

**SKRINING KHAMIR POTENSIAL PENGHASIL ALKOHOL DARI AIR TAPAI
DALAM PENCARIAN ISOLAT UNGGUL PRODUKSI BIOETANOL DARI UBI
KAYU (*Manihot utilissima* Pohl.)**

SKRIPSI SARJANA BIOLOGI

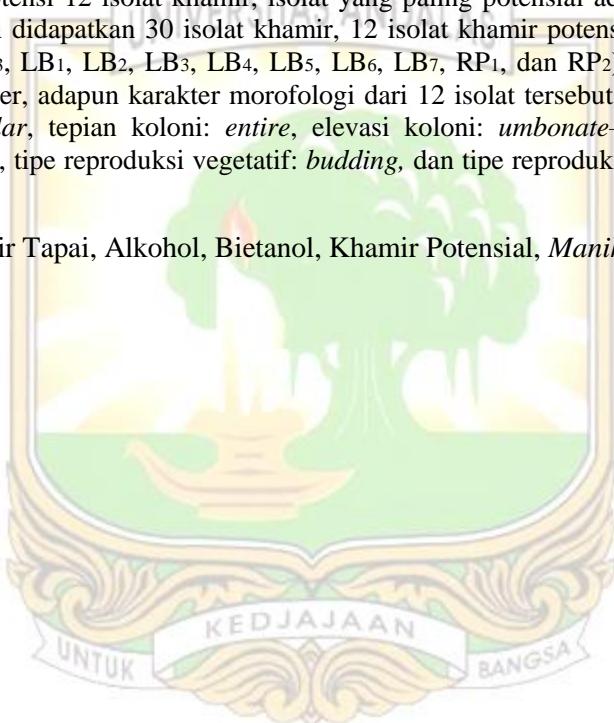


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ABSTRAK

Penelitian tentang Skrining Khamir Potensial Penghasil Alkohol dari Air Tapai dalam Pencarian Isolat Unggul Produksi Bioetanol dari Ubi Kayu (*Manihot utilissima* Pohl.) telah dilaksanakan dari bulan Juni hingga Oktober 2017, di Laboratorium Riset Mikrobiologi, Jurusan Biologi, Fakultas Matematika dan Ilmu Pengetahuan Alam, Universitas Andalas. Penelitian ini menggunakan metoda survei yang hasilnya disajikan seara deskriptif. Parameter yang diamati meliputi total mikroflora, total khamir, uji potensi isolat-isolat khamir melalui uji fermentasi, karakter morfologi (makroskopis dan mikroskopis) dan tipe reproduksi (seksual dan vegetatif) masing-masing isolat khamir indigenous. Analisis biokimia berupa kadar gula, nilai pH, suhu, serta kadar alkohol. Dari hasil penelitian diperoleh proporsional keberadaan mikroflora tertinggi pada sampel PLB₂ ($19,3 \times 10^7$ cfu/ml), sedangkan total khamir indigenous tertinggi terdapat pada sampel PBB₁ ($3,7 \times 10^7$ cfu/ml). Persentase khamir air tapai tertinggi pada sampel PBB₁ (30,8%). Uji potensi 12 isolat khamir, isolat yang paling potensial adalah LB₃ dan RP₂. Dari 6 sampel air tapai didapatkan 30 isolat khamir, 12 isolat khamir potensial pemfermentasi terpilih (BB₁, BB₂, BB₃, LB₁, LB₂, LB₃, LB₄, LB₅, LB₆, LB₇, RP₁, dan RP₂) mewakili masing-masing sampel dikarakter, adapun karakter morfologi dari 12 isolat tersebut antara lain bentuk koloni: *circular-irregular*, tepian koloni: *entire*, elevasi koloni: *umbonate-raised*, warna sel: putih, bentuk sel: oval, tipe reproduksi vegetatif: *budding*, dan tipe reproduksi generatif: *spherical oval ascospores*.

Kata kunci: Air Tapai, Alkohol, Bietanol, Khamir Potensial, *Manihot utilissima*



ABSTRACT

Research about “Screening of Yeast Potential Produce Alcohol from Tapai Fluid to Find Superior Isolate for Bioethanol Production from Cassava (*Manihot utilissima* Pohl.)” has been done on June to October 2017, at Research Laboratory of Microbiology, Department of Biology, Faculty of Mathematics and Natural Sciences, Andalas University. This research used survey method and the results are analysed descriptively and presented in Tables and Figures. The parameters observed included total microflora, total yeasts, test potential of the yeasts isolates through fermentation test, morphological characters (macroscopic and microscopic) and the reproduction type (sexual and vegetative) each isolate indigenous yeasts. Biochemical analysis included sugar level, pH, temperature, and amount of alcohol. The results of research showed proportional presence highest microflora in samples PLB₂ (19.3×10^7 cfu/ml), whereas the highest total indigenous yeasts present in the sample PBB₁ (3.7×10^7 cfu/ml). Fermented yeast highest percentage of water in the sample PBB₁ (30.8%). Test the potential of 12 isolates of yeast isolates the most potential is LB₃ and RP₂. Of the six water samples Tapai obtained 30 isolates of yeast, 12 isolates of yeasts potentially fermenting selected (BB₁, BB₂, BB₃, LB₁, LB₂, LB₃, LB₄, LB₅, LB₆, LB₇, RP₁ and RP₂) represent each sample which is in character, while morphology character of 12 isolates among other forms of colonies: circular-irregular, the edge of the colony: entire, elevation colonies: umbonate-raised, cell color: white, cell shape: oval, the type of vegetative reproduction: budding, and generative reproduction: spherical oval ascospores.

Keywords: Alcohol, Bioethanol, Potential Yeast, *Manihot utilissima*, Tapai Fluid

