Selected wine-making bacteria MBR ™: performance and adaptability for successful MLFs

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Innovation Microbiology Fermentations

Theme in the spotlight during the very first Lallemand Screen Tour, the choice of the selected wine bacteria is an essential parameter for the realization of Malolactic Fermentations (MLF) in the technical itinerary. Lallemand Oenology has been working for many years to produce selected high-quality wine bacteria and has developed cutting-edge processes for this, including the MBR ™ process.

The “malo” constitutes an important stage since it contributes to the stability of the wines and to the precision of the organoleptic profile. However, it is a step that can be judged delicate or difficult to master. The success of MLF lies in the combination of **several factors**, such as **the level of sulphiting** , **thermal control** , the **level of acidity of the musts or wines** , **the moment of inoculation and the choice of the selected wine bacteria** . This is why **Lallemand Oenology has been** working for many years to produce **selected** high-quality **wine bacteria** and has developed cutting-edge processes for this, including**the MBR ™ process**.

Lallemand Oenology's latest e-mag **invites you, at the heart of the profession of microorganism producer, to (re) discover this process and the selected MBR ™ oenological bacteria.**

THE OENOLOGICAL BACTERIA SELECTED BY LALLEMAND OENOLOGY: MADE IN FRANCE!

Producing high-performance specialty bacteria requires demanding processes. Lallemand Oenology has **a French factory dedicated to the production of selected oenological bacteria.**

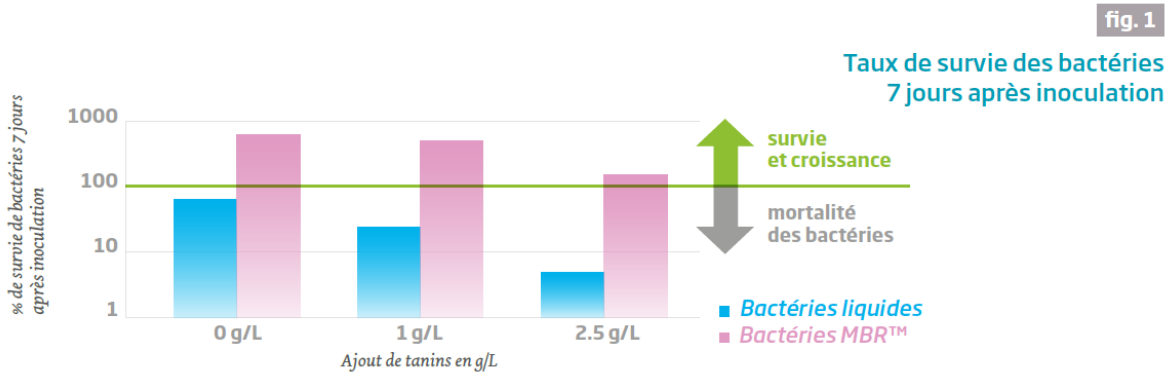
Les fermenteurs de production dans l’usine à Saint-Simon, Cantal.

THE PERFORMANCE OF THE SELECTED OENOLOGICAL BACTERIA: THE IMPORTANCE OF THE METHOD OF PREPARATION

The effectiveness of a bacterium is strongly linked to its capacity to resist, to survive and to grow as soon as it is introduced into the vats (must or wine) and therefore to carry out the malolactic fermentation reaction quickly and efficiently.

Research has shown that when the same wine bacteria are prepared in liquid form in the laboratory, they partially lose their initial ability to survive in wine (Doctoral thesis by Marion Breniaux in 2017, University of Bordeaux).

fig. 1



How bacteria are prepared plays a major role in how they will react under various conditions. **This is why the production processes of oenological bacteria are decisive in order to guarantee good malolactic activity after their inoculation.**

THE LALLEMAND OENOLOGY MBR ™ PROCESS: EFFICIENCY AND ROBUSTNESS

This specific and unique process for producing bacteria in their lyophilized active form makes it possible to **pre-adapt the microorganisms to the conditions of the wine environment**. The selected MBR ™ oenological bacteria have **excellent capacities to resist and develop** in wines (fig. 1). They are thus **robust, efficient and easy to use** (direct inoculation into the tank without rehydration).

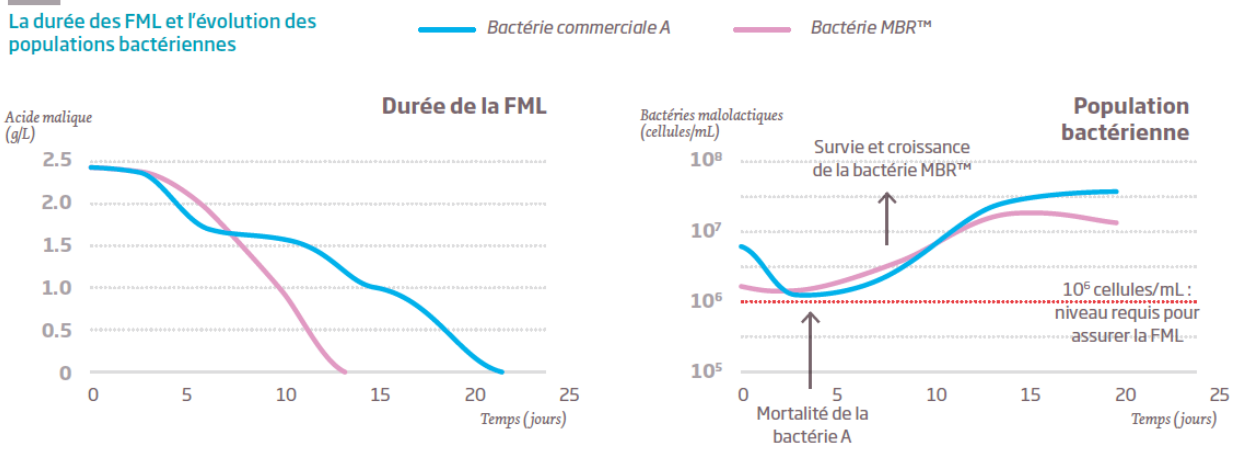
a-When efficiency takes precedence over quantity

The performance of a bacterium is not linked only to the concentration of its initial population. An excellent physiological state is essential to allow it to survive and multiply after its inoculation, and to achieve effective MLF.

By way of example, in this test, the selected oenological bacteria MBR ™ achieves a clear MLF in 13 days while the commercial bacterium A achieves an MLF in 22 days and this despite a higher population level at the start, at the inoculation (fig. 2).

fig. 2

La durée des FML et l'évolution des populations bactériennes



The MBR ™ process combines a "good physiological state" and an "adapted population level" to ensure the robustness of the inoculated bacteria and the effectiveness of the MLF.

b-Ease of use

The robustness of the oenological bacteria selected by MBR ™ by Lallemand is also reflected in their ease of being transported or stored without the need for refrigeration units. They can tolerate interruptions in the cold chain, as long as the temperature does not exceed 25 ° C for more than 3 weeks. Their effectiveness is not affected, nor their initial lifespan.

The MBR ™ process provides the guarantee of robustness and efficiency for the quality of a successful MLF. The choice of the MBR ™ bacteria depends on the parameters of the wine and the desired sensory profile.

- For any questions, contact us by email at: fb.france@lallemand.com .

More information about the author:

LALLEMAND
LALLEMAND OENOLOGY

Lallemand Oenology★

Producer and developer of yeasts, bacteria and yeast derivatives for oenology

#Innovation #Tasting / sensory analysis #Sustainable development