PART 1 BEVERAGE INGREDIENTS AND TECHNOLOGY

Ingredient selection for stabilisation and texture optimisation of functional beverages and the inclusion of dietary fibre
M J Fallourd, Danisco, France and L Viscione, Danisco, UK
- Introduction
- Challenges faced when formulating functional beverages with a good stability texture and mouth feel
- Mechanisms involved in texture and stabilisation of beverages
- Selecting ingredients' properties and functionalities
- How to use hydrocolloid ingredients in beverages
- Formulation considerations
- Increasing the fibre content of beverages
- Future trends
- Sources of further information and advice
- References and bibliography

Developments in sweeteners for functional and speciality beverages
S E Kemp, Reading Scientific Services Ltd and M G Lindley, Lindley Consulting, UK
- Introduction
- Sensory challenges in preparing sugar-free beverages
- Technical challenges in the preparation of sugar-free beverages
- Developments in natural high-potency sweeteners
- Sweetness potentiators
- Improving the taste of beverages containing novel sweeteners
- Sources of further information and advice
- References

Probiotics as ingredients in functional beverages
M Saarela, VTT Technical Research Centre of Finland, Finland
- Introduction: the range of probiotic beverages and trends in the fortification of beverages with probiotics
- Probiotics and their health-effects
- Probiotic production technologies
- Growth and stability of probiotics in dairy beverages and in juices
- Future trends
- Sources of further information and advice
- References

Fortification of beverages with vitamins and minerals
P Berry Ottaway, Berry Ottaway and Associates Ltd, UK
- Introduction
- Fortification of beverages and health benefits
- Micronutrients
- Formulating with vitamins
- Water-soluble vitamins
- Fat-soluble vitamins
- Vitamin-vitamin interactions
- Vitamin overages
- Addition of minerals
- Future trends
- Conclusions
- References

Fortification of beverages with products other than vitamins and minerals
J Gruenwald, Analyze and Realize AG, Germany
Extended shelf-life beverages
G Rysstad, Elopak, Norway and K Johnstone, University of Cambridge, UK
- Introduction
- Processing methods for aseptic and extended shelf-life products
- Processing of low-acid milk and milk-like products
- Processing of juice and drinks (high-acid products)
- Filling methods for aseptic and extended shelf-life products
- Aseptic packaging technologies for shelf-life extension
- Non-aseptic packaging technologies for shelf-life extension
- Effects of storage on product quality
- Future trends
- Sources of further information and advice
- References

PART 2 DAIRY-BASED BEVERAGES

Improving the nutritional quality of milk
D I Givens and K E Kliem, University of Reading, UK
- Introduction
- The health benefits of milk
- Optimising the nutritional quality of milk by modifying the diet of the cow
- Fortification of milk
- Removal of undesirable compounds
- Future trends
- References

Improving the sensory quality, shelf-life and functionality of milk
P Kelly, Teagasc Moorepark Food Research Centre, Ireland, B W Woonton and G W Smithers, Food Science Australia, Australia
- Introduction
- Improving the safety and shelf-life of milk and milk derivatives
- Improving the sensory qualities of milk
- Ingredients from milk and their applications
- Milk-based beverages, and beverages that utilise ingredients from milk
- Future trends
- Sources of further information and advice
- References

Milk-based functional beverages
M Mellema and A Bot, Unilever Research and Development Vlaardingen, The Netherlands
- Introduction
- Basic properties of milk
- Milk-based beverages
- Effects of processing on milk-based beverages
- Effects of stabilising hydrocolloids
- Effects of small-molecule surfactants
- Health trends
- References

**Whey-based functional beverages**
P Jelen, University of Alberta, Canada
- Introduction: definition of whey beverages
- History and current market status of whey beverages
- Whey beverage types and their ingredients
- Technological aspects of whey beverage production
- Technological and physiological functionality, sensory quality and nutritional aspects
- Future trends
- Sources of further information and advice
- References

**Beverages based on milk fat globule membrane (MFGM) and other novel concepts for dairy-based functional beverages**
R Jiménez-Flores, California Polytechnic State University, USA, I Higuera-Ciapara, CIAD Guaymas, México and Y Pouliot, INAF, Université Laval, Canada
- Introduction
- Milk fat globule membrane lipids
- Milk fat globule membrane proteins
- Technical aspects of the milk fat globule membrane
- Beverages based on buttermilk
- Beverages including prebiotic oligosaccharides
- Colostrum and colostrum ingredients for functional dairy beverages
- Other products and ingredients
- Acknowledgements
- References

**PART 3 PLANT-BASED BEVERAGES**

**New directions in fruit juice processing**
P Ashurst, Reachfar, UK
- Introduction: trends in the consumption of fruit juices
- Brief overview of the health benefits of fruit juices
- Processing technologies
- Final product processing
- Novel fruit juice-based products
- Future trends and opportunities
- Sources of further information and advice

**Isolated soy protein usage in beverages**
P V Paulsen, Solae LLC, USA
- Introduction
- What is isolated soy protein?
- Soy protein nutrition and health benefits
- Formulating and processing of primary beverages
- Optimizing beverage sensory qualities
- Processing soy protein for function
- Combining different nutrient sources for advantage
- Future trends
- References

**Sports beverages for optimising physical performance**
R J Maughan, Loughborough University, UK
- The health benefits and costs of beverages
- Guidelines for beverage consumption
- Overview of different beverage terms and definitions
- Guidelines for beverage consumption for different consumer groups: what is the proportion of energy from beverages a person should consume?
- Recommendations to beverage manufacturers (beverage formulation, labeling, health claims)
- Future trends
- Acknowledgments
- References