



# ENDOZYM<sup>®</sup> Antibotrytis

Pectolitic enzyme for white and red botrytis affected grapes



## → TECHNICAL DESCRIPTION

Pectolitic enzyme with high secondary activity, for the treatment of white and red botrytis-affected grapes, controlled by AEB. **Endozym Antibotrytis** is a purified enzymatic preparation, possessing activities useful to solve problems deriving from the presence of *Botrytis Cinerea* in the must. Laccase present in grapes attacked by moulds spreads in the medium and builds stable complexes with solid particles, oxidates anthocyanins that quickly destroy grape colouring matter and, in the absence of suitable defences, definitively destroys structure.

**Endozym Antibotrytis** indirectly acts towards polyphenoloxidases (tyrosinase - laccase) present in the must, inactivating them and enabling aromatic precursors to be preserved together with the colouring matter. **Endozym Antibotrytis** should be used in association with normal clarification and colour extraction enzymes. The treatment with **Endozym Antibotrytis** is decisive in musts obtained by grapes heavily attacked by grey mould, responsible for problems which can not be solved either by sulphur dioxide or by other technological solutions.

The positive action of **Endozym Antibotrytis** is also highlighted by the strong  $\beta$ -glucanasic activity, enabling to break down glucans and to facilitate clarification and filtration of musts and wines processed with mouldy grapes.

## → COMPOSITION AND TECHNICAL CHARACTERISTICS

Enzymatic activity	Activity/g
PL (U/g)	8,500
PE (U/g)	650
PG (U/g)	3,500
BGX (U/g)	1,200
ARA (U/g)	175

*The value is approximate and is not a specification.*

**PL** (Pectinlyase): breaks down both the esterified and non-esterified pectins. This is a fundamental activity of the AEB enzymes, since it produces a very rapid clarification speed.

**PE** (Pectinesterase): it supports the PG in breaking down pectin.

**PG** (Polygalacturonase): breaks down only the non-esterified pectins. Its enzymatic activity works in synergy with the PL activity and performs a very important role in determining must clarity and wine filterability.

**BGX** (Betaglucosibase): is the association of 4 activities which concurrently release aromas from the sugar compounds to which they are normally bound in high percentages.

**ARA** (Rhamnosidase-Arabinosidase): they act synergically with PL and CTC and are responsible for the breaking down of very ramified pectins, not allowing a quick sedimentation.





# ENDOZYM® Antibotrytis

**Endozym Antibotrytis** is purified by the following activities:

**CE** (Cinnamyl Esterase): is an activity found in unpurified enzymes, which causes the formation of volatile phenols, compounds which lend unpleasant aromatic nuances to the wine, which, if present in high concentrations, are reminiscent of horse sweat.

**Anthocyanase:** is a secondary enzymatic activity which causes a partial breakdown of the anthocyanins with a consequent increase of orange hues in the wines. AEB enzymes are obtained from *Aspergillus niger* strains, which do not produce anthocyanase.

## → DOSAGE

From 20 to 40 g per ton (75-150 g/1000 gal).

The recommended dosage varies according to the temperature of the must or crushed grapes. By using higher dosages, the unfavourable influence of low temperatures can be rectified.

## → INSTRUCTIONS FOR USE

Dilute directly in 20-30 parts of non-sulfurized must or in de-mineralized water and add to the press juice or directly onto the grapes, must or wine. Alcohol will reduce relative activity so lower ends of the range of addition are for treatments in the must, higher levels are recommended for additions to the wine. The product is not active if the temperature is lower than 16°C.

## → ADDITIONAL INFORMATION

### INFLUENCE OF SO<sub>2</sub>

Enzymes are resistant to SO<sub>2</sub> levels normally used in winemaking, however it is good practice not to put them in direct contact with sulfur solutions.

### ACTIVITY CONTROL

There are various methods for evaluating enzymatic activity. A system utilized by AEB is a method of direct measure, directly linked to the concentration of the PL, PG and PE; the total of the three activities yields the Total UP per gram unity. The determination methods of pectolitic units together with the relative activity diagrams are made available to all technical personnel by AEB.

## → STORAGE AND PACKAGING

Keep **Endozym Antibotrytis** in the original sealed packaging away from light, and in a cool, dry, odour-free place at a temperature below 20°C. Do not freeze. Observe the expiry date on the packaging. Use promptly after opening.

500 g net cans.

