

Annual Report 2013

To order the 2013 annual report please contact:

**Deutsche Forschungsanstalt für Lebensmittelchemie
Leibniz Institut
Mrs. A. Stoiber
Lise-Meitner-Strasse 34
D-85354 Freising, Germany
Phone: +49 8161 712928
Fax: +49 8161 712970
Anneliese.Stoiber@lrz.tum.de**



Table of Contents

Structure and Bioactivity of Low-Molecular Food Ingredients (Hedonic Value)

- Molecular Insights into the Aroma Difference between Fine Flavour Cocoa and Bulk Cocoa from Ecuador: National vs. CCN-51
- Determination of Odour Activity Values of Esters in Apple Juices for Quality Evaluation
- Characterisation of the Aroma of Emmentaler Cheese by the Molecular Sensory Science Concept
- Key Aroma Compounds in Two Orange Juices Not From Concentrate (NFC) from Different Origins
- Impact of Corn Malt Addition on the Aroma of Gluten-free Bread
- Characterisation of Key Aroma Compounds in an Oat Flour Pastry
- Influence of Curing Salt on the Formation of Important Aroma Compounds in Salami
- Aroma-Active Compounds in Wheat Beer
- Elucidation of the Reason for an Off-Flavour of Poppy Seeds
- A New Stable Isotope Dilution Approach for the Sensitive Quantitation of 3-Methyl-2-Buten-1-Thiol (MBT) and its Application
- Evaluation of Process Parameters Governing the Aroma Generation in Hazelnuts by GC×GC/TOF-MS and Sensory Analysis
- Influence of the Toasting Process on Important Aroma Compounds in French Oak (*Q. robur*)
- Influence of the Manufacturing Process on Changes in Aroma Compounds of Bourbon Whiskey
- Impact of Foam Composition and Structure on the Aroma Release from a Milk Protein Polysaccharide Foam Model
- Key Aroma Compounds in Chicken Egg Omelette

Development of Analytical Methods

- Quantitation of Gluten in Wheat Starch by Gel Permeation Chromatography/Fluorescence Detection
- Collaborative Study on the Quantitation of Hydrolysed Gluten by R5-ELISA Competitive
- Quantitation of Toxicologically Relevant Styrene in Wheat Beer

- Development of Stable Isotope Dilution Assays for the Quantitation of Short-Chain Alkanethiols and H₂S and their Application to Durian Fruits

Correlation between the Chemical Structure and the Physical Properties of Biopolymers

- Identification of Wheat High-Molecular-Weight Subunits of Glutenin by ESI-QTOF-Mass Spectrometry
- Improved Identification of Cysteine-Labeled Wheat Gluten Proteins by Peptide-Based Mass Spectrometry
- Isolation and Characterisation of HMW-Gliadins from Wheat
- Characterisation of Proteins from Oat Glutelins by Time-of-Flight Mass-Spectrometry
- Composition of Polar Lipids in Wheat Dough as Affected by Lipase Modification
- Standardisation of Micro-Scale Extension Tests of Wheat Dough and Gluten
- Comparative Studies on the Enzymatic Degradation of Arabinoxylans from Rye
- Fundamental Studies on Salt Taste Perception in Polysaccharide Gels
- Enzymatic Degradation of Residual Gluten in Wheat Starch
- Quantitation of Glutathione and Cysteine in Gluten-Free Flours and Doughs
- Identification of Amylase-Trypsin-Inhibitors as Cofactors for Triggering Coeliac Disease and Gluten Sensitivity

Physiological Effects of Food Ingredients

- Impact of Capsaicin on the Activity of Human Natural Killer Cells
- Chemosensory Receptors in Blood Immune Cells
- Enantiomer-Specific Olfactory Receptors for the Key Food Odorants (*R*)-(-)-Carvone and (*S*)-(+)-Carvone
- Studies on the Bioavailability of Gingerol Metabolites after Ginger Tea Intake

Food Composition Tables

- Gluten Content of Different Cereal Flours