

Wine Fermentation Monitoring

Introduction

One of the most important parameters in wine production is the sugar content of the grapes.

After grapes are harvested and crushed, the grape juice ferments in tanks for 8 to 14 days. During this time, the yeast present in the must metabolize the sugar in the grape juice, resulting both in their proliferation and in the waste products ethanol and CO₂, along with flavors.



To monitor this process, winemakers measure density or specific gravity (SG) once per day, determining a fermentation curve; this gives an insight into fermentation conditions, which allows them to decide if it is necessary to add nutrients or adjust the temperature to obtain an optimum quality of the wine.

Using the Densito, the measured density is automatically compensated to 20.0 °C and can be displayed in SG, g/cm³ or other derived values.

Samples and test standards

- Grape must during fermentation
- Water standard for density verification

Instruments and accessories

- Densito (30330857)
- Protective Cover (30330860)
- Water Standards (51325005)
- EasyDirect™ PC Software (30451628)

Measurement procedure

To verify the accuracy of the Densito, a water standard was measured using the test method.

Two way of sampling are possible: either directly using the long filling tube (30330848) or draw the sample from the barrel into a vessel.

Gas bubbles can disturb the density measurement; therefore, it is important to ensure that there are no bubbles present in the cell prior to measure. This is possible due to the transparent window.

Measurement parameters

Fill speed: Medium
 Measurement reliability: Medium
 Measurement scale: SG @20.0 °C

Results

The results of the measurements are stored automatically in the Densito and can be viewed at any time on the display. Furthermore, they can be printed or exported to EasyDirect™ PC software for further advanced evaluation and the automatic creation of fermentation curves.

Day	Density [SG]
1	1.0793
3	1.0697
4	1.0517
5	1.0359
6	1.0228
7	1.0133
8	1.0054
9	1.0008

Table 1: Results of the grape must fermentation.

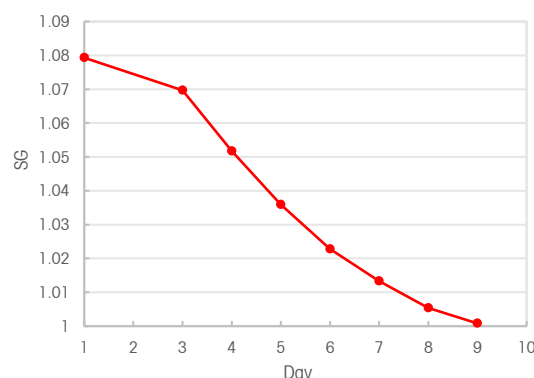


Fig. 1: Fermentation process monitoring of wine.

Further information

www.mt.com/Density2Go