



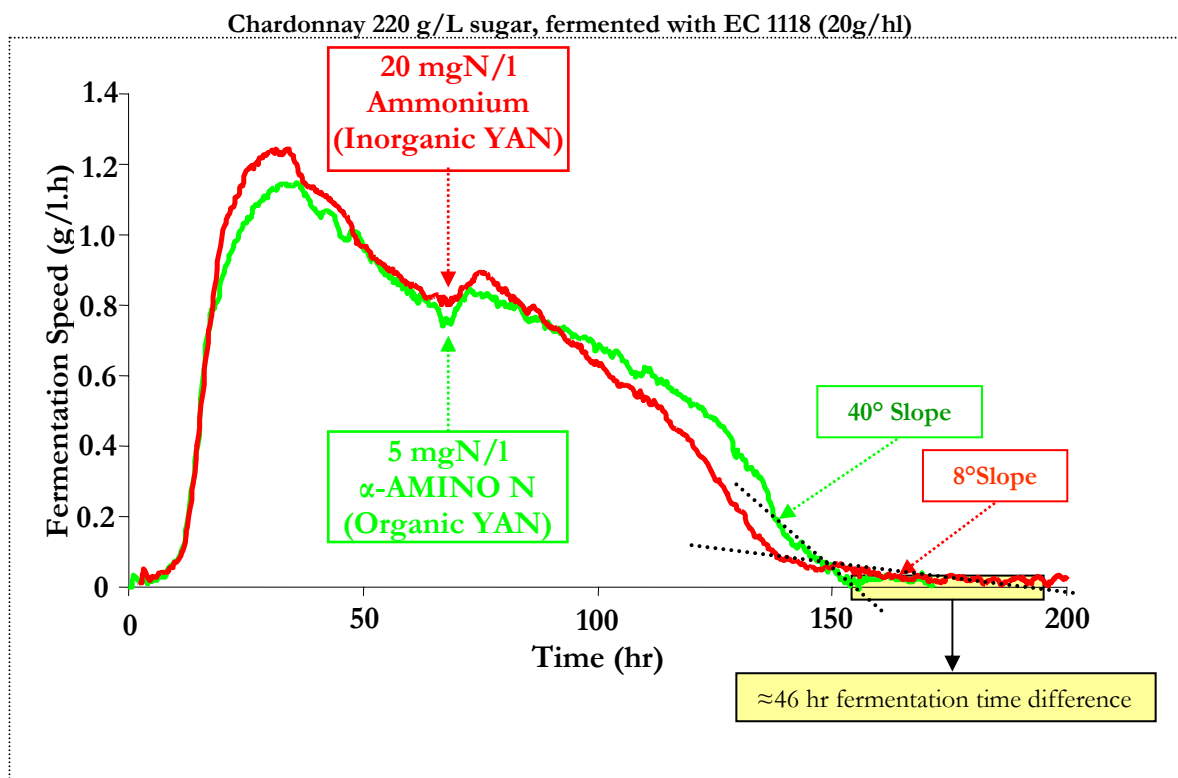
2009 Vintage Information Sheet

FERMAID A

YEAST NUTRIENT

BACKGROUND INFORMATION

- Due to warm to hot vine growing conditions in Australia and grape maturity levels reached, nitrogen supplementation to grape must / juices is a common practice.
- Diammonium Phosphate (DAP) is the most commonly used nitrogen supplement in Australia and New Zealand.
- The nitrogen content of grape must / juices is made up of two components, inorganic nitrogen and organic nitrogen (e.g. amino acids, peptides). The ratio of the two nitrogen types varies with the vineyard environment and level of grape maturity at harvest.
- In white winemaking, slow pressing and skin maceration, favour's skin extraction and tends to increase the organic nitrogen content of juices.
- For reds, pre-soak and fermentation on skins also favour extraction / release of organic nitrogen into must / juice.
- Nitrogen supply to yeast is necessary for yeast growth.
 - Both Inorganic nitrogen (DAP) and Organic Nitrogen (α -amino nitrogen) are a suitable nitrogen source for yeast in growth phase.
- Following yeast growth phase (approx 1/3rd into AF), the yeast can benefit significantly from a supplementation of organic nitrogen (as opposed to DAP) – as highlighted in the graph below.





- Fermaid A formulation is designed to assist the fermenting yeast in the later half of AF.
- Added approx 1/3rd into AF, the organic nitrogen made available through the addition of Fermaid A, is then taken up intracellularly by the yeast and stored in vacuoles. This organic nitrogen acts as an important reserve of amino acids at times of rapid metabolism (associated with high protein turnover).
- Such a period of rapid metabolism occurs when the AF approaches the last phase of fermentation and / or where the alcohol concentration (e.g. >13%v/v) begins to significantly interfere with the cell membrane transport systems, particularly those:
 - Controlling the intracellular pH to at least 2.0 units above the wine pH (wine pH 3.5 - yeast pH 5.5)
 - Relating to nitrogen uptake; a critical requirement where metabolism is in top gear.
- Yeast metabolism is in peak activity when alcohol concentration builds up ultracellularly. This coincides with the periods of AF at approximately 40g/L residual sugar.
- With Fermaid A the increased intracellular pool (reserve) of amino nitrogen is available to support rapid yeast metabolism, necessary to take account of the toxic effects of ethanol.
- Fermaid A has the potential of limiting the “tailing off” of fermentation and reducing the risk of stuck alcoholic fermentation.

ORIGIN

FERMAID A has been developed specifically for the Australian & New Zealand Wine Industries as a yeast nutrient for alcoholic fermentation. Nitrogen is of primary importance to the wine yeast in fermentation. The available yeast assimilable nitrogen (YAN) in the must/juice directly impacts the fermentation rate and formation of flavour-active volatile compounds.

COMPOSITION

FERMAID A contains:

- Inactivated yeast (Organic YAN: α -amino nitrogen)
- Di Ammonium Phosphate (Inorganic YAN)

Impact Organic YAN (α -amino nitrogen) has on alcoholic fermentation

- The inorganic/amino nitrogen mix is aimed at encouraging a more balanced metabolic fermentation outcome.
- Fermaid A is an enriched source of α -amino nitrogen.
- The elevated intracellular amino nitrogen reserve (resulting from Fermaid A addition) assists the yeast to manage AF more effectively to complete fermentation, without prolonging the toxic exposure to ethanol that often results in a tailing of fermentation rate and a increased incidence of sluggish and/or stopped fermentations.

SUGGESTED USAGE

For wine applications, the recommended dose is up to 30g/hl, commonly between 20-25g/hl per addition.

A 30g/hl dose will provide the must with a Total YAN content of 36-37 mg/L (of which 5-6 mg/L is α -amino nitrogen).

It is recommended to use Fermaid A in conjunction with Go-Ferm Protect;

GoFerm Protect is added during yeast rehydration. Containing microprotectants (including sterols) and micronutrients, GoFerm Protect offers the following advantages:

- Provides protection to the yeast during its adaptation to the sugar environment of grape juice / must.
- Stimulates healthy yeast growth in the first third of fermentation
- Improves yeast survival in challenging fermentation conditions.

Fermaid A added 1/3rd into alcoholic fermentation:

- Ensures that the total yeast population benefits
- Significantly increases the pool of yeast intracellular α -amino nitrogen in readiness to counter the interference of ethanol as the alcoholic fermentation proceeds to dryness.

PACKAGING AND STORAGE

- Available in 2.5 kg foil packs – Full carton is 4 x 2.5kg
- Store in a cool dry area

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