

# **ISOLATION, SELECTION, IDENTIFICATION AND APPLICATION OF LACTIC ACID BACTERIA IN THE FERMENTATION FORM *Colocasia esculenta* (L.) Schott**

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## **Summary**

The study was conducted to isolate, select and identify lactic acid bacteria strains with the capability for producing high lactic acid content from taro plant (*Colocasia esculenta* (L.) Schott). Also, the study aimed at applying taro in fermentation and finding the optimal treatment for producing high and effective fermentation. From samples collected in Binh Thuy and Ninh Kieu districts (Can Tho city), 24 lactic acid bacteria strains were isolated on MRS agar medium. After 8 days of fermentation at pH = 5.5, 4% salt concentration and  $5 \times 10^8$  cell/mL of bacteria cell density, BTR9 bacteria strain was selected as the strain with the highest lactic acid content at 6.39 g/L. Additionally, the result from the identification of bacteria by DNA sequencing indicated that the bacteria strain BTR9 belonged to *Lactobacillus plantarum*. Through Design Expert 7.0 software with Box Henken format, it was determined that the optimal treatment for the fermentation of taro by *Lactobacillus plantarum* BTR9 was pH = 6.02, 3.9% salt concentration,  $6.7 \times 10^8$  cell/mL of bacteria cell density with lactic acid content reached 5.82 g/L after 8 days of fermentation.

**Keywords:** *Colocasia esculenta* (L.) Schott, fermentation, lactic acid bacteria, *Lactobacillus plantarum*.