

LOW HYDROGEN SULPHIDE YEAST

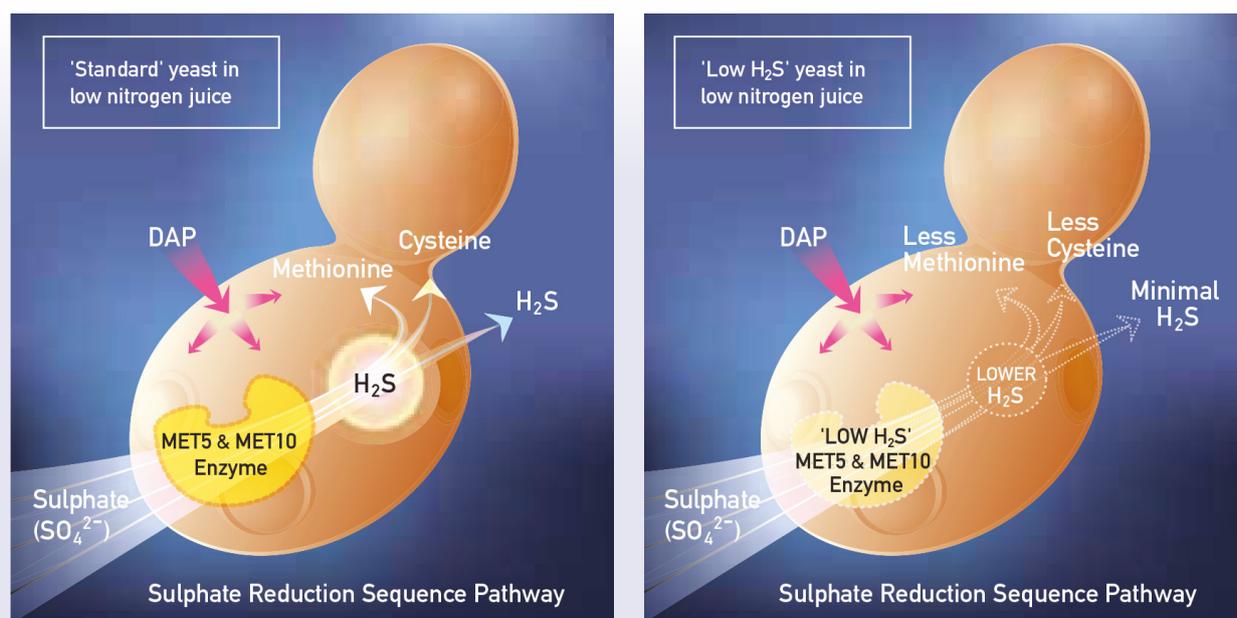
research information

HYDROGEN SULPHIDE IN WINE

The production of hydrogen sulphide (H_2S) during grape juice fermentation is a negative attribute for wine quality. It can be produced by yeast when there are inadequate sources of available nitrogen for the yeast to metabolise. H_2S -containing wines are unpleasant, resemble a rotten-egg gas odour and require copper fining. To overcome this problem, winemakers add di-ammonium phosphate (DAP) during fermentation, and even then they may have to use copper to remove H_2S from the final wine. Not only does H_2S reduce wine quality, but just as importantly it masks all the positive aromatics in the wine. What is the optimal solution?

YEAST ELIMINATES H_2S DETECTION IN WINE

The Australian Wine Research Institute (AWRI), together with Maurivin, have now developed new wine yeast strains that produce undetectable amounts of H_2S to the human nose. These non-GMO, patented Next Generation yeasts called *Maurivin Distinction*, and *Maurivin Platinum* have distinct variations in genes encoding the sulphite reductase protein complex, resulting in yeast strains with a reduced capacity to produce H_2S . This is illustrated below.



It is noted that these yeast strains have a reduced capacity to produce the amino acids methionine and cysteine. However, grape juice contains sufficient quantities of these amino acids to undertake normal growth and metabolism during fermentation.

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EACH STRAIN IS UNIQUE

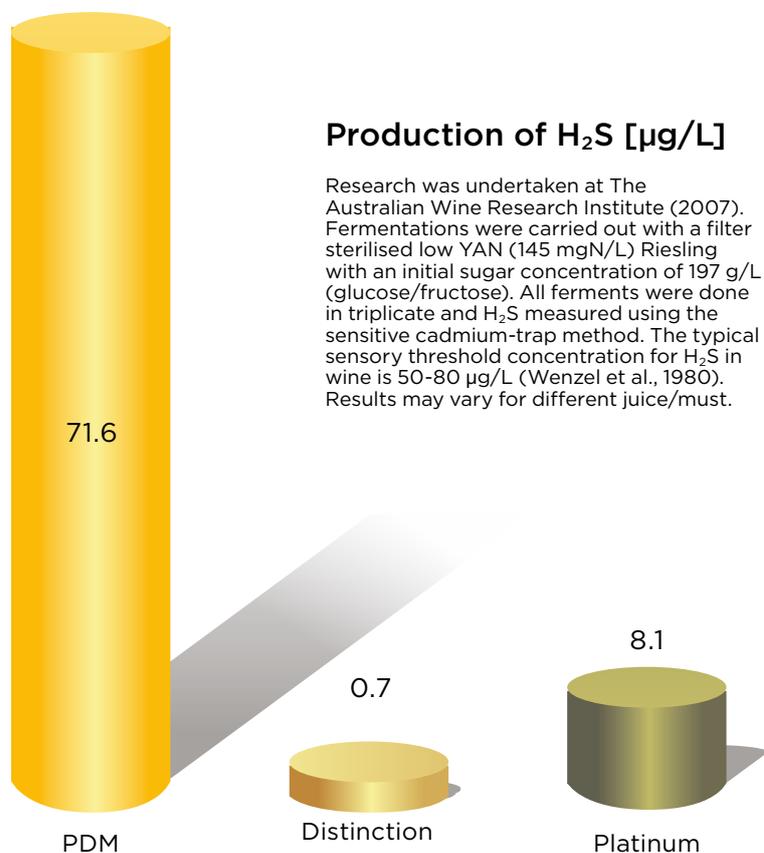
Each of these 'Low H₂S' yeast strains have their own unique properties. There is the generic benefit to the winemaker for eliminating the H₂S aroma from wine and possibly even reducing the requirement for copper fining (depending on the sulphur-compound composition of the juice).

MAURIVIN DISTINCTION

Distinction has the noticeable characteristic of the complete absence of reductive characters in the final wine. Fermentations in grape juices such as Chardonnay, Pinot Gris/Grigio, Shiraz/Syrah and Cabernet have produced quality wines with no detectable levels of H₂S or any other faults on the nose. In white grape juices this strain may produce elevated bound sulphur dioxide (SO₂) fractions, but it should be noted there is no associated increase in free SO₂. No increase in bound SO₂ has been seen in red grape juices.

MAURIVIN PLATINUM

Platinum is a robust strain that has the unique ability to eliminate H₂S from detection by the human nose and decrease other reductive characters from winemaking. The result is an increase in the detection of positive aromatic compounds in the final wine. Unlike Distinction, Platinum has not produced elevated levels of bound or free SO₂ in any grape juice evaluated. Platinum is therefore suitable for all grape varieties and wine styles and is compatible with malo-lactic fermentation. Platinum may also have the propensity to produce lower VA levels compared to PDM and Distinction.



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