

Snapshot of oak-related queries

THE AWRI HAS taken many calls on the subject of oak barrels over the years. Here is a snapshot of some of the more common oak-related questions received.

Q. How do I store empty barrels?

It is not ideal to store oak barrels empty. The preferred approach is to store barrels full, however this is not always possible. There are a few different options for barrel storage and many variations on these options. One option is to fill the barrel with sulfur gas. This can be done by burning a sulfur candle within the barrel itself, which will produce SO₂ gas – however, it is essential the barrel is dry before using this technique, and any residual solid sulfur is removed prior to washing and refilling the barrel. Alternatively, fill the barrel with SO₂ gas from a sulfitemeter. Be very careful when sniffing these barrels as SO₂ gas is an inhalation hazard and can be extremely dangerous. Another option is to use a strong acidified sulfur dioxide solution (200-400 mg/L or higher), which can be made using citric or tartaric acid and PMS. Only approximately 20-30L of this solution (or 10 per cent of the barrel volume) is required to be added. Warning: this solution will be virtually 100 per cent free SO₂ and therefore care should be taken when handling or sniffing barrels containing this strong solution. Routine checks must be performed on barrel condition and gas/solutions refreshed every 3-4 weeks – labelling times with chalk is good practice. Before refilling these barrels, they must be washed out using hot water.

Q. I have barrel borers: what should I do?

First, if possible, physically remove the borers. If there are only a few holes and the problem isn't too widespread, fill the

holes by wedging oak chips into them and then knocking the excess off. Another anecdotal remedy winemakers have used are scrubbing around the borer holes using a strong SO₂ solution, but care must be taken using strong solutions in confined barrel sheds. Fumigation using methyl bromide is another technique, which should also be done with caution and in a well ventilated area. Graham Little of Seguin Moreau Australia indicates borers will go for softer wood over oak, and having a sacrificial piece of softer wood (chestnut) where oak is stored can be quite a good way to indicate if borers are to pose a problem. Graham also advises freezing oak (minus 20°C for three days) is another technique which could be employed to kill a borer infestation, although this technique comes with a warning it must be done only with oak containing less than ~12 per cent moisture content.

Q. I have 'Brett' in my barrels; how should I treat the barrels?

Best treatment is to firstly hot wash and clean the barrels, removing any stubborn tartrates where Brett could potentially hide. Next, fill the barrels with hot water, ensuring the water going into the barrel is at least 85°C. The water quality is important and should be assessed before being used. Hold the hot water for at least 20 minutes, or until the hoops become hot to touch. It is also possible to wash more than one barrel while maintaining the desired water temperature.

Q. Why does wine in new barrels consume more SO₂ than in older barrels?

New barrels that have not seen wine storage contain a lot of oxygen trapped within the wood itself and between the stave and head joints. The presence of

this oxygen leads to reactions with wine components which can bind up free SO₂ leading to a faster consumption of SO₂. Another factor is new wine barrels will absorb more wine than older ones and therefore ullages should be monitored and managed accordingly.

Q. Can acacia barrels be used in winemaking?

No. *Robinia pseudoacacia* is on the prohibited plants and fungi list and is therefore not permitted for use as per Food Standards Australia and New Zealand (FSANZ). Before using any timber other than oak, it is recommended AWRI be contacted first.

Q. Fumigating oak barrels with methyl bromide by Australian Quarantine Inspection Services. Are they safe to use?

The AWRI has not seen any problems attributed back to fumigation with methyl bromide. With good aeration after treatment, it is unlikely this is going to cause any taint-related issue. Essentially, three things are required for bromoanisole taints to form: 1) the presence of bromo-phenol pre-cursors; 2) moisture; and 3) fungi. Without one or more of these, bromoanisole taint is unlikely to form within the barrel.

Last word: A simple but basic point which should not be overlooked is the logistics when emptying, cleaning and refilling barrels. Ideally this should all occur within 24-48 hours, so being prepared is paramount. Leaving barrels empty for longer periods is not considered ideal.

For any queries on using oak barrels for winemaking, contact the AWRI's Winemaking Services on email: winemakingservices@awri.com.au or by telephone on 08 8313 6600. 




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