FML EXPERTISE VIVA®

Selected by the *Institut Français de la Vigne et du Vin* (IFV). *O. oeni* strain fast and resistant to difficult conditions. FML EXPERTISE VIVA® brings fruitiness and freshness to white, rose and red wines.

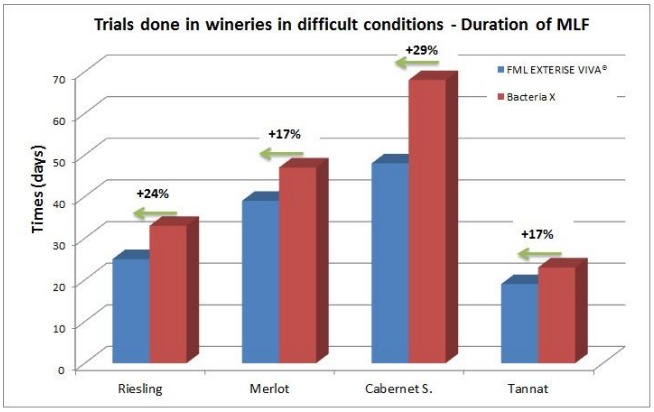
FML EXPERTISE VIVA® is a great complement for the FML EXPERTISE® range. It is a highly tolerant strain, which can rapidly perform the malolactic fermentation under difficult conditions (low pH, high alcohol, low temperatures). FML EXPERTISE VIVA® is also a very easy-to-use product as it can be used for direct inoculation without rehydration.

MBR® FML EXPERTISE VIVA® is produced following the specific MBR® process, which enhances its resistance to wine conditions when used for direct inoculation, or after a short rehydration phase, and makes it remarkably stable during storage.

The bacterial strain of FML EXPERTISE VIVA® has been chosen for its fermentative and organoleptic qualities during a selection program for white, red, and rosé wines lead by the IFV institute. In addition to a very good malolactic activity, FML EXPERTISE VIVA® has a very low production of volatile acidity associated to a low consumption of the citric acid, and brings a fruity and complexity aromatic to the wine.

MICROBIOLOGICAL AND ENOLOGICAL PROPERTIES

- Fast implantation following direct inoculation.
- Very fast malolactic fermentation.
- Resistant to alcohol content up to 16% vol., and even 17% vol. if there is no other limiting factor.
- Resistant to pH levels ≥ 3.1.
- Resistant to up to 60 mg/L of total SO_2 and 10 mg/L of free SO_2. It is important to pay attention to the SO_2 addition before the inoculation of bacterias. In case of low pH, molecular SO_2 is in bigger quantity and has a strong inhibiting effect on bacterias.
- Resistant to temperatures > 15°C.
- Suitable for the three different inoculation times: co-inoculation, early inoculation, and sequential inoculation.
- Low production of volatile acid, which is especially interesting for a use in co-inoculation.
- "Phenol negative" bacteria, which means that FML EXPERTISE VIVA® cannot degrade coutaric acid into coumaric acid which is the origin of volatile phenol precursors responsible for the development of the off-odors associated with *Brettanomyces bruxellensis*.



	Riesling	Merlot	Cabernet S.	Tannat
Moment of inoculation	Co-inoculation	Post AF	Post AF	Post AF
pH	3.25	3,26	3,31	3,67
Malic acid	5.8 g/l	2 g/L	2.9 g/L	3.5 g/L
Ethanol	12,10%	12.3%	11.9%	14.9 %
SO_2 total / Free SO_2	15 / <5 mg/l	30 / <5 mg/l	39 / <5 mg/l	36 / 15 mg/L
Temperature	17°C, then 20°C	15°C	15°C	20°C

Efficiency of the bacteria confirmed in limiting conditions:

- **low pH (3.2),**
- **high alcohol content (15% vol.),**
- **low temperature (15°C),**
- **initial acid malic concentration > 5 g/L,**
- **varieties known to be difficul for the MLF (Merlot/Tannat).**

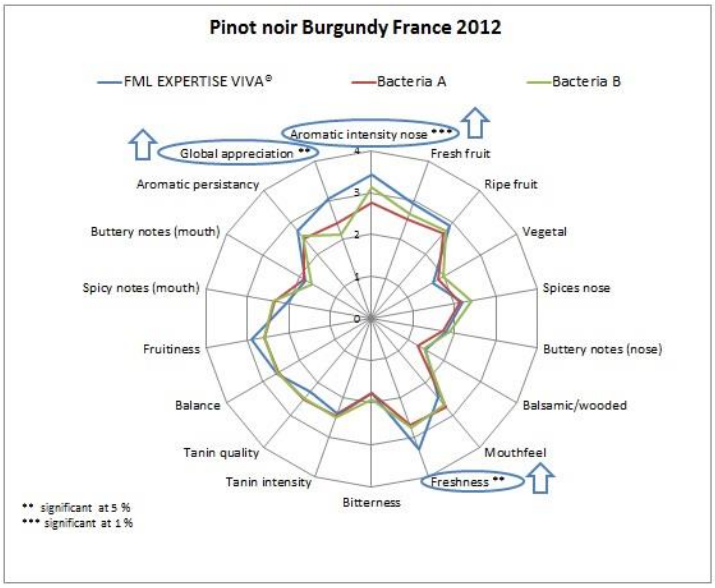
FML EXPERTISE VIVA® is a safe and fast bacteria.

ORGANOLEPTIC IMPACT

- **Do not produce biogenic amines.**
- **Very low and very late degradation of the citric acid at the end of the MLF, leading to a low production of volatile acidity as well as diacetyl (buttery and milky notes).**
- **Contribute to the freshness and the aromatic complexity of white, rose and red wines, respecting varietal aromas.**

FML EXPERTISE VIVA® contributes to the freshness and the fruitiness of the wines.

A tasting has been organized with 39 international wine professionals. The wine inoculated with FML EXPERTISE VIVA® was rated with an excellent global appreciation, with more intensity of aromas in the nose (particularly fresh fruits) and a lot of freshness.



INSTRUCTIONS FOR USE

Direct inoculation (without rehydration) is possible:

- **Open the sachet and add the FML EXPERTISE VIVA® without rehydration prior to or during a pumping-over:**
  - **directly into the fermenting must during a pumping-over (co-inoculation)**
  - **or directly into the wine after the end of alcoholic fermentation (AF) (post AF-fermentation)**

For a best mixing, we recommend to:

- **Add FML EXPERTISE VIVA® to 20 times its weight of clean chlorine-free water at 20°C.**
- **Stir. Rehydrate maximum 15 minutes.**

Example: A 25 g sachet of FML EXPERTISE VIVA® for 25hL is rehydrated in 500 mL of water.

The instructions for use of this bacteria depend on the type of inoculation. 3 options:

<u>Options 1 and 2 - Sequential inoculation in wine (end of alcoholic fermentation) or early inoculation (density 1020-1010):</u>

- **Add directly to the wine (using the pump-over method without aeration or homogenization with a nitrogen addition), or to the fermenting wine.**
- **Maintain wine temperature between 16°C and 18°C for white and rose wines, and between 18°C and 22°C for red wines.**
- **If the wine presents challenging (highly clarified wine, low pH, high SO_2 and alcohol levels, organic nitrogen deficiency, fermentation problems, etc.):**
- **Rehydrate bacteria with ATOUT MALO™ NATIVE (20 g/hL of wine to inoculate).**
- **Add ATOUT MALO™ BLANC for white wines or ATOUT MALO™ ROUGE for red wines (dose of 20 g/hL) before inoculating bacteria.**

<u>Option 3 - Co-inoculation of must (inoculation of bacteria 24 to 48 hours after the addition of yeast):</u>

We recommend this method, which has become increasingly widespread due to its many benefits, during controlled alcoholic fermentation with no risk of a stuck fermentation (control over yeasting and nutritional requirements, an alcoholic strength by volume > 15%, temperature < 27°C, total SO_2 levels < 8 g/hL).

- **The correct time to add the rehydrated bacteria to the must depends on the level of total SO_2:**
  - **24 hours after yeasting if the level of SO_2 < 4 g/hL.**
  - **48 hours after yeasting if the level of SO_2 is between 4 and 8 g/hL.**
- **Evaluate the MLF kinetics every 2 to 4 days.**

PACKAGING

FML EXPERTISE VIVA® is available in quantities for 25 hL ou 100 hL.

STORAGE & TRANSPORT

18 months at 4°C.
36 months at -18°C.
Once opened, use rapidly.

Can withstand a few days at room temperature.
The quality of the FML EXPERTISE VIVA® is preserved if the product is stored at room temperature at a temperature below 25°C during 1 week. Similarly, their quality is not affected by temperature variations during transport provided that their frequency and intensity are limited:

Do not expose the product at a temperature above 30°C.

Limit the number of temperature peaks between 25 and 30°C.

A Danstar product, distributed by: