

# Abstracts and Links to Papers of Interest from Other Journals

This section contains links to recent papers, published in a number of Journals considered of interest to our readers.

## ***Journal of the American Society of Brewing Chemists***

**Volume 65(2), 2007**

Links to the full abstracts of these papers can be found at  
<http://www.asbcnet.org/Journal/>

**Fiber and Putative Prebiotics in Beer.** C. W. Bamforth and S. C. Gambill. *JASBC*, Vol. 65(2), 2007, pp. 67–69.

**Development of a LC/MS Method for Analysis of Total Vicinal Diketones in Beer.** M. Blanchette, B. van Bergen, and J. D. Sheppard. *JASBC*, Vol. 65(2), 2007, pp. 70–76.

**Identification of Beer-Spoilage Microorganisms Using the Loop-Mediated Isothermal Amplification Method.** Y. Tsuchiya, M. Ogawa, Y. Nakakita, Y. Nara, H. Kaneda, J. Watari, H. Minekawa, and T. Soejima. *JASBC*, Vol. 65(2), 2007, pp. 77–80.

**Effect of Low-Phytate Barley on Malt Quality, Including Mineral Loss, During Fermentation.** M. J. Edney, B. G. Rosnagel, and V. Raboy. *JASBC*, Vol. 65(2), 2007, pp. Pages 81–85.

**Organic Acids of Commercial Beers in China: A Chemometric Study.** Y. Li, Y. Xu, P. B. Schwarz, and G. Gu. *JASBC*, Vol. 65(2), 2007, pp. 86–91.

**Application of Shotgun DNA Microarray Technology to Gene Expression Analysis in Lager Yeast.** N. Kobayashi, M. Sato, S. Fukuhara, S. Yokoi, T. Kurihara, J. Watari, T. Yokoi, M. Ohta, Y. Kaku, and T. Saito. *JASBC*, Vol. 65(2), 2007, pp. 92–98.

**Maltose and Maltotriose Active Transport and Fermentation by *Saccharomyces cerevisiae*.** S. L. Alves, Jr., R. A. Herbets, C. Hollatz, L. C. Miletti, and B. U. Stambuk. *JASBC*, Vol. 65(2), 2007, pp. 99–104.

**Characteristics of Traditional Alcoholic Beverages Made with *Koji* Described in the Classic Literature, *Chi min yao shu*, of the Ancient Chinese.** M. Kanauchi, T. Kakuta, and T. Koizumi. *JASBC*, Vol. 65(2), 2007, pp. 105–109.

**Biohydrogen Generation from Beer Brewery Wastewater Using an Anaerobic Contact Filter.** K. Vijayaraghavan, D. Ahmad, and M. Samson. *JASBC*, Vol. 65(2), 2007, pp. 110–115.

**Antioxidant Activities of Hops (*Humulus lupulus*) and Their Products.** Y. Liu, X. Gu, J. Tang, and K. Liu. *JASBC*, Vol. 65(2), 2007, pp. 116–121.

## ***Journal of the American Society of Brewing Chemists***

**Volume 65(3), 2007**

**Barley Seed Osmolyte Concentration as an Indicator of Preharvest Sprouting.** C. A. Henson, S. H. Duke, P. Schwarz, and R. Horsley. *JASBC*, Vol. 65(3), 2007, pp. 125–128.

**Evaluation of PDMS-based Extraction Techniques and GC-TOFMS for the Analysis of Off-flavor Chemicals in Beer.** R. T. Marsili, L. C. Laskonis, and C. Kenaan. *JASBC*, Vol. 65(3), 2007, pp. 129–137.

**Vicinal Diketone Production and Amino Acid Uptake by Two Active Dry Lager Yeasts During Beer Fermentation.** N. Cyr, M. Blanchette, S. P. Price, and J. D. Sheppard. *JASBC*, Vol. 65(3), 2007, pp. 138–144.

**Green Malt Osmolyte Concentration as an Early Indicator of Finished Malt Quality.** S. H. Duke and C. A. Henson. *JASBC*, Vol. 65(3), 2007, pp. 45–150.

**Detection of Mannan from *Saccharomyces cerevisiae* by Flow Cytometry.** P. H. Chlup, J. Conery, and G. G. Stewart. *JASBC*, Vol. 65(3), 2007, pp. 151–156.

***horA*-Specific Real-Time PCR for Detection of Beer-Spoilage Lactic Acid Bacteria.** M. C. Haakensen, L. Butt, B. Chaban, H. Deneer, B. Ziola, and T. Dowgiert. *JASBC*, Vol. 65(3), 2007, pp. 157–165.

**Estimation of Yeast Mass Increase in Production Brewing Fermentations by Calculation of Carbohydrate Utilization.** A. J. Cutaia. *JASBC*, Vol. 65(3), 2007, pp. 166–171.

**Use of Sodium Bisulfite as a Method to Reduce DON Levels in Barley During Malting.** J. Lake, M. Browsers, X. S. Yin, and R. A. Speers. *JASBC*, Vol. 65(3), 2007, pp. 172–176.

## **Master Brewers Association of the Americas Technical Quarterly**

**Volume 44(2), 2007**

Links to the full abstracts of these papers can be found at

<http://www.mbaa.com/TechQuarterly/>

**Reduction of Malting Loss Using Lactobacilli.** Beatus D. Schehl, M. Almudena Soriano, Elke K. Arendt, and Helge M. Ulmer. *MBAA TQ*, Vol. 44(2), 2007, pp. 84–92.

**Novel On-line Sensor for Measuring Dissolved CO<sub>2</sub> Using Attenuated Total Reflectance Technology.** F. M. Cash, G. P. Broski, and P. J. Slier. *MBAA TQ*, Vol. 44(2), 2007, pp. 93–97

**Enzymic Modification of Millet Varieties (*Sossat* and *Pennisetum maiwa*) with Similar Nitrogen Contents During Malting.** L. O. Eneje, F. J. C. Odibo, R. C. Agu, G. H. Palmer, and A. H. Ugwu. *MBAA TQ*, Vol. 44(2), 2007, pp. 98–103.

**Oxygen-Enhanced Fermentation.** Peter Takacs and James J. Hackbarth. *MBAA TQ*, Vol. 44(2), 2007, pp. 104–107.

**Low-Carbohydrate Beer Production: Issues with Sticky Yeast Beds.** Eric J. Samp, Larry Silberman, and Leah Dennison. *MBAA TQ*, Vol. 44(2), 2007, pp. 108–115.

**Extract Development in Malting Sorghum.** Dr. A. C. Ogbonna. *MBAA TQ*, Vol. 44(2), 2007, pp. 116–120.

**Practical Experiences with Mash Filtration on Thin-Bed Filters from Brews Made with Several Kinds of Raw Materials.** Robrecht Braekeleers, Jeroen Vandebussche, and Frédérique Harmegnies. *MBAA TQ*, Vol. 44(2), 2007, pp. 121–126.

## **Master Brewers Association of the Americas Technical Quarterly**

**Volume 44(3), 2007**

**Realistic Haze Specifications for Beer.** Dylan T. Clark and Charles W. Bamforth. *MBAA TQ*, Vol. 44(3), 2007, pp. 160–163.

**Adsorption of Beer Components During Membrane Microfiltration of Beer.** Keith Thomas, Claire Gibson, Peter Riddell, and Andrew Kelly. *MBAA TQ*, Vol. 44(3), 2007, pp. 164–169.

**Characteristics of Starch in Argentinean Malting Barley.** Olivia V. López, María A. Lázzari, and María S. Rodríguez. *MBAA TQ*, Vol. 44(3), 2007, pp. 170–175.

**Possible Effects of Fouling on the Quality of the Resulting Wort.** Dr.-Ing. M. Hertel, Dipl.-Ing. J. Tippmann, and Prof. Dr.-Ing. K. Sommer. *MBAA TQ*, Vol. 44(3), 2007, pp. 176–178.

**Analytical Properties of Vitamin-Enriched Beer.** Emese Jeney-Nagymate and P. Fodor. *MBAA TQ*, Vol. 44(3), 2007, pp. 179–182.

**Insights on Producing and Copacking Special Products in a Brewery Environment.** R. J. Klimovitz. *MBAA TQ*, Vol. 44(3), 2007, pp. 183–189.

**Permeation of Volatile Organic Compounds Through Plastic Bottles and Closures in the Beverage Industry.** Martin Orzinski, Alexander Wuertz, Leif-A. Garbe, and Jan Schneider. *MBAA TQ*, Vol. 44(3), 2007, pp. 190–197.

## **Brewing Science – Monatsschrift für Brauwissenschaft**

**Fachverlag Hans Carl, Nürnberg, Germany**

**Vol. 60 (July/August), 2007**

**Fluid flow in the mouth as a measurable aspect of drinkability.** K. Mathmann, W. Kowalczyk and A. Delgado. *Brewing Science (Monatsschrift für Brauwissenschaft)*, Vol. 60 (July/August), 2007, pp. 90–95.

According to relevant definitions in literature, drinkability can be divided into a conscious part regarding measurable beer attributes and a subconscious part which contains both social and psychological factors. The fluid flow of beer in the mouth and the resulting mouthfeel can be considered as being an aspect of the conscious and therefore measurable attributes. For this reason, the current study deals with the improving our understanding of the intra-oral fluid flow, visualized by means of numerical simulations and with the resulting sensory sensations which occur during the process of drinking. The aim of the study is to develop a hybrid tool which offers the opportunity to describe and predict mouthfeel only by virtue of the rheological characteristics of beverages and liquid foods.

**The influence of fermentation-control on the colloidal stability and the reducing power of the resulting bottom fermented beers.** M. Pöschl, S. Bauer, L. Leal, S. Illing, D. Stretz, U. Wellhoener, C. Tenge and E. Geiger. *Brewing Science (Monatsschrift für Brauwissenschaft)*, Vol. 60 (July/August), 2007, pp. 96–109.

The focal point of this work was to evaluate variations in fermentation-control, which included different fermentation temperatures and different pitching rates, the usage of yeast from various numbers of generations as well as the application of pressure fermentation. Of particular interest was the monitoring of haze relevant polyphenols and proteins as well as the detection of antioxidative capacity, which was differentiated between fast reducing substances and total reducing power. The force tests showed reproducible lower formation of colloidal haze in the beers resulting from fermentation at lower temperatures and from decreasing numbers of yeast generations. Also lower pitching rates and pressure fermentation seem to improve colloidal stability. The best reducing power, which does not influence colloidal stability in either case, resulted from cold fermentation and higher pitching rates. It has been shown that variations in the field of fermentation performance may have an impact on the colloidal stability. Thus optimising the fermentation performance and pitching technology can be regarded as one further step to improve colloidal stability in a technological way.

**Malt volatile compounds (Part I).** M. Herrmann, M. Gastl, F. Thiele and W. Back. *Brewing Science (Monatsschrift für Brauwissenschaft)*, Vol. 60 (July/August), 2007, pp. 110–117.

The measurement of the malt volatiles targets Maillard-products, Strecker-aldehydes, higher alcohols and compounds of the lipid metabolism of barley. These substances act as indicators for a multiplicity of technological factors, like proteolysis or thermal load during kilning. The effects of using malts with different loads of volatile compounds for beer production will be discussed in Part II of this publication series. This paper shows the improved method of analysis for these substances and the influence of various malting parameters on the formation of the volatile compounds using a statistically planned experimental design termed Response Surface Methodology. The differences between the formation of the volatiles within typical maltings parameters is very large and concentrations thus differ up to a factor 26. If one considers only malts within brewing specifications a factor of up to 7 still remains. Green malt moisture and germination temperature are the main influencing factors; high germination temperatures are suited to produce malt with low volatile concentrations if higher malting losses are acquiesced.

### ***Brewing Science – Monatsschrift für Brauwissenschaft***

**Fachverlag Hans Carl, Nürnberg, Germany**

**Vol. 60 (September/October), 2007**

**Controlled coculture fermentation for the production of new beverages.** J. Bader, E. Mast-Gerlach and U. Stahl. *Brewing Science (Monatsschrift für Brauwissenschaft)*, Vol. 60 (September/October), 2007, pp. 128–134.

Special strains of *Gluconobacter*, *Lactobacillus* and *Kluyveromyces* have been selected for the production of a new beverage on the basis of wort. This beverage contains

the health benefiting substances gluconic acid, lactic acid and an ethanol concentration below 0.5% (v/v). Fermentation was adapted for growth behaviour and to maximise production – the strategy developed concurrently produces (a) gluconic acid by using the strictly aerobic *Gluconobacter* strain and (b) lactic acid by using the anaerobic strain of *Lactobacillus*. The concentrations of the simultaneously produced organic acids are controlled by the level of oxygen in the fermentation medium. The following mixed fermentation of *Lactobacillus*, *Gluconobacter* and *Kluyveromyces* using the chosen yeast strain resulted in producing a pleasant flavour.

### **The use of response surface methodology to optimise malting conditions of quinoa (*Chenopodium quinoa* L.) as a raw material for gluten-free foods and beverages.**

M. Zarnkow, Th. Geyer, B. Lindemann, F. Burberg, W. Back, E. K. Arendt and S. Kreis. *Brewing Science (Monatsschrift für Brauwissenschaft)*, Vol. 60 (September/October), 2007, pp.118–126.

Response surface methodology was used to investigate the influence of the three malting parameters, degree of steeping, germination time and temperature, on the quality of quinoa malt. Each predictor variable was tested at three levels. Germination times were set to 5, 6, and 7 d, degrees of steeping were set to 46, 50, and 54%, and germination temperatures were 8, 11.5, and 15°C. A kilning temperature of 74°C was used for all malts. A series of malt quality attributes was investigated including extract,  $\beta$ -amylase activity, limit dextrinase activity,  $\alpha$ -amino nitrogen (FAN), and dimethyl sulfide precursor (DMSP). The optimal malting programme was achieved with 5 d germination time, 46% degree of steeping, 15°C steeping and germination temperature. The obtained amyolytic and proteolytic attributes were 59.6% extract, 2021 U/kg limit dextrinase activity, 20 U/g  $\beta$ -amylase activity, 19.1 mg/100 mL FAN, and 12.7 mg/kg dimethyl sulfide precursor (DMSP).  $\alpha$ -Amylase activity could not be proved, therefore it was not considered for the evaluation.