



An aroma-releasing enzyme for all types of winemaking: Rapidase® Revelation Aroma

The conventional winemaking process releases small amounts of free aroma and a larger amount of glycosylated, odorless precursors, which represent an important reserve of aroma compounds.

Rapidase® Revelation Aroma transforms these non-aromatic precursors into odorous compounds, characteristic or typical of the variety. The use of this aroma revealing type of enzyme is now common practice on such varieties as Gewürztraminer, Riesling, Muscats and is becoming a trend in Chardonnay, Sauvignon blanc and Pinot gris, as well as Viognier, with very interesting results (**Figure 1** and **2**).

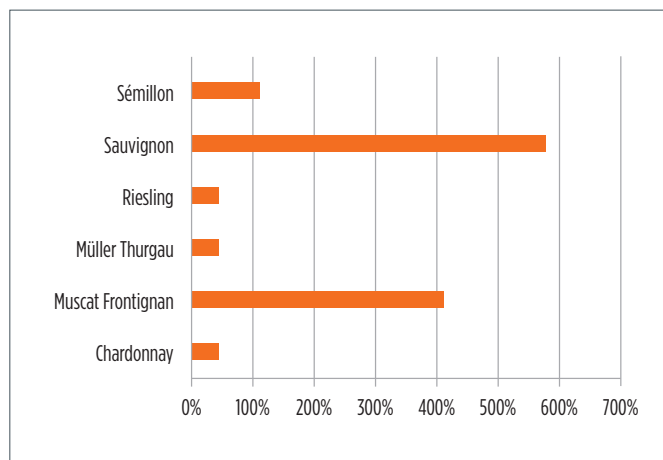


Figure 1: Effect of Rapidase® Revelation Aroma (2 g/hl) on terpene concentration increase in %

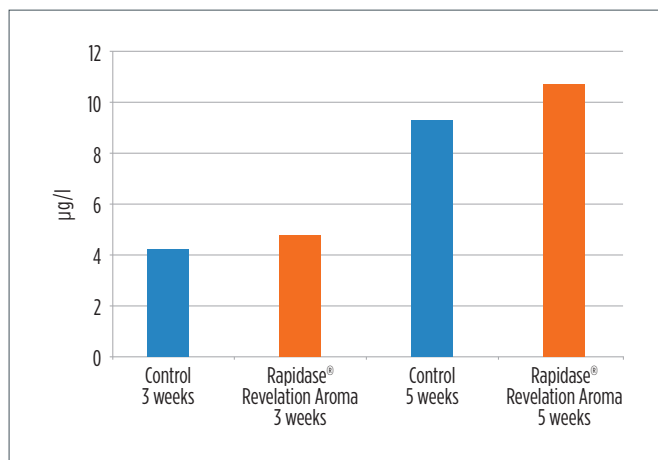


Figure 2: Impact of Rapidase® Revelation Aroma on β-damascenone concentrations in a Languedoc Sauvignon blanc

This type of enzyme is also used on many red varieties without negatively impacting wine color. Many trials on Syrah, Pinot, Tempranillo, Cabernet, Grenache, Malbec or even on some country specific varieties such as Carménère in Chile or Touriga Nacional in Portugal, gave excellent results (**Figure 3** and **4**).

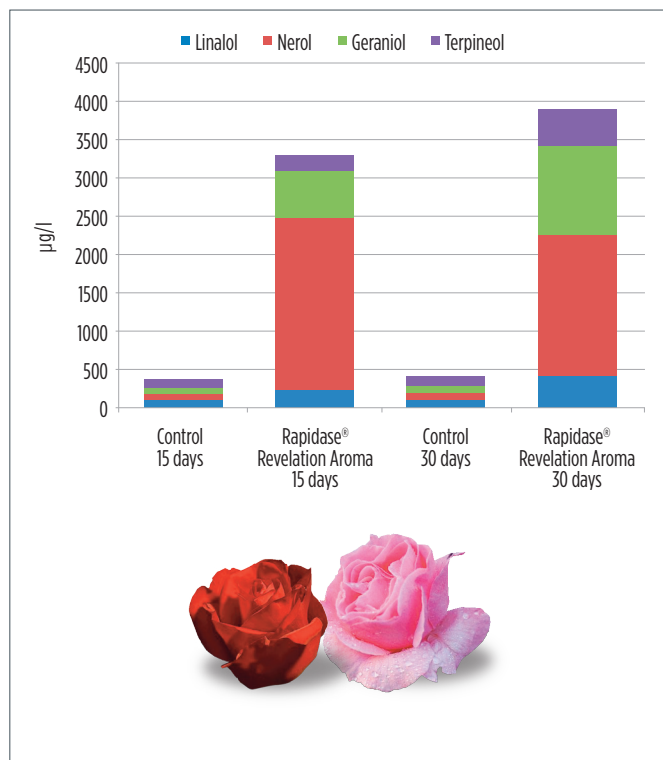


Figure 3: Impact of Rapidase® Revelation Aroma on red wine aroma (Aleatico)

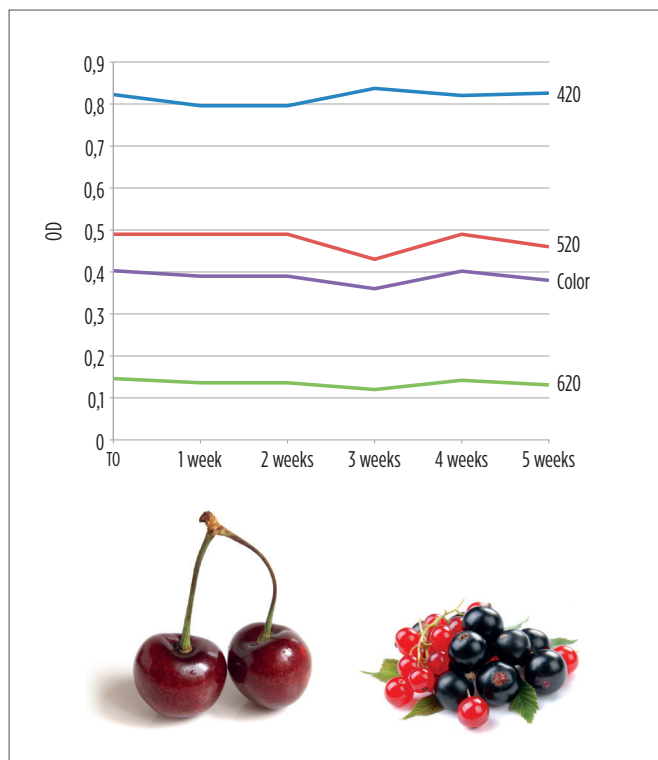


Figure 4: Monitoring color parameters of a red wine after treatment with Rapidase® Revelation Aroma at 1 g/hl (Cabernet Sauvignon 50% and Merlot 50%)

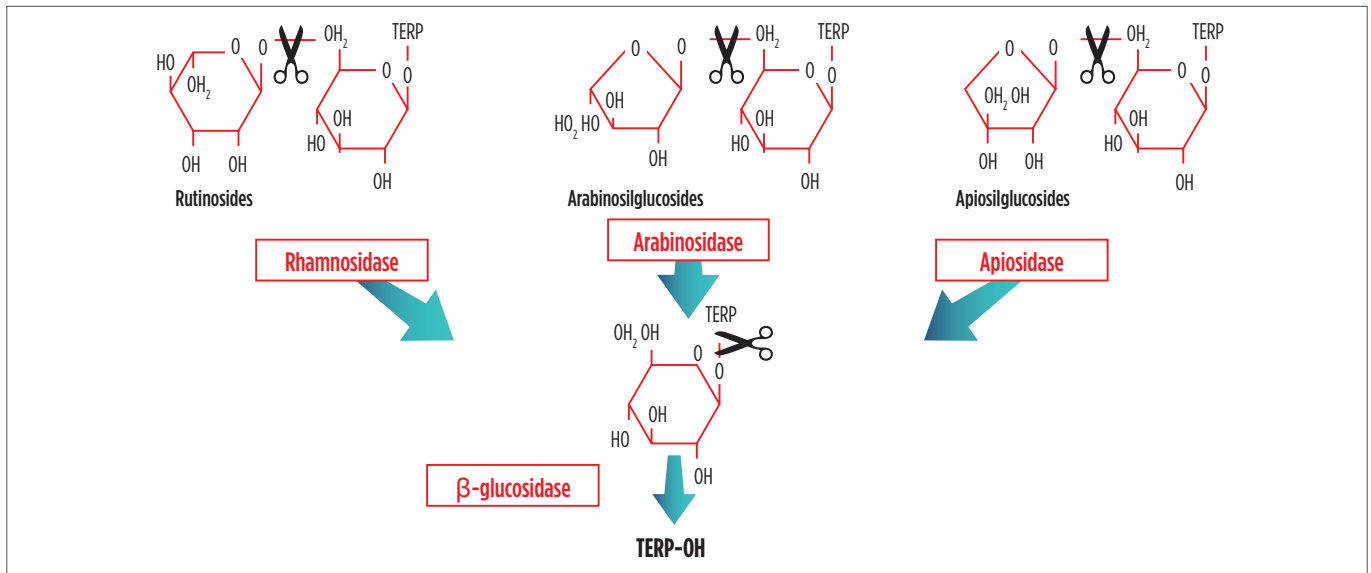


Figure 5: Enzyme hydrolysis of monoterpene glycosides

A broad activity enzyme formulation

A research program conducted at INRA Montpellier for DSM Food Specialties, has highlighted the sequential reactions that occur to release glycosylated aromatic precursors and that lead to a full revelation of the wine aroma profile. Rapidase® Revelation Aroma contains all the activities required for the complete release of the glycosylated precursors (Figure 5).

Years of experience with this enzyme formulation, as well as the observation of the various ways our customers choose to use it, led us to conduct a study to validate the effectiveness of this preparation on a wider range of applications. Rapidase® Revelation Aroma is now, more than ever, an enhanced tool to meet the growing demand for aromatic wines of all styles.

This enzyme preparation can be used on finished wines, whether dry or with residual sugar, but it is also commonly used during the alcoholic fermentation. However, it should be noted that there is a competitive inhibition between glucose and the enzyme substrate when glucose content is above 50 g/l.

Trial protocol

The following protocol requires six weeks. It's an easy tool to evaluate the impact of the enzyme.

1. Prepare 7 bottles of 750 ml

Note: One bottle will be saved for the control (no enzyme added).

2. Prepare the enzyme solution

Note: **Rapidase® Revelation Aroma** can be dispersed into wine or water prior to addition.

For this trial we will prepare our enzymatic solution with the wine to be tested in order to avoid any dilution of our sample.

Prepare the solution for an equivalent treatment of 2 g/hl of enzyme.

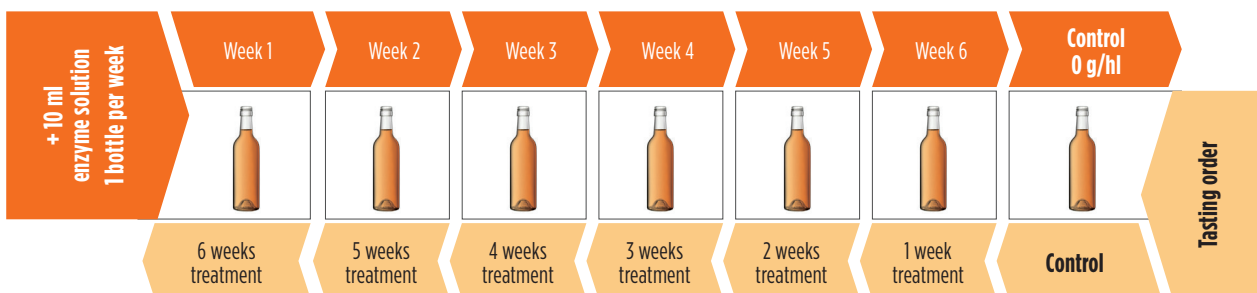
- In a volumetric flask dilute 1.5 grams of enzyme in 1 liter of wine.
- Every week prepare a new solution.
- 10 ml of the solution will be used in one 750 ml bottle each week.

3. Enzyme addition

- Add 10 ml of enzyme solution in the corresponding bottle.
- Close the bottle.
- Store the bottle with the others away from light and heat sources.
- Repeat the operation every week for 6 weeks.

4. Tasting

- The tasting evaluation will take place one week after the last bottle treatment.



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