

The Study of protoplast fusion between *Leuconostoc oenos* (malolactic fermentation bacteria) and *Saccharomyces cerevisiae* for industrial wine production.

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ABSTRACT

In this study the techniques of protoplast fusion between *Saccharomyces cerevisiae* (yeast) and *Leuconostoc oenos* (lactic acid bacteria) were explored. More than 200 fusants were obtained. This fusants had a characteristic of yeast-like organisms which is much easier to grow and maintain than lactic acid bacteria. 50 fusants were chosen to study the properties of alcoholic and malolactic fermentation. The result showed that only one fusant that we obtained maintained the property of malolactic fermentation. The fusant can not produce any alcohol. *S. cerevisiae* wild type (W.T.) were added together with the fusant to explore the possibility of simultaneously alcoholic and malolactic fermentation. The result showed that the fusion which we obtained, we named it *S. cerevisiae* var. MLF 11 Haritchanan, due to the ability of MLF and morphologically similar to *S. cerevisiae* and can be used together with *S. cerevisiae* (W.T.) to perform a complete alcoholic and malolactic fermentation.