

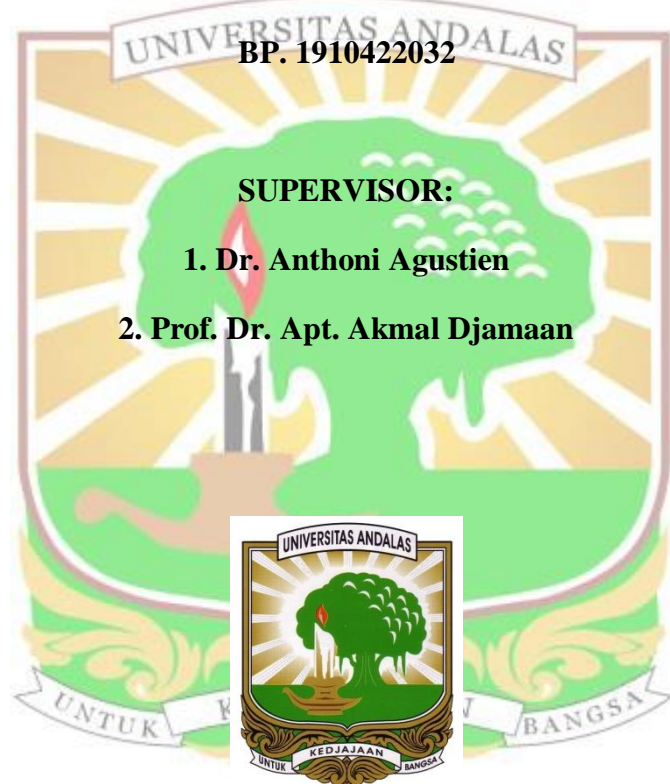
**OPTIMIZATION OF TEMPERATURE AND pH FOR THE PROTEASE
PRODUCTION FROM MANGROVE *Sonneratia alba* Griff. ENDOPHYTIC
FUNGI IN MANDEH AREA, PESISIR SELATAN DISTRICT**

UNDERGRADUATE THESIS

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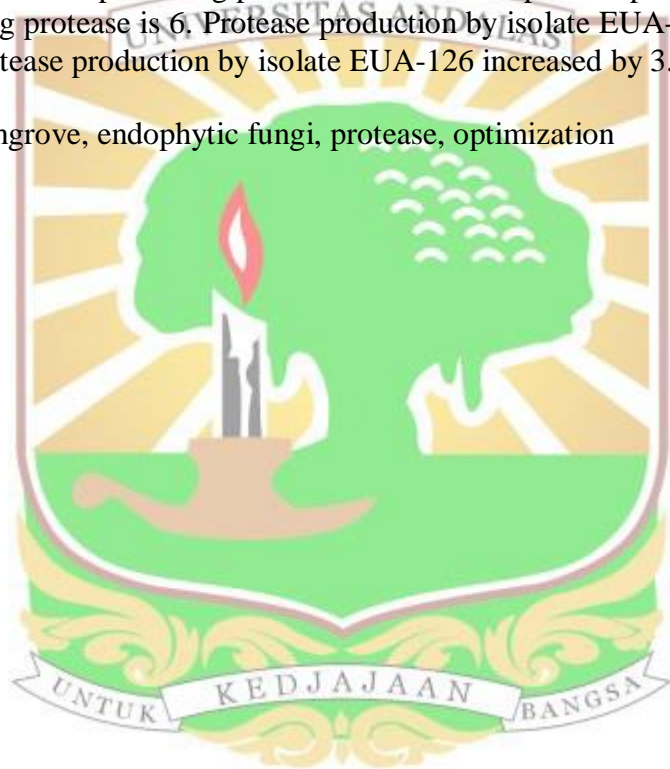
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ABSTRACT

The research about optimization of temperature and pH for the protease production from mangrove *Sonneratia alba* endophytic fungi in Mandeh Area, Pesisir Selatan District was conducted on March to June 2023 at Biotechnology Laboratory, Andalas University, Padang. This research aims to determine the optimum temperature and pH of endophytic fungal isolates of mangrove plants *Sonneratia alba* from Mandeh area, Pesisir Selatan District in producing protease and to determine the enzyme production after optimization. The research method used in this study was an experimental and descriptive method. Protease activity was determined using the Takami method. The results of the study showed that optimum temperature for isolates EUA-124 and EUA-126 in producing protease is 34° C and the optimum pH for isolate EUA-124 in producing protease is 7 and the optimum pH for isolate EUA-126 in producing protease is 6. Protease production by isolate EUA-124 increased by 8.621% and protease production by isolate EUA-126 increased by 3.334%.

Keywords: mangrove, endophytic fungi, protease, optimization



ABSTRAK

Penelitian tentang optimization of temperature and pH for protease production from mangrove (*Sonneratia alba*) endophytic fungi in Mandeh Area, Pesisir Selatan District dilakukan pada bulan Maret sampai Juni 2023 di Laboratorium Bioteknologi, Universitas Andalas, Padang. Tujuan penelitian ini untuk menentukan suhu dan pH optimum jamur endofitik tumbuhan mangrove *Sonneratia alba* dari area mandeh, Pesisir Selatan dalam memproduksi protease dan menentukan produksi enzim setelah optimasi. Metode yang digunakan pada penelitian ini adalah metode eksperimental dan deskriptif. Aktivitas protease ditentukan dengan menggunakan metode Takami. Hasil dari penelitian menunjukkan suhu optimum untuk memproduksi protease pada isolat EUA-124 dan EUA-126 adalah 34°C dan pH optimum isolat EUA-124 dalam memproduksi protease adalah 7, sedangkan pH optimum isolate EUA-126 dalam memproduksi protease adalah 6. Produksi protease oleh isolat EUA-124 mengalami kenaikan sebesar 8.621% dan produksi protease oleh isolat EUA-126 mengalami kenaikan sebesar 3.334%.

Kata kunci: mangrove, jamur endofit, protease, optimisasi

