

# **The Making of Red Wine from Jamblang (*Syzygium cumini* L.) Fruit by Varying Sugar Concentration and Fermentation Time**

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## **ABSTRACT**

The progress and development of wine-making techniques in Indonesia has been increasingly popular and varied. But unfortunately, not all people in Indonesia can enjoy the wine because the price is relatively expensive, due to grape as the raw material still being imported. In fact, many variations of local fruit which native to Indonesia has the potential to be used as a substitute for wine grapes, one of them is jamblang fruit. In this study, the making of red wine from jamblang fruit was conducted using *Saccharomyces cerevisiae*, with variations in the sugar concentration and fermentation time. Variations in the concentration of addition sugars was 0%, 5%, 15%, and 25% (w/v). The fermentation parameters measure was on 0, 3, 6, and 9 days of fermentation incubation time. The purpose of this study was to determine the influence of initial sugar and fermentation time on the fermentation parameters such as total sugars, reducing sugars, pH, cell growth, total acid, levels of turbidity, color intensity, and levels of ethanol produced during the fermentation process. In addition, the organoleptic test was carried out to determine the acceptability panelist on the characteristics of taste, flavor, aroma, after taste and color of red wine jamblang products presented. The data was analyzed using of two way ANOVA, while the organoleptic data was analyzed using Kruskal-Wallis method. The best results of physicochemical parameters (highest ethanol content) contained in the addition of sugar to 15% for 6 days, 25% for 6 days, and 25% with 9 days of fermentation time. Based on the results of organoleptic test, the most preferred jamblang red wine was wine with 25% sugar addition, with ethanol content of 12,906% and fermentation time of 6 days.

Keywords: Red wine, fermentation, jamblang fruit, *Saccharomyces cerevisiae*

# **PEMBUATAN *RED WINE* DARI BUAH JAMBLANG (*Syzygium cumini* L.) DENGAN VARIASI KONSENTRASI GULA DAN LAMA FERMENTASI**

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## **ABSTRAK**

Kemajuan dan perkembangan teknik pembuatan *wine* di Indonesia kini menjadi semakin populer dan bervariasi. Namun sayangnya, tidak semua kalangan masyarakat di Indonesia dapat menikmati *wine* karena harganya yang relatif mahal, karena bahan baku anggur yang masih impor. Padahal, banyak variasi buah lokal asli Indonesia yang memiliki potensi untuk dijadikan *wine* sebagai pengganti anggur, salah satunya adalah buah jamblang. Dalam penelitian ini, dilakukan pembuatan *red wine* dari buah jamblang menggunakan *Saccharomyces cerevisiae*, dengan variasi konsentrasi gula dan lama fermentasi. Variasi konsentrasi gula yang ditambahkan adalah 0%, 5%, 15%, dan 25% (b/v), sedangkan pengukuran terhadap parameter fermentasi dilakukan pada hari ke-0, 3, 6, dan 9. Tujuan dalam penelitian ini adalah mengetahui pengaruh penambahan gula dan lama fermentasi terhadap parameter fermentasi seperti kadar gula, nilai pH, pertumbuhan sel, total asam, tingkat kekeruhan, intensitas warna, dan kadar etanol yang dihasilkan selama proses fermentasi. Selain itu, dilakukan uji organoleptik untuk mengetahui daya terima panelis terhadap karakteristik rasa, *flavor*, aroma, *after taste*, dan warna produk *red wine* jamblang yang disajikan. Data hasil pengujian parameter fermentasi diolah menggunakan metode ANOVA *Two way*, sedangkan data pengujian organoleptik diolah melalui metode Kruskal-Wallis. Hasil uji parameter terhadap analisis fisikokimia terbaik (kadar etanol tertinggi) terdapat pada penambahan gula 15% selama 6 hari, 25% selama 6 hari, dan 25% selama 9 hari fermentasi. Berdasarkan hasil uji organoleptik, produk *red wine* jamblang yang paling disukai adalah *red wine* jamblang dengan penambahan gula 25%, dengan kadar etanol sebesar 12,906%, dan lama fermentasi selama 6 hari.

Kata kunci: *Red wine*, fermentasi, buah jamblang, *Saccharomyces cerevisiae*