



# Aggie Brew

The Newsletter of the campus brewing program at UC Davis

Issue 7  
December 2003

## *The facilities are getting better and better!*

We continue to make important improvements to the facilities in Cruess Hall. The brewery is now commissioned, thanks especially to the engineering input from Anheuser-Busch. KHS have provided a wonderful bottle filling system. Halox have generously donated a chlorine dioxide system for the pilot plant, and we are in grateful receipt of an in-line monitoring system from Optek-Danulat.

We continue to work on plans for the new facility: the new academic building and also the Anheuser-Busch Brewing and Food Laboratory. Here's an exciting vision of what we can look forward to in a few years:



## *A welcome visitor*

We were delighted to receive Ruben Schneider as a visitor to Cruess Hall a little while ago. Ruben was of course the inspiration behind the establishment of a brewing program at UC Davis when he was the technical supreme at Lucky Lager in San Francisco. He was also the key player in the installation of the much loved (but tired!) brewery here in 1959. We were happy to refresh his memory, but also to show him "Mark II"!

## *Gone into the industry*

Evan is now with Pyramid Brewing Co. Craig Heisner, Alberto Sun and Stella Lee have joined Anheuser-Busch. Chris Dennis-Strathmeyer is with Gordon Biersch and Andrew Brutlag with Shiner. Bill Stephenson is at Ram in Oregon, Joe Hayes at Black Forest Brew Haus (Long Island, NY) and Scott Vaccaro at The Colorado Brewing Co (Connecticut).

## **AME Successes**

Craig Heisner and Curt Traina passed all three exams in 2003, Craig being one of only 4 candidates worldwide to earn a distinction. Alberto Sun and Joe Hayes passed two exams each.

## **FST 3 launched**

Fall Quarter 2003 saw us run for the second time the new General Education class, FST3, Introduction to Brewing and Beer. In the first two sessions of the class we had well over 300 students, there to learn about the rich history and nature of the brewing business and also to hear words of wisdom from a range of distinguished guest speakers. Already it is inspiring the right students to consider brewing as a career option.

## **Recent Publications**

**Since the last newsletter the following papers and articles have been published or will appear shortly.**

Kanauchi, M. & Bamforth, C.W. (2003) Use of Xylose dehydrogenase from *Trichoderma viride* in an enzymic method for the measurement of pentosan in barley, *J Inst Brew*, 109, 203- 207

Bamforth, C. (2002) Great Brewing Debates: Part 4 Does Beer Get Better With Ageing? *Brewers Guardian*, 131(10), 26-28

Bamforth, C. (2002) Great Brewing Debates: Part 5. Beer freshness: is the maltster to blame? *Brewers Guardian*, 131(11), 22-24

Bamforth, C. (2002) Great Brewing Debates: Part 6: Foaming polypeptides: are they precious? *Brewers Guardian*, 131 (12), 22-25

Bamforth, C.W. & Kanauchi, M (2003) Interactions between polypeptides derived from barley and other beer components in model foam systems. *Journal of the Science of Food and Agriculture*, 83, 1045- 1050

Stephenson, W.H. & Bamforth, C.W. (2002) The impact of lightstruck and stale character in Beers on their perceived Quality: A Consumer Study. *J. Inst. Brew.*, 108 (4), 406-409

Bushnell, S.E., Guinard, J.-X. & Bamforth, C.W. (2003) Effects of sulfur dioxide and polyvinylpyrrolidone (PVPP) on the flavor stability of beer as measured by sensory and chemical analysis. *J. Am. Soc. Brew. Chem.*, 61, 133-141

W.H. Stephenson, J.-P. Biawa, R.E. Miracle and C.W. Bamforth (2003) Laboratory-scale studies of the impact of oxygen on mashing, *J. Inst. Brew.*, 109, 273- 283

Bamforth, C.W. (2004) A critical control point analysis for flavour stability of beer. *MBAA Tech Quarterly*, in press

Bamforth, C.W. (2003) Barley and Malt Starch in Brewing: a general review. *MBAA Tech Quart*, 40, 89-97\*

Bamforth, C. (2003) A pint of flavoured water please. *Brewers Guardian*, 132 (7), 22-25

Bamforth, C. (2003) Rising to the challenge? *Brewers Guardian*, 132 (8), 24-27

Bamforth, C. (2003) Sourcing the Soul of Beer. *Brewers Guardian*, 132 (9), 22-25

Bamforth, C. (2003) Pistillate parts: the beauty of hops. *Brewers Guardian*, 132 (10), 26-28

Bamforth, CW (2004?) Where do brewing yeasts fit into the life forms of the world? *ASBC Best Practices book*

Bamforth, C.W. & Kanauchi, M. (2003) Use of novel assays to indicate that O-esters and S-esters are produced by the same enzyme in brewing yeast. *FEMS Microbiology Letters*, 228, 111-113

Bamforth, C. (2003) The Expensive Bit. *Brewers Guardian*, 132 (11), 22-24

Bamforth, C. (2003) In aid of the brewer. *Brewers Guardian*, in press

Miedl, M. and Bamforth, C.W. (2004) The relative importance of temperature and time in the cold conditioning of beer. *J Am Soc Brew Chem*, in press

Bamforth, C.W (2004) An ungrateful subject? Differences of opinion on beer, *Brewers Guardian*, in press

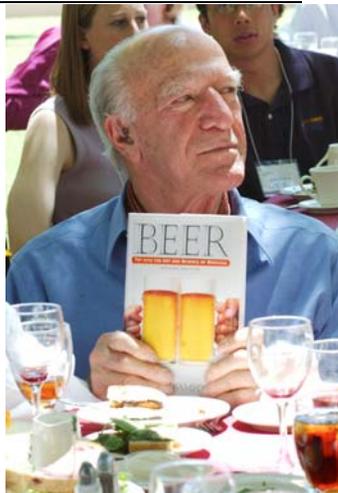
## **\*Presidential Award**

I was delighted to receive the award from the Master Brewers Association of the Americas for the best refereed paper of 2002 for the start review in *MBAA Technical Quarterly*.

## **New book**

Early in 2004 a new book will be published, entitled *Beer: Health and Nutrition*. Publishers are Blackwell – go to <http://www.blackwellpublishing.com/book.asp?ref=0632064463&site=1>

## Second edition



Extremely good taste shown by  
Mr. Robert Mondavi

During the year the second edition of *Beer: Tap into the Art and Science of Brewing*, came out, published by Oxford University Press (<http://www.us.oup.com/us/catalog/general/subject/LifeSciences/Microbiology/~~/dm1ldz11c2EmY2k9MDE5NTE1NDc5Nw==#reviews>)

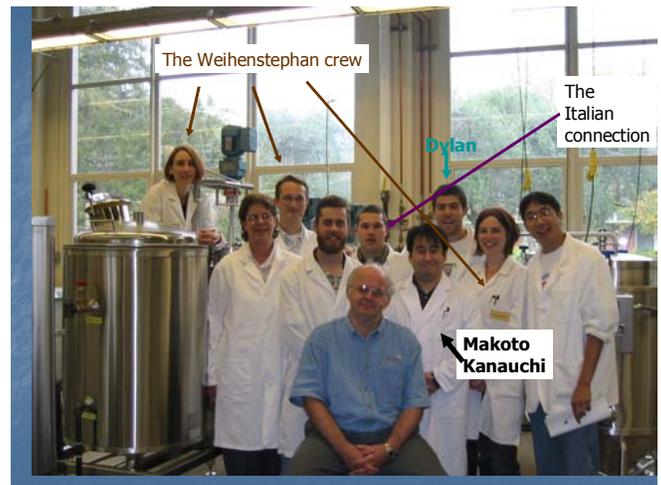
## Contributions

I am extremely indebted to Anheuser-Busch, Sierra Nevada, Coors, Kirin, Asahi, ISP, Haas, Heineken, SAB-Miller, Cargill, Fosters, Scottish Courage, Genencor and California Fermentation Society for gifts in financial support. We are also thrilled with the gift of a foam measuring system from Profamo.

**CAN YOU HELP? Do you want to be associated with the furtherance of our exciting mission?**

## A full lab

We have had a very full lab through 2003. This was particularly the case in the Spring when we were delighted to have three students from Weihenstephan (Michaela Miedl, Anke Scheffler and Peter Ferstl) pursuing the research part of their MS work here, as well as a returnee from Italy, Cristian Milani. Four new MS students have joined (Robert Kuntz, Christine Wright, Sam Gambill and Cale May), but sadly the astonishingly productive post-foc Makoto Kanauchi has returned to Japan.



## Keep in touch

Please keep in touch, whether you are an alumnus or somebody keen to take advantage of the teaching and research programs at UCD. I can be reached at

Charlie Bamforth  
Dept of Food Science & Technology  
University of California  
Davis, CA 95616-8598  
Telephone 530-752-1467; Fax 530-752-4759  
E-mail [cwbamforth@ucdavis.edu](mailto:cwbamforth@ucdavis.edu)

Web:  
<http://foodscience.ucdavis.edu/bamforth/>