

Crystalzyme® Tinto - an Enzyme System Designed to Increase Quality and Productivity in Red Winemaking

DESCRIPTION

Crystalzyme® Tinto is a proprietary enzyme system produced by the controlled fermentation of non-genetically modified strains of *Aspergillus niger*. The food grade, liquid formulation contains no chemical preservatives.

Crystalzyme Tinto is an enzyme system specifically designed to enhance the production of, and the organoleptic characteristics of premium red wines. Is especially effective on Cabernet Sauvignon, Merlot, Grenache, Malbec, Pinot Noir and Shiraz grapes. Takes advantage of enzyme synergies to selectively and efficiently breakdown grape pectin and complex polysaccharides.

Benefits obtained with Crystalzyme Tinto include:

- **Reduces the viscosity of, and increases the clarity of young wines.**
- **Reduces or eliminates the need for fining and/or filtration.**

Wine is well clarified early in the winemaking process. Rough filtration is not needed. In some cases, polish filtration is not necessary.

Adds complexity to the finished wine, even with high quality fruit.

The enzyme treatment increases the extraction of mature, polymeric tannins. These tannins are often referred to as "soft tannins" which gives the wines a rounder, softer, mouthfeel.

Note : Over-extraction with some enzyme preparations has led to the extraction of monomeric tannins, which exhibit a harsh, astringent effect on the palate. These tannins are often referred to as "Drying tannins" due to the negative impact on mouthfeel.

- **Increases process efficiency by shortening press and fermentation time.**

- **Increases juice and wine yields.**

The treatment of must with Crystalzyme Tinto has proven to increase efficiency in the winery. The amount of higher quality free run juice is increased, decreasing the amount of time needed in the press. This leads not only to increased yields but also allows tanks to be pressed off earlier in the process, opening up tank space for increased production volume.

In general, the enzyme treated wines need at least one less day of fermentation, due to the increased extraction and increased free run.

- **Increases color extraction and stability; especially in low color yielding grapes.**

Enzyme treatment produces a brighter, more brilliant colour.

Colour extraction occurs much more quickly with enzyme treatment, and the colour stability is greatly enhanced. The colour extraction is especially dramatic with lower colour-yielding fruit. For example, enzyme treated Pinot Noir exhibits a much more deep, brilliant colour than the non-enzyme treated wine. Similar results have been obtained from fruit that is not optimally ripe.

- **OU Kosher**

PROPERTIES

Activity:	2,000 TU/g
Form:	Dark amber liquid
Solubility:	Miscible with water
Specific Gravity:	1.15-1.2

USAGE – DOSAGE RATE

Optimum dosage rate depends on the quality and polysaccharide content of the grapes, the process, and the processing conditions. Conduct laboratory tests

to optimize dosage.

Initially evaluate Crystalzyme Tinto at 10-25 ml / Tonne (1000Kg) grapes or 15-38 ml/1000L of juice). In general, the rate of poly-saccharide hydrolysis is proportional to enzyme concentration and a higher enzyme dose will be required when must temperatures are lower, or when treatment time is decreased.

To ensure enzyme dispersion in the process dilute one (1) part Crystalzyme Tinto with nine (9) parts water prior to addition. Add the diluted enzyme to the grapes at the crusher or directly to the must tank.

EFFECT OF PH

Crystalzyme Tinto demonstrates optimum activity over the range of pH 3.0-4.0. It is effective over the range of pH 2.5-5.5.

EFFECT OF TEMPERATURE

Crystalzyme Tinto is effective in the winery without any temperature adjustment. In general, process temperatures should never exceed 50°C (122°F).

PACKAGING

Crystalzyme Tinto is available in the following pack sizes; 20ml (25g), 100ml (125g), 200ml (250g), 500ml (625g) & 800ml (1Kg)

STORAGE

The loss of activity is normally 1 – 3% when stored in dry, sealed containers under refrigeration [$< 5^{\circ}\text{C}$ (41°F)].