Wine yeast
selected from nature

LEVEL² TD™

Torulaspora delbrueckii

A new way to promote white wine aromatic and mouthfeel complexity

DESCRIPTION

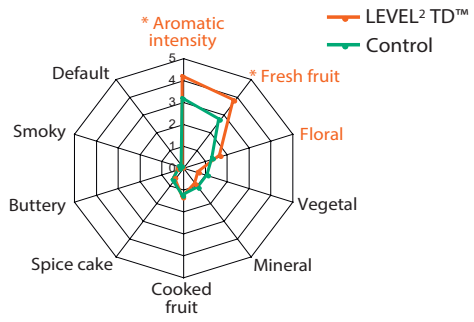
The increasing understanding of non-*Saccharomyces* yeast and their positive contribution to aromatic and mouthfeel complexity of wine has led Lallemand to work for 5 years on an optimized use of a selected *Torulaspora delbrueckii* strain TD291. LEVEL² TD™ is an innovative kit of 2 different selected yeasts (*Torulaspora delbrueckii* and *Saccharomyces cerevisiae*) used sequentially (1st *Torulaspora delbrueckii* and 2nd *Saccharomyces cerevisiae*) that enhances aromatic and mouthfeel complexity of white musts (Chardonnay, Chenin, Semillon, Ugni blanc, Melon, Maccabeu grapes).

The *Saccharomyces cerevisiae* was carefully chosen for its ability to interact positively with the *Torulaspora delbrueckii* TD291 and to carry out a reliable alcoholic fermentation. LEVEL² TD™ enhances the quality grapes by improving mouthfeel, aromatic complexity and by reducing aggressive notes. LEVEL² TD™ upgrades wine quality of lower quality must. Sequential inoculation enables controlled development of wines aromatic complexity by favouring the perception of certain esters without overwhelming the wines.

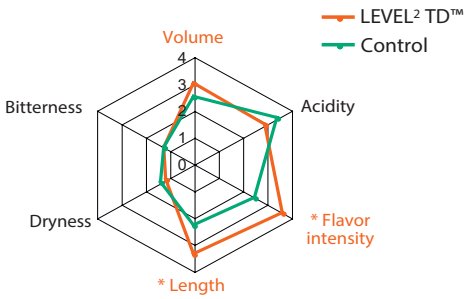
BENEFITS & RESULTS

Results from different trials show that fruity and floral characters are enhanced and that wines appear more balanced with less pronounced aggressive notes. Wine fermented with LEVEL² TD™ are significantly preferred to the control.

Visual and aroma analysis



Flavor analysis



Maccabeu sensory analysis by 14 experts 1 month after bottling

LEVEL² RANGE

One of the objectives of our Lallemand Oenology R&D program is to explore the non-*Saccharomyces* biodiversity found in nature. Our R&D team continues to select interesting and original non-*Saccharomyces* yeast and offer them within our LEVEL² range. These non-*Saccharomyces* LEVEL² yeast provide winemakers with exciting new aromatic complexities and possibilities.

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PROPERTIES

- Moderate lag phase
- Moderate fermentation rate
- Alcohol tolerance 14.5% v/v
- Very low volatile acidity production
- Low SO_2 production
- Optimum fermentation temperature 16-20°C
- High tolerance to osmotic shock
- High glycerol production
- Very good compatibility with malolactic fermentation

INSTRUCTIONS FOR OENOLOGICAL USE

1/ Yeasts preparation

Rehydrate each yeast in ten times its weight of water at appropriate temperature. Important points:

- TD 291 temperature of rehydration is different from a *Saccharomyces*: optimal temperature between 20° to 30°C/68° to 86°F.
- SC 734 temperature of rehydration: 37°C/99°F (the use of yeast protection is highly recommended).

Allow to settle for 15 minutes then mix gently. Then acclimatize the yeast starter to the temperature by progressively adding an equivalent volume of must to it. The temperature difference between the rehydration solution and the must should not exceed 10°C.

Total rehydration time should not exceed 45 minutes.

2/ Inoculation process

1. When inoculating with *Torulaspora delbrueckii* TD 291, verify that the content of free SO_2 in the must does not exceed 15 mg/L.
   - Avoid using SO_2 as much as possible by favouring the use of inert gas or carbon dioxide snow.
2. Inoculation of the 1st level (TD 291) at 25 g/hL in the must before alcoholic fermentation start.
3. After a drop of 10 to 15 points in must density, inoculate the 2nd level (*Saccharomyces cerevisiae* SC 734) at 25 g/hL.

Use good fermentation practices such as yeast protection and nutrition.

3/ Important must considerations

A - Temperature:

- The optimum temperature for the TD 291 is > 16 °C (60.8 °F).
- At temperature < 16 °C, slow growth and long lag phase could be observed for TD 291.

B - Must turbidity:

- TD 291 is sensitive to low turbidity (< 80 NTU).

C - Nutrition:

When initial must YAN* content > 80 mg/L, the TD 291 will deplete the medium in YAN* making it difficult for SC 734 to complete the fermentation. Complex nutrition additions for SC 734 are recommended:

- after SC 734 inoculation.
- after a drop of 45 points from original must density.

TD 291, as all yeasts, needs YAN* to assure its growth. In case of extreme YAN* must deficiency (< 80mg/L), both yeasts need an appropriate nutrition:

- addition of complex nutrient just after TD 291 inoculation: 20 g/hL.
- addition of complex nutrient

* YAN = yeast assimilable nitrogen

PACKAGING AND STORAGE

- Available in a kit of 2x500 g pack
- Store in a cool dry place
- To be used once opened

Distributed by: