

## 5th NATIONAL HOMEBREW FESTIVAL

Richard Burns of Cheers Winemaking and Brewing, with a lot of help from his friends, is organising the above event on Saturday, 20th November 2004 in the upstairs Function Room of the Robin Hood Pub in Robin Hood Lane, Sutton. Everyone who has entered the competition or attended this event in previous years will highly recommend it to newcomers.

The Festival is in two parts, the Competition and the General Tasting.

Home brews may be entered in the competition under 3 categories:

**General:** This includes bitters, milds, ales stouts etc and is sub-divided into two OG bands, lower and higher, dependant on the number of entries. Beers are judged on their quality not the judges' style preferences and this has proven practical and popular at previous Festivals.

**Kit and Extract Beers:** This category has been most successful in encouraging those who have not yet made the leap into mashing. This has been well supported and hard fought-over in recent years

**Special:** This class gives freedom to those brewers who stretch normal brewing parameters and has produced some outstanding beers in past years, a coriander wheat beer springs to mind from last year.

Beers for the competition must be delivered the evening before, to allow for settling, and are judged by members of the Guild of Amateur Beer Judges, under the relaxed Chairmanship of Geoff Cooper, during the following morning. The Festival is open to ticket holders only from approx 1:30pm until 7 pm when many home brewers gather to taste the entries and have a good exchange of their brewing experiences.

The awards and prizes are presented around 5 pm.

Entries for the competition cost £5 per beer, which includes one ticket to the tasting session per entry.

Tickets for entry to the tasting session also cost £5 and must be obtained beforehand from Richard Burns.

This event has become a most popular and joyful annual occasion and really can be recommended as a not-to-be-missed date for all home brewers within travelling distance of Sutton.

Full details, entry forms and tickets are available from Richard Burns at Cheers Winemaking and Brewing, 94 Priory Road, Cheam, Sutton, SM3 8LN or 020-8644-0934.

There is also some information on [www.cheerswinemakingandbrewing.co.uk](http://www.cheerswinemakingandbrewing.co.uk) under 'Events' and this may include an Entry Form by the time we go to print.

## EARLY NEWS OF THE 2005 NATIONAL HOMEBREW FESTIVAL

Arrangements are now well underway for the 6th National Homebrew festival to be held in Derby on the 2nd April 2005. This will provide an opportunity for those in the Midlands and North to share in the fun. David, Ralf, and no doubt Janette, Edge are finalising the details and these will be published in our next Edition.

Meet and greet your fellow brewers,  
Enter your own brew, sample others.  
Get brewing ASAP!



## MY BREWERY Part 1

by James McCrorie

The story of my present brewery starts at GBBF 1997, where we brewed with my previous rig, a timbered mash tun (actually a 10 gallon plastic catering mixing bowl in disguise) and timbered Burco boiler. In 1998 Tim Fox brewed with his photogenic polished copper and temperature controlled fermenters. Tim and I spent much time talking about what we wanted to do for 1999 and decided that we would like to present a more modern looking home brew image to the public at GBBF.

Early in 1999 we discovered that second hand 14-gallon stainless steel vertical casks were available near Doncaster for £25 each (more about these later). As we would pass close to Doncaster on our way to Brewlabs for their first Advanced Home Brewing weekend we placed our order. It was important that our equipment on show at GBBF was legally sourced. These stainless steel casks were to be the centre of my new brewery and Tim was of tremendous technical help as we considered many possibilities. With much hard work, all the clever stuff performed by Tim, we mounted the new brewery on a large purpose-built trolley and it was used successfully at GBBF 99.

This series of articles will deal with the various components of the rig, which has performed almost faultlessly since 1999. I appreciate that it may not be practical for others to replicate this brewery, even if they wanted to, but the thinking behind this project may be of interest.

Space is always a problem, but the complete brewery is installed in a utility room measuring 8' x 7' 6", albeit with a 9' ceiling height. Also in the utility room are a washing machine, tumble drier, fridge, central heating boiler and a sink with draining board.

This first instalment is about the hot liquor tank. The requirement was for a HLT that would provide sufficient hot liquor for a 12 gallon brew, provide a sufficient head to power a spinning Phil's sparger and to be convenient to use. Well we almost achieved this!

Tim came up with the idea of a 150 litre (33 gallons) insulated domestic hot water tank. He knew of a plumber's merchant whose prices were a lot lower than others and the first one did not have the internal pipes for heating by a central heating system. (A second one with these pipes

was later prepared, with a view of using this as a type of recirculating & heating mash system but has yet to be used for that purpose.) These tanks are heated by an immersion heater element at the top of the tank so first we had to invert the tank so that the element was at the bottom. We removed the thermostat which is normally part of the heater and used an external thermostat with an easily movable control dial. The sensor for an electronic cooking thermometer (reading to 120°C) was lodged against the bare side of the HLT, inside the insulation, as was the thermostat.

We then sorted out the various plumbing connections on the cylinder, fitting an outlet from the bottom (previously top) and made up a manifold with various connections, including one for the bottom of a contents sight tube. Near the top (previously bottom) we fitted a connection for the top of the sight tube. At the very top (previously bottom) we fitted a connection for an overflow/breather, which leads, via a plastic tube, to the sink. The sight tube is a clear plastic tube with short stainless steel ends and fitted with shut-off cocks top & bottom so that removal for replacement/cleaning can be carried out irrespective of the tank contents.

The sight tube was calibrated, and marked, by the usual method of filling it gallon by gallon. Note was made of the location of the heater within the tank and the sight tube is marked at the 10 gallon level with the warning 'No heat below this level'. A strip of red electrical insulating tape was attached to the rear of the sight tube from 10 gallons downwards as a further warning.

All other connections were blanked off.

The next problem was that of supporting the tank and finally we decided on using a large plastic flowerpot. The space between the pot and the tank bottom was filled with expanding foam, which has successfully supported the filled tank without any problem. The whole assembly is mounted on a platform, which provides a head of 20 gallons above the top of the mash tun. Ideally, the platform and tank should be higher, see later.

A coat of white emulsion paint and a set of 'HLT' plastic letters provided the final 'bull-shit' touch.

In use, the night before brewing, the liquor is treated as per the article in BC Vol 1, Issue 6, June 1999, in the 14 gallon copper, which means doing this in 2 lots, and pumped up to the HLT. The thermostat is set at just under 85°C, which provides the mash tun strike temperature of 72°C, which I prefer, and the immersion heater switched on. This takes 15-30 minutes. Next day I wake up to 28 gallons of treated liquor at the right temperature.

I mentioned earlier that I really need the HLT to be mounted higher so after the mash is started I treat another 14 gallons of liquor and pump this up into the HLT. This time I set the thermostat to it's maximum of 90°C, which provides a sparge temperature of 82°C. The additional 14 gallons provides more than sufficient head for a gravity feed to the sparger.

I can avoid the top-up by pumping liquor from the HLT to the sparger. My Flojet pump handles the temperature and provides the fine control required for sparging. However, I have found it simpler to top-up the HLT and use gravity.

During the design and construction process I seemed to spend hours in plumbers' merchants looking at what they stocked and working out what use I could make of the various fittings. One great find was the push-fit pipe connectors, especially the ones which need no tools to connect or disconnect. These come in various shapes and sizes and are certified for potable water supplies and temperatures in excess of boiling point. They are now used for domestic hot and cold water supplies as well as central heating systems. I have used them extensively since 1999 without any problem. Another find was that they could supply 15mm and 22 mm stainless steel tube, to order. A decision was made that, to match the stainless steel casks used for Mash Tun, Copper and Fermenter, all fittings after the HLT would be stainless. As the HLT was made of copper we felt that copper fittings were appropriate for it.

The transfer of liquid between vessels is via clear plastic ex beer pump supply tubes, fitted with short stainless steel tube ends for connection to the push fittings. Anyone who helped clear up the CBA stands at GBBF will remember the piles of this tubing being scrapped at the close of GBBF. I'm sure there are other opportunities for re-cycling!



#### PS August 2004

On a visit to the Edge's brew house I noticed that their garden water butt was sitting on some sort of stand. Eventually I was in B&Q and noticed these things on sale and that they would support a full water butt holding more than my 30 gallon HLT. After checking the measurements I bought one and fitted it under my HLT, raising it by 12 inches. So now I no longer have to top-up my HLT mid-brew and one filling gives me sufficient head of liquor for a compete brew, including a gravity sparge.

It only proves the old saying 'You're never too old to learn.', or so I like to think!

**James**

#### British Craft Brewing on the Internet

UK Homebrew, or UKHB as it's known is a lively and friendly e-mail discussion group for all UK home brewers. It allows you to gain knowledge, provide help to others or ask questions. With over 500 members there's plenty of activity going on and always someone who will try and answer the questions. The discussion covers topics from the elementary "my fermentation's stuck - help!" to the esoteric - "how much Alehoof in a 23-litre batch?". Participants are mostly full-mash brewers with a fair number of kit- and extract brewers. And, of course you can do all this from the comfort of your own home, 24 hours a day and 365 days a year! (as long as you've got an e-mail account)

Join at <http://www.smartgroups.com/groups/uk-homebrew>.

So, is this the end of CBA and Brewers' Contact? Not yet! You need to do a fair bit of sifting with a couple of dozen messages per day, although you can subscribe to the digest and get a single long email each day. Also, you will have to evaluate the answers you get - some contributors are more authoritative than others. Also missing is the opportunity for face-to-face contact, swapping brews, training etc that CBA branches can provide.

All in all then, a useful complement to the CBA!

## Favourite House Beers

by Keith Andrews

In the last issue, I described a home brewery set-up capable of producing beer in (relative) bulk i.e. 100 litres or so at a very respectable gravity or up to a full barrel at a typical pub gravity. As stated, one benefit arising from brewing a large amount is that you can split the same brew into worthwhile quantities of both strong and weaker beers. As a sequel to that article, here are a few ideas that you might like to try that could easily be produced by such a plant. I ask you to accept that these ideas are based upon my own personal preferences and occasional bad habits. For the sake of variety, I make beer in different styles and strengths, hop strains etc. and therefore tend not to repeat the same brew twice in succession. I do, however, have my favourite styles to which I regularly return. I classify beers by colour, namely: Pale; Red; Amber; Brown; and Black. It will become clear what I mean a bit later. There are sub-categories, lager being an obvious one, but I don't brew it except once years ago from a Boots kit which is best forgotten. As regards OG, I sometimes go with whatever comes out of the coppers out of laziness but, more often than not, work in multiples of eleven (44; 55; 66 etc.). There is no earthly reason why I should do so; it's just a personal eccentricity. Here are a few more of my prejudices:

**Mashing:** a simple infusion mash for me please. It holds its temperature well in bulk and decoction would not only be difficult but is unnecessary with modern barleys. Many times in the past I have used the old fashioned method of re-mashing with 4 or 5 washes which is easy enough for small quantities when lifting is not a problem. However, I recommend sparging when brewing in bulk as you just turn the taps and more or less forget it. I am convinced that either method gives an identical extract. **Liquor:** I don't muck about with liquor treatment as life's too short. My tap water from the Sussex Weald is low in chalk but high in iron apparently. It seems to have an affinity with dark beers. **Hops:** I prefer aromatic varieties of hops: Goldings; Fuggles; Styrians; Cascade, having had unhappy (too harsh) results with high alpha acid strains. I usually use the compressed vacuum packs but pellets are good. I remember visiting a barn somewhere in Kent donkey's years ago where they were being produced soon after their invention. There is nothing sinister in pellets; they are just minced up hops pelletised under pressure. The manufacturer claimed a 17% better extract than whole hops and shortly afterwards, many commercial brewers were using them. If you've never tried them, they cannot be strained so you need to use the "whirlpool" technique rather than a hop-back. Commercially, ex-copper worts are fed into a collecting vessel at an angle which creates a slow whirlpool effect. This in turn leaves a cone of trub in the centre of the vessel so that clear worts can be drawn off gently from the side. This can be recreated at our level by stirring the copper worts after the boil in a circular motion with a long-handled spoon then leaving it to settle, but be careful! **Sugar:** I am not entirely against the use of household sugar to augment gravity but keep it to a minimum on the odd occasion that I use it (it produces a drier finish being totally fermentable unlike the sugars extracted from malt). **Packaging:** I make both draught and bottled-conditioned beers, often out of the same gyle at different strengths according to keggings space. I use the ubiquitous plastic barrels; I don't know anything about Cornelius kegs which seem to be preferred by many of you so perhaps someone will educate me. Next, here's a bit of philosophy with regard to the types of beers produced. Speaking personally, I do not want a drink with an alcoholic kick like a horse when I've just come in from mowing the lawn in a summer like 2003. Low gravity beers are required to quench thirst; the high gravity stuff has the opposite effect being diuretic. Strong ales have their place around the fireside in winter. Thus, I like to have a bit of "small beer" around and regularly aim at 44 for running beers. I have even made "Big Girl's Blouse Bitter" as low as 33 with success. The point about reducing gravities is that you dilute any taste that comes from the ingredients, especially from a grist without any roasted malt in it. This would be a good point to look at my first category: Pale Ale (or call it Bitter if you like) made exclusively from pale malt. This malt is pretty bland so, unless you enjoy drinking baby wee (e.g. UK-produced commercial lager?), it makes sense to regard it as a style where the hop is designed to take precedence. It may look like lager but should not taste like it. I suggest a hopping rate of not less than 250gm. per copperlength (notionally 50 litres) plus dry hopping at 30/40gm. per keg. This should bump up the taste; use more or mix with a high a/a variety if you like to wince a bit. I once made this at 44 entirely with Cascade pellets (5%) at the hopping rates above: it was great. At higher gravities, this Pale Ale starts to resemble the Belgian "Duvel", rightly a classic but a bit sweet for my taste. My second category is "Red Ale" i.e. the grist has crystal malt in it, typical of many

UK commercial bitters. Be generous, say 10% or 12% of crystal, and the caramel flavour will start to pull through as well as giving the beer a glorious russet-red colour. Quite high hop rates again as above, I think, and try any gravity that you like. How about a running bitter at 44 with a Christmas Ale at 66 from the same gyle? (at least 3 kegs of the former and about 50-odd 75cl. bottles of the latter from my plant). I have made it stronger, up to 99 on one occasion, but then of course it needs long maturation to allow the malt sweetness to develop vinous qualities and any hop harshness to dissipate. I'm not convinced that I like to wait that long. A very good variation on this theme is to make "Amber Ale" by substituting amber malt for crystal. The colour will be a very attractive deep amber and the taste is best described as "biscuity". You can of course mix crystal and amber malts to give a hybrid which I know for a fact goes into the standard bitter grist of some commercial breweries. Next comes Brown Ale (or Dark Mild if you prefer) which I (sort of) discovered by accident by using up remnants of all coloured malts in stock. It seems to work better at a high gravity, higher indeed than "Newcastle Brown"; more like the Belgian "Oud Braun". The emphasis now is on the malts and the hopping rate can be dropped to around 150gm./copper length or so (try Fuggles) with no need to dry hop. This is an unusual heavy winter beer with a complicated grist. Try 72% pale; 8% crystal; 8% amber; 8% flaked barley; and 4% chocolate. I made this recently with an OG of 66. Not short of flavour! Toast and chocolate. Lastly, Black Ale pays homage to Irish Stout, another classic style but hardly "Stout" by historical definition in its current commercial form. The unique flavour comes from the acrid carbonised taste of roasted barley which, I'm told, evolved in the early Victorian era from brewers trying to avoid the malt tax (roasted barley is not malted). You need about 80% pale malt; 10% roasted barley; and 10% flaked barley in the mash. Also use a high hop rate of around 250gm./copperlength but do not dry hop. Try a mixture of Northern Brewer and Fuggles. I have made this beer at all gravities between 44 and 88, splitting the gyle on most occasions. It's very good but the higher gravities can be overpoweringly harsh unless you allow long maturation when the beer will become wine-like. London-style Porter using brown and black malts in place of the roasted barley would make a slightly gentler variation on this theme. Well, I hope that my experiences may be of use to some of you. As for the future, my daughter wants me to make her some lager but I'm a bit of a dunce on this one. Does anybody hold the key to surefire success.

#### **IT MUST BE TRUE—IT SAYS SO IN THE PAPERS!**

Tuesday 17 August 2004 - 3p.m. The 'phone rings "This is — from the Sun newspaper. My boss has seen a report that the average price of a pint of beer in the UK has risen to £2.20 and wants to write a piece about homebrewing. I've phoned CAMRA and they say they are only interested in pubs but that you might help." Been there before so ask when they intend to print, answer "Tomorrow". I give him some words of wisdom regarding timing but go on to give some general advice, although it is more than a few years since I brewed from a kit. I gave him a couple of telephone contact numbers and wished him well. Surprise, surprise, Wednesday 18 August and the Sun really can do magic! Not only have they identified six of "the most popular beer kits" but brewed them, matured them, provide tasting notes and marks out of 10. All within less than 18 hours — perhaps they will let us into the secret.

p.s. Apologies to anyone living near Milton Keynes who listens to BBC 3 Counties radio.

Not many I imagine. A telephone interview with a presenter who knows little about beer but reads the Sun. Little about homebrew, mainly about "designer beers". I managed to get a bit in about clear bottles and advised not to buy beers advertised on television.

Today Milton Keynes, tomorrow the world—some hope. **James**

#### **GBBF JUDGES**

There was a certain controversy about the judging at GBBF this year. We make no comment about this. However, we did see the letter from CAMRA inviting a well respected Head Brewer to be a judge. It included the statement that "No experience is necessary". We also understand that one judge was a journalist from a publication with no interest in beer. Allegedly, she stated at Olympia that she did not like beer and never drank it but still took part in the judging. We appreciate CAMRA trying to expand interest in beer but ———.

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## Selecting and Storing a Yeast Culture for Craft Brewers

By Peter Fawcett

I've put together this information to offer ideas for those brewers who would perhaps like to progress from using dried yeast to using a yeast culture than can add individuality and character to your beer. There is nothing wrong with using dried yeast but it does limit most of us to two or three strains. Using one of the many cultures available to us makes for a far greater variety in palate and if we find a strain that performs well both in the fermenter and improves the quality of the beer in our glass, then we can with a little care maintain that strain at home as our "house" yeast.

### Available Yeast Sources

#### Whitelabs:

These cultures are imported by The Hop & Grape in Darlington and cost £5 each. There is a good website @ [www.whitelabs.com](http://www.whitelabs.com) which gives helpful information about the various strains. ( about 20 ale & 10 lager strains + various Belgian & wheat varieties ) These cultures without exception are all single strain varieties and come supplied in a ready to pitch tube. Bearing in mind that they are designed for 5 U.S gallons (19L) and have travelled half way across the world, I would always recommend making a 500ml or a litre starter the day before you brew. I have had very good results from several of these strains and I will refer to these later.

#### Wyeast:

These cultures are imported by Brupaks and available to order at several homebrew shops. Again there is a good website @ [www.wyeastlab.com](http://www.wyeastlab.com) with much helpful information. These yeasts are supplied in "smackpaks" which I prefer to activate a week before brewing to let the pack visibly swell up before making a starter. For 23L brews a 500ml starter should suffice but as I usually brew 35L I make a 250ml starter 48 hours before brewing, stepping up to 1-2 litres the following day. I have had good results from several of these strains which I will mention later. From the information given, I believe that the vast majority of their cultures are single strain with the exception of 1087, (ale) 2187 (lager) which are multi-strain and 1882 (ale) which appears to be a dual strain.

#### Brewlab:

Available from the lab at Sunderland by post, there are about five ale strains plus a lager & wheat culture. Upon receiving the order a slant is made from a master culture before despatch, so allow a few days for delivery. Although these slants will keep for 6 months when fridged I order mine about 10 days before I brew and make up a 100ml starter 3 or 4 days before brewing then step up twice to 1-2 litres. These cultures cost £3.50 and Brewlab can also supply blank agar slants (£2) to enable you to store your yeast for future use should you wish to do so. As with the Whitelab cultures they are all single strains and I've had very good results from them.

#### Bottle Conditioned Beers:

Caution is the word here; many B/C beers sit on shelves for a long time and may have little or no viable yeast left in them. Also some of the smaller micro brewers may not have the lab facilities to ensure good quality control and they may contain very small amounts of bacteria or wild yeasts which would cause us many problems. Also note that several brewers (i.e. Worthington, Hampshire, Itchen Valley) filter out the primary yeast and re-seed with a bottling yeast that will sediment well in the bottle, so avoid these. The "Good Bottled Beer Guide" (Camra) is invaluable as it lists each brewery, beer and bottling procedure and clarifies if the primary yeast is used for bottle conditioning. I've successfully used Ringwoods yeast cultured from their Fortyniner of which I ordered a dozen direct from their brewery to ensure freshness. I've also used Youngs yeast from GBG30 Ale. But with the good quality cultures available to us now I would be reluctant to recommend using B/C beers unless you have time on your hands or enjoy experimenting.

#### Making a Yeast Starter

I prepare a 500ml litre starter by adjusting 500ml of water to below pH 5.2 with Brupaks C/R/S or B.P. grade *dilute* sulphuric acid. (which I use for liquor treatment) The acid is added with a pipette and stirred until the meter reads below 5.2. If you do not have a meter add the acid, stir and taste until you can detect slight sourness. Very technical indeed but it works! Lactic acid can be used if you wish but you will need less as it is usually supplied as a 50% solution. The reason for this procedure is to discourage wort

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bacteria from growing and is most important when culturing from a slant or a B/C beer as the quantity of yeast is so small. If you are using a Whitelabs tube, a smackpack or just stepping up it isn't so important and can be omitted. I use 75-90g liquid malt extract but spraymalt can be used. (a little less)

I boil this for about 5–10 mins with a few high alpha hop cones and pour into a pre-heated, sterilized litre bottle which I cap with a plastic reseal and carefully cool to about room temperature in a water jacket, then shake vigorously for a few seconds to dissolve air then pour in the tube or smackpack. If using a slant I make a 100ml starter and uncap the slant and fill half way with wort, recap and shake hard to dislodge the yeast cells and mix with the wort in a 100ml flask. This can be repeated to make sure you have transferred all the cells. The flask or bottle can be covered with baking foil or cotton wool and left at room temperature until active. Step up when active and note that for a larger brew (over 25L) a 1-2 litre starter should be pitched to ensure optimum results.

### **Managing the Fermentation**

It is important to aerate the wort as thoroughly as possible after cooling and I find this is most easily achieved by half filling a plastic barrel or a cornelius keg with wort then shaking vigorously for a couple of minutes. Some brewers use an airstone and pump but tests conducted in the U.S.A. concluded that the shaking method is more effective in dissolving oxygen in the wort unless pure oxygen is being injected via the airstone. They are also difficult to sterilize properly. It is also important to try and keep the temperature constant during fermentation. I prefer to use a top flocculating yeast which I can remove by skimming on completion of fermentation. For my lower gravity beers I complete the whole fermentation in a single tank, cooling the beer after the gravity has reached 1.008 – 1.010 and cask with kieselsol or isinglass finings after a couple of days. (usually total about six days) For stronger beers or when part of the batch is to be bottled I transfer to a second tank with a floating sealed lid & airlock. If this method is used I often fine in the second stage. I've also used the dropping system (after 36 – 40 hours) with good results but the choice of yeast strain when using this method is important.

Looking at the homebrew web sites on the net I notice that the topic of stuck fermentations comes up fairly frequently. There are several factors that can cause this; the most common being; insufficient yeast pitched, insufficient aeration before pitching, a highly flocculant strain that requires rousing to stay in suspension, wort lacking in nutrients (excessive use of sugar or adjuncts) an excess of gypsum or copper finings used in the brewing process.

From my own experience I find that a half teaspoon of Brupaks (Murphys) yeast-vit added and stirred into the wort will re-activate the fermentation successfully. It should not be necessary to re-aerate the wort. I frequently add a quarter teaspoon of yeast-vit at pitching and this assists the fermentation to a good start.

### **YEAST STORAGE**

#### **Short term**

After about 3-4 days in the fermenter I remove enough wort to fill a 250ml bottle nearly to the brim, wipe with a clean cloth then crown cap and fridge. I find that this will keep for 2 – 3 weeks or more and the sediment can be used to rapidly activate a 500ml starter.

#### **Long term**

You will need a blow torch, a metal loop and a blank agar slant ( both the slant and loop are supplied by Brewlab) and some spirit. (i.e.vodka)

Skim a little clean yeast into a sterile jug

Sterilise the loop in the flame and dip into the spirit to cool

Smear the loop with yeast and remove the cap from the slant

Spread the yeast over the slant with a zigzag motion trying to keep the slant within 6 inches of the flame

Repeat steps 3&4

Hold the slant underneath the flame for a few seconds then cap immediately.

Store in coldest part of the fridge (not freezer!)

This method of storage is recommended for up to 6 months.

### **Yeast Strain Characteristics**

The following yeasts are strains that I have used myself and recultured up to at least 3 generations.

**Whitelabs London Ale WLP-013**

A yeast with medium attenuation and flocculation properties. A good vigorous fermenter with no need for rousing and seems very reactive to fining agents. A pleasant distinctive malty flavour with a dry finish. Flocculates to the top on completion of fermentation. Recommended temperature: 19-21c

**Whitelabs Burton Ale WLP-023**

Again this strain displays medium attenuation and flocculation but I have found that it does not fine as well as most strains. Flocculates to both the top and the bottom upon completion of fermentation. A good fermenter with a fruity, apple like flavour. 20-23c

**Whitelabs British Ale WLP-005**

A highly flocculent yeast with medium attenuation that sediments to the bottom on completion. If a lot of gypsum has been present in the liquor I have found that it tends to sediment early which can be cured by rousing. A beer I brewed without any additives or gypsum and using a quantity of acid malt instead gave a text book fermentation without any rousing required. Produces beers with a rich malty accent. 18-21c.

**Whitelabs Essex Ale WLP-022**

This yeast flocculates quite highly with most of the yeast going to the top upon completion of fermentation. A nice balanced fruity flavour with good hop character; I've found that this strain settles down hard in the cask / bottle and would be a good choice for a batch of bottle conditioned beer. 19-21c

**Wyeast 1084 Irish Ale**

Medium attenuation and flocculation with the yeast flocculating both to the top and bottom. Quite a vigorous fermenter; I have found that this strain does not require as much oxygen as most others. Gives a good flavour with a fruity accent. Very reactive to finings. 16-22c

**Wyeast 1318 London Ale 3**

This strain flocculates highly while I find that attenuation is medium to low. It flocculates to the top upon completion of fermentation and needs a lot of aeration or attenuation will be slow with rousing required. A nice fruity flavour with good hop character. 18-22c

**Brewlab Standard Ale**

I find this strain quite similar in performance to the above yeast (Y1318) except that this strain is a little more vigorous. Flocculates well with a firm sediment and produces a full flavour; I have used this strain without any finings at all and produced sparkling clear beer. 18-21c

**Brewlab Yorkshire Ale**

A very old yeast strain and a strong vigorous fermenter which does not seem to require as much oxygen as most strains. Flocculation is medium as is attenuation with the yeast flocculating to the top upon completion. This strain seems very reactive to finings and gives a fairly neutral flavour with a little fruitiness. It also seems a very robust strain; I've used it for the dropping system without problems whereas many less vigorous strains can't seem to cope. I've also used it during a heat wave where the temperature of the wort reached 25c without any problems being evident. 18-22c

I hope this information will prove beneficial to those brewers wishing to try different yeast cultures and to

## SCOTTISH CRAFT BREWERS

The big event since the last issue was the CAMRA Edinburgh Beer Festival, held again in the splendid, historic, Assembly Rooms in George Street. CAMRA again generously offered us space for a stall and we made use of the CBA stands which had been resting in my garage since last year. These are available since CBA have been priced out of GBBF. It's an ill wind---

I think we can modestly claim another success for home-made beers, although the event was not without mishaps. Poor Aled Murphy, coming off night-shift and desperate for sleep, put petrol into his diesel car. This meant that his prize-winning beer and three excellent kegs from Ian McAnally were not available until Saturday. Fortunately Les Howarth and myself had kegs ready for the opening and John Findlay also produced a timely keg. The public were less wary of us than last year and we were reasonably busy from the beginning. All our beers were received favourably and people started to appear at the stand asking for particular beers that had been recommended to them. Several different beers were described as "the best I have tasted" and publicans were even offering to buy our beers for sale. **Continued on page 12**

### Northern Craft Brewers

This report covers our last two meetings on the last Saturday's of April and July. The April meeting was held at Stalybridge station buffet bar that is east of Manchester. A free house with many small brewery beers and specialising in Pie and Peas.

Unfortunately, our guest speaker, Kevin Mitchell was called away on business and instead we discussed the two day "Brulab" course that nine of our members attended in Sunderland at the end of March. Was it worth the visit? Yes, most definitely. We all had a very enjoyable weekend with two excellent tutors, Drs Keith Thomas and St John Usher. Did we learn anything? Well we proved that we could mash in one hour, looked at yeast and nasties through microscopes, nosed various bottles of beer spoilage examples, and assessed our own beers and many other things. The one thing I learnt was that when taking a starch end test one only tests the liquor and not the grain! Thirty-five years brewing and I had always tested a spoon-full of grain. No wonder I had to carry on mashing, sometimes for three hours!

Many members were unhappy that our previous report had been drastically edited but hopefully this has been sorted for future editions. Janet and David Edge attended this meeting.

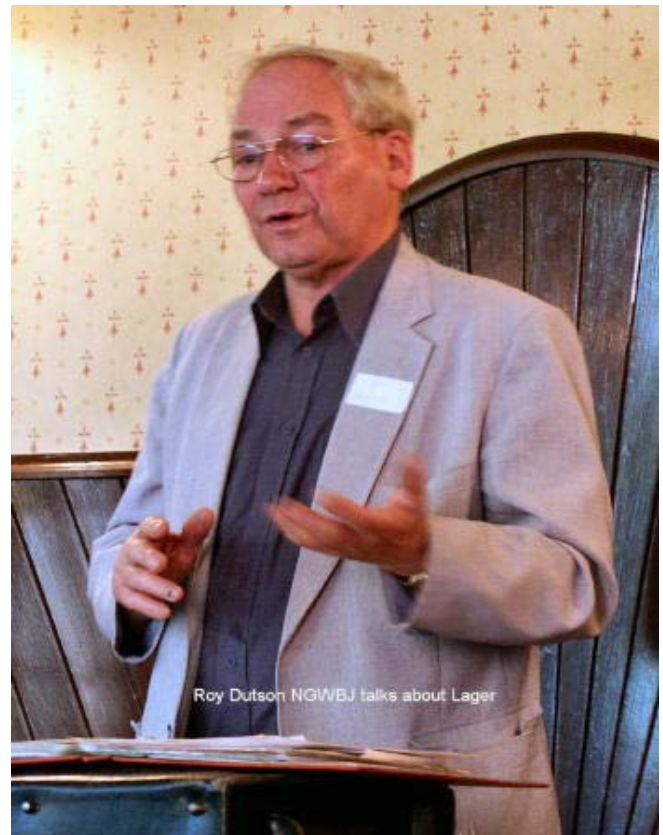
Our October meeting will be in Huddersfield at St Thomas Church hall, Manchester Road and will be a tasting and self-judging session of our own set recipe beer. Steve Taylor, (our first Chairman) M.D. of Copper Dragon Brewery had brought along Pale & Crystal Malt purchased from our funds and twenty bags were weighed out and given to members to brew for October. Each bag contained: 3.5Kg of Pale Malt and 175grams of Crystal Malt. We each purchased a Safale yeast and we have our own choice of hops. Beer to be OG 1038 and 35EBU. Six bottles of each required.

Our July meeting was in Bolton at The Howcroft Inn, the brewery tap for The Bank Top Brewery and also serving Taylor's Landlord. This meeting was our sixth beer competition. American Steam Beer and was judged by Roy Dutson who also gave a very informative talk on brewing lager and mini-mashing in a thermos flask. Roy lives in nearby Bury and has been a National Guild Beer Judge for many years. The results of the competition were: Gold: Bill Lowe, Silver: Chris Hall, Bronze: Martin Pashley and H.C.: Ian Priddy.

The Hop-walk is arranged for 5<sup>th</sup> September in Tenbury Wells and it was suggested that members might wish to stay in Stourbridge on the Saturday night and sample a few local brews. The meeting with the Scottish Craft Brewers (The Mac-brewers) will have to be postponed until next year, as we cannot fit in dates suitable. A visit to Caledonia Brewery is proposed, maybe around April.

Our proposed future meeting at Fawcetts Maltings cannot take place on a Saturday so we may arrange a special evening visit on a Wednesday in November.

Steve's "Copper Dragon Brewery" in Skipton, North



### Roy Dutson

Yorkshire that has only been open for sixteen months is soon to be expanded from a ten to a thirty barrel plant it has been so successful. It will be the largest microbrewery in the UK. Some achievement in such short time. Steve proposed that our members visit him one Saturday next February to sample the wares! We agreed unanimously.

David Craven reported that the Yorkshire Federation Show at Scarborough had been a success with increased bottle entries and several of our members had won awards. Notably, Mark Tobin with a Second in the Three Bottle Class, David himself most points in Show and Bolton Circle winning the circle championship.

The Craft Brewing newsletter was discussed and it was recommended that all members of The Northern Craft Brewers should be members of The CBA.

The January 2005 meeting will be held (last Saturday) at The Cheshire Ring, Hyde, Manchester. One of seven owned by The Beartown Brewery Holmes Chapel, Cheshire. A beer competition for Christmas Ale (OG 1050-1070) will be held.

Four more of our members have expressed an interest in a Brulab course. Any member of CBA interested please get in touch. Contact the editor for my e-mail address.

Cheers, **Bill Lowe**

My e mail address is on the back page. **Ed**

**WE'RE A WEIRD MOB ?**

by Colin Penrose

G'day from Australia.

I didn't mean Aussies are weird (except Steve Irwin) but craft brewers. I have been brewing professionally and for myself for over twenty years now and I still haven't learned. We are a mob of experimenters. Tweak a recipe here or add a bit of that, a few more ounces of hops or whatever. We are bloody mad.

The other day I met up with a mate who told me he had been diagnosed with Coeliac disease. Now, I am no doctor but they tell me that they are gluten intolerant. No wheat or barley products whatsoever or they suffer weeks of gut pain. NO BEER !!!!!!!!

Then I was given a stubby of gluten free beer from Italy using sorghum and buckwheat. Well, what a load of crap. Just about the worst beer I have ever drunk.

On a par with West End from South Australia and the new Carlton Stirling. How can people market such a shit product and then charge money for it ?? The Italian gluten free was \$5-95. What does a craft brewer do in this situation ?? What else, he experiments.

So off to the grain store and pick up a bag of sorghum and some buckwheat. The blasted stuff isn't malted of course. Now what ? The obvious came to mind, check out Clive La Pensee's books. After three days soaking and two more days on a screen being sprinkled many times with water it started to sprout. I have now just finished kilning the stuff in my brand new oven and am picking up some gluten free yeast in a couple of days. Apparently the Safale is gluten free. I hope so or I am in trouble.

I don't know if you want to know this but I am taking a rest from writing this article for a couple of days to go and stay with my best mate Barry on Phillip Island. He brews the best Porter so we will surely end up having a few. I will resume when I start mashing and let you know the results.

Okay, I'm back. Had a great couple of days with Barry on the Island. Bugger, he didn't have any Porter. We had to make do with his "Pub Bitter". It was very good.

Back to the brew.

Brew day started at 8-30 am. 30 liters of water into my hot liquor tank and crank up the gas. Start cracking sorghum and buckwheat. Both very small grains so I had to be very careful not to end up with a bucket of flour. Finish with grist mill and mash in

at 50c. Mash was 40c and took 10 mins to raise to 50c. Held there for 15 mins. Raised to 65c over next 20 minutes and then held between 65c and 67c for 60 minutes. Mash out at 75c and sparge with 80c water treated with 1tsp Cal.Sul and Cal Carb. Very slow sparge because of small grains. The false bottom in my mash/lauter will need some work if I do any more of these brews. I tasted the sparge and found it to be rather dry and tasteless so I decided to add 240g of brown sugar and a teaspoon of molasses to the boiler. Now off to the boil. 90 minutes with 30g of Saaz added after 10 minutes and another 30g after 70 minutes. Also added a teaspoon of Irish Moss at 70 minutes. Cooled with coil wort chiller down to 30c and transferred to fermenter then added Safale yeast. I had started the yeast so fermentation did start almost immediately. Fermentation was vigorous for two days and SG was down to 1012 (some fool forgot the SG at the start). Transferred to secondary fermentor and added gelatin finings. I have been warned that the beer will not clear. Finished with about 13 liters. I will check SG tomorrow and decide when to keg and bottle. I own an 11 liter keg so that should give me a good comparison between draught and bottle. To be continued.

Onward we go. Three 700ml bottles and my small keg were filled. I used one level teaspoon of sugar to prime each bottle and the keg was gassed with CO2. The beer aroma was surprisingly pleasant with a floral hop tinge obviously from the Saaz. Clarity on bottling seemed reasonable, it will be interesting to see how it clears.

I will leave the bottles at around 22c for a couple of days then put in the cool room at 5c for a couple of weeks before trying. The keg is already in the cool room. I will finish the article with a tasting by myself and my coeliac mate.

Two weeks have now passed and bottle conditioning should be fine.

Open bottle and pour, sniff, not bad, look, bit cloudy like wheat beer, taste, utter crap. Bloody hell, what did I do wrong ????

A bit of investigation and I think I have the answers. A friend of a friend tells me I malted the sorghum wrong. Plus the blasted stuff has to have a double decoction.

Oh well, back to the drawing board for another try. Good job I have forty bloody kilos of grain.

I will let you know when I succeed.

We're a weird mob !!!!

## pH - The Power of Hydrogen - The Acid Test

by **Graham Kingham**

So now you know what pH means, it was originally developed in 1909 by the German biochemist Sorensen who chose this symbol to help equate the method by which acids and alkalines could be expressed and by how much.

He used the German word 'potenz' which translates to 'power', a mathematical expression where by a sum is multiplied by itself i.e:  $10 \times 10 = 100$ , commonly shown as  $10^2$  and  $10 \times 10 \times 10 = 1000$  or  $10^3$ .

Hydrogen, chemical symbol H the lightest element and most common in the universe, highly flammable and odourless, the other partner of oxygen O, which together make up water  $H_2O$ .

Hydrogen along with lots of other elements can be broken down to an atomic level. One of these particles is called an Ion, which is electrically charged, both + positive and - negative; it is the amount of these ions that dictate the strength and type of solution.

When we dissolve a substance [malt] in a liquid [water] a solution is made, depending on the chemical make up of the substance and how much is dissolved in the liquid, an acid or alkaline is formed [acid for malt]. If the total amount of a substance is dissolved then it becomes a strong acid or alkaline; malt is only a partially used up so it is a weak acid.

The scale starts off at,	pH 1-2-3 strong acids	4-5-6 weak acids
	7 neutral [water]	8-9-10 weak alkaline
	11-12-13-14 strong alkaline	

Beer has a pH range between 5.5 and 3.8 depending on what stage of brewing it is measured at. Do we need to worry about all this chemistry? Well yes and no, the effects of getting it wrong can cause the protein matter of your wort not to coagulate; malt enzymes will only work in a narrow pH range resulting in a low mash efficiency. By getting ALL your water treatment right the process will look after itself. In order to understand the logic behind adjusting the pH, I have listed the values in logarithms, which express the power in units of ten, for ease. Think of the figures as teaspoons and then when you see the vast difference between pH values, and the amount needed to raise it up to the next one, a shovel comes to mind.

PH5  $100,000 = 10^5 = 10 \times 10 \times 10 \times 10 \times 10$

5.1 125,892

5.2 158,489

5.3 199,526

5.4 251,188 double the size of pH 5.1

6.0 1,000,000 ten times the size of pH 5

We can measure the pH by electrical means or by narrow gauge paper strips which are chemically treated to change colour at each pH range, comparing the results with a coloured card.

Always treat any ACID or ALKALINE with the greatest caution – they can burn and even cause explosions when mixed with water! Use EYE protection even with lactic or citric acids.

### JUST THE JOB

Reprinted from "Private Eye, No. 1109 25 June—8 July 2004"

"When I applied for the job as taster, nobody warned me about the dangers," Bernd Naveke told reporters outside the Brahma Brewery near Rio de Janeiro. "Every day, I was expected to drink eight litres of beer to monitor the quality, and I left work blind drunk every evening. Twenty years on, I am now a registered alcoholic, and unable to hold down a job, so I am seeking compensation and a pension for life." Shortly afterwards, an employment tribunal gave its decision on Naveke's compensation claim. "All employers have a duty to protect their workers from ingesting harmful substances, and a brewery is no different from any other business. Mr Naveke's alcoholism has clearly been caused by his twenty years of dedicated work as a Master Brewer and Chief Taster He tells us that beer tasters have to swallow their drinks, and cannot spit like wine tasters, and we have no reason to disbelieve him. The tribunal therefore rules that he is entitled to \$2 million in compensation from the brewery, a monthly pension for life of \$2,600, equivalent to his old salary, and an unlimited supply of Brahma beer" (0 Globo, 30/3/04. Spotter: Mal Function)

### Midlands CBA Diary

Since our last report we've been on our annual hop walk with Lupofresh, had a meeting with a tasting session using adulterated beer to identify unwanted smells and tastes held in Birmingham and a meeting in Rugby to compare our attempts to brew the same beer – Caroline's fine ale.

**Future events;** 27<sup>th</sup> November, 11:00 meet at the Vat and Fiddle, Nottingham for a Castle Rock brewery tour and meeting afterwards in a set aside area in the pub. Hot and cold food available on the day. The meeting will be followed by a trip around Nottingham on the tram and possibly another brewery visit...

January 2005 - Northampton, hopefully a talk on going from 'being a craft brewer to a commercial brewer' by Roy Crutchley of Hoggley's Brewery.

2<sup>nd</sup> April Craft Brewing Association, 6th Beer Festival and Competition, see PAGE 1

Future visits after this are planned to include a maltings visit and a weekend at Batemans. Also we're thinking of a trip to Brewlab, an intensive 2-3 day hands on course with experts in the field. The cost is expected to be £160, downwards if enough people book. (please contact David Edge, at c/o Membership secretary if interested. Contact Ralf Edge ([ralf.edge@ntlworld.com](mailto:ralf.edge@ntlworld.com) / 01332 347601) or Greg Pittaway ([greg.hmb@blueyonder.co.uk](mailto:greg.hmb@blueyonder.co.uk) / 0121 475 3842) for details on the Midlands branch.

### Scottish Craft Brewers report continued;

We are grateful to Davey Martin of Edina Homebrew for providing samples of equipment and ingredients for display, and for his enthusiastic help with transport. It was pleasing that so many of our members took turns on the stall to talk to the public about home brew, and we were particularly pleased to welcome a visiting professor from Korea, Heng-Cherl Yom, now researching at Heriot Watt International Centre for Brewing and Distilling, who donned our T-shirt and happily lectured the punters.

Finally may I draw attention to our web site [www.scottishcraftbrewers.com](http://www.scottishcraftbrewers.com) now mastered ably by Les Howarth, providing a wealth of information and notorious for his scurrilous comments about committee members.

Bill Cooper

### EDITORIAL

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### December's Contact

Temperature control

5th Homebrew results

Records

Extract Brewing

Fruit Juice Starter

Cooling Beers

### A Question from a New Member

Tony Smart asks how brewers obtain the "massive hop aroma." in their beer?

Good quality, fresh hops to start with, either whole or pelleted. Adding in the last 15 minutes of boiling, and for a further 15 minutes after. Rapid cooling to preserve the evaporation of essential oils. Dry hopping in the barrel.

These are some other reasons that can cause aroma loss. Carbon dioxide in the barrel will scrub the beer as it escapes removing aroma. Drink fresh as age will reduce the effects. Choose the aroma type of hops for the last batch only.

Experiment with higher quantities of low alpha acid aroma hops.

Any members willing to share their hard won knowledge on this subject, write in and we will expand on the matter.

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