



Volume 7, Issue 1/Winter 2008

Special issue of CBQ focuses on Big QC Day

Welcome to this special issue of Craft Beer Quarterly, which focuses on the second Big QC Day.

The most comprehensive and economical way to test beer, White Labs' Big QC Day allows brewers to send in two or more beers, each of which are tested for such factors as IBUs and total VDK. Breweries can compare their results to others, by style and region.

Big QC Day, which began in 2007, is the only large-scale, independent testing of craft beer. Brewers learn about their beers and quality control issues at an affordable cost. The tests provide a picture of the status of craft beer in general. Breweries can compare their results against the over-

all results of the test group. The cost of \$129 includes free shipping for domestic clients. (Shipping not included for international clients).

As in the past tests, Big QC Day 2008 will involve the following tests, among others (you can review the rest of this newsletter to learn about the 2007 results): aerobic bacteria, alcohol, anaerobic bacteria, color, density, IBUs, Real Extract, total VDK, and wild yeast.

Sign up for the 2008 tests now! Deadline is Feb. 8.

Turn to pages 2-3 for details about Big QC Day.

Participants will be sent a kit in which they will collect samples from two beers. These two beers will undergo the testing described previously. Please enroll in the program as soon as possible. You will receive an email verification. Billing will occur when we ship the collection kits. The kits will be sent to brewers in early February, and must be returned by the following deadlines.

For those who sign up before Feb. 1, the deadline for returning the containers will be Tuesday, Feb. 12. This will give

customers at least one week to fill and return the containers using the postage-paid Fed Ex labels. For orders placed between Feb. 1 and Feb. 8, the deadline for returning the containers is Feb. 19.

Call 1-888-5-Yeast-5 or log on to whitelabs.com to sign up.

Please note: White Labs is making this once-a-year, specially-discounted comprehensive testing available to you at the reduced rate of \$129 for two samples (normally \$500). To make this possible, there is a specific window of time set aside to process the samples. Thus, we kindly request that you fill and ship your samples by the deadline. Samples sent after the deadline will be assessed a \$25 late fee.



Above, beer samples and media bar-coded using the Yeastman computer system await testing last year. The barcoding eliminated any possibility of bias, as the name of the brewery was not included on the sample. At right, the Perkin Elmer GC-Headspace auto-sampler is filled with over 100 vials for analysis during Big QC Day at White Labs.



Testing results for 2007

In last year's testing program, about 10 percent of U.S. craft breweries took part following an education campaign that included postcards and web postings. Many breweries in other countries – including Canada, Israel and Sweden – participated as well.

Participating breweries wanted to learn about their beers so that they could answer the following questions, among others:

1. Does my beer fit the style guidelines?
2. How effective is my cleaning procedure?
3. Does my beer have potential diacetyl?
4. How does our in-house testing compare to an independent laboratory?
5. How do my beers compare to those from other breweries?

Testing Methods 2007

All tests followed ASBC methods.

(Please note: Some methods have changed for 2008, thanks to new equipment. For more please turn to page 2).

- Analytical: IBU, real extract, color
- Gas Chromatograph methods: Alcohol, total VDK
- Microbiological: Lactic acid bacteria, aerobic bacteria, wild yeast.

The Big Picture

- 80 percent of beers were free of bacteria and wild yeast
- 20 percent had some level of bacteria and wild yeast
- Of the contaminated beers, 9 percent had aerobic bacteria, 5 percent had anaerobic bacteria, and 6 percent had wild yeast.

For more detailed results, please turn to the next two pages and review the charts.

Dear readers: On this and the next page, we will provide you with some of the results of the Big QC Day testing for 2007. These results were presented to the Master Brewers Association of the Americas. Although some of the testing methods have changed (see story to the right), the core tests will continue.

To get included in the testing cycle for 2008, contact White Labs at 1-888-5-Yeast-5 or write us at info@whitelabs.com.

More information is available at www.whitelabs.com.

Cheers, Mike White

NEW: Anton-Paar Alcolyzer Plus Beer

From the Lab
Neva Parker

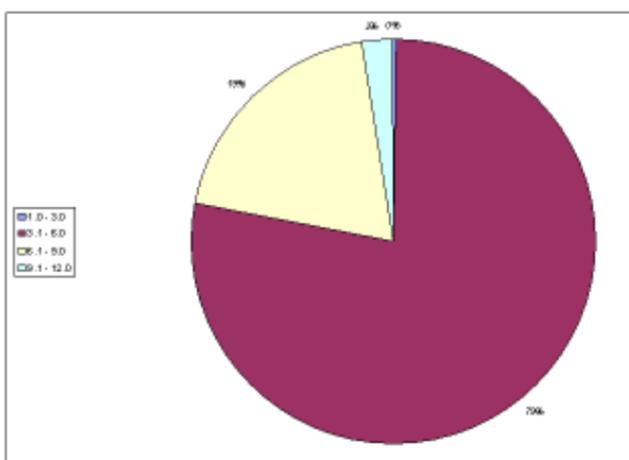


White Labs has recently purchased an Anton-Paar Alcolyzer Plus Beer. The Alcolyzer is equipped with a DMA4500 Density Meter, Auto-Sampler Carousel for multiple samples, and Hamilton pH Probe. We hope to use this new instrument to expand our analytical services and provide more detailed information for our laboratory services customers, including 2008 Big QC Day customers. With the Alcolyzer, we will more easily and efficiently be able to provide analysis of beer density, alcohol (by volume, weight, or mass), Real Extract, Apparent Extract, pH, beer color, real degree of fermentation (RDF), apparent degree of fermentation (ADF), and beer calories. Look for this new information on your 2008 Big QC Day analysis reports!

Neva Parker is the lab manager for White Labs. Write her at neva@whitelabs.com.

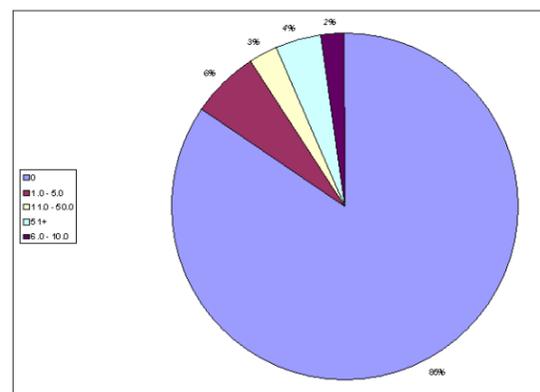
Alcohol

We used a gas chromatograph machine for measuring alcohol. The detector we use is a Flame Ionization Detector (FID). Results are reported as % vol/vol.



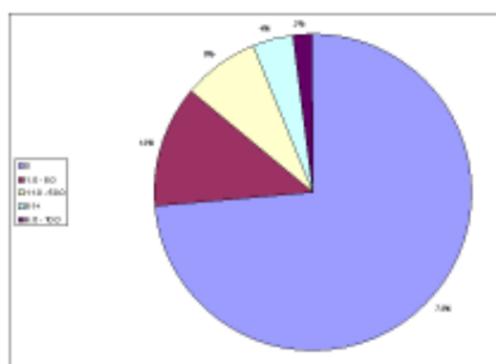
Anaerobic bacteria

The industry standard is less than 10 colony forming units (CFUs) per ml. If it is over 10, the beer may develop flavor problems. However, any CFUs found from this test should cause concern and an evaluation of your brewing and packaging process is recommended.



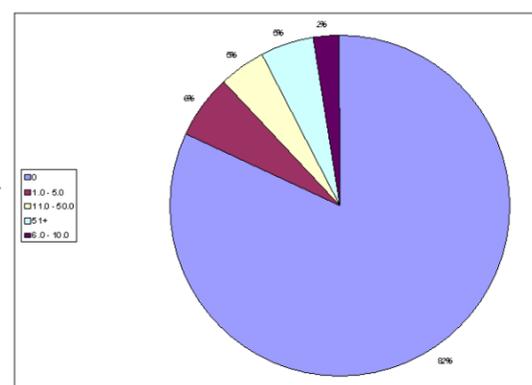
Aerobic bacteria:

This test was used with Wallersteins Differential, or WLD, medium.



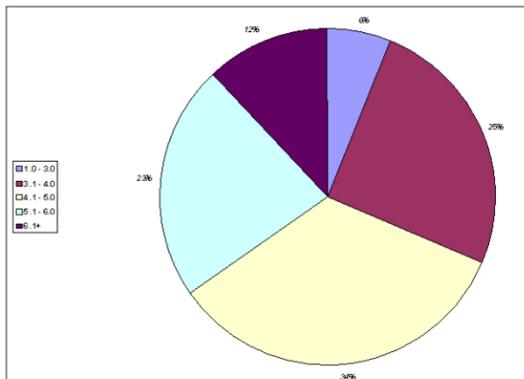
Wild yeast

Same parameters as per anaerobic bacteria.



Real Extract

This test shows you the sugars that are left in beer, usually non-fermentable carbohydrates. Results are reported in Plato.

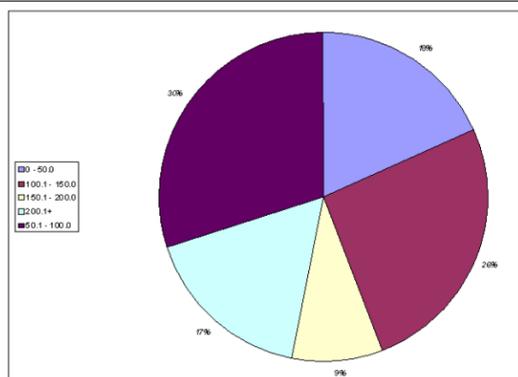


Conclusions:

- Total VDK: 52 percent of samples had VDK levels over 100 ppb, and 17 had total VDK levels above 200 ppb, which could be a sign of contamination or fermentation issues. However, VDK levels can be yeast strain dependant, and the majority of beers entered were ales.
- Contamination was evenly split between anaerobic bacteria, aerobic bacteria and wild yeast. Some of the aerobic contamination could have been caused during sample collection. For many breweries, this was the first time they conducted analytical testing.
- Wild yeast contamination suggests better work necessary in bottle cleaning and packaging.

Total VDK

Consists of diacetyl and 2,3-Pentanedione. Under 100 ppb is best. The numbers vary depending on the yeast strain and other factors.



More information on IBUs and Big QC Day

Some of the most popular test results related to hops and IBUs. You can read elsewhere in this issue details about these tests, including the graph at left that looks specifically at India Pale Ales, which was second in submissions behind pale ales.

The great percentage of beers entered were from hop intensive styles. These styles include pale ale (82 beers entered), IPA (56), Double IPA (12), and ESB (5).

These four styles comprised more than one-third of all submissions. Beers from more than 40 styles were entered.

Below is a break down of the IBUs for each style.

- Pilsner 28
- Porter 33
- Quadrupel 30
- Rye 18
- Saison 18
- Scotch 28
- Stout 47
- Tripel 16
- Triple IPA 87
- Vienna Lager 15
- Wheat 20
- Wit 10

India Pale Ales

• Average IBUs of test group:

	West	Midwest	East
Average IBUs of test group:	61	49	50.5

• GABF IBUs style guidelines:

# of entries	West	Midwest	East
GABF IBUs style guidelines:	31	12	13

Beer Style/IBUS

- Alt 21
- Amber 30
- Barleywine 62
- Belgian Golden 26
- Blonde 19
- Brown 24
- Cider 0
- Copper 36
- Cream 14
- Doppelbock 26
- Double IPA 69
- Double Pale 52
- Dubbel 20
- English Brown 16
- English Pale 38
- ESB 42
- Fruit 15
- German Wheat 14
- Golden 21
- Helles 12
- Herb/Spice 18
- Imperial Stout 50
- IPA 56
- Kolsch 19
- Lager 17
- Marzen 27
- Other 26
- Pale 33

Other tests

- IBUs: 80 percent of beers had IBUs, or International Bittering Units, of 50 or less. This despite the fact that 37 percent of entries were the hop intensive styles of Pale Ales and IPAs. Midwestern and Eastern beers were lower in IBUs than the West.
- Alcohol: 79 percent of beers had alcohol per vol./vol. of 3.1 to 6 percent; 19 percent were 6.1-9; 2 percent were 9.1 to 12.
- Color: 77 percent of samples ranged up to 20 Lovibond, on a scale from 2 to 100. Just 5 percent of samples were over 50.

Craft Beer Quarterly

CBQ is sent each quarter to thousands of professional brewers and homebrew shops. This publication provides technical tips, profiles and features about the brewing world. CBQ is sponsored by Cargill Malt, Hopunion CBS LLC and White Labs Inc.

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Attention brewer

Craft Beer Quarterly

The Back Page

White Labs has introduced new prices for 2008

White Labs has introduced new prices for professional brewery yeast that reflects the rising costs for ingredients, production and energy. The new prices became effective January 1, 2008.

Although we have been forced to increase prices because of rising costs, we will continue to offer first-rate customer service and products. In 2008, look for improvements in our website (including a new on-line ordering system), Big QC Day in February and Custom

Count (a custom cell count yeast product).
 The new pricing is listed below:

Volume	Domestic Price
1 bbl	\$90
2 bbl	\$130
7 bbl	\$190
10 bbl	\$265
15 bbl	\$315

Int. Price	21 bbl	\$435	\$465
	30 bbl	\$580	\$610
	40 bbl	\$740	\$775
	50 bbl	\$905	\$940

Please feel free to contact us with any questions or concerns. We appreciate your continued support, and hope to see you in San Diego at this year's World Beer Cup and Craft Brewers Conference.

- White Labs Staff

As CBC nears, White Labs prepares to entertain customers

Like brewers around the country, White Labs is gearing up for the 25th annual Craft Brewers Conference and the event's return visit to San Diego, the home of White Labs.

White Labs will host hospitality events in conjunction with the San Diego Brewers Guild and its CBQ partners.

More details on these events will become available at the end of the 1st quarter. For more information contact JoAnne Carilli-Stevenson at joanne@whitelabs.com.

The event returns to San Diego after an absence of just four years. The CBC of 2004 drew raves for its location near the sunny coast and vibrant downtown as well as the rich brewing environment of the San Diego region. The conference will again be held at the Town and Country Resort.

White Labs will be one of among about 150 vendors at the conference. More than 1,600 brewers, owners and

suppliers are expected to attend CBC this year, according to the host, the Brewers Association.

In November, the BA announced that the keynote speaker would be Richard Doyle, who cofounded The Harpoon Brewery in 1986.

The conference has speakers for more than 30 topics ranging from technical brewing to how to market and manage a brewery.

Also at the 2008 CBC will be the Brewers Association's World Beer Cup, an international beer competition held every two years. Awards for this competition will be presented on Saturday evening, April 19 at the World Beer Cup Gala Awards Ceremony and Dinner.

More information about the conference is available at www.CraftBrewersConference.com.

In the photo at right, visitors to White Labs in 2004 enjoyed a lunch on the company's balcony.

