

The Strange Brew Review

The newsletter of the Green Bay Rackers Homebrew Club

Organized 1982

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www.rackers.org

May 2003



Club Meeting Schedule 2003

January 7	Club Brew: Bob Franklin & Fred Matzke	<p>Meetings unless otherwise indicated are held at Tiletown Brewing Company, upstairs area.</p> <p>Club Brews are held at members' homes.</p> <p>Occasionally, business meetings are held at other locations. See the club website at www.rackers.org for the most up-to-date information.</p>
February 1	Meeting: Bock, Doppelbock, Dunkel	
March 4	Club Brew: Dan Rogers	
April 5	Meeting: Belgian and Trappist Ales, Lambic	
May 6	Club Brew: Jeff Rogers	
June 7	Club Picnic: Chuck Golueke	
July 8	Club Brew: Jay Brown	
August 2	Meeting: Bitter, Pale Ale, "Lawnmower"	
September 9	Club Brew: Mike Conard & Bert Zelten	
October 4	Meeting: Oktoberfest, Vienna	
November 5	Club Brew: <i>We need a brewer!</i>	
December 6	Christmas Party	

Club News

2003 Titledown Open Winners

Best of Show

Bob Franklin, Traditional Bock

American Ales & Lagers

First Place: Matt Young, American Pale Ale

Second Place: Bob Franklin, American Amber Ale

Third Place: Jeff Bushner, American Pale Ale

European Pale & Amber

First Place (tie): Chris Schroeder, Czech Pilsner

First Place (tie): Dan Rogers, Altbier

Second Place: Bob Franklin, Czech Pilsner

Third Place: Jeff Bushner, Altbier

European Dark & Strong

First Place: Bob Franklin, Traditional Bock

Second Place: Bob Franklin, Doppelbock

Wheat Beers

First Place: Jeff Bushner, Hefeweizen

British & Scottish Pale & Brown

First Place: Fred Matzke, IPA

Second Place: Craig Dufek, Northern English Brown

Third Place: Bob Ferguson, American Brown Ale

British & Scottish Dark & Strong

First Place: Trevor Larene, Wee Heavy

Second Place: Dave Oldenburg, Dry Stout

Belgian & French Ales

First Place: Matt Young, Belgian Strong Ale

Second Place: Fred Matzke, Tripel

Specialty/Historic Beers

First Place: Trevor Larene, Russian Imperial Stout

Second Place: Jeremy Lemere, Dry Stout with Pumpkin

Third Place: Jeremy Lemere, American Light Ale with Cranberry

Meeting Minutes, April 5, 2003

Meeting was called to order by President Bob Franklin at 1:25 PM at the Titledown Brewing Company.

Secretary/Treasurers report was given by Mike Conard. Minutes of the February meeting were read and approved without correction. We currently have 43 active members and 16 associate (keg) members. Current balance in the checking account is \$3066.98 with all bills paid.

A letter from Keith of the ALES regarding the 4th annual Brew Bash in Appleton which will be in June has been received. The club is invited, and they are asking for donations to defray cost of Port-o-lets, etc. Motion by Dan Rogers to donate \$100 toward this as we did last year. Motion carried.

Mike Conard solicited stewards for the Titledown Open competition. The sign-up sheet was passed around.

Announcements:

State Fair Homebrew Competition of May 31st.

Beer Man column in the Appleton Post-Crescent has been criticized by some individuals in the public who feel it is an inappropriate column in the section of the newspaper where the religious articles are also placed. Members who feel the need to so do may respond in support (or otherwise) of the Beer Man's articles.

Chilton Beer Fest will be on May 18th. A brief mention of the possibility of getting a bus was made, but no action was proposed.

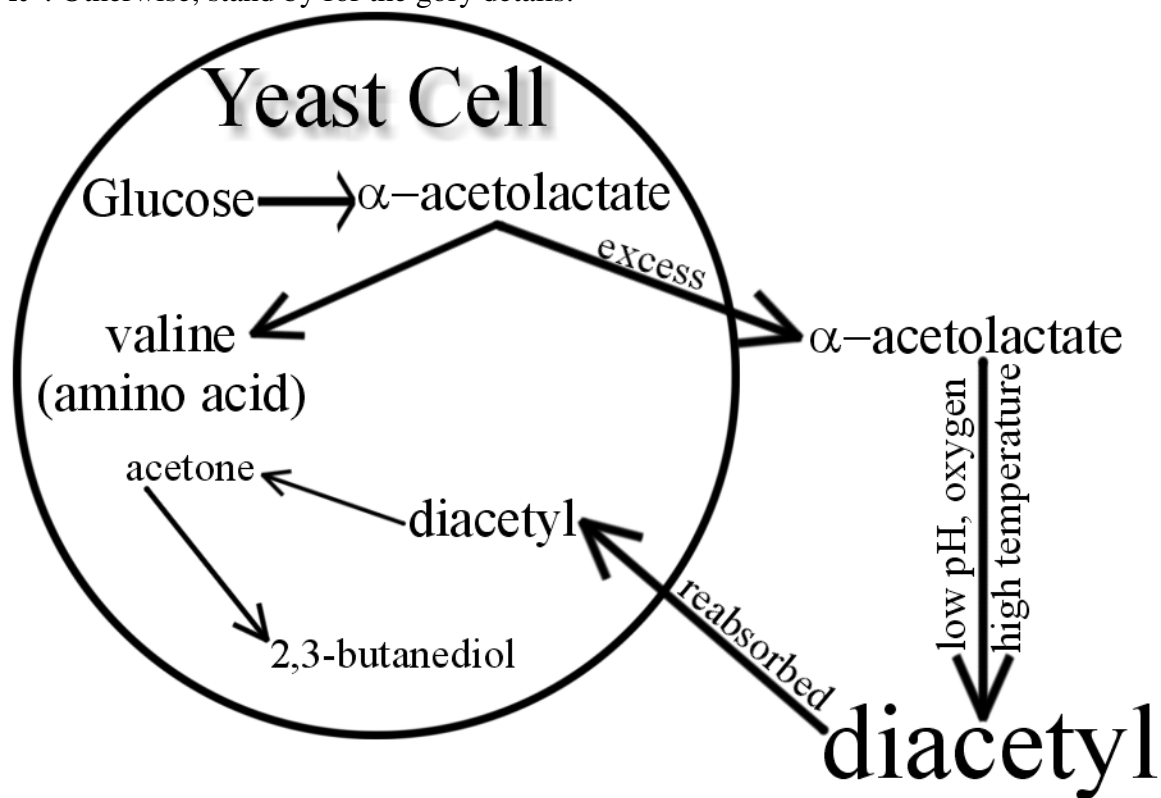
Motion by Mike Jarvela to adjourn the meeting. Motion carried.

Technical Note: Down With Diacetyl, or Banish Buttery Butanedione!

Diacetyl, formally a “vicinal diketone” known as 2,3-butanedione, is a natural by-product of fermentation. It is detectable in beer at concentrations as low as fifty parts per *billion*. At low levels, it gives beer a slick mouthfeel; at higher levels, the flavor becomes buttery – diacetyl is in fact what they make artificial butter out of – then like butterscotch, and eventually downright rancid. First I’ll let you know where the diacetyl comes from, and then I’ll tell you how to get it out of your beer.

One possible source of diacetyl is bacterial infection. *Pediococcus* and *Lactobacillus* are notoriously prodigious producers of diacetyl. So it’s always a good idea to review your sanitation procedures; if you’ve got other problems like sourness, “rope”, and other nasty off-aromas, infection may very well be your problem.

As I said, diacetyl is also a natural by-product of the fermentation of wort by brewing yeast. The following diagram illustrates how yeast produce diacetyl, and how they clean it up. If the diagram looks frightening, don’t worry; just skip down to “**What to do about it**”. Otherwise, stand by for the gory details.



Brewing yeast convert glucose to ethanol via a very intricate metabolic pathway. One product that occurs along the way is an ester called α -acetolactate. The cell can use some of this ester to produce *valine*, an amino acid. The rest of the α -acetolactate gets dumped into your beer. That wouldn't be much of a problem, except that in beer's low pH environment, α -acetolactate gets transformed into diacetyl, which we've already established is a Bad Thing. Oxygen helps that reaction along, as do elevated fermentation temperatures. So once you separate the yeast from the beer, if there's still α -acetolactate, you're going to get diacetyl and there's nothing you can do about it.

But all is not lost! Given time, when the yeast is done with its fermentation work, it will actually re-absorb the diacetyl from the beer. Higher temperatures accelerate this process. Once it's back in the cell, the diacetyl is converted into acetone and subsequently into 2,3-butanediol. A by-product of each of those conversions is a compound called NAD^+ , which helps the cell produce energy. The end result is that the diacetyl is no longer in your beer, and the by-products of the cleanup effort have flavor thresholds so high they're not worth worrying about.

What to do about it: You're not going to believe how simple this is. Do a "diacetyl rest"; that is, leave your beer in the fermenter for two or three days after it looks like the fermentation is complete. That's it. That will give the yeast time to clean up the diacetyl they've produced. If you're brewing an ale, the fermentation temperature is already high enough that the cleanup will proceed rather quickly. If you're brewing a lager, try this trick: start allowing the fermentation temperature to rise once the beer has fermented to half its original gravity. By that point, you're far enough into the fermentation that the yeast aren't going to generate any more "ale" characters (mainly fruity esters) and you've still got enough time to let the temperature rise to a useful level, say, 65°F. Maintain this temperature until the diacetyl is gone or until the end of fermentation, whichever is later, then rack for lagering.

How can you tell if the diacetyl rest is complete? There's an easy "forcing" test that will only cost you a few ounces of beer. Pull a sample from your fermenter and split it into two covered containers. Refrigerate one and heat the other to 140°F for an hour, then taste them both. If they taste the same, you're ready to rack your beer out of the fermenter. If you can taste butter in the heated sample, your yeast is still at work, and you should give it another day or two.

Contrary to what the BJCP Style Guidelines might imply, beers without diacetyl taste a lot better than beers with diacetyl. Try this experiment: walk down the popcorn aisle at your local grocery store and take a deep breath. Do you want your beer to taste like *that*? I didn't think so. And now you know what to do about it.

- Richard Stueven, rstueven@beerme.com