CHAPTER ONE: INTRODUCTION 1
STUDY GOALS AND OBJECTIVES 1
REASONS FOR DOING THE STUDY 1
INTENDED AUDIENCE 2
SCOPE OF REPORT 2
INFORMATION SOURCES 2
RELATED BCC REPORTS 3
BCC ONLINE SERVICES 3
DISCLAIMER 3

CHAPTER TWO: SUMMARY 4
SUMMARY TABLE GLOBAL NUTRACEUTICALS MARKET – FOODS, BEVERAGES AND SUPPLEMENTS, THROUGH 2016 ($ MILLIONS) 4
SUMMARY FIGURE GLOBAL NUTRACEUTICAL MARKET – FOODS, BEVERAGES AND SUPPLEMENTS, 2009-2016 ($ MILLIONS) 5

CHAPTER THREE: MARKET OVERVIEW 6
MARKET OVERVIEW 6
FIGURE 1 FUNCTIONAL FOOD, BEVERAGE, AND SUPPLEMENT MARKET 7
DUAL COMPETITION IN FUNCTIONAL FBS MARKET 7
FALSE PRODUCT CLAIMS DAMAGING OVERALL MARKET 8
STAKEHOLDERS' OPPORTUNITIES IN THE GROWING FUNCTIONAL FBS MARKET 8
SUPPLY SIDE AND DEMAND SIDE FACTORS INFLUENCE SECTOR 8
DEMAND-SIDE DRIVERS 9
The Elderly Population Expands 9
Young Consumers' Focus on Health 9
Obesity Epidemic 9
SUPPLY-SIDE DRIVERS 9
Nutraceuticals Offer Premiumization Opportunity 9
Media and Science Are Pushing the Functional Market into the Mainstream 10
Escalating Health Care Costs 10
Technology Driving Higher Efficacy 10
DEFINING THE NUTRACEUTICAL MARKET: FUNCTIONAL FOOD, BEVERAGE, AND SUPPLEMENT (FBS) MARKET 10
DEFINING THE FUNCTIONAL FOOD PRODUCT MARKET 11
TABLE 1 GLOBAL NUTRACEUTICAL FOOD PRODUCT MARKET, THROUGH 2016 ($ MILLIONS) 11
DEFINING THE FUNCTIONAL BEVERAGE MARKET 12
TABLE 2 GLOBAL NUTRACEUTICAL BEVERAGE MARKET, THROUGH 2016 ($ MILLIONS) 12

DEFINING THE FUNCTIONAL SUPPLEMENTS MARKET........... 12
TABLE 3 GLOBAL NUTRACEUTICAL SUPPLEMENTS MARKET, THROUGH 2016 ($ MILLIONS)... 13
DEFINING THE FUNCTIONAL INGREDIENTS MARKET 13
TABLE 4 GLOBAL NUTRACEUTICAL INGREDIENTS MARKET, THROUGH 2016 ($ MILLIONS)... 13
DEFINING THE FUNCTIONAL APPLICATION MARKET — FOCUS ON HEALTH SEGMENTS AND DISEASES.................... 14
TABLE 5 GLOBAL NUTRACEUTICAL HEALTH APPLICATION MARKET, THROUGH 2016 ($ MILLIONS) 14
MARKET STRUCTURE 14
FUNCTIONAL PRODUCT MARKET — PREMIUM VS. MASS MARKET POSITIONING 15
Premium Pricing and Margin Expansion................................. 15
FUNCTIONAL MARKET — SUPPLY-SIDE STAKEHOLDER VALUE CHAIN... 16
TABLE 6 GLOBAL NUTRACEUTICAL MARKET — BY STAKEHOLDERS, THROUGH 2016 ($ MILLIONS) 16
FUNCTIONAL MARKET —CONSUMER MARKET SEGMENTATION 16
Children/Teenager 17
Women... 17
Men.. 17
Aging Boomers and Old Age 17
NONCOMMERCIAL FOOD PLACES — EARLY ADOPTERS........... 17
EVOLUTION OF FUNCTIONAL FBS MARKET.. 18
FIGURE 2 EVOLUTION OF FUNCTIONAL FOOD AND BEVERAGE MARKET 18
PHARMACEUTICAL COMPANIES AND FUNCTIONAL FOODS 19
FIGURE 3 TARGET MARKET OVERLAP OF PHARMA AND FUNCTIONAL FOODS 19
PHARMACEUTICAL COMPANIES …(CONTINUED)....................... 20

CHAPTER FOUR: NUTRACEUTICALS MARKET- STRATEGIC INSIGHT 21
FUNCTIONAL FOOD, BEVERAGE, AND SUPPLEMENT MARKET DYNAMICS... 21
FIGURE 4 COMPARATIVE GROWTH ANALYSIS OF FUNCTIONAL FBS 22
TRENDS AND OPPORTUNITIES 23
QUALITY PRODUCTS WITH IMPROVED HEALTH BENEFITS 23
FUNCTIONAL FOOD MAKEOVER OF EXISTING BRANDS WITH VITAMINS AND MINERALS... 23
ENTRY INTO MAINSTREAM 23
PREMIUMIZATION 23

NEW PRODUCT DEVELOPMENT (NPD) ... 24
LICENSING AND PARTNERING STRATEGIES ... 24
FOCUS ON WEALTHIER CONSUMERS ... 24
EXPLOITING NEW MARKETS AND DISTRIBUTION ... 24
CONSOLIDATION ... 24
VEGETARIAN AND ANTIALLERGEN PRODUCTS ... 25
SHORTENING THE LIFE CYCLE OF THE LAUNCH ... 25
SEEKING APPROVED HEALTH CLAIMS ... 25
CAPITALIZING ON NICHE MARKETS ... 25
PRIVATE LABELS IN THE FBS SPACE ... 25
MULTIPLE HEALTH BENEFITS ... 26
THE EMERGING CHILDREN'S MARKET ... 26
TABLE 7 SELECTED NUTRITIONAL PRODUCTS LAUNCHED FOR CHILDREN ... 26
BLOCKBUSTER PRODUCTS ... 27
TABLE 8 SELECTED BLOCKBUSTER NUTRACEUTICAL PRODUCTS ... 27
TABLE 8 (CONTINUED) ... 28
CONSOLIDATION IN FUNCTIONAL FBS MARKET ... 28
TABLE 9 SELECTED MAJOR ACQUISITIONS IN FUNCTIONAL FBS MARKET ... 29
TABLE 9 (CONTINUED) ... 30
TABLE 10 SELECTED JOINT VENTURE/PARTNERSHIP AGREEMENTS ... 31
TABLE 10 (CONTINUED) ... 32

CHAPTER FIVE: INGREDIENT MARKET ... 33
GLOBAL NUTRACEUTICAL FOOD MARKET BY INGREDIENT ... 33
TABLE 11 GLOBAL NUTRACEUTICAL FOOD MARKET BY INGREDIENT, THROUGH 2016 ($ MILLIONS) ... 33
GLOBAL NUTRACEUTICAL BEVERAGE MARKET BY INGREDIENT ... 33
TABLE 12 GLOBAL NUTRACEUTICAL BEVERAGE MARKET BY INGREDIENT, THROUGH 2016 ($ MILLIONS) ... 34
GLOBAL NUTRACEUTICAL SUPPLEMENT MARKET BY INGREDIENT ... 34
TABLE 13 GLOBAL NUTRACEUTICAL SUPPLEMENT MARKET BY INGREDIENT, THROUGH 2016 ($ MILLIONS) ... 34
PROTEIN AND PEPTIDES ... 35
TABLE 14 GLOBAL NUTRACEUTICAL PROTEIN MARKET BY PRODUCT TYPES, THROUGH 2016 ($ MILLIONS) ... 35
GLOBAL NUTRACEUTICAL PROTEIN MARKET BY PRODUCT TYPES ... 35
TABLE 15 GLOBAL NUTRACEUTICAL PROTEIN-BASED FOOD MARKET BY PRODUCT TYPES, THROUGH 2016 ($ MILLIONS) ... 36
GLOBAL NUTRACEUTICAL PROTEIN MARKET BY REGION ... 36

TABLE 16 GLOBAL NUTRACEUTICAL PROTEIN MARKET, BY REGION, THROUGH 2016 ($ MILLIONS) *36*
MAJOR MARKET DRIVERS 37
Sports Beverages Drive Protein Demand 37
Cost Pressure is Leading to More Innovation in Protein Ingredients 37
PROTEIN TYPES 38
Soy Protein 38
Whey Becoming Mainstream for Sports Drinks 39
Definition and Structure 39
Whey Products in Functional Beverages 39
Whey Used in Smoothies 40
Whey Proteins and Controlled Release of Bioactives 40
Whey Isolates for Weight Loss Market 40
Whey Protein Targeting Infant Nutrition 41
Amino Acids Finding a Niche Market within Proteins 41
Other Protein Sources 41
TABLE 17 SELECTED OTHER MAJOR PROTEIN PRODUCTS *42*
PROBIOTICS/PREBIOTICS 43
DEFINITION AND STRUCTURE 43
TABLE 18 GLOBAL NUTRACEUTICAL PROBIOTIC MARKET BY PRODUCT TYPE, THROUGH 2016 ($ MILLIONS) *44*
GLOBAL NUTRACEUTICAL PROBIOTIC FOOD MARKET BY PRODUCTS 44
TABLE 19 GLOBAL NUTRACEUTICAL PROBIOTIC FOOD MARKET BY FOOD PRODUCT, THROUGH 2016 ($ MILLIONS) *45*
GLOBAL NUTRACEUTICAL PROBIOTIC MARKET BY REGION 45
TABLE 20 GLOBAL NUTRACEUTICAL PROBIOTIC MARKET BY REGION, THROUGH 2016 ($ MILLIONS) *45*
PREBIOTICS 46
MARKET DRIVERS 46
Probiotics Benefit People with Particular Needs 46
Innovative Packaging Leads to More Use of Probiotics in Nondairy Products 46
Probiotic-Based Foods and Beverages Gain Popularity 47
TABLE 21 COMPETITIVE OUTLOOK *47*
OMEGA-3 48
DEFINITION AND STRUCTURE 48
TABLE 22 GLOBAL NUTRACEUTICAL OMEGA MARKET BY PRODUCT TYPE, THROUGH 2016 ($ MILLIONS) *49*
GLOBAL NUTRACEUTICAL OMEGA-3 MARKET BY REGION 49
TABLE 23 GLOBAL NUTRACEUTICAL OMEGA MARKET BY GEOGRAPHY, THROUGH 2016 ($ MILLIONS) *49*

GLOBAL NUTRACEUTICAL PROBIOTIC FOOD MARKET BY PRODUCTS 49
TABLE 24 GLOBAL NUTRACEUTICAL OMEGA-3-BASED FOOD MARKET BY PRODUCTS, THROUGH 2016 ($ MILLIONS) 50
MARKET DRIVERS 50
Omega-3 Products Moving into Mainstream Markets 50
Higher Recommended Daily Intake (RDI) Could Boost Omega-3 Market 51
Consumers Shift Fat Strategy: Low Saturated Fat, No Trans Fat 51
FLAX AS AN ALTERNATIVE SOURCE FOR OMEGA-3 51
COMPETITIVE OUTLOOK 52
TABLE 25 SELECTED NEW OMEGA-3 PRODUCTS 52
FIBER 53
DEFINITION 53
TABLE 26 GLOBAL NUTRACEUTICAL FIBER MARKET BY PRODUCT TYPES, THROUGH 2016 ($ MILLIONS) 53
GLOBAL NUTRACEUTICAL FIBER FOOD MARKET BY PRODUCTS 54
TABLE 27 GLOBAL NUTRACEUTICAL FIBER FOOD MARKET BY PRODUCT, THROUGH 2016 ($ MILLIONS) 54
GLOBAL NUTRACEUTICAL FIBER MARKET BY REGION 54
TABLE 28 GLOBAL NUTRACEUTICAL FIBER MARKET BY REGION, THROUGH 2016 ($ MILLIONS) 55
Major Incumbents Focus on Fiber Market 55
WHOLE GRAINS: BECOMING MAINSTREAM 55
Breads and Food Bars: Major Product Category to Include Whole Grain 56
TABLE 29 SELECTED MAJOR BREADS AND FOOD BARS PRODUCTS 56
Whole Grain Products 56
TABLE 30 SELECTED FIBER-BASED PRODUCTS 56
Inhibitors in the Whole Grain Market 57
TABLE 31 SELECTED WHOLE GRAIN PRODUCTS 57
High-fiber Foods with Low Glycemic Index: Effects on Diabetes 58
Beta-glucan 58
COMPETITIVE OUTLOOK 58
GLUTEN-FREE FIBER 59
FIBER AS A SUGAR SUBSTITUTE 59
VITAMINS AND MINERALS 59
TABLE 32 GLOBAL NUTRACEUTICAL VITAMIN AND MINERAL MARKET BY GEOGRAPHIC REGION, THROUGH 2016 ($ MILLIONS) 60

GENETICALLY MODIFIED (GM)-FREE AND ALLERGEN-FREE VITAMINS 60
OTHER PHYTOCHEMICALS MARKET 60
TABLE 33 GLOBAL NUTRACEUTICAL PHYTOCHEMICAL MARKET BY PRODUCT TYPE, THROUGH 2016 ($ MILLIONS) 61
PHYTOCHEMICALS BLOCKBUSTERS 61
TABLE 34 GLOBAL NUTRACEUTICAL PHYTOCHEMICAL-BASED FOOD MARKET BY PRODUCT, THROUGH 2016 ($ MILLIONS) 62
TABLE 35 GLOBAL NUTRACEUTICAL PHYTOCHEMICAL-BASED BEVERAGE MARKET BY PRODUCT, THROUGH 2016 ($ MILLIONS) 62
TABLE 36 GLOBAL NUTRACEUTICAL PHYTOCHEMICAL MARKET BY REGION, THROUGH 2016 ($ MILLIONS) 63
PLANT STEROLS: TARGETING THE CHOLESTEROL MARKET 63
Definition and Structure 63
TABLE 37 SELECTED MAJOR PLANT STEROLS PRODUCTS 64
COMPETITIVE OUTLOOK 64
ANTIOXIDANTS 64
TABLE 38 SELECTED MAJOR ANTIOXIDANTS PRODUCTS 65
Antioxidants Market Is Growing and Enjoying Higher Premiumization 65
Best-selling Antioxidants 66
FIGURE 5 TOP SELLING ANTIOXIDANTS (%) 66

CHAPTER SIX: GLOBAL NUTRACEUTICAL FOOD 67
TABLE 39 GLOBAL NUTRACEUTICAL FOOD MARKET BY REGION, THROUGH 2016 ($ MILLIONS) 67
GLOBAL NUTRACEUTICAL FOOD MARKET BY CATEGORY — MARKET OVERVIEW 67
FIGURE 6 GLOBAL NUTRACEUTICAL FOOD MARKET BY CATEGORY IN 2010 (%) 68
FIGURE 6 (CONTINUED) 69
SUGAR AND CONFECTIONERY: $ 13.2 BILLION MARKET 69
TABLE 40 GLOBAL CONEFECTIONERY AND SUGAR REPLACEMENTS MARKET BY REGION, THROUGH 2016 ($ MILLIONS) 70
Global Confectionery and Sugar Replacements Market by Ingredients 70
TABLE 41 GLOBAL CONFECTIONERY AND SUGAR REPLACEMENTS MARKET BY INGREDIENT, THROUGH 2016 ($ MILLIONS) 70
Confectionery with Vitamins and Minerals on Store Shelves 70

Dark Chocolate a Major Category for Total Global Sugar Confectionery Sales ... 71
Popular Confectionery Products ... 71
TABLE 42 SELECTED CONFECTIONERY PRODUCTS ... 71
Alternative Sweeteners ... 72
TABLE 43 SELECTED ALTERNATIVE SWEETENERS ... 72
Breakdown of Confectionery and Sugar Market by Geography and Major Ingredient ... 72
TABLE 44 GLOBAL PROTEIN-BASED CONFECTIONERY AND SUGAR REPLACEMENTS MARKET BY REGION, THROUGH 2016 ($ MILLIONS) ... 73
TABLE 45 GLOBAL PROBIOTIC-BASED CONFECTIONERY AND SUGAR REPLACEMENTS MARKET BY REGION, THROUGH 2016 ($ MILLIONS) ... 73
TABLE 46 GLOBAL OMEGA-3-BASED CONFECTIONERY AND SUGAR REPLACEMENTS MARKET BY REGION, THROUGH 2016 ($ MILLIONS) ... 73
BAKERY MARKET OVERVIEW: $10.1 BILLION ... 74
TABLE 47 GLOBAL NUTRACEUTICAL BAKERY FOOD MARKET BY REGION, THROUGH 2016 ($ MILLIONS) ... 74
Bakery Market Overview by Product Types ... 74
TABLE 48 GLOBAL NUTRACEUTICAL BAKERY FOOD MARKET BY CATEGORY, THROUGH 2016 ($ MILLIONS) ... 75
Global Nutraceutical Bakery Food Markets by Ingredients ... 75
TABLE 49 GLOBAL NUTRACEUTICAL BAKERY FOOD MARKET BY INGREDIENT, THROUGH 2016 ($ MILLIONS) ... 75
Breads: A $7 Billion Market ... 76
TABLE 50 GLOBAL NUTRACEUTICAL BREAD FOOD MARKET BY REGION, THROUGH 2016 ($ MILLIONS) ... 76
Global Nutraceutical Breads Market by Ingredients ... 77
TABLE 51 GLOBAL NUTRACEUTICAL BREAD FOOD MARKET BY INGREDIENT, THROUGH 2016 ($ MILLIONS) ... 77
Global Fiber Breads Market ... 77
TABLE 52 GLOBAL NUTRACEUTICAL FIBER BREAD FOOD MARKET BY GEOGRAPH, THROUGH 2016 ($ MILLIONS) ... 78
Global Nutraceutical Cookies and Crackers Market by Region — Market Overview ... 78
TABLE 53 GLOBAL NUTRACEUTICAL COOKIES AND CRACKERS FOOD MARKET BY REGION, THROUGH 2016 ($ MILLIONS) ... 79
Global Nutraceutical Cookies and Crackers Market by Types of Ingredients ... 79
TABLE 54 GLOBAL COOKIES AND CRACKERS FOOD MARKET BY CATEGORY, THROUGH 2016 ($ MILLIONS) ... 79

High-Protein Pasta Suits Sports Market 80
SNACKS: $8.8 BILLION MARKET 80
TABLE 55 GLOBAL NUTRACEUTICAL SNACKS MARKET BY REGION THROUGH 2016 ($ MILLIONS) 81
Cereal Bars: Key Snack Food Product....................................... 81
Consumer Preference for Healthy Snacks................................. 81
Functional Snacks Market by Ingredient.................................. 82
TABLE 56 GLOBAL NUTRACEUTICAL SNACKS MARKET BY CATEGORY, THROUGH 2016 ($ MILLIONS).. 82
Cereal Manufacturers Shifting to Snacks Market..................... 82
Demand for Gluten-free Cereal Increasing 82
Whole Grain and Oat Cereals Driving the Cereal Market in Europe 83
Developing Countries Are Rapidly Growing Markets for Functional Snacks 83
Convenient Meals Potential Competitor for Functional Snacks 83
TABLE 57 SELECTED TOP-SELLING FUNCTIONAL SNACK PRODUCTS... 83
Breakdown of Snacks Market by Region 84
TABLE 58 GLOBAL NUTRACEUTICAL FIBER-BASED SNACKS MARKET BY GEOGRAPHY, THROUGH 2016 ($ MILLIONS) 85
SUPER FRUITS 85
TABLE 59 GLOBAL FROZEN AND SPECIALTY FRUITS NUTRACEUTICALS MARKET BY CATEGORY, THROUGH 2016 ($ MILLIONS) 85
TABLE 60 GLOBAL FROZEN AND SPECIALTY FRUITS NUTRACEUTICAL MARKET BY REGION, THROUGH 2016 ($ MILLIONS) 86
Sweeteners, Syrups, and Jellies Are Main Forms of Functional Fruit 86
Popular Super Fruits... 86
TABLE 61 SELECTED SUPER FRUITS BY CONTENT 87
TABLE 62 SELECTED SUPER FRUIT PRODUCTS 87
DAIRY NONDRINKABLE PRODUCTS: $7.6 BILLION MARKET 87
TABLE 63 GLOBAL NUTRACEUTICAL DAIRY MARKET BY CATEGORY, THROUGH 2016 ($ MILLIONS)... 88
Probiotic Ice Creams Dominate Functional Ice Cream Products Segment 88
Dairy Companies Pursue Functional Margarines 89
Popular Functional Dairy Nondrinkable Products 89
TABLE 64 SELECTED FUNCTIONAL DAIRY PRODUCTS 89
FUNCTIONAL FLOUR MARKET 89

TABLE 65 GLOBAL NUTRACEUTICAL FLOUR MARKET BY REGION, THROUGH 2016 ($ MILLIONS).. 90
MEAT AND POULTRY: NEGLECTED OPPORTUNITY.................... 90
TABLE 66 GLOBAL MEAT AND MEAT REPLACMENTS NUTRACEUTICALS MARKET BY REGION, THROUGH 2016 ($ MILLIONS) 90
Noncommercial Markets: Early Adopters of Functional Meat 91
Nonallergen Functional Meat to Find Increasing Market......... 91
New Alternative Food: Egg Replacement Ingredients/products 91
GLOBAL NUTRACEUTICAL BEVERAGE MARKET 91
GLOBAL NUTRACEUTICAL BEVERAGE MARKET BY PRODUCT CATEGORY 92
FIGURE 7 GLOBAL NUTRACEUTICAL BEVERAGE MARKET BY CATEGORY IN 2010 (%) 92
FIGURE 7 (CONTINUED) 93
GLOBAL NUTRACEUTICAL BEVERAGE MARKET BY REGION 93
TABLE 67 GLOBAL NUTRACEUTICAL BEVERAGE MARKET BY REGION, THROUGH 2016 ($ MILLIONS) 94
FRUIT AND VEGETABLE JUICES AND DRINKS 94
TABLE 68 GLOBAL NUTRACEUTICAL FRUIT AND VEGETABLE JUICE MARKET BY GEOGRAPHY, THROUGH 2016 ($ MILLIONS)....... 95
TABLE 69 SELECTED TOP-SELLING FUNCTIONAL JUICE PRODUCTS.. 95
NONCARBONATED DRINKS 96
TABLE 70 GLOBAL NONCARBONATED DRINKS MARKET BY CATEGORY, THROUGH 2016 ($ MILLIONS)... 96
Global Functional Noncarbonated Drinks Market by Region 96
TABLE 71 GLOBAL NONCARBONATED DRINKS MARKET BY REGION, THROUGH 2016 ($ MILLIONS) 97
CSD Companies Shifting to Functional Beverages for Growth 97
Sports and Energy Drinks Now Mainstream and Leading Companies Are Chasing Market Growth 97
TABLE 72 SELECTED TOP-SELLING FUNCTIONAL NONCARBONATED DRINKS... 98
Noncarbonated Drinks/Functional Water 98
Leading Beverage Companies Expanding Their Presence in the Functional Water Market... 99
TEA AND COFFEE... 99

TABLE 73 GLOBAL TEA AND COFFEE NUTRACEUTICAL MARKET BY INGREDIENT CATEGORY, THROUGH 2016 ($ MILLIONS) *100*
Global Tea and Coffee Nutraceutical Market by Region 100
TABLE 74 GLOBAL TEA AND COFFEE NUTRACEUTICAL MARKET BY REGION, THROUGH 2016 ($ MILLIONS) *100*
Ready-to-drink Green Tea Goes Mainstream.......................... 101
Tea Market Is Rapidly Expanding in the U.S. 101
Weight Reduction Claims Will Fuel Black Tea Demand 101
RTD Tea and Coffee Marketed as Alternative to Carbonated Soft Drinks 101
Functional Tea Extracts Introduced in Functional Foods 102
Flavored Functional Tea Targets Specific Markets 102
Functional Coffee............ 102
Top-selling Functional Tea Products 102
TABLE 75 SELECTED TOP SELLING PRODUCTS............ *103*
DAIRY AND DAIRY ALTERNATIVE DRINKS 103
TABLE 76 GLOBAL DRINKABLE YOGURTS AND OTHER DAIRY DRINKS MARKET BY INGREDIENT, THROUGH 2016 ($ MILLIONS) *104*
Global Drinkable Yogurt and Other Dairy Drinks Market by Region 104
TABLE 77 GLOBAL DRINKABLE YOGURTS AND OTHER DAIRY DRINKS MARKET BY REGION, THROUGH 2016 ($ MILLIONS) *104*
Dairy Market Sees Functional Dairy Products as a Way to Safeguard Financial Bottom Line 105
TABLE 78 SELECTED TOP-SELLING FERMENTED FUNCTIONAL DAIRY BEVERAGES *105*
TABLE 79 SELECTED TOP-SELLING NONFERMENTED FUNCTIONAL DAIRY BEVERAGES *105*
TABLE 80 SELECTED TOP-SELLING PROBIOTIC DRINKABLE YOGURTS *106*
Probiotic Yogurt and Other Dairy Drinks Market Overview by Region............ 107
TABLE 81 GLOBAL PROBOITIC DRINKABLE YOGURTS AND OTHER DAIRY DRINKS MARKET BY REGION, THROUGH 2016 ($ MILLIONS) *107*
TABLE 82 SELECTED FUNCTIONAL DAIRY ALTERNATIVE BEVERAGES — SOY MILK *108*
GLOBAL NUTRACEUTICAL SUPPLEMENT MARKET............ 108
TABLE 83 GLOBAL NUTRACEUTICAL SUPPLEMENTS MARKET BY REGION, THROUGH 2016 ($ MILLIONS) *108*
GLOBAL NUTRACEUTICAL SUPPLEMENT MARKET BY INGREDIENT TYPE 109

TABLE 84 GLOBAL NUTRACEUTICAL SUPPLEMENTS MARKET BY INGREDIENT TYPE, THROUGH 2016 ($ MILLIONS) *109*
Calcium and Multivitamins: Major Mainstream Supplements 109

CHAPTER SEVEN: APPLICATIONS 110
FIGURE 8 NUTRACEUTICAL GLOBAL APPLICATION MARKET, 2010 (%) *110*
FIGURE 8 (CONTINUED) *111*
WEIGHT MANAGEMENT: $20.7 BILLION MARKET 111
TABLE 85 GLOBAL WEIGHT MANAGEMENT APPLICATION MARKET BY REGION, THROUGH 2016 ($ MILLIONS) *112*
FUNCTIONAL BREAKFAST/SNACKS DOING WELL IN WEIGHT MANAGEMENT SEGMENT 112
GUARANTEEING WEIGHT LOSS IS BLOCKBUSTER OPPORTUNITY 112
APPETITESUPPRESSION/ SATIETY PRODUCTS DOING BETTER 113
FUNCTIONAL FOOD MARKET TARGETING WEIGHT MANAGEMENT THROUGH MULTIPLE DIET PROGRAMS.... 113
TABLE 86 SELECTED TOP-SELLING PRODUCTS: WEIGHT MANAGEMENT *114*
BEST-SELLING INGREDIENTS 114
TABLE 87 SUMMARY OF SELECTED NEW FUNCTIONAL INGREDIENTS *115*
TABLE 88 SELECTED TOP-SELLING SATIETY/APPETITE SUPPRESSION PRODUCTS *116*
TABLE 89 COMPETITIVE OUTLOOK *117*
TABLE 89 (CONTINUED) *118*
DIGESTIVE HEALTH, GI, AND IMMUNITY: $17.3 BILLION MARKET 118
TABLE 90 GLOBAL GI APPLICATION MARKET BY REGION, THROUGH 2016 ($ MILLIONS) *119*
TABLE 91 SELECTED BEST-SELLING GI PRODUCTS *119*
HEART HEALTH: $19.8 BILLION MARKET 119
TABLE 92 GLOBAL HEART HEALTH APPLICATION MARKET BY GEOGRAPHY, THROUGH 2016 ($ MILLIONS) *120*
OMEGA-3, WHOLE GRAINS, AND ANTIOXIDANTS LEAD THE HEART HEALTH MARKET 120
FIGURE 9 HEART HEALTH CLAIMS BY FUNCTIONAL INGREDIENT TYPES (%) *121*
TABLE 93 SELECTED INGREDIENTS FOR HEART HEALTH *121*
TABLE 94 SELECTED TOP-SELLING HEART HEALTH FUNCTIONAL PRODUCTS *122*

TABLE 95 SELECTED HEART HEALTH FUNCTIONAL PRODUCTS BASED ON TARGETED APPLICATIONS ... *122*
ANTIAGING AND BEAUTY: $8.9 BILLION ... 123
MARKET OVERVIEW ... 123
TABLE 96 GLOBAL ANTIAGING AND BEAUTY APPLICATION MARKET BY REGION, THROUGH 2016 ($ MILLIONS) ... *124*
ALOE VERA TO DOMINATE FUNCTIONAL BEAUTY FOOD MARKET ... 124
FIGURE 10 FUNCTIONAL FBS MARKET FOR BEAUTY (%) ... *124*
FIGURE 10 (CONTINUED) ... *125*
FIGURE 11 THE COSMECEUTICALS MARKET IN U.S. BY SEGMENT, 2010 (%) ... *125*
FUNCTIONAL FOODS INGREDIENTS FOR COSMECEUTICAL APPLICATIONS ... 126
TABLE 97 SELECTED NEW FUNCTIONAL INGREDIENTS FOR BEAUTY APPLICATIONS ... *126*
TABLE 98 SELECTED BEST-SELLING PRODUCTS ... *127*
TABLE 99 SELECTED NEW FUNCTIONAL PRODUCTS BY BEAUTY APPLICATIONS ... *127*
SPORTS AND ENERGY: $46.2 BILLION MARKET ... 127
TABLE 100 GLOBAL SPORTS AND ENERGY APPLICATION MARKET BY REGION, THROUGH 2016 ($ MILLIONS) ... *128*
TOP-SELLING PRODUCTS ... 129
TABLE 101 OTHER SELECTED SPORTS AND ENERGY PRODUCTS AND INGREDIENTS ... *129*
MANUFACTURERS EYE SPORTS AND ENERGY MARKET FOR BLOCKBUSTER POTENTIAL ... 130
SPORTS AND ENERGY DRINK COMPANIES TO FOCUS ON FEMALE CUSTOMERS ... 130
INCREASING OPPORTUNITIES FOR NEWER FORMULATIONS ... 130
ASIAN MARKET PROVIDES OPPORTUNITY FOR SPORTS DRINKS ... 130
REGULATORY ISSUES RESTRICT ENERGY PRODUCTS FOR CERTAIN CONSUMER SEGMENTS ... 131
TYPE 2 DIABETES ... 131
TABLE 102 GLOBAL DIABETES APPLICATION MARKET BY REGION, THROUGH 2016 ($ MILLIONS) ... *132*
LOW GLYCEMIC (GI) FOOD AND VITAMIN C ARE GROWING AT HEALTHY RATE ... 132
TABLE 103 SELECTED TOP-SELLING LOW-GLYCEMIC PRODUCTS ... *133*
GENERAL WELLNESS ... 133
TABLE 104 GLOBAL GENERAL WELLNESS APPLICATION MARKET BY REGION, THROUGH 2016 ($ MILLIONS) ... *134*

GLUTEN-FREE/CELIAC DISEASE 134
MEMORY AND MENTAL HEALTH PRODUCT MARKET TAPPING MAINLY CHILDREN 134
TABLE 105 GLOBAL MEMORY AND MENTAL HEALTH APPLICATION MARKET BY REGION, THROUGH 2016 ($ MILLIONS) 135
TABLE 106 SELECTED POPULAR MEMORY PRODUCTS 135

CHAPTER EIGHT: INTERNATIONAL MARKETS 136
U.S. NUTRACEUTICALS MARKET 136
U.S. NUTRACEUTICAL PRODUCT MARKET OVERVIEW 136
TABLE 107 U.S. NUTRACEUTICAL PRODUCT MARKET, THROUGH 2016 ($ MILLIONS) 136
U.S. NUTRACEUTICAL BEVERAGE MARKET OVERVIEW 137
TABLE 108 U.S. NUTRACEUTICAL BEVERAGE PRODUCT MARKET, THROUGH 2016 ($ MILLIONS) 137
U.S. NUTRACEUTICAL FOOD MARKET OVERVIEW 137
TABLE 109 U.S. NUTRACEUTICAL FOOD PRODUCT MARKET, THROUGH 2016 ($ MILLIONS) 138
U.S. NUTRACEUTICAL HEALTH APPLICATION MARKET OVERVIEW 138
TABLE 110 U.S. NUTRACEUTICAL HEALTH APPLICATION MARKET, THROUGH 2016 ($ MILLIONS) 138
EUROPE'S NUTRACEUTICALS MARKET 139
EUROPE'S NUTRACEUTICALS PRODUCT MARKET OVERVIEW 139
TABLE 111 EUROPE'S NUTRACEUTICALS PRODUCT MARKET, THROUGH 2016 ($ MILLIONS) 139
EUROPE'S NUTRACEUTICAL BEVERAGE MARKET OVERVIEW 139
TABLE 112 EUROPE'S NUTRACEUTICAL BEVERAGE PRODUCT MARKET, THROUGH 2016 ($ MILLIONS) 140
EUROPE'S NUTRACEUTICAL FOOD MARKET OVERVIEW 140
TABLE 113 EUROPE'S NUTRACEUTICAL FOOD PRODUCT MARKET, THROUGH 2016 ($ MILLIONS) 140
EUROPE'S NUTRACEUTICAL HEALTH APPLICATION MARKET OVERVIEW 141
TABLE 114 EUROPE'S NUTRACEUTICAL HEALTH APPLICATION MARKET, THROUGH 2016 ($ MILLIONS) 141
JAPAN'S NUTRACEUTICAL MARKET 141
JAPAN'S NUTRACEUTICALS PRODUCT MARKET OVERVIEW 141
TABLE 115 JAPAN'S NUTRACEUTICAL PRODUCT MARKET, THROUGH 2016 ($ MILLIONS) 142

JAPAN'S NUTRACEUTICAL BEVERAGE MARKET OVERVIEW ... 142
TABLE 116 JAPAN'S NUTRACEUTICAL BEVERAGE PRODUCT MARKET, THROUGH 2016 ($ MILLIONS) ... 142
JAPAN'S NUTRACEUTICAL FOOD MARKET OVERVIEW ... 143
TABLE 117 JAPAN'S NUTRACEUTICAL FOOD PRODUCT MARKET, THROUGH 2016 ($ MILLIONS) ... 143
JAPAN'S NUTRACEUTICAL HEALTH APPLICATION MARKET OVERVIEW ... 143
TABLE 118 JAPAN'S NUTRACEUTICAL HEALTH APPLICATION MARKET, THROUGH 2016 ($ MILLIONS) ... 144

CHAPTER NINE: FUNCTIONAL FOODS MARKET PATENT OVERVIEW ... 145
FUNCTIONAL FOODS MARKET PATENT ANALYSIS ... 145
GENERAL TRENDS ... 145
TABLE 119 NUMBER OF NUTRACEUTICALS PATENTS, 2003–2008 ... 146
TRENDS BY APPLICATION ... 146
FIGURE 12 NUTRACEUTICALS PATENT FILED — BY HEALTH APPLICATIONS (%) ... 146
FIGURE 12 (CONTINUED) ... 147

CHAPTER TEN: COMPANY PROFILES ... 148
ALPRO UK, LTD. ... 148
PRODUCTS ... 148
TABLE 120 ALPRO PRODUCT PORTFOLIO ... 148
TABLE 120 (CONTINUED) ... 149
NEW PRODUCTS ... 149
STRATEGY ... 149
ATKINS NUTRITIONALS, INC. ... 150
TABLE 121 ATKINS NUTRITIONALS PRODUCTS ... 150
NEW PRODUCTS ... 150
STRATEGY ... 151
BOEHRINGER INGELHEIM ... 151
TABLE 122 BOEHRINGER INGELHEIM PRODUCTS ... 151
STRATEGY ... 151
BASF GROUP ... 152
TABLE 123 BASF GROUP PRODUCTS ... 152
NEW PRODUCTS ... 153
STRATEGY ... 153
BAYER HEALTHCARE AG ... 153
PRODUCTS ... 153
TABLE 124 BAYER HEALTHCARE PODUCTS ... 154
STRATEGY ... 154
BIOGAIA AB ... 154
TABLE 125 BIOGAIA AB PRODUCTS ... 155

NEW PRODUCTS ... 155
STRATEGY ... 155
CADBURY ... 156
TABLE 126 CADBURY PRODUCTS ... 156
NEW PRODUCTS ... 157
STRATEGY ... 157
CARGILL, INCORPORATED ... 157
TABLE 127 CARGILL PRODUCTS ... 158
NEW PRODUCTS ... 158
STRATEGY ... 158
CLIF BAR & COMPANY ... 158
TABLE 128 CLIF BAR & COMPANY PRODUCTS ... 159
NEW PRODUCTS ... 159
STRATEGY ... 159
COCA-COLA COMPANY ... 160
TABLE 129 COCA-COLA COMPANY PRODUCTS ... 160
NEW PRODUCTS ... 161
STRATEGY ... 162
DAIRY CREST GROUP ... 163
TABLE 130 DAIRY CREST GROUP PRODUCTS ... 163
NEW PRODUCTS ... 163
STRATEGY ... 164
DANISCO A/S ... 164
TABLE 131 DANISCO A/S PRODUCTS ... 165
NEW PRODUCTS ... 165
STRATEGY ... 165
DANNON GROUP ... 166
TABLE 132 DANNON GROUP PRODUCTS ... 166
STRATEGY ... 166
DR. PEPPER SNAPPLE GROUP ... 167
PRODUCT PORTFOLIO ... 167
NEW PRODUCTS ... 167
STRATEGY ... 167
DSM NUTRITIONAL PRODUCTS ... 168
TABLE 133 DSM NUTRITIONAL PRODUCTS ... 168
NEW PRODUCTS ... 169
STRATEGY ... 169
GALENICA LTD. ... 170
TABLE 134 GALENICA LTD. PRODUCTS ... 170
STRATEGY ... 170
GENERAL MILLS, INC. ... 170
TABLE 135 PRODUCTS ... 171
NEW PRODUCTS ... 171
STRATEGY ... 171

GENERAL NUTRITION CENTER CORPORATION (GNC) 172
TABLE 136 GENERAL NUTRITION CENTER PRODUCTS 172
NEW PRODUCTS 173
STRATEGY 173
HANSEN NATURAL 173
TABLE 137 HANSEN NATURALPRODUCTS 173
NEW PRODUCTS 174
HERBALIFE INTERNATIONAL OF AMERICA INC. 174
TABLE 138 HERBALIFE INTERNATIONAL OF AMERICA INC. PRODUCTS 175
NEW PRODUCTS 175
STRATEGY 175
INVERNESS MEDICAL NUTRITIONAL GROUP 176
TABLE 139 INVERNESS MEDICAL NUTRITIONAL GROUP PRODUCTS 176
STRATEGY 177
JOHNSON & JOHNSON 177
TABLE 140 JOHNSON & JOHNSON PRODUCTS 177
NEW PRODUCTS 178
STRATEGY 178
JORDAN'S CEREALS 178
TABLE 141 JORDAN'S CEREAL PRODUCTS 179
NEW PRODUCTS 179
STRATEGY 179
KELLOGG COMPANY 180
TABLE 142 KELLOGG COMPANY PRODUCTS 180
NEW PRODUCTS 180
STRATEGY 181
KRAFT 181
TABLE 143 KRAFT PRODUCTS 182
NEW PRODUCTS 182
STRATEGY 183
LONZA GROUP, LTD. 183
PRODUCTS 183
TABLE 144 LONZA GROUP, LTD. PRODUCTS 183
STRATEGY 184
MULLER DAIRY (U.K.), LIMITED 184
TABLE 145 MULLER DAIRY PRODUCTS 184
NEW PRODUCTS 184
STRATEGY 185
NBTY, INC. 185
TABLE 146 NBTY, INC. PRODUCTS 185
NEW PRODUCTS 186
STRATEGY 186

NESTLE U.K., LTD. 186
TABLE 147 NESTLE U.K PRODUCTS 187
NEW PRODUCTS 187
STRATEGY 187
NUTRACEUTICAL INTERNATIONAL CORPORATION 188
TABLE 148 NUTRACEUTICAL INTERNATIONAL PRODUCTS 188
NEW PRODUCTS 188
STRATEGY 189
OCEAN SPRAY CRANBERRIES, INC. 189
TABLE 149 OCEAN SPRAY PRODUCTS 190
NEW PRODUCTS 190
STRATEGY 191
PEPSICO 191
TABLE 150 PRODUCTS 191
NEW PRODUCTS 192
STRATEGY 193
SO GOOD INTERNATIONAL 193
TABLE 151 SO GOOD INTERNATIONAL PRODUCTS 194
NEW PRODUCTS 194
STRATEGY 194
SOLAE, LLC 195
PRODUCTS 195
TABLE 152 SOLAE PRODUCTS 195
STRATEGY 196
TWINLAB CORP. 196
TABLE 153 TWIN LABORATORIES PRODUCTS 197
NEW PRODUCTS 198
STRATEGY 199
UNITED BISCUITS 199
TABLE 154 UNITED BISCUITS PRODUCTS 200
NEW PRODUCTS 200
STRATEGY 200
WEETABIX, LIMITED 201
TABLE 155 WEETABIX PRODUCTS 201
NEW PRODUCTS 201
STRATEGY 202
YEO VALLEY FARMS (PRODUCTION), LTD. 202
PRODUCTS 202
TABLE 156 YEO VALLEY FARMS PRODUCTS 202
NEW PRODUCTS 203
STRATEGY 203

APPENDIX I 204
PATENTS 204
TABLE 157 UNITED STATES PATENTS 204

TABLE 157 (CONTINUED) ... *205*
TABLE 157 (CONTINUED) ... *206*
TABLE 157 (CONTINUED) ... *207*
TABLE 157 (CONTINUED) ... *208*
TABLE 157 (CONTINUED) ... *209*
TABLE 157 (CONTINUED) ... *210*
TABLE 157 (CONTINUED) ... *211*
TABLE 157 (CONTINUED) ... *212*
TABLE 157 (CONTINUED) ... *213*
TABLE 157 (CONTINUED) ... *214*
TABLE 157 (CONTINUED) ... *215*
TABLE 157 (CONTINUED) ... *216*
TABLE 158 EUROPEAN PATENTS ... *216*
TABLE 158 (CONTINUED) ... *217*
TABLE 158 (CONTINUED) ... *218*
TABLE 158 (CONTINUED) ... *219*
TABLE 158 (CONTINUED) ... *220*
TABLE 158 (CONTINUED) ... *221*
TABLE 158 (CONTINUED) ... *222*
TABLE 158 (CONTINUED) ... *223*
TABLE 159 JAPANESE PATENTS ... *223*
TABLE 159 (CONTINUED) ... *224*
TABLE 159 (CONTINUED) ... *225*
TABLE 159 (CONTINUED) ... *226*
TABLE 159 (CONTINUED) ... *227*
TABLE 159 (CONTINUED) ... *228*

APPENDIX II ... 229
NANOTECHNOLOGY ... 229
TABLE 160 SELECTED NANOTECHNOLOGY COMPANIES ... *229*
TABLE 160 (CONTINUED) ... *230*

APPENDIX III ... 231
ACRONYMS ... 231