

# Contents

<i>Preface</i>	<i>iii</i>
<i>Contributors</i>	<i>xi</i>
1. Introduction <i>Susan Sungsoo Cho, Leon Prosky, and Jonathan W. Devries</i>	1
<b>Part I: Health Benefits and Definition of Complex Carbohydrates and Dietary Fiber</b>	<b>5</b>
2. Dietary Guidelines for Complex Carbohydrates/Dietary Fiber <i>Joanne L. Slavin</i>	7
3. Complex Carbohydrates and the Food Label: An FDA Perspective <i>F. Edward Scarbrough</i>	15
4. Dietary Fiber Properties and Health Benefits of Non-Digestible Oligosaccharides <i>M. B. Roberfroid</i>	25
5. Suggested Alternatives to the Term “Complex Carbohydrates” <i>F. W. Scott, R. Mongeau, and P. Wood</i>	35

6.	Complex Carbohydrates: The Science and the Label <i>David R. Lineback, Mark Dreher, Jonathan W. Devries, Joanne L. Slavin, Alison Stephen, Dennis Gordon, Leon Prosky, F. Edward Scarbrough, Gary Henderson, Susan Sungsoo Cho, Beth Olson, and Fergus Clydesdale</i>	39
7.	The Role of Dietary Fiber in the Prevention of Lipid Metabolism Disorders <i>Elzbieta Bartnikowska</i>	53
8.	Health Benefits of Complex Carbohydrates <i>David Kritchevsky</i>	63
9.	Worldwide Dietary Fiber Intake: Recommendations and Actual Consumption Patterns <i>Susan Sungsoo Cho, K. O'Sullivan, and Sharon Rickard</i>	71
<b>Part II: Complex Carbohydrates—Chemistry and Analytical Methodology</b>		<b>113</b>
10.	The Chemistry of Complex Carbohydrates <i>David R. Lineback</i>	115
11.	Complex Carbohydrates: Definition and Analysis <i>Susan Sungsoo Cho and Leon Prosky</i>	131
12.	Determination of Complex Carbohydrate Fractions in Foods <i>Betty W. Li</i>	145
<b>Part III: Resistant Starch—Analysis</b>		<b>155</b>
13.	In Vivo Techniques to Quantify Resistant Starch <i>M. Champ, L. Martin, L. Noah, and M. Gratas</i>	157
14.	Analytical Methods for Resistant Starch <i>M. Champ, L. Martin, L. Noah, and M. Gratas</i>	169
<b>Part IV: Resistant Oligosaccharides—Analytical Methodology</b>		<b>189</b>
15.	A Sensitive and Reproducible Analytical Method to Measure Fructooligosaccharides in Food Products <i>F. Ouarne, A. Guibert, D. Brown, and F. Bornet</i>	191
16.	Inulin and Oligofructose as Dietary Fiber: Analytical, Nutritional and Legal Aspects <i>Paul Coussement</i>	203

17. Determination of Inulin and Oligofructose in Food Products (Modified AOAC Dietary Fiber Method) <i>P. Dysseler, D. Hoffem, J. Fockedey, B. Quemener, J.-F. Thibault, and Paul Coussement</i>	213
18. Polydextrose as Soluble Fiber and Complex Carbohydrate <i>S. A. S. Craig, J. F. Holden, J. P. Troup, M. H. Auerbach, and H. Frier</i>	229
<b>Part V: Dietary Fiber—Analytical Methodology</b>	<b>249</b>
19. Progress in the Certification of Five New Food Reference Materials by AOAC, Englyst and Uppsala Methods of Dietary Fiber Analysis <i>Alan W. Pendlington</i>	251
20. High Performance Anion Exchange Chromatography with Pulsed Amperometric Detection (HPAE-PAD): A Powerful Tool for the Analysis of Dietary Fiber and Complex Carbohydrates <i>Alan Henshall</i>	267
21. NIR Analysis of Dietary Fiber <i>Sandra E. Kays, Franklin E. Barton II, and William R. Windham</i>	291
22. Definition and Analysis of Dietary Fiber <i>R. Mongeau, F. W. Scott, and R. Brassard</i>	305
23. Estimation of Psyllium Content in Ready-to-Eat Cereals <i>Susan Sungsoo Cho and Mike Bussey</i>	317
24. Food Sources and Uses of Dietary Fiber <i>Mark Dreher</i>	327
25. Chemical and Physical Modifications of Dietary Fiber <i>Mary Ellen Camire</i>	373
26. Production of Resistant Starch <i>Pierre Würsch</i>	385
27. Effect of Processing on Dietary Fiber in Foods <i>Eckhard Rabe</i>	395
28. Application of Complex Carbohydrates to Food Product Fat Mimetics <i>Susan Sungsoo Cho and Leon Prosky</i>	411

29. Patent Literature Review on Complex Carbohydrates as Fat Mimetics <i>Susan Sungsoo Cho</i>	431
30. The Application of Complex Carbohydrates to Functional Food Development <i>Susan Sungsoo Cho and M. Jenab</i>	593
<i>Appendix I Perspectives on Dietary Fiber Definition</i>	605
<i>Appendix II Total Carbohydrates and Total Dietary Fiber Content in Grain-Based Foods</i>	609
<i>Index</i>	661