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Book review

Probiotic and prebiotic foods: Technology, stability and benefits to human health, Advances in Food Safety and Food Microbiology series, Nagendra P. Shah, Adriano G. Da Cruz and Jose A. F. Faria (Eds), Nova Science Publishers, Inc., New York (2011), hardback, \$ 295.00 viii + 545 pp., ISBN 978-1-61728-825-8, www.novapublishers.com

The first editor is from Victoria University, Melbourne, Australia, the two others are from the State University of Campinas (UNICAMP), Brazil. The literature on the subject is vast and diverse, but is predominantly focusing on the characterization of selected strains of probiotics and clinical aspects of their use. The book is a unique compilation of technology of various probiotic foods and stability of probiotics in various probiotic and prebiotic foods, as well as their health benefits. The book fills in a gap in our knowledge on the production and practical application of prebiotics and probiotics in foods.

Let us straight away, for the benefit of the reader, explain what it is all about. Several definitions of probiotics exists, one runs as follows '*Probiotics can be defined as specific live organisms, which reach the gastrointestinal tract in active form and in sufficient numbers to positively affect the health of the host*'. A prebiotic is a non-digestible food that allows changes, both in the composition and/or activity in the gastrointestinal microbiota that confers benefits upon host well-being and health. In the starting chapter a useful comprehensive survey of the taxonomy and technical features of probiotics is given, but only focused on the genus *Lactobacillus*. One would have expected a separate section, or chapter, on other important probiotic microorganisms, such as *Bifidobacterium*, *Streptococcus thermophilus*, *Enterococcus* spp., *Saccharomyces boulardii*, and others. They are not even to be found in the index, but are sporadically mentioned in some other chapters. In later chapters on *enumeration and viability of probiotic bacteria* and in a comprehensive chapter on *selective media for lactic acid bacteria*, *Bifidobacterium* and *Streptococcus* is also mentioned. The mechanism of probiotics is only highlighted in a short chapter, but the issue of the health claims of their

use is also explained in many of the subsequent chapters on specific foods.

Prebiotics and their benefit to health, application and safety in use are covered in another chapter. The section in the chapter on safety consideration of prebiotics, very shortly also mentions the safety aspect of the use of probiotics, a subject which is somewhat left out in the cold in the book.

The following ten chapters are dedicated to a very comprehensive and informative introduction to the technology and stability of probiotics in various products. Covered is e.g. fermented milks, prebiotic and probiotic cheese, whey products, dairy desserts, soy products and fruit, just to mention a few. The commodity chapters will be of great value to the industry analyzing in depth the state of the art in the application of probiotics. Of general interest, not only to the probiotic food industry, is the chapter on *Microencapsulation*, which discusses how to ensure that probiotic strains reach the lower part of the intestinal tract (refer to the definition above).

Some readers may wonder how prebiotic and probiotic foods fit into the concept of *functional foods*. This is not a subject of the book, but if you read the commodity chapter on *meat products* you will get a good insight also on this topic.

Probiotic and prebiotic foods presents a contemporary update and a unique approach to topics and is designed to augment related books. It appeals to academics, extension staff and students in food science and researchers working in probiotics.

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