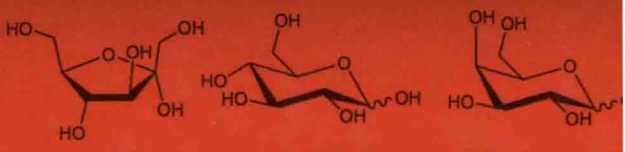

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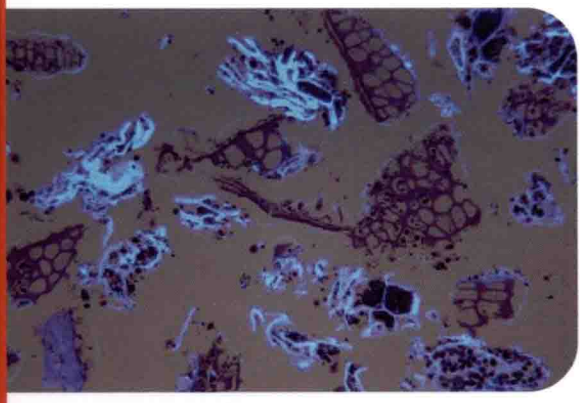

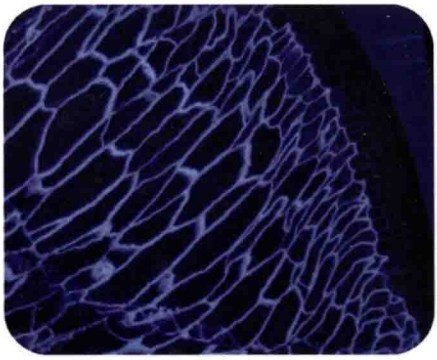

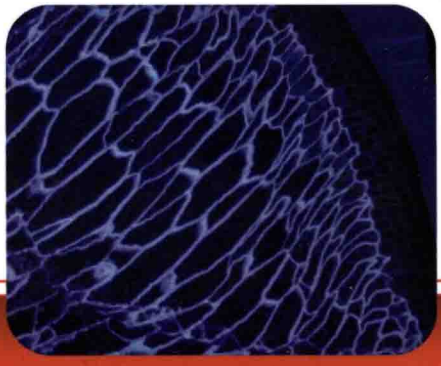

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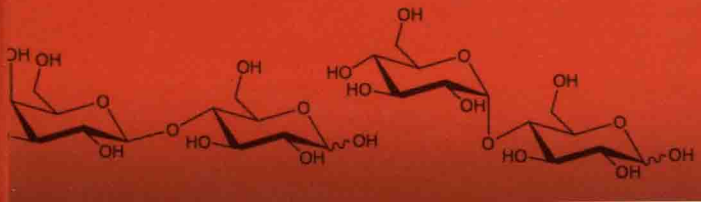

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Carbohydrates in Food

Preface

We meet them, the carbohydrates, in fruits and berries, beans, bread, pasta, confectionaries, soft drinks, and so on. As carbohydrates in food can include anything from the simple monosaccharide glucose to the very complex polysaccharides found in cell walls, it is not surprising that we find them in so many different foods. The carbohydrates are there either as a component of the raw material or as an added ingredient. Due to the huge differences in their chemical composition, the same properties cannot be attributed to all the carbohydrates, and it is thus necessary to have a good knowledge about the chemical structure of the carbohydrate you are dealing with. Moreover, several different carbohydrates are usually present in the same product, perhaps resulting in synergistic or antagonistic behavior. To obtain the required product properties, it is seldom possible to choose one simple carbohydrate or even a well-characterized carbohydrate. This book deals with all these carbohydrates: monosaccharides and disaccharides, cell-wall polysaccharides, polysaccharides described as gums and hydrocolloids, and starch. Both analytical and functional aspects are discussed.

In the second edition of this book, it was pointed out that carbohydrates in the diet had been in focus from a nutritional point of view much more than ever before. This is even more so today, and diets low in carbohydrates are advocated by some as healthier. However, what is often forgotten in the discussion is the complexity of carbohydrates. High sucrose consumption might not be good for your health, but this doesn't mean that you also should avoid cell-wall polysaccharides.

Awareness of health aspects of our diet is growing, and a huge challenge today is to combine health benefits with sensory properties that appeal to the consumer. Food products should also be convenient for the consumer, and the food production should be sustainable. Also, *new* food raw materials enter the market, or rather old food raw materials enter new markets. There is thus a growing need for knowledge about the role of carbohydrates

in our diet, from chemical, functional, and nutritional points of view. It is my hope that this book will contribute such knowledge and inspire product developers, nutritionists, and food scientists to further investigate and make use of this very fascinating group of food components.

Ann-Charlotte Eliasson
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Editor

Ann-Charlotte Eliasson is a professor emerita of cereal technology in the Department of Food Technology, Engineering and Nutrition at Lund University, Lund, Sweden. Dr. Eliasson received her PhD in 1983 from the same university. Her research interest is in the physicochemical properties of cereal components and their relation to product quality, including sensory as well as nutritional aspects. She is the coauthor of about 150 research papers in the field of starch and cereal technology. Dr. Eliasson was awarded the G.W. Scott-Blair Memorial Award in 1998 by the Rheology Division, American Association of Cereal Chemists, and she is included in ISI's database "Highly Cited Researchers."

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Contents