

Área: **Fermentação e Biotecnologia (Divisão J)**

PROFILE OF SUGARS CONSUMPTION IN FRUIT WINES PRODUCTION BY DIFFERENT *SACCHAROMYCES CEREVISIAE*

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Resumo

In wine fermentation, the two main soluble sugars present in must (glucose and fructose) are fermented to ethanol, CO₂ and other compounds. Wine yeasts have a slight preference for glucose compared to fructose resulting in a difference between glucose and fructose consumption. Fructose is approximately twice as sweet as glucose and its presence as a residual sugar has a much stronger effect on the final sweetness of wine. The objective of this study was to evaluate the profile of sugars consumption by different yeasts during fruit wines production. Different *Saccharomyces cerevisiae* were used in the fermentation of raspberry must with 16 °Brix and pH adjusted to 4.0. Batch fermentations were carried out at 22°C. The concentrations of sucrose, glucose and fructose were determined by HPLC. The total conversion of sucrose into glucose and fructose by yeast UFLA CA11 was the fastest, within the first 8 h of fermentation, while for the yeast UFLA CA1174 the total hydrolysis of sucrose occurred after 32 h of fermentation. For the yeasts UFLA CA15 and UFLA EU 60.1, the sucrose hydrolysis occurred after 12 and 16 h, respectively. As expected, for all yeasts, was confirmed a preferential and fast consumption of glucose in comparison to the consumption of fructose. The highest residual concentrations of glucose and fructose were respectively, 300 and 920 mg/l for yeast UFLA CA11 and 400 and 2100 mg/l for yeast UFLA CA1174. Based on the concentrations of ethanol and residual sugar, the best efficiency of conversion was 93.88% for the yeast UFLA CA15. The other yeasts showed an efficiency of 75.56% (UFLA EU 60.1), 82.08% (UFLA CA11) and 83.69% (UFLA CA1174). It can be concluded that the evaluated yeasts were able to ferment the main sugars present in raspberry must. The yeast UFLA CA15 showed the best performance with higher conversion efficiency, rapid hydrolysis of sucrose and low concentration of residual sugars at the end of fermentation.

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Palavras-chave: *Saccharomyces cerevisiae*, fruit wine, fermentation