ENZYMES

BACTOLYSE LYSOZYME

Purified additive based on lysozyme, an extractable enzyme that occurs naturally in egg white. Lysozyme is already widely used in the agri-food industry, especially the dairy sector.

ALL WINES

Delay or prevention of malolactic fermentation	**Prevention of lactic acid spoilage**	**Bacterial stabilisation after malolactic fermentation**

GOOD TO KNOW!

Lactic acid bacteria can generally be controlled by the use of sulfur dioxide (SO_2). However, although its efficacy and versatility (antioxidant, antiseptic, etc.) seem clear in current wine-making, SO_2 is limited in its action on lactic acid bacteria at a high pH. Moreover, the World Health Organisation is pushing for the reduction of doses.

So **BACTOLYSE LYSOZYME** is very useful as an additive that works in synergy with SO_2 and is very active at a high pH.

PACKAGING

500 G

STORAGE

Store unopened, sealed packaging away from light in a dry, odour-free environment.
Once opened use quickly.

DOSAGE

Delay of M.L.F.:

- **10 g/hL** in the final volume in carbonic maceration --> Treat at vatting.
- **20 g/hL** in the final volume on a destemmed harvest --> Treat during AF (at a density of around 1030).

Prevention of M.L.F.:

- **30 to 50 g/hL** --> Ask us.

Prevention of lactic acid spoilage:

- **25 g/hL** of wine --> Preferably after devatting.

Stabilisation after M.L.F.:

- **20 g/hL** of wine --> From the end.

Champagne method: Ask us.

Maximum legal dose: 50 g/hL.
Lysozyme is derived from eggs.

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OENOLOGICAL GOALS

- To (temporarily) prevent malolactic fermentation (M.L.F.).
- To delay the triggering of malolactic fermentation so that it only occurs after alcoholic fermentation has ended.
- To prevent the activity of lactic acid bacteria should alcoholic fermentation be halted in order to avoid lactic acid spoilage.
- To microbiologically stabilise wines after malolactic fermentation and so reduce the dose of SO_2 used in storage (a moderate dose of SO_2 is still necessary because **BACTOLYSE LYSOZYME** does not act as an antioxidant or inhibitor of yeast and acetic acid bacteria).
- To delay sulfiting at the end of malolactic fermentation in red winemaking and so help to improve preservation of the wine's colour.

In wine, the action of **BACTOLYSE LYSOZYME** is essentially on lactic acid bacteria (Gram+ bacteria). **BACTOLYSE LYSOZYME** has virtually no effect on acetic acid bacteria. It has no influence on the kinetics of alcoholic fermentation. It causes no modification of the organoleptic profiles of wines

INSTRUCTIONS FOR USE

1. Dissolve **BACTOLYSE LYSOZYME** in ten times its weight of water (temperature around 20°C) without shaking. Let it settle for 1 hour before mixing gently and thoroughly.
2. Add it to the volume to be treated, ensuring uniform distribution (fining connector). Non-compliance with this rule can make the treatment totally ineffective.

BACTOLYSE LYSOZYME works over the hours following its addition (N.B.: its action is not persistent like that of free SO_2).
While **BACTOLYSE LYSOZYME** enables doses of SO_2 to be reduced, it does not replace them. It is therefore recommended to simultaneously add sulfur dioxide for its antioxidant effect (in limited doses).
Carefully check there is no remaining residual lysozyme in the wine treated before any treatment with KPA to avoid precipitation.

WHITE WINE

ROSÉ WINE

1) Do not treat with bentonite and **BACTOLYSE LYSOZYME** at the same time. The enzyme would be adsorbed by the bentonite and would rapidly become inactive.

2) Do not add metatartaric acid and tannins to wines treated with lysozyme. Clouding will immediately occur unless the fining necessary to remove residual lysozyme has been done.

3) Avoid lysozyme treatment on bottling. Slight flocculation could later occur in the bottle.

4) Prevent the risk of cloudiness in wine stoppered with natural cork by eliminating residual lysozyme or using synthetic corks. A slight release of tannin from the natural cork can interact with residual lysozyme and lead to the formation of a precipitate.

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WHITE WINE

ROSÉ WINE

5) Opt for the specific elimination of residual lysozyme before standard protein stabilisation:
- Residual lysozyme can cause protein instability. In fact, it reacts with the usual protein stability tests (Bentotest, heat test, TCA).
- Once residual lysozyme has been eliminated, protein stability tests can be carried out as usual. It also enables the addition of metatartaric acid and tannins, and the use of natural corks, with no subsequent risk of cloudiness.

A rapid, specific test has been developed by the Martin Vialatte® laboratory to identify and eliminate residual lysozyme. > Please ask us for advice on the most suitable treatment for your wine.

RED WINE

1) When making wine using Pinot Noir, avoid adding **BACTOLYSE LYSOZYME** to the harvest or during alcoholic fermentation. The impact of lysozyme on such grapes with their low levels of polyphenols can harm colour. For that grape variety, rather use **BACTOLYSE LYSOZYME** after alcoholic fermentation to delay the occurrence of malolactic fermentation, or after malolactic fermentation to delay sulphiting. Those two applications facilitate protection of colour.

2) Before inoculating a red wine treated with **BACTOLYSE LYSOZYME** with lactic acid bacteria, it must be drawn off the lees, 3 to 5 days after lysozyme treatment. Residual lysozyme contained in the lees could reduce the efficacy of bacterial inoculation.

3) Avoid adding metatartaric acid to light red wines (IPT<50) treated with lysozyme. As with white and rosé wines, cloudiness could appear.

4) Avoid lysozyme treatment on bottling. A slight flocculation could later occur in the bottle.

Precautions for use:
Product for oenological and specifically professional use.
Use in accordance with current regulations.

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