



# The Midland Craft Brewers Association

Brewing crafted ales.....at home



## MCBA Meeting at The Swan & Rushes, 2<sup>nd</sup> July 2011

### Questionnaire on Mashing, Sparging and Boiling

In total 24 replies were received which gave an excellent cross-section of MCBA brewing techniques. However, please note that not all answers add up to 24 because of an occasional misunderstanding of the question.

<b>Mashing</b>	
1. What is your brew length?	17/24(71%) use a brew length of 23 litres whereas 5/24 (17%) go for between 32 and 50 litres. One respondent occasionally brews up to 100 litres
2. Describe the main features of your mash tun. Please detail the material it is made out of, the shape and whether it is homemade or purchased and if the latter the make.	13/24 (54%) use a purchased plastic cool box. 3/24 (12.5%) use 2 plastic buckets one inside another. 3/24 (12.5%) use a thermobox. 2/24 (8%) use a stainless keg or mash tun
3. How do you contain your grain so that only 'clear' wort is extracted from your mash tun? Eg grain bag, plate system etc.	13/24 (54%) use a slotted copper pipe. 3/24 (12.5%) use 2 buckets one inside another. 4/24 (17%) use a stainless false bottom. 2/24 (8.5%) use a grain bag and 2/24 (8.5%) use a drilled plate-one stainless and the other melamine
4. What system do you use for mixing the grain and water in your mash tun? Ie. Water then grain or batches of water and grain. If the latter please explain your method.	16/24 (67%) add water first then the grain.4/24 (17%) add the water and grain in batches and 1 adds the grain first followed by the water
5. What strike heat do you use? Please specify if it varies according to the type of brew.	13/24 (54%) aim for a strike heat of 72-75c whereas there was a wide variation in the remainder of the replies ranging from70c up to 80c.
6. What initial heat do you use? Please specify according to the type of brew	19/24 (79%) aim for 64-68c.Some were unfamiliar with the term initial heat.

7. How long do you mash for?	17/24 (71%) mash for 90 mins whereas 2/24 (8.5%) mash for 75 mins, 75-90 mins and 90-120mins respectively
8. What heat losses do you get?	17/24 (71%) lose less than 2c with 3/24 (12.5%) getting losses of 3-5 c.
Supplementary: what is the ratio of water to grain when you mash in, preferably measured as L: Kgs.  That is if you use 18L of water for 6kgs of grain then it will be 3:1. If you don't measure then please state something like thick porridge, lots of water to the grain, etc.	Only 50% actually measure the ratio but of those who do 9/12 (75%) use a ratio of 2.5:1 and 3/12 (25%) use a ratio of 3:1. One respondent fills his mash tun to capacity so the ratio changes with the amount of grain used. Most of the rest rely on experience and aim for a thick porridge.
<b>Sparging</b>	
1. What equipment do you use for sparging?	12/24 (50%) use Phil's sparger. 6/24 (25%) use a jug. 2/24 (8.5%) batch sparge and the rest use a range of homemade devices.
2. What temperature do you sparge at?	18/24 (75%) aim for 75-80c. one respondent as low as 70-75c and 4/24 (17%) go as high as 81-85c.
3. How long does your sparging take?	This differs widely with 2/24 (8.5%) taking 15 mins 4/24 (17%) 30 mins 8/24 (33%) 45 mins 4/24 (17%) 60mins and 1/24 90 mins
4. How do you decide when to stop sparging? For instance is this at a specified gravity or when a specified wort volume has been collected. If the latter how much in relation to the brew length	14/24 (58%) stop sparging when they have collected sufficient volume whereas 6/24 (25%) sparge down to a fixed gravity.
5. At the end of sparging, what is the temperature just below the top of your mash? Please note this is not normally measured but as mentioned at the Birmingham Meeting to be used to discuss the effect of sparging temperature on the temperature of the mash.	Most do not measure this but of the few that do the temperature never gets too high ( above 75c) even if they sparge at relatively high temperatures ( 81-85c) so there seems little danger of extracting tannins etc
6. At the end of sparging, what is the temperature at the exit from your mash tun? Note same comment as in 5 above	Again most do not measure but the few that do record quite low temperatures (circa 65c)
<b>Boiling</b>	
1. What equipment do you use for boiling your wort? For instance is it gas or electric, homemade or purchased and if the latter what is the make?	20/24 (83%) use electric power and in the majority of cases in a plastic bucket. 2/24 (8.5%) use natural gas and 1/24 propane.

2. How long is the boil and do you boil gently or a good rolling boil?	16/24 (67%) boil for 90minutes as a matter of course.1 boils according to og.60minutes if less than1036og, 75 minutes if between1036-1055 and 90 minutes if over 1056 og. Others go for a range of times usually between 60 and 90 minutes Most go for a good rolling boil where their equipment allows them to do so.
3. Do you practise First Wort Hopping? (ie hops in before the wort). Or if not, when do you add your bittering hops?	12/24 (50%) practice this method with the rest split between start of boil and 15 mins into the boil..
4. How do you 'filter' your wort to ensure your hops and trub stay within the mash tun?	A wide variation here with slits in copper tubing, mesh strainers and false bottoms.
5. When do you add your aroma hops?	A wide variation again with-15 minutes , -5 to-10 minutes and at turn off or sometimes a combination.
6. Do you use a Hopback (ie transfer the boiled wort into a separate vessel)?	19/20 (95%) do not use a hopback
7. Do you just accept that a certain amount of wort will be retained within the hops or do you take any measures to reduce this? ie. Hop sparge or squeeze the hops to extract the wort.	15/24 (63%) just accept the losses with 3/24 (12.5%) doing a hop sparge. Several respondents were concerned about introducing an infection if the hops were squeezed.
8. How much wort do you usually lose from the wort collected from the sparging at the end of the boil?	A variety of answers with a wide variation in interpreting the question.
9. How do you cool your wort to fermentation temperature?	17/24 (71%) use an immersion chiller with 3/24 (12.5%) a therminator. 3/24(12.5%) allow the wort to cool naturally.
10.Down to what temperature do you cool your wort before pitching your yeast?	A wide variation here with several pitching at up to 30c
<b>General</b>	
1) What mash efficiency do you normally achieve?  2) Do you use any copper in your mash tun or boiler and if so do you have any concerns about the safety implications.	9/24 ( 38%) do not measure this. A wide variation in those who do measure of between 70%-85%  Most of the respondents have no concerns about using copper in their brewing equipment.