

Plum Red Wine Made by *Monascus anka*

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ABSTRACT

In this study, fruit red wine was made from mei juice by *Monascus anka* CCRC 31499 and brewer's yeast. Apple juice was one of the best source for yield and quality improvement in wine making. The red wine was mixed by the 1:1 ratio of the apple wines made by *M. anka* and yeast after ten-day fermentation. The ethanol yield of the apple red wine was 4.1% and 0.347% /0Brix. The color of the wine was more acceptable than those of the wines made from grape and orange juice. The other apple red wine was made by both *M. anka* and yeast from four-day to ten-day mixture fermentation. The ethanol yield of the wine was 6.12% and 0.313%/0Brix. It was found that the ethanol yield of the wine made by mixture fermentation, while the ethanol%/0Brix yield was decreased. The apple red wine only made by *Monascus anka* CCRC 31499 was also studied. Three different strategies of operation variables, such as wine making temperature, time and sugar-type carbon source, were investigated. The optimal wine making temperature was at 25 for 10 days. The ethanol production was 3.12% and 6.12%/0Brix. The pH value of the wine become increase as winemaking temperature increased. The color of the wine made at 25 become more red when the a increase was 0.1039/0Brix. Fructose and Glucose were the optimal sugar-type carbon sources for *M. anka* wine making. The ethanol yield for fructose was up to 4.98% but the a increase was -0.12/ 0Brix. In addition, monosodium glutamate(MSG) addition was used to improve the increase of ethanol production and color of winemaking. For glucose and fructose the ethanol yields of red wines were 5.75% and 5.80%, respectively, while the colors were not changed. This research demonstrated that *M. anka* CCRC 31499 was worth using to improve the ethanol yield and color quality improvements in apple red winemaking.

Keywords : *Monascus anka* ; Plum red wine ; fermentation

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