**DESCRIPTION**

The lactic acid bacteria (LAB) are a group of related micro-organisms that are enormously important in the food and beverage industries. Generally regarded as safe for human consumption (and, in the case of probiotics, positively beneficial to human health), the LAB have been used for centuries, and continue to be used worldwide on an industrial scale, in food fermentation processes, including yoghurt, cheeses, fermented meats and vegetables, where they ferment carbohydrates in the foods, producing lactic acid and creating an environment unsuitable for food spoilage organisms and pathogens to survive. The shelf life of the product is thereby extended, but of course these foods are also enjoyed around the world for their organoleptic qualities. They are also important to the brewing and winemaking industries, where they are often undesirable intruders but can in specific cases have desirable benefits. The LAB are also used in producing silage and other agricultural animal feeds. Clinically, they can improve the digestive health of young animals, and also have human medical applications.

This book provides a much-needed and comprehensive account of the current knowledge of the lactic acid bacteria, covering the taxonomy and relevant biochemistry, physiology and molecular biology of these scientifically and commercially important micro-organisms. It is directed to bringing together the current understanding concerning the organisms’ remarkable diversity within a seemingly rather constrained compass. The genera now identified as proper members of the LAB are treated in dedicated chapters, and the species properly recognized as members of each genus are listed with detailed descriptions of their principal characteristics.

Each genus and species is described using a standardized format, and the relative importance of each species in food, agricultural
and medical applications is assessed. In addition, certain other bacterial groups (such as *Bifidobacterium*) often associated with the LAB are given in-depth coverage. The book will also contribute to a better understanding and appreciation of the role of LAB in the various ecological ecosystems and niches that they occupy. In summary, this volume gathers together information designed to enable the organisms’ fullest industrial, nutritional and medical applications.

*Lactic Acid Bacteria: Biodiversity and Taxonomy* is an essential reference for research scientists, biochemists and microbiologists working in the food and fermentation industries and in research institutions. Advanced students of food science and technology will also find it an indispensable guide to the subject.

---

**ABOUT THE AUTHOR**

**Professor Wilhelm H. Holzapfel,** School of Life Sciences, Handong Global University, Pohang, South Korea. Wilhelm Holzapfel is author or co-author of more than 300 scientific papers, more than 60 book chapters, and edited 5 books. He held former and recent academic positions (Professor, Hon. Professor and Extraordinary Professor) in Microbiology at various universities, and (until 2007) was Head (Director and Professor) of the Institute of Hygiene and Toxicology in Karlsruhe/Germany. Since 1996 he has been President of the ICFMH of the IUMS.

**Dr Brian J.B. Wood,** formerly Reader in Applied Microbiology, Strathclyde Institute for Pharmacy and Biomedical Sciences, University of Strathclyde, Glasgow, Scotland, U.K. Dr Wood has published numerous papers on food fermentations and related topics in which these organisms participate. He has edited six multi-author books, including *The Microbiology of Fermented Foods* and titles covering LAB in various connections, and he has also supplied chapters and encyclopedia entries for numerous other publications.

---

To purchase this product, please visit [https://www.wiley.com/en-us/9781118655276](https://www.wiley.com/en-us/9781118655276)