



Aggie Brew

The Newsletter of the campus brewing program at UC Davis

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Congratulations!

Well done Christine Wright, Robert Kuntz and Sam Gambill, all of whom received scholarships from the American Society of Brewing Chemists that will allow them to attend the ASBC meeting in Savannah, GA in 2005.



Kathy Kinton (l) and Sue Thompson (r) present the check to Christine Wright

A selection of recent research findings at UC Davis

- the enzyme that makes methyl thioacetate is the same one that makes isoamyl acetate – so it's cabbage and bananas through the same machinery (go to Bamforth & Kanauchi, 2003)

- polypeptides made from the breakdown of hordein give less stable foams than do those coming from the albumin fraction – but they get into the foam more easily. Moral: eliminate hordein derived proteins to get a better head (and less haze to boot - go to Bamforth & Milani, 2004)

- alcohol dehydrogenase is probably the main enzyme performing diacetyl elimination in brewing yeast – but lager strains have two extra

diacetyl removing enzymes whereas ale strains have only one (go to Bamforth & Kanauchi, 2004)

- combinations of exogenous β -glucanase and pentosanase are more effective than either alone in enhancing extract recovery and reducing viscosity in mashing (go to Scheffler & Bamforth, 2005)

Facilities

We continue to be grateful to Anheuser-Busch for their ongoing support, generosity and involvement in the establishment of our new brewery. We are also grateful to Alfa Laval for the donation of equipment, including a Carlsberg Flask. We were delighted to receive a “surplus to requirements” micromaltings from Busch Agricultural resources.

Interns

Several of our students gained valuable experience in internships during the summer months. Christine Wright was at Anheuser-Busch Fairfield and Cale May to A-B Merrimack. Robert Kuntz was at Widmer in Portland and Sam Gambill at Firestone Walker in Paso Robles. William Davis was at Rockyard in Castle Rock CO, Andy Gaston with the Spoetzl Brewery in Shiner TX and Derek Stepanski was with Big Sky in Missoula MT. Grateful thanks to all of these locations for welcoming the students and doing so much to further their education. **If YOU would be interested in taking a Davis intern just get in touch with me.**

Recent Publications

Since the last newsletter we have published (or have in press) a number of articles:

Bamforth, C.W. (2004) The relative significance of physics and chemistry for beer foam excellence: theory and practice. Journal of the Institute of Brewing, 110, in press

Bamforth, C. (2004) The Myths of Lager, Brewers Guardian, 133 (8), 22-24

Bamforth, C. (2004) Stiffs, Stout, Poets and Porter, Brewers Guardian, 133 (9), in press

Bamforth, C. (2004) Cloves and cloud – Wheat Beers, Brewers Guardian, 133 (10), in press

Bamforth, C. (2004) The Light Fantastic Brewers Guardian, 133 (11), in press

Bamforth, C. (2005) Beyond reason: low alcohol and very high alcohol beers Brewers Guardian, 134 (1), 22-24

Mitchell, A.E., Hong, Y.-J., May, J.C., Wright, C.A. and Bamforth, C.W... (2005) A comparison of Polyvinylpyrrolidone (PVPP), Silica Xerogel and a Polyvinylpyrrolidone (PVP)-silica co-product for their ability to remove polyphenols from beer. J. Inst. Brew., in press

Scheffler, A. and Bamforth, C.W. (2005) Exogenous β -Glucanases and Pentosanases and their impact on mashing. Enzyme and Microbial Technology, in press.

Miracle, R.E. Ebeler, S.E. and Bamforth, C.W. (2005). The measurement of sulfur-containing aroma compounds in samples from production-scale brewery operations. J Am Soc Brew Chem, in press

On the Road

We continue to spread the gospel. Since the last newsletter speaking my engagements have been to

- New Zealand Institute of Food Science and Technology in Hamilton, NZ (keynote address)
- Asia-Pacific section meeting of the Institute and Guild of Brewing (IGB) in Auckland
- MBAA Rocky Mountain District, Fort Collins
- Napa Valley Wine Tech Meeting (!)
- World Brewing Congress, San Diego
- Culinary Institute of America
- American Association of Cereal Chemists, San Diego
- IGB Study tour, Fort Collins

- Dixie Cup, Houston, TX
- Brewers Association of the Americas, New Orleans
- Novozymes
- IBD Midland Counties, Burton-on-Trent, England
- IBD international videoconference Golden CO
- Sierra Nevada Chico CA
- Grace Episcopal Church Fairfield CA (a fundraiser – for the church, not for us! - as a double act with Michael Lewis)

RMI

The Robert Mondavi Institute for Wine and Food Science began its programming on September 30, 2004 with an Inaugural Lectureship Series, featuring Doug Muhleman of Anheuser-Busch as an outstanding speaker. I was honored to introduce him on the day.



Contributions

I am extremely indebted to Anheuser-Busch, Sierra Nevada, Coors, Kirin, Asahi, ISP, SAB-Miller, Cargill, Fosters, Scottish and Newcastle, the California Fermentation Society, Lallemand, Novozymes, Dow Corning and various individuals for gifts of financial support.

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