

ABSTRACT

Uswatun Khasanah, 24020222130044. **Isolation and Characterization of Lactic Acid Bacteria from Bekasam of Seluang Fish (*Rasbora* sp.) and Their Potential as Bioflavor.** Under the supervision of Endang Kusdiyantini and Arina Tri Lunggani

Flavor production through petrochemicals or extraction from plants presents various challenges related to the instability of raw material supplies, low product yields, and environmentally unfriendly and inefficient production processes. Consumer preferences that are shifting towards natural ingredients and sustainable production have increased the potential demand for bioflavor. Fermentation by lactic acid bacteria presents as an alternative for flavor production. In addition, other metabolites from fermentation, namely lactic acid, also have increasing market demand due to their use in various industries. This study aims to determine the effect of phenylalanine and incubation time on bioflavor and lactic acid production. GC MS analysis showed the presence of flavor compounds, namely amyl valerianate with a fruity aroma resembling apple or pineapple and n-Hexadecanoic acid with a marine, fatty, and fruity aroma in the treatment with the addition of phenylalanine for 24 hours of incubation. Lactic acid titration results did not show a significant effect between treatments with or without phenylalanine, but there was an increase in lactic acid levels with the length of incubation time. Based on the research results, it can be concluded that the addition of phenylalanine and 24-hour incubation affected the aroma diversity produced by isolate B1.1.24, although the aroma compounds formed are suspected to originate from lipid metabolism. Meanwhile, lactic acid production was more influenced by incubation time than by phenylalanine availability.

Keywords: *Bekasam, Bioflavor, Lactic acid, Lactic acid bacteria*