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PART 1 SENSORY EVALUATION: PRINCIPLES AND APPLICATION TO ALCOHOLIC BEVERAGES

Overview of sensory perception
W L P Bredie and P Møller, The University of Copenhagen, Denmark
- Introduction
- The common senses
- Oro-sensory systems
- Sense of smell
- Integration of sensory information
- Mechanisms of perception, cognition and emotion
- Sensory perception, satiation and food reward
- Sensory perception and learning of preferences
- Conclusions and future prospects
- Sources of further information
- References

Sensory quality control and assurance of alcoholic beverages through sensory evaluation
D McGrew, Beam Global Spirits and Wine and E Chambers IV, Kansas State University, USA
- Introduction
- Sensory quality concerns and issues in the alcohol beverage industry
- Similarities and differences in alcoholic beverages
- Factors influencing the development of off-flavors and taints
- The use of instrumental methods to aid sensory quality evaluations
- Future trends in quality evaluations
- Additional sources of information
- Conclusions
- References

Principles of sensory shelf-life evaluation and its application to alcoholic beverages
M G O'Sullivan, University College Cork, Ireland
- Introduction: principles of sensory evaluation in shelf life testing
- General principles of shelf life estimation
- Microbial analysis
- Sensory discrimination tests
- Quantitative descriptive tests
- Sensory term reduction
- Sensory profile changes in alcoholic beverages
- Consumer acceptability testing
- Instrumental analysis
- Accelerated storage tests
- Future trends
- Sources of further information and advice
- References
Sensory methods for product development and their application in the alcoholic beverage industry
E Monteleone, University of Florence, Italy
- Introduction
- Perceptual maps
- Temporal dominance of sensation (TDS)
- Prediction of perceived astringency induced by phenolic compounds in alcoholic beverages
- Future trends
- References

Gas chromatography-olfactometry of alcoholic beverages
B Plutowska and W Wardencki, Gdańsk University of Technology, Poland
- Introduction
- Principles of gas chromatography – olfactometry (GC-O)
- Applications of GC-O in the flavour analysis of alcoholic beverages
- Conclusions
- References

PART 2 FERMENTED PRODUCTS

Beer: production, sensory characteristics and sensory analysis
D K Parker, Campden BRI, UK
- Introduction
- The origins of beer flavor
- Off-flavours and their origin
- Sensory analysis practice in the brewing industry
- Future trends
- Sources of further information
- References

Fortified wines: styles, production and flavour chemistry
A G J Tredoux, University of Stellenbosch, South Africa and A C Silva Ferreira, University of Stellenbosch, South Africa, and Universidade Católica Portuguesa, Portugal
- Introduction to fortified wines
- Comparison of styles and types of fortified wines and their production methods
- Flavour chemistry and sensory properties
- Legal aspects and health considerations
- Future trends
- References

Sake: quality characteristics, flavour chemistry and sensory analysis
S Furukawa, Kizakura Co, Ltd, Japan
- Introduction
- Quality of sake
- Flavour and aroma of sake
- Sensory evaluation method
- Future trends
- Sources of further information
- Acknowledgement
- References

Table wines: sensory characteristics and sensory analysis
R S Jackson, Brock University, Canada
- Introduction
- Categories of table wines
PART 3 DISTILLED PRODUCTS

Anise spirits: types, sensory properties and sensory analysis
I Zabetakis, University of Athens, Greece
- Overview of anise spirits (pastis, ouzo, tsipouro)
- History of anise spirits
- Raw materials and production process
- Description of major variants
- Overview of flavour chemistry and sensory properties
- Description of sensory analysis practice in the anise spirit industry
- How consumer research is managed and executed
- Future trends
- Sources of further information and advice
- References

Cognac: production and aromatic characteristics
L Lurton, G Ferrari and G Snakkers, Bureau National Interprofessionel du Cognac (BNIC), France
- Raw materials, production process and major variants
- Overview of flavour chemistry and sensory properties
- Sensory analysis practice in the industry
- Consumer research: creation of the Cognac aroma wheel
- References

Gin: production and sensory properties
M Riu Aumatell, University of Barcelona, Spain
- Introduction
- Gin production
- Flavour chemistry
- Sensory properties of gin and sensory analysis practice in the industry
- Future trends
- Sources of further information and advice
- References

Grape-based brandies: production, sensory properties and sensory evaluation
L Louw and M G Lambrechts, Distell Ltd, South Africa
- Introduction
- Brandy production
- Types of brandies
- Understanding brandy flavour
- Sensory evaluation of brandy
- Brandy and consumer research
- Future trends
- Sources of further information
- References

Grappa: production, sensory properties and market development
C Da Porto, University of Udine, Italy
- Introduction
- Production process
Moutai (Maotai): production and sensory properties
Y Xu, Jiangnan University, China; and K Ji, Moutai Distillery Co, Ltd, China
- Historical background
- Ecological environment
- Production of Kweichow Moutai
- Sensory properties and flavour chemistry
- Marketing
- Sources of further information
- Acknowledgements
- References

Pisco: production, flavour chemistry, sensory analysis and product development
E Bordeu, E Agosín and G Casaubon, Pontificia Universidad Católica de Chile, Chile
- Introduction
- Pisco production
- Pisco flavor chemistry
- Main sensory properties of Pisco
- Sensory analysis practice in the Pisco industry
- Consumer research and product development in the Pisco industry
- Future trends
- Acknowledgements
- References

Sugar cane spirits: cachaça and rum production and sensory properties
J B Faria, State University of Sao Paulo - Unesp, Brazil
- Introduction
- Raw materials
- Fermentation
- Distillation
- Maturation
- Cachaça and rum: similarities and differences
- Sensory quality of cachaça and rum
- The challenge of new markets
- Sources of further information
- Acknowledgement
- References

Tequila and mezcal: sensory attributes and sensory evaluation
S Villanueva-Rodriguez and H Escalona-Buendia, Centro de Investigación y Asistencia en Tecnología y Diseño del Estado de Jalisco (CIATEJ), Mexico
- Introduction
- Origin of the sensory attributes of tequila and mezcal
- Sensory evaluation of tequila and mescal from a research perspective
- Application of sensory evaluation in industry
- Sources of further information
- Acknowledgement
- References
Whiskies: composition, sensory properties and sensory analysis
F R Jack, The Scotch Whisky Research Institute, UK
- Introduction
- The influence of raw materials and production processes on sensory character
- Whisky composition and sensory properties
- Sensory analysis in the whisky industry
- Future trends
- Sources of further information and advice
- References

PART 4 CONSUMER RESEARCH METHODS: PRINCIPLES AND
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Consumer research in the wine industry: new applications of conjoint measurement
L Ettinger Lieberman, D I Moskowitz and H R Moskowitz, Moskowitz Jacobs Inc, USA
- Background: understanding the mindset of the consumer
- Experiments and statistical tools
- Conjoint measurement (CM): experiments by mixing together ideas
- Applying CM to wine: traditional approaches
- Understanding white wine using experimental design of ideas
- The case of red wine
- Next generation thinking: price and emotion / feeling and its application to dessert wine
- Concluding remarks
- References

Preference mapping: principles and potential applications to alcoholic beverages
H MacFie, Hal MacFie Training Services and J R Piggott, University of Strathclyde, UK
- Introduction
- Conducting central location trials (CLTs)
- Analyses
- Recent developments in preference mapping
- Sources of further information and advice
- Acknowledgement
- References