



SPECIAL MALT EDITION Part 1 (with pull-out barley harvest report)

“Does the Malt Matter?”

by James Craven-Smith

Some years ago, I was contemplating, as one does, in July in the early afternoon after a couple of pints at lunchtime, the effects of the current weather on the forthcoming barley crop. The telephone rang from the receptionist “There is a customer to see you”. An unexpected customer visiting a maltings in July! All thoughts of next years crop disappeared. Did we have enough old crop barley to supply 50 tonnes, 500 tonnes or 5,000 tonnes? What variety?

Into my office came your Central Co-ordinator, the happy Scottish brewing enthusiast (I still like Scots despite four years persecution at the brewing school in Edinburgh).

A few minutes' chat elucidated that he had already collected his 50 kg of malt but that he was unsure if the brown malt he had just collected was quite what the founder of my company, would have produced over 100 years ago. I scabbled through the bottom drawer of my desk to find the 1865 treatise of malt, a legacy from my grandfather who in 1881 became Head Brewer of the brewery where I trained. We agreed that times had changed just a little due to the lack of beech faggots with which to dry the malt. Our maltster in charge of the roasting house was less amused that a craft brewer who bought less than 200 kg of malt a year was questioning his techniques!

But a firm understanding was established with your Central

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Barley - Past, Present & Future

by Robin Appel Managing Director, Robin Appel Ltd

Introduction

This article is based on a paper presented by Robin Appel at the British Beer Writers' Seminar on Malt held in November 2000. Mr. Appel has kindly up dated it for publication in Brewer's Contact.

The Past

Most informed opinion regards barley as the oldest cultivated cereal, the origins of which stem from the Middle East, somewhere between 10,000 and 5,000 BC. From the Middle East, the seeds obviously found their way across Europe so that when Julius Caesar arrived in Britain he discovered the ancient Britons 'drink a high and mighty liquor different from that of any other nation, made of barley and water'.

Barley's claim to fame is really its suitability for brewing because, whilst any cereal grain can be made into malt, it is the unique characteristics of barley (particularly its husk) which make it the preferred cereal for brewing.

Barley can be divided into 3 groups:

2 Rowed Barleys (*Hordeum distichum*) - these are most suited to malting and brewing and are known as the

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Co-ordinator based on a shared appreciation of the values of maltsters', hop farmers' and brewers' craft and art in a generation of science.

I moved from practical training in brewing, malting and hop growing to a major London brewery. In the shift brewer's mess room hung a mirror showing the brewer's original Burton IPA brewery with the marketing slogan dated in the 1920's "It's the malt that matters". At that time our extracts in the brew-house were so low that we had a standard letter to sign to the Customs & Excise to explain the discrepancy from normal yields. The malt was usually half malted and the shift brewers weekend was regularly disrupted because we had to hold brews back as the beer filters blocked after only a few barrels. Any question of whether the malt mattered was brushed off by the Head Brewer, on the basis that the company had decided that the cheapest malt made the most economical beer

We still used two of the old wooden porter vats which had been cut down to hold only some 500 barrels each. They were used to store reprocessed beer prior to filtration and pasteurization. In fact this beer imparted considerable flavour to the final product.

But what has this to do with an article on malt and Maris Otter in particular? Perhaps only to show that brewing technique is not just about traditional values as promoted by the Craft Brewer. However, the London brewery where I worked is now closed and only one of the ten or so beer brands we produced is still on the market.

The development of Maris Otter Malt

My Father followed my Grandfather and then trained me. He had Chairmen who were as enthusiastic about quality barley, malt and hops as he was. In August we spent our family holiday in North Wales and whether on holiday or not, Father used to meet his Chairman in London on

Sunday evening prior to buying barley on the London Grain Market in Mark Lane on Monday morning. In the immediate post war period, this was done in the Lane as the Grain Exchange had been bombed in the war (it was later bombed twice by the IRA after the Market moved to the Baltic Exchange.)

I was brought up in malting as well as brewing and in the mysteries of the barley from North Norfolk where the light lands are warmed by the sea in winter and in summer are kept moist by the sea frets when the rest of East Anglia swelters under a blazing sun - and yes I nearly forgot, I now work with Crisp Malting based in High Norfolk!

My family saw the changes from Chevalier through to the first 'real' malting barley, Spratt Archer. Plumage Archer which followed it was considered a radical change and much time was spent deciding to accept it. When Proctor came along later, it was instantly rejected. Plumage Archer was still grown on the Isle of Thanet in Kent and all possible quantities were purchased. Years later one maltster told me that his contract had been cancelled because the brewery, despite his protestations, decided that the sales sample looked like Proctor. However, finally Proctor was accepted and early in 1965 I saw the first steps of Otter going through the malting floors. Although it appeared to have longer rootlet growth (and more matting loss) and had a slightly smaller grain size, it was instantly accepted in the brewery as being as good as Proctor.

It also benefited from being a true winter variety and was more tolerant to cold winter weather. This winter hardiness came from its Pioneer genes whilst it inherited its other parent, Proctor's, brewing quality.

Several people in recent years re-seeded Proctor, Plumage Archer and Spratt Archer and in fact some organic Plumage Archer is now grown. From an agronomic, malting and brewing perspective, the belief is that none of

these varieties are as good as Otter.

So what about subsequent varieties? By the early 1980's, Otter still remained the main winter malting variety but low-grade varieties like Sonja and Igri were acceptable on the continent and in addition the Continental six-row variety, Plaisant, became popular for low cost brewing.

UK plant breeding was privatized and seed royalty payments became due to breeders of varieties accepted by the National Institute of Agricultural Botanists and the Institute of Brewing. This was good and bad news for maltsters and brewers. It was good news as farm yields for malting barley increased and acreages were maintained but, in fact, too many varieties were being introduced for evaluation by brewers.

Varieties like Halcyon and Pipkin made some excellent malt and superb cask beers despite reservations of the blue aleurone (*this layer lies just under the outer husk*) of the former and the low protein modification of the latter.

Brewers have long been cautious of blue aleurone barleys because of 'pink' worts and phenolic flavour, concerns which were eventually ruled out for Halcyon. Other varieties like Puffin have come through. These have yielded well on the farm and have been more resistant to field born diseases. At high nitrogen levels, they often perform less well in the brewhouse and in beer filtration.

The trend to higher nitrogen malts.

In terms of nitrogen, there has been a major change in brewing technology that has in turn changed the key aspects of malt specifications and has led to high total nitrogen requirements in the barleys used to make these malts.

In the writer's view, these changes coincided with a change of structure and an increase in capacity in the Canadian Malting Industry.

The largest maltster in Canada had withdrawn from many export markets in

the mid 1970s as a result of the growth of low priced, low cost malt supplied from EU funded investment in capacity in France and Belgium, and the introduction of EU malt-export refunds.

In the late 1980's much of this advantage was overturned as Canada and the Canadian Wheat Board in turn encouraged exports and made cheap barley available for malt export. Canada produced higher nitrogen barleys than the UK and had an exceptionally good variety called Harrington.

Brewers had discovered the way of increasing output from existing breweries with high gravity brewing. The first attempts were possibly in the Second World War where an extract brewery was built on a ship and sent to Normandy to brew after the D-Day Landings. Ken Morrison, Managing Director of Hancock's Brewery in Cardiff, was one of those brewers involved in this project.

(Many large national brewers use the 'High Gravity' brewing process where, to maximise vessel utilisation and save fuel costs, they brew initially at around OG 1070 and, at the end of the fermentation, dilute the beer with liquor.)

Beer flavour suffered from high gravity brewing until the water added was not only carbonated brewing liquor but also free of any dissolved oxygen.

Higher gravity brewing requires more vigorous fermentations and more vigorous yeast growth which requires higher levels of Free Amino Nitrogen (FAN). FAN is a product generally of variety as well as higher total soluble nitrogen (TSN), itself a product of higher barley nitrogen (TN). This assumes a constant soluble nitrogen ratio (SNR = TSN divided by TN). SNR has also a positive relationship to head retention and beer flavour and increasing SNR is not the solution for raising levels of FAN in the malt. Canadian Harrington met the brewers revised specifications and was instantly in demand.

Enzymes to break down starch and proteins are themselves proteins. Enzyme

levels in malt will generally depend on variety but also the level of nitrogen in the barley. Higher enzyme levels will help convert unmalted cereals such as wheat, rice and maize and reduce brewers' costs.

Much of the benefits of higher nitrogen malt accrue to the larger brewer and the brewer of brewery-conditioned ales.

Since so much of the world's brewing industry is globalising, brewing standards are becoming more international, particularly where there is no domestic barley crop and malt has to be imported. Where there is domestic barley, malting and brewing techniques are adapted to the local crop whilst the brewers push for changes in the barley grown in order to optimize the brewing process.

Malt analysis methods.

The ale brewer continues to use the more demanding 'Institute of Brewing' (IOB) malt analytical methods. The European Brewing Convention (EBC) standards were developed around the decoction mashing techniques (multi temperature) whilst the single temperature UK mashing system was suitable to convert the better modified maritime English barleys. There has been little change to the IOB malt analysis system in recent years except for the adoption of some EBC techniques such as the friabilimeter. Although approximations can be made between IOB and EBC the results of the two mashing regimes are significantly different. *(See separate article)*

With high gravity brewing and full plant utilization (or even 'over utilization'), new analytical techniques keep being proposed to predict malt performance.

The rewards of producing a new laboratory machine to measure a new malt parameter would be worth the effort for the royalty payment due on such a machine. Breweries are now becoming more conscious of the value of regular brewing cycles as well as consistent quality. Mash conversion and run off times, fermentation profiles, DMS and diacetyl levels in green beer and beer

filtration are important in the brewery as well as head retention, flavour profile and drinkability in the final beer.

Maltsters claim that brewers are always adding a new parameter to a specification without remembering to take one off. Bespoke malt and valuable global beer brands will make malt much more important to the brewer even if there are those who would like to see it as a commodity.

Maris Otter Malt in the future.

Whilst larger brewers have moved from Maris Otter to newer varieties, the value of international brands will make brewers more and more conservative. Brewers jealously guard the values of brand flavour and drinkability and their link with raw materials is more understood. The impact of new barley varieties on brand values as well as on brewery processability will become more critical.

So we come back to Maris Otter. At brewing school I and others strongly disagreed with our lecturer, Dr Anna Macleod, who argued that malt had no direct impact on flavour. Current experience points to malt having direct flavour benefits. Otter has delicious wort flavours, malty and sweet. For some beers it has a major part to play whether for cask ales, brewery conditioned beers or premium all malt lagers.

But it is really not for the maltster to say. More it is for the brewer to decide his recipe. Today's winter varieties, Pearl and Fanfare together with Optic, the spring variety, will make some fantastic beers but for many Maris Otter will have the edge, even at the expense of a few pence or cents a barrel.

The use of Maris Otter brings a feeling of confidence in beer quality for brewer and maltster and also the better chance of an undisturbed night's sleep.

James on James

I am particularly delighted to have James Craven-Smith write an article for this edition.

In 1992 I was searching for decent malt. We had many more home brew retailers in those days but the quality of their stock was pretty poor. I had been influenced by a Michael Jackson article in which he reported that Alan Hay of Timothy Taylor insisted on using only Golden Promise barley malt. The fact that Macallan whisky was also produced only with Golden Promise reinforced my view that this must be pretty good stuff. An advertisement in the programme for a Caledonian Brewery festival showed that Hugh Baird & Son, Maltsters founded in Glasgow in 1823, supplied Golden Promise and that they had a maltings in Essex, within reasonable driving distance. I telephoned them and on making my enquiry was told to "Hold on, I'll put you through to a salesman". This "salesman" explained that they didn't have any Golden Promise in stock but strongly recommended Maris Otter as an excellent brewing malt. What's more he was prepared to send me one 25 kg sack, provided I first sent him a cheque which didn't bounce on presentation! In return for my cheque the malt was delivered by courier and I received a charming letter from the "salesman" enclosing a typical analysis for Maris Otter, together with an invitation to collect further supplies from the Witham Maltings. He looked forward to meeting me, should I visit, and promised to show me around the maltings.

It was signed by 'you know who' but the 'salesman' turned out to be 'Operations Director'. Subsequently, I met James who

gave me an extensive tour of the maltings and a most educational explanation of the malting process. He was extremely friendly and the fact that I was only buying a couple of sacks rather than several hundreds of tonnes did not seem to matter one jot. I was also impressed by the fact that during the tour every time we passed malt at the various stages in the process he scooped a handful and examined it closely. Obviously, he was not a "desk-jockey".

This was well before the founding of CBA and I was a very new member of the Durden Park Beer Circle. James was very interested in the work carried out by Durden Park and this, of course, was how the subject of old styles of malt came up. With James's blessing and encouragement, (I realise it makes a better story the way he tells it) his laboratory and roasting staff were extremely helpful to this idiotic enthusiast in his efforts to re-create old malts. It was, after all, something different from the routine production of thousands of tonnes of modern malt.

At this time Hugh Baird & Sons Ltd, which also had a maltings at Pencaitland in Scotland, was part of the Canada Malting Company who, in addition to having three large maltings in Canada, owned the US company, Great Western Malting with plants in Vancouver in Washington State, Pocatello, Idaho and Los Angeles.

James subsequently became Managing Director of Hugh Baird & Sons and I don't think he will mind me saying that he found this post, sitting behind a desk producing reports for his bosses in Canada, amongst many other executive tasks, less pleasurable than his previous one. It also was a time when the malting business was getting more and more difficult. When the Baird business was re-

organised in March 1999 as 'Baird Maltings' incorporating the Moray Firth Maltings, previously owned by Scottish Courage, James took early retirement.

But you can't keep a good man down. He was quickly 'snapped up' by the Crisp Malting Group, the large and old established maltsters based at Great Ryburgh in Norfolk. Incidentally, one of their subsidiary companies is Edme, of home brewing history. As 'Brewery Sales Director', he now travels the country visiting his many friends in the brewing industry and, not incidentally, selling them malt. In his article he skips over the fact that his Grandfather and Father were both Head Brewers with Banks of Wolverhampton, where he learned his first trade as a brewer, and that he grew up with many of the now big names in Regional and Family brewing as his friends. Despite his remarks, he is also very proud to be one of "Anna's Boys", having studied under the legendary Professor McLeod at Heriot Watt University in Edinburgh, where he again made many brewing friends.

James has been a keen supporter of CBA since it's formation. Whilst at Baird's, despite their non-involvement with the home brew trade, he was the first to offer financial sponsorship to enable us to have a stand and brewery at GBBF and his influence has played a major part towards CBA gaining the respect it now has amongst professional brewers.

Personally, I thank him for his friendship, guidance and encouragement, and we all within CBA thank him for his support over the years.

James McC

(Barley Past—continued from page 1)
 Spring Barleys as they are generally sown in the Spring.

6 Rowed Barleys (*Hordeum hexastichum*) - known as the Winter Barleys.

Naked Barleys (*Hordeum midum*) - the huskless barleys which have demonstrated no real economic value for malting and brewing.

Up to and into the 19th Century a considerable proportion of barley crops were in reality local mixtures of many varieties, aggregates of more or less well-marked types. These mixtures, when traded as seed corn, carried their respective local name e.g. "Scotch Common" was the seed commonly sown in a wide area north of the River Tay in Scotland. In the early 19th Century, from these mixtures, 3 types of barley varieties emerged - the Archers, the Chevaliers and the Spratts.

At the very first brewers' exhibition in 1879, the barley competition was dominated by the Chevaliers but selection from these three types produced purer races. By 1938, in the same competition, the Archers had come to the fore with 52 out of the 58 entries being made up of Plumage Archer, Spratt Archer and Golden Archer.

The Archers were followed by a variety called Proctor which ran into the sixties, when the next most famous variety was introduced. In 1965 Maris Otter appeared on the NIAB's (National Institute of Agricultural Botany) Recommended List for the first time and since we still grow between 20-30,000 tonnes of it today, it could be argued that little more than a half dozen benchmark varieties of malting barley have provided for nearly 2 centuries of the UK brewing industry!

The Present

If we look at barley production today, demand for malting in the UK is somewhere in the order of 1.9 million tonnes per annum, however exports to the near continent of malting barley can raise the market size to nearer 2.5 million tonnes.

Today if you grow barley to sell you

need to grow for the malting market and you need to grow Spring barley. It's a bit cheaper than growing Winter barley and besides it forms the bulk of malting demand.

So how does a farmer go about growing a crop of spring malting barley for harvest ?

First of all the sensible farmer will recognise that agricultural crop production is no longer a producer 'free for all' - he needs a supply contract from his merchant. The best contracts are linked directly to a named brewer or maltster and sometimes are printed on the principal's own headed notepaper.

The second step is then the choice of variety, although in practice the contract will stipulate the variety or a limited choice of up to three varieties.

Seed supply is the next step and if farmers have grown the variety before they will prefer to use their own grain for seed as it's infinitely cheaper than purchasing new. However, for malting barley production they need to buy Certified Seed because malting barley supply has always been variety specific. Most maltsters are trained to recognise varieties at a glance and to spot admixture in samples and deliveries. It is obviously important that there should be no mistakes, yet if the industry continues to allow farm saved seed they leave the door wide open to admixtures.

The next step is to consider the delivered specification of the barley as requested by the maltster. Farmers have found it difficult to get their heads around the modern requirement for higher rather than lower protein (nitrogen) content. The way to raise the grain nitrogen is to understand a bit more about the nitrogen available to the growing plant. To do this, before you go applying fertiliser you need to measure the available nitrogen already in the soil.

The husbandry of growing the crop is all standard text book stuff and with modern herbicides and fungicides you have to be fairly inept not to produce a fine stand of barley in July.

The final stage of producing a crop of malting barley is the harvesting and storage, which I regret to say is where

everything starts to go wrong.

The main problems are induced by the economic mismanagement of farms. The serious downturn in farm-gate prices for cereals coupled with the squeeze on farm subsidies has knocked most of the profit out of arable farming. Farmers have reacted accordingly. Those that are carrying on farming are trying to spread their costs over more acres and in some areas of production attention to detail has gone by the board.

The extraordinary thing about all this is it's happening at the same time as the farming industry has put in place a quality assurance scheme for cereal production. The Assured Combinable Crops Scheme, which now covers more than 80% of the UK cereal production, includes clearly defined protocols for managing grain in store, yet evidence of breaches of these protocols is coming to light across a very wide number of farms.

The Future

Firstly, we have to look at the future shape of British agriculture. The biggest problem facing British agriculture is that the price of land and the price of labour is too high. If you consider the fact that today cereal growers only draw 75% of their return from the market, 25% being EU subsidy and, combined, that adds up to barley better than break even; what happens when growers have to depend on 90% or even 95% of their return from the market? The outlook is a complex one because I do not believe we are going to return to 1930s countryside with empty derelict farms everywhere.

If we assume the best way to manage the countryside is to farm it, then I think we can reasonably assume we will go on growing malting barley. The message to farmers today is to integrate into the food supply chain, endorsed by the Curry Report into the future of food and farming. For malting barley growers this translates into producer groups (minimum 20,000 tonnes of production) directly contracted to a maltster/ maltsters, to produce specific varieties to a particular specification, the ex farm value of which is negotiated on the back of the malt price. Maris Otter growers responded to this all of some 10 years ago, so the principle is well established.

(Continued on page 6)

(Barley Past—continued from p.5)

Despite our questionable cost base the demand for UK malt should always stretch well beyond our own shores. Particularly as the taste for beers matures in the emerging markets (Asia, Russia etc), a more discerning demand for malt will follow, and no-one can deny that UK farmers are capable of producing the finest malting barley in the world.

Robin Appel is a director of Hampshire based grain merchants Robin Appel Ltd, and Warminster Maltings Ltd, Britain's oldest working commercial floor maltings. Robin Appel Ltd is one of two partners who control the production and marketing of Maris Otter barley, an initiative set up more than 10 years ago to preserve Britain's highest quality malting barley.

He joined the corn trade as a trainee in 1963. Attended Writtle Agricultural College 1967-69 and obtained a NDA. Rejoined corn trade with Dalgety in Norfolk, followed by large private merchant based in Hampshire, concentrating on arable crops and crop marketing. Formed Robin Appel Ltd in January 1980, specialist arable crops merchant, concentrating on crop protection, pulses and linseed throughout the 80's. By the end of the decade pulses were dropped in favour of cereals and grain, concentrating particularly on malting barley and the successful campaign to preserve Maris Otter. Other achievements include building and running the UK's first industrial flax fibre plant, the introduction of soya beans (non GM) which for the first time can be grown successfully in the UK and across wide areas of Western Europe and the establishment in New Zealand and Australia of a baked beans production based on UK bred varieties for the world's most famous brand. Robin is a serving member of the United Kingdom's Agricultural Supply Trade Association's Arable Marketing Committee and a director of the Assured Combinable Crops Scheme.

Letters

BC Aug.03 "Letters"

Ref. Geoffrey Woodin's problems with temperature loss. Use an electric drill as a power source to stir the mash. I use a paint stirrer attachment available in DIY stores. A good long go with this gets out all the dry pockets without getting arm ache. Or stick a long-handled wooden spoon in the chuck.

In general, your advice to brew in bulk is sound provided that you have the plant and room to cope. I have recently achieved a long-held ambition to mash a full 25kg sack of malt. At this volume, there does not seem to be any loss of mash temperature at all. Sparge liquor can move faster and so will not lose significant heat. You will need a large mash tun (mine's a converted 170 litre plastic barrel) and two 50 litre boilers. It takes a long time to heat and cool large quantities of liquor and wort but otherwise, with a bit of thought, no extra effort is needed. I'll expound further if anybody is interested.

Keith

Ed says: Thanks for this one Keith, and congratulations on your 25kg mash. You can be sure we are interested on further exposition. Any details on the beer, gravity? Can we feature this effort in our "blokes and their breweries" feature next time?

A general point; don't ask if we are interested, just get your thoughts in to me. So many of

you have interesting stories and anecdotes and I sit here struggling for material!

Dear Clive.

I am a rather new member of CBA no. 2631 and I am now resident in Sweden with my Swedish wife, who works as a nurse anaesthetist here in Eskilstuna. Its about 70 miles west from Stockholm and lies between two vast lakes.

I am quite new to full grain mash brewing, having brewed from kits for many years.

Bill Cooper has asked me to write something for Brewers Contact about the homebrew scene here. Well its very much alive and kicking here, but also rather different to that of GB I believe, due largely to the very different alcohol culture here. Spirit drinking is a big thing and so too is making illegal spirit. Alcohol here is only available from the state owned alcohol shops or in bars and restaurants and believe me it's expensive (there is a good selection of beers from the UK). So there are plenty of homebrew shops in a country of only 8,000 000. Or how about a small article about Gotlandsdrikca, the brew of the Vikings and still brewed here today from a recipe dating back to year 800. I am also a member of the Swedish Homebrewers Association (see www.shbf.se) and perhaps I can draw on their excellent colour quarterly magazine for some ideas. So please-mail me with some guide lines .

David Reeves

Ed says: Once again, just get those articles in to me. I am fascinated by beer history and others will enjoy your translations from the web site. Keep it coming David.

Dear Bill

Thanks for your reminder that I'm overdue with my subs. I enclose a cheque for £20 which covers both my £15 subscription and a £5 donation to CBA to help

(Letters: Continued from page 6)

me bear the embarrassment of being so late with paying it! I'm sorry that I haven't been able to meet you recently, given that the CBA no longer brew at the GBBF, but I hope that our paths will cross again soon. By the way, I think that each new edition of Brewer's Contact is more interesting and entertaining than the last, if that's possible. I hope that the steady increase in professionalism and quality is attracting more members -it certainly deserves to. Anyway, all the best with the CBA in the future.

Chris Riley

Ed says: Thanks for the vote of confidence Chris. I think we are beginning to get it right too.

Can you let everyone know by email to check their local Lidl stores. Many have weekly specials. Mine (Duke St. Glasgow) has some sink sized stainless steel sieves with extendable/adjustable arms to fit across any space e.g. a fermentation bin. They are an ideal hop filter when pouring the boiled wort with hops into the bin etc. I have been looking for something like that for ages. And they are only £4.99. Spread the word!

Robin Jones

Ed says: How about a picture, maybe some detail on your set-up? Thanks for keeping your eyes open for us Robin. Our local Lidl is a font of amazing value too but I hadn't spotted the sieves. Their beers and wines mean it is hardly worth going on a booze cruise, provided the quality is good. I've never been disappointed in Lidl quality but never tried their wines and beers. Can anyone report for members? I can recommend their German

Trouble at Mill by Clive La Pensée

I struggled manfully and for many years, with a Phil Mill from the US. I hated it. The mechanism was fine but one had to catch the grist in a plastic bag and it never clamped well to my bench. It also refused to take the



Prestige grain nipper

chuck on my electric drill. I was delighted when James McCrorie brought the Prestige Grain Nipper to my attention and revealed good homebrew retail outlets would stock it. If they do, then grab one now for Prestige tell me they have discontinued the line. Once existing retail stocks are gone, that's it. Kenwood do a kitchen machine with a grain attachment but lots of negatives— the cost £220—material is plastic, and there is no reliable information on crush size.

Remember, we really want a crusher not a mill. They also say the motor will cut out to prevent overheating after 10 minutes. There is no info on throughput, so this seems an expensive risk to take for a piece of plastic that may turn a half hour chore into a full day's work.

Brupaks came to my rescue with the Rolls Royce of crushers, which will clamp to my Workmate and take an electric drill chuck.

You get a lifetime guarantee for £200. Qualitywise, I look forward to an improvement in my beers, now I'm not struggling trying to keep crushed malt in good condition.

Brupaks are also manufacturing a lovely looking 30 or 50 litre immersion heater boiler. It looks just the business with Christmas coming

up. The 50 litre (10 gal) version can be fitted with two 3 kW elements. This would require a dedicated ring main carrying 26 amps. That is the approaching the upper limit for a ring main so caution is needed if you haven't had a recent rewire. One element is slower but adequate.

I've ordered a 7kW gas burner with natural gas jets. This allows me to turn the heat down once boiling, and I already have a fan assisted airbrick in my brewery. This is very important! We don't want to lose members to carbon dioxide poisoning. I was surprised at how cheap it was to get a contractor to lay a gas pipe along the outside wall of my house to supply the brewery. Worth considering!



Rolls Royce of crushers



30 litre electric boiler

MEMBERSHIP SECRETARY

Coincidental with the August (Volume 2 Issue 7) Brewers Contact I completed 6 years as membership secretary of CBA. At the time of writing, (25th September) my 77th birthday is five weeks away. I conclude that the Association deserves a younger and fresher membership secretary. It is time for me to retire. I am slower than I was, my enthusiasm for the day to day processing has waned a little. I still enjoy fielding problems from members about brewing, but here again I am getting out of date. I have therefore submitted my resignation to James. I have offered to keep things ticking over until he can unearth a successor, or until the end of January next year, whichever is sooner. Hopefully someone will volunteer well before then

The essentials for the job are ownership of and some ability with a p.c., a knowledge of simple data-base applications, and an email address. But it is only someone of my generation that is unlikely to have these. The Sidekick data-base I am using needs to be replaced with a modern system- Access is the obvious but not the only choice. But it needs to be a system that James can also convert to.

The job basically consists of answering inquiries about membership, recording details of and welcoming new members, chasing existing members for renewal of subscriptions, and keeping the data-base up to date with changes in members' details. Inevitably requests for advice tend to be directed at the membership secretary simply because his is the address that comes most readily to hand. Gillian Grafton, my predecessor, answered my questions and I have just carried on with it, but it is always possible to find someone else to answer if the request is out of your range of experience. But there is no reason at all why the membership secretary must do this. Someone else could easily be designated as primary adviser. So if you are good with a PC but relatively inexperienced in brewing, do not feel debarred from offering your services. Nor is it necessary to serve six years. Perhaps we should consider rotating the job, say every two or three years.

I have enjoyed my time as membership secretary. Particularly have I enjoyed my interactions with the members and I am grateful for all the support and expressions of goodwill that I have received. If I have upset anyone during the course of my tenure, please accept my humble apologies.

Bill Cooper

See Ed's comment on page 12.

Bric-a-brac from issue 7 (Ed)

Bookworm

Member Roy Ekins has speculated on the identity of "The Bookworm" who is kind enough to review our books for us. Roy suggested she must be mentally scarred, possibly from a sexual encounter, to be so scathing about the Stout and Porter Book. (BC issue 7) Well it wasn't with me. I wonder if Roger is blushing? Of course Roy should know better as a beer writer himself. We don't have time for hanky panky with book worms, as I'm sure Roger can testify.

As for the true identity of the bookworm? She feels she enjoys more journalistic freedom writing under a nom de plume. Who am I to argue with a woman, especially one who doesn't submit an invoice?

Durden

I haven't found space for bookworm's in depth review of the Durden Park **Old British Beers and how to make them** new edition. I'm afraid we got carried away with malt..

Yeast

I am able to report back on the Use of Safale at silly fermentation temperatures over the hot summer months.

The beer is OK—but not more. The number of random tastes I'd rather not have is on the high side. But I'm drinking it and enjoying it too, especially the gyle I kept at 20^o C. The one that crept up to 28 behind my back is borderline, but considering the rude treatment, I have to say hats off to Safale!

Clear glass

We thought about the bottling in clear glass article and decided that the only realistic answer isn't printable.

With all the clout of the motor industry, we still only have a clear glass able to filter out a small amount of IR wavelengths. Why would a brewery assume its worth the R&D to develop a clear glass, able to filter out a specific UV wavelength, when we have the answer available at no cost. Brown bottles!

Midlands CBA Hop

Walk by Ralf and Greg

Exactly what is A Hop Walk? This is what most of us were wondering. All we knew was the time allocation of approx 1½ hours. Walking for an hour and half in a field of hops didn't sound that interesting but we had been told by James McCorrie it was a wonderful experience.

Thirteen people had assembled in what seemed like the middle of nowhere, 10 of us via the King & Castle pub (just £1 a pint— unbelievable) on Kidderminster station and three travelled direct. We arrived via a sheep dip trough, no option but to take the fairly steep descent. The 7-seater taxi did not like this.

We all gathered around a farm building about 1.40pm but seemingly no-one was around. A little like Mary Celeste I guess. Couldn't get a signal on the mobile to call the farm manager so we just stood around wondering what to do.

Out from nowhere strode Richard Powell, welcoming us all to his farm. He gave an excellent history of the farm and himself whilst seemingly examining our footwear. Yes, we were all OK. He was a local who had travelled and came back from farming hops in Kent. The farm had always grown hops but not on the current scale. He was now running the largest hop farm outside Kent comprising some 170+ acres, which was 50% of the total acreage.

The Hop Walk then began and I only realised at the end we were to see the process in reverse. The current processing was just Fuggles. It was being harvested slightly earlier than usual but then the recent hot weather had played a part in this.

We walked around a couple of very old buildings and farm equipment to a large shed.

The wonderful aroma hit you as you entered. The floor in between very tall walls and a conveyor belt was green. The tall walls housed the drying hops and once sufficiently dry the walls were

removed and the hops fell to the floor then to be swept up and pushed onto the conveyor belt for packaging.

We then climbed the stairs to see into the drying hop beds, which were about 12 feet deep. Further along the gantry we saw the fresh hops coming along another conveyor belt. This simple machinery, so many cogs and chains, had to work flat out for some 4-6 weeks. The down time was amazingly only 5%.

Down some very steep and tall steps we were next to the heaters underneath the drying hops. Diesel is the main fuel used, not gas or electric. This was a little noisy and we soon emerged into the open air for any questions.

Into another noisy building again with what seemed like archaic machinery but clearly very effective. This is where the tractors bring the bines from the fields. 3 people were hanging the bines on hooks which transferred the bines to the roof of the building where another 2 people stood or sat more carefully placing the bines into the stripping system at an even spread. A little like a meat factory with the carcasses spinning round. Occasionally a bine or part of it would fall from the overhead rails and either be returned to the tractor or simply swept away as waste. We walked under this arrangement and it was literally like walking under a hop shower. Weird and very pleasant.

So much machinery, again all cogs and chains and very noisy conveyor belts. One taking the stripped hops to the heating beds, and one taking the waste for later collection. The waste with the exception of the discarded hops (due to reintroduction of pests/ disease etc) being deployed around the rest of the farm as it makes very good fertiliser. From this incredible sight to a side dust road and more questions and answers. There was so much to ask. Slowly we began to wonder if that was it when we were invited to climb aboard one of the wagons behind a tractor. We were off to the hop fields.

A rather bumpy but pleasant ride we were soon down at the harvesting area in the wonderful sunshine. A gang of 4 were harvesting the bines so fast it

really did surprise us. Someone would climb a ladder locked on the back of the wagon behind the tractor. At the top he was using a sickle to cut the strings from the overhead wires whilst cutters were used lower down to cut the bottom about 4/5 feet from the ground. The tractor was soon at the end of the row with a full wagon load. Up came another tractor with an empty wagon and they soon swapped over. "OUT OF THE WAY" someone shouted and we soon moved. They drove so quickly without any apparent care as to the bines that shook off the wagon..

In the ensuing question and answer session we were told that whilst the whole process was labour intensive only 3 people were employed full time. The other 20-25 were all casual. Most had been with Richard for the last 3 years, and were mainly Polish students. What they earned in the 3 months would finance their university education back home for the other 9 months.

It was time to start the walk back along the dusty and busy dirt track. We were so tempted to collect the fallen bines. Enough hops there for a home-brewing year, was the general view. After the slow walk back we had the final questions and answers session.

Richard was asked if we could take some hops and said sure but he had no bags for us. Had we brought bags then we were free to help ourselves. We went back to the drying shed conveyor belt with the dried hops and you have never seen so many bags and sacks come out of the holdalls and pockets. So many hops you couldn't carry or use them all. Sadly it was time to say farewell to our host and for most make our way back to the £1 a pint Kings Shilling at the King and Castle.

This is what a Hop Walk is all about. A thoroughly enjoyable 1¾ hours and a complete tour and understanding of the hopping process.

Highly recommended.

A big thanks to Ralf Edge for organising a truly memorable day. We are thinking a return next year is in order possibly when the Goldings are being harvested.

Featured Brewery 6.***A craft brewer's dream comes true at the Copper Dragon Brewery in Skipton***

E
d says: Northern CBA stalwart Steve Taylor, has been in engineering for many years and so if someone in CBA was going to bite the bullet and live out all our dreams, it was going to be him. I have few details of how he got into all this, how long it was in planning and how he chose the brewing kit, and repeated requests from members of NCBA have not produced much in the way of detail. I am often unable to attend NCBA meetings if they are more than a couple of miles off the M62 corridor. Skipton is a 2 hour drive and 5 hour train journey. I obviously missed a treat.

This is the most important event in CBA history and if you are to be informed I'm going to have to find the time to drive over.

Maybe Steve can suggest a time. At the time of writing, they had the following beers on the go, which I believe are their regulars.

1. *Best Bitter—ABV 3.8% - A refreshing amber best bitter, with a well balanced malty hoppy flavour, brewed to suit that special northern palette.*
2. *Pale Ale—ABV 4.4% - A traditional premium ale, full bodied and fruity with subtle hoppy undertones.*
3. *Dark Ale—ABV 3.5% - A recipe from days gone by, using coloured malts to give a rich roasted flavour.*

Check out the great pictures on their web site.

Notes of Midlands CBA Meeting

Saturday 6th September, 2003
 Tamworth Beer Festival by Ralf Edge

1. Previous Meeting -The notes from the previous meeting, held at the Great Western in Wolverhampton were accepted as being accurate
2. Chair's Welcome-Gary Clay welcomed all present both to the meeting and also to the beer festival for which he was on the organising committee.
3. Membership /Finances-Ralf Edge reported that the Midlands CBA had 11 signed-up members. David Edge reported that its finances stood at £55.13.
4. Items from HQ-Although the CBA does not have a central HQ as such this provided an opportunity for matters to be raised at the request of those not in the Midlands CBA. On this occasion, Bill Cooper has stated that he would be interested in the possibility of a trip to Batham's brewery.
5. Reports on Recent Events
 - a. Metro Pub Crawl this was felt to have been a success and was an activity that a number of those present would be repeating by themselves. GC was thanked for his efforts.
 - b. Hop Walk at Newnham Bridge, Worcs this was also a success and RE was thanked for his efforts. There is a demand for this to be repeated next year, albeit slightly later in the season such that Goldings in place of Fuggles might be available.
6. Forthcoming Events
 - a. Tasting training at Burton Beer Festival RE will be working at the Burton Beer Festival and there is the possibility he may be able to arrange a tasting session.
 - b. Trip to a maltings
 - c. The next meeting would be on November 8th probably in Derby, venue TBA RE to arrange. Hopefully Gillian Grafton

would be in attendance.

d. The January meeting at a venue to be decided.

7. Midlands CBA web site
 Members were reminded that the Midlands CBA has a web site at http://uk.geocities.com/cba_midlands

Volunteers were requested to provide information this and should pass any content to Gary Clay.

8. Beer Swap

Feedback form from the previous beer swap were passed to appropriate people and new samples and forms provided.

9. Members Recent Brewing Experiences

RE reported that he had a use for clean photocopier toner bags (silver foil type). These provide sound storage for e.g. hops and can be resealed via the use of an iron after all air as been excluded. They can also be stored in a freezer and the combination of these would mean that hops could be stored indefinitely.

He also mentioned the effect that the aroma of hops can have and it was noted that following the recent hop walk, that this had led to his mother having many peaceful nights asleep. The long term storage of beer can be problematic. Traditional 1 pt bottles mean that preparing them can take along time and also they are heavy and potentially explosive. SF reported that he was now using PET type bottles to good effect and these seemed to overcome all the problems associated with glass bottles. He provided samples of beer from these which were consumed by those present.

11. Members Competition
 The possibility of a competition had previously been mentioned and to get this underway it was decided that members should be invited to produce a beer according to a particular recipe. RE / DE to work on this.

12. Next meeting
 November 8th probably in Derby

Northern Craft Brewers' Autumn 2003

by *Bill Lowe*

The autumn meeting of the Northern Craft Brewers took place on Saturday 25th October 2003. We met at "The Head of Steam" pub next door to Huddersfield railway station. The pub is a busy CAMRA listed real ale pub with Black Sheep and Holts bitter listed with guests but each time we went to the bar one or more had run out.

The meeting started with Alan Pepper in the chair. Steve Taylor, our Chairman attended but has been busy running his new brewery, The Copper Dragon in Skipton. Alan opened the meeting by welcoming three members from The Midlands Craft Brewers, Steve and James Farley and Ralf Edge.

Competitions: The January competition is Barley Wine in half pint bottles (or nearest metric equivalent) – bring two bottles. July: American style Steam Beer, Derek Spedding had an article published in Vol. 2 Issue 6 of Brewer's Contact (March 2003.) It was suggested that we have a "set recipe" competition and after some discussion it was agreed to be around OG 1038/40, 95% malt with 5% crystal and hop of one's choice. David Craven said he would bring enough Safale yeast to remove one variable. But, that still left the variants of malt and water! Steve announced that the winner of the January competition would be invited to brew a five-barrel batch at Eastwood & Sanders brewery and similarly the winner of July's at The Copper Dragon brewery. Sounds like hard work to me! Hope I come second.

The next meeting on January 24th would probably be at "The Leggers" pub in Dewsbury. Members will be informed with directions. Derek Pilkington has agreed to give a talk entitled "Rule of Thumb"

The committee has been in touch with the "Macbrewers" and we should be arranging to meet up sometime in June 2004, probably at

Belhaven Brewery, Dunbar (east of Edinburgh).

Derek asked for members to join the committee but the silence that followed was only broken by the sound of dishes being washed in the adjoining room!

It was reported that the Midlands group had visited a hop farm in Worcestershire and had a good day. Suggestion was that we might join them next year and retire to maybe Kidderminster for a few beers.

Last weekend was the North Western Federation show at Morecambe and a few members had won awards. All round congratulations went to David Craven, Joe Hughes, David Aris and Bill Lowe, also to Trevor Taylor and David Craven who won awards in wines.

Talk by Brewlabs

We all settled down with a couple of pints in front of us to listen to a very interesting and informative talk by Dr Keith Thomas from Brewlab Ltd. Co. Durham.

He started by telling us that there are about 2,500 different yeasts recorded but mostly with unknown characteristics. They are definitely not all for beer brewing. We need ten million cells to start a five gallon batch perfectly and the average 5 or 7 gram packs only give us about a tenth of this number. Dry yeasts deteriorate with age and we may find only 60% live cells. It is very important to re-activate dry yeasts with warm (35deg.C) water for twenty minutes to re-hydrate them and ideally to propagate the cells with a yeast starter using malt extract at an gravity of 1040 for two days. Beware of temperature shock. Keep yeasts refrigerated but allow them to achieve room temperature before starting. The temperature difference should be no more than 7deg.C. Keep your fermenting brews above 15deg.C but a constant temperature is more important but not too warm and remember that the wort generates its own heat. Yeast needs oxygen to propagate itself so

the cooled boiled water for a starter should be agitated before adding the dry yeast.

Liquid yeasts come in solutions or slopes and need to be refrigerated and will last about 2/3 months but must be allowed to grow and multiply for at least three to four days. There is a greater choice to match yeasts to beer styles.

For bottling beer we need about 100,000 cells per mil. We need to bottle clear beer, probably racked at least twice and just be able to read newspaper print through the bottled beer. Too many cells will lead to yeast bite, a harsh bitter flavour. Beers can be bottled "bright" but will require new active yeast to be added (krausening). Some brewers use a special bottling yeast that is known for its good settling properties as compared to the yeast used in the brew which may give a good flavour but can flocculate in the bottle.

Keith was asked about a dry beer enzyme sold by Brewpaks. He had no personal experience of this product but said it probably broke down some of the higher maltose factions in the beer that are not normally digested by the yeasts. He was also asked about acid yeast washing. He said some commercial breweries do this but it is not recommended for the amateur as the yeast becomes accustomed to an acid environment.

The talk lasted about one and half hours and this is only a fraction of the facts he gave us. Finally he informed us about all the different courses that Brewlabs are involved with and that they will sell individual yeasts to us.

Derek took a list of names that would be interested in these courses. One that took my fancy was a new one on different flavours, aromas and faults in beers.

I believe his final message was "Cleanliness is next to Godliness" For course program visit www.brewlab.co.uk or e-mail: info@brewlab.co.uk

Bill bows out. *By the Editor*

Bill Cooper, our long serving and long suffering membership secretary has hung up his database, or rather given it over to Janette Edge of the Midlands' CBA.

I have been lucky enough to be hosted in Bill's house on the outskirts of Edinburgh on at least two occasions. The setting is beautiful with a huge garden rolling down toward the Fyfe hills. Of course the beers were magnificent and the effort that he and Pam went to, in order to get me to the right place at the right time, sober and able to deliver a talk, was a testimony to his dedication to our cause. No one could have given more to making CBA a going and flourishing concern.

Bill has promised to continue putting his Civil Servant's nose for accuracy at my disposal and he will carry on being BC's chief proof reader. Bill really does spot the mistake that others miss. You'll soon notice if he hangs up his proof reader's specs too.

It would be fitting to put a picture in here of one of our founder members, but in the one he sent he is well camouflaged.

So Bill—from all of us—*un grand merci*.

Our new Membership Secretary is Mrs Janette Edge, 49 Belper Road, Derby, DE1 3EP

E-mail: janette.edge@ntlworld.com Tel: 01332 347601— *our thanks to Janette too.*



We think that Bill is up there somewhere, showing the way forward.

MALT ARTICLES

After much nagging, James produced his 'Malt Special'. The only problem is that it is 28 pages long! An Editorial decision was made to spread this over several editions of BC.

Future Editions will include:

- 'Coloured Malts' by Brian Davies, Production Director, French & Jupps
- 'Malt Barley, Past, Present & Future' by Dr. Chris Ridout
- 'Home Roasting Malt' by Dr. John Harrison, with an update from James McC
- 'Malt Analysis' by James McC
- 'Home Testing' by James McC
- 'Available Malts' by Clive Donald
- 'Chevalier To Maris Otter' By Christopher Dempsey

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