



Meeting Date: 14 May 2016

Location:

The Pretty Bricks, John St, Walsall



Present

Members: Nick W(Chair), Alan Q, John C, Jim S, Ray C, James F, Sean O'T(Minutes), Des M, Tom Y, Colin F, Andy R, Jon A, Ian R-B, Steve H, Jon D, Matt S, Allan G.

Apologies: Peter F, Malc N.

Guest: David Bawden (Grainfather UK)

Beer tastings

Four groups tasted 8 samples and then fed back to the brewer. Beers submitted were:

Nick W – Dark Mild 3.6%

Ian R-B – Dark Mild 3.5%

Colin F – Dark Mild 3.4%

Tom Y – APA 5.2%

David Bawden – Wheat Beer 2.2%

Colin F – Irish Red 4.4%

Sean O'T - IPA 6.4% & Earl Grey IPA 6.4%

Please contact the individual brewer for recipes.

Simple Basic water Treatment

Nick presented a short “How to” and demo on the use of the Salifert Carbonate Hardness / Alkalinity Test kit. This kit is available for around £6.00 and can perform 100+ tests.

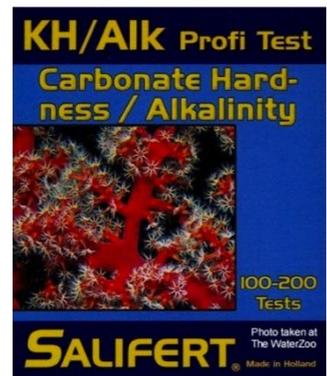
Most members present confirmed they already treat their water.

Some members brought a sample of their water to give an alkalinity figure in meq/l (can be converted to ppm by x50).

Nick also showed how to use his simple online CRS(AMS) calculator dependent on the style being brewed.

Appendix A to these notes has instructions on how to calculate the amount of CRS.

Also attached in appendix B is a short report of a more sophisticated (expensive) test kit which Sean uses to check all characteristics of his water.



Grainfather demonstration

David Bawden gave a presentation of the Grainfather all in one brewing system (www.grainfather.co.uk) which features:

- 304 grade stainless steel superior body, with 30L capacity.
- Expandable grain basket to suit grain bills up to 9kg.
- A robust magnetic drive pump (6 watt, 1800 RPM) and wort recirculation pipe with insulated handle, ensuring consistent temperatures throughout the mash and maximising efficiencies.
- Pump filter to keep hops and stray grain in the boiler, and wort clear and bright.
- Counter Flow Wort Chiller with copper inner coil, cooling your wort to <20°C within 20mins.
- Toughened plastic control box and display screen, giving you total temperature and pump control. Dial in the exact temperature for your mash, allowing both step mashing and single temperature mashing with very fast ramp up between steps.
- Dual heating element (2000 watt and 500 watt elements) allowing you to switch between heating quickly to a vigorous boil and maintaining a stable temperature.
- Tempered glass lid for maximum durability, heating efficiencies and visibility.



Trial Yeasts

David Bawden brought several packs of Mangrove Jacks yeasts. These were distributed to members free of charge on the understanding that feedback is passed back via Allan.

Members equipment

John C showed a simple dipstick calibrated to his own mash tun used to save juggling hot water. Allan also showed a similar metal dipstick as well as a top mounted homemade thermowell made from copper tubing and a grommet. Allan also showed his jeweler's scales accurate to 0.01g instead of using teaspoons as a measure.

Any members who wish to bring any equipment they would like to show are welcome to bring to future meetings.

Treasurers Report

Allan reported that following the recent subsidised purchase of clothing, equipment & hops, the MCB accounts current balance was approximately £650.

Annual Election of Officers.

MCB do not have a committee but have a coordinator, treasurer and web master for administration purposes, these positions currently being held by Allan, Peter & Malc. All 3 members are happy to continue in these posts for a further 12 months.

If any other members are willing to stand for election, please contact Ray.

AOB

Venue: It was noted that the Pretty Brick's was a good meeting venue and the buffet was excellent. Members would be happy to use it again for a future meeting.

Charnwood Brewery Trip: The original visit was postponed due to the unavailability of the brewer. The alternative June date was not suitable to most members. It was confirmed that there was enough interest in the trip subject to dates. A date of around the end of September/ early October was suggested.

Future Meetings:

The next meeting will be held on 9th July in Rugby.

September – Derby (provisional)

October – Joint MCB/NCB Meeting in Sheffield.

July Meeting – Tribute Clone Competition:

Hops were distributed to members, details being:

Fuggles 3.23% AA

Goldings 5.3% AA

Willamette (pellets) – 5.5% AA

Further recipe details have already been emailed to members.

MCB/NCB Annual Competition:

Allan suggested a Black IPA brewed with English hops with OG 1050-1055. This suggestion will be put to the NCB.

Meeting closed 16:30

Simple Water Treatment

Instructions

- 1.) Measure your alkalinity with a salifert alkalinity test kit. The instructions come in the kit, but if you're still unsure there is a useyoutube video here:
<https://www.youtube.com/watch?v=6EwrrUnq5gc>
- 2.) Work out how much CRS to use via this simple calculator I've made:
<http://tinyurl.com/crs-calculator>.

OR

Use the table below which shows how much CRS to add per litre. When you get your reading (meq/l), multiply it by 50 to get your CaCO₃ figure. Then work out how much CaCO₃ you need to reduce to hit your intended style. Match it up to the table and multiply that by how many litres you're using.

CRS	0.35	0.52	0.70	0.87	1.05	1.22	1.40	1.57	1.75
Alkalinity	-64	-96	-128	-160	-192	-224	-256	-288	-320

- 3.) If using the calculator, it will recommend whether or not you need to add some calcium to your beer. If you do, it will appear in a red box.
- 4.) Add your CRS, followed by a crushed campden tablet, mix well and your're done.

CaCO₃ levels for common styles...

Lager – reduce alkalinity to **20ppm**

Pale Ale (no or relatively small additions of crystal malt) - reduce alkalinity to **30ppm**

Bitter (small to medium additions of crystal malt) - reduce alkalinity to **60ppm**

Mild & porter (more crystal and roast) - reduce alkalinity to **100ppm**

Stout (high percentage of roast) - reduce alkalinity to **125ppm**

Appendix B

LaMotte Water test Kits.

2 kits aimed at homebrewers available from www.lamotte-europe.com tel: +44 (0) 1926 498203

- BrewLab Basic (Part 7189-01) - <http://www.lamotte.com/en/food-beverage/brewlab/7189-01.html>
- BrewLab Plus (Part 7188-01) - <http://www.lamotte.com/en/food-beverage/brewlab/7188-01.html>

Both Kits are the same except that Plus kit comes with a pH metre.

Each kit tests for:

Total Hardness (CaCO ₃)	Calcium	Magnesium (ppm)	Chloride
Sulphate	Alkalinity	Residual Alkalinity	All results as ppm

Each kit can do around 50+ tests.

Cost

BrewLab Basic (Part 7189-01) – w/o pH Meter - £168 including delivery and VAT

BrewLab Plus (Part 7188-01) - £252.00 including delivery and VAT

Test types

All tests are done by coloured indicator titration tests except the sulphate test, which is a turbidity test.

An example of the titration type tests is shown below. The example shown is Total Alkalinity.

Initially add 25ml of water and add the indicator, which turns the water blue/green.

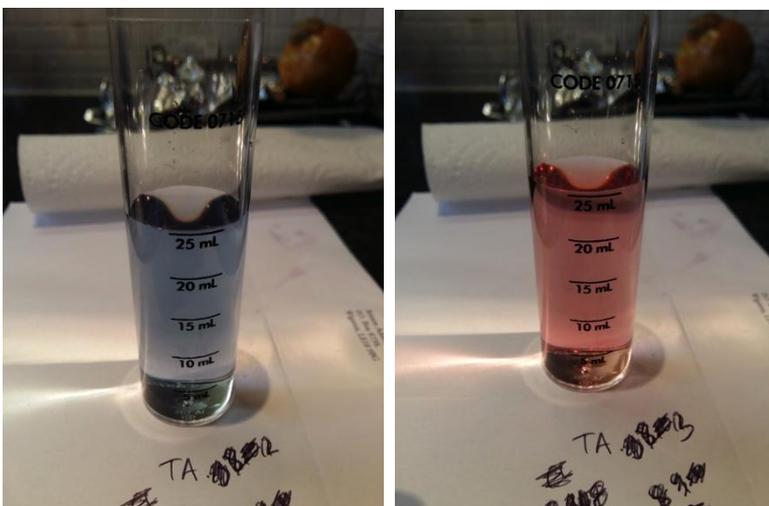


Top Left:

Shows the test tube with water sample after the initial indicator has been added. 3 drops of the reagent have been added and the sample is still blue/green.

Top Right:

8 drops have been added and the sample is still blue green.



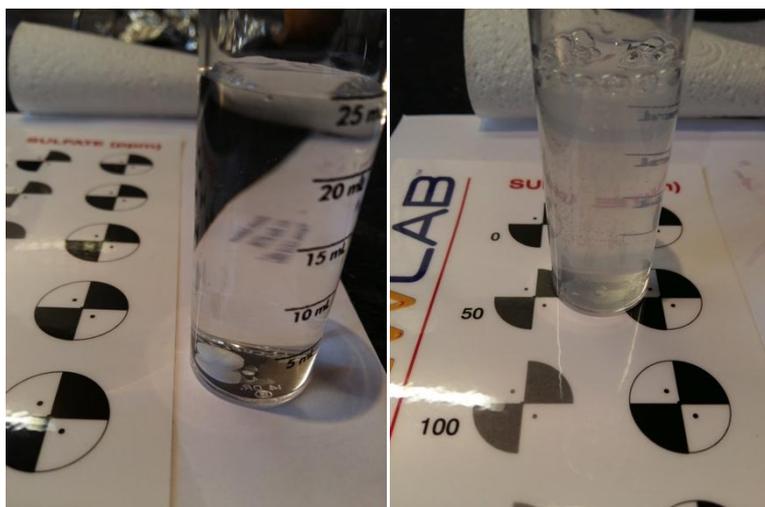
Bottom Left:

12 drops of reagent have been added. There are hints of areas turning red but after 30 seconds they turn back to a blue colour. The general colour is now more blue than green.

Bottom Right:

13 drops of reagent have been added. The colour has permanently turned red. Therefore the TA of this sample is 130 ppm CaCO₃.

As a comparison, my most recent Murphys analysis measured 109.



The pictures to the left show the Sulphate turbidity test.

Top Left:
Shows clean tap water sample and turbidity chart.

Top Right:
Water has had a turbidity tablet dissolved in the test tube.



Bottom Left & Right:
Place test tube over each of the targets in the right column. Look down through the turbid water and compare to the target on the left column. The closest match is the sulphate reading.
Note: Photos do not accurately show results.

In this case I estimated somewhere in the upper end of 0-50 (so went for 30). As a comparison, my most recent Murphys analysis measured 45.

Accuracy

I have compared several results of this test kit with two Murphys analyses I have had done. The kit closely matches the results from Murphys.

Date	11/5/15	28/9/15	7/11/15	6/2/16	1/4/16	29/4/16
Test type (Own (O), Murphy's (M))	M	O	O	O	O	M
pH	6.80	-	-	-	-	6.97
Nitrate	21.1	-	-	-	-	31.8
Total Hardness (as CaCO ₃)	215.0	190	170	170	170	175.0
Calcium	69.29	56	52	52	52	57.87
Magnesium	16.00	12	9.6	9.6	9.6	8.22
Chloride	49.9	80	70	65	80	47.57
Sulphate	57.42	40	40	40	30	45.59
Alkalinity (as CaCO ₃)	113	110	120	120	130	109.00

Pros & Cons -

Initially it's not cheap, but considering it should last me >5 years, £2-3 per test is not that expensive considering all the categories it measures.

Instructions refer to colours changing from blue (seems more purple), or green (seems more blue/turquoise). Accurate and covers everything a brewer might want to know about their water.

Would I buy again?

Probably not. I have learnt a lot about my water, but when this kit is finished, I would probably go with the Salifert Kit and maybe get a Murphy's test done from time to time.