

## ***ABSTRACT***

**Nindy Haya, 24020121140191, Exploration of Enzymes in Yeasts Isolated from Peda (Fermented Fish *Rastrelliger* sp.). Under the Supervision of Endang Kusdiyantini and Arifa Rizqi Nafisa.**

Fermentation of peda fish involves diverse microorganisms, including bacteria and yeasts, which contribute to the final flavor and aroma of the product. However, the characterization of yeasts in peda fermentation remains limited. This study aimed to explore the isolation, morphological characterization, and enzymatic activities (amylase, lipase, protease) of halophilic yeasts from fermented fish (*Rastrelliger* sp.). Yeasts were isolated by serial dilution and inoculation on PDA (Potato Dextrose Agar) supplemented with 7.5% NaCl to simulate high-salt fermentation conditions. Enzyme activity was qualitatively tested by inoculating isolates on selective agar media containing specific substrates, namely starch for amylase, casein for protease, and lipids for lipase, followed by observing clear zones as indicators of enzyme activity. Four isolates (AH 6.2, 6.4, 6.5, 6.7) formed round, cream-white colonies with convex elevation and surface textures ranging from smooth to wrinkled. Microscopic analysis revealed oval cells reproducing by budding. Qualitative tests showed that all isolates produced protease (clear zones on skim milk agar), while amylase activity was very low (0.13–0.30) and lipase activity was undetected. Quantitative protease assays demonstrated different optimum temperatures: AH 6.2 at 30°C, AH 6.4 at 40°C, while AH 6.5 and 6.7 at 50°C. These results indicate diverse thermal adaptations, ranging from mesophilic to thermotolerant. The conclusion of this research is that yeast isolates from peda fish have the potential to serve as microbial sources of enzymes that play a role in the fermentation process.

**Kata kunci:** *halophilic, enzyme screening, fermentation microbiology.*