



# MESO-OXIGENATION AND BOOSTER ACTIV PREMIUM®

## Managing nutrient dosage cleverly during alcoholic fermentation

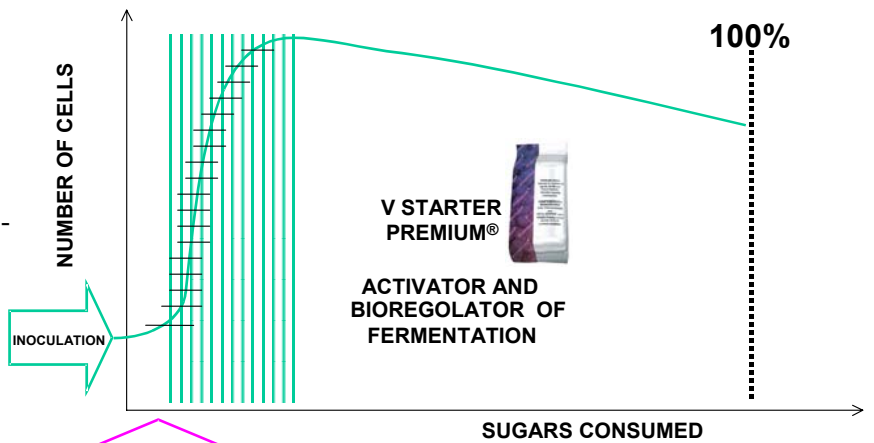
This note presents the latest guidelines for sluggish fermentations, in the light of the final results of experiments on oxygen and nitrogen dosage rates and timing. It includes topics that are already known and have been reported in earlier publications, and the recent intuitions of prof. R. Ferrarini concerning delayed oxygen dosages and the addition of survival factors via a specific product called BOOSTER ACTIV PREMIUM®, to be added according to a schedule which could be considered unconventional.

It is of utmost importance that a 30 g/100 litres dose of V STARTER PREMIUM® be given from the very first steps of fermentation so that the inoculated yeast will be able to absorb all the nutritional elements that are naturally present in yeast hulls.

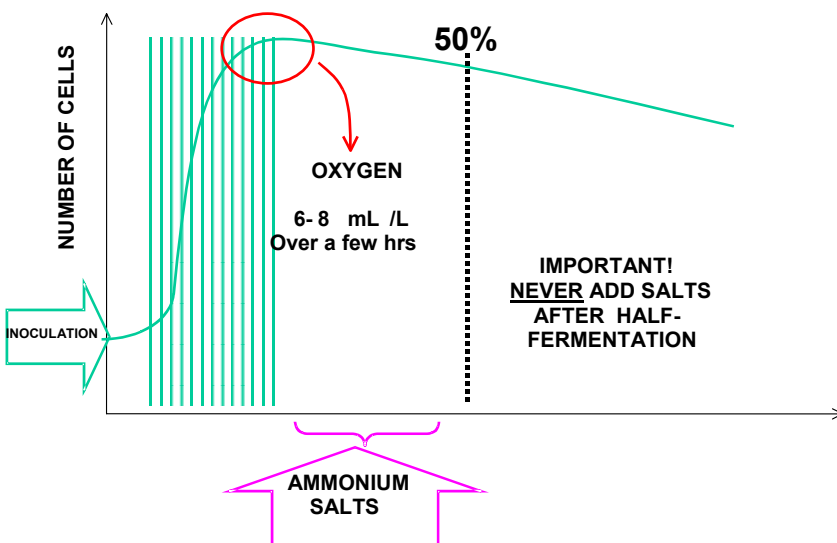
V STARTER PREMIUM® purposely has no ammonium salts and its role is certainly not to provide available nitrogen (FAN) to the original must. Its purpose is to force the yeast to consume these nutritional elements, which are more difficult to metabolise.

It is always best to recommend its use when the inoculated yeast shows signs of life in the must mass.

### PROVIDING COMPLEX NUTRITIONAL ELEMENTS



### INTEGRATING AVAILABLE NITROGEN (FAN) WITH AMMONIUM



Sablayrolles' 1996 experiments have lead wine-makers to consider the addition of 6-8 mL/L oxygen at the end of the exponential growth phase as extremely important. Most times this phase takes place during the second day of fermentation (when the must's density decreases by 4°Babo). At this stage, it is best to complement oxygenation with the addition of ammonium salts.

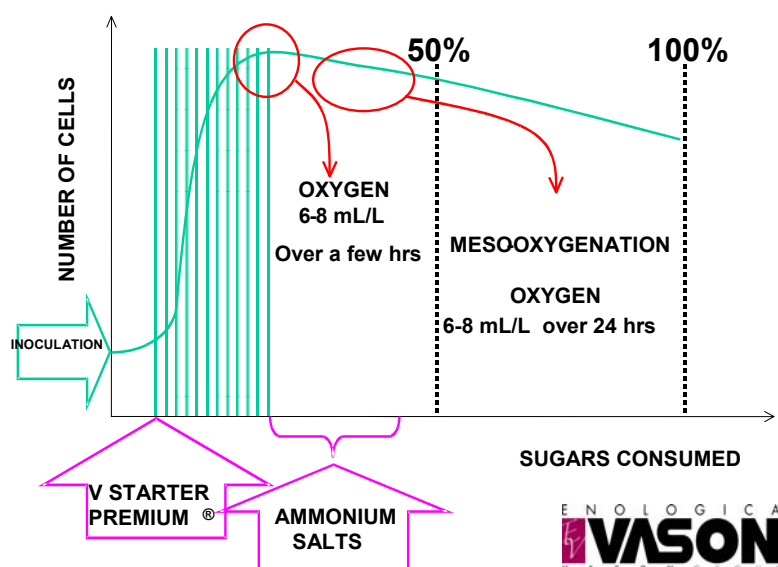
The main purpose of this addition is to provide an available nitrogen (FAN) integration, in case its level may be lower than the threshold (around 200 mg/L) indicated by most investigators.



Take care not to add these ammonium salts too late. The publication, of which A. Cavazza is a co-author and which was presented in Stuttgart last year, demonstrates beyond doubt that ammonium salts added after half-fermentation form residues in the wine.

At the wines' pH, ammonium residues are chemically transformed into urea and then ethylcarbamate, which has been declared carcinogenic.

### A NEW CONCEPT: MESO -OXYGENATION



However, the yeasts' oxygen request is not over. One can surely recommend 6-8 mL/L of oxygen over 24 hours.

This treatment is able to make the yeast change its metabolism and prevent reduction during fermentation.

This is also a good reason not to run into reduction problems during maturation "sur lies".

This treatment is indicated for both white and red vinifications.

### A new fermentation activator: BOOSTER ACTIV PREMIUM®

During the stationary phase, which can be considered an extremely delicate phase for the yeast, two hypotheses can be made concerning the presence of yeast cells:

- 1.\_ that the yeast cells are vital but quiescent
- 2.\_ that a population of yeast cells is alive and sluggishly multiplying, balancing out another population which is dying.

The first hypothesis is alarming to a winemaker as it preludes fermentation problems and even stuck fermentations.

The second allows one to believe that in this phase too, the yeast may need survival factors and the detoxifying effect of yeast hulls and of cellulose.

BOOSTER ACTIV PREMIUM® was formulated for exactly this: it can make the substrate more vital and at the same time provide the micronutrients needed for alcoholic fermentation to reach completion.

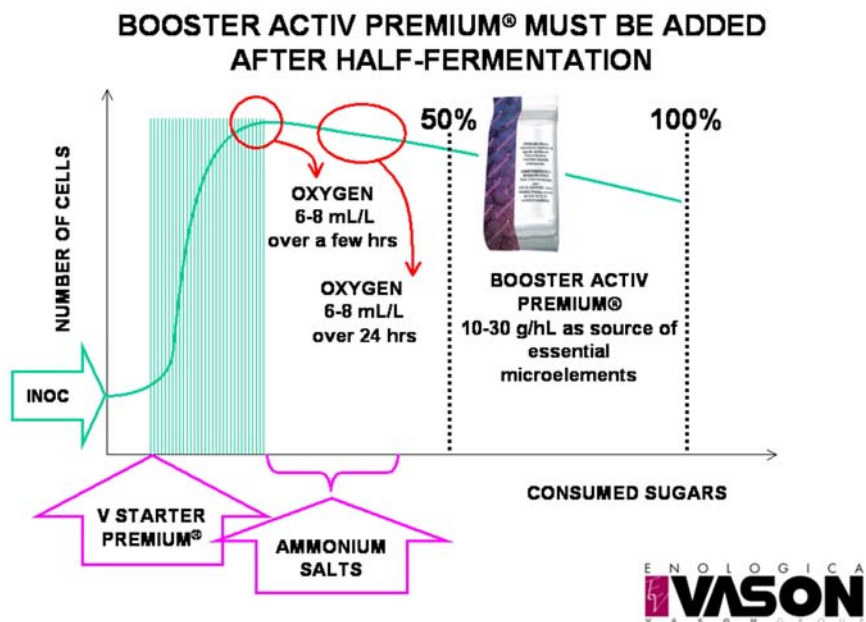
Advised dosage varies from 10 to 30 g/100 litres depending on what dosages have been made previously, in order not to exceed the legal limitation in yeast hull content of 40 g/100 litres.

For the same reason, one needs to plan ahead the wine's requirements for further nutritional additions should one wish to favour malolactic fermentation.

The ratio of yeast hulls to cellulose in BOOSTER ACTIV PREMIUM® is 1:1.

The best time to provide BOOSTER ACTIV PREMIUM® is illustrated hereafter:





A dosage of 10-30 g/100 litres of BOOSTER ACTIV PREMIUM® is recommended after the MESO-OXYGENATION phase, from half-fermentation onwards.

All experiments performed have yielded positive results in terms of olfactory cleansing and as far as the course of fermentation is concerned.