



The US Roasters Guild Sensory Summit – The Future of Coffee Science is Looking Bright!

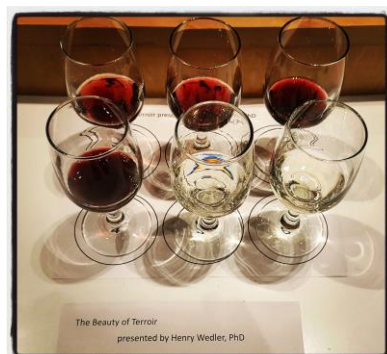
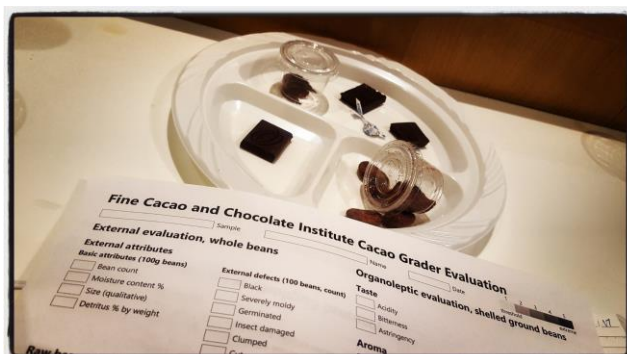
The Sensory Summit is a US Roasters Guild Event focused on the higher-level needs of experienced roasters and coffee tasters. With limited spots available, this year’s Summit (held on Jan 26-29) was a collaborative event with UC Davis, taking place at the Robert Mondavi Institute for Wine and Food Science – and soon to be established Coffee Research Centre as well!

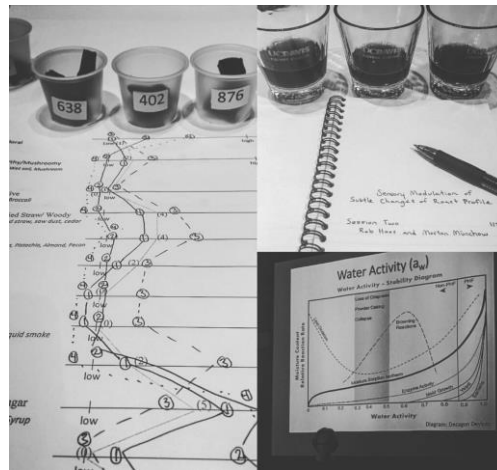


The overall goal with the Sensory Summit program is to expose coffee professionals to a broad spectrum of sensory techniques, experiences and products. And, even though some topics may not be coffee related, the relationship between that product and coffee was explored by the presenting lecturer/professional.



Now, after attending and thoroughly enjoying last year’s very first Sensory Summit, expectations were high for this year’s Summit – and it didn’t fail to disappoint! To quote an industry colleague: *“The Future of Coffee Science is looking Bright!”*





With inspiring sessions on coffee varieties, wine, cacao, malt, water activity, roast profiling and more, I was particularly taken by the session on the industry's current hot topic among coffee farmers, buyers and roasters - *The Microbiology of Fermentation in Coffee and its Potential Flavor Impacts*.

Harnessing the power of microbiology during the part of coffee processing known as 'fermentation', we've heard a lot about new products, like yeasts, designed especially for use in coffee processing.

And since we were at the world's premier university for fermentation science, it was awesome to have Dr. David Mills - who studies the molecular biology and ecology of fermentation - give us an overview of fermentation science, then frame up and set the scene for the role in which yeasts could play in the fermentation of coffee. He discussed some particular research that had been done on what contributes to flavor, whereby removing yeast from the fermentation tank they discovered the final product lacked flavor – so the conclusion could be made that adding yeast is important to flavor.

Enter Lucia Solis, a UC Davis Enologist Alum who has been driving the coffee industry forward in using yeasts in coffee processing. Currently her role is to apply selected strains of yeast to control fermentations at origin, focusing on central and south American washed coffees.

When she first started her research, Lucia quickly discovered, wine is not like coffee, & vice versa, in the way they each use fermentation. Coffee is the only industry that does not use additives in its processing/fermentation as such, unlike wine which has a direct reliance on 'bugs' (ie: a stinky bug = a stinky wine).

So, using her strong background in wine, Lucia then blew our minds with the reasoning & results of some awesome research she had conducted with fermentation techniques inspired by brewers and wine makers alike on the benefits of using yeast in the fermentation process of coffee. The main objective being improved and consistent cup quality.

We then tasted the results from one of her yeast experiments in collaboration with Emilio Lopez Diaz from Cuatro M in El Salvador.

For the experiment, Emilio used a low elevation coffee, which by the time it got to us was only 7 days old - literally straight off the patio - before the Summit!

The first sample we tasted was the Control with 'Wild'/Normal fermentation tank conditions and it tasted as a coffee should - having come straight off the patio, unrested - quite green and not so complex.

The second sample we tasted had yeast (Oro from Scott Labs) added to the fermentation tank for 24hrs, fully submerged & mixed for complete contact and uniformity then covered to eliminate any further bugs or other foreign matter affecting the experiment.

The treated beans, according to Emilio, were more visually appealing, looked a deeper, greener color, not swollen or uneven – and for us, definitely tasted more round, more sweet, more complex fruits - definitely better cup quality!

Lucia openly discussed and admitted there is still much to be resolved in this research in terms of how long to have contact with the yeast for, when is the most flavor captured etc. It still surprises me to hear experienced researchers consistently say there are gaps in understanding in what is going on in the coffee bean and that there is still so much to learn about coffee!

But some solid conclusions could be that Time Matters, a short contact time = small difference. Wild/Normal Yeasts can go in unpredictable directions vs using a 'Designed Yeast' which will give you what you want, consistently, every time.

But overall, for me as a coffee professional, the most exciting thing I recognized in Lucia's research was what this meant for the Producers!

Traditionally, our knowledge of Fermentation in coffee refers to the microbial reaction of yeasts and bacteria breaking down the sugars in mucilage. This process produces acids which will later add complexity and depth to a coffee – until adding yeast came along!

By using the population of yeast in the fermentation tanks producers now have the power to 'Design via Fermentation' and more opportunity to impact flavor!

Producers now have the opportunity to add or remove flavors and create taste profiles by working with micro-organisms that not only will improve cup quality but can also improve 'shelf life' due to more stable conditions (water activity) in the fermentation tank.

This also brought up for me thoughts of producers being able to potentially export green coffee in a more stable condition and sooner without having to rest it – something a lot of roasters face in the Southern Hemisphere waiting (a very long time!) for our coffee to arrive from origin and having it arrive not in optimum condition.

But nothing could be more reflective of this research than by speaking with and feeling the excitement and energy from producers like Emilio who are already discovering the benefits of Lucia's research. Next time you see Emilio Lopez Diaz, just walk up to him and ask him about Yeast – the excitement and sparkle in his eyes will totally make your day!

Coffee is a complex entity and we are, after all, in the Business of Flavour. But, with this awesome research on The Microbiology of Fermentation in Coffee and its Potential Flavor Impacts, the possibilities are now endless!

Power to the Producers!

Anne has over 24yrs experience in the coffee industry, having spent the last 10yrs roasting in both Australia & the USA at all levels from commercial to specialty. Anne is a Certified Q Grader, Member of the Executive Council for Roasters Guild USA, Head Judge & twice winner of The Golden Bean. Now consulting, with her company Equilibrium Master Roasters, roasters can engage Anne as a consultant or attend the monthly roasting course in Melbourne. Email: aabflav@gmail.com Website: www.eqmr.com.au