ANALYSIS

Mouse in the house

Mousiness is on the rise, and there's confusion over the problem, reports **Darren Smith**

IT'S BEEN LIKENED to mouse urine, dog halitosis, rancid milk, and even baby sick. Whatever its dubious associations, mousiness is a hot topic. While winemakers tend to have a better understanding of it than others in the trade, there is little concrete knowledge even there. Many confuse it with brettanomyces, others don't know it exists. Some say you can smell it, others that it's only identifiable as an aftertaste. Some say its presence is fatal to wine, others that it's not.

Arguably the important thing about mousiness from a quality control point of view is that, reportedly, up to one-third of people are unable to sense it at all. This means there are winemakers releasing mousy wine without a clue that they're doing so, while many consumers are drinking it in the same ignorance.

While mousiness appears to some to be a relatively recent phenomenon, references to some sort of 'mousiness' – le gout de souris in France, die Mäuseln in German-speaking countries – go back decades. The likely truth, however, is that such descriptors have been used to refer to a multitude of bacterial sins.

Studies by the Australian Wine Research Institute between 1984 and 2007, and at Klosterneuburg Wine School in Austria, have brought more clarity to the subject. They identify certain strains of lactobacillus spp and oenococcus oeni as being responsible for mousy taint. The three specific compounds they produce are: 2-acetyltetrahydropiridine, 2-ethyltetrahydropiridine and 2-acetylpyrroline. Confusingly, it's also suggested that dekkera, the spore-forming variant of brettanomyces, can produce one or more of these volatile compounds. This, however, is disputed.

The key factor for mouse taint, as associated with the pyridine compounds mentioned above, is that it doesn't volatilise at the pH of wine in the glass – we only perceive it retronasally, 10-20

seconds after tasting, owing to the pH adjustment our palate provides. This is not something that can be said of brett taint as associated with the commonly understood 'brett compounds' 4-ethylphenol, 4-ethylguaiacol and isovaleric acid.

IT'S ONLY NATURAL

As with other taints, with which it is liable to come as a package, mousiness is linked to high pH (look out for it in wines from hot vintages) and low sulphur. Adrian Coulter, senior oenologist at the AWRI, explains the science: "There are two pathways that mousy off-flavour can develop: a microbial pathway and an oxidation pathway. The microbial pathway is more likely to occur in wines with high pH and low concentrations of sulphur dioxide (SO2), so paying attention to pH and using sufficient SO2 for the pH is important.

"Making sure as much of the sugar as possible is utilised during fermentation and the malolactic fermentation, if conducted, is also completed ensures minimal nutrients are left available for unwanted microbial growth down the track. Sanitation is also important, from the picking bins right through the winemaking process to bottling.

Although it's far from proven to be a purely natural-wine phenomenon, mousiness does seem to correlate with the production of so-called natural wines. David Harvey of Raeburn Fine Wines finds producers who eschew sulphur culpable for the increased incidence of it.

"The purist 'wholly-natural' wine world has a massive problem with mousiness," he says. "Sure, natural-wine producers may have removed synthetic fertilisers and pesticides, and additive-based winemaking in their own wines, and globally called into question their excessive use. However, the re-introduction of unsulphited fermentation and élévage, by the Chauvet school has unwittingly reinstated mousiness. It's the equivalent of reintroducing polio or smallpox to the human population."

Doug Wregg of Les Caves de Pyrene is, perhaps understandably, more circumspect. "I don't know if it is exclusive to natural wines, or is as a result of natural winemaking, but I think it is a bit of a problem. And, strangely, I think it is a recent one. I don't recall experiencing mousiness in wines a few years ago," he says.

"Interestingly, we've tasted tank samples that were mousy, but when they were eventually bottled, it had cleaned up. So, I think there is a quite a bit to learn about this particular wine flaw. I wonder, parenthetically, if it is something to do with bottling the wine too soon."

There does seem to be a level of consensus among low-sulphur winemakers that their wines appear to go through a "mousy stage" and that, given time – and the right conditions – a wine with little or no sulphite can "self heal" against the infection.

"Mousiness in my view is a stage. It's to do with wrong bottling – too much oxygen at bottling, bottling too early or too late," says Franz Weninger, a highly respected Burgenland winemaker who aims for minimal sulphur use, but for whom taints such as brett and mousiness are to be avoided.

"In my case, most of the time, if it's happening in the barrel, [the bacteria] will eat something in the wine and at a certain point everything is gone, everything is digested, and then the bacteria will die, and basically that's it. So in the cellar I'm not nervous at all because I just don't bottle. I wait and in my experience it goes away – it's just a matter of ageing."

For the natural winemaker with scruples, bottling could be an important area to look at, believes Weninger. Since 2013, he has been conducting experiments to minimise the amount of oxygen transfer into his wine as it is being bottled.

On typical wine-bottling lines, wine is poured from a nozzle positioned at the top of a bottle, down the side of the glass at speed – a sort of hard decanting. This allows a relatively high level of oxygen to enter the wine. (Of course, sulphur could be used at this point but Weninger would prefer to avoid that.)

Weninger has been experimenting with a bottling method which involves inserting a long tube into the bottle until it reaches the bottom, and slowly filling it. This method is common in beer bottling and is designed to minimise oxygen transfer. A second technique, used in bigger breweries and by some sparkling-wine bottlers, uses low-pressure electro-pneumatic valves, which use inert gas to minimise the wine's contact with oxygen.

The first method has proven successful for Weninger, but as low-intervention and low-sulphur winemaking continues to grow, it will be important to turn this anecdotal evidence into concrete understanding.

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>
> **David Harvey**

↘ VIEWPOINTS

DAVID HARVEY

WINE IMPORTER AT RAEBURN FINE WINES

Mousiness has come to dominate the taste experience of many well-sited, well-intentioned and otherwise brilliant wineries. A bit of brett, a bit of VA, visible CO2, and a slight reduction in the wine are acceptable. Indeed, they are seen as positives. Whereas any amount of TCA, mousiness, or refermentation in bottle are quite unacceptable. And they are all avoidable.

A curious point is that perception of mousiness initially increases with time in the bottle, and with air contact in the glass. And then it may disappear. However, waiting for an unsulphited wine to self-heal itself of an infection, while not being protected by free SO2, does seem like something of a gamble, and it is one that I would not take myself.

NIC RIZZI

OWNER OF NATURAL WINE SPECIALIST IMPORTER MODAL WINES:

The way I see it, there are a couple of ways of looking at mousiness in wine. The first is purely as a fault – if you open a bottle of wine and it's mousy from the start, then you've got a big problem. What needs more discussion, however, is the wide range of wines that eventually turn mousy, whether after an hour or a day.

Whereas some of these wines can sometimes exhibit various other issues to begin with, some are clean as a whistle, but will eventually turn. For me, that's totally fine, because they can be incredible as long as they're enjoyed within their "drinking window". I can think of examples here from entry-level wines to some of the most sought-after cuvées by cult producers. And this is where education and information are key.

As an importer, it's my responsibility to be very upfront with my customers about this window. I wouldn't want something by the glass that I know is at its best only for a couple of hours. Yes, some clean and precise natural wines do eventually crumble, but in their period of glory, however long or short that might be, they can be amongst the most expressive and pure wines that exist.