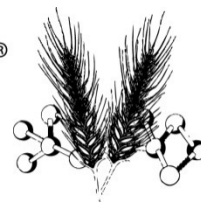


Nutrition Business Journal[®]

Strategic Information for the Nutrition Industry



*NBJ's Nutritional
Raw Material &
Ingredient Supply
Report*

2009

An analysis of markets, trends, competition and strategy in the U.S. business of supplying raw material and value-added ingredients to manufacturers in the nutrition industry

TABLE OF CONTENTS

1. EXECUTIVE SUMMARY.....	19
2. ACKNOWLEDGEMENTS & DEFINITIONS.....	21
2.1. ACKNOWLEDGEMENTS	21
2.2. RESEARCH METHODOLOGY	21
2.2.1. Disclaimer	22
2.2.2. Copyright	22
2.3. DEFINITIONS.....	22
2.3.1. Product Categories	22
2.3.2. Sales Channels	24
2.3.3. Supply Chain	25
3. NUTRITION INDUSTRY SUPPLY OVERVIEW.....	27
3.1. SUPPLY CHAIN	27
3.2. RAW MATERIAL & SUPPLY SALES	29
3.2.1. Product Category Sales.....	29
3.2.2. Growth & Forecast.....	35
3.3. WHOLESALE MANUFACTURING SALES	36
3.3.1. Product Category Sales.....	38
3.3.2. Growth & Forecast.....	39
3.4. CONSUMER SALES	41
3.4.1. Product Category Sales.....	41
3.4.2. Channel Sales.....	45
3.4.3. Growth & Forecast.....	47
3.4.4. Consumer Usage Trends	48
3.5. RAW MATERIAL MANUFACTURER/MARKETER SURVEY	50
3.6. TRENDS.....	56
3.6.1. Trend: SIDI Protocol Streamlines Information Flow Between Supplier, Manufacturer.....	56
3.6.2. Trend: Ingredient Adulteration Still a Problem Despite GMPs.....	56
3.6.3. Trend: Research, GRAS Status Driving Sales.....	60
3.6.4. Case Study: Ingredients Likely to Help Drive Growth in 2010.....	61
3.6.5. Trend: Ingredient Suppliers Working Harder to Demonstrate Quality Supply.....	62
3.6.1. Trend: Economy Postpones New Product Plans.....	63
3.6.2. Trend: Product Innovation Continues But at Slower Pace	64
3.6.3. Trend: Regulatory Rumbblings Leave Supplement Companies Feeling Uneasy	65
3.6.4. Trend: Material Prices Stabilize	66
3.6.5. Case Study: Ingredient Trends Nutrition MLMs Are Currently Pursuing.....	66
3.6.6. Trend: Private Label Keeps Organic Growing; Provides Opportunities for Suppliers.....	67
3.6.7. Case Study: Melamine-Tainted Milk Highlights Safety Issues in China's Supply Chain.....	71
3.6.8. Case Study: Solazyme Joins Martek, Others in Creating Algae-Derived Nutrition Products.....	76
3.6.9. Case Study: Price Volatility Skyrockets for First Three Quarters of 2008.....	79
3.6.10. Case Study: Suppliers Not Immune to Economic Woes.....	80
3.6.11. Trend: Ingredient Science Improving	81
3.6.12. Trend: Branded Ingredients Helping Firms Differentiate From Competitors.....	82
3.6.13. Trend: Asian Suppliers Dictate Market Trends	83
3.6.14. Trend: Pace of Innovation Follows Macroeconomic Patterns.....	84
3.6.15. Trend: Functional Foods Delivering Opportunities for Growth.....	84
3.6.16. Trend: OTC Drug-Supplement Combo Products Caught in Regulatory Quagmire.....	85
3.6.17. Trend: New FDA Emerging.....	89

3.6.18.	<i>Trend: Supplement Firms Prepare for FDA's Next Phase of GMP Audits</i>	89
3.6.19.	<i>Trend: Early Signs That Quality is Improving Under GMPs</i>	94
3.6.20.	<i>Trend: Innovations in Delivery Modes, Formulations Help Grow Children's Supplement Market</i>	95
3.6.21.	<i>Trend: Human Supplement Firms Extending Brands to Dogs, Cats and Horses</i>	99
3.6.22.	<i>Trend: Nanotechnology Being Explored as New Growth Driver</i>	102
3.6.23.	<i>Trend: Anti-Aging Market Expands on Back of Branded Ingredients</i>	106
3.6.24.	<i>Trend: Proprietary Ingredients Grow in Popularity</i>	107
4.	SUPPLEMENT OVERVIEW	109
4.1.	SUPPLY CHAIN	109
4.2.	RAW MATERIAL & SUPPLY SALES	110
4.2.1.	<i>Product Category Sales</i>	111
4.2.2.	<i>Growth & Forecast</i>	114
4.1.	WHOLESALE MANUFACTURING SALES	115
4.1.1.	<i>Product Category Sales</i>	116
4.1.2.	<i>Growth & Forecast</i>	118
4.2.	CONSUMER SALES	119
4.2.1.	<i>Dietary Supplements vs. U.S. Nutrition Industry</i>	119
4.2.2.	<i>Product Category Sales</i>	120
5.	VITAMINS	125
5.1.	SUPPLY CHAIN	125
5.2.	RAW MATERIAL & SUPPLY SALES	127
5.2.1.	<i>Top Companies</i>	132
5.3.	WHOLESALE MANUFACTURING SALES	133
5.3.1.	<i>Top Companies</i>	135
5.4.	CONSUMER SALES	136
5.5.	PRODUCT CATEGORIES	140
5.5.1.	<i>Vitamin C</i>	140
5.5.2.	<i>Vitamin E</i>	141
5.5.3.	<i>B Vitamins</i>	142
5.5.4.	<i>Vitamin A</i>	146
5.6.	TRENDS	147
5.6.1.	<i>Trend: New Wonder Nutrients Emerging as Mainstays</i>	147
6.	HERBS & BOTANICALS	151
6.1.	SUPPLY CHAIN	151
6.2.	RAW MATERIAL & SUPPLY SALES	152
6.2.1.	<i>Suppliers</i>	156
6.2.2.	<i>Top Companies</i>	173
6.3.	WHOLESALE MANUFACTURING SALES	174
6.3.1.	<i>Top Companies</i>	176
6.4.	CONSUMER SALES	177
6.5.	TRENDS	182
6.5.1.	<i>Herbalgram: Botanical Crops Are Not Immune to Effects of Global Climate Change</i>	182
6.5.2.	<i>Trend: General Health and Immunity Driving Herbal Supplement Sales</i>	185
7.	SPORTS NUTRITION SUPPLEMENTS	187
7.1.	SUPPLY CHAIN	187
7.2.	RAW MATERIAL & SUPPLY SALES	189
7.2.1.	<i>Suppliers</i>	191
7.2.2.	<i>Top Companies</i>	192
7.3.	WHOLESALE MANUFACTURING SALES	193

7.3.1.	Top Companies	195
7.4.	CONSUMER SALES	196
8.	MINERALS	201
8.1.	SUPPLY CHAIN	201
8.2.	RAW MATERIAL & SUPPLY SALES	203
8.2.1.	Top Companies	205
8.3.	WHOLESALE MANUFACTURING SALES	206
8.3.1.	Top Companies	208
8.4.	CONSUMER SALES	209
9.	MEAL REPLACEMENT SUPPLEMENTS	213
9.1.	SUPPLY CHAIN	213
9.2.	RAW MATERIAL & SUPPLY SALES	214
9.2.1.	Top Companies	216
9.3.	WHOLESALE MANUFACTURING SALES	217
9.3.1.	Top Companies	219
9.4.	CONSUMER SALES	220
10.	SPECIALTY SUPPLEMENTS	223
10.1.	SUPPLY CHAIN	223
10.2.	RAW MATERIAL & SUPPLY SALES	225
10.2.1.	Top Companies	228
10.3.	WHOLESALE MANUFACTURING SALES	229
10.3.1.	Top Companies	231
10.4.	CONSUMER SALES	232
10.5.	PRODUCT CATEGORIES	236
10.5.1.	Melatonin	236
10.5.2.	Probiotics	237
10.5.3.	DHEA.....	240
10.5.4.	Fish/Animal Oils.....	241
10.5.5.	Plant Oils.....	246
10.5.6.	Glucosamine/Chondroitin.....	249
10.5.7.	Bee Products.....	255
10.5.8.	CoQ10.....	256
10.5.9.	5HTP	260
10.5.10.	SAMe.....	261
10.5.11.	MSM	264
10.5.12.	Gelatin	268
10.5.13.	Digestive Enzymes	269
10.5.14.	Homeopathics.....	273
11.	FUNCTIONAL FOOD AND BEVERAGE	275
11.1.	VALUE CHAIN	275
11.2.	RAW MATERIAL & SUPPLY SALES	276
11.2.1.	Product Category Sales.....	276
11.2.2.	Growth & Forecast.....	277
11.3.	WHOLESALE MANUFACTURING SALES	279
11.3.1.	Product Category Sales.....	279
11.3.2.	Growth & Forecast.....	280
11.4.	CONSUMER SALES	282
11.4.1.	Product Category Sales.....	282

11.4.2.	Channel Sales.....	284
11.4.3.	Growth & Forecast.....	285
12.	NATURAL & ORGANIC FOOD AND BEVERAGE.....	287
12.1.	VALUE CHAIN	287
12.2.	RAW MATERIAL & SUPPLY SALES	288
12.2.1.	Product Category Sales.....	288
12.2.2.	Growth & Forecast.....	289
12.3.	WHOLESALE MANUFACTURING SALES	291
12.3.1.	Product Category Sales.....	291
12.3.2.	Growth & Forecast.....	292
12.4.	CONSUMER SALES	293
12.4.1.	Product Category Sales.....	293
12.4.2.	Channel Sales.....	295
12.4.3.	Growth & Forecast.....	296
12.5.	TRENDS.....	297
12.5.1.	Trend: United States Continues to Fight GMOs.....	297
12.5.2.	Trend: Organic Seeds Increasingly in Danger of GMO Contamination.....	300
12.5.3.	Case Study: SunOpta Thrives at the Bottom of the U.S. Organic Food Chain.....	301
13.	NATURAL & ORGANIC PERSONAL CARE & HOUSEHOLD PRODUCTS.....	304
13.1.	VALUE CHAIN	304
13.2.	RAW MATERIAL & SUPPLY SALES	305
13.2.1.	Product Category Sales.....	305
13.2.2.	Growth & Forecast.....	306
13.3.	WHOLESALE MANUFACTURING SALES	308
13.3.1.	Product Category Sales.....	308
13.3.2.	Growth & Forecast.....	309
13.4.	CONSUMER SALES	310
13.4.1.	Product Category Sales.....	311
13.4.2.	Channel Sales.....	314
13.4.3.	Growth & Forecast.....	315
14.	COMPANY SPOTLIGHTS & EXPERT INTERVIEWS	317
14.1.	LEDOUX: FAILURE TO PREPARE FOR GMPs COULD LEAD TO VERY UNFORTUNATE OUTCOMES	317
14.2.	ZMC-USA: SUPPLEMENT MANUFACTURERS CAN NO LONGER BUY FROM 'CLOAKED' SUPPLIERS.....	319
14.3.	XSTO SOLUTIONS: MORE THAN A SUPPLY CHAIN 'MIDDLEMAN'.....	323
14.4.	CASE STUDY: NOVUS INTERNATIONAL WORKS TO PENETRATE HUMAN SUPPLY MARKET IN U.S., EUROPE	326
14.5.	NPA CHINA HELPS LEAD CHARGE IN PROTECTING INDUSTRY'S SUPPLY CHAIN	329
14.6.	Q&A WITH MARTEK BIOSCIENCES: ETHAN LEONARD, VP OF PEDIATRIC NUTRITION; CASSIE FRANCE-KELLY, SENIOR PUBLIC RELATIONS MANAGER; AND JEFF BERNFELD, EXECUTIVE DIRECTOR OF SALES.	331
14.7.	BRIGGS: SUPPLEMENT USE IS BEING INFLUENCED BY SCIENCE	335
15.	SUPPLEMENT COMPANY PROFILES	339
15.1.	A.M. Todd Botanicals	339
15.2.	Aceto Corporation	341
15.3.	AHD International	342
15.4.	AIDP, Inc.	343
15.5.	Ajinomoto USA Inc.....	344
15.6.	Albion Laboratories, Inc.	345
15.7.	Amax NutraSource	346
15.8.	AnMar International Ltd.	347
15.9.	Applied Food Sciences	348

15.10. Archer Daniels Midland Company (ADM)	349
15.11. Arista Industries	350
15.12. Artemis International, Inc.	351
15.13. Avesthagen, Inc.	352
15.14. Balchem Corporation	353
15.15. BannerBio Nutraceuticals Inc.	355
15.16. BASF Nutrition Ingredients.....	356
15.17. Beijing Gingko Group	357
15.18. Beneo-Orafti.....	358
15.19. Bergstrom Nutrition	359
15.20. BI Nutraceuticals	360
15.21. Bio-Botanica.....	362
15.22. Bioenergy Life Science, Inc.	363
15.23. Bioibérica	364
15.24. Bioriginal Food & Science Corp.....	365
15.25. CapsCanada	366
15.26. Cargill	367
15.27. Century Foods International (Hormel).....	368
15.28. Chai-Na-Ta Corporation	369
15.29. Chemi Nutra	370
15.30. Chemport Inc.	371
15.31. CHR Hansen.....	372
15.32. Cognis.....	373
15.33. Croda Inc.	375
15.34. Cyanotech Corporation	376
15.35. Cypress Systems Inc.....	377
15.36. Cyvex Nutrition, Inc.	378
15.37. Daiichi Fine Chemicals Co. Ltd.	379
15.38. Danisco.....	380
15.39. Davisco Foods International.....	381
15.40. Denomega Nutritional Oils.....	382
15.41. DMV International	383
15.42. DNP International (Dynamic Nutritional Products).....	384
15.43. Draco Natural Products.....	385
15.44. DSM Nutritional Products	386
15.45. EPAX.....	387
15.46. Forbes Medi-Tech Inc.	388
15.47. Fortitech	389
15.48. Frutarom Ltd.	390
15.49. Gadot Biochemical Industries.....	391
15.50. Ganeden Biotech	392
15.51. Gelita.....	393
15.52. Glanbia Nutritionals.....	394
15.53. Great Earth Chemical	396
15.54. GTC Nutrition	397
15.55. Hebei Huarong Pharmaceutical Co., Ltd.	398
15.56. Humanetics Corporation	399
15.57. Indena	400
15.58. Ingredients International	401
15.59. Institut Rosell (Lallemand).....	402
15.60. InterHealth Nutraceuticals Inc.	403
15.61. J.M. Huber Corporation.....	404

15.62. <i>Jedwards International, Inc. (GC Rieber)</i>	405
15.63. <i>Kaneka Nutrients L.P.</i>	406
15.64. <i>Kantner Ingredients</i>	407
15.65. <i>Kelatron Corporation</i>	408
15.66. <i>Kemin Health L.C.</i>	409
15.67. <i>Kerry Group</i>	410
15.68. <i>Kingchem</i>	411
15.69. <i>Kyowa Hakko U.S.A.</i>	412
15.70. <i>Leprino Foods</i>	413
15.71. <i>Linnea</i>	414
15.72. <i>Lipid Nutrition B.V. (IOI Group - Loders Croklaan)</i>	415
15.73. <i>Lonza</i>	416
15.74. <i>LycoRed</i>	417
15.75. <i>LYSI</i>	418
15.76. <i>Mafco Worldwide Corp.</i>	419
15.77. <i>Main Street Ingredients</i>	420
15.78. <i>Marco Hi-Tech</i>	421
15.79. <i>Marcor Development Corporation</i>	422
15.80. <i>Marine Nutraceutical Corporation</i>	423
15.81. <i>Martek Biosciences</i>	424
15.82. <i>Martin Bauer Group</i>	426
15.83. <i>Maypro Industries</i>	427
15.84. <i>Mitsubishi International Food Ingredients, Inc.</i>	428
15.85. <i>Monarch Nutraceuticals</i>	429
15.86. <i>National Enzyme Company</i>	430
15.87. <i>Naturex</i>	431
15.88. <i>Neptune Technologies & Bioresources</i>	432
15.89. <i>NHK Laboratories, Inc.</i>	433
15.90. <i>Nu-Mega Ingredients Pty. Ltd. (Clover Corporation Ltd.)</i>	434
15.91. <i>Nutratch</i>	435
15.92. <i>NutriScience Innovations</i>	436
15.93. <i>Nutrition 21</i>	437
15.94. <i>Ocean Nutrition Canada</i>	439
15.95. <i>Ocean Spray Cranberries, Inc.</i>	440
15.96. <i>Omya</i>	441
15.97. <i>Optipure, Chemco Industries Inc.</i>	442
15.98. <i>Orcas International</i>	443
15.99. <i>P.L. Thomas & Co.</i>	444
15.100. <i>PAT Vitamins</i>	445
15.101. <i>PB Leiner - USA</i>	446
15.102. <i>Pharmachem Laboratories</i>	447
15.103. <i>Pharmline Inc.</i>	448
15.104. <i>Pharmore Ingredients</i>	449
15.105. <i>Piveg</i>	450
15.106. <i>Premium Ingredients International</i>	451
15.107. <i>Pro-Form Laboratories</i>	452
15.108. <i>Proliant</i>	453
15.109. <i>Protient (Associated British Foods)</i>	454
15.110. <i>Purac (CSM)</i>	455
15.111. <i>RFI Ingredients</i>	456
15.112. <i>Rhodia</i>	457
15.113. <i>Rochem International Inc.</i>	458
15.114. <i>Sabinsa Corporation</i>	459

15.115. Sanat Products Ltd.	461
15.116. Sensus.....	462
15.117. Sigma-tau HealthScience	463
15.118. Sioux Biochemical, Inc.	464
15.119. Solae (Dupont/Bunge).....	465
15.120. Specialty Enzymes and Biochemicals Company	466
15.121. Starwest Botanicals.....	467
15.122. Stauber Performance Ingredients	468
15.123. Stryka Botanicals.....	469
15.124. Suan Farma, Inc.....	470
15.125. SunOpta	471
15.126. Tate & Lyle	473
15.127. The E.T. Horn Company.....	474
15.128. The Ester C Company (NBTY).....	475
15.129. The Wright Group.....	476
15.130. Trout Lake Farm (Altacor)	477
15.131. TSI Health Sciences.....	478
15.132. Twin Rivers Technologies	479
15.133. UAS Laboratories.....	480
15.134. Univera (Aloecorp)	481
15.135. Valensa International.....	482
15.136. VDF FutureCeuticals (Van Drunen Farms).....	483
15.137. Verdure Sciences	484
15.138. Watson Inc.	485
15.139. ZMC-USA	486

INDEX OF FIGURES

Figure 1-1 U.S. Raw Material Supplement & Functional Ingredient Sales & Growth, 1997-2009e	19
Figure 3-1 U.S. Nutrition Industry Value Chain, 2008	28
Figure 3-2 U.S. Nutrition Industry Value Chain, 1998-2008	28
Figure 3-3 U.S. Total Nutrition Industry Raw Material Sales by Product, 2008	29
Figure 3-4 U.S. Nutrition Industry Consumer & Raw Material Sales & Growth, 2008	30
Figure 3-5 U.S. Nutrition Industry Raw Material Sales by Product, 1998-2008	30
Figure 3-6 U.S. Nutrition Industry Raw Material Sales Growth by Product, 1998-2008	31
Figure 3-7 U.S. Supplements, Functional, and N&OPC & Household Raw Ingredient Sales, 2000-2009e.....	31
Figure 3-8 U.S. Raw Material Supplement & Functional Ingredient Sales & Growth, 1997-2009e	32
Figure 3-9 Top Nutrition Industry Supply Companies in 2008 – Part I	33
Figure 3-10 Top Nutrition Industry Supply Companies in 2008 – Part II	34
Figure 3-11 U.S. Nutrition Industry Raw Material Sales by Product, 2009e-2017e	35
Figure 3-12 U.S. Raw Material Nutrition Industry Sales & Growth, 2000-2017e.....	35
Figure 3-13 U.S. Nutrition Industry Value Chain Channel Detail, 2008.....	36
Figure 3-14 U.S. Nutrition Industry Wholesale Sales as % Consumer Sales, 1996-2009e.....	37
Figure 3-15 U.S. Nutrition Industry Wholesale Sales by Product, 2008	38
Figure 3-16 U.S. Nutrition Industry Wholesale Sales by Product, 1998-2008.....	38
Figure 3-17 U.S. Nutrition Industry Wholesale Sales Growth by Product, 1998-2008.....	39
Figure 3-18 U.S. Nutrition Industry Wholesale Sales by Product, 2009e-2017e.....	39
Figure 3-19 U.S. Nutrition Industry Wholesale Sales Growth by Product, 2009e-2017e.....	39
Figure 3-20 U.S. Wholesale Nutrition Industry Sales & Growth, 1997-2017e	40
Figure 3-21 U.S. Nutrition Industry Consumer Sales by Product, 2008.....	41
Figure 3-22 U.S. Nutrition Industry Consumer Sales by Product, 1998-2008	42
Figure 3-23 U.S. Nutrition Industry Consumer Sales Growth by Product, 1998-2008	42
Figure 3-24 U.S. Nutrition Industry Consumer Sales by Product as % of Total, 1998-2008.....	42
Figure 3-25 U.S. Nutrition Industry Consumer Sales Growth by Product, 2008	43
Figure 3-26 U.S. Nutrition Industry Consumer Sales & Growth, 2000-2017e.....	44
Figure 3-27 U.S. Nutrition Industry Consumer Sales by Channel, 2008	45
Figure 3-28 U.S. Nutrition Industry Consumer Sales & Growth by Channel, 2008	46
Figure 3-29 U.S. Nutrition Industry Consumer Sales by Channel, 1998-2008.....	46
Figure 3-30 U.S. Nutrition Industry Consumer Sales by Product, 2009e-2017e	47
Figure 3-31 U.S. Nutrition Industry Consumer Sales Growth by Product, 2009e-2017e	47
Figure 3-32 U.S. Nutrition Industry Consumer Sales by Product as % of Total, 2009e-2017e.....	47
Figure 3-33 U.S. Nutrition Industry Estimated Compound Annual Consumer Sales Growth, 2009e-2017e	48
Figure 3-34 U.S. Consumer Use of Dietary Supplements, 2008.....	49
Figure 3-35 U.S. Herb & Botanical Use by Adults as % of Total Market Share , 1999-2008.....	49
Figure 3-36 U.S. Herb & Botanical Use by Adults by Millions of Users, 1999-2008	49
Figure 3-37 RMIS Survey: Factors Currently Impacting Companies	50
Figure 3-38 RMIS Survey: Factors Currently Impacting Company Growth	51
Figure 3-39 RMIS Survey: Nutrition Category Sales Breakdown	52
Figure 3-40 RMIS Survey: Supplement Category Sales Breakdown	52
Figure 3-41 RMIS Survey: Percentage of Raw Materials Sourced in the U.S.	53
Figure 3-42 RMIS Survey: Percentage of Raw Materials Sourced from China	53
Figure 3-43 RMIS Survey: Raw Material Pricing Trends for 2008.....	54

Figure 3-44 RMIS Survey: Raw Material Volume Trends for 2008	54
Figure 3-45 RMIS Survey: Raw Material Company Growth Forecast for 2009	55
Figure 3-46 RMIS Survey: Percentage of Raw Materials Sold as Branded Ingredients	55
Figure 4-1 U.S. Dietary Supplement Industry Value Chain, 2008.....	109
Figure 4-2 U.S. Dietary Supplement Value Chain, 1998-2008.....	110
Figure 4-3 U.S. Dietary Supplement Raw Material Sales by Product in 2008	111
Figure 4-4 U.S. Dietary Supplement Raw Material Sales by Product, 1998-2008.....	111
Figure 4-5 U.S. Dietary Supplement Raw Material Sales Growth by Product, 1998-2008.....	112
Figure 4-6 U.S. Raw Material Dietary Supplement Sales & Growth, 1997-2009e.....	112
Figure 4-7 U.S. Dietary Supplement Raw Supply to Wholesale Manufacturing Indices, 1995-2009e	113
Figure 4-8 U.S. Dietary Supplement Raw Supply Sales Ratios, 1995-2009e	114
Figure 4-9 U.S. Dietary Supplement Raw Material Sales by Product, 2009e-2017e.....	115
Figure 4-10 U.S. Raw Material Dietary Supplement Sales & Growth, 1997-2017e.....	115
Figure 4-11 U.S. Dietary Supplement Wholesale Sales by Product in 2008.....	116
Figure 4-12 U.S. Dietary Supplement Wholesale Sales by Product, 1998-2008	116
Figure 4-13 U.S. Dietary Supplement Wholesale Sales Growth by Product, 1998-2008	117
Figure 4-14 U.S. Dietary Supplement Wholesale Sales Ratios, 1995-2009e	117
Figure 4-15 U.S. Dietary Supplement Wholesale Manufacturing to Consumer Sales Indices, 1995-2009	118
Figure 4-16 U.S. Dietary Supplement Wholesale Sales by Product, 2009e-2017e	118
Figure 4-17 U.S. Raw Material Dietary Supplement Sales & Growth, 1997-2017e.....	119
Figure 4-18 U.S. Consumer Sales of Dietary Supplements vs. Total Nutrition Industry, 1998-2008	119
Figure 4-19 U.S. Dietary Supplement Consumer Sales by Product Category in 2008.....	120
Figure 4-20 U.S. Dietary Supplement Consumer Sales by Product, 1998-2008.....	121
Figure 4-21 U.S. Dietary Supplement Consumer Sales & Growth, 2000-2017e.....	121
Figure 4-22 U.S. Dietary Supplement Consumer Sales by Channel, 2008.....	122
Figure 4-23 U.S. Dietary Supplement Consumer Sales and Annual Growth by Channel, 2006-2008.....	122
Figure 5-1 U.S. Vitamin Supplement Value Chain, 1998-2008	125
Figure 5-2 U.S. Vitamin Supplement Value Chain Indices, 1995-2009e.....	126
Figure 5-3 U.S. Vitamins Value Chain Comparison, 2008.....	126
Figure 5-4 U.S. Vitamin Raw Material & Supply Sales by End Use Category, 2008.....	127
Figure 5-5 Worldwide Vitamin Raw Material & Supply Sales by Product, 2001-2009e.....	127
Figure 5-6 U.S. Total Vitamin Raw Material & Supply Sales by Product, 2001-2009e	128
Figure 5-7 U.S. Vitamin Raw Material & Supply Sales by Product – Supplement Use Only , 2001-2009e.....	128
Figure 5-8 U.S. Vitamin Raw Material & Supply Sales by Product – Animal Use Only , 2001-2009e.....	128
Figure 5-9 U.S. Vitamin Raw Material & Supply Sales by Product – Functional Food Use Only , 2001-2009e	129
Figure 5-10 U.S. Vitamin Raw Material & Supply Sales by Product – HBC Use Only , 2001-2009e	129
Figure 5-11 U.S. Vitamin Supplement Raw Material Sales by Product Category in 2008.....	130
Figure 5-12 U.S. Vitamin vs. Total Supplement Raw Material Sales, 1998-2008	130
Figure 5-13 U.S. Vitamin vs. Total Supplement Raw Material Sales, 2009e-2017e	131
Figure 5-14 U.S. Vitamin Supplement Raw Material Sales & Growth, 2000-2017e.....	131
Figure 5-15 U.S. Vitamin Raw Material Sales by Product, 1998-2008.....	132
Figure 5-16 Leading Vitamin Raw Material Supply Companies in 2008.....	132
Figure 5-17 U.S. Vitamin vs. Total Supplement Wholesale Sales, 1998-2008.....	133
Figure 5-18 U.S. Vitamin vs. Total Supplement Wholesale Sales, 2009e-2017e.....	133
Figure 5-19 U.S. Vitamin Supplement Wholesale Sales & Growth, 2000-2017e	134
Figure 5-20 Top 20 Vitamin Wholesale Companies in 2008.....	135
Figure 5-21 U.S. Vitamin Supplement Consumer Sales by Product Category in 2008	136
Figure 5-22 U.S. Vitamin vs. Total Supplement Consumer Sales, 1998-2008	136

Figure 5-23 U.S. Vitamin Consumer Sales by Product, 1998-2008.....	137
Figure 5-24 U.S. Vitamin Consumer Sales & Growth, 2000-2017e	137
Figure 5-25 U.S. Vitamin Consumer Sales by Channel, 2008	138
Figure 5-26 U.S. Vitamins vs. Dietary Supplements Consumer Sales Growth, 2000-2017e	139
Figure 5-27 U.S. Vitamin C Supplement Raw Material vs. Consumer Sales, 1998-2008.....	140
Figure 5-28 U.S. Vitamin C Supplement Consumer & Raw Material Sales Comparison, 1995-2008	140
Figure 5-29 U.S. Vitamin E Supplement Raw Material vs. Consumer Sales, 1998-2008	141
Figure 5-30 U.S. Vitamin E Supplement Consumer & Raw Material Sales Comparison, 1995-2008	141
Figure 5-31 U.S. Vitamin B Supplement Raw Material vs. Consumer Sales, 1998-2008.....	142
Figure 5-32 U.S. Vitamin B Supplement Consumer & Raw Material Sales Comparison, 1995-2008	142
Figure 5-33 B-12 Suppliers – Part I	143
Figure 5-34 B-12 Suppliers – Part II	144
Figure 5-35 B-12 Suppliers – Part III	145
Figure 5-36 U.S. Vitamin A Supplement Raw Material vs. Consumer Sales, 1998-2008.....	146
Figure 5-37 U.S. Vitamin A Supplement Consumer & Raw Material Sales Comparison, 1995-2008	146
Figure 6-1 U.S. Herb & Botanical Supplement Value Chain, 1998-2008	151
Figure 6-2 U.S. Herb & Botanical Supplement Value Chain Indices, 1995-2009e	152
Figure 6-3 U.S. Herb & Botanical Value Chain Comparison, 2008.....	152
Figure 6-4 U.S. Herb & Botanical Raw Material Sales by Product Category in 2008.....	153
Figure 6-5 U.S. Herb & Botanical vs. Total Supplement Raw Material Sales, 1998-2008	153
Figure 6-6 U.S. Vitamin vs. Total Supplement Raw Material Sales, 2009e-2017e	154
Figure 6-7 U.S. Herb & Botanical Supplement Raw Material Sales & Growth, 2000-2017e.....	154
Figure 6-8 U.S. Herb & Botanical Raw Material Sales by Product, 1998-2008.....	155
Figure 6-9 Noni Suppliers – Part I	156
Figure 6-10 Noni Suppliers – Part II	157
Figure 6-11 Noni Suppliers – Part III	158
Figure 6-12 Garlic Suppliers – Part I	159
Figure 6-13 Garlic Suppliers – Part II	160
Figure 6-14 Garlic Suppliers – Part III	161
Figure 6-15 Garlic Suppliers – Part IV	162
Figure 6-16 Garlic Suppliers – Part V	163
Figure 6-17 American Ginseng Suppliers – Part I	164
Figure 6-18 American Ginseng Suppliers – Part II	165
Figure 6-19 American Ginseng Suppliers – Part III	166
Figure 6-20 American Ginseng Suppliers – Part IV	167
Figure 6-21 Panax Ginseng Suppliers – Part I	168
Figure 6-22 Panax Ginseng Suppliers – Part II	169
Figure 6-23 Panax Ginseng Suppliers – Part III	170
Figure 6-24 Panax Ginseng Suppliers – Part IV	171
Figure 6-25 Panax Ginseng Suppliers – Part V.....	172
Figure 6-26 Leading Herb & Botanical Raw Material Supply Companies in 2008.....	173
Figure 6-27 U.S. Herb & Botanical vs. Total Supplement Wholesale Sales, 1998-2008.....	174
Figure 6-28 U.S. Herb & Botanical vs. Total Supplement Wholesale Sales, 2009e-2017e	174
Figure 6-29 U.S. Herb & Botanical Supplement Wholesale Sales & Growth, 2000-2017e	175
Figure 6-30 Top 20 Herb & Botanical Wholesale Companies in 2008.....	176
Figure 6-31 U.S. Herb & Botanical Consumer Sales by Product Category in 2008.....	177
Figure 6-32 U.S. Herb & Botanical vs. Total Supplement Consumer Sales, 1998-2008	177

Figure 6-33 U.S. Top 50 Herb & Botanical Products Ranked by Consumer Sales, 2000-2008: Part I..... 178

Figure 6-34 U.S. Top 50 Herb & Botanical Products Ranked by Consumer Sales, 2000-2008: Part II..... 179

Figure 6-35 U.S. Herb & Botanical Consumer Sales Growth for Top 10 Products , 1998-2008 180

Figure 6-36 U.S. Herb & Botanical Consumer Sales & Growth, 2000-2017e 180

Figure 6-37 U.S. Herb & Botanical Consumer Sales by Channel, 2008..... 181

Figure 6-38 U.S. Herb & Botanical vs. Dietary Supplement Consumer Sales Growth, 2000-2017e..... 182

Figure 7-1 U.S. Sports Nutrition Supplement Value Chain, 1998-2008..... 187

Figure 7-2 U.S. Sports Nutrition Supplement Value Chain Indices, 1995-2009e 188

Figure 7-3 U.S. Sports Nutrition Value Chain Comparison, 2008 188

Figure 7-4 U.S. Sports Nutrition vs. Total Supplement Raw Material Sales, 1998-2008..... 189

Figure 7-5 U.S. Sports Nutrition vs. Total Supplement Raw Material Sales, 2009e-2017e 189

Figure 7-6 U.S. Sports Nutrition Supplement Raw Material Sales & Growth, 2000-2017e 190

Figure 7-7 Whey Suppliers..... 191

Figure 7-8 Leading Sports Nutrition Supplement Raw Material Supply Companies in 2008 192

Figure 7-9 U.S. Sports Nutrition vs. Total Supplement Wholesale Sales, 1998-2008 193

Figure 7-10 U.S. Sports Nutrition vs. Total Supplement Wholesale Sales, 2009e-2017e 193

Figure 7-11 U.S. Sports Nutrition Supplement Wholesale Sales & Growth, 2000-2017e 194

Figure 7-12 Top 20 Sports Nutrition Supplement Wholesale Companies in 2008..... 195

Figure 7-13 U.S. Sports Nutrition Supplement Consumer Sales by Product Category in 2008..... 196

Figure 7-14 U.S. Sports Nutrition Supplements vs. Total Supplement Consumer Sales, 1998-2008..... 196

Figure 7-15 U.S. Sports Nutrition Supplement Consumer Sales by Product, 1998-2008..... 197

Figure 7-16 U.S. Sports Nutrition Supplement Consumer Sales Growth by Product, 1998-2008..... 197

Figure 7-17 U.S. Sports Nutrition Supplement Consumer Sales & Growth, 2000-2017e 198

Figure 7-18 U.S. Sports Nutrition Consumer Sales by Channel, 2008 198

Figure 7-19 U.S. Sports Nutrition Supplements vs. Dietary Supplements Consumer Sales Growth, 2000-2017e 199

Figure 8-1 U.S. Mineral Supplement Value Chain, 1998-2008 201

Figure 8-2 U.S. Mineral Supplement Value Chain Indices, 1995-2009e 202

Figure 8-3 U.S. Mineral Value Chain Comparison, 2008 202

Figure 8-4 U.S. Mineral Supplement Raw Material Sales by Product Category in 2008 203

Figure 8-5 U.S. Mineral vs. Total Supplement Raw Material Sales, 1998-2008 203

Figure 8-6 U.S. Mineral vs. Total Supplement Raw Material Sales, 2009e-2017e 204

Figure 8-7 U.S. Mineral Supplement Raw Material Sales & Growth, 2000-2017e..... 204

Figure 8-8 U.S. Mineral Raw Material Sales by Product, 1998-2008..... 205

Figure 8-9 Leading Mineral Raw Material Supply Companies in 2008..... 205

Figure 8-10 U.S. Mineral vs. Total Supplement Wholesale Sales, 1998-2008..... 206

Figure 8-11 U.S. Mineral vs. Total Supplement Wholesale Sales, 2009e-2017e..... 206

Figure 8-12 U.S. Mineral Supplement Wholesale Sales & Growth, 2000-2017e 207

Figure 8-13 Top 20 Mineral Wholesale Companies in 2008..... 208

Figure 8-14 U.S. Mineral Consumer Sales by Product Category in 2008..... 209

Figure 8-15 U.S. Minerals vs. Total Supplement Consumer Sales, 1998-2008..... 209

Figure 8-16 U.S. Mineral Consumer Sales by Product, 1998-2008..... 210

Figure 8-17 U.S. Mineral Consumer Sales & Growth, 2000-2017e 210

Figure 8-18 U.S. Mineral Consumer Sales by Channel, 2008 211

Figure 8-19 U.S. Minerals vs. Dietary Supplements Consumer Sales Growth, 2000-2017e 212

Figure 9-1 U.S. Meal Replacement Supplement Value Chain, 1998-2008 213

Figure 9-2 U.S. Meal Replacement Supplement Value Chain Indices, 1995-2009e 213

Figure 9-3 U.S. Meal Replacement Supplement Value Chain Comparison, 2008 214

Figure 9-4 U.S. Meal Replacement vs. Total Supplement Raw Material Sales, 1998-2008 214

Figure 9-5 U.S. Meal Replacement vs. Total Supplement Raw Material Sales, 2009e-2017e	214
Figure 9-6 U.S. Meal Replacement Supplement Raw Material Sales & Growth, 2000-2017e	215
Figure 9-7 Leading Meal Replacement Raw Material Supply Companies in 2008	216
Figure 9-8 U.S. Meal Replacement vs. Total Supplement Wholesale Sales, 1998-2008	217
Figure 9-9 U.S. Meal Replacement vs. Total Supplement Wholesale Sales, 2009e-2017e	217
Figure 9-10 U.S. Meal Replacement Supplement Wholesale Sales & Growth, 2000-2017e	218
Figure 9-11 Top 20 Meal Replacement Supplement Wholesale Companies in 2008	219
Figure 9-12 U.S. Meal Replacement vs. Total Supplement Consumer Sales, 1998-2008	220
Figure 9-13 U.S. Meal Replacement Consumer Sales & Growth, 2000-2017e	220
Figure 9-14 U.S. Meal Replacement Consumer Sales by Channel, 2008.....	221
Figure 9-15 U.S. Meal Replacement Supplements vs. Total Dietary Supplement Consumer Sales and Growth, 2009e-2017e.....	222
Figure 9-16 U.S. Meal Replacement Supplements vs. Dietary Supplements Consumer Sales Growth, 2000-2017e	222
Figure 10-1 U.S. Specialty Supplement Value Chain, 1998-2008	223
Figure 10-2 U.S. Specialty Supplement Value Chain Indices, 1995-2009e	224
Figure 10-3 U.S. Specialty Supplement Value Chain Comparison, 2008	224
Figure 10-4 U.S. Specialty Supplement Raw Material Sales by Product Category in 2008	225
Figure 10-5 U.S. Specialty vs. Total Supplement Raw Material Sales, 1998-2008	225
Figure 10-6 U.S. Specialty vs. Total Supplement Raw Material Sales, 2009e-2017e	226
Figure 10-7 U.S. Specialty Supplement Raw Material Sales & Growth, 2000-2017e	226
Figure 10-8 U.S. Specialty Supplement Raw Material Sales by Product, 1998-2008	227
Figure 10-9 Leading Specialty Supplement Raw Material Supply Companies in 2008	228
Figure 10-10 U.S. Specialty vs. Total Supplement Wholesale Sales, 1998-2008	229
Figure 10-11 U.S. Specialty vs. Total Supplement Wholesale Sales, 2009e-2017e	229
Figure 10-12 U.S. Specialty Supplement Wholesale Sales & Growth, 2000-2017e	230
Figure 10-13 Top 20 Specialty/Other Supplement Wholesale Companies in 2008	231
Figure 10-14 U.S. Specialty Supplement Consumer Sales by Product Category in 2008	232
Figure 10-15 U.S. Specialty Supplement vs. Total Supplement Consumer Sales, 1998-2008.....	232
Figure 10-16 U.S. Specialty Supplement Consumer Sales by Product, 1998-2008	233
Figure 10-17 U.S. Specialty Consumer Sales & Growth, 2000-2017e	234
Figure 10-18 U.S. Specialty Consumer Sales by Channel, 2008.....	234
Figure 10-19 U.S. Specialty vs. Total Dietary Supplements Consumer Sales Growth, 2000-2017e	235
Figure 10-20 U.S. Melatonin Supplement Raw Material vs. Consumer Sales, 1998-2008.....	236
Figure 10-21 U.S. Melatonin Supplement Consumer & Raw Material Sales Comparison, 1995-2008	236
Figure 10-22 U.S. Probiotic Supplement Raw Material vs. Consumer Sales, 1998-2008.....	237
Figure 10-23 U.S. Probiotic Supplement Consumer & Raw Material Sales Comparison, 1995-2008	237
Figure 10-24 Probiotic Suppliers – Part I	238
Figure 10-25 Probiotic Suppliers – Part II	239
Figure 10-26 U.S. DHEA Supplement Raw Material vs. Consumer Sales, 1998-2008	240
Figure 10-27 U.S. DHEA Supplement Consumer & Raw Material Sales Comparison, 1995-2008	240
Figure 10-28 U.S. Fish/Animal Oil Supplement Raw Material vs. Consumer Sales, 1998-2008.....	241
Figure 10-29 U.S. Fish/Animal Oils Supplement Consumer & Raw Material Sales Comparison, 1995-2008	242
Figure 10-30 Fish Oil Suppliers – Part I	243
Figure 10-31 Fish Oil Suppliers – Part II.....	244
Figure 10-32 Fish Oil Suppliers – Part III.....	245
Figure 10-33 U.S. Plant Oil Supplement Raw Material vs. Consumer Sales, 1998-2008.....	246

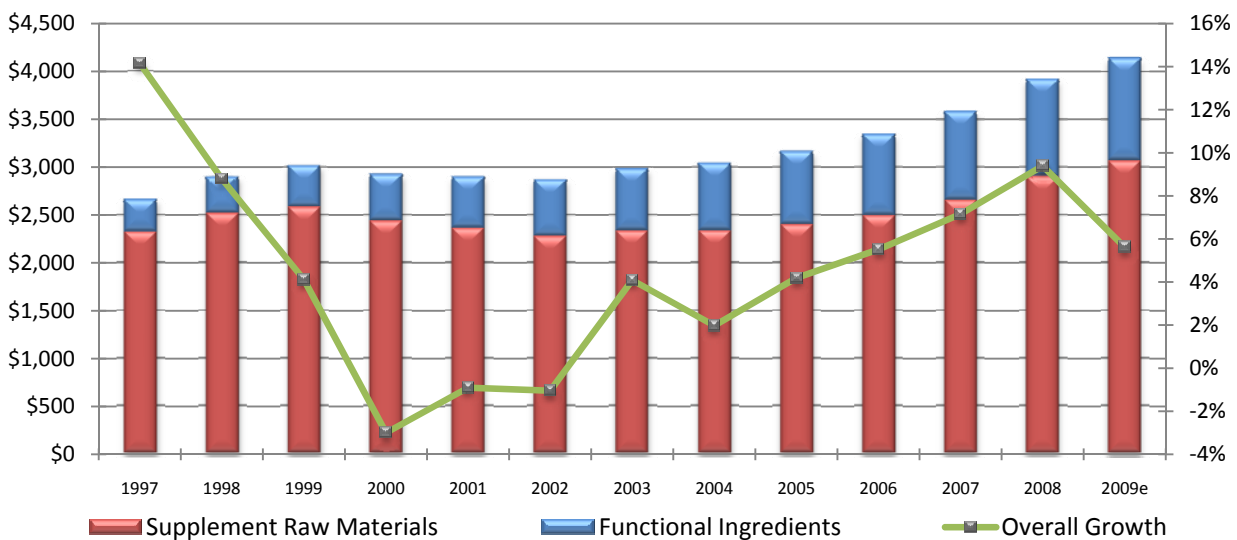
Figure 10-34 U.S. Plant Oil Supplement Consumer & Raw Material Sales Comparison, 1995-2008	246
Figure 10-35 Flax Suppliers – Part I	247
Figure 10-36 Flax Suppliers – Part II	248
Figure 10-37 U.S. Glucosamine/Chondroitin Supplement Raw Material vs. Consumer Sales, 1998-2008.....	249
Figure 10-38 U.S. Glucosamine/Chondroitin Supplement Consumer & Raw Material Sales Comparison, 1995-2008	249
Figure 10-39 Glucosamine Suppliers – Part I.....	251
Figure 10-40 Glucosamine Suppliers – Part II.....	252
Figure 10-41 Glucosamine Suppliers – Part III.....	253
Figure 10-42 Glucosamine Suppliers – Part IV	254
Figure 10-43 U.S. Bee Products Supplement Raw Material vs. Consumer Sales, 1998-2008	255
Figure 10-44 U.S. Bee Products Supplement Consumer & Raw Material Sales Comparison, 1995-2008	255
Figure 10-45 U.S. CoQ10 Supplement Raw Material vs. Consumer Sales, 1998-2008	256
Figure 10-46 U.S. CoQ10 Supplement Consumer & Raw Material Sales Comparison, 1995-2008.....	256
Figure 10-47 CoQ10 Suppliers – Part I.....	257
Figure 10-48 CoQ10 Suppliers – Part II.....	258
Figure 10-49 CoQ10 Suppliers – Part III.....	259
Figure 10-50 U.S. 5HTP Supplement Raw Material vs. Consumer Sales, 1998-2008	260
Figure 10-51 U.S. 5HTP Supplement Consumer & Raw Material Sales Comparison, 1995-2008	260
Figure 10-52 U.S. SAMe Supplement Raw Material vs. Consumer Sales, 1998-2008	261
Figure 10-53 U.S. SAMe Supplement Consumer & Raw Material Sales Comparison, 1998-2008	261
Figure 10-54 SAMe Suppliers – Part I	262
Figure 10-55 SAMe Suppliers – Part II	263
Figure 10-56 U.S. MSM Supplement Raw Material vs. Consumer Sales, 1998-2008.....	264
Figure 10-57 U.S. MSM Supplement Consumer & Raw Material Sales Comparison, 1995-2008	264
Figure 10-58 MSM Suppliers – Part I	265
Figure 10-59 MSM Suppliers – Part II	266
Figure 10-60 MSM Suppliers – Part III	267
Figure 10-61 U.S. Gelatin Supplement Raw Material vs. Consumer Sales, 1998-2008.....	268
Figure 10-62 U.S. Gelatin Supplement Consumer & Raw Material Sales Comparison, 1995-2008	268
Figure 10-63 U.S. Digestive Enzyme Supplement Raw Material vs. Consumer Sales, 1998-2008	269
Figure 10-64 U.S. Digestive Enzyme Supplement Consumer & Raw Material Sales Comparison, 1995-2008	269
Figure 10-65 Enzyme Suppliers – Part I.....	270
Figure 10-66 Enzyme Suppliers – Part II	271
Figure 10-67 Enzyme Suppliers – Part III.....	272
Figure 10-68 U.S. Homeopathic Supplement Raw Material vs. Consumer Sales, 1998-2008.....	273
Figure 10-69 U.S. Homeopathic Supplement Consumer & Raw Material Sales Comparison, 1995-2008.....	273
Figure 11-1 U.S. Functional Food & Beverage Value Chain, 1998-2008.....	275
Figure 11-2 U.S. Raw Material Functional Food & Beverage Sales & Growth, 1997-2009e	276
Figure 11-3 U.S. Functional Food & Beverage vs. Total Nutrition Raw Material Sales, 1998-2008	276
Figure 11-4 U.S. Functional Food Raw Supply Sales Ratios, 1996-2009e.....	277
Figure 11-5 U.S. Functional Food & Beverage vs. Total Nutrition Raw Material Sales, 2009e-2017e	277
Figure 11-6 U.S. Raw Material Functional Food & Beverage Sales & Growth, 2000-2017e	278
Figure 11-7 U.S. Functional Food & Beverage Wholesale Sales & Growth, 1997-2009e.....	279
Figure 11-8 U.S. Functional Food & Beverage vs. Total Nutrition Wholesale Sales, 1998-2008.....	279
Figure 11-9 U.S. Functional Food & Beverage Wholesale Sales Ratios, 1996-2009e.....	280
Figure 11-10 U.S. Functional Food & Beverage vs. Total Nutrition Wholesale Sales, 2009e-2017e.....	280
Figure 11-11 U.S. Functional Food & Beverage Wholesale Sales & Growth, 2000-2017e.....	281

Figure 11-12 U.S. Functional Food & Beverage Consumer Sales by Product Category in 2008.....	282
Figure 11-13 U.S. Consumer Sales of Functional Food & Beverages vs. Total Nutrition Industry, 1998-2008.....	282
Figure 11-14 U.S. Functional Food & Beverage Consumer Sales & Growth, 1997-2009e	283
Figure 11-15 U.S. Functional Food & Beverage Consumer Sales by Channel, 2008	284
Figure 11-16 U.S. Functional Food & Beverage Consumer Sales and Annual Growth by Channel, 2006-2008....	284
Figure 11-17 U.S. Functional Food & Beverage vs. Total Nutrition Consumer Sales, 2009e-2017e	285
Figure 11-18 U.S. Functional Food & Beverage Consumer Sales & Growth, 2000-2017e	285
Figure 12-1 U.S. Natural & Organic Food & Beverage Value Chain, 1998-2008	287
Figure 12-2 U.S. Raw Material Natural & Organic Food & Beverage Sales & Growth, 1997-2009e	288
Figure 12-3 U.S. Natural & Organic Food & Beverage vs. Total Nutrition Raw Material Sales, 1998-2008.....	288
Figure 12-4 U.S. Natural & Organic Food & Beverage Raw Supply Sales Ratios, 1996-2009e	289
Figure 12-5 U.S. Natural & Organic Food & Beverage vs. Total Nutrition Raw Material Sales, 2009e-2017e	289
Figure 12-6 U.S. Natural & Organic Food & Beverage Raw Material Sales & Growth, 2000-2017e	290
Figure 12-7 U.S. Natural & Organic Food & Beverage Wholesale Sales & Growth, 1997-2009e.....	291
Figure 12-8 U.S. Natural & Organic Food & Beverage vs. Total Nutrition Wholesale Sales, 1998-2008	291
Figure 12-9 U.S. Natural & Organic Food & Beverage Wholesale Sales Ratios, 1996-2009e.....	292
Figure 12-10 U.S. Natural & Organic Food & Beverage vs. Total Nutrition Wholesale Sales, 2009e-2017e	292
Figure 12-11 U.S. Natural & Organic Food & Beverage Consumer Sales by Product Category in 2008	293
Figure 12-12 U.S. Consumer Sales of Natural & Organic Food & Beverages vs. Total Nutrition Industry, 1998-2008	294
Figure 12-13 U.S. Natural & Organic Food & Beverage Consumer Sales & Growth, 1997-2009e	294
Figure 12-14 U.S. Natural & Organic Food & Beverage Consumer Sales by Channel, 2008	295
Figure 12-15 U.S. Natural & Organic Food & Beverage Consumer Sales and Annual Growth by Channel, 2006-2008.....	295
Figure 12-16 U.S. Natural & Organic Food & Beverage vs. Total Nutrition Consumer Sales, 2009e-2017e	296
Figure 12-17 U.S. Natural & Organic Food & Beverage Consumer Sales & Growth, 2000-2017e	296
Figure 13-1 U.S. Natural & Organic Personal Care & Household Products Value Chain, 1998-2008.....	304
Figure 13-2 U.S. Raw Material Natural & Organic Personal Care & Household Products Sales & Growth, 1997-2009e.....	305
Figure 13-3 U.S. N&OPC & Household Products vs. Total Nutrition Raw Material Sales, 1998-2008	305
Figure 13-4 U.S. N&OPC & Household Products Raw Supply Sales Ratios, 1996-2009e	306
Figure 13-5 U.S. N&OPC & Household Products vs. Total Nutrition Raw Material Sales, 2009e-2017e	306
Figure 13-6 U.S. N&OPC & Household Products Raw Material Sales & Growth, 2000-2017e.....	307
Figure 13-7 U.S. N&OPC & Household Products Wholesale Sales & Growth, 1997-2009e	308
Figure 13-8 U.S. N&OPC & Household Products vs. Total Nutrition Wholesale Sales, 1998-2008.....	308
Figure 13-9 U.S. N&OPC & Household Products Wholesale Sales Ratios, 1996-2009e	309
Figure 13-10 U.S. N&OPC & Household Products vs. Total Nutrition Wholesale Sales, 2009e-2017e	309
Figure 13-11 U.S. N&OPC & Household Products Wholesale Sales & Growth, 2000-2017e	310
Figure 13-12 U.S. Total Natural & Organic Personal Care Sales by Product, 2008	311
Figure 13-13 U.S. Total Natural & Organic Household Product Sales by Product, 2008.....	312
Figure 13-14 U.S. Consumer Sales of N&OPC & Household Products vs. Total Nutrition Industry, 1998-2008...	312
Figure 13-15 U.S. N&OPC & Household Products Consumer Sales & Growth, 1997-2009e.....	313
Figure 13-16 U.S. N&OPC & Household Products Consumer Sales by Channel, 2008.....	314
Figure 13-17 U.S. N&OPC & Household Products Consumer Sales and Annual Growth by Channel, 2006-2008	315
Figure 13-18 U.S. N&OPC & Household Products vs. Total Nutrition Consumer Sales, 2009e-2017e	315
Figure 13-19 U.S. N&OPC & Household Products Consumer Sales & Growth, 2000-2017e.....	316

1. EXECUTIVE SUMMARY

The world is changing for companies that manufacture and supply raw materials and ingredients for the U.S. nutrition industry. Whether they grow or create the raw materials themselves or move ingredients into the market as brokers and distributors, supply companies face a number of opportunities and challenges created by everything from growing consumer concerns over supply safety to the continued impact of new supplement good manufacturing practices on the ingredient supply chain. Raw material suppliers also must deal with the issue of rising input costs and the effect of currency fluctuations while facing reduced or delayed purchase orders from their finished product customers.

Figure 1-1 U.S. Raw Material Supplement & Functional Ingredient Sales & Growth, 1997-2009e



Source: Nutrition Business Journal estimates. (\$mil., raw material sales, all channels) Functional ingredients includes only fortification ingredients for food and beverage products.

Looking down on the U.S. nutritional raw material & ingredient supply market one immediately notices that the economic downturn remains one of the most influential forces affecting this—and all—segments of the U.S. nutrition industry. Although the economy has taken its toll on raw material and ingredient supply companies, the segment as a whole continues to fare relatively well. In fact, nutritional raw material & ingredient sales to U.S. nutrition companies grew a healthy 11% in 2008—although this growth was driven in part by higher ingredient prices. Based on preliminary 2009 sales reports, *Nutrition Business Journal* is expecting total raw material & ingredient supply sales to increase another almost 9% in 2009.

That said, the more than 100 RMIS companies we surveyed and interviewed for this report acknowledged that demand from finished product manufacturers softened in late 2008 and early 2009, with many companies opting to delay new product introductions. The good news is that when we spoke to supply companies in September and early October 2009, some said they were beginning to see signs of a rebound in customer demand, particularly from large food and beverage companies looking to develop new functional products. On a contrary note, however, numerous supply companies indicated that they believe product innovation continues to be suppressed by the economic downturn—as well as by regulatory uncertainty, especially for supplement products containing new dietary ingredients.

Along with the economy, regulatory-related issues continue to impact the U.S. raw material & ingredient supply industry. The roll out of supplement good manufacturing practices (GMPs) continued this year, and although ingredient supply companies are not themselves required to comply, the new rules are certainly affecting suppliers. Manufacturers now have a greater financial incentive to ensure that they are purchasing quality ingredients, and many manufacturers are asking their suppliers to share the cost of increased ingredient testing and other quality-control measures. The new emphasis on quality control is also adding to the time it takes for business to get done between supplier and manufacturer.

Beyond the implementation of GMPs, suppliers, like all players within the U.S dietary supplement industry, must deal with the ramifications of increased FDA enforcement and the rumblings regarding potential changes to the Dietary Supplement Health and Education Act (DSHEA). As has been reported by NBJ, the FDA and FTC have been stepping up their enforcement of current dietary supplement regulations—as evident by this year's crack down on H1N1-related claims and steroid-spiked supplement products.

Finally, ingredient quality continues to be a primary and growing concern within the U.S. nutrition industry—and rightly so. Despite the implementation of GMPs, the issue of ingredient adulteration is actually escalating for some problematic ingredients.

Nutrition Business Journal's 2009 Raw Material & Ingredient Supply Report delves into these and other issues and includes NBJ's raw material & ingredient supply sales and growth estimates for functional foods and beverages, dietary supplements, natural & organic foods and beverages, and natural & organic personal care and household products.

In this report you will find:

- A competitive analysis of and discussion of trends affecting individual raw material and ingredient product categories within the U.S. nutrition industry
- Detailed sections for all supplement subcategories, including: vitamins, herbs & botanicals, minerals, sports nutrition, meal supplements and specialty supplements. Special sections for functional food and natural & organic personal care supply are also included
- A category overview of pricing and supply trends for vitamins, minerals, herbs & botanicals and specialty ingredients, including fish oil, probiotics, whey protein, CoQ10 and more
- 1-page business profiles of 139 ingredient supply and contract manufacturing companies serving the U.S. market. These profiles include raw material sales by product, company bio and recent news, and an NBJ "bottom line" analysis
- Quantification of the U.S. nutrition industry supply chain, including market size estimates for raw materials, wholesale sales and consumer sales
- Detailed results from NBJ's 2009 Raw Material & Ingredient Supply survey
- A look at how new supplement good manufacturing practices (GMPs) are affecting supply companies, as well as a discussion of potential regulatory changes and how they could impact the U.S. nutrition industry supply chain
- Exploration of current profit margin pressures and currency issues affecting ingredient suppliers
- Discussion of how the economy is impacting the ingredient supply segment of the U.S. nutrition industry
- A list of the leading nutrition industry raw material & ingredient suppliers
- Ingredient trends likely to drive nutrition industry growth in 2010