



Volume 6, Issue 2/Spring 2007

White Labs sponsors first large-scale testing

White Labs Inc. held the first-ever large scale testing of craft beer in February-March and the results could shed light on the industry in general.

For "Big QC Day," breweries were invited to send in two samples of beer (using equipment and boxes provided by White Labs). The idea was to bring in a large volume of beer samples and perform the tests at one time in order to make the program affordable. The cost was \$99 for two samples. The hope was that breweries would learn about their beer and become more interested in quality control issues.

If breweries focus on QC testing, the overall quality of craft beer will rise. Some small breweries have little or

Turn to pages 4-5 for more news on yeast and White Labs.

no testing; most mid-sized to large breweries test for contamination on every batch. The Big QC Day program shows that the tests are useful and important not just for the largest breweries in the world but also neighborhood brewpubs and microbreweries.

White Labs had many more participants than anticipated, forcing the laboratory to bring extra people into

the project and delaying the results by several weeks. During testing in February and March, the laboratory was inundated with boxes from around the country and world, including Sweden and Israel. It is believed to be the first large-scale testing of craft beer in



See "Testing" page 4

Hop availability update

By Ralph Woodall

As many brewers know, due to numerous reasons, many of the 2006 crop hops are in short supply this year, including Centennial, Amarillo, US No. Brewer, Horizon, Crystal, Ahtanum, Liberty, Nugget, Millennium, Warrior and Columbus (see related story, page 7) to mention a few, while others that were short last year like US Magnum, Simcoe, Glacier and Palisades should be fine over the winter and into the spring and into the summer. All varieties are subject to availability later this summer and fall so review your 2006 crop needs. We are working on securing even more for the 2007 crop.

The import hops will have lower alphas this year but the aromas are fine, so if they are not used for bittering this should not be big problem. This is part of the never-ending cycle of the supply and demand process that is hard for both growers and brewers to predict with the changing of beer styles, customers' tastes and the increasing hopping rate of many popular new beers.

This has created some over-demand on certain varieties and under-demand on others. See "Hop availability" page 6

Turn to pages 6-7 for more news on hops and Hopunion.

Volunteering on MLK Day

On January 15, 2007 Cargill volunteers rose to the occasion to honor the legacy of Dr. Martin Luther King, Jr. by participating in MLK DAY ON for service! More than 350 employees in 25 locations in 14 states and Canada volunteered in various service projects to strengthen their communities, empower individuals, and bridge barriers.

The Day of Service is a national campaign, based in Washington, D.C., to make the King holiday "A Day On, Not a Day Off!" by encouraging individuals to volunteer in ways that improve community life.

Cargill employees and some retirees across 27 business units assembled

furniture, painted school hallways and senior citizen centers, served meals at soup kitchens, assisted in the rehabilitation of a hotel into a

Turn to pages 2-3 for more news on malt and Cargill Malt.

homeless shelter, participated in MLK parades, prepared gift baskets for U.S. troops, and much more!

See "MLK Day," page 2

Style Matters: An ode to Karl Strauss and his Amber Lager

In each issue, CBQ spotlights a particular beer style and provides tips from an ingredient and fermentation perspective. In this issue, we look at Amber Lagers. The selection of this style was made in honor of Karl Strauss, founder of Karl Strauss Brewing Co., San Diego's first modern microbrewery. Amber Lager was his

signature style. Karl Strauss died in December 2006 at the age of 94.

Malt Notes: The Amber Lager style of beer is a diverse category, ranging from the sweet, malt based beers found in Europe and often referred to as Vienna lagers, to the more aggressively hopped beers found on the West Coast of the US. When approaching the grain bills of this style we

find two general trends: grain bills based on malty, bready flavors or those emphasizing caramel flavors.

When putting together a grain bill for an amber lager three questions come up, all of which revolve around which interpretation of the style you are trying to emulate. First, does the brewer want to follow the malty, sweet, bready, version of

the style where caramel flavor is absent? In this case we would suggest building the style around Munich and Vienna malts. Munich and Vienna malts are kilned in a special high humidity drying (High Dried) process, which develops the "bread basket" side of the flavor spectrum. Of course the

See "Style Matters," page 3

Ask the Maltster: Tips on storing malt

Q: I'm the newly appointed brewmaster at a 1000 bbl brewpub in the upper Midwest. For 10 years, they have stored all their grain in a semi-trailer in their parking lot. Obviously, this is less than ideal storage, but I'm trying to get an idea how bad it is. I'm concerned about high summer humidity and temperature as well as frequent freezing/unfreezing in winter, which would likely affect the friability and extract obtained.

We do have another option: a warehouse about a mile away. It doesn't have A/C or humidity control, but is heated in winter and I'm sure the temperatures don't get as high as they do in a trailer.

Am I crazy for considering using the trailer? Or am I paranoid over a very small quality point?

All malt comes from Cargill in the 50/55 lb. bags. We typically order 3 months' worth at a time.

A: Malt in general can store for long periods of time if kept in a clean dry environment. The majority of malts are below 5.0% moisture, and quite simply at that low moisture very little can sustain life. Molds won't grow, and many grain related insects will not be able to thrive in an environment that dry. There are some specialty malts that have higher moisture levels, and keeping all things equal, would not stand the test of time as well as malt that is below 5%.

Therefore, the best way to store large quantities of malt is in a clean, dry, silo. Not only can it be the most efficient and economical way of storing grain, but also provides the brewer the ability to maximize the malt's "shelf life." Larger brewers do not store malt for any length of time because they are receiving malt deliveries weekly, and for the largest breweries on a daily basis.

However, the smaller craft brewer, who is benefiting from volume pricing by purchasing truckload quantities, can end up storing their malt for several months. This is not a problem, but there are just a few considerations or tips.

First, it is a good practice to empty the silo completely a few times a year. This reduces the build up of chaff, which is all the dust, and pieces of debris, that are created any time you move grain. The movement of grain in a silo is such that the lighter particles will rise to the top, so if you never completely empty your silo, continuing to create chaff, you will eventually wind up with a bunch of material in the bottom that you can't

brew with. Another source of chaff build up could be from high pressures used during pneumatic unloading.

Cargill recommends unloading its trucks between 3 -5 psi, which is adequate to move the grain while minimizing breakage. Also there are more insects that can easily use the fine dusty debris as a food source, therefore limiting the quantity will lessen the likelihood of getting an infestation. You should periodically inspect your silo both the exterior and interior. Look for cracks, missing bolts, or anything that might affect the structural integrity. Take an explosion resistant flashlight and inspect the interior. Look for water marks or stains on the sidewalls, or on top of the malt indicating a roof leak. Simply taking the time to do a quick inspection will save you headaches down the road. Keep loading hoses and tubes capped off when not in use. The area around the silo should be kept clean; not only is this just a good manufacturing practice, it helps quickly reveal even the very beginnings of a hole by the telltale pile of dust on the ground.

Bagged whole kernel malt stores longer easier than pre-milled bagged malt for some of the same reasons mentioned earlier. Simple good housekeeping and manufacturing practices will go a long way in preventing storage problems related to bagged malt. First of all the storage area should be kept dry, and if possible separate from the wet brewery, or any hose down areas. Bags should be off the ground either stacked on a rack or on a pallet. Storage on wooden pallets is fine as long as pallets are kept in a dry area. Spills should be cleaned up promptly. Avoid storing pallets all the way up against a wall or in a corner. There should always be enough room for a person to walk behind the pallets. This not only allows you to keep the area clean, but also takes away the areas the pests hide and live in, too.

Malt can also potentially pick up off flavors from being subjected to off odors. For example I've seen malt being stored in a kitchen of a restaurant, or in an area close to the delivery dock and was subjected to all the exhaust fumes from the idling delivery vehicles. I hope I'm pointing out that most storage issues can be prevented with some common sense and diligent sanitation work.

The final necessary component to help insure the quality of your malt is to implement a pest control pro-

gram. Any food producing or servicing company needs a pest control program, and most are paying an outside contractor to do that work for them. Whether you choose to contract with a professional licensed pest control company, or implement an in-house plan there are a few basics that should be expected by either. First of all, development of a rodent program identifying entrance and exits into the facility, and locations of interior and exterior traps should be completed. An inspection, trap maintenance, and activity report also should be routinely completed and reviewed. When looking at insect prevention there are a number of chemical pesticides and applications to safely solve almost any pest issue. Again, I truly believe though, that simple good housekeeping can prevent most pest control issues. If you do not give them a place to live or a food source to eat, the pests will find other places to go.

The reason most companies contract that business out is the technician will already be certified and licensed to use some of the chemical prevention tools at their disposal such as poison baiting, spraying residual insecticide, fogging empty bins, or fumigating product. The minimum level of pest control is usually outlined by government agencies, (another good reason to contract) but a thorough assessment of the facility's issues will dictate the level of control necessary.

To summarize, I believe the keys to storing malt safely while preserving quality are proper inventory control and maintenance. Stocks should be properly rotated and proper quantities ordered to help prevent stock from getting too old. Secondly a pest control program needs to be implemented, and most importantly the storage area needs to be dry and clean all the time.

A good resource giving a more detailed explanation of the Sanitation and Pest Control needs of a brewery is: Handbook of Brewing, 2nd Edition, Edited by Fergus Priest and Graham Stewart, Chapter 17, Sanitation and Pest Control, pgs 629 - 654.

— Michael Scanzello, Account Executive, Cargill - Specialty Malt Products Group

Have questions about malt, barley or brewing? Get them answered by our staff of Maltsters/Brewers. Just visit our web site www.specialtymalts.com and the Ask the Maltster section. We will post questions in CBQ.

MLK Day

From Page 1

The Specialty Malt Customer Service Staff in Sheboygan, WI observed Martin Luther King Jr. Day by donning paint shirts and reporting to work at the Family Resource Center in Sheboygan.

On this day, Dr. King's legacy lived on through the efforts of many Cargill volunteers and others around the world that joined in the celebration of his life and work by giving back to their communities. Dr. King said it best:

"Everybody can be great because anybody can serve."



In the photos at left and right, employees of the Cargill Specialty Malt customer service staff in Sheboygan, WI, helped paint the Family Resource Center during Martin Luther King Jr. Day.



Style Matters

From Page 1

larger the fraction of Munich malt used, the more malty sweet the finished beer. Not surprisingly, we at Cargill are partial to our own Munich (8° – 11° L), malted from Harrington barley in North Dakota. Another excellent choice is Meusdoerffer Munich (5° – 6°L). Malted by traditional methods in Kulmbach, Germany this malt is noted for its aromatic notes and is an especially good addition if you are leaning toward a European version of the style.

If a more caramel amber lager is the goal, the next question is how much of a roasted note you are looking for? Caramel malts produced on a roaster will, of course, have a roasted noted as part of the flavor profile. The darker the caramel malt, the more pronounced the roasted flavor. Dingemans crystal malts from Belgium would be our top suggestion. Cara 20 will add caramel and amber color, while the dark crystal malt Special B will impart a strong caramel taste as well as a raisin-like flavor.

If you would like to have a caramel flavor, but steer clear of roasted notes, we would suggest Caramel Malts made on a kiln. Kilning is a slow warming process where the malt develops the caramel flavors, colors, and aromas over time. Because the kiln never exceeds 220°F, the malt never burns and roasted flavors cannot develop. We would choose one of our seven Kilned Caramel malts, by balancing the fraction of caramel malt the brewer wanted in his recipe, with the amount of caramel flavor wanted in the finished beer.

— Cargill Malt

Hop Notes: The signature style for the late Karl Strauss is his Amber Lager, which is not too bitter, with a lower IBUs at 15, not too strong with the ACBV% at 4.2%, and just right with a subtle hop aroma. The bettering hop as advised by Master Brewer Paul Segura, is Horizon with a 11-13% alpha acid level and low Co-Humulone level of 16-19% for a clean tasting beer. The aroma is provided with the classic “Cascade hop” with a 4.5-7.5% alpha acid level, good beta levels at between 5-7%, and high oil levels of Myrcene at 45-60%, as well as Farnesene of between 4-8% adding to the aroma profile in this beer. This hop has become the signature of the craft brewing world over the past 25 plus year. The Cascade gives this beer moderate hop spiciness and the flavor and aroma is low but evident. You can see more detailed hop information on these two varieties in the Hopunion Hop Variety Characteristics Book. View this information online at www.hopunion.com.

— Hopunion LLC

Yeast and Fermentation Notes: You can use many varieties of yeast for an amber lager, including ale yeasts, such as WLP029 German Ale/ Kölsch Yeast, which will give the beer a more malty or sulphur-like characteristic. But the best results will be with a lager yeast such as WLP820 Oktoberfest/Märzen Lager Yeast, WLP838 Southern German Lager Yeast, and WLP833 German Bock Lager Yeast. These strains tend to produce malt-forward beers with low ester and sulphur production. Fermentation temperatures should be as low as possible for this particular strain; use the lower range of the fermentation temperatures. This style calls for more malt, which can have higher ester levels; you want to counteract this with lower fermentation temperatures. Typically fifty to fifty three degrees would be adequate.

Many breweries try to keep hop character low with



This style article on amber lagers is written in memory of Karl Strauss, whose amber lager was his trademark style.

light sulphur characteristics. This is important because these flavors compete with the malt profile, which for this style should be dominant.

Consider yeast nutrients but particularly with lager yeast. It helps fermentation with low esters and fusel alcohol production. It also keeps yeast health very high. If you want to reuse the yeast, we would suggest making a high-gravity lager or a bock that you can age.

Karl Strauss helped popularize amber lagers in the United States, and that very well may be his legacy in this country. His family and coworkers should feel proud of this and other accomplishments.

As for other countries, the Germans would most likely call this style a dunkel. In my recent visit to Korea, most breweries featured three beers — pilsner, weizen, and a dunkel. Germans trained many of the Korean brewers, which probably explains the beer choices. But perhaps the Koreans were also impressed by Karl's work in the United States. We know we certainly are impressed.

— Chris White, White Labs

Cargill at CBC

Stop by the Cargill booth at CBC (booth #523) and say hello. Cargill will have a full display of samples from:

CARGILL
DINGEMANS
PAULS
WARMINSTER
MEUSSDOERFFER



Early part of the year busy with QC Day

The New Year started off with a big bang for us at White Labs. January is always one of our busiest months of the year – I guess everyone starts gearing back up after the lull of the holiday season. Our new Frings yeast propagation equipment has been put to good use!

You have probably heard in several other issues of CBQ about our yeast tracking and inventory software, YeastMan. We are currently in the final stages of testing with this program and are working on developing the reporting phase.

In the next few months, you will be receiving our new Quality Control Certificates with more detailed information on your yeast culture, all tracked and reported through the YeastMan system.

Once a yeast process begins, it is assigned a lot number by YeastMan. Each lot is then used to fill different brewery orders and we are able to provide accurate and comprehensive certification for a single order by tracking each step with this unique bar-coding system.

From the Lab

Neva Parker



These new certificates will be printed directly from the program itself with data such as initial test results, final test results, gravity, pH, cell count, and viability. We have also developed a process to track and report beer and yeast analysis tests, which we implemented for our Big QC Day.

Interest in our Big QC Day was beyond our expectations! Our goal was to encourage beer testing by offering convenience and a low price, which we were able to do

by obtaining a large number of samples. The microbiological and analytical tests began in late February, when the sample boxes began returning to White Labs.

The micro tests included testing for presence of wild yeast and bacteria (aerobic & anaerobic), while the analytical tests comprised density, real extract, color, IBU, alcohol by volume, and total VDK (diacetyl).

The testing took place over the course of several weeks, and of this writing the testing was still taking place. We used the YeastMan bar-coding and tracking system to maintain accurate records of all those samples and beer styles. We will also be able to use the system to report results compared to the average of all samples tested, overall and within a particular style.

Thank you to everyone for your participation in this event! We look forward to the results of this and future test days.

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

Testing

From Page 1

history. Breweries often get their beers tested when a problem arises, but what makes these tests different is that the results provide an accurate picture of craft beer in general.

While individual results are confidential, the overall numbers will be available on the White Labs website, most likely by the time this story is printed. While these specific numbers will be discussed in greater detail in this publication later, a few observations can be made at this time. For one, 80 percent of the samples were free of contamination, which is both a positive sign as well as an indication that many breweries could improve their beer just with quality control programs that could rid their beer of contamination.

White Labs is planning future tests, most likely once a year in February, just like this test. Brewers are invited to give input about the program at the Craft Brewers Conference in Austin, Texas. Visit www.whitelabs.com for more information about the program.

Below you will find a more detailed discussion of the individual tests that were performed.

Testing Note: All of the tests and samples were tracked using White Labs' in-house YeastMan computer program. Each test sample was bar-coded, and these labels did not identify the beers or the brewery, eliminating any potential for bias.

IBUs: The IBU scale provides a measure of the hop derived bitterness of beer. The higher number, the greater the bitterness. Porters range between 20 to 40, for instance, while India Pale Ales are 40 or higher. The American Society of Brewing



Big QC Day samples are ready for testing at White Labs.

Chemists International Method, bitterness units, is used. Iso-alpha acids are chemically extracted using the organic solvent iso-octane. The ultraviolet light absorbance is measured in a precision spectrophotometer, and the results are reported in bitterness units.

Real Extract: This test shows you the sugars that are left in beer, usually non-fermentable carbohydrates. Real extract involves accounting for the alcohol, which we were able to do since we measured alcohol in the samples. Alcohol has less density than water, so if you measure straight density it does not account for the subtraction of alcohol. Results are reported in Plato.

Color: A spectrophotometer is used to measure the absorbance of a sample at a certain wavelength. The sample is separated from solids, and the absorbance at a wavelength 430 nm is measured. The number will show how light or dark the beer is. It can vary between 2 Lovibond to

100 Lovibond. A stout obviously would be high because it is dark.

Density: This is the specific gravity of the beer. Values depend on styles. We use an Anton Parr density meter (not a hydrometer) for this test, which gives us a higher degree of accuracy.

Alcohol: We are using a gas chromatograph machine for measuring alcohol. The detector we use is a Flame Ionization Detector (FID). Results are reported as % vol/vol. The GC method is more accurate than most other methods.

Total VDK (including diacetyl): VDK (vicinal diketones) consists of diacetyl and 2,3-Pentanedione. The test includes heating the sample, which drives diacetyl precursors to diacetyl. The lower the number the better, in most cases. If you are under 100 ppb you are doing well. The numbers vary depending on the yeast strain and fermentation procedure. If the number is high, perhaps in the 200 range, the brewery may not be performing an adequate diacetyl rest. Or again, it could be the yeast strain. Examples of strains with higher VDKs are the British strains and some lagers. Very high VDK levels can be an indication of contamination. Additional tests can be performed that can separate diacetyl and 2,3-Pentanedione levels.

Lactic acid bacteria (or anaerobic bacteria): This test was conducted using Hsu's Lactobacillus medium, or HLP. This medium is used to look for the presence of Lactobacillus and Pediococcus. These bacteria are anaerobic, heat sensitive bacteria. They are called "beer spoilers" because they are most often associated with post wort

production contamination. 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.

Aerobic bacteria: This test was used with Wallersteins Differential, or WLD, medium. This medium is used to check for bacteria and some non Saccharomyces-type wild yeast. Most aerobic bacteria will grow on these plates, and some anaerobic bacteria also display growth. Bacterial contamination seen on these plates is termed "wort bacteria" because they are most often associated with wort contamination, usually causing most of their damage before the onset of fermentation. As for the numbers, the same applies to aerobic bacteria as in the paragraph above about lactic acid bacteria, or anaerobic bacteria. Sometimes aerobic bacteria are already dead by the time this test is performed, after fermentation and packaging, but they could have contributed to off flavors.

Wild yeast: This test was conducted using Lin's Cupric Sulfate, or LCSM. This medium uses cupric sulfate to inhibit the growth of brewers yeast. This medium ensures no contamination of non-Saccharomyces wild yeast. Again, the information concerning numbers is the same for wild yeast as the contaminants listed above under anaerobic and aerobic bacteria. In other words, under 10 meets the industry standard, 10 or more indicates problems. Typical off flavors produced by wild yeast would be phenolic and band-aid flavors.

Good questions during trip to Korea, Singapore

A recent visit to breweries in Singapore and Korea remind me how global our business has become. But it also demonstrated to me that brewers everywhere have similar questions regarding yeast and fermentation issues.

During a talk to Korean brewers, I was asked whether it was acceptable to buy our homebrew vials and grow up the yeast for larger volumes of beer.

This is a question I hear occasionally when I talk to professional brewers, especially in foreign countries where shipping costs may be higher. The answer may be instructive to a lot of our readers. The bottom line is, growing up the yeast can work under certain conditions, but it does invite a host of possible problems. It takes a long time to grow yeast from a small amount of yeast to a large volume. For us, it takes three weeks to grow yeast up from slants (part of this process involves quality control testing in the laboratory before, during and after the growth process).

When growing up yeast, brewers can unintentionally introduce bacteria into the picture (when it leaves



Letter from
the President
Chris White

contamination. When growing up the yeast, you have far fewer "soldiers" to fight off these intruders.

If you are culturing up from a slant or a vial, brewers will need an autoclave or pressure cooker to sterilize the equipment. After the growth process you will need to plate it on sterilized media to make sure you have not introduced any contamination. Most small brewers do not have the time, interest, or training in these tasks. In my opinion, your time is better spent on the final product and making sure the beer that you release is the of the

our laboratory, the yeast is certified 100 percent free of bacteria). This is because when you have large volumes of yeast, you have billions of cells that can fight off

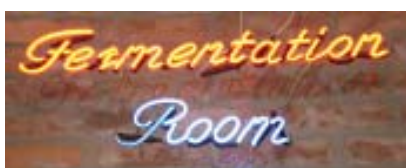
highest quality. By the way, after my talk in Korea, another brewer came up to me and said the guy who grows up his yeast from vials has contamination problems.

You may be interested in learning a little more about my visit to Korea, which has a growing beer culture and more than 100 microbreweries. Most of these brewers were trained by Germans and every place I visited featured three beers: pilsners, dunkles and weizens. They were all unfiltered (one brewer told me they kept their beers unfiltered because this distinguished them from mass produced beers).

The brewers are a close group who are aiming to make better beer available to their peers. I expect to hear of great progress from these breweries in the years to come.

Chris White is President of White Labs Inc. and is a chemistry and biochemistry lecturer at the University of California, San Diego. He has a Ph.D in biochemistry. Feel free to write him at cwhite@whitelabs.com about this column.

Photos: The photos on this page are from a trip to the emerging beer nations of Singapore and Korea by Chris White and JoAnne Carilli-Stevenson of White Labs. JoAnne took the photos.



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New additions and reintroductions of staff

By Jessica Fuller

Ever wonder whose voice that is on the other side of that telephone line? Here at Hopunion, LLC we have made some new additions to our office team, and would like to reintroduce our staff to you. Take a quick gander at the below photos and put the faces to the voices.

Jennifer Stevens (right)

Quote: "What you goin' do with all that junk?"

All that junk inside your trunk?

I'm a get, get, get, get, you drunk, Get you love drunk off my



hump."

Nadia Urvina (right)

Quote: "Dreaming permits each and every one of us to be quietly and safely insane every night of our lives."

Jo Ann Waters (right)

Quote: "It's my way or the highway."



Jessica Fuller (left) Quote: "I always wanted to be somebody, but now I realize I should have been

more specific."

Debbie Olson (right)

Quote: "Don't drink and drive... You might spill your beer."

Laura Lusk (right)

Quote: "I thought I could see the light at the end of the tunnel,



but it was just some brewer with a torch, bringing me more work."

Joanne Scully (below)

Quote: "God, Family, Friends, Music & Beer ... in that order!"



First International Brewers Symposium

The Master Brewers Assoc., American Society of Brewing Chemists and Oregon State University are presenting the first International Brewers Symposium August 9-10, 2007 at the LaSells Conference Center, Oregon State University, Corvallis Oregon.

What Is the International Symposium Series?

The International Brewing Symposium series is designed to bring together the world brewing community and focus on important topics in the brewing world.

Hop Flavor and Aroma Overview

Hop Flavor and Aroma will kick off the International Brewing Symposium series at Oregon State University, the anchor of the U.S. hop breeding and research programs located in the heart of the Willamette Valley, one of the premier hops-growing regions of the world. Speakers will spend two days providing cutting-edge information on the various aspects of hops as a flavor contributor to fine beers and ales. During scheduled social times, attendees will enjoy the opportunity to speak with these top people

from the fields of academics, brewing, and research. All lectures will be recorded and transferred to a monograph that will be made available following the symposium.

Benefits

- World-class lectures on cutting-edge hops flavor and aroma research;
- Networking opportunities with hops experts, brewers, and brewing company technical staff from the United States and around the world;
- Tours of the OSU hops-breeding yards, as well as a commercial hop yard in one of the premier hops-growing areas in the world—the Willamette Valley;
- A monograph featuring all lectures presented in full.

For more information go to:

www.mbaa.com/education/IBSHops.html

www.asbcnet.org/meetings/shortcourses/2007BrewersSymposium.htm

Hop availability

From Page 1

ers. We strive to have the best supply of all hops available to the Craft Brewing world but each year has some special circumstance that make pre-contracting a must for certain brewers and their signature styles.

We appreciate all the efforts by brewers to help us with the shortages this year. We are looking to hear from any brewers who may have over contracted to help us out later in the summer by turning some back to us so we can move it to others.

This is the year to be open to substitution and or changes in hop varieties you will be using. In the past shortages have led to increased use and demand for a hop that was not that well known but would do the job in a pinch.

As an example, in 1992, we were sold out of Centennial and introduced the Columbus, which took off and is now a mainstay hop for many brewers (we are short this year so may we suggest so may suggest US Magnum as a replacement.) It may be that the new hop will be Palisades, Vanguard, Glacier or US Magnum.

You can find variety profiles at our website www.hopunion.com to help with the shortage of hops this year. Prices have gone up again this fall due to supply and demand as well as the call by hop growers to receive a better return to allow them to increase acreage to keep up with the demand and allow us to eventually get back to a balanced inventory that can keep up with demand.

Hopunion employee news

Jim Boyd joins Dogfish as general manager

After spending the past eight as a hop sales representative for Yakima Chief and most recently Hopunion, Jim Boyd has jumped the fence to graze on a new kind of grass.

We usually go onto greener pastures to change jobs, but in Jim's case it is from one green pasture (The Hop World) to another green pasture (The Dogfish Head World). As the new General Manager of the Dogfish Head Brewings & Eats in Rehoboth Beach, Delaware, Jim will still keep his hands plenty green.

The color of green runs in Jim's blood and it will help him as he works with his new boss Sam Calagione.

Sam and Jim are "hop brother" of sorts, as they both love hops, good beer and a zest for the good things in life.

We at Hopunion wish Jim all the best in his new ventures and we appreciate the time he spent with us.

Jim has promised he will stay in contact and also act as an Ambassador when time and circumstances warrant his help. Here is a toast to one hell of a great guy, "good luck, good fortune and good health."

Hop contracting for brewers large and small

By **Ralph Woodall**

(Note: Updated from a CBQ article in 2005)

As many brewers are aware they have an option to contract hops prior to the actual harvest.

This allows the brewers to cover their inventory needs into the following year. The larger Craft Brewers have been doing this all along but in the past few years smaller Craft Brewer and Brew Pubs are setting up inventories. In the case of some of the specialty hops such as; Centennial, Amarillo, Horizon, Liberty, No Brewers, Santiam, Crystal, this is done to avoid the variety not being available later in the year (These are sold out varieties this year).

This is evident this year with the shortage of Columbus, which is normally in good supply but the hop fire in Yakima this past October destroyed several thousand bales of Zeus, hence the Columbus is "sold out." For other varieties it is done to secure the same alpha percentage and still in other cases the brewers are actually selecting the raw hops lots to be used for their hop pellet yearly needs. As a general rule we do not encourage raw hop selection for brewers who are only buying smaller amounts of a particular variety of hop pellets as this can become an inventory problem. If too many different lots are chosen and we have to start and stop several times for each variety, this increases

production costs and slows down production.

For small raw hop users, lot selection is not as difficult but over the years this has made for logistic problems as coordination of lot selection can compromise either pelletizing or the production of mini and quarter bales as brewers in many cases are delayed in their selection for some reason or another. Rest assured we have plenty of good hops set aside to cover the brewers hop pellet and raw hop needs. We strive to supply the best hops available at any given time.

Also, if you contract, be willing to use any over contracted hops and if you underestimate plan to be open to potential substitutions or using another alpha lot of the same variety. The name of the game in contracting is to be flexible, regardless of how you determine your numbers, be they liberal or conservative. If sales increase above your expectations you will be short and if they drop below you will be long. This is part of what we call the "Double Edge Sword." In case of price, if the price goes up you are happy as you are getting at a lower price, but if the price goes down you may not think it is fair to have to pay more than others. You have to be willing to play the market as we do not adjust contract prices once the contract is signed. In the case of over projection of inventories, again you must be willing to work

these through your brew system until they are used up.

Keep in mind hop pellets are packed in vacuum sealed foils and are kept in our cold storage warehouses so they are very stable, and if unopened and kept in cold, can be good for many years. Also, keep in mind the quality of hops also changes from year to year so alphas and aromas of the new crop may not be as good of the previous year. If you plan to be in the brewing world for a long time you will see the differences and understand why we use averages in our Hop Variety Characteristics book. You will also learn how to react to these differences and still feel good about your hops and beer as you too are brewing the best beer you can at any given time.

To contract is up to each individual and we are open to work with you to cover your needs. Plan to have your numbers together based on the average alpha of the varieties you are using and base it on your best guess for production. Usually we suggest contracting your hop needs from late November to late November for domestics and late January to late January for imports. The 2006 crop availability for both domestic and import hop pellets were delayed on some varieties so keep this in mind. This "hop hedge" allows time for the new crop to be pelletized and also allow a buffer in case you underestimate

or we are delayed in production. You may get some better pricing when contracting but now contracts are prepaid or invoiced either Net 30 or some at 30-60-90 days from when inventory is set up.

Some larger brewer inventories can be invoiced as quarterly payments. As long as you have a steady cash flow there should not be any problem. Keep your accounting department advised as many contract hops have to be paid for by the following August first. This allows us to pay the grower prior to the delivery of the new hop crop. We try to discourage hoarding of hops and if you do please plan to keep them and not try to turn them in the following fall. Many of your fellow brewers would have liked to have had the opportunity to brew with the hops.

Please try and stay realistic to keep from causing a rush and subsequent shortage when there may not actually be one. As you can see there is a lot of information to think about so I trust this will give you some good insight into the contracting world. If you have any specific questions please do not hesitate give us a call at 1-800-952-4873.

We anticipate an early contracting season this year so it is now time to look at your numbers and give us a call. We are willing to work with any size brewer to cover their 2007 crop hop needs and would like to work with you.

Penny the Hopunion mascot passes away in January

As many of you are aware Penny was the cute little Chihuahua that was featured on several of our Holiday cards over the years.

She was especially cute as the sole "dogdeer" pulling the Hopunion sleigh a few years ago.

She was the special pet of Bob Rabe, our warehouse manager and his wife Donna.



Penny passed away in January at the age of 19.

We will always have a special place in our heart for little Penny and we thank Bob and Donna for allowing her to participate in our holiday spirit.

She was and will be one of the sparkles in our eyes.

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Attention brewer

Craft Beer Quarterly

The Back Page

Big QC Day testing

Big QC Day, as described in the story that begins on Page 1, was conducted using YeastMan, which is White Labs' in-house system for tracking yeast through the production and testing process. For these tests, brewery samples (each participating brewery sent in two beers for testing) were bar-coded as shown in the photo at right. There were no brewery names or beer names on the samples, eliminating any chance for testing bias. The YeastMan system tracked these tests, and in the end compiling the results for each individual brewery was a matter of pressing the "print" button. Because this was the first Big QC Day, the process was a little bit more involved and various tweaks were needed in programming and set up issues. Instrumental in setting up and processing the tests was Neva Parker, who took the photos on this page, and others in the lab. Participating breweries should have their results by the time they read this publication. They will also be able to compare their results to breweries around the country and the world. For more on these tests, visit www.whitelabs.com.



At right, the Perkin Elmer GC-Headspace auto-sampler is filled with over 100 vials for analysis during Big QC Day at White Labs. Above, samples are bar-coded with YeastMan. Left, the samples are ready for microbiological analysis.

