# Contents

<table>
<thead>
<tr>
<th>Preface to the Second Edition</th>
<th>vii</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contributors</td>
<td>ix</td>
</tr>
</tbody>
</table>

## Part 1: Introduction

1. Introduction to Baking and Bakery Products
   - Weibiao Zhou, N. Therdthai, and Y. H. Hui

## Part 2: Flours

2. Wheat Milling and Flour Quality Evaluation
   - M. A. Pagani, Alessandra Marti, and Gabriella Bottega
3. Wheat Flour: Chemistry and Biochemistry
   - Francesco Bonomi, Pasquale Ferranti, and Gianfranco Mamone
4. Rye
   - Kaisa Poutanen, Kati Katina, and Raija-Liisa Heiniö
5. Rice
   - C. M. Rosell and Manuel Gómez
6. Barley, Maize, Sorghum, Millet, and Other Cereal Grains
   - Concha Collar

## Part 3: Baking Ingredients

7. Water
   - Peter Chung Chieh
8. Yeast
   - Francisca Rández-Gil, Lidia Ballester-Tomás, and José Antonio Prieto
9. Other Leavening Agents
   - I. De Leyn
10. Ascorbic Acid and Redox Agents in Bakery Systems
    - Sarabjit S. Sahi
11. Sugar and Sweeteners
    - Manuela Mariotti and Mara Lucisano
12. Lipids: Properties and Functionality
    - Alejandro Marangoni, Avi Goldstein, and Koushik Seetharaman
13. Eggs
    - Vassilios Kiosseoglou and Adamantini Paraskevapoulou
14. Dairy Ingredients
    - Bonastre Oliete Mayorga and Manuel Gómez
15. Enzymes
    - U. J. S. Prasada Rao and M. S. Hemalatha
16. Other Functional Additives
    - I. De Leyn

## Part 4: Baking Science and Technology

17. Mixing, Dough Making, and Dough Make-up
    - Noël Haegens
18. Fermentation
    - N. Therdthai
19. Baking
    - Tiphaine Lucas
20. Packaging and Shelf-life Prediction of Bakery Products
    - Virginia Giannou, Dimitra Lebesi, and Constantina Tzia
21. Process Optimization and Control
    - Gary Tucker
22. Sensory Attributes of Bakery Products
    - Raija-Liisa Heiniö
23. Nutritional Attributes of Bakery Products
    - Hyunsook Kim and Wallace H. Yokoyama
24. Browning in Bakery Products: An Engineering Perspective 417
   Emmanuel Purlis

25. Functional Bakery Products: An Overview and Future Perspectives 431
   Daniel Pinto, Inês Castro, Antonio Vicente, Ana Isabel Bourbon, and Miguel Ángelo Cerqueira

26. Rheology of Bread and Other Bakery Products 453
   Nyuk Ling Chin and Peter J. Martin

Part 5: Bread 473

27. Manufacture 475
   N. Therdthai and Weibiao Zhou

28. Quality Control 489
   Sarabjit S. Sahi, Kim Little, and Victoria Kristina Ananingsih

29. Sourdough 511
   Shao Quan Liu

30. Frozen Dough and Par-baked Products 523
   Stanley P. Cauvain

31. Steamed Bread 539
   Sidi Huang

Part 6: Other Bakery Products 563

32. Cake Manufacture 565
   Frank D. Conforti

33. Biscuits 585
   N. N. Misra and Brijesh K. Tiwari

34. Pastries 603
   Noël Haegens

35. Pretzel Production and Quality Control 611
   Koushik Seetharaman

36. Bakery Products of Unconventional Flours 619
   Perla Osorio-Diaz, Rubi G. Utrilla-Coello, Pamela C. Flores-Silva, and Luis A. Bello-Perez

37. Dietetic Bakery Products 639
   Selena Chan

Part 7: Examples of World Bakery Products 657

38. Specialities from All Over the World 659
   Noël Haegens

39. Bakery Products of China 673
   Lu Zhang and Xiao Dong Chen

40. Italian Bakery Products 685
   M. A. Pagani, Mara Lucisano, and Manuela Mariotti

41. Mexican Bakery Products 723
   Perla Osorio-Diaz, Maria E. Sanchez-Pardo, and Luis A. Bello-Perez

42. Bakery Products of Turkey 735
   Gözde İnan and Seyhun Yurdugül

Index 745