



BACTOZYM® SPECIAL GRAIN

ENZYMATIC MIXTURE HIGHLY SOLUBLE
FOR CONTROLLING MALOLACTIC FERMENTATION

COMPOSITION



Highly active purified lysozyme, granulated, obtained from egg albumin.
It contains egg-based products.

CHARACTERISTICS



BACTOZYM® SPECIAL GRAIN is a lysozyme mixture extracted from egg albumin using a chromatograph process without solvents, this makes it possible to obtain a highly active and stable mixture, and to ensure that the product is particularly pure as required for use in winemaking.

The lytic action works on Gram positive bacteria where the cell membrane is composed of glucosamine and muramic acid, the n-acetyl muramidase action intervenes breaking the glycoside bond between the acid of these two molecules, thus provoking lysis of the cell and consequent bacterial inactivation (bacteriolysis). Therefore BACTOZYM® SPECIAL GRAIN is used to inhibit the growth of lactic bacteria such as *Cenococcus*, *Lactobacillus*, *Pediococcus*; however, it is ineffective against acetic bacteria (Gram negative).

BACTOZYM® SPECIAL GRAIN is a food additive classified as GRAS (Generally Recognized as Safe); and thus is completely harmless for humans (the lysosome is also found in tears and saliva); it also does not affect the multiplication and fermentation activity of yeast.

APPLICATIONS



When making white and red wines, various situations may occur which require controlling the bacterial charge without using excessive doses of sulfur dioxide. Therefore BACTOZYM® SPECIAL GRAIN is used in all situations where you want to avoid malolactic fermentation and the intervention of bacteria in general: which typically occurs in the fermentation, processing and storage of many white wines; but also in making red wines, it may be interesting to delay malolactic fermentation to lengthen the structuring phase, for example using microoxygenation at the same time. BACTOZYM® SPECIAL GRAIN is especially useful in all cases where lactic bacteria can act before alcoholic fermentation: hot climates, elevated must pH and winemaking by carbon maceration.

BACTOZYM® SPECIAL GRAIN is also recommended for bacteria lysis after malolactic fermentation in order to give wine interesting sensory characteristics. In bottling wines with structure with residual malic acid, you may consider a combination of BACTOZYM® SPECIAL GRAIN with less severe microfiltering system to obtain microbiological stability also in terms of bacteria. BACTOZYM® SPECIAL GRAIN can be proposed



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when you want to work without lactic bacteria: for processing sparkling wines and for preparing a non-contaminating yeast starter. BACTOZYM® SPECIAL GRAIN is also of particular interest in stuck fermentations, thus avoiding lactic acidness without having to intervene with filtering or heavy use of sulfur dioxide, an element that limits a subsequent resumption of the fermentation.

When using BACTOZYM® SPECIAL GRAIN comply with the regulations in force.

DIRECTIONS FOR USE



Dissolve BACTOZYM® SPECIAL GRAIN at room temperature water in a 1:10 ratio and let it sit for 40-45 minutes, add it to the wine to be treated, mix accurately trying not to make foam; in the following 2-3 days do not perform any filtering or clarifying treatments, or use tannin or bentonite. Check the protein stability before bottling.

DOSAGE



25-50 g/hL to produce lactic bacteria inhibition for around 3-6 months.
10-25 g/hL to delay or control the intensity of malolactic fermentation and avoid lactic acidness.
The possible surcollage action that high doses of BACTOZYM® SPECIAL GRAIN may produce on the product must be considered when treating white wines: the lysozyme, like all enzymes is a protein.
Given its reactivity with polyphenols, it is advisable to increase the doses by 50% with red wines.

PACKAGING



500 g poly laminated bags.

STORAGE



Store in a cool dry place. Reseal opened packages carefully.

HAZARD



Based on the current European regulations the product is classified: hazardous (see MSDS).