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BC's GUEST EDITOR

Who is the new boy I hear you ask.
My CV runs thus. Computer skills, limited but learning fast! Publisher could become a speciality. Brewing qualification, 20 years a mash brewer with an 8 barrel set up. Although I do kits and extract as I have run day classes to introduce beginners to the art of brewing.
The day job, Engineer.
Reason for brewing? Homeopathic. As I am a migraine sufferer, I thought a pint a day would build up my tolerance of alcohol; still trying!
Beer brewed, Dark ales and historic ones.
Houses style, Stouts. Brewery name, ΕΣΤΙΑ
Tasting notes supplied on request.
Brewing heroes, Dave Line, because his books sparked the imagination, and Clive La Pensée for continuing the quest.
Mission statement, well its "de rigueur" to have one!
To help keep craft brewing alive. And to enjoy the rewards with friends.

EAST ANGLIA CBA GETS ORGANISED

By Roger Yates

Fifteen or so home brewers converged on The Bell Hotel, Clare on March 6th, from Suffolk, Norfolk, Essex and Hertfordshire, for the inaugural meeting of the latest branch of the CBA. Some had the good sense to arrange overnight or to inveigle relatives into becoming chauffeurs for a day, accommodation nearby there being no shortage of beer in the pub

and in the Nethergate Brewery where the meeting continued. After a convivial lunch, James McCrorie opened the meeting and introduced himself and Janette (Membership Secretary) and Ralph Edge who had travelled from Derby. James thanked Mike Rumsey for convening the meeting and went on to indicate how other regional groups conduct themselves. It was agreed to hold three-monthly meetings as well as appointing an area co-ordinator, Mike Rumsey. Mike indicated that future meetings would, hopefully, be held at venues with good public transport links. Mike stressed that contact with him should be by email and that he requires suggestions for the substance of future meetings.

The meeting then adjourned to the Nethergate Brewery where brewer, Bob Renvoize generously allowed us the "freedom of the brewery". Members who had brought some of their own, excellent, brews provided further lubrication; this was an especially brave act, given that there were several brewers present who have experience within the profession. A great deal of wisdom was imparted and samples of Nethergate's yeast and beers were carried off (unfortunately the brewery equipment was all bolted-down).

It is proposed that the next meeting, in early June, will be held at another local, micro-brewery with possibly, hands-on experience. We also hope to re-visit Nethergate in six month's time after their move to new, larger premises in the near future. Thanks are due to James McCrorie for "chairing" the meeting and providing expertise and gravitas. Also to Mike Rumsey for making the day possible and for providing the impetus to establish this latest branch of the CBA in East Anglia. Members not already on Mike Rumsey's contact list but wishing to hear about future meetings should contact him at 'mje.rumsey@talk21.com' or 01787 211975.

EXCHANGE IS NO ROBBERY

As the £/\$ exchange rate is exceptionally good, now would be a good time to buy equipment from the States that is not available in the UK, one good site to try: www.morebeer.com

BILL COOPER - AN APPRECIATION

As announced in the last edition, Bill Cooper has retired as our Membership Secretary. No Member should be unaware of all the time and effort that Bill has devoted to CBA, and it is a very pleasant task to write an appreciation of his huge contribution and service to us all, especially as he is still hale & hearty; so this is no obituary!

Firstly, I thought you would like to read again what Bill wrote about himself, when he took on the Membership Secretary role in 1997:

"I became membership secretary at the 1997 GBBF when Gillian happily gave up the job. I am not overly surprised as she holds down a busy full time job. I have a bit more time as I am long retired. I am slow with a p.c. although I think it was the ownership of it which caused me to be suggested for the job in the first place!

I've been brewing since about 1973. I remember starting with a Tom Caxton kit when they gave you a plastic bag to put inside the fermenting bin.

Anybody else remember them?

I moved on to extract brewing with C.J.Berry's "Home Brewed Beers and Stouts" as my guide, and Edme D.M.S. and Alinson's baking yeast as my ingredients. Hops were whatever were available and sometimes not identified.

About this time I was Chairman of Southall Cricket Club. Durden Park was the name of our cricket ground and the pavilion was used by an organisation called Durden Park Beer Circle for their meetings. I knew Ted Hickson, then and long time chairman of the beer circle, and when he learned I had started brewing he encouraged me to attend their meetings and

eventually to become a member. It was quite a traumatic experience to have 15 experts solemnly tasting my novice brews. Inevitably I got many things wrong, even though the beer was not undrinkable, but there is nothing like constructive criticism for putting you on the right lines. Eventually I began to produce full mash beers which the Circle considered acceptable and, occasionally, praiseworthy. So that was my brewing education.

I moved to Edinburgh in 1981, eventually joined Edinburgh Wine Guild which also dabbled in brewing, and began to meet other brewers in the area. I read James's letter in "Home Brew Today", proposing the setting up of CBA. I suggested we should meet on his next visit to Scotland, mainly because of his Durden Park association. That first meeting turned into a sizeable seminar sponsored by Scottish Amateur Winemakers with the help of Ian McNeill. As a result of this seminar a number of us decided to continue to meet. We formed Scottish Craft Brewers about twelve months ago and I am Secretary. I think the job fits quite well with Membership Secretary of CBA and so far the two together have not proved too onerous. I am happy to hear from any member, whether with queries on brewing or for advice from within CBA or on your suggestions for future developments. Personally I feel we should concentrate on encouraging the formation of local groups for meetings, discussions and mutual support. I should be happy to assist anyone who will volunteer to get a local group started. Happy brewing everyone!"

Well, not only was that a good introduction but also a clear mission statement, as we say today. And how well has he fulfilled that objective. Those who have met Bill are always amazed by his energy and enthusiasm for life as a whole but especially brewing and CBA. Some also made the pleasant mistake of taking him on at table-tennis! All Members who have contacted him have encountered his kindness and encouragement and we are all grateful for that. Having been deeply involved in the creation of Scottish Craft Brewers and the benefits which came out of that he was a great supporter of the regional meeting concept. He really is committed to the principle of brewers meeting other brewers, enjoying their company and learning from each other.

The photograph shows Bill in what I always will remember as his most amazing role on behalf of CBA, that is behind a stand talking most enthusiastically to members of the public.

It was always a great joy to have him arrive at Olympia and his presence seemed to lift all of us to greater efforts.

When Bill became Membership Secretary he had just bought his first computer. One of the most impressive things has been how he has coped with, and overcome, the many problems which this brings. Now he is on his second computer, backed up with a lap-top and on broadband!

He could not have done all this without the support of his wife Pam, whom many of us have had the pleasure of meeting. Now he won't have the excuse of CBA work to dodge all the other jobs.

Only I really know all the help and encouragement he has given me in the running of CBA and he has become, and hopefully will continue to be, a very dear friend and inspiration.

Bill continues to be active in the affairs and activities of Scottish Craft Brewers and will continue to be our expert proof-reader for BC. I am sure that he will continue to be CBA's ambassador in Scotland.

We all wish Pam and Bill a long and healthy second retirement!

James

Clive as Editor in Chief has taken a well earned break from producing the magazine, although he is casting a weather eye over the guest editor's efforts. We owe him a very big thank you not only for his endeavour here, but also his other writing, the five first class Craft Brewing publications he has produced.

Calling all scribes, photographer's doodlers and budding writers, put your artistry to work, tell us about your craft, any articles on an related subject are welcome.

E mail preferred but if you write in copper plate style then that will do, short or long, even one liner's or just a photograph.

CAMRA

Recognises the Importance of Craft Brewing

CAMRA appreciates the importance of home brewing. This year's winning brewery in the Champion Beer of Britain competition, Harviestoun, was founded in 1985 by two home brewing enthusiasts.

Many other CAMRA award-winning breweries, such as Crouch Vale and Mordue, have started out the same way. So the importance of home brewing should not be underestimated.

These brewers create such wonderful beers because of their love and understanding of the craft. CAMRA certainly believes that home brewing helps people appreciate and digest the subtle flavours and aromas.

A craft brewing enthusiast will probably experiment and learn about the possible different ingredients, the history, as well as production methods. There is a real appreciation of what makes the perfect pint, probably more so than the regular pub goer.

That's why CAMRA sees it as important to support home brewing through its range of five homebrew books, which show how to use kits, malt extract or full mash to brew ales; whether you're a beginner or an experienced craft brewer.

CAMRA looks at different methods and recipes for brewing European Beers, British Ales and other beer styles, giving every keen amateur advice and the confidence to start to create their own recipes and brews.

'Homebrew Classics' such as 'Stout and Porter' and 'India Pale Ale' are history books, which analyse what constitutes the particular style. They explore the style's origins along with ingredients listing and authentic recipes from contemporary brewers.

What could be better than marrying CAMRA's objective of consumer choice with craft brewing from people that really appreciate and understand the quality, love, care and attention that goes into a real pint of beer? Home brewing should continue to be celebrated.

For more information on CAMRA's books then look at the website www.camra.org.uk/books or call HQ on 01727 867201.

Wassail and happy brewing and even happier tasting!!

Who knows you could brew your own Champion Beer of Britain.

COLOURED MALTS:

History, Manufacture and Uses by Brian Davies

Introduction

Coloured malts provide a wide range of brewing materials that give colour and flavour to beers and food products. The British malting industry is the largest manufacturer of these malts in the world, producing over 40,000 tonnes a year. It also offers the widest range of these specialist malts, giving brewers an interesting choice of colours, shades and flavours for their beers.

HISTORY

The history of these malts provides a fascinating insight into the development of British beer styles. It shows how the development of these products and their production methods helped to evolve the diverse range of beers that exist in the brewing industry today. Lightly coloured malts dried on small wood burning kilns were the only ones used until 1680 when coke was discovered as a clean fuel that dried the malt without darkening it, producing the first pale malts. However, the most popular beers of the 18th and 19th centuries, particularly in London, were the 'porter' beers. Indeed, at this time many of the maltings of Ware, a major malting town with over 100 malt houses, produced only Brown malt for the London porter breweries. Recipes from the early 19th century show this beer to be brewed from a 100% Brown malt grist. This malt was produced on a wood fired kiln, normally oak but beech, hornbeam and ash were also used. This would be finely cut and tied into five-foot lengths known as faggots. The malt was spread very thinly to a depth of 1½" in these small kilns on woven wire floors. It was partly dried for an hour, allowed to cool, and then re-dried very quickly at high temperature while being turned rapidly. The colour achieved must have been a maximum of 30°EBC to ensure that enough enzymic activity was retained for conversion in the mash tun. This brown malt, also known as 'oak dried or 'blown' because of the expanded grain size caused by the rapid moisture loss, was used to create a party-guile: The higher gravity beer, referring to its strength, was called 'stout porter or just 'stout' with the lower gravity beer producing a weaker and cheaper 'porter' beer.

In 1817 Daniel Wheeler patented his 'Improved Method of Drying and Preparing Malt' which introduced for the first time the idea of a roasting drum to replace the kiln to produce coloured malts. In his patent he describes 'applying heat by means of a cylindrical iron machine or vessel similar in its construction to that now commonly used with a revolving motion for roasting of coffee'.

This allowed roasting to "a temperature of 400°F (205°C) and upwards" he stated and this expanded the colouring values obtainable by introducing black malt and roasted barley for use in these darker beers. As he stated "a small quantity of malt thus prepared will suffice for the purpose of colouring beer or porter". As part of the Malt Tax in force at the time the production of these highly roasted malts was strictly controlled. The 1842 Roasted Malt Act stated "malt is not to be roasted for sale, or sold, except by persons duly licensed." This special licence or patent led to these malts being commonly known as 'patent malts', a term still in use today.

During the 1860's pale Amber malts were replacing Brown malt. Also at this time the first roasting of green malt in the drum created crystallised or 'crystal malt'. This coincided with the development of 'running bitters' that replaced well-matured pale ales. Running bitters were ready to drink after a day or two in the pub cellar and the crystal malt helped to give body and flavour to an otherwise thin beer.

(James's note: I have a recipe for 'Kingston Amber Ale c. 1830. It has been reported that Amber ales were popular in London at this time and that this malt was roasted on Wheeler type machines)

A copy of a page of the French & Jupp's sales book of 1872 shows all these coloured malts being sold at that time, indeed the company had long specialised in the production of these malts. There is documentary evidence that the Jupp family was malting in Sussex in 1689 and they were probably active maltsters before this date. The business had moved to Brentford in 1840 to take advantage of the rapid expansion of beer production in London. The company had established a roasting house at Spitalfields, the malt from Brentford being transported up to London by barge where it was converted into black malt. To safeguard the business the Jupp family entered into partnership with the barge owner, Mary French, who was also a farmer and must have been an exceptional lady of her time. In 1890, the then head of the company, David Jupp, considered that it would be more efficient to concentrate making and roasting at Stanstead Abbots which was closer to barley production and now well served by the railways. He purchased the present site and many of the original buildings still exist including the kilns that date back to at least 1750.

By the beginning of the 20th century, brewers were experimenting with a combination of all these malts for their dark beer recipes. As Lawrence Briant states in his article in the Journal of 1907:

'Brown and amber malts have of late years fallen somewhat into disfavour, black being relied upon for colour and crystal for flavour. However, such malts if really well made give a characteristic flavour not possessed by either black or crystal. It is, indeed, by a skilful blending of the several types of coloured malt that some of the most successful black beers are produced'.

The development of the range of these malts by British maltsters during the 20th century continued as new beer styles have evolved. Low colour 'caramalt' or 'carapils' has been introduced to give palate fullness, flavour and body to lager beers. Likewise, chocolate malt has become commonly used in mild ales and mellow stouts: And, of course, crystal malt of various colours has become a standard grist component of most bitters. This long British tradition of manufacturing these specialist malts has led to the wide range now available. By examining their production methods, specification and characters their potential modern applications can be explored.

MANUFACTURE

The manufacture of coloured malt in the modern British roast house requires intensive energy usage, high capital investment, technology and quality control. Most importantly it requires highly skilled and experienced operators trained in the traditions of roasting as an art. No machine can replace experienced roaster in the skills acquired through smelling, grinding and chewing the malt and judging by eye the correct colour or modification.

The largest modern roasting machines handle a batch of 3.6 metric tonnes. They are modified coffee roasters that rotate at approximately 30 r.p.m. and are fitted with vanes which impart a dual mixing system on the grain. This produces an even roast by ensuring continuous, suspended movement and also minimises corn damage.

The drum is heated by oil or gas burners that provide uniform heat along the drum. These burners must be accurately controlled to enable the operator to maintain the correct temperature profile throughout the roast. The drums, by adjustment of flaps, can provide either direct heat through the grain or indirect heat around the cylinder. With direct heating hot dry air passes through the drum; for indirect heating the air passes around a sealed drum giving a stewing effect. This, as described later, is vital to saccharification during the roasting of crystal and caramalt.

As well as having the most sophisticated modern roasting equipment, as with all British malts, malt roasters in this country are also endowed with the best raw material. As a result of our climate, the skills of the grower and the plant breeding agencies it is possible to obtain the best single variety barleys and specifications for each product. As with all malts but particularly with coloured malts uniformity of grain size, nitrogen content and germinative capacity are essential so that the chemical and physical changes that occur during roasting occur evenly.

Barley

Raw barley is used to make roasted barley. It must have a large even grain size with a tough skin to withstand the very high final temperatures. To improve evenness it is thoroughly screened and cleaned prior to roasting. This also helps limit emissions and dust in exhaust air.

Malt

Dark malts and Amber malt are produced from low modification malted barley or 'chit malt' which has been kilned.

Green malt

The raw material for Crystal malt, Caramalt and Brown malt is green, or wet, unkilned malt that must be fully and evenly modified. Obtaining the optimum moisture level of 43% - 46% into the roasting drum is critical especially during the initial stewing period which helps the enzymes convert the starch of the endosperm into sugars that are then caramelised.

THE ROASTING PROCESS

Roasted Barley

Barley is cleaned and is roasted for about 2½ hours by direct heat, up to a final temperature of 230°C. When the temperature reaches approximately 216°C the burners are switched off. There is sufficient heat within the grain itself for the temperature to continue to rise. At this point, the product is very close to combustion and the constant sampling and supervision of an experienced operative is needed, to ensure

that maximum colour is obtained without charring or worse! When he judges this point is reached, water is pumped into the cylinder to quench the grain and lower the temperature.

The finished material is shiny, reddish-black. Many of the corns will have blown to double normal size.

Black Malt, Chocolate Malt

The roasting process is similar to that applied to roasted barley. Direct heat is applied but the temperatures are lower. Roasting time is reduced by approximately 20 minutes and with the lower temperature profile, lower degrees of colour and a milder flavour are produced. These range from the pale chocolate malts to the dark black malts with a similar colour to roasted barley.

Crystal Malt, Cara Malt

The initial roasting phase starts with direct heat being applied through the drum for 6 -10 minutes to dry surface moisture of the well modified green malt and to help raise its temperature quickly. Then follows a 30 - 40 minute period when the drum is sealed and indirect heat is applied around the drum. It is at this stage that the endospenn liquefies as saccharification takes place.

The operator can tell when full conversion has been achieved by squeezing the grain; when a clear liquid is emitted, full conversion has occurred. Direct heat can then be applied again through the malt to complete drying and reach the required colour level. The times and final temperature of the roast depend on the specifications, but usually take 2¹/₂ to 3 hours and average 130-135°C.

Cooling

With all these roasted products, once the desired colour and temperatures are reached the drum is opened and the malt is discharged into a cooler. This has a perforated floor and air is drawn through the grain whilst it is stirred by rotating arms with wire brushes attached. This ensures that the malt is cooled quickly and evenly and no further colour development occurs

SPECIFICATIONS AND USES

Coloured malts offer the brewer a wide choice of products to experiment with to adjust and influence the colour, character and flavour of his beers. Their potential uses can best be judged through brewery trials but a brief description of their primary characteristics, together with typical specifications, may be useful.

Crystal Malt

Crystal Malt is the most widely used coloured malt in the UK and is a standard constituent of a typical ale grist. The average proportion is 3-5% of the grist, but it can be up to 10% on a lower alcohol bitter. It is used for both its colour, offering depths of golden red hue and its malty, caramel, toffee-like flavour.

The conversion of starch to sugar during processing produces a crystallised endospenn and it is this that dominates its flavour profile.

It has also been said that Crystal Malt contributes to head retention, and to shelf life by as much as 60 per cent, retaining flavour stability by resisting the development of aged and oxidised flavours.

Typical colours range from 50° to 300° EBC.

Caramalt

Cara Malt is a very low colour Crystal type malt. It is sweeter and has a stronger caramel flavour than Crystal Malt and the harsher nutty roasted flavours are not present. It greatly improves body, foam retention and beer stability whilst adding only a little colour. It has therefore, become very popular in the production of lagers where it is used to enhance flavour and character. It has also become a common constituent for this reason, in low alcohol lagers. *Typical colours range from 25° to 40° EBC.*

Black Malt

Black Malt with a standard colour of 1300° EBC is obviously of primary use for its colouring value. As described earlier it is historically a key ingredient in Porter, which has enjoyed a revival in many breweries as a distinctive and flavoursome speciality beer. It gives an astringent, smoky flavour and in addition to Porter it is used in many dark beers and stouts. The flavour although harsh is less acrid than roasted barley.

Chocolate Malt

Chocolate Malt shares many of the characteristics of Black Malt but because it is roasted for a slightly shorter period of time and the final temperature is not so high, the colour is about 200° EBC lighter. This also means that some of the harsher flavours of Black Malt are not so pronounced. It retains a smoky flavour but is far less bitter. Its main uses are in darker beers and it is used in a well-known stout together with roasted barley, to produce a mellower less bitter taste.

Roast Barley

Roasted Barley's primary use is in the production of stouts. The intensive roasting process and very high final temperature imparts a very astringent, almost burnt flavour, which is so very noticeable in traditional stouts and adds to the "bite" associated with the most widely available brands. *Typical colours range from 1000° to 1500° EBC.*

Brown Malt

Because of the lack of availability of the specially prepared brushwood faggots, described earlier, all Brown malt produced in the UK is now made in the roasting drum. It is sometimes referred to as 'drum-brown' and is cooked at a low temperature to impart a dryer and less sweet character than Crystal malts of the same colour. Its uses are generally restricted to specialist bottled beers, brown ales and sweet stouts. *Typical colours range from 100° to 200° EBC.*

Amber Malt

Amber is a lightly roasted malt and this reduces the harsh flavours associated with higher coloured roasted products. This leaves it with a pleasant dry, baked flavour. It has been used by a Hertfordshire brewer to produce a 'Traditional I.P.A.' that was a distinctively flavoured golden beer with a full dry palate. It is becoming increasingly popular for use in this way as it can add a fuller rounder flavour without noticeably affecting the sweetness or colour of the beer. *(James's Note: This alleged 'Traditional I.P.A.' is the creation of a marketing department. Original I.P.A.s were brewed solely with an extra-pale malt, called 'East India' Malt with an EBC colour of around 3°. This malt is again available and used to brew Hopback's 'Summer Lightning')*

MARKETS AND FUTURE OF COLOURED MALT

These brief descriptions, I hope, should give an indication of potential brewing uses of coloured malts. In recent years the demand for these continues as brewers experiment with speciality and novel beers. The production of seasonal ales, winter warmers, stouts, porters and 'head brewer's choice' beers has grown as a result of the guest beer market and the increasing search for variety from the consumer. These speciality malts provide the key ingredients needed to create these new recipes.

The desire for variety is also seen in the American market where the proliferation of micro breweries has occurred as a result of the demand for an alternative to the often bland national brands. These breweries have resurrected and popularised many traditional British ales. For these traditional British recipes there is a strong demand for traditional British coloured malts.

The use of coloured malts in foods is also increasing, supported by the growing consumer interest in speciality breads and other baked goods, as well as the trend towards natural ingredients to replace artificial colourings and caramel.

Whilst some of the more traditional local markets are slowly disappearing I am glad to say that these newer markets are expanding and help to keep our facility at full stretch. Production of coloured malts looks set to continue well into the future.

BRIAN DAVIES is Production Director of French & Jupps Limited. He is an Honours graduate in Agriculture, University of Wales (UCNW Bangor). In 1964 he joined F&J from school as laboratory assistant. Left 1968 to attend university. After graduation joined R & W Paul (Pauls Malt), as graduate trainee. Production and grain buying posts at Ipswich, Grantham and Gainsborough. In 1977 he joined Allied Breweries for secondment to Kenya Breweries, Nairobi commissioning malting plant and training staff. Later heavily involved in local barley growing schemes. In 1982 he moved to Tanzania Breweries' Moshi malting plant to commission and run new plant for Belgian plant suppliers. Simultaneously plant and raw materials sales agent for the Belgian company in Kenya, Ethiopia, Uganda, Zambia and Mauritius. In 1988 he became General Manager of a tea and sisal company based in Tanga, Tanzania. In 1990 he rejoined French & Jupp's on return from East Africa.

New Kit article applies to the Home Roasting on pages 7 & 8

I've recently discovered a most useful tool in a Catering supply shop. This is an oven meat thermometer, which has a probe meant to be pushed into the cooking meat. This is connected by a braided, heat proof cable, which is thin enough to allow the oven door seal to remain effective, to a small electronic unit reading up to 200oC. (Beware, there are other which only read up to 120oC). Place the probe within the malt and you have excellent temperature control. **James**

HOME-ROASTING MALTED BARLEY

by Dr J C Harrison

(This article first appeared in Brewer's Contact Vol 1 Issue 4 in July 1997. It has been slightly up-dated by James McCrorie)

There are several reasons why home brewers should consider home-roasting malted barley. In Victorian times there were a number of grades of roasted, or over-kilned, malt that were widely used to impart desirable flavours to beers. Some of these e.g. pale amber, high amber and brown malts are difficult to obtain and even stalwarts such as mild ale malt and mid-amber are getting scarce. Even when a particular grade of malt is available commercially e.g. carapils (caramalt) homebrew shops may decline to hold stocks because of low demand. Another reason is that freshly roasted malt, used soon after production, has a better aroma and flavour than roast grain kept for some time. One consideration that needs to be taken into account when grain roasting is how the roast malt is to be used. If used in small amounts as a flavouring with large amounts of pale malt the enzyme content, *(and therefore the Diastatic Property)* of the roast malt is not important and quick roasting methods can be used. If however the roast malt constitutes the major part of the grist (as with some amber ales) then retention of brewing enzymes is essential. This needs a long pre-drying of the malt followed by a gentle roasting schedule. It is difficult to roast malt to an EBC (European Brewing Convention) Colour Number exceeding 50 and retain enzymes.

Equipment

- A medium-large oven preferably with fan stirrer.
- Large, steel roasting dishes (preferably 2). *(ideally stainless but see below)*
- An accurate thermometer, range 50°-200 °C, that can be left in the oven.
- Spoon for stirring the malt.
- A sharp knife e.g. Stanley knife or razor.
- A4 size white card.
- Portable lamp with a daylight bulb. *(Ideally)*

In non-fan stirred ovens there are advantages in using two trays of malt, one close to the top of the oven, another 3 - 4 inches lower. The top tray roasts quicker than the lower tray so initially one can check just the top tray. Should this overshoot slightly, mixing it with the lower tray should even the colour numbers out. It is, of course, not essential to use stainless steel trays. Normal, clean, roasting tins lined with baking foil are ideal for the beginner or occasional roaster.

Checking The Colour

The simplest equipment for measuring the EBC colour number of grain costs about £500. Durden Park has the equipment but it takes approximately 2 hours to produce a value and this is too slow to control the roasting process. This has to be done as follows:

To the white card fix a 3" length of double-sided sellotape. Take 15 assorted corns of pale malt, slice them in half crossways with the knife and stick them on to the sellotape with the cut faces forwards.

This provides a benchmark against which to compare samples taken during the roasting process.

These should be cut in half as above, lined up close to the pale malt and the average colour compared with the benchmarks. Particularly with the palest roast samples this requires bright daylight or a daylight lamp. A few corns darken prematurely. These should be ignored when making the comparison.

Traditionally, maltsters often used a pestle & mortar to grind up a few grains to check for colour.

A modern version of this would be to use a small coffee mill or grinder. This may require the waste of more grain but can be easier and also evens out the colour variations of individual grains.

Method 1. Quick Roast

Fill the steel pan 1" to 1.5" deep with malt. Place near the top of the oven pre-heated to 95°C- 100°C. Dry the grain with occasional stirring for 45 minutes then raise the oven temperature to 150°C. When the oven temperature has stabilised, stir the malt and check colour. Stir and check the colour every 20 minutes until the desired colour is reached (see table 1). Remove from the oven, cool and keep in airtight containers.

Method 2. Slow roast

Repeat the procedure for the quick roast but dry at 95°C-100°C for 2 hours. Stir and raise the oven temperature to 110°C for one hour, stir and check colour. Raise oven temperature to 120°C. Stir, check colour. Raise oven temperature to 140°C and insert the thermometer into the centre of the malt. Pale amber colour is normally reached when the grain temperature is in the range of 120°C -125°C.

Type	Grain colour v Type	
	Average Colour of Cut Corn	Approx. EBC No
Pale Amber	Palest buff	30 - 35
Amber	Distinct light buff	60 - 70
Brown	Full buff/Pale brown (Colour of pale brown envelope)	140 - 150

Subsequent to the above article, John Harrison refined his system and the following is the procedure I follow. A further system is included in the new edition of 'Old British Beers & How to Make Them'

Load baking tins, lined with foil if necessary, to 1 ½" deep, say 4 lbs per tin. Place in oven, then set the thermostat to produce 70 - 75°C. Check with the oven thermometer. The drying process takes 2 hours, but monitor throughout as oven thermostats are not very accurate. This monitoring will enable you to get a 'feel' as to how the thermostat is performing. After 2 hours, raise the temperature to 88-94°C & hold there for 30 minutes. Then raise to 110 - 116°C & hold for 1 hour. Check for colour after 30 minutes & 1 hour @ 100-116°C and if still not dark enough increase temperature to 121 > 127°C checking colour development every 15 minutes. (If also making Amber I do not do this). I find this produces Pale Amber at about 30° EBC, giving an O.G. of 1030 from a 1 lb/gallon mash, which shows good diastatic activity. For Amber, continue as above until malt has been at 110-116°C for 1 hour, then raise the temperature to 127 - 132°C & check colour every 15 minutes, for up to 1 hour. This should produce Amber at about 70° EBC with an O.G. of 1022+ from a 1lb/gallon mash (3 oz / 1 ½ pints). An O.G. of 1020 or above is a satisfactory mash. A similar mash with Pale Malt produces an O.G. of 1030. The colour of my latest Pale Amber is 31° EBC and my Amber 76° EBC, measured at home. Beers brewed with these malts have gone down very well with knowledgeable beer tasters and I strongly recommend that you give this a try. After cooling, store in a sealed container. When you open this and sniff you will smell why it's worth while to go to this trouble.



East Anglia Members outside the Nethergate Brewery, Clare. 6 March 2004

FROM CHEVALIER TO MARIS OTTER

Maris Otter is considered the most desirable malting and brewing barley by a wide range of discerning brewers and the history of its development goes back to the early years of this century. Let's look at the most recent ancestors of this super strain, and we can start by looking at Archer, a descendant of the original two rowed types grown in the British Isles, at least as early as the sixteenth century. In the 1820's, the Reverend John Chevalier was attracted by the fine appearances of a few ears of barley that had grown from seeds scattered by a labourer in his garden at Debenham, Suffolk. He cultivated these and became the parent stock of Chevalier which was considered the finest malting barley of the period. Many selections have been made from Chevalier or allied barleys. Archer was a narrow-eared variety; Plumage was a wide-eared variety introduced from Denmark in 1902 by Dr E. S. Beaten who selected and cultivated a pure line from it. Hence Plumage - Archer was produced by him in 1905. In 1908 Spratt-Archer was developed by hybridisation of Irish Archer 1, a pure selection of Archer originating in Eastern England, with Spratt. Spratt-Archer was introduced for trials in Norfolk, England in 1920. The varieties favoured by maltsters and brewers alter with the passing of time and by the 1950's the old spring sown varieties, Spratt-Archer and Plumage-Archer were being replaced by a cross to give Proctor, again spring sown,

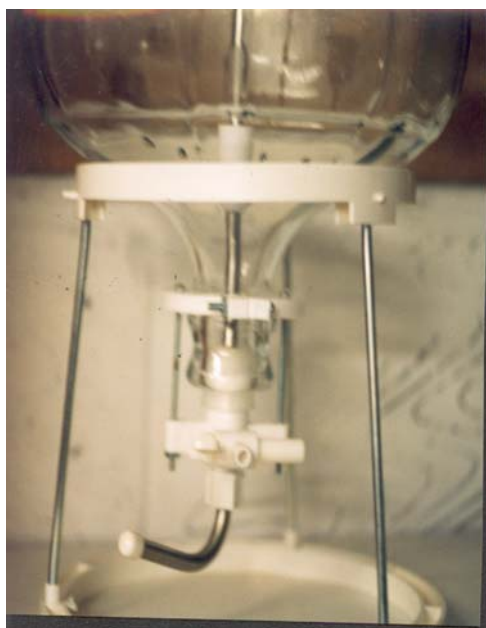
which in turn was itself crossed with Pioneer, a winter sown malting variety at The Plant Breeding Institute in Cambridge. Their development plots are situated on Maris Lane, Trumpington - hence the name given to this new variety became Maris Otter, widely grown since the early 1960's. It has had a long and interesting life by modern standards and is still favoured by producers of fine traditional ales. Last year some 27,000 tonnes were sold to UK brewers.

The above article is based on information given to me some years ago by Christopher Dempsey, then of Hugh Baird & Son Ltd and now of Baird's Malt, to whom I am greatly indebted for all his wisdom over the years.

Inadvertently, this article was printed in the last edition of BC, at the end of the Barley Harvest Report pull-out, and without crediting Christopher for the information. It is re-printed here to give credit where it is due. James

Part of Yate's Brewery,

Full article on page 12



**FERMENTAP,
THE PIPES HAVE BEEN REMOVED
FOR CLARITY**

SCOTTISH CRAFT BREWERS



On 18th January the members of Scottish Craft Brewers (and a good number of new faces) gathered at the Calton Centre in Edinburgh to, amongst other things, taste the results of their yeast trial. Five volunteers had been given the ingredients to brew a standard recipe. As far as possible, the aim was that the only thing that would be changed would be the variety of yeast. A full report on this will appear in the next edition of Brewer's Contact. SCB's next meeting will be held at the Bridge of Allan Brewery in Stirlingshire probably on 18th April 2004. All CBA members are welcome; please contact Bill Cooper on 01314496655 for final details.

Logo, beer bottle label or family crest, what ever you have designed, for your beer or brewery, we would be most interested to see them, like the Scottish Craft Brewers above.



Hestia Brewery

Barrel Label

Date of brew
Gravity
Beer style

MIDLANDS CBA REPORT

The Midlands CBA held a meeting in the Boardroom of the Brunswick Inn and Brewery on the 8th November, where the highlight was a talk by Dr Gillian Grafton on storing, propagating and using yeast. The party assembled over lunch with members from Rugby to Chesterfield, with Mike Curley from the latter attending his first meeting. Gillian started with the basics of using yeast effectively in fermentation and went on to describe more advanced techniques for yeast storage and culture. We hope to write these up for *Brewers' Contact*. Ralf then gave a report of Keith Thomas of Brewlab's yeast talk to Northern CBA. We then compared beers from the excellent to the flawed, sharing advice and comments, encouraged by James McCrorie. Greg also treated us to a sample of a 15.2% ABV barley wine from one "Shoes Brewery" in Herefordshire. There was some suspicion about the authenticity, but we've checked and the brewery features in the good beer guide, although its beers are brewed from extract (and cask versions kept under blanket pressure). Special thanks go again to Gillian for a fascinating talk and to Graham for providing accommodation on the reasonable conditions that we took lunch and didn't burn his brewery down with the blowlamp.

BREWING COMPARISONS

We had already decided that we would each brew an ale to the same recipe and compare results. The ale chosen was "Caroline's Fine Ale" from Graham Wheeler's CAMRA Guide to Home Brewing. It's a straightforward, fairly bitter pale ale which should reveal the effect of differences in technique. Wheeler suggests using 5.1kg of pale malt for 23L of 1045 wort in the fermenter based on 70% mash efficiency, so for 85% efficiency that would be 4.2kg. The hopping suggested is 105g of 5.3% alpha acid Goldings to achieve 45 IBUs. Suggest that people adjust that for their hops - our Goldings are 6.4% so we'll only use 87g. For consistency, suggest we mash for an hour at 68°C, boil for an hour and ferment with Gervin English Ale yeast. Copper finings fifteen minutes before the end of boil might be no bad thing in an ale of this colour. Also, based on experience, suggest bottling half a dozen pints for tasting from secondary and not later from a keg or poly-pin. If we can brew before April we'll have something nice to compare in Autumn.

Next meetings

The next meeting, pencilled in for The Lamp in Birmingham will feature some taste and evaluation training and comparison of beers.

The article by Gillian will appear in the next issue. Look forward to reading the summary of the results from Caroline's ale. Ed

NORTHERN CRAFT BREWERS REPORT

Derek Pilkington presented his rule of thumb talk at the recent meeting, it all centred round mashing, how much water to grain ratio? what temperature of strike liquor? do you measure pH? Do we stir or recycle? What means of measuring the mash temperature?

Derek encouraged total group discussion, explaining that every one works to his own rule of thumb which influenced our finished beer, a great deal of information was gathered by all and it was agreed that this event was the best ever.

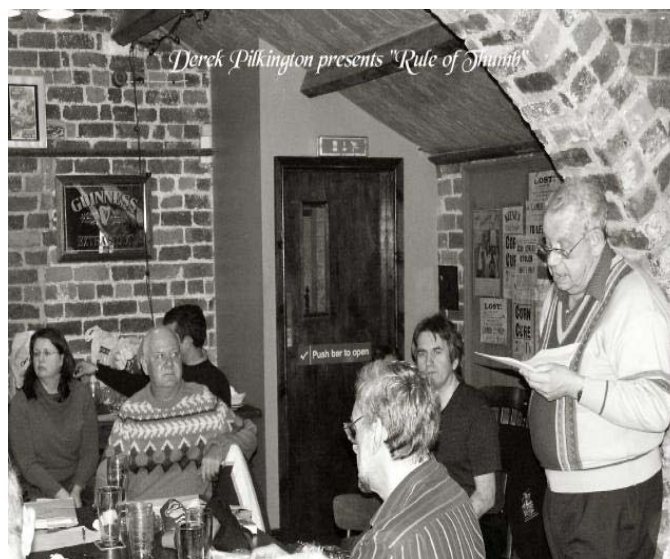
America Steam Beer brewing notes handed out for July 2004 competition; six recipes to choose from.

Yorkshire Federation Show, takes place at Scarborough, first weekend of June, many beer classes to enter.

Congratulations to the winners of the Barley wine competition, Tom Yates, Trevor Taylor, Martyn Pashley, Mark Tobin and Derek Spedding.

Next meetings, April 24th at Stalybridge Station, Manchester, guest speaker, Kevin Mitchell on brewing and breweries.

Derek Pilkington presents "Rule of Thumb"



QUESTIONS ? PROBLEMS ? HOT TOPIC ?

Ask one of *Brewers Contact* experts, send in your query, set us a challenge! E mail or post them today. What is the black deposit left around the barrel tap? It only occurs on the aged beers, how do I clean it? Answers next edition.

EDITORIAL

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June's Taster

Weird Aussie

Malt special part 3

One Barrel Brewery by Keith Andrews
Bill's Thoughts !

Hubble, Bubble, Foam & Trouble

Gillian's Freezing Yeast

Scotlands' comparative brew

Mini brew Fermenter in Fridge**YATES'S ABBOTSWOOD BREWERY**

ALES OF TASTE SINCE 1965 by Thomas Yates

Dear Clive, Thanks for the Brewers Contact which I find most interesting. I thought fellow brewers may like a look round at the various pieces of kit I have built up over the years. I normally brew either 5 or 6.5 gallons at a time to fit in with the keg and fermenter size. To start at the beginning, the hot liquor tank is just a good old 7 gallon fermenting tub with a kettle element at the bottom. Sadly I do not yet possess a grain mill so the malt is purchased ready crushed (sometimes well, sometimes not) which is put into the home made mash tun which is two plastic bins one inside the other. The inner one has a tap in the base and a stainless steel perforated false bottom one inch above the actual base. The outer one has an access hole in the side to allow for the thermostatically controlled warm air heater which prevents temperature drop and attachment of the run off pipe. Much easier than a grain bag. The old watering can rose sparger has been replaced with a Phil's rotating 10" sparging arm which works well with an 18" head of pressure. On to the copper which is a vintage 6 gallon Burco, This one was originally a tea urn so I replaced the tap with a 3/4" brass one with a drilled copper tube in the back to act as a hop strainer. The wort chiller is a straight forward coil of 5/16" copper tube hooked up to the outside tap and drain. Next the fermenters. To supplement the usual plastic tubs I have a Fermentap system which allows a 5 gallon glass carboy to be used inverted, thus imitating a conical fermenter. This is an American idea which is quite an economical way of achieving this method of fermenting. This is most useful for long ferments as during yeast dumps the incoming air is filtered to a very high degree. CO2 is expelled through the air lock. Another piece of American kit (the Americans are mad on home brew) is the 6.5 gallon conical fermenter. This is made by the Hobby Beverage Company in California. I use this one with a 75 Watt submersible heater and the fermenter inside a refrigerator, I thus have control over the temperature and can complete the brew in one container without having to rack into settling tanks. Yeast is dumped from the 1" bottom port and the beer from the 1/2" side port. (none of this metric stuff in the States) Finally kegs. I reckon I must have tried just about every keg going over the years. Remember the Saffron Super Keg, Rotokeg, Pleasure-brews Keg, the list goes on. However I seem to have settled down with three 6 gallon Brewmaster top tap kegs,, one 5 gallon and one 2.5 gallon upright bottom tap Viking kegs all fitted with modified Widget World gas system. From here on it's pretty universal, so cheers and good health. **Member no 0603**

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