IT IS well known Brett spoilage can occur in red wines, however, can Brett spoilage also occur in white wines? The short answer is “yes”!

The first case of Brett spoilage in a white wine investigated by the AWRI was in 2000, and there have been occasional cases investigated since then. However, an unusual trend has occurred recently with six cases of Brett in white wine investigated in the past six months.

The level of 4-ethylphenol (4-EP), responsible for the Band-aid® aroma associated with Brett growth, ranged from 77 to 1320 µg/L in these wines.

How can Brett off-flavour occur in white wines?
4-EP and 4-ethylguaiacol (4-EG), the two main compounds associated with Brett, originate from two hydroxycinnamic acid precursors: p-coumaric and ferulic acids.

These acids are found in both red and white grapes. So, given the precursor compounds for 4-EP and 4-EG are present in white wines, there is potential for 4-EP and 4-EG to be generated if Brett grows in a white wine.

What white varieties have you seen Brett problems in?
Chardonnay is the white variety most frequently affected by Brett characters.

The six cases of Brett in white wine investigated in the second half of 2013 were all Chardonnay wines. Brett has also occasionally been observed in Riesling and in sparkling base wines where Chardonnay has been a component.

Why can I see Brett characters when the level of 4-ethylphenol is quite low?
For two of the six white wines investigated last year, the level of 4-EP was 77 µg/L in one and 168 µg/L in the other.

Many tasters would not recognise red wines with these levels of 4-EP as being ‘Bretty’, so why are such levels recognisable in white wines?

A large part of the answer lies with the 4-EP to 4-EG ratio (4-EP:4-EG). If the amount of 4-EG relative to 4-EP is increased, the wine is rated higher for ‘Brett’ characters (Curtin et al. 2008).

How can I control Brett growth in white wines?
Control of Brett in white wines is approached the same way as with red wines.

Control can be achieved by implementing a range of winemaking strategies that aim to reduce the population and proliferation of Brett. Areas to be addressed include general cleaning and sanitation, management of residual nutrients (Ca+ and nitrogen), sulfur dioxide (at least 0.6 mg/L molecular) and pH (pH and SO2 are inextricably linked), turbidity/clarification and barrel management (Coulter et al. 2003).

All these winemaking aspects should be addressed concurrently as part of a holistic approach.

CONCLUSION
Note that, like Saccharomyces, Brett likes oxygen, so take extra care during any racking or transfers, and be on guard after any of these processes, as exposure to air (oxygen) will stimulate Brett growth. Always test wines for free AND total SO2, as any observed increase in the level of bound SO2 is nearly always a warning sign of either oxidation and/or yeast growth.

Sometimes the yeast growth is Brett, so acting early, as soon as a larger-than-usual increase in bound SO2 is observed, can help to avoid a bigger problem later.

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REFERENCES: