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(1), 2007

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

http://www.asbcnet.org/Journal/

Fate of Ergot (*Claviceps purpurea*) Alkaloids During Malting and Brewing. P. B. Schwarz, N. S. Hill, and G. E. Rottinghaus. *JASBC,* Vol. 65(1), 2007, pp. 1–8.

Separation and Identification of Stereoisomers of Isomerized alpha-Acid Derivatives by HPLC/DAD and Electrospray HPLC/MS. P. L. Ting, S. Kay, and D. Ryder. *JASBC,* Vol. 65(1), 2007, pp. 9–14.

Effects of Maillard and Caramelization Products on Oxidative Reactions in Lager Beer. T. V. Nøddekær and M. L. Andersen. *JASBC,* Vol. 65(1), 2007, pp. 15–20.

Steps Toward the Formulation of a Model Foam Standard. W. Vundla and P. Torline. *JASBC,* Vol. 65(1), 2007, pp. 21–25.

Alpha-Acids Do Not Contribute Bitterness to Lager Beer. A. Fritsch and T. H. Shellhammer. *JASBC,* Vol. 65(1), 2007, pp. 26–28.

The Disc Stack Centrifuge and Its Impact on Yeast and Beer Quality. P. H. Chlup, D. Bernard, and G. G. Stewart. *JASBC,* Vol. 65(1), 2007, pp. 29–37.

Hopping Technology in Relation to Beer Bitterness Consistency and Flavor Stability. B. Jaskula, E. Syryn, K. Goiris, G. De Rouck, F. Van Opstaele, J. De Clippeleer, G. Aerts, and L. De Cooman. *JASBC,* Vol. 65(1), 2007, pp. 38–46.

Identification of Barley Varieties Used in Beer Production by Microsatellite DNA Markers. Y. Lin, M. Liao, G. Yang, W. Yu, H. Guan, W. Fan, and J. Dong. *JASBC,* Vol. 65(1), 2007, pp. 47–51.

The Effect of Beer pH on Colloidal Stabilization with Adsorbents. K. J. Siebert and P. Y. Lynn. *JASBC,* Vol. 65(1), 2007, pp. 52–58.

Osmolyte Concentration as an Indicator of Malt Quality. C. A. Henson and S. H. Duke. *JASBC,* Vol. 65(1), 2007, pp. 59–62.

Publication no. G-2007-0502-ABS

Master Brewers Association of the Americas Technical Quarterly

Volume 44(1), 2007

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

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

Milling Energy of Malting Barley in Relationship to Endosperm Hardness: A Review. Jayantha Gamlath. *MBAA TQ,* Vol. 44(1), 2007, pp. 8–14.

Beer as Liquid Bread. Charles W. Bamforth. *MBAA TQ,* Vol. 44(1), 2007, pp. 15–18.

Dehumidification in Brewing: Controlling Moisture with Liquid Desiccants. Brian M. Demers. *MBAA TQ,* Vol. 44(1), 2007, pp. 19–22.

The Study of Haze Formation in Freshly Packaged and Stored Beers. Deborah K. Parker. *MBAA TQ,* Vol. 44(1), 2007, pp. 23–28.

The Dangers of the SASPL Test in Chillproofing Evaluation. Kenneth A. Berg, Larissa L. Ding, and Robert E. Patterson. *MBAA TQ,* Vol. 44(1), 2007, pp. 29–31.

Some Links Between Total Nitrogen, beta-Glucan, and Steeliness in Relation to Barley and Malt Quality. R. C. Agu. *MBAA TQ,* Vol. 44(1), 2007, pp. 32–39.

PYF Malt: Practical Brewery Observations of Fermentability. Keith Armstrong and Dr. Dirk Bendiak. *MBAA TQ,* Vol. 44(1), 2007, pp. 40–46.

Brewing Science – Monatsschrift für Brauwissenschaft

Fachverlag Hans Carl, Nürnberg, Germany

Vol. 60(1/2), 2007

Performance comparison of calibrated Fourier Transformation Infrared Spectroscopy (FTIR) and automated beer analyzer in quality control studies. Titze, J., Ilberg, V., Jacob, F., Friess, A. and Parlar, H. *Brewing Science (Monatsschrift für Brauwissenschaft),* Vol. 60(1/2), 2007, pp. 21–31.

Fourier transformation infrared spectroscopy (FTIR) as to its potential in quantifying beer parameters was investigated, aiming to figure out the feasibility for its application in practice compared to a commonly used automated

beer analyzer. For this purpose, a FTIR system including a database was set up and calibrated for the most important beer parameters, such as original wort, pH, alcohol content, specific gravity, extract (real and apparent), fermentation, caloric value, and refraction index. A set of in total 329 beers marketed in Europe was analyzed with an FTIR system and a commercially available automated beer analyzer. A statistical evaluation revealed no significant differences of the analytical performance of both systems. Highest correlation coefficients R^2 (close to 1) were found for all parameters, except for the pH (0.901). A certain limit was observed in analyzing the pH parameter via FTIR, but was still sufficient for a precise quantification. The analysis of the parameters via FTIR remained stable over a period of 80 days. The use of antifoaming agents affected the FTIR spectra and, therefore, cannot be recommended. When testing the FTIR system in interlaboratory studies, a standardized sample preparation is highly recommended to obtain reproducible spectra. The results concluded that a well calibrated FTIR system can replace less practicable automated beer analyzers in quantifying quality relevant beer ingredients.

Some phenolic compounds in the Czech hops and beer of Pilsner type. Kellner, V., Jurková, M., Čulík, J., Horák, T. and Čejka, P. *Brewing Science (Monatsschrift für Brauwissenschaft),* Vol. 60(1/2), 2007, pp. 32–37.

The HPLC method coupled with eight-channel coulometric detector (CoulArray) was used for determination of polyphenolic compounds in Pilsner beer and hops cultivated in the Czech Republic. Some important flavonoids and isoflavonoids as well as some phenolic acids were analysed. The CoulArray detector is characterized by its high sensitivity and enables determination in very low concentration. Calibration ranged from 0.001 mg/L to 1 mg/L of each analyte without any clean-up procedure before analysis. Two HPLC gradients with different content of acetonitrile as an organic modifier were used. Compounds with higher polarity, like phenolic acids (gallic, protocatechuic, gentisic, 4-hydroxyphenylacetic, vanillic, caffeic, syringic, and ferulic acid) besides flavan-3-ols (catechin and epicatechin), 4-hydroxycoumarin and derivatives of coumarin (esculin, umbelliferone, scopoletin) could be separated completely with 30% content of acetonitrile in mobile phase only. 4-hydroxycoumarin, flavonoids or their glycosides (rutin, naringin, myricetin, quercetin, apigenin) and some isoflavonoids (daidzein, genistein, formononetin and biochanin A) had to be eluated with a higher content (50%) of acetonitrile in the mobile phase due to their higher hydrophobicity. Specific oxidative potential of each phenolic compound enables higher degree of selectivity of these chromatographic methods. The typical representative compounds from a wide spectrum of phenolics were chosen for establishing of composition of Czech hops and beer of Pilsner type.

Kinetics of haze formation in beer – turbidity and flavan-3-ols. M. Kusche and Geiger, E. *Brewing Science (Monatsschrift für Brauwissenschaft),* Vol. 60(1/2), 2007, pp. 38–47.

Kinetics of haze formation were studied by observing the development of turbidity, the correlation between built aggregates and flavan-3-ols and the reduction of these polyphenols during storage of different stabilised beers at different temperatures. Sample preparation was done by solid phase extraction followed by a HPLC-DAD. Kinetics of haze formation was influenced by the amount of flavan-3-ols in fresh beer as well as by the storage temperature of bottled beer. Although turbidity showed the same measured value, the reactive amount of flavan-3-ols differed when the beer was stored at different temperatures.