analysis, 497
 - added protein ingredients, 493
 - added water, 479
 - ammonium salts, 500
 - ascorbic acid, 500
 - ash, 498
 - creatinine, 503
 - fat, 498
 - glucono-delta-lactone, 502
 - glutamic acid, 501
 - hydroxyproline, 500
 - meat content, 488
 - mechanically recovered, 470
 - moisture, 498
 - nitrate and nitrite, 500
 - nitrogen, 499
 - nitrogen factors, 488
 - pH, 503
 - phosphate and polyphosphate, 498
 - salt, 498
 - sample preparation, 497
 - species identification, 492
 - soya protein, 496
 - starch, 499
 - sulphur dioxide, 500
 - water activity, 504
 - composition, 477
 - definitions, 478
 - hydroxyproline content, 491
 - legislation, 478
 - meat content, 479, 481
 - name of foods, 479
 - offals in, 481
 - protein ingredients, 482
 - sausages, 486
- melibiose, 204**
- mercury, 152**
- in fish, 153
 - methylmercury compounds, 155
 - in fish, 155
- metals, in vinegar, 462**
- methanol**
- in spirits, 446
 - in wine, 436
- methylene blue reduction test, 551**
- for ice cream, 605
 - for milk, 551
- microscopy, 394**
- of butter and margarine, 588
 - of cocoa, 376
 - of coffee, 365
 - of dried milk, 568
 - of herbs and spices, 394–424
 - of starches, 331, 334–6
 - of tea, 358
 - of tomato products, 255
- milk, 530–56**
- acidity, 533, 539, 544
 - added water, 542, 546
 - adulteration, 542
 - albumin in, 532, 543
 - analysis, 535
 - acidity, 539
 - ash, 541
 - chloride, 541
 - citric acid, 542
 - fat, 537
 - lactose, 542
 - nitrogen, 540
 - protein, 540
 - solids non-fat, 536
 - total solids, 537
 - antibiotics in, 549
 - bacteriological examination, 555
 - boric acid in, 547
 - casein in, 532
 - casein nitrogen, 541
 - casein number, 541
 - chloride in, 541
 - chloride-sugar number, 541
 - citric acid in, 530, 542
 - colostrum, 531, 543
 - colouring matter in, 549

- milk—*contd.*
 composition, 530
 condensed, 560–4
 analysis, 561
 legislation, 560
 manufacture, 561
 contaminants, 542, 548
 cultured, 568
 density, 536
 dirt in, 547
 dried, 564–8
 analysis, 566
 bulk density, 568
 burnt particles, 568
 composition, 566
 legislation, 565
 manufacture, 564
 scorched particles, 568
 solubility, 567
 vitamins in, 567
 dye-binding, 540
 evaporated *see* milk, condensed
 factors affecting composition, 531
 fat, 530, 537 *see* butter fat
 fatty acids, 620
 filled, 574
 flavoured, 535, 549
 formol titration, 540
 formaldehyde in, 547
 freezing point, 543–6
 globulin in, 532
 heat treatment, 534, 550
 hydrometer, 536
 hypochlorites in, 548
 infra-red analyser, 536
 iodophors in, 548
 lactic acid in, 533, 540
 lactometer, 536
 lactose in, 530, 542
 lactulose, 542, 550
 legislation, 534
 lipids, 579
 methylene blue reduction test, 551
 mineral matter, 533
 non-fatty-solids *see* solids-not-fat
 penicillin in, 549
 pH, 533
 phosphatase test, 553
 phospholipids, 532
 powder *see* milk, dried
 preservatives, 547
 protein, 540
 proteins, 532
 quaternary ammonium compounds in, 548
 Recknagel's phenomenon, 536
 resazurin test, 552
 Richmond's formula, 536
 sample preparation, 535
 skimmed, 534
 skimmed with non-milk fat, 571
 solids-not-fat, 530, 537
 specific gravity, 536
 standards, 534
 storage of samples, 547, 550
 sucrose in, 549
 total solids in, 530, 537
 turbidity test, 554
 Vieth's ratio, 533
 milk, Channel Island, 534
 milk pasteurised, 534, 550, 553
 milk puddings, 323–5
 analysis, 323
 calculation of composition, 323
 milk solids-not-fat, 537
 in bread, 316
 in butter, 576
 in ice cream, 603, 604
 milk, sour
 fat in, 538
 milk, South Devon, 534
 milk (Special Designation) Regulations, 534
 milk, sterilised, 534, 554
 milk sugar *see* lactose
 milk, UHT, 534, 550, 555
 milk, untreated, 534, 551
 mincemeat, 230
 analysis, 231
 legislation, 231
 mineral hydrocarbons, 123
 general methods, 123
 legislation, 123
 minerals, recommended daily allowances, 6
 mint, 396
 miscellaneous additives, 122
 legislation, 122
 Mohr titration, for chloride, 14
 moisture, 1, 9
 determination, 10
 chemical methods, 10
 distillation methods, 10
 drying methods, 10
 instrumental methods, 11
 in bread, 314
 in butter, 576
 in cereal products, 337
 in cheese, 600
 in cocoa, 378
 in coffee, 365
 in dried milk, 566
 in fish products, 517
 in flour, 287
 in foods, (table), 681
 in gelatine, 519
 in ice cream, 604
 in instant foods, 337
 in lard, 610, 624
 in meat products, 498
 in milk puddings, 323
 in oils and fats, 624
 in protein extracts, 522
 in spices, 393
 in syrups, 211
 in tea, 359
 Mojonnier tubes, 25, 538

- molasses, 211
- Molisch's test, for carbohydrates, 184
- molybdenum blue method for phosphate, 37
- monocalcium phosphate, in flour, 301
- monoglycerides, in margarine, 590
- monosodium glutamate, (MSG), 522, *see also*
 - sodium hydrogen glutamate
- monostearin sodium sulphacetate, as emulsifier, 116
- mould
 - count, 255
 - in cheese, 597
 - mycotoxins, 172
 - sampling for, 173
- mousse, 602
- mustard, 415-19
 - allyl isothiocyanate, 417
 - compound, 416
 - fixed oil, 416
 - prepared, 416
 - seed, 415
 - seed oil, 622
 - starch in, 418
- mutarotation, 190
- mycotoxins, 172, 275
 - in nut products, 275
- NAD, NADP, NADPH, 204
- natural colours, 109
- nordihydroguaracetic acid, as antioxidant, 100
- neohesperidose, 184
- neokestose, 184, 194
- niacin *see* nicotinic acid
- nicotinic acid, in flour, 306
 - in foods, (table), 681
- nisin, 98
 - in cheese, 597, 600
- nitrate, 75
 - determination, 79
 - extraction methods, 77
 - in cheese, 601
 - in meat products, 500
- nitrite, 77
 - determination, 77
 - extraction methods, 77
 - in cheese, 601
 - in meat products, 500
- nitrogen, 16
 - determination, 17-21
 - automatic methods, 18, 19
 - factors, 20
 - Kjeldahl procedures, 17
 - Kjeltec system, 18
 - radiochemical methods, 20
 - in fish products, 517
 - in honey, 217, 218
 - in meat products, 499
 - in protein hydrolysates, 522
 - in vinegar, 462
- nitrogen to protein conversion factors, 20
- nitrosamines, 171
- non-fat solids, in cocoa, 378 *see also* solids-not-fat
- non-starch polysaccharides, 28
- novel proteins, 482
- nutmeg, 419
- nut oil, 618
- nutrition
 - evaluation, 5
 - factors for energy calculations, 5
 - food composition tables, 680
- nuts, 274
 - composition, 272
 - peanut butter, 275
 - composition, 275
 - mycotoxins in, 275
- oats, 283
- obscuration, of spirits, 445
- offals *see also* meat, 469
- oil, 22 *see also* fat
 - in flour, 290
 - in flour confectionery, 317
 - in salad cream, 351
 - volatile, in herbs, 393
 - volatile, in spices, 393
- oils and fats, 609
 - accelerated shelf life testing, 644
 - acetyl value, 627
 - acid value, 639
 - analysis, 623-38
 - composition methods, 629
 - general methods, 623
 - antioxidants, 98, 638
 - autoxidation, 638
 - colour, 625
 - degradation, 638
 - derivatisation, 630, 632
 - dilatation, 624
 - erucic acid in, 636
 - FAME, 630
 - fatty acid composition of, 620
 - fatty acid profile, 629
 - free fatty acids, 639
 - HPLC, 635, 636
 - hydroxyl value, 627
 - iodine value, 626
 - Kreis test, 641
 - melting point, 624
 - p-anisidine value, 643
 - peroxide value, 640
 - polyunsaturated fatty acids, 632
 - 2-position fatty acids, 633
 - PUFA, 632
 - rancidity, 638
 - rancidity index, 641
 - sampling, 623
 - saponification value, 627
 - slip point, 624
 - solid-liquid ratio, 624
 - stability tests, 644
 - sterols in, 634
 - thiobarbituric acid number, 642
 - titre, 625
 - TLC, 633, 638
 - trans fatty acid isomers in, 633

- oils and fats—*contd.*
 triglycerides, 635
 ultraviolet absorption, 643
 unsaponifiable matter, 628
 vitamins, 644
- oils, edible vegetable brominated, 118
- olive oil, 618
 Bellier test for residue oil, 619
 erithrodioi, 619
 legislation, 619
 standards, 619
 Vizern test for residue oils, 619
- onion, 401
- optical rotation of sugars, 190
- orange juice *see* fruit juices
- organic matter, destruction, 142, 145, 149
- origanum, 397
- original gravity, of beer, 453
- orotic acid, in bread, 316
- overrun, in ice cream, 602, 605
- oxidative rancidity in oils and fats, 638 *see also*
 rancidity
- palm oil, 621
- palm kernel oil, 616
- panose, 184
- paper chromatography, 54
 of colouring matter, 104
 of sugars, 185
- paprika, 407
- para-anisidine value, 643
- parachlorobenzoic acid, as preservative, 87
- parsley, 397
- partially hydrogenated fish oils, 589, 623
- pasta, 319
- peach-kernel oil, 622
- peanut, 272
 butter, 275
 oil, 618
- pearl barley, 321
- peas
 description of grades, 252
 processed, 250
- pectin
 in fruits and vegetables, 242
 in jams, 226
- penicillin, in milk, 549
- pentosans
 in fruits and vegetables, 242
- pepper, 402
 adulterated, 406
 cayenne, 407
 Jamaica, 409
 red, 407
- permanganate time, of spirits, 450
- peroxide value, 640
 in meat, 475
 of oils and fats, 640
- perry
 analysis, 458
 composition, 458
 legislation, 457
 manufacture, 457
- persulphates, in flour, 301
- pesticides, 165
- petrol extract, in tea, 361
- pH, 15
 buffers, 16
 measurement, 15
 of egg products, 350
 of flour, 295
 of gelatine, 519
 of meat products, 503
 of milk, 533
- phosphatase, test for milk, 553
- phosphate, 36-8
 determination, 36
 titrimetric methods, 36
 vanado-molybdate method, 37
 molybdenum blue method, 37
 in baking powder, 342
 in bread, 315
 in fish products, 518
 in fruit juices, 263
 in jam, 224, 226
 in meat products, 498
 in vinegar, 462
- phospholipids, 23, 229, 349, 352
- phosphorus *see* phosphates
- pickles and sauces, 273
- pie, fruit fillings, 250
- pimento, 409
- pimiento, 407
- plasma emission spectrometry, 47
- polarimetry, 190-5
- polydimethyl siloxane, 615
- polenske value, of buffer fat, 580
- semi-micro method, 582
- polyglycerol esters, as emulsifiers, 115, 116
- polynuclear hydrocarbons, 170
- pomace oil, 619
- pork *see* meat, 469
- potassium, 34
 determination, 34
 by flame photometry, 35
 in fruit juices, 263
 in jam, 224, 226
 in foods, 34
 in soft drinks, 268
- potato *see* vegetables
- poultry *see* meat
- preservatives, 68-98
 antibiotics, 97
 benzoic acid, 83
 biphenyl, 92
 boric acid, 82
 dehydroacetic acid, 87
 diethylpyrocarbonate, 91
 formaldehyde, 90
 formic acid, 91
 4-hydroxybenzoates, 85
 hexamethylene tetramine, 91
 hydrogen peroxide, 97
 in beer, 456

preservatives—*contd.*

- in jam, 227
- in meat, 477
- in milk, 547
- in vinegar, 462
- inorganic, 68
- legislation, 68
- nisin, 98
- nitrate, 75
- nitrites, 75
- organic, 83
- parabens, 85
- parachlorobenzoic acid, 87
- post harvest fungicides, 92
- propionic acid, 88
- regulations, 68
- salicylic acid, 87
- sorbic acid, 88
- sulphur dioxide, 69
- thiabendazole, 95
- thiourea, 96
- 2-hydroxybiphenyl, 93
- preserves *see* jam
- provitamins *see* vitamin D
- propionic acid, as preservative, 88
- propylene glycol esters, as emulsifiers, 116
- protein, 1, 16, 21
 - determination, 21
 - colorimetric, 21
 - direct distillation, 21
 - dye-binding, 21
 - formol titration, 21
 - infra-red, 22
 - in bread, 314
 - in cheese, 601
 - in condensed milk, 563
 - in cream, 558
 - in dried milk, 567
 - in egg products, 349
 - in flour, 290
 - in ice cream, 604
 - in meat products, 488
 - in milk, 540
 - in milk puddings, 323
- protein extracts and hydrolysates, 519–22
 - analysis, 521
 - ash, 522
 - chloride, 522
 - creatine and creatinine, 522
 - flavour enhancers, 522
 - gelatine, 522
 - nitrogen, 522
 - purines, 522
 - sampling, 522
 - water, 522
 - fish protein, 521
 - hydrolysed vegetable protein, 521
 - meat extract, 519
 - yeast extract, 520
- proteins, novel, 482
- PUFA, 632
- purines, in protein hydrolysates, 522

purity *see* filth test

- PVC, 167
- quaternary ammonium compounds, in milk, 548
- quinine
 - in bitter lemon, 272
 - in tonic water, 272
- radiochemical methods for nitrogen, 20
- raffinose, 185, 194
 - enzymatic method, 204
 - GLC, 210
 - polarimetric method, 194
 - TLC, 210
- rancidity in oils and fats, 638
 - acid value, 639
 - free fatty acids, 639
 - index, 641
 - Kreis test, 641
 - para-anisidine value, 643
 - peroxide value, 640
 - TBA, 642
 - thiobarbituric acid number, 642
 - ultra-violet absorption, 643
- rapeseed oil, 621
 - erucic acid in, 636
- recommended daily allowances, (RDA), 6, 7
- Rechnagel's phenomenon, 536
- reconstituted cream, 560
- reducing sugars, 185, 195
 - in jams, 223
 - in honey, 220
 - in sucrose, 210
 - in sugar products, 211
- refractometry, 187
 - of sugar solutions, 188
- regulations, 664 *et seq*
- Reichert value, of butter fat, 580
 - semi-micro method, 582
- relative density
 - of vinegar, 461
 - of wine, 434
- relative humidity, 12
- relative sweetness, 184
- rennet, 595
- rennet casein, 532
- resazurin test for milk, 552
- resistant starch, 29
- retinol, 645
- rhamnose, 184
- rhizomes, 422
- riboflavin, in flour, 309
 - in foods, (table), 681
- rice, 284, 322
 - talc in, 323
- Richmond's formula, 536
- roots, 422
- Rose-Gottlieb method for fat, 25
 - in condensed milk, 562
 - in cream, 558
 - in dried milk, 566
 - in milk, 537
- rosemary, 397

- roughage *see* dietary fibre
 Rubner's test for lactose or maltose, 185
 rum, 442
 rye, 283
 rye flour, 320
- saccharin, 126
 in soft drinks, 269
 tablets, 127
 saccharimeters, 191
 saccharose *see* sucrose
 safflower oil, 622
 saffron, 402
 sage, 397
 Mexican, 397
 salad cream, 351
 analysis, 352
 egg yolk solids, 352
 oil, 352
 trace elements, 353
 composition, 351
 legislation, 351
 salad oils, 616
 Sale of Food Act 1875, 4
 salicylic acid, as preservative, 87
 tests for, 87
 salt, 14, 426
 analysis, 427
 celery, 412
 determination, 14
 in butter, 575, 576
 in cheese, 601
 iodised, 426
 standards, 426
 sample preparation, Sampling, 8
 butter, 576
 butter fat, 578
 cheese, 600, 601
 condensed milk, 562
 homogenisers and blenders, 8
 ice cream, 604
 milk, 535
 of beer, 453
 of egg products, 349
 of fish, 509
 of flour, 289
 of meat, 474
 of meat extracts, 522
 of meat products, 497
 of milk pudding, 323
 of protein hydrolysates, 522
 of soft drinks, 269
 of tea, 358
 saponification value, of oils and fats, 627
 sarsol oil, 621
 sauces, 273
 sausages, 486
 composition, 486
 legislation, 487
 savory, 397
 SBR method for fat, 24
 seasoning, extracts, 425
- selenium, 160
 self-raising flour, 310 *see also* flour
 semi-micro Kjeldahl method, 18
 sesame oil, 621
 shandy, 457
 sheep milk, 535
 shell, in cocoa, 379
 shortenings *see* cooking fats
 shredded suet *see* suet
 silicones, 615
 skimmed milk, 535
 with non-milk fat, 571
 skimmed milk powder, 535
 smoke point, 615
 soda water, 272
 sodium, 35
 determination, 35
 by flame photometry, 36
 in foods, (table), 681
 sodium alginate, 112
 sodium caseinate, 112, 532
 sodium chloride, 14 *see also* salt
 determination, 14
 mohr method, 14
 potentiometric titration, 15
 volhard method, 14
 sodium hydrogen glutamate, (MSG) as flavour
 modifier, 522, *see also* monosodium
 glutamate
 sodium ribonucleotide, as flavour modifier, 522
 soft drinks, 265
 analysis, 268
 carbonated, 272
 comminuted, 272
 fruit juice content, 271
 legislation, 266
 saccharin in, 269
 sampling, 269
 sweeteners in, 269
 soft-scoop ice-cream, 603
 solid coffee extracts, 370
 analysis, 370
 composition, 370
 legislation, 364
 solid-liquid ratio in oils and fats, 624
 solids-not-fat
 in cocoa, 378
 in milk, 530, 537
 solubility
 of dried milk, 567
 of sugar, 210
 solubility index
 of dried egg, 350
 of dried milk, 567
 soluble solids in jams, 223
 solvent extraction *see* fat
 solvents
 for spectrophotometry, 46
 general methods, 122
 legislation, 120
 Somogyi semi-micro method, for reducing
 sugars, 195

- sorbic acid
 - as preservative, 88
 - determination of, 89
 - in cheese, 88, 597
 - in wine, 438
- sorbitan esters, as emulsifiers, 116
- sorbitol, 128, 224
 - determination
 - by enzymatic method, 224
 - by GLC, 224
 - in jams, 224
- sour cream, 569
- Soxhlet extractor, 23
- Soxhlet modification of Fehling's solution, 196
- soya meal, 321
 - flour, composition, 322
- soya products
 - in meat products, 496
- soya bean oil, 621
- spans, as emulsifiers, 116
- specific rotation of sugars, 191
- spectroanalytical methods *see* instrumental methods
- spectrophotometry, 44-7
 - instrumentation, 44
 - practical considerations, 46
- spiced vinegar, 459
- spices, 391
 - ground, mixed, 425
 - pickling, 425
- spirits, 438-50
 - analysis, 444
 - acidity, 446
 - alcohol, 445
 - ash, 446
 - esters, 447
 - extract, 446
 - fixed acidity, 446
 - furfural, 448
 - higher alcohols, 448
 - methanol, 446
 - permanganate time, 450
 - stability, 450
 - tannins, 450
 - total acidity, 446
 - total aldehyde, 447
 - volatile acidity, 446
 - composition of, 439
 - brandy, 439
 - gin, 441
 - rum, 442
 - vodka, 442
 - whisky, 442
 - legislation, 439
 - manufacture, 438
 - vinegar, 459
- spoilage assessment
 - of fish, 509
 - of meat, 474
- squashes, fruit, 265
- stability, of spirits, 450
- stability tests for oils and fats, 664
- stachyose, 184, 204
- stalk, in tea, 361
- standard invert sugar solution, 196
- starch, 184, 330
 - composition, 330
 - determination
 - enzymatic method, 204
 - Ewers polarimetric method, 296
 - in baking powder, 342
 - in cocoa, 380
 - in flour, 295
 - in lemon curd, 230
 - in meat products, 499
 - in milk pudding, 323
 - microscopy, 331, 334-6
 - modified, 332
 - properties, 330
 - uses, 331
- starch products, 330-3
- stearyl tartrate as emulsifier, 113
- sterols in oils and fats, 634
 - in butter fat, 588
 - in lard, 610
 - in margarine, 589, 592
 - isotachysterols, 650
 - vitamin D, 649
- stout, 451
- Stubbs and More, 489
- stuffing, herbal, 425
- sucrose, 183, 209
 - analysis, 210
 - Clerget-Hertzfeld polarimetric method, 193
 - cube sugar, 209
 - demarara sugar, 209
 - granulated sugar, 209
 - icing sugar, 209
 - in condensed milk, 562
 - in cream, 558
 - in honey, 220
 - in ice cream, 604
 - in milk, 549
 - inversion of, 197
 - Lane and Eynon titration, 196
 - legislation, 207
 - standards, 208
- suet, 612
 - analysis, 613
 - legislation, 612
- sugar *see* sucrose
- sugar alcohols *see* sorbitol, mannitol, xylitol
- sugar confectionery, 232
- sugar products, 211
 - analysis, 211
 - dry matter in, 211
 - reducing sugars in, 211
 - sulphated ash in, 211
- sugar refining, 209
- sugars, 1, 182-215
 - clearing agents, 190
 - detection, 184
 - Barfoed's reagent, 185
 - Fearon's test, 185
 - Fehling's solution, 195-9

- sugars—*contd.*
- GLC, 203
 - HPLC, 200
 - Molisch's test, 184
 - paper chromatography, 185
 - Rubner's test, 185
 - TLC, 186
- determination, 187
- automatic methods, 199
 - chemical methods, 199
 - colorimetric methods, 199
 - copper reduction, 195
 - enzymatic methods, 204
 - GLC, 203
 - gravimetry, 195
 - HPLC, 200
 - hydrometry, 187
 - ion chromatography, 202
 - polarimetry, 190
 - refractometry, 187
 - Somogyi semi-micro method, 195
- dextrose equivalent, 195
- Fehling's solution, 196
- in cocoa, 380
 - in coffee products, 369
 - in condensed milk, 562
 - in flour confectionery, 317
 - in honey, 218
 - in ice-cream, 604
 - in jams, 223
 - in milk pudding, 323
 - in syrups, 212
 - in wine, 436
- Lane and Eynon titration, 196
- legislation, 198, 207
- Luff-Schoorl method, 198
- minor sugars, 184
- Munson and Walker method, 195
- polarimeters, 191
- refining, 209
- saccharimeters, 191
- standards, 207
- sweetness, 184
- sulphate, in baking powder, 342
- sulphated ash, 14
- determination in sugar, 210
- sulphur dioxide, as preservative, 69
- sulphur dioxide, determination of, 69
- free, 70
 - total, 71
 - direct methods, 72
 - electrochemical methods, 74
 - indirect methods, 72
 - Tanner method, 73
- sulphur dioxide, in flour, 302
- sulphur dioxide, in gelatine, 519
- sulphur dioxide, in meat products, 500
- sulphur dioxide, in wine, 439
- sulphur dioxide, tests for, 70
- sunflower oil, 622
- surveillance, food reports, 670
- sweeteners, 125
- general methods, 127
 - legislation, 126
- sweetening tablets, 127
- sweetness of sugars, 184
- syrup, 211
- syrup strength, canned fruits, 249
- 2-position fatty acids, 633
- taints, 174
- talc
- in rice, 323
- tallow, edible, 612
- tannin
- in beer, 456
 - in spirits, 450
 - in tea, 361
- tarragon, 397
- tartaric acid
- in baking powder, 343
 - in wine, 437
- tea, 356-62
- adulteration, 358
 - analysis, 358
 - ash, 359
 - caffeine, 360
 - fibre, 361
 - lead, 358
 - methylene chloride, 361
 - microscopy, 358
 - moisture, 359
 - organoleptic, 358
 - petrol extract, 361
 - sample preparation, 358
 - stalk, 361
 - tannin, 361
 - water extract, 361
 - water soluble ash, 359
- composition, 357
- international standards, 357
- instant, 362
- legislation, 356
- manufacture, 356
- theobromine, in cocoa, 378
- thiabenzazole, as preservative, 95
- determination of, 95
- thiamin(e)
- in flour, 303
 - in foods, (table), 681
- thickeners, in cream, 559
- thin-layer chromatography, 54
- of artificial sweeteners, 127
 - of fatty acids, 633, 638
 - of food colours, 107
 - of sugars, 186
 - of sugar alcohols, 224
- thiobarbituric acid number, (TBA), 642
- in oils and fats, 642
- thiourea, as preservative, 96
- determination of, 97
 - test for, 96
- thyme, 398
- till oil, 621

- tin, 156
 determination, 156
 recommended limits for, 156
- titratable acidity, 15
 in butter, 577
 in milk, 539
- titre, of oils and fats, 625
- tocopherols *see* vitamin E
- tomato ketchup, 256
 analysis, 257
 general quality, 257
 tomato solids in, 257
 composition, 257
 legal requirements, 256
- tomato puree, paste and powder, 253
 analysis, 254
 acidity, 254
 ash and salt, 254
 colour, 254
 chitin, 256
 Howard mould count, 256
 insoluble solids, 254
 preservatives, 254
 sugars, 254
 tomato content, 254
 total solids, 254
 trace elements, 254
- toria oil, 621
- total acidity
 in spirits, 446
 in vinegar, 461
 in wine, 437
- total aldehyde, in spirits, 447
- total ash, 13
- total solids
 in beer, 454
 in condensed milk, 562
 in cream, 558
 in egg products, 348
 in honey, 218
 in milk, 530, 537
 in syrups, 211
 in tomato puree, 254
 in vinegar, 461
- total volatile bases in fish, 510
- trace elements, 141
 analysis, general methods, 142, 162
 dry ashing for, 142
 sample preparation, 141
 wet oxidation for, 143
 atomic absorption spectrometry, 144
- trans-fatty acids, 633
 in margarine, 593
- treacle, 211
- trehalose, 184
- triglyceride analysis, 635
 by GLC, 636
 by HPLC, 636, 637
 by TLC, 636
- triglyceride structure, of oils and fats, 634, 635, 637
- trimethylamine, in fish, 510
- TTC test for penicillin in milk, 549
- turmeric, 109, 423, 575
- turbidity test for sterilised milk, 554
- tweens, as emulsifiers, 116
- ultra-violet absorption, in oils and fats, 634
- umbelliferous fruits, 409
 identification, 414
- unsaponifiable matter, in oils and fats, 628
 vitamin A in, 645
 vitamin D in, 649
 vitamin E in, 650
- vanado-molybdate method for phosphate, 37
- Van Gulik butyrometers, 26
- vanillin, in instant foods, 337
- vegetables, 237
 analysis, general methods, 237
 canned, 245
 can sizes and standards of fill, 245, 250
 drained weights, 252
 composition, 240
 frozen, 258
- Ventzke *see* saccharimeters
- Vieth's ratio, 533
- vinegar, 458-64
 analysis, 460
 albumin ammonia, 463
 alkaline oxidation value, 464
 ash, 462
 caramel, 462
 chemical characterisation, 463
 differentiation between types, 462
 distillate character, 464
 distillation, 464
 ester value, 465
 formol titre, 463
 gas chromatography, 465
 iodine value, 465
 metals, 462
 mineral acid, 462
 nitrogen, 462
 organoleptic examination, 460
 phosphate, 462
 preservatives, 462
 relative density, 461
 total acidity, 461
 total solids, 461
 volatile acidity, 461
 compositional standards, 460
 manufacture, 458
 cider vinegar, 459
 concentrated acetic acid, 460
 distilled malt vinegar, 459
 non-brewed condiment, 459
 spiced vinegar, 459
 spirit vinegar, 459
 wine vinegar, 459
- vinyl chloride, 169
- vitamin A, 645
 blue value, 645
 Carr-Price method, 645

- vitamin A—*contd.*
 - HPLC, 647
 - in butter, 575
 - in foods, (table), 681
 - in margarine, 590, 593
 - spectrophotometric method, 646
- vitamin B1, 303 *see also* thiamin(e)
 - in bread, 315
 - in flour, 303
 - in foods, (table), 680
- vitamin B2 *see* riboflavin
- vitamin B12, 307
- vitamin C
 - as antioxidant, 99
 - as improver, 301
 - in foods, (table), 681
 - in fruit juices, 264
 - in fruits and vegetables, 243
 - in meat products, 500
- vitamin D, 649
 - HPLC, 650
 - in margarine, 590, 593
 - modified Carr–Price method, 649
- vitamin E, 650
 - determination, 651
 - Furter–Meyer method, 651
 - HPLC, 651
 - in flour, 309
- vitamins
 - fat soluble, 644
 - in dried milk, 567
 - in margarine, 590, 593
 - recommended daily allowances, 5
- Vizern test, for olive residue oil, 619
- vodka, 442
- volatile acidity
 - in mincemeat, 231
 - in pickles, 273
 - in spirits, 446
 - in vinegar, 461
 - in wine, 437
- volatile acids, in butter fat, 580
- volatile nitrogen
 - in fish, 510
 - in meat, 474
- volatile oil
 - in lemon curd, 229
 - in spices, 391, 393
- Volhard titration, for chloride, 14
- volumetric analysis data, 675
- water *see also* moisture
 - added water, 479, 542, 546
 - adsorbed water, 9
 - bound water, 9
 - determination of, 10
 - free water, 9
 - in foods, (table), 681
 - water activity, 11
 - in meat products, 504
 - water extract, in tea, 359
 - water soluble ash, determination, 13
 - in tea, 359
 - Weibull–Berntrup method for fat, 25
 - Weibull–Stoldt method for fat, 24
 - Werner–Schmid method for fat, 24
 - in cheese, 600
 - in ice-cream, 604
 - in meat products, 498
 - in milk, 538
 - wet oxidation, 143
 - whale oil, 623
 - wheat, 284
 - whey, 533, 595
 - whisky, 442
 - Wijs solution, 626
 - wine, 430
 - analysis, 434
 - acidity, 437
 - alcohol, 435
 - alcoholic strength, 432
 - alcoholometry, 432
 - ash, 437
 - cider, 438
 - diethylene glycol, 438
 - diethylpyrocyanate, 438
 - extract, 436
 - fixed acidity, 437
 - glycerol, 436
 - higher alcohols, 436
 - methanol, 436
 - propanol, 436
 - relative density, 434
 - sorbic acid, 438
 - sugars, 436, 437
 - sulphites, 437
 - tartaric acid, 437
 - total acidity, 437
 - volatile acidity, 437
 - composition, 432, 434
 - legislation, 431
 - manufacture, 430
 - vinegar, 459
- xylitol, 178, 184
- yeast extract, 520
 - analysis, 521
 - composition, 521
- yoghurt, 569
 - composition, 570
- zinc, 158
 - determination, 158
 - recommended limits, 158
- zinc ferrocyanide reagents, 296