



## Book review

**Marangoni, Alejandro G., Fat crystal networks, Marcel Dekker, New York, 2005, viii + p. 854, ISBN: 0-8247-4075-0, Cost US \$199.95**

Crystallisation of edible fats and the properties of fat crystal networks are of major importance to the Oils and Fats industry. However, these topics are extremely difficult to treat theoretically, not only because of the complex composition of edible oils and fats and the dependence of fat crystal properties on crystallisation conditions, but also because this subject requires a sound understanding of physics and physical chemistry. Marangoni has contributed significantly to modern research into fat crystallisation, and his deep understanding and knowledge of the subject has allowed him to produce a textbook that provides an extensive and detailed coverage of kinetic and thermodynamic aspects that affect the macroscopic properties of fat crystal networks. Although other scientists have contributed to some Chapters, Marangoni has contributed to 12 out of the 16 Chapters in this book. Chapters 1–8 describe the theory behind crystallisation, rheology and fat microstructure. Chapter 9 describes experimental techniques for studying the physicochemical properties of fat crystal networks, and Chapter 10 discusses the understanding that can be developed by the structural

analogy between fat crystal networks and colloidal gels. Chapters 11 and 12 discuss image analysis methods and the fractal structures created by fat crystallisation. Chapters 13 and 14 discuss the effects of milk fat fractions on the properties of confectionery fats. Wesdorp and colleagues discuss theory and experimental measurements of phase equilibria in fats, and this is followed by a Chapter describing the imaging of a model plastic fat system. The book includes a comprehensive index, and it is accompanied by a DVD, which includes images of fats crystallised under various conditions. This book is an important contribution to the literature describing the properties of edible oils and fats. Although some Chapters adopt rigorous mathematical treatments, there are many topics of practical importance to Oils and Fats Technologists, and all scientists and technologists interested in the physical properties of edible fats should ensure that they have access to this book.

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