YEAST ASSIMILABLE NITROGEN (YAN)
Wine yeast utilise ammonia and alpha-amino nitrogen during fermentation, known collectively as yeast assimilable nitrogen (YAN). YAN is required for the synthesis of proteins, cell wall components and enzymes. Insufficient YAN in the juice/must can result in sluggish or stuck fermentations and the production of hydrogen sulphide.

OVERCOMING INSUFFICIENT YAN
To avoid such problems, di-ammonium phosphate (DAP) is added to the juice/must prior to and during fermentation. Yeast strains differ in the amount of YAN they require, hence the volume of DAP added depends partly on the strains of choice.

Research undertaken at the University of Adelaide revealed the amount of YAN required differs significantly between Maurivin strains. The average YAN requirement was 350 mg N/L. Strains such as Maurivin B and EP2 have a lower than average YAN requirement during fermentation. Interestingly, Maurivin B also produces lower yields of ethanol and consumes higher levels of malic acid compared to other strains [see Ethanol Yield and Malic Acid Research Information sheets].

Conversely, BP 725 and AWRI 796, which are popular strains of varietal red winemaking, have a higher than average YAN requirement, likewise with Elegance, Primeur and AWRI R2, which are ideal for producing aromatic white wines. Increased quantities of DAP, as well as the use of Mauriferm fermentation aids, are recommended when fermenting with strains such as these that exhibit higher YAN requirements.

Research was undertaken by Dr Vladimir Jiranek and Dr Paul Grbin from the Discipline of Wine and Horticulture, The University of Adelaide (2005). Fermentation was undertaken in chemically defined grape juice medium (CDGJM) as defined by the Australian Wine Research Institute with an initial sugar concentration of 200 g/l (glucose/fructose) and 750mg N/L as ammonium sulphate. All fermentations went to dryness within 7 days. All fermentations were carried out in triplicate with mean values provided.

The information presented is based on our research and commercial testing and provides a general assessment of product performance. Nothing contained herein is representative of a warranty or guarantee for which the manufacturer can be held legally responsible.

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