



PRACTICAL LAB SKILLS FOR BREWERS

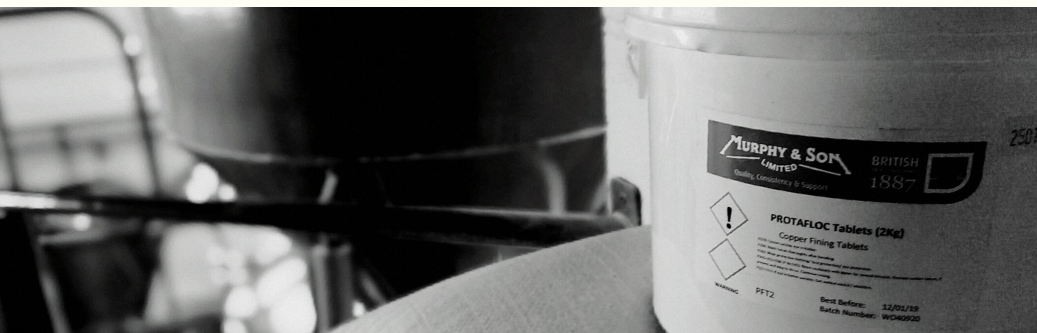
27TH FEBRUARY 2020

THE AGENDA

- 09:30 Registration and Coffee
 - 09:45 Welcome, Introduction and expectations
 - 10:05 Overview of basic laboratory methods
 - Practical – Chemistry lab –
 - Coffee as appropriate
 - 12:30 Lunch
 - 13:30 Practical – Microbiology lab –
 - Coffee as appropriate
 - 15:00 Troubleshooting in the Brewhouse
 - 15:30 Q & A and Wrap Up
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THE VENUE

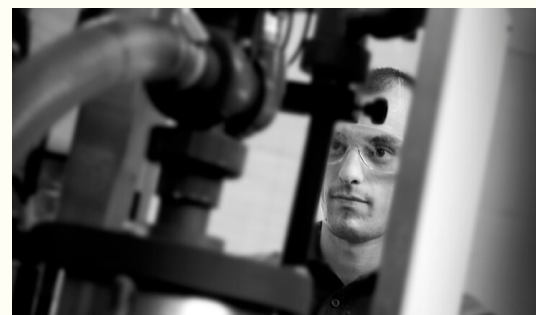
Murphy & Son Ltd, Alpine Street, Old Basford, Nottingham
NG6 OHQ



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CHEMISTRY LAB PRACTICAL

1. Basic Malt and Hop analysis
2. How to set up a pH meter, calibrations and care for the equipment.
3. Colour analysis, sample preparation, any watch outs
4. Bitterness – run through the analysis
5. OG/PG/ABV on Anton Paar
6. OG/PG/ABV distillation
7. Haze
8. ICP – heavy metals
9. Beermaster
10. Gluten



MICROBIOLOGY PRACTICAL

1.How to set up a Microscope

2.Identifying Brewery yeast

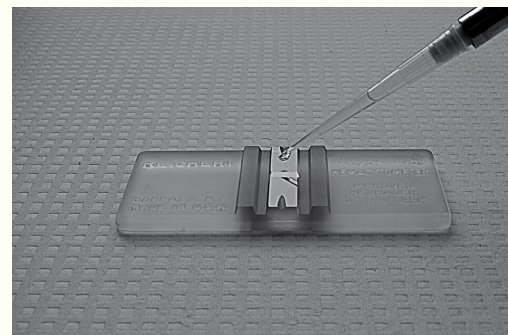
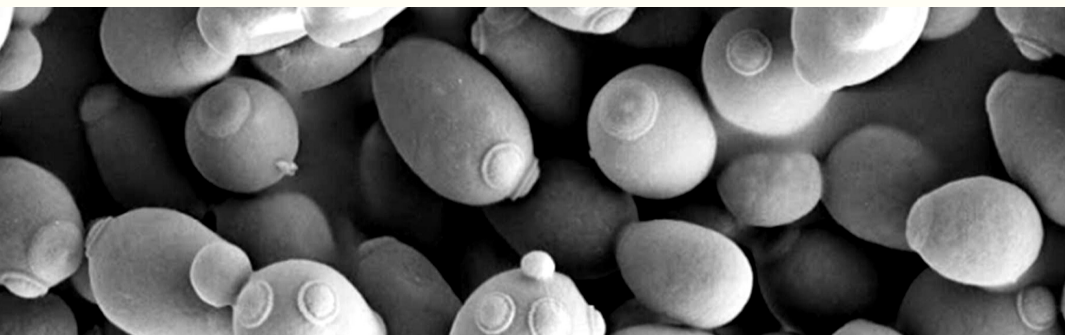
3.Identifying wild yeast

4.Identifying Bacteria Identifying unknown samples

5.Cell counts

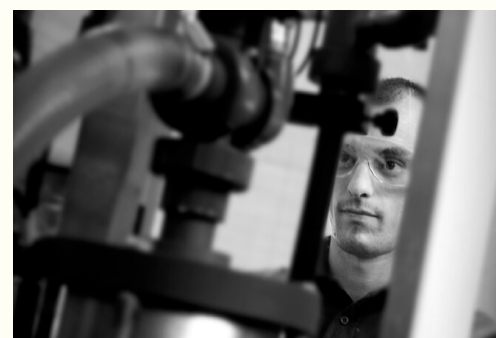
6.Plating out

7.Membrane Filtration



TROUBLESHOOTING IN THE BREWHOUSE

1. Iodine Starch Tests
2. Attenuation limit test
3. Diacetyl test
4. Alkalinity testing with the kit
5. pH monitoring through the process plus
6. A quick demo of how to diagnose haze in the brewery
7. Filter trials using enzymes
8. Off flavours exercise





RECOMMENDED HOTELS

Nottingham West Premier Inn

The Phoenix Centre, Millennium Way
West, Nottingham NG8 6AS

Call 0871 527 856 or book online

Double Tree by Hilton Hotel

Nuthall Road, Nottingham, NG8 6AZ.

Call 0115 979 49 49 or book online

TRAINS AND TRAMS

BASFORD STOP

The trams run from Nottingham train station almost every 10 minutes. Murphy's closest tram stop is the Basford stop (destination stop Hucknall or Phoenix park). You must pay for your ticket before you board.

For the recommended hotels the tram stop is Phoenix Park (destination stop Phoenix park).



DIRECTIONS FROM M1 SOUTH & NORTH

Leave M1 at Junction 26 taking A610 to Nottingham. Continue on the A610 through two roundabouts (traffic light controlled), after which the road ceases to have a central reservation (Nuthall Road). Turn left at the first set of traffic lights after this point, into Stockhill Lane.

Follow the road for about half a mile past a fire station and straight on at a mini roundabout.

After a further 400 yards before passing our site turn left into Cowley Street (where you can park), we're the first right. Press the buzzer for access.



Things you need to know

- The course length is dependent on the number of questions asked throughout the day. We thoroughly encourage participation and networking throughout the event, so please feel free to ask questions, bring your business cards and your brews to share at lunch with the other delegates.
- Attendees are encouraged to bring their own samples of beer and yeast in for analysis under the microscope. There is also the possibility of your beer being used in chemistry too – if time allows
- Limited parking is available at the front reception on Cowley Street and is available on first come first served basis. We recommend arriving at 9.00am if you would like to use the car park to avoid disappointment.
- If you would like to drop off any samples for the laboratory, please print and fill out a cover letter and hand in at reception.
- After the course, you will receive a digital certificate of participation, a goodie bag and all files sent via we transfer link.



Murphy and Son Ltd



@murphyandson



@murphys1887



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Course Leaders

ADAM DIVALL

Laboratory Coordinator



Adam has been a key part of the Murphy's laboratory team for eight years now and coordinates the day to day running of both our chemistry and microbiology laboratories.

This means he oversees a great proportion of the requests for analysis coming in from you, our customers, alongside taking responsibility for our own quality control systems.

Adam's background is in microbiology primarily, having studied this at Leeds University.

However, he's now taking his commitment to brewing to the next level and beginning prep for his Masters in Brewing at the University of Nottingham, where he's keen to learn even more about brewing his favourites; hoppy ales and wheat beers!



Course Leaders

FRANCES MAUD

Technical Sales Representative



Frances Maud graduated from Manchester Metropolitan University in 1997 after studying Applied Biological Sciences, following which, she leapt straight into the education system as a Lab Technician for a secondary school in Cheshire, but ultimately decided that teaching was not for her. Shortly after which she found the brewing industry and hasn't looked back!.

She started in the Quality Control Department as a Laboratory Technician testing factory samples and analysing customer's brewing liquor and beer samples, providing countless brewers with their liquor treatment recommendations, ABV'S, IBU'S, EBC's over the years.

From here she gained the role of Technical Administrator and is now a Technical Sales Representative and is the first point of contact for many brewers coming to Murphy's for technical advice.

Fran has gained 16 years' experience working closely with brewers and helping troubleshoot in the brewhouse. She has many solutions up her sleeve on how to tackle typical brewhouse problems.



Course Leaders

JAY COOPER

Chemistry Laboratory Technician



Jay has been working in the brewing trade for over 11 years, 10 years of which were spent as a brewery laboratory technician for Everards.

He started working at Murphy's in early 2018. During this time, he has gained a Diploma in Brewing through the Institute of Brewing and Distilling along with hands on experience in beer sampling techniques, chemical and microbiological analysis of beer as well as some experience in trade.

As Murphy's Chemistry Laboratory Technician, his role involves analysis of beer for everything from alcohol content and gravity to ionic content and heavy metals analysis along with the analysis of products produced on site.

When not in our Lab, Jay spends a lot of time doing martial arts training and Chinese lion dancing!



Course Leaders

VICTORIA FRY

Microbiologist



Victoria has been actively involved in the Microbiology and wider laboratory of Murphy and Son Ltd since April of 2019.

Since then, she has revelled in the chance to develop her brewing knowledge.

Victoria puts her MSc in Clinical and Molecular Microbiology from the University of Nottingham to good use by testing and analysing both customer and Quality Control samples via a range of tests including direct plating, membrane filtration and microscopy to name but a few.

She is also currently involved in the running of supplying yeasts to our customers through our partnership with the National Collection of Yeast Cultures (NCYC).



**NEXT TRAINING DAY
26TH MARCH**

**GEARING UP FOR
HACCP & SALSA**

MURPHY AND SON LTD

ALPINE STREET NOTTS, NG6 0HQ

26TH MARCH FROM 9.30AM -4.30PM

CONTACT EVENTS@MURPHYANDSON.CO.UK