

#### MINUTES FROM THE LAST MEETING:

Editors note: And now to make a silk purse out of a sow's ear worth of minutes I got from last month's meeting!

#### WHAT'S OLD ON TAP:

**Treasurer's Report** - We have \$474.61, as of the beginning of this meeting.

**Black & Tan Competion:** Ribbons will be delivered to the winners by the Aug. meeting, promise!

**Beer Banner:** HOPs banner...suggestions??? And how about making some sort of HOPs display for the Jay-Cees Brewfest? Something collapsible, easily stored...Steve King has even offered up some financial means for this. Bring ideas to the Aug. meeting.

**HOPs Money:** Well we made some executive decisions tonight...first off: **Beer Education** - if a Beer Education calls for

some expensive beers, beyond the \$20, either a) the presenter can pick up the remainder above the \$20, or b) let us know ahead of time, via the HOPs email system...at least 2 weeks ahead of time to let the group approve, and the club will chip in up to \$30, and anything over, that each attending club member for the presentation can chip in as well.

Non-Member Attendees - It's not our intention to discourage our previous members who can't come on a regular basis, to not come at all...in fact, we want to see your smiling faces again! But then again, our dues now go 100% towards the beer education fund since we email out the newsletter...SO in order to welcome all who attend and not take advantage of those of us who pay dues, we are asking a mere \$2.00/meeting for those non-members who sho up...Guests are always welcome FREE for their first meeting!

Jockey Box Up Grades - John M suggested that we need to make upgrades and replace parts on our club jockey box. the club voted to allow him to spend up to \$30 on parts, with a request that these upgrades be done before the beerfest so that we have time to work out the bug...having it done by the Oct. Fall picnic was suggested.

#### WHAT'S NEW ON TAP:

PRESIDENT John Martin

HOPs

VICE PRESIDENT

Don Summers

TREASURER/MAILER
Kodie Brush

TRUSTEE
Dave Scuffham

SECRETARY/EDITOR

Melanie Martin

**Newsletter:** In order to help things along abit in getting this info out to you, I have decided to try and get this newsletter out soon after the previous months meeting.

**BEER HOPPERS:** We should consider changing this event to the 3rd Wednesday so that way we might be able to see our buddies that can't show up at the Thurs. meeting.

#### MISCELLANEOUS STUFF:

#### Gotta Good beer Making Tip/Discovery?:

Send it to me and I will put it here in the newsletter so we all can learn, since that's what this club is about!

Wanna Strut Your Stuff??? Made any good beer lately??? Bring some to the meeting and strut your stuff all over the bar tables!!! We're always thirsty!

Had any good beers or been to an intresting pub or liquior store lately??? Send me your new finds and I'll help pass the word. See page 3 for John & Melanie's new favorite "find".

**BEER EDUCATION:** Bob K does high gravity beers...again! They were too good to finish, so we're goin' high again in Aug. See Beer Education list for changes! There are openings!!!



401 F. Main St. Galesburg, II. 61401 Proprietors: Jim and Mary Smith

Hours: Trues Fri 12:00-6:00 Sai 10:00-5:00 Closed Sun & Mon

(309) 341 4318

**HOPs Club Members Only:** (with a 10% HOPs membership discount!) Website: **somethingsbrewn.com.** Call Jim the day before the meeting if you'd like him to bring you anything...hint, he can't always make it to the

## MONTHLY BEER EDUCATION

(Everyone, who wants to, can participate!!!)

**THE PRESENTER:** Sign-up for a beer style and a month to present it (*see open months below*). You will be the presenter of that beer by hopefully bringing your home brew of that style plus other store-bought examples. And remember, you have a budget of \$20 on the purchase of similar commercial beers that reflect your beer style that the club will reinburse you for. Give Kodie B. your reciepts.

**THE REST OF US:** We have the option to participate by also brewing a batch of the beer style being presented and bring it along for comparison...or sit back and free-load off of other people's

efforts!!!



So, get those kettles brewing!!! Here is the brew schedule. Choose a month not already taken, select your beer style...(oh and be sure to let the editor know so it makes the schedule!)

# 2006

September .. Berlinerweiss ...... John M

October ..... TBD ...... Don S

November (open)???					
December (open)???					
2007					
January (open)???					
February (open)					
March(open)???					
April(open)???					
May(open)???					
June(open)???					
June(open)???					
July(open)???					
August(open)???					
(Don't forget to sign-up for any of the open months with					

your editor...wanna change? Let her know that too!)

# Potential for Mind Exercise...

### **EDUCATION:**

We tried, but we didn't finish the high gravity beers...still on tap, for our Aug. education, are: Dogfish Head Raison D'Extra, Dogfish Head 90 Minute IPA, Avery The Beast and Avery Mephistopheles' Stout.

#### WORT COMPOSITION, STUCK FERMENTA-TIONS AND HIGH GRAVITY BREWING

by Andy Walsh (awalsh@crl.com.au)

The following table shows average carbohydrate levels in sweet wort (from an all malt source), expressed as a % of wort solids (from Hough, Biggs, Stevens and Young, "Malting and Brewing Science", Chapman and Hall, 1981.)

carbohydrate %	of wortfermentable?		Notes
maltose	43.9	yes	disaccharide of 2 glucose units
maltotriose	13.6	yes	trisaccharide
sucrose	4.2	yes	disaccharide
monosaccharides	9.5	yes	mainly glucose and fructose
dextrins	21.2	no	also called amylopectins, alpha glucans
other	5	?	fermentability dependent on yeast type

All of the above carbohydrates are normally fermentable by yeast, except for dextrins and "other" (which are up to 40% fermentable by certain yeast strains). Some ale yeasts also do not completely ferment maltotriose. Note that dextrins comprise the bulk of the unfermentable material. Dextrins are said to contribute body and mouthfeel, but no sweetness (M. Meilgaard, chapter VI in H. Broderick's "The Practical Brewer", MBAA, 1977). Sweetness stems from unfermented sugars in the wort.

The sugars must first be taken up inside the yeast cell before they can be fermented. The monosaccharides glucose and fructose are generally first, followed by sucrose. Sucrose must first be split (by the enzyme invertase) outside the cell, into glucose and fructose, before it can be fermented. Maltose is uptaken at a slower rate inside the cell, split into 2 glucose units by the enzyme maltase, and fermented. Maltotriose is transported and converted into glucose by a similar system by the enzyme maltotriase, generally at an even slower rate.

High wort starting gravities are a very common cause of stuck fermentations for the following reasons:

- \* catabolite repression : the enzymes maltase and maltotriase are easily deactivated by high starting gravities. This leads to an inability to ferment these sugars.
- \* Crabtree effect: high glucose levels in wort can often cause the yeast to start fermentation, bypassing the respiration (growth) stage. This is often accompanied by catabolite repression.
- Shock excretion: osmotic pressures on the cell wall can cause the yeast to reject amino acids during respiration. These are essential for growth and yeast health.
- Low O2 solubility: oxygen is not very soluble in high gravity worts, hence homebrewed high-gravity wort can very easily be low in oxygen

## cuz we ol' dogs wanna know more!!!

levels, no matter how much prepitching aeration is performed. Oxygen is necessary for sterol synthesis during respiration.

How to avoid a stuck fermentation when making high-gravity beers.

- Use a large starter of healthy yeast (naturally!)
- Oxygenate before, during and after pitching yeast (up to 12 hours after pitching is said to be OK).
- If adding kettle sugars (common in many high-gravity beers), consider adding sugars after high-krausen. It is far easier to get a healthy yeast crop with the lower gravity wort, which should then easily cope with the extra glucose after it is up and running.

What to do if your fermentation gets stuck

First look at what Al Korzonis says on the subject. Didn't work? Then look at what Kevin Hass writes.

WARNING. The use of enzymes can be very risky if you are not careful, or are uncertain about the enzymes you are using. After reading Kevin's material, I have on 3 occassions used a commercially available enzyme preparation (exact type of enzyme unknown, but labelled "Modiferm") to "correct" high terminal gravities.

- Case A tripel OG=1.090, stuck at 1.043. Added enzymes, FG=0.998. This beer was sickly sweet when stuck, but turned into rocket fuel afterwards. Maltiness was non-existent. The beer tasted very dry and thin-bodied. I threw out the whole batch.
- Case B Orval clone. OG=1.068, FG = 1.020. Orval is dry. My copy was not. It was sweet. Added enzymes. Result? Same as case a. Also thrown out.
- $\bullet$  Case C English ale. OG=1.050, FG = 1.020. Again sweet beer. After enzymes similar result, but vaguely drinkable when mixed with other ale. I kept this one.

Let's see if we can now try and figure out what has happened here. Firstly, notice the extremely low finishing gravities in each. This tends to indicate that all of the dextrins have been broken down by the enzyme to monosaccharides. Why?

Case A looks like a typical case of catabolite repression, where both maltase and maltotriase have been deactivated. This can be determined by the gravity at which it stuck, which is about half way. Note that maltose and maltotriose form about half of the fermentables. The enzyme preparation must have reduced the dextrins, maltose and maltotriose into glucose units for it to have been fermentable.

Cases B and C show slightly highish terminal gravities that are not necessarily associated with a fermentation disorder. The extremely low finishing gravities suggest complete carbohydrate breakdown by the enzyme.

Alpha glucans consist of amylose units (straight chain sugars) connected together by a 1-6 carbon bond. Normal alpha and beta amylase cannot break this bond, although they can break the dextrins into smaller dextrins plus amylose (which can then be further broken down into glucose units). These enzymes would not be able to reduce the gravity to such a low level, as there must always be some residual dextrins.

Dextrinases (debranching enzymes) are capable of breaking the 1-6 link. These are used commercially to make "Dry" beer, through additions of dextrinase into the fermenter. I believe that I must have bought enzymes containing dextrinase. I even think it is likely that most commercially bought enzymes of unknown origin will contain this type since they are used in huge commercial volumes. Dextrinase is completely unsuitable for correcting a stuck fermentation, unless you like drinking rocket fuel.

This would also explain the differences obtained between Kevin and myself. His technique of using malt-derived alpha and beta amylase may well be preferable to using dextrinase (it couldn't be any worse!), but there are certain thermophilic strains of lactobacillus that can survive mash temperatures, making the risk of infection very high.

Be wary, too, of asking the retailer what type of enzymes you are buying. Mine said, "Papain", with great authority, which is clearly drivel, as papain is a proteolytic enzyme used for eliminating protein hazes, and would do nothing to dextrins.

Remember, prevention is better than cure, and try and make it right the first time.

John & Melanie's new find...

#### KAHN'S FINE WINE & SPIRITS

5369 N. Keystone Ave., Indianapolis 317-251-9263 They advertize between 500-600 beers, and we think they might be on target! A must place to go if you are ever in the area!

OTES:			

#### **CALENDAR OF EVENTS:**

Dates listed are the judging date. dates you submit beers are usually earlier, check internet for more info  $\bullet$  (?) = location unknown

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• HOPs Bus Trip (annual trip, permanent date)	Jan. (last Sat.)
March Mashness (?)	
• Iowa Brewers Union Open, IA	
Drunk Monk Challenge, Aurora, IL	
• AHA National Homebrew Competion (?)	
• Jay-Cees Beerfest, Peoria	April 21 & 22nd (Fri. & Sat.)
• Knickerbocker Battle of the Brews (?)	
• Bay Area Mashers World Cup of Beer (?)	
Great Taste of the Mid-West, St. Louis	
• Upper Mississippi Mash Out, Minneapolis, MN	May (3rd Sat.)
BUZZ, Champagne, IL	
HOPs Summer Picnic	June (last Sun.)
American Beer month	
Taste of the Midwest, Madison, WI	Aug. (2nd Sat.)
Sprecher's Fest, Milwaukee, WI	Labor Day weekend
• Autumn Brew Review, Minneapolis, MN	Sept. (1st Sat.)
Brew HA-HA, Davenport, IA	Sept. (last wkend)
Iowa City Brewfest, IA	Sept.
HOPs Fall Picnic	Oct.(1st Sun.)
• Quivey Grove Beer Festival, Madison, WI	Oct. (1st Sat.)
• Land of the Muddy Waters, QC, IL	Oct. (3rd Sat.)
• Thirsty Homebrew Classic, Amana, IA	
• HOPs Holiday party	Dec. (date TBD)
• Happy Holiday HomeBrew, St. Louis	Dec. (2nd Sat.)

• Foam of the Range (?) ...... (date unknown)

## **Up-Coming Clubs Events & Meetings**

This is your newsletter...want to contribute??? Please email me anytime at: melaniehg@yahoo.com • fax: 309 249-4109 • ph: 309 249-4409

#### HOPs Beer Club meeting dates:

1st Thurs. of each month • 6:30pm
Plank Road Pub\* • 4714 W. Plank Rd • Bellevue
http://hop.bradley.edu/
(\* Cash only bar, but with food!)

#### BEER HOPPERS

#### **Monthly Dinner & Beer Social**

**3rd Wednesday** of each month • 6:30pm See this newsletter for this month's location or consult the HOPs email Bring your friends/spouses, it's time to socialize!

# HOPs Beer Club Annual Picnics Last Sunday in June and First Sunday in October

#### Other local Homebrew Club meetings: ABNORMAL HOME BREWERS

2nd Mon. of each month • 7:30-9:30pm Fat Jacks • 511 N. Main • Bloomington (309) 829-2805

#### GALESBURG HOMEBREWERS ASSOCIATION

2nd Sat. of each month • 3:00-5:00pm Somthings Brewin' • 401 E. Main St. • Galesburg (309) 241-4118

# Join "HOPs" Beer Club

Interested in joining a club of beer-making fools? Find yourself obsessing about beer and don't have anybody to talk to? Want to learn how to make beer in your own but don't know how to start? Or do you just want to get together once a month to drink and talk beer?

## Join HOPs (Homebrewers of Peoria)

Dues are an obsessively cheap \$18 a year...pro-rated when you join up. Dues include this newsletter, a monthly place where you can do one or all of the above mentioned desires PLUS various parties, picnics, socials and a beer tasting field trip thrown in.

Fill-out this form and bring to any of our meetings, every 1st Thursday of the month. First timers are welcome to visit and check us out.

🗖 Yes! I want to join HOPs!				
Name:				
Street/Apt:				
City/State/Zip:				
Home Phone #:				
Email:				