ENDOZYM® Antibotrytis L 2.0

Enzyme mixture for the treatment of botrytised grapes

ALLERGEN FREE GMO FREE

TECHNICAL DESCRIPTION

ENDOZYM Antibotrytis L 2.0 is a purified enzyme preparation, already existing in its powder version, which is the result of years of work.
The liquid preparation is much more active than the powder version and possesses useful activities to solve the problems caused by the appearance of Botrytis cinerea in the must.

The laccase present in grapes attacked by mould spreads in the medium, forming stable complexes with the solid particles, oxidises the anthocyanins and rapidly destroys the colouring substance of the grapes and, in the absence of adequate defences, permanently ruins their structure. Moreover, it has been seen that the presence of this mould has a devastating effect on the aromatic quality of wines, not only the smell of the mould itself (geosmin), but also the impact on the total loss of varietal aromas; and in certain cases the onset of unpleasant odours linked to uncontrolled endogenous enzymatic activities.

Its new formulation enhanced with β-glucanase and other activities synergistic with the two has shown that the effects of fungal attack are significantly reduced, both by the reduction of unpleasant odour fractions and the preservation of pleasant odour fractions.

Furthermore, tests made on the vinification of botrytised grapes after treatment with **ENDOZYM Antibotrytis L 2.0**, show that the value of gluconic acid on the grapes never increased during vinification. Finally, treated wines, with the same amount of sulphur dioxide, showed lower volatile acidities, up to 35% lower than untreated samples.
In some cases, it was seen that the oxidising action of Botrytis cinerea does not end after alcoholic fermentation but continues if not previously inactivated. Practical tests carried out with **ENDOZYM Antibotrytis L 2.0** have shown how the treatment in wine, although 'late', has an inhibiting action against these oxidasic enzymes and safeguards the integrity of the wine.

MODE OF ACTION

ENDOZYM Antibotrytis L 2.0 acts directly on the polyphenol oxidases (tyrosinases - laccases) in the must, inactivating them and thereby preserving the aroma precursors on the one hand, and the colour substance on the other.

ENDOZYM Antibotrytis L 2.0 must be used in combination with normal enzymes, whether for clarification or colour extraction. Treatment with **ENDOZYM Antibotrytis L 2.0** is decisive in musts obtained from grapes heavily attacked by grey mould, which is responsible for problems that cannot be solved by sulphur dioxide or other technological solutions.

The positive action of **ENDOZYM Antibotrytis L 2.0** is also evident in its strong β-glucanasic activity, which enables the breakdown of glucans, as well as facilitating the clarification and filtration of musts and wines made from mouldy grapes.

Reference: ENDOZYM_ANTIBOTRYTIS_L 2.0_TDS_EN_0060624_OENO_Italy

AEB SPA • Via Vittorio Arici, 104 - S. Polo 25134 Brescia (Italy) • +39 030 23071 • info@aeb-group.com • www.aeb-group.com

ENDOZYM® Antibotrytis L 2.0

⇢ COMPOSITION AND TECHNICAL CHARACTERISTICS

Enzyme preparation based on PL (Pectinliasis), PE (Pectinesterase), PG (Polygalacturonase), BGLU (Betaglucanase), ARA (Rhamnosidase - Arabinosidase).

Enzyme activities present in **ENDOZYM Antibotrytis L 2.0:**
PL (Pectinliasis): degrades both esterified and non-esterified pectins. This is a key enzyme activity, as it enables a very high clarification rate.
PE (Pectinesterase): assists PG in the degradation of pectin.
PG (Polygalacturonase): degrades only non-esterified pectins. It represents an enzymatic activity that in synergy with PL activity is decisive for the degree of clarification of musts and the filterability of wine. The combination of PL and PG activities enables high yields in must flower to be obtained extremely quickly.
BGLU (Betaglucanase): degrades ß-1-3 and ß-1-6 glucan bonds. This is the activity that leads to the partial hydrolysis of the glucomannan-protein fraction.
ARA (Rhamnosidase - Arabinosidase): act in synergy with PL and CMC and are responsible for the degradation of very branched pectins that do not allow rapid settling.

ENDOZYM Antibotrytis L 2.0 is purified of the following activities:
CE (Cinnamyl Esterase): is an activity present in unpurified enzymes that causes the formation of volatile phenols, compounds that impart unpleasant aromatic notes to wine that, when present in high concentrations, are reminiscent of horse sweat.
Anthocyanase: this is a secondary enzyme activity that causes a partial degradation of anthocyanins and a consequent increase in the orange hue of wines. AEB enzymes are obtained from Aspergillus niger strains that do not produce anthocyanase.

⇢ DOSAGE

1 to 5 g/q of crushed grapes or per hL of must. Contact times vary depending on temperature and SO_2. The dosage indicated varies depending on the temperature of the must or crushed grapes. By using higher doses, the unfavourable influence of low temperatures can be corrected.

⇢ INSTRUCTIONS FOR USE

Dilute directly in 10 parts non-sulphurised must or demineralised water or add directly to grapes, crushed grapes or must. The purpose of dilution is to homogenise the dosage.
Use at the beginning or when filling tanks.

Reference: ENDOZYM_ANTIBOTRYTIS_L_2.0_TDS_EN_0060624_OENO_Italy

AEB SPA • Via Vittorio Arici, 104 - S. Polo 25134 Brescia (Italy) • +39 030 23071 • info@aeb-group.com • www.aeb-group.com

ENDOZYM® Antibotrytis L 2.0

ADDITIONAL INFORMATION

SO_2 INFLUENCE
Enzymes are not sensitive to oenological levels of sulphur dioxide, but it is good practice not to place them in direct contact with sulphurous solutions.

MONITORING ACTIVITY
There are different methods for assessing enzyme activity. One system used by AEB is the direct measurement method linked to the concentration of PL, PG and PE; the sum of the three activities gives rise to the unit Total UP per gram. AEB provides technicians with methods for determining pectolytic units and activity diagrams.

STORAGE AND PACKAGING

Can be stored for 24 months at a temperature below 20°C: 36 months at a temperature below 5°C.

1 kg bottles in 4 kg boxes.

Reference: ENDOZYM_ANTIBOTRYTIS_L_2.0_TDS_EN_0060624_OENO_Italy

AEB SPA • Via Vittorio Arici, 104 - S. Polo 25134 Brescia (Italy) • +39 030 23071 • info@aeb-group.com • www.aeb-group.com