

# THE AMATEUR WINEMAKERS AND BREWERS CLUB OF ADELAIDE INC



PATRON: MR GEOFF PATRITTI

## March 2015 Newsletter

Meetings held on the first Tuesday of each month from 7.45 for 8.15 pm start, at the Clarence Park Community Centre, corner of East Ave & Canterbury Terrace, Black Forest. Check our website [www.adelaideferment.org.au](http://www.adelaideferment.org.au)

**Supper February:** ..Club to provide

**Speaker Presentation:**

**Wine & beer competition March 3<sup>RD</sup>:**

KÖLSCH + OPEN SECTION

No Wine Competition

**December 2014 Competition Results:**

Cider: Judged by Adelaide Ausie Cider

1<sup>ST</sup> Peter Avery 17 pts  
2<sup>ND</sup> Tony Iaccarino & Michael Lineage 15.5 pts

Beer

1<sup>ST</sup> Two entries but no placings

**Next club competition April 7<sup>TH</sup>**

No Beer Competition

Fruit, Vegetable, Herbal, Flower, Cereal & Leaf Wines

**Committee**

Members to please consider positions for next years committee.

Vice president, treasurer, newsletter, beer convener, social secretary

**Syndicates**

Michael Lineage syndicate picking Shiraz or Cabernet at Padthaway

One Group picking Cabernet in Clare valley and back to Michael Lineage to crush and enjoy barbeque on 13th and 14th March

**Available Riesling**

Information re possible 'free' or available Riesling, via a friend heard of a wine 'property' for sale (in fact he is not picking his grapes this year so may be receptive to someone 'taking them off his hands', and his name is Stephen John Wines at Watervale .... Has Riesling grapes. Lot 381 Solley's Hill Road Waterville. Adelaide Club members, and amat.. winemakers to possibly get some Riesling grapes. Not sure if it is a family bereavement type problem but he is not picking his grapes this year or making his wine he usually makes.. and his property is on market... realestate.com. Leave it up to individuals or club to organise as I am away from next week in New Zealand. from Sandy Matz.

**Face Book Page:** Please forward ideas to Nathan Otto for any additional thoughts.

**CLUB SHOP:** John Samuel can be contacted to arrange for items from shop.

John Rabone has 4 dozen clean wine bottles (cork) available. Will deliver. John has been asked to assist in the sale of some wine equipment. Quality equipment owned by a man who did work at SA Brewing Co before retirement. Destemmer, Crusher, Basket Press, Stainless Steel Fermenting Vessel, Stainless Kegs and lots more gear. Initial enquiries to John Rabone 83561009

**Newsletter deadline:** Deadline for submissions to next issue 25th March 2015

## Vintessential Wine Testing Laboratories

### Ebulliometry for measuring alcohol in wine: improve your accuracy

Ebullimeters have been used for measuring the alcoholic content of wine since the late-1800s. The traditional manual model is still in production and newer electronic versions are now also available. Ebulliometers are still commonly used in wineries, particularly small wineries, because ebulliometers:

- are relatively inexpensive
- are easy to use
- are quick to get a result
- do not require any power as they use a spirit burner
- require no consumables except distilled water
- look cool and are fun to use!

More detailed discussion on how to use ebulliometers and other ways of measuring alcohol have been published in this journal previously (1,2). The focus of this article is on the main drawback of using an ebulliometer and that is the accuracy. And this, of course, can be quite a disadvantage for such an important parameter.

Measuring alcohol (ethanol) in wine by Ebulliometry is not an officially recognised technique by either the International Organisation of Vine and Wine (OIV) or AOAC International. These international bodies are sources of official test methods and although they have other techniques for determining alcohol in wine, ebulliometry is not one of them. We can only assume this is because of the accuracy of the ebulliometric technique.

An ebulliometer is a simple device for measuring the boiling point of a liquid. The derivation of the word ebulliometry is from Latin ebullire "to bubble up". For pure liquids the accuracy is very good, however for non-pure liquids the determination is more complicated. This is because of the well-known colligative property of boiling point elevation in the presence of dissolved substances (solutes). Changes to the atmospheric pressure also affect the results and this must be taken into account as well.

For a mixture of pure water and pure ethanol the proportion of alcohol can be found with good accuracy. However if dissolved substances such as organic acids and sugars are present (as in all wines) then a correction must be applied. For very dry wines the results can be good,

however in the presence of high levels of sugars the boiling point of the solution is elevated and has to be corrected, and this can lead to unacceptable errors.

There are some ways that the accuracy of results from ebulliometers can be improved: before measuring the boiling point of your wine, you first need to 'calibrate' the ebulliometer by measuring the boiling point of a liquid of known alcohol concentration. Historically, distilled water has been used to calibrate the ebulliometer for the obvious benefit of it having a known alcohol concentration of 0%v/v.

This however can lead to inaccuracies in your sample results as you are calibrating with a solution that has a far lower alcohol concentration than your samples and also has a matrix very different to your wines. Trials have shown that when calibrating with distilled water, the higher the alcohol content of your wines, the greater is the error in the results. For higher alcohol wines, precision can be improved by diluting the wine with distilled water, by say 1:1. This has a two pronged effect. First, it reduces the error associated with the presence of solutes in the sample as the impact is halved. Secondly, by lowering the alcohol you are measuring at a level that is closer to the calibration point of 0%v/v. So rather than calibrating the ebulliometer with distilled water, a better approach is to calibrate it with a stable wine sample of known alcohol concentration, otherwise known as a "standard wine". This is best obtained from a NATA accredited laboratory. This standard wine will be much better matrix-matched to your samples and have an alcohol concentration closer to your samples, thus improving accuracy. Another technique for measuring alcohol in wine that is suitable for small to medium wineries is distillation.

The best technique (but most likely out of the range of most small to medium wineries due to the A\$20k price tag) is a Near Infra-Red (NIR) spectrometer. This is the method we use in our laboratories.

Ebulliometry is a technique that has been used for over 100 years for measuring the alcohol content of wine. There are some simple ways to improve the accuracy of this technique. There are also other more accurate ways to determine alcohol. It is strongly recommended that whatever technique you use, you get the label alcohol content determined by an accredited laboratory.

### Elected Officers: Members required & welcome:

Michael Partington is President this year. We are seeking members to fill roles of social secretary. If you are interested in having more input into the running of our club have you considered becoming Social secretary or other officer? For more information have a chat to the club President, Michael Partington, or one of the existing committee members. We would be very pleased to receive your input. We welcome new members at all times. Think about your friends, relatives or people you meet who may like beer, wine and food. This should include most people you meet.

### ELECTED OFFICERS for 2014/2015 committee year

<u>President:</u>	Michael Partington
<u>Vice Presidents:</u>	John Rabone + John Samuel
<u>Secretary:</u>	Peter Avery.
<u>Treasurer:</u>	Jane Boroky.
<u>Journal Editor:</u>	Paul Bohlmann.
<u>Beer Convener:</u>	Nathan Otto
<u>Assist Beer Convener:</u>	Domenic Faccioroso.
<u>Social Secretary:</u>	Vacant. (John Rabone )
<u>Wine Convener:</u>	Michael Lineage.
<u>Shop Manager</u>	John Samuel
<u>Visitor Host</u>	Robert Varcoe
<u>Web Master:</u>	Russel Taylor.

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