Microbiology Monographs

Volume 27

Series Editor Alexander Steinbüchel Münster, Germany More information about this series at http://www.springer.com/series/7171

Min-Tze Liong Editor

Beneficial Microorganisms in Food and Nutraceuticals



Editor
Min-Tze Liong
Universiti Sains Malaysia, School of Industrial Technology
Penang, Malaysia

Series Editor
Alexander Steinbüchel
Institut für Molekulare Mikrobiologie und Biotechnologie
Westfälische Wilhelms-Universität
Münster
Germany

ISSN 1862-5576 ISSN 1862-5584 (electronic) Microbiology Monographs ISBN 978-3-319-23176-1 ISBN 978-3-319-23177-8 (eBook) DOI 10.1007/978-3-319-23177-8

Library of Congress Control Number: 2015957590

Springer Cham Heidelberg New York Dordrecht London

© Springer International Publishing Switzerland 2015

This work is subject to copyright. All rights are reserved by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, express or implied, with respect to the material contained herein or for any errors or omissions that may have been made.

Printed on acid-free paper

Springer International Publishing AG Switzerland is part of Springer Science+Business Media (www.springer.com)

Preface

This volume communicates aspects of beneficial microorganisms in relation to food and nutraceuticals. The conventional roles of microorganisms in foods typically emphasize on bio-preservation, extended shelf life, and production of higher digestible nutrients via natural fermentation processes. However, the recent introduction of nutraceuticals has broadened the potentials of microorganisms to transform normal foods to nutraceutical products, many with well-characterized health claims. In combination with such increasing demands for nutraceuticals, various new food technology techniques have been developed, conventional technologies have been re-innovated, and various new beneficial microorganisms have also been identified.

Penang, Malaysia

Min-Tze Liong

Contents

for Bio-preservation in Food by Using Lactic Acid Bacteria Cristina Stewart Bogsan, Luis Augusto Nero, and Svetoslav Dimitrov Todorov	, 1
Health Properties of Traditional Fermented Mongolian Milk Foods Jie Dong, Yong Zhang, and Heping Zhang	37
Microencapsulation of Probiotic Bacteria	63
Effects of Incorporation of Lactic Acid Bacteria on Microbiological Quality and Shelf Life of Raw 'Satar' Mohd Nizam Lani, Noraisikin Mohamad Nor, Nurul Atiqah Ramli, Zuraihan Radhuan, Mazwani Mohd Rizan, Nur Hidayah Lokman, and Zaiton Hassan	81
Leuconostoc spp. as Starters and Their Beneficial Roles in Fermented Foods	111
Fermented Soymilk as a Nutraceutical	133
Fermented Fish Products in Sudan	161
Consumerism of Probiotics in China	183
Probiotics in Dairy Products	203

viii Contents

Current Trends and Future Perspectives on Functional Foods	221
and Nutraceuticals Eric Banan-Mwine Daliri and Byong H. Lee	221
Roles of Probiotics on Lifelong Diversifications of Gut Microbiota Yung-Sheng Loh, Lee-Ching Lew, Boon-Yin Khoo, Nor Azlina Khalil, Chee-Yuen Gan, and Min-Tze Liong	245
Food Colorant from Microorganisms	265
Index	285