



HOW ABOUT THEM

And while you're slurping down a sweet thirst-quenching cider over ice, pay close attention to the comparative with beer and brewing offered by UC Davis' *Charlie Bamforth*. While cider's production processes are relatively rudimentary, there's lots of outside the envelope suggestions to chew on here, particularly in regards to fermentation

I have two primary recollections from my visit to a prominent cider maker some 20 years ago. The first was observing tractors hauling trailers piled high with apples trundling into the yard and dumping their bounty into the general receiving bin with seemingly minimal scrutiny. The second was of row upon row of tanks containing cider in storage and being told that their master cider-maker would use the acuity of his senses to blend the invariably varying batches in each vessel to ensure that the desired product would be within aroma and taste specification.

I guess the two are related: undoubted process variation introduced by a moveable feast of fruit demanding that who-knows-what degree of fluctuation in taste and

aroma and perchance colour had to be corrected prior to packaging in the pursuit of cider consistency.

And so I am minded to ask the brutal question: just what can brewing glean from this seemingly primitive business?

I confess to not knowing the extent to which the approaches I witnessed two decades ago remain extant in the cider trade, but I rather suspect they do. Furthermore, I could not blame the cider makers from retaliating to my incredulity with their own observations on some pretty archaic stuff that goes on in brewing in some parts – “natural” acidification a la *Reinheitsgebot*, perhaps?

Let us rather take a look at some of the elements of cider and its production and see just how

we might think laterally to a beer context. And where better to start than the apples.

Categorising raw materials

Cider apples have long been divided into Sharp, Bitter sharp, Bitter sweet and Sweet, based on their acid and tannin contents. There is nothing here directly transferable to beer, but it prompts me to ask whether there might just be a way to categorise barley varieties more overtly according to their propensity to deliver certain flavour characteristics to a brew. An astringency scale perhaps?

For beer, of course, we are not generally using (despite the aspirations of certain enzyme suppliers) the base grain. Yet despite the processes of steeping, germination and

whatever degree of drying, there are surely still varietal characteristics that emerge, indeed may be amplified, by the malting process. I rather think there is more that can be done to articulate barley varietal differences as they relate to various aspects of beer quality.

For 125 years, cider makers have used the term ‘vintage quality’ to distinguish the finest fruit that delivers the most complex and desirable flavour to ciders. Might we conceive of such a designation also being used to honour the pick of the barley varieties?

Of course, we already come near to this scenario with hops, I guess, with descriptors such as “noble hop” overlaid on an aroma/bitter/dual purpose categorization. Is there, howev-



APPLES

er, a case for a still more prestigious ranking for the very, very best varieties? Or is it altogether too subjective?

Concentrate now

Many cider makers use AJC, a 70° Brix Apple Juice Concentrate that can be stored cold for many months, even years and used to even out seasonal imbalances between fruit supply and product demand. In these days of near tipping point scenarios between malting barley availability and brewing demand, is there anything equivalent here for a brewer in terms of wort concentrates, that would be preferable perchance to rectifying malt shortages through the use of varying quantities of non barley-based adjuncts?

Diverse beasts

The historic tradition in cider making was to use endogenous yeast. Grain, of course, does not constitute a natural habitat for brewing yeast. I wonder, though, whether (in these days of ever more extreme concepts of new product development) there might not be a niche for

some beers made as perhaps they were thousands of years ago, with some fruit added to the brew specifically as a source of yeast?

The historic record suggests that dates formed part of the brew in ancient Sumerian days. What mileage might there be in beers made *genuinely* in the style of the ancients, with no added yeast?

I am not thinking of existing styles of beer where whatever happens to be around in the brewery is left to its own devices. Rather I am speaking of the use of added fruit with anything that adorns it as the source of yeast for boiled (and therefore sterile) wort.

These days cider makers widely use dried wine yeast. Much progress seems to have been made in recent years in the pursuit of dried yeast for brewing. And if that yeast truly is capable of consistent performance, yielding beers of excellence and with consistency and without downside, then the logic of this approach is irrefutable. There is none of the messing about with the vagaries of propagation, the aberrance of first fermenta-



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“Perhaps it is in the realm of new product development that beer could have most to learn from cider”

The challenge though surely is how to move in the direction of a brewing process that does not feature such extremes of heat and “coolth”. How do we make a beer of genuine excellence without a need for high inputs of thermal energy in pursuit of gelatinisation and wort boiling and excessive deliveries of refrigeration for chilling fermenters and cold tanks?

Clear as day

Perhaps it is in the realm of new product development that beer could have most to learn from cider. My perception (from afar) of the cider business in the United Kingdom is one of a positioning of the beverage for its youthful provenance – whoever would have thought a product could have transitioned from scrumpy to sexy?

Cider consumed from a glass filled with ice. Ciders of diverse hue. “White” ciders.

Hang on – beer’s been there, done that. It didn’t last long. Recall ‘clear beer’ from more than a decade ago, and what was the problem there? I suggest it was that the only thing that changed was the colour – from lemon yellow to ‘water-white’.

Yet when the liquid was decanted into a glass there was foam – and I suspect that the consumer was confused. If one pours out a clear alcoholic beverage – vodka, say – one does not expect to see a head on it. Could the perception have been one of scum – or suds, as the parlance goes hereabouts?

I just wonder: could the experiment be repeated, only this time with a target of avoiding the froth? Might we conceive of beer-based products purposely decarbonated, marketed as long refreshing drinks to be served over ice?

Colourless, maybe. Other hues, too. Melded with whatever else – fruit, spices – either prior to packaging. Or sold as a base for the con-

sumer to dabble with themselves. Just a solitary tweak on what has gone before, namely decarbonation. What could be easier than that, especially with latter day membrane-based gas control systems?

And, if you wanted to keep the fizz but no bubbles, then there are plenty of folks who know how to (albeit inadvertently) kill the foam on beer. Much as it hurts someone once hailed by the dubious moniker The Pope of Foam to say it, there might just be an entirely novel marketing angle in latter day beers with no froth.

The necessary driving force would be taxation. In places where beers are taxed advantageously as compared to spirits – as is the case in much of the US, a state of affairs that spawned malternatives – then such a product makes sense. If not, then one might just as well use vodka.

And perhaps the brewer might indeed learn something from the cider maker in matters of minimizing the tax bill. Despite recent hikes in cider there remains a discrepancy in the UK. The current standard tax rate on beer is £18.57 per hectolitre per cent of alcohol. For cider it is £35.87 per hectolitre for anything under 5.5% abv and above 1.2% abv. So if we have a 5% abv beer and a cider of the same strength, the tax bill is 57 pence more for a litre of the beer as compared to a litre of the cider.

Isn’t it strange how money focuses the mind? 

Next issue: beer takes on whisky (really)

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tions with newly propagated yeast and the logistical headaches of having the right yeast in the right quantity and quality available at the right time.

Mixed populations

Perhaps there is a greater acceptance in the cider world, too, of the advantage of specified mixtures of organisms. And so in German ciders there seems to be an avowed role for *Hanseniospora valbyensis* alongside *Saccharomyces* in order to boost the desired ester levels in their ciders. In France, *Saccharomyces* may be twinned with *Metschnikowia pulcherrima* in the pursuit of complexity.

I wonder: what mileage might there be for specific mixtures of diverse organisms in the production of novel beers? The British are no strangers to it: think of their insistence on *Brettanomyces* to accompany *Saccharomyces* at the time when the rest of the world took Hansen’s creed to heart and opted for single pure yeast cultures. I can think of one great bottle conditioned beer that was developed with separate yeast for conditioning in bottle after the primary

yeast for fermentation. I recall, too, a great but short-lived lager brewed in my tenure in Burton that enjoyed a secondary fermentation in brewery tanks with the aid of a separate yeast.

Blowing hot and cold

One of the big differences between brewing and cider-making, of course, is that the latter is as near as darn it a process that does not involve anywhere near the same resources in terms of water and energy. To a first approximation it is an ambient temperature activity. It was for this reason that crossflow filtration was taken up much more rapidly for cider than for beer – fluxes were much smaller with beer which traditionally is filtered cold, under conditions in which the impact of viscous molecules, notably β -glucan and arabinoxylan, is amplified.

Furthermore, beer contains materials that can be lost by adsorption onto filters, notably hydrophobic entities such as foaming proteins and bitter compounds. I am told that these negative aspects have been overcome in latter day cross flow filter systems.