



Volume 4, Issue 2/Spring 2005

A perspective on bacteria and wild yeast

Editor's note: In the last issue of Craft Beer Quarterly, Chris White outlined White Labs' new bacteria/other yeast program. In the following article, guest writer Tomme Arthur, brewer at Pizza Port in Solana Beach, discusses his experience with wild yeast and bacteria.

By Tomme Arthur

I can't remember when I first got interested in bugs ... the thing is, I detest insects with lots of furry legs.

Turn to pages 4-5 for more news about yeast and fermentations.

However, that being said I am enamored with the creepy crawly critters in the brewing world — those nasty beasts known as wild yeast and bacteria. To me, these buggers make some of the most fascinating flavored beverages

and create depths of interest not seen in pure yeast cultured beers.

I am quite certain that my first commercial encounter with these critters was a bottle of Orval. At the time, I had only read of "wild yeasts" and knew very little about their role in brewing. My notion of wild yeasts was exclusive in such a way that we as brewers strove not to include them in our beers. This comes from a scientific brewing
See "Tomme," page 4

Tips for long-term hop contracts

**By Ralph Woodall
Hopunion CBS LLC**

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 sraft brewer and brew pubs are setting up inventories. In the case of some of the specialty hops such as Centennial, Amarillo, Simcoe, US Magnum and Crystal, this is done to avoid the variety not being available later in the year.

For other varieties it is done to secure the same alpha percentage. In other cases the brewers are actually selecting the raw hops lots to be used for their hop pellet needs annually. As a general rule we do

not encourage raw hop selection for brewers who are only buying smaller amounts of hop pellets as this becomes an inventory problem. For small raw hop users, lot selection is not as difficult. Rest assured we have plenty of good hops set aside to cover the brewers'



Find more news about the world of hops and Hopunion on pages 6-7.

hop pellet 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 the case of prices, if the price goes up you are happy as you are getting it at a lower price, but if the price goes down you may not think it is fair to have to pay

See "Contracts," page 6

Style Matters: Saisons

In each issue, CBQ spotlights a particular beer style and provide tips from an ingredient and fermentation perspective. In this issue we take a closer look at Saison beers.

Malt Notes: Originally brewed in farmhouses in the French speaking part of Belgium, the Saison style, like many Belgium styles, is not well-defined. Saison can be full bodied or thin, pale, or dark, or in between. Generally the style is interpreted as spicy, estery, hoppy, and alcoholic, but there are notable exceptions. The beauty of Belgium beers is, after all, their diversity. When creating a Saison, keep in mind the ultimate goal of the interpretation of the style you wish to express, and formulate around it.

The grist for a Saison should take into consideration your goal. If you are producing the more classic version with a color of 10 - 14 SRM we would have two suggestions. The first would be the use of caramel malts at 5 - 15% of the grain bill. This will give the desired

See "Saisons," page 8

Belgian beer conference report

In the photo to the right, Chris White of White Labs, left, is pictured with Becky Pyle, an organizer of the Spirit of Belgium event in January in Washington, D.C. Both served as beer judges.

During a panel discussion on Belgian beers, the assembled brewers discussed the various ways of making this style. A theme that ran through the discussion was that there is no single way to make Belgian beers. They can be hoppy or have no bitterness at all, for instance. During his presentation, Chris talked about how authentic

Belgian beers are not overly fruity or sweet, unlike many Belgian styles made in the United States.

To increase attenuation, Belgian breweries add simple sugars and ferment warm in open vessels. Using nutrients, such as Servomyces, can keep yeast healthy and increase attenuation, Chris explained.

Tomme Arthur, brewer at Pizza Port in Solana Beach, also served as a judge. Tomme participated in a panel discussion called "Brewing Belgian-Style Beer in America." His article about Belgian beers



appears at the top of this page.

For more yeast and fermentation news, turn to pages 4-5.

Family's malt history dates back to 1875

Karl Dingemans, maltster for Mouterij Dingemans NV (Laageind n-43, B-2940, Stabroek, Belgium), addresses questions about his family's long history in the malt business.

How long has your family been making malt?

Our family has been making malt since 1875. We started with grain handling, chicory drying and producing malt. Nowadays we only produce malt for brewing and the bakery industry.

How long have you been working in the family business?

As a little kid I used to run and play around the malting house, but I eventually started working in it in 1996.

Was all your training hands on at the maltings?

I studied malting and brewing science in Ghent and afterwards I followed a management course in Antwerp. For my practical training I worked at DUVEL and ORVAL (Trappist) Breweries and at the malting house of Bavaria (Holland). In the malting house Gerard Verhoeven (retired engineer), Walther Dingemans (my

uncle) and Alfons Dingemans (my father) taught me how to produce quality malt.

What do you like about your job?

The variability of the job:

— The malting process differs according to the quality of the barley, the harvest conditions, the kind of malt.

— The research and development of new types of malt.

— The production of a 100% natural product without any agents

— The communication with our customers.

What barley varieties do you use for your malt and where does it come from?

We use Scarlet, Optic, Prestige, Astoria, Barke, Esterel and organic Scarlet barley. About 85% to 90% of our barley comes from France. The remaining part comes from the UK and Holland.



What are Belgian brewers looking for when looking at specialty malts?

Special malts have an impact on many aspects of beer. They determine among others the flavour and the colour of the beer. So the flavour can vary from a full malt, over a sweet caramel, to a biscuit and even a lightly toasted one. Some of the malts result in a nice/brilliant golden colour while others produce an amber-like reddish one. The caramelised malts also improve foam stability and organoleptic stability.

What makes your malt different from specialty malts produced in other parts of Europe?

As a result of our geographical situation in the best barley growing regions of Europe, we have the rare opportunity to purchase the best quality raw material adapted to our purposes. We are a family owned cooperation and our ancestors have always prided themselves on passing down their knowledge to succeeding generations. But if you really want to know the difference, give our malts a try.

What attributes does France

have that makes it superior for growing barley?

The Continental climate is perfect for growing barley. Due to the fact that the barley is harvested under dry conditions, long storage with no mold growth is guaranteed. The varieties are adapted to soil conditions and to the request of the malster and brewer. The farmers are adapted to the high demands of the malster concerning low protein and low moisture content.

With the shrinking number of producers, what is the future of specialty malt production in Europe?

As long as beer is considered a treat, good quality specialty malt will be irreplaceable.

What are your favorite beers?

This is a difficult one, because you have so many different types and styles of beer.

If you really want to have some names: Orval, Westmalle tripel, Rodenbach Grand Cru, Duvel, Augustijn, Rochefort ... I certainly forgot several!

Specials: Dingemans, from Pilsen to Special B

In honor of our visit from Karl Dingemans, this issue we are highlighting the fine line of malt from Mouterij Dingemans, the exclusive Belgian producer of specialty malts (caramel and roasted). Many have tried the Dingemans malts and find them to be irreplaceable in their Belgian-style beers. We want you to have an opportunity to try these malts from the delicate Pilsen to the dark caramel malt with the raisin-like flavors of Special B to the unique softness of the De-Bittered Black.

Now through May 2005, mention CBQ and receive \$1.00 per bag off any Dingemans' malts.

Pilsen (1.4° - 1.8° L)

Light in color and low in protein, Dingemans Pilsen is produced from the finest European two-row barley. This malt is well modified and can easily be mashed with a single-temperature infusion.

Pale Ale (2.7° - 3.8° L)

Dingemans Pale Ale malt is fully modified and is easily converted by a single-temperature mash. This is the preferred malt for ales of all types. This malt is interchangeable with British pale ale malt.

Pale Wheat (1.2° - 2.0° L)

Dingemans Pale Wheat may be used in amounts ranging from 30 - 70% of the total grist to create many styles of wheat beer and in smaller amounts to aid in head retention.

Munich (4° - 7° L)

Dingemans Munich malt undergoes higher kilning temperatures than pale malt. The resulting malt will lend

a full, malty flavor and aroma, and an orange-amber color. This malt can make up to 100% of the grain bill, but low diastatic power makes this malt unsuitable for use with adjuncts.

Aromatic (Amber 50) (17° - 21° L)

Dingemans Aromatic is a mildly kilned malt that will add a strong malt aroma and deep color when used as a specialty malt. This malt can make up to 100% of the grain bill, but it is fairly low in surplus diastatic enzymes.

Cara 8* (6° - 9° L)

Dingemans Cara 8 is a very light crystal malt made by drying barley malt at low temperatures. The result is a malt that will lend body, smoother mouth-feel, and foam stability. This malt must be mashed with other kilned malts due to the lack of enzymes.

Cara 20* (19° - 27° L)

Dingemans Cara 20 is a light crystal malt used by Belgian breweries in producing Abbey or Trappist style ales and is appropriate for any recipe that calls for crystal malt.

Cara 45* (40° - 54° L)

Dingemans Cara 45 is a medium-amber crystal malt that will impart a rich, caramel-sweet aroma and full flavor, as well as intense color.

Special B (140° - 155° L)

The darkest of the Belgian crystal malts, Dingemans

Special B will impart a heavy caramel taste and is often credited with the raisin-like flavors of some Belgian Abbey ales. Larger percentages (greater than 5%) will contribute a dark brown-black color and fuller body.

Roasted Wheat (Tarwe Mout Roost 27) (10° - 14° L)

Dingemans Roasted Wheat is a slightly roasted wheat that will lend nutty, bread-like flavors.

Biscuit (Mout Roost 50) (18° - 27° L)

This toasted malt will provide a warm bread or biscuit flavor and aroma and will lend a garnet-brown color. Use 5-15% maximum. No enzymes. Must be mashed with malts having surplus diastatic power.

Chocolate (Mout Roost 900) (300° - 380° L)

Dingemans Chocolate malt is a high-nitrogen malt that is roasted at temperatures up to 450°F and then rapidly cooled when the desired color is achieved. "Chocolate" refers primarily to the malt's color, not its flavor. This malt will lend various levels of aroma, a deep red color, and a nutty / roasted taste, depending on the amount used.

De-Bittered Black Malt (Mout Roost 1400) (500° - 600° L)

Using an unique evaporative process, Dingemans De-Bittered Black Malt will contribute the same color characteristics as Black malt with a less astringent flavor.

Meet Karl Dingemans, and other malt news

CBC news

Cargill Malt is happy to have Karl Dingemans of Mouterij Dingemans join them for the Craft Brewers Conference. Come by booth #403 to meet Karl, talk to him about his fine line of Belgian pale and 2 row specialty malts and enjoy a beer with him.

CBQ Hospitality suite

CBQ is hosting the Friday hospitality suite starting at 11:00 a.m. Need a mid-day break? Come by the suite and enjoy a beer with fellow brewers from around the country. There will be door prizes and you can register to win the ingredients (hops, malt, and yeast) for a batch of beer.

New warehouses

Cargill Malt Specialty Products Group is pleased to announce the opening of two new warehouses. The first in **Metro Detroit** and the second in **Eastern Pennsylvania**. The opening of these warehouses will provide brewers convenient next day and second day delivery to MI, PA, MD, DE, NJ, DC, and VA.

Customers can expect an extensive and superior product line, extraordinary customer service, and full access to our

unparalleled Malting and Brewing technical expertise. The following superior malt products are available in 50 or 55 lb. Bags: **Cargill Pale and Specialty Malts**, **Dingemans Imported Belgian Malts**

Pauls Imported English Malts, **Meussdoerffer Imported German Malts**, **Gambrinus Imported Canadian Malts**, and a Full Assortment of Flaked Products

These products, their characteristics, and prices can be found in our Cargill Malt catalog. If you do not have a current copy of our catalog you may obtain one by simply calling 1-800-669-Malt (6258), or sending an e-mail to Kelly_Bindl@cargill.com

New product

A new addition to our **World Select** line up, **Cargill German Pilsen**, has arrived at our warehouses around the country. **World Select** is a line of superior malts produced in Cargill malthouses from around the world. For the Cargill German Pilsen, the German barley variety Barke was hand-selected for its exceptional malting and brewing performance. Produced at Cargill's Salzgitter tower malt house, which exclusively produces Pilsen malt, this superior Pilsen is a consistent product batch after batch.

Customer happenings



Colorado brewers annual ski train

This annual train trip, pictured above, was a great opportunity for fellow Colorado brewers to mingle aboard antique club cars of the Denver to Winter Park ski train and enjoy a day of skiing or hanging out.

RMMS-Colorado Springs

The 10th Annual Rocky Mountain Microbrewing Symposium was held on Feb.25. in Colorado Springs. This is a wonderful event that gives Colorado brewers a full day of technical talks on a variety of brewing topics. This year, Ron Ryan, Cargill Malt Western Sales Executive, gave a talk on malt analysis and understanding and using malt analysis in brewing.

Ask the Maltster: Diastatic power in malt

Q: Diastatic power in malt

What is the lowest DP a malt can have and still convert itself in a typical, single-step infusion mash without problems? I know some well-modified British malts can be as low as 40 and still convert by itself, but what's the lowest? The second question is, theoretically, could a malt with a DP of 1 convert itself if given an unlimited amount of time? I'm sure in that unlimited amount of time a whole bunch of things could go wrong, but I'm just wondering about conversion.

A: The answer to your question is that for the most part, "it depends." Enzymatic systems are very complex and as such have a number of variables that affect the outcome of their actions. This really is more off a theoretical question which is taken into consideration in this answer:

Enzymes are catalysts so one would think that a DP of 1.0 would just mean the reaction would be slower than a DP of 101.0? This is not necessarily the case since starch conversions with enzymes, as mentioned, are very dependent on a host of factors.

The DP measured in malt is considered a measure of the total enzymatic power of the malt. There are more enzymes in malt than just alpha and beta amylase. As these enzymes convert starches to fermentable and non-fermentable sugars through a spectrum of temperature changes, (ie: The Mashing Cycle), the pH also changes which in turn alters the ability of other enzymes to react. The three main control factors in Mashing are Time, Temperature and pH, (and to some degree one could argue Alkalinity).

Another factor that contributes to an enzyme's effectiveness in a mash is the water to grist ratio. This can affect the enzyme's ability to promote the reaction.

The answer whether a DP of 1.0 would work or not is "No". From a theoretical standpoint the scientist might say it should ... but, if you leave a mash at conversion temperature the pH begins to drop due to formation of lactic and other acids. The more the pH drops the less effective the enzyme becomes and eventually will be completely inactivated in a low pH environment before the mash is completely converted.

DP is a tool for the Brewer to convert his starches. Whether they are malt starches or adjunct starches the level of enzyme should be determined by the Brewer to reach the goal for her/his final Wort Composition. Therefore there is no right answer to what is the lowest DP a Brewer could use because "It Depends". It depends on the composition of the mashing water, the time, temperature and pH of the mashing cycle. But above all it depends on the final Goal of the Brewer for her/his final Wort Composition given the beer style and raw materials the Brewer intends for the final product.

If you have any question as to whether a particular malt will have conversion problems due to low DP, simply discuss this with your supplier. They should be able to tell you whether it will convert itself, or itself and perhaps some low (or zero) enzyme starch sources like high color malts or adjuncts.

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

Brewmaster offers tips on sanitation and testing

Editor's note: As summer approaches, it is once again time to think about proper sanitation and testing. In the following article, Brewmaster John Oliphant provides tips about sanitation. The article is followed by a list of products that can be used if your brewery has bacteria or wild yeast.

By John Oliphant

General Guidelines

1. Always wear protective gear when using harsh chemicals.

2. Refer to the Material Safety Data Sheet prior to using any chemical.

Cleaning the Kettle

1. Rinse the inside of the kettle with COLD water and a spray hose. After removal of the trub, turn off the stack fan and spray the stack. Spray the kettle again.

2. Clean the outside and top of the kettle with manual cleaner and a brush. Rinse with potable water.

3. Set up a CIP loop; include the heat exchanger and all dirty hoses.

4. Close the lid to the kettle and rinse with COLD then WARM then HOT (165°F) water.

5. Burst rinse with HOT water.

6. Fill the kettle with enough HOT water to create recirculation.

8. Stop recirculation and add the proper amount of CIP solution. Caustic works best. Be careful since Caustic is very corrosive. NOTE: Caustic will dissolve copper. Ask your manufacturer for chemical suggestions. NOTE: With some caustics, 4oz of chlorine can be added to make the caustic work better.

9. Close the lid to the kettle and CIP for 45 minutes.

10. After CIP, rinse & drain with WARM then COLD water.

11. Using caution, inspect the kettle for cleanliness.

12. Heat the kettle with HOT water and use the proper amount of #5 Acid

with HOT water and CIP for 15 minutes.

13. Drain and let air-dry. This will neutralize the caustic and pacify the stainless steel.

Cleaning Fermentation Vessels & Bright Tanks

1. Rinse tank with COLD water. Remove all pieces and parts, rinse with COLD water and soak in a solution of manual cleaner (soapy water). NOTE: Rinsing with HOT water first will only create Beer Stone.

2. Clean all shadow areas with a brush and manual cleaner.

3. Rinse tank with WARM water and then with HOT (150°F).

4. Heat the tank up and then burst rinse (on for 20 seconds, off for 20 seconds) several times.

5. Fill the tank with enough HOT water to create recirculation.

6. Add the proper amount of CIP cleaning solution and CIP for 30 to 45

minutes.

7. Clean all of the pieces and parts. Rinse and soak in a sanitizing solution.

8. Rinse tank with potable WARM water, then COLD.

9. Using a flashlight, visually inspect the inside of the tank. Don't forget to inspect the cleaning ball, which can get clogged with debris.

10. Physically inspect for Beer Stone. Use a #5 Acid with a green scrubby pad or CIP with acid and HOT water (130°F) for 15 to 30 minutes.

11. Sanitize the clean tank with COLD water and the proper amount of sanitizer for the proper amount of time.

12. Put the tank back together and finish sanitizing.

John Oliphant is Brewmaster at Rock Bottom Restaurant in downtown San Diego.

Now, what if you think you have bacteria or wild yeast in your brewery?

See "Testing," page 8

Tomme

From Page 1

heritage where brewers are taught about the big three and I am not referencing the largest brewing companies in this country.

The big three I am referring to are Brettanomyces, Pediococcus and Lactobacillus, all of which are considered to be beer spoiling micro-organisms. Each of them is uniquely capable of tainting beers with flavors most brewers consider highly undesirable.

At the Pizza Port in Solana Beach where I am employed, we are consistently stretching the proverbial limits of our creativity and have come to realize that many of our wildest imaginations can only be achieved through the use of such critters. These animals are harbored in our own private zoo consisting of tanks and barrels that contain our brewing bugs. Some of our more interesting beers are made in these oak barrels we have inoculated.

One such beer that we created is our infamous and somewhat elusive Cuvee de Tomme. This beer has been called Rodenbach on steroids but we have yet to find any vials or jars of "The Clear" in our brewery. The beer is modeled after the Sour Red and Brown ales of Flanders. In order to achieve many of the flavors associated with these beers, we began inoculating a base beer with three separate strains of Brettanomyces.

We initially started working with Brettanomyces because of the three beer spoiling micro-organisms, it is the easiest to grow and maintain. It is classified as a wild yeast and as such, it has similar requirements and nutrient make-ups like that of traditional saccromyces brewing strains. With this in mind, we have been able to keep and maintain our own strains of Brettanomyces in the brewery with very little effort. We are currently maintaining three separate strains of Brettanomyces for our brewery in Cornelius Kegs. Other breweries including Russian River in Santa Rosa, Calif., are keeping multiple house cultures

of Brettanomyces going in glass carboys. Maintaining the strains means using them on a regular basis and propagating with fresh wort when more yeast is needed. In this way, a consistent pitching quantity will always be on hand.

Since Brettanomyces is a wild yeast, there are numerous examples available with each offering different flavor possibilities. The three most common strains of Brettanomyces found in beer are Brettanomyces Bruxellensis, Brettanomyces Lambicus and Brettanomyces Anomolus. The most common flavor associated with each of these yeasts is the proverbial horse blanket and sweaty flavors found in "nature."

Brett Bruxellensis has been isolated from beers in both the lambic world as well as more classically the culture that is used in the secondary fermentation of Orval. This robust Trappist ale is the most unique Trappist Ale produced in Belgium with its use of Brettanomyces for a secondary fermentation. This strain of Brett is quite dominant and produces a "cleaner" brett aroma than other Brett strains.

Brett Lambicus has been isolated from the Lambic Producing region of Belgium. It has a more robust character than the Bruxellensis and is responsible for much of the super attenuation that occurs in Lambic and Sour Ales of Belgium. This strain produces the funkier aromas with heavy Brett notes of sweat and classic "barnyard" esters. This one is not for the faint of heart.

Brett Anomolus has also been isolated from Belgian Brewing Cultures as well as some of the Stout Cultures from Irish Breweries. It is in this sense sometimes referred to as the "Stout Strain" of Brett. It produces an ester that is more mild and somewhat less "horsey" than Bruxellensis and Lambicus.

In April of 2004 we conducted an experiment at Pizza Port in Solana Beach and brewed Moe Betta Bretta,

a 100% Brettanomyces Anomolus Fermentation. This collaborative beer developed and brewed with Peter Bouckaert of New Belgium Brewing Co. tested the potential for 100% Brettanomyces Anomolus fermentations. The finished product was quite aromatic with notes of pineapple and passion fruit. A much more reserved quality of barnyard esters was perceived due to the Anomolus fermentation. Bouyed by our success, Vinnie Cilurzo of Russian River Brewing Co. in Santa Rosa created Sanctification — a 100% Brettanomyces fermented ale made with a blend of Brett Lambicus and Bruxellensis. The beer is now part of the Russian River line of bottle conditioned products with an impending release of what has previously been a draft only product.

The possibilities of brewing with Brettanomyces in the future are quite numerous. Further to the East, both Southampton Publick House and Mackenzies Brewhouse continue to brew Belgian Style Pale Ales with secondary fermentations yielding beers with similar hop and Brettanomyces qualities similar to the ones in Orval.

Whether it is a primary or secondary fermentation with Brettanomyces, the use of wild yeasts to create interesting and in the case of our Cuvee, signature aromatic and flavor profiles is something that more and more courageous brewers are engaging in. White Labs will be working very closely with brewers in the coming months as new Brett strains are released and brewers are given yet another tool in their proverbial arsenal of agents whose job it is to seek and destroy malt based sugars.

If you have your own brewing experiences to share, write cbqmag@aol.com. For more information on White Labs' bacteria/other yeast program, visit www.yeastbank.com, and follow the link to "Bacteria program."

Canadian brewers host White Labs, Hopunion

Editor's note: David Edgar and Justin White, both White Labs sales representatives, travel frequently to meet with professional brewers and homebrewers. These are their stories.

By David Edgar

Chris White of White Labs and Hopunion's Ralph Woodall hit the road for beautiful British Columbia one sunny February weekend, first to speak to the B.C. Craft Brewers Guild, north of Vancouver, and then to visit with homebrewers in Victoria. For the first meeting, craft brewers from Canada's west coast converged in Squamish, B.C. at Howe Sound Brewing Co./Howe Sound Inn.

Driving up to the Canadian border from the Seattle airport, the White Labs-Hopunion "compact" caravan stopped for hoppy beers and lunch at Skagit River Brewing Co. in Mount Vernon, where they spoke to founder and head brewer Charlie Sullivan. Chris and Ralph also made one more IPA stop at Boundary Bay Brewery in Bellingham, where they were fortunate to visit with brewer Aaron Jacob

Brewer Alert — CBC information

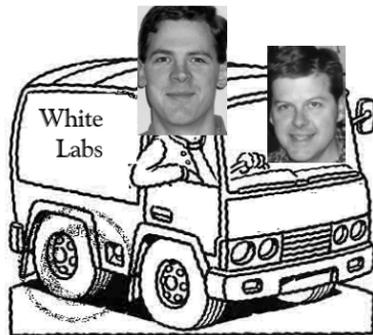
Don't forget to visit White Labs during the 2005 Craft Brewers Conference, which will be held in Philadelphia from April 13-16.

White Labs will be in booth #402, and CBQ will host a hospitality area all day Friday, April 15. White Labs is also supporting the Ale Street News Happy Hour at Nodding Head on Thursday, April 14 from 4-7.

White Labs President Chris White and Tomme Arthur, brewer at Pizza Port Solana Beach, Calif., will take part in a seminar called "Brettanomyces Yeast in Beer."

Tomme and Chris will discuss factors when using brettanomyces yeast in beer and recent innovations in beer brewed only with brettanomyces. The seminar will take place on Saturday, April 16, from 2:30 p.m. to 3:30 p.m.

Lisa White will also present: Survivor Brewery: the Low-Cost QC Challenge. Lisa will cover how to outwit, outlast and outplay bacterial contaminants in the brewery, with low-cost implementation to avoid, detect and eliminate contamination. Her presentation will take place on Saturday, April 16 from 3:50 to 4:50 pm.



On the Road ...
With Justin White and David Edgar

Smith and owner Ed Bennett. For some strange reason Ralph and Chris ended up lagging a little behind schedule as they wandered through rush-hour Vancouver (following a fortunately uneventful, if slow, border crossing).

Event organizer Matt Phillips of Phillips Brewing and host Franco Corno of Howe Sound Brewing made sure there was plenty of good food on hand for the brewers that evening — and the brewers made sure there was no shortage of great beer. Quite a large crowd of B.C. brewers made the trip to scenic Squamish for the event. BC brewing industry veteran Gerry Heiter said it was the largest gathering of the province's brewers he had ever seen (outside of the annual Great Canadian Beer Festival).

Ralph Woodall took to the podium first and discussed many of the challenges hop growers face each year in achieving a good quality hop crop. Chris White then followed with an intensive discussion about all aspects of maintaining healthy

yeast for brewing better beers. After a long day's travel, and despite the challenges of it being Friday night, with plenty of beer flowing and a rowdy crowd of brewers,

both speakers were very well received and everybody appeared to appreciate White Labs and Hopunion making the effort to visit the B.C. group.

The next day Woodall and White drove down to Victoria for the homebrewers' event at Spinnakers. Chris and Ralph had an excellent time in B.C. thanks to their generous hosts in both Squamish and Victoria and British Columbia's great community of local breweries.

More Canada beers

By Justin White

By In late January Chris White of White Labs and I attended the One Day Technical Conference in Ontario, Canada, but before the conference began I had time to visit with several breweries in the area, including King, Robinson, Black Oak, and Trafalgar.

On Friday, January 28, Chris White gave a presentation to the Master Brewers Association of Canada in which he talked about research, vitality and viability stains. That evening Chris and I had the op-



David Edgar of White Labs, Matt Phillips from Phillips Brewing, Franco Corno from Howe Sound, Ralph Woodall of Hopunion, Chris White of White Labs, and Rick Dellow R & B Brewing enjoy time in British Columbia.

portunity to visit Steam Whistle Brewery (20,000 bbl per year brewery) in Downtown Toronto with John Mallett and crew of Kalamazoo Brewing. We were given a tour by brewer Jeff Pearson and President Cam Heaps. We even had the chance to pull the steam whistle!

Continuing our expedition, we stopped by Mill Street Brewery in the Distillery Historic District. We had the opportunity to share a couple of beers with brewers from Mill Street Brewing, Church Key Brewing and Walkerville Brewing.

Subsequently, Chris White gave a presentation to CABA (The Canadian Amateur Brewers Association) in conjunction with Mike Ligas at Magnotta Brewing. The topic was lager fermentation.

Alternative fermentations — Bacteria and other yeast products

In the last issue of CBQ, White Labs President Chris White discussed the lab's new bacteria/other yeast program. In this issue we will discuss the strains that are available.

White Labs is offering the following bacteria/wild yeast strains:

WLP645 Brettanomyces clausenii — Low intensity Brett character. More aroma than flavor contribution. Fruity, pineapple like aroma.

WLP650 Brettanomyces bruxellensis — Medium intensity Brett character. Classic strain for Belgian style beers and lambics.

WLP653 Brettanomyces lambicus — High intensity Brett character. Defines the "Brett character." Horsey, smoky and spicy flavors.

WLP655 Belgian Sour Mix 1 — A unique blend perfect for Belgian style beers.

For professional breweries, we will be offering a 1 liter size which is good to inoculate up to 10bbl. The cost is \$195.00. Lead time for orders if two weeks. For more information, contact White Labs sales office at 888-5-YEAST-5 or info@whitelabs.com.

Craft Beer Quarterly

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Drought? Too early to call, but be aware

By **Ralph Woodall**
Hopunion CBS LLC

The snow pack in the Cascade Mountains is lower than normal for this time of year, leading some to predict the Yakima Valley will be in a draught situation this summer.

This does not mean we will be out of water, it just means our water allocation will be lower.

We do have carryover in some of the reservoirs but not as much as we would like. March and April are the

best snow months in the Cascades, so we have our fingers crossed. As you can see by the recent flooding, in usually dry Southern California the weather can change on a dime; things here, too, can resolve in a matter of weeks.

In a water shortage situation some people have better access than others. Hop growers for the most part are used to having periodic draughts and most have some type of back up system for their water needs. As some of you are aware we have experienced this dry condition

every few years and have always gotten hops to sell during these years.

Hopunion CBS, LLC is taking pre-contracts for those brewers who want to lock in their needs now. Please give us a call toll free at 1-800-952-4873, if you want to pre-contract from the 2005 crop.

We do not want to cause an overreaction to the market but want brewers large and small to be aware of the short water situation that now exists in the Yakima Valley.

Hopunion hop and brew school class of 2005 update

The second annual Hopunion Hop and Brew School will be held again at the Hopunion CBS, LLC office and warehouse complex in Yakima, WA.

At present the exact date has not been determined but will be in late August or early September.

It may be that two separate dates are scheduled as Hopunion had such a successful first year they are concerned there may be too many attendees to handle at one time.

Ralph Olson is planning to have another talented group of brewers give hops and brewing-ori-

The school also includes a bus trip to a Moxee-area hop ranch to see the harvest process as well as the American Hop Museum in Toppenish.

ented talks along with other hop-related topics.

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The registration cost is a minimal \$100 and covers the two-day event, which starts Thursday p.m. and all day Friday.

The fee also includes a BBQ Thursday night, lunch Friday and another BBQ Friday night. Look for a Hopunion flyer in the mail later this spring with all the registration details.

Rhizome News

By **Lisa Olson**
Hopunion CBS, LLC.

It's time to start thinking about getting your hop rhizomes planted! Are you ready? RNV Enterprises can supply you with your hop rhizomes this year and would love to get you in on the action.

We offer Cascade, Centennial, Chinook, Fuggle, Glacier, Golding, Hallertau, Horizon, Mt. Hood, Nugget, Santiam, Sterling, Tettnang, and Willamette. And we've added a new one this year – Northern Brewer will now be available.

Every shipment comes with a growing instruction packet to help you get things going. If you are interested in placing an order or if you would like to request an order form, please call 1-800-952-4873. You may also fax an order to 1-800-952-4874 or mail your order forms to:

RNV Enterprises
Ralph Olson
8402 Alpine Way
Yakima, WA 98908

Our first supply of roots should be available around the middle of March. Send in your orders now and we can ship them out to you at that time.

Contracts

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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 as the previous year.

If you plan to be in the brew 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 October to late October. This allows time for the new crop to be pelletized and also allow a buffer in case you underestimate. You will get some better pricing when contracting, but again if you do the pay-as-you go basis it will not be as good as the one who pays in advance either 30-60-90 days from set up or in some larger cases quarterly payments. As long as you have a steady cash flow there should not be any problem.

We also 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 fellow brewers would have liked to have had the opportunity to brew with the hops so 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 to 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 brewery to cover their needs and would like to work with you.

“We anticipate an early contracting season this year so it is now time to look at your numbers.”

— Ralph Woodall

Rocky Mountain Micro. Symposium report

By **Ralph Woodall**
Hopunion CBS LLC

This year's Rocky Mountain Microbrewing Symposium, or RMMS, was held Feb. 25 at the Colorado University at Colorado Springs campus and was organized again by Jennifer Hane of CUCS, in conjunction with her staff and steering committee.

This year's seminar, which was attended by more than 70 brewers and 20 industry-related sponsors who had table-top display booths, was another success. Hopunion was a Gold sponsor again this year and were well represented by Ralph Olson and Ralph Woodall as well as David Edgar, who spent a percentage of his time talking hops besides White Labs yeast. Our display booth had several new hop varieties to evaluate, hop data books and plenty of giveaways including UKKG hop candy.

Ralph Olson participated in the afternoon workshop with Ron Ryan of Cargill Malt. Ron discussed malt qualities and evaluation while Ralph discussed hop quality and evaluation. Ralph's power point presentation was an overview of hops quality from grower, warehousing, processing and ultimate delivery to the breweries.

He brought several varieties in numerous small plastic baggies so the brewers could do the actual hand rub and nose evaluation while Ralph gave pointers on positives and negatives and how to properly evaluate hops and their aromas. Since this was at the end of the seminar day, the tables were full of raw hop piles and the



Above, the Hopunion table at the Rocky Mountain Microbrewing Symposium contains plenty of material about the world of hops. At right, Ralph Olson discusses hop quality and evaluation as part of a PowerPoint presentation.



room was filled with a nice overall hop aroma.

Other presentations during the day were as follows:

Hillary Mizia of New Belgium Brewing Co., "Environmental Developments & Sustainability;" Greg Casey of Coors Brewing Co., "Understanding and Controlling Esters and Higher Alcohols in Beer;" Tomme Arthur of Pizza Port Brewing of Solana Beach, "Saison Style Beers;" Jason Tomsic, New Belgium Brewing Co., "OSHA Compliance and Safety in the Brewery;" and John Carlson of the Colo-

rado Brewers Guild gave a recap of what is happening in the Colorado brew scene and then chaired the CBG meeting that followed the seminar.

The luncheon keynote address was given by John Bryant of Odell Brewing Co. and Paul Evers of TBD Advertising, both discussing the topic "Marketing your Beer."

The attendees were also welcomed to the seminar by UCCS Chancellor Pamela Shockley-Zalabak.

The evening concluded with a buffet dinner and beer tasting and socializing at

The Warehouse located at the Palmer Lake Brewery. A special thank you and recognition goes out to Mike Bristol and Jason Yester of Bristol Brewing Co. for their Thursday night hospitality and hosting the First Firkin Rendezvous, which was held at their brewery on Saturday.

We had a good time at these events and I am sure anyone who attended the RMMS felt it was well worth the time and money.

We look forward to attending the RMMS in Colorado Springs again next February.

Profile: Claude and Bryan Bechard of NCMS

The father and son pair of Claude and Bryan Bechard (pictured at right) opened North Country Malt Supply, LLC (NCMS) in 1995.

They started with no customers, a cargo van payment, and 6 bags of Canada Malting 2 Row malt. They often recall the early days when they would be milling malt for one of their few customers in a storage garage behind Claude's house in 20-below zero temperatures, smiling from ear to ear because someone was buying from them.

A lot has changed since then.

North Country Malt Supply now offers a huge selection of grain from around the world. They also carry Hopunion hops and the cleaning products of Five Star Chemicals and Enerco Chemicals. They are constantly adding more products in an effort to become a one-stop source for most all required materials.

They understand the cost of a customer's supplies

isn't measured by the cost of the products they purchase but by the delivered price of these products.

By taking advantage of their pallet rate programs, a customer can order most all his/her supplies from a single vendor in one order and save a tremendous amount on freight fees. There's also the added bonus of having most all their required materials arrive at the same time. North



Country Malt Supply continues to offer milling services and now offers super sacks (totes) as well as custom blending per a customer's recipe. They've recently added an on-line e-commerce selection for homebrewers, so they now have all grain products available in lot sizes from as little as a single pound up to 25MT bulk containers.

From day one North Country Malt realized a customer's business should never be taken for granted. Who a customer orders supplies from is entirely his/her choice. That is why North Country Malt always treats every customer as though their business is important, regardless if they order by the pound or by the container load.

For more information please call (888) 368-5571 (International (518) 298-8900) or visit their web site at www.northcountrymalt.com.



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Attention brewer

Craft Beer Quarterly

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Testing

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White Labs recommends the following items for in-house testing:

TK3275 **White Labs Test Kit Bundle** (TK3000, TK3100, TK3250), \$ 109.00

Test for aerobic bacteria, anaerobic bacteria, and wild

yeast at the same time. When the entire brewery and beers are tested clean in all three tests, a brewer can be confident the product is clean.

Includes the following kits:

White Labs Wild Yeast Test Kit

Lins wild yeast media (LWYM) is used to test for presence of wild yeast. All necessary equipment and instructions are included to test 5 samples and 1 control. Specify glove sizes needed (S,M,L). Requires use of a microwave. Use within 24-48 hours of receiving for best results.

White Labs SDA Test Kit

Kit contains media plates and essentials to detect the presence of Both aerobic and anaerobic bacteria found in beer and/or yeast slurries. Kit includes specialized pouches for proper anaerobic incubation, if desired. Kit tests 5-6 samples. All necessary equipment and instructions for sample collection and testing are included.

White Labs HLP Test Kit

Easily test for beer spoilage organisms, *Lactobacillus* and *Pediococcus*. Kit tests 5 samples plus one control. All necessary equipment and instructions to collect samples and test them are included. Specify glove sizes needed (S,M,L). Requires use of a microwave.

If you are confident that you have either wild yeast or bacteria, you can purchase the kits individually:

TK3250 **W.L. Wild Yeast Test Kit** \$ 39.00

TK3000 **White Labs SDA Test Kit** \$ 45.00

TK3100 **White Labs HLP Test Kit** \$ 39.00

Other items recommended by our lab:

MB1200 **Microscope** (\$433.50) Objectives 4X, 10X, 40X, and 100X. (100X needs immersion oil, see item MA1450). Meets the craft brewers needs. Monocular head (rotatable 360°), mechanical stage with dual controls, separate coarse and fine focus, built-in 20 watt incandescent light, and stain resistant, enamel finish.

MA1400 **Microscope Kit** (\$ 173.75) Contains all parts necessary to do routine microscope analysis: Hemacytometer, Methylene blue stain, box each of microscope slides and cover slips, immersion oil, lens paper, counter. Save almost 10% by ordering complete kit.

LM5020 **Brewing Microbiology-Priest** \$143.00

Saisons

From Page 1

color, with a bit of sweetness to accent a spicy or estery version of the style. Another way would be the use of Vienna, Munich, or Aromatic malt for a more breadly sweetness – perhaps for a hop-oriented interpretation. Of course many Saisons use a blend of both types of specialty malts, and, in keeping with the Belgium tradition, many fine examples are produced without any specialty malts at all.

If your goal is to brew a Saison as it would be produced in Europe, we would recommend the use of Dingemans malts. Operated by the Dingemans family since 1875, they are Belgium's sole specialty maltster, and produce a wide variety of 2-row spring barley malts under their own name. Particularly well-suited to Saison would be Cara 20 and Cara 45 caramel malts, and Munich or Aromatic malts. For a pale Saison or as a base malt, Dingemans Pilsen malt is used by many Belgium brewers.

Another consideration for the grain bill is the Belgium penchant for adding malted wheat, raw grains, flakes, or adjuncts to their beers. Here again, there is no fixed rule. The use of these grains will lighten the body of the beer, as well as add flavor nuances characteristic of the grain chosen. When mashing and lautering with adjuncts keep in mind they generally do not have enough enzymes to self convert, and their lack of husks can make lautering tricky. For most adjuncts we recommend a maximum of 40% of the grain bill.

— Cargill Malt

Hop Notes: For bittering the hops are traditionally Styrian Golding or UK Fuggie. Brewers can also use German Tettnang or the US varieties Willamette or US Fuggie, with a possibility of Glacier. For the aroma, traditionally brewers have used Czech Saaz or UK Kent Goldings. Other options include Polish Lublin, German Hallertau, UK Progress or the US varieties Sterling or US Goldings. The hops are to impart an earthy as well as the citrus and fruity notes. Should be moderate aroma and IBU level of between 20-45. — Hopunion

Yeast and Fermentation Notes: Yeast plays a very important role in Saisons. The flavor should exhibit the estery profile and some higher alcohols characteristic of Belgian yeasts.

White Labs has a number of yeast strains well-suited for Saisons, including Belgian Saison I Yeast, which is a classic Saison yeast from Wallonia, the French-speaking region of Belgium. It produces earthy, peppery, and spicy notes, and is slightly sweet. The second best option for Saisons is Belgian Ale Yeast, which has a great diversity of uses. It is more easy to use than the Saison yeast, because the Saison will sometimes stick at 50 to 60 percent attenuation. While this is normal for the Saison strain, it creates a more difficult fermentation.

Other good Saison yeasts include Abbey Ale, Belgian Golden Ale, Belgian Wit Ale, Belgian Wit II, and Trappist Ale.

— White Labs