

ABSTRACT

FERMENTATION OF HIGH DENSITY CHARDONNAY AND CABERNET SAUVIGNON BY STRAINS OF *SACCHAROMYCES CEREVISIAE*

This study evaluated the performance of commercially available wine yeast strains in high-sugar must/juice fermentations. Cabernet Sauvignon and Chardonnay musts averaging 292 g/L and 279 g/L, respectively, were processed as small-scale fermentations in triplicate using commercially available strains of *S. cerevisiae*. Five yeast strains were selected for Cabernet Sauvignon (A, B, C, D, E) and five for Chardonnay (1, 2, 3, 4, 5). Flow cytometry was used to evaluate yeast viability throughout the fermentation. FTIR spectroscopy was used to measure chemical changes. Flow cytometer data showed differences in lag times as well as kinetics of growth and death rates. FTIR revealed differences in rate and extent of fermentation as well as production of volatile acidity, glycerol and Folin Ciocalteu index. Four out of five yeasts fermented the Cabernet Sauvignon below 5 g/L reducing sugar. Three of the five yeasts fermented the Chardonnay to below 7g/L.

Jeffrey Brown Farthing
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