



Production of Sake from Riceberry Rice and Its Properties



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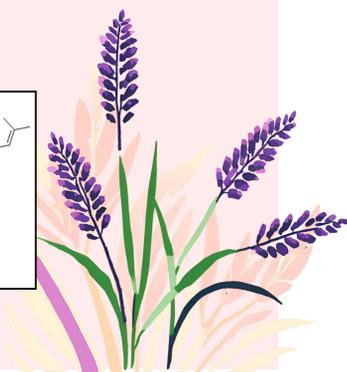
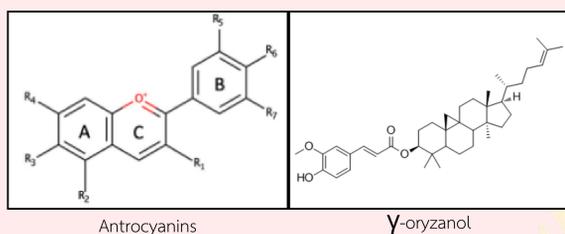
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ABSTRACT

This study focuses on producing sake from Riceberry rice to enhance the value of Thai rice and meet the growing demand for health-oriented products. Riceberry rice, known for its deep purple color due to anthocyanins, is rich in phenolic compounds and γ -oryzanol, which offer health benefits such as cholesterol reduction and a low glycemic index.

Fermentation involved Loog-pang, with reducing sugar levels dropping from 3.545 g to 1.127 g in three days as yeast converted sugar into alcohol. After 14 days, alcohol content reached 47.61%, and phenolic compounds increased from 3.939 g to 6.298 g, enhancing nutritional value. The use of Loog-pang also contributed to desirable flavor and aroma. This study highlights the potential of Riceberry rice in sake production, promoting sustainability and product diversification.



OBJECTIVES

- ★ To develop the sake production process from Riceberry rice.
- ★ To analyze the chemical and biological properties of the product.
- ★ To create a product with commercial potential.

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CONCLUSION

- Reducing sugar content decreased significantly during 5 days of fermentation, indicating the efficient conversion of starch from Riceberry rice to sugar.
- The ethanol content in the final product gradually increased to 47.61% over 14 days of fermentation, reaching the ideal level for sake production.
- The phenolic compound content increased, enhancing the nutritional value of the sake from 3.939 g to 6.298 g within 14 days of fermentation.

INTRODUCTION

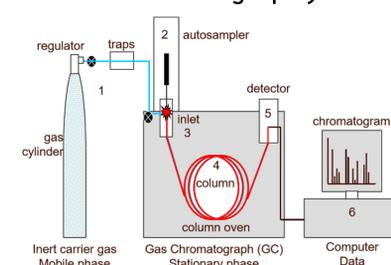
Riceberry rice is a unique Thai variety known for its deep purple color from anthocyanins, which offer antioxidant benefits. It contains phenolic acids and gamma-oryzanol, helping reduce cholesterol and inflammation. With its fragrant aroma, distinct flavor, and appealing appearance, Riceberry rice is an excellent ingredient for sake production, enhancing both its nutritional value and market potential.

METHODOLOGY

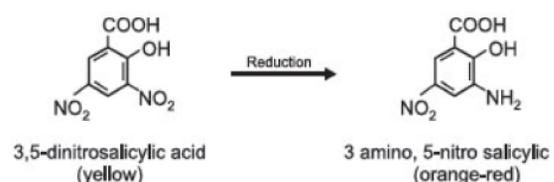
• Riceberry rice sake production



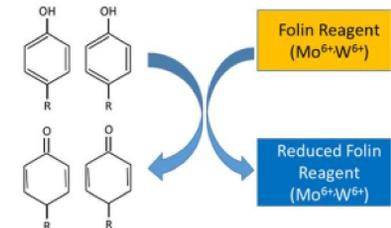
• Gas chromatography



• DNS method



• Folin-ciocalteu method



RESULTS AND DISCUSSION

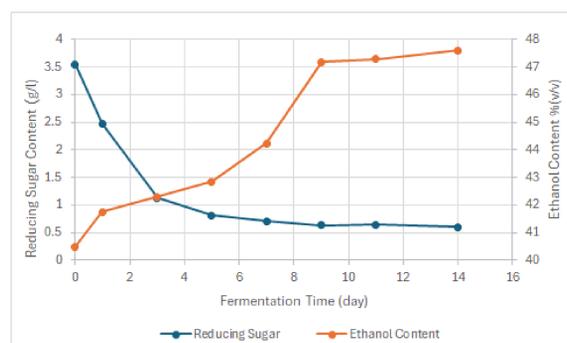


Figure 1 Comparison between reducing sugar and alcohol content

Reducing sugar decreased as ethanol increased, with rapid consumption in the first 5 days.

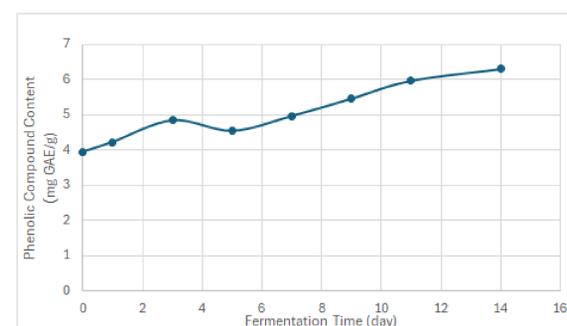


Figure 2 Correlation between phenolic compounds content and fermentation time

Phenolic compounds gradually increased early on, surged after day 5, then slowed in days 11–14.

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