

Preface

We are pleased to present the seventh edition of the long-standing title, *Ice Cream*. The first edition was written by Prof. Wendell S. Arbuckle of the University of Maryland and published in 1966. Prof. Arbuckle had joined Prof. J. H. Frandsen in coauthoring *Ice Cream and Related Products* in 1961. Frandsen was the senior author of two other ice cream books in 1915 and 1950. So, the lineage of this book can be traced back to the infancy of the industrial ice cream industry. Prof. Arbuckle published subsequent editions in 1972 (second), 1977 (third), and 1986 (fourth), before his death in 1987. In 1996, Prof. Robert T. Marshall of the University of Missouri completely revised the Arbuckle manuscript and published the fifth edition under the names of Marshall and Arbuckle. We (H. D. Goff and R. W. Hartel) joined Prof. Marshall to prepare the sixth edition, published in 2003, under the names of Marshall, Goff, and Hartel. Prof. Marshall has since retired, leaving us to prepare the seventh edition.

We have completely revamped this edition. Every chapter has been rewritten, updating with state-of-the-art knowledge and new references as appropriate. Material has been realigned to make what we feel is a more coherent presentation. New chapters on ice cream structure (Chap. 11) and ice cream shelf life (Chap. 12) have been added. We have made the book suitable for an international audience by converting completely to SI units, although we indicate the equivalent US unit as appropriate, and we have incorporated international production and consumption data, legislation information, and global industry practices.

Both of us have been involved in ice cream research for 25 years. Prof. Goff has also been teaching ice cream courses at the University of Guelph and in various places around the world for 25 years. This book reflects our combined knowledge. We have maintained the focus on science and technology of ice cream. We do not present any information about marketing, retailing or restaurant operations. The book is intended for people with a science and technology background, or at least those who want to learn more of the technical aspects of ice cream production. It is intended for anyone involved in the industry, from Research and Development, Quality Control, or Manufacturing in large-scale operations right through to small-scale entrepreneurs who want to understand the principles behind the product they

are making. Suppliers to the industry should gain a tremendous insight into the complexities of the product, the functional roles of the ingredients, and the manufacturing and cleaning processes employed by the industry. And, of course, it is for students, both Undergraduate students who are learning about ice cream, perhaps with the intention of entering the industry some day, and Graduate students who are furthering our knowledge with their research. The students of today are the industry leaders of tomorrow.

We dedicate this edition to our own students who have contributed thousands of hours to ice cream science. This edition has been a year in the making and much family time has been consumed, so sincere appreciation is extended to our families without whose support and encouragement we would not have accomplished our goals. We also gratefully acknowledge all of the contributors to various chapters.

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