

Contents

<i>Contributor contact details</i>	xiii
<i>Preface</i>	xvii

Part I Understanding consumer food choice and acceptance

1 Integrating consumer responses to food products	
<i>H. L. Meiselman, Natick Soldier Center, USA</i>	
1.1 Introduction	3
1.2 Focus on the product	5
1.3 Focus on the person	13
1.4 Focus on social, economic and physical context	25
1.5 Conclusions and future trends	29
1.6 References	31
2 Sensory perception as a basis of food acceptance and consumption	34
<i>H. Tuorila, University of Helsinki, Finland</i>	
2.1 Introduction	34
2.2 The sensory system	35
2.3 Prediction of consumption from sensory-affective responses .	43
2.4 Individual factors modulating responses and consumption ...	54
2.5 When sensory perceptions are ignored	57
2.6 Future trends	58
2.7 Sources of further information and advice	59
2.8 References and further reading	59

3	How does culture affect choice of foods?	66
	<i>P. Rozin. University of Pennsylvania, USA</i>	
3.1	Food and culture in historical perspective	66
3.2	The ways culture affects food and food in life	69
3.3	The big sense of culture and its relation to food and eating ..	69
3.4	Culture and acquisition of food preferences	70
3.5	Some examples of specific issues in product marketing and development in a cultural context	71
3.6	Looking at a cultural comparison: the food world of French and Americans	75
3.7	Understanding cultural dimensions in food choice for food product development	76
3.8	Future trends	77
3.9	Sources of further information and advice	77
3.10	References	78
4	Psychobiological mechanisms in food choice	81
	<i>M. R. Yeomans. University of Sussex, UK</i>	
4.1	The importance of understanding psychobiological mechanisms in food choice	81
4.2	Need-states and hedonic rewards in eating	81
4.3	Psychobiological influences on acquisition and expression of food preferences	82
4.4	Motivational influences on food preferences	87
4.5	Motivational influences on food choice	89
4.6	Motivational influences on food intake	91
4.7	Understanding psychobiological mechanisms in food choice for food product development	97
4.8	Future trends	99
4.9	Sources of further information and advice	100
4.10	References	100
5	How do risk beliefs and ethics affect food choice?	108
	<i>A. Saba, Istituto Nazionale di Ricerca per gli Alimenti e In Nutrizione, Italy</i>	
5.1	Introduction	108
5.2	Consumer risk perception and food choice	109
5.3	Ethical concerns associated with foods and agriculture technologies	112
5.4	Future trends	115
5.5	Implications for new product development	116
5.6	Sources of further information and advice	117
5.7	References	117

9.3	The food-related lifestyle approach	205
9.4	General discussion – the issue of consumer-led food product development	211
9.5	Sources of further information and advice	214
9.6	References	215
	Appendix	217
10	Measuring consumer expectations to improve food product development	223
	<i>A. V. Cardello, US Army Natick Soldier. R. D & E Center. USA</i>	
10.1	Introduction	223
10.2	Expectations in psychology and consumer behavior	224
10.3	Basic elements of conducting research on consumer expectations	232
10.4	Current issues and future trends	241
10.5	Sources of further information and advice	251
10.6	References	252
1	Boredom and the reasons why some new food products fail ...	262
	<i>E. P. Koster and J. Mojet, Wageningen University. The Netherlands</i>	
11.1	Introduction	262
11.2	Product boredom	263
11.3	Slowly rising aversion	273
11.4	Future trends	277
11.5	Sources of further information and advice	278
11.6	References	278
12	SensoEmotional optimisation of food products and brands	281
	<i>D. Thomson, mmr Research Worldwide Ltd. UK</i>	
12.1	Using sensory characteristics to build brands	281
12.2	SensoEmotional optimisation in brand and product development	290
12.3	SensoEmotional profiling	292
12.4	Commercial applications	300
12.5	Sources of further information and advice	302
12.6	References	302
Part III Methods for consumer-led food product development		
13	Sensory research and consumer-led food product development .	307
	<i>H. Stone and J. L. Sidel, Tragon Corporation. USA</i>	
13.1	Introduction	307
13.2	The product development process	308
13.3	Sensory's role in product development	310

13.4	Sensory evaluation	312
13.5	Applications – opportunities	316
13.6	Conclusions	320
13.7	References	320
14	Opportunity identification in new product development and innovation in food product development	321
	<i>E. van Kleef and H. C. M. van Trijp. Wageningen University. The Netherlands</i>	
14.1	Introduction	321
14.2	A typology of consumer research for opportunity identification	325
14.3	Opportunity identification: some concerns and limitations of supporting methodologies	331
14.4	Goldenberg's innovation template approach	333
14.5	Conclusions	337
14.6	Sources of further information and advice	338
14.7	References	338
15	Consumer-driven concept development and innovation in food product development	342
	<i>H. Moskowitz. Moskowitz Jacobs Inc. USA</i>	
15.1	Chapter summary	342
15.2	Importance of concepts as blueprints for product design	342
15.3	The need for faster and better concept design and innovation	343
15.4	Systematic exploration of concepts by experimental design	345
15.5	Consumer research venues and the Internet	348
15.6	Application 1: creating a product-concept 'innovation machine' through mixing/matching	357
15.7	Application 2: sourcebooks for concept ideas: InnovAidOnline™.Net and It! databases	367
15.8	Going beyond product features as determiners of consumer choice the It!® databases	373
15.9	Conclusions	378
15.10	References	381
16	Consumer testing of food products using children	383
	<i>R. Popper and J. J. Kroll, Peryam & Kroll Research Corporation. USA</i>	
16.1	Introduction	383
16.2	Sensory sensitivity of children	384
16.3	Origin of food preferences	387
16.4	Differences between children and adults in food preferences	389
16.5	Research methods for testing children	390
16.6	Hedonic testing with children	391
16.7	Use of intensity and just-about-right scales	399

16.8	Future trends	402
16.9	Sources of further information and advice	403
16.10	References	403
17	The use of just-about-right (JAR) scales in food product development and reformulation	407
	<i>L. Rothman, Kraft Foods, USA</i>	
17.1	Introduction to JAR scales	407
17.2	Defining JAR scales	408
17.3	JAR scale construction	408
17.4	Controversies	411
17.5	Appropriate uses of JAR scales	413
17.6	Analysis and interpretation of JAR scales	413
17.7	Introduction to penalty analysis	417
17.8	Alternatives to JAR scales	431
17.9	Future trends	431
17.10	Sources of further information and advice	432
17.11	Acknowledgments	432
17.12	References	432
18	Conducting difference testing and preference trials properly for food product development	434
	<i>M. O'Mahony, University of California, Davis, USA</i>	
18.1	Introduction: the role of difference and preference testing ...	434
18.2	Difference tests	437
18.3	Preference tests	445
18.4	How do we interact with the consumers?	449
18.5	Sources of further information and advice	451
18.6	References	452
19	Thurstonian probabilistic approaches to new food product development	456
	<i>J. F. Delwiche, The Ohio State University, USA</i>	
19.1	Introduction	456
19.2	Probabilistic models	460
19.3	Future trends	469
19.4	References	469
20	Using auctions to estimate prices and value of food products ..	471
	<i>Y. Lohéac, ESC Bretagne Brest, France and S. Issanchou, UMR FLAVIC INRA-ENESAD, France</i>	
20.1	Introduction	471
20.2	Estimate value of food product with auctions	473
20.3	Using information from auctions to understand food choices	481

20.4	Auctions and other methods: advantages. disadvantages and complementarities	483
20.5	Limits of experimental auctions and future trends	485
20.6	Sources of further information and advice	487
20.7	References	488
21	The use of partial least squares methods in new food product development	492
	<i>M. Martens. Matforsk, Norway. M. Tenenhaus. HEC School of Management. France. V. Esposito Vinzi. ESSEC Business School. France and H. Martens. Matforsk, Norway</i>	
21.1	Introduction	492
21.2	PLS method	493
21.3	Layperson's guide to PLS methods	504
21.4	Examples of PLS methods in practice	507
21.5	Future trends	518
21.6	Sources of further information and advice	520
21.7	References	521
22	Case study of consumer-oriented food product development: reduced-calorie foods	524
	<i>J. Bogue and D. Sorenson. University College Cork. Ireland</i>	
22.1	Introduction	524
22.2	Consumer trends and healthy eating	525
22.3	Reduced-calorie foods and beverages: marketing and technological challenges	526
22.4	New product development success factors	527
22.5	New product development case study: reduced-calorie on-the-go beverages	529
22.6	Summary	546
22.7	Sources of further information and advice	547
22.8	References	547
23	Preference mapping and food product development	551
	<i>H. MacFie, Hal MacFie Training Services. UK</i>	
23.1	Introduction	551
23.2	Conducting central location trials	552
23.3	Analyses	559
23.4	Recent developments in preference mapping	583
23.5	Sources of further information and advice	588
23.6	Acknowledgement	588
23.7	References	588
	<i>Index</i>	<i>593</i>