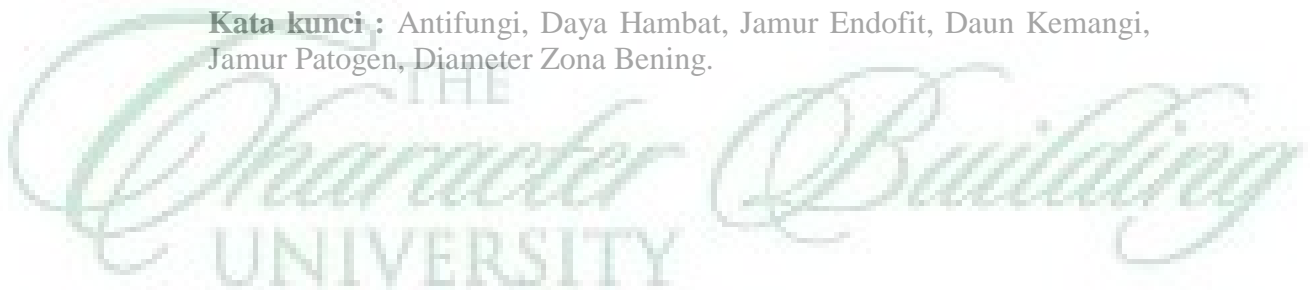


## ABSTRAK

Rotua, NIM 416222007 (2016). Uji Aktivitas Antifungi Isolat Jamur Endofit dari Tumbuhan Kemangi (*Ocimum sanctum L.*) terhadap Pertumbuhan Jamur (*Candida albicans*, *Aspergillus niger* dan *Penicillium sp.*)

Penelitian ini bertujuan untuk mengetahui diameter daya hambat jamur endofit terhadap jamur patogen (*Candida albicans*, *Aspergillus niger* dan *Penicillium sp.*). Penelitian ini dilakukan dengan cara mengukur diameter zona daya hambat perumbuhan jamur yang dilaksanakan pada bulan Januari-April 2020 di Laboratorium Mikrobiologi Fakultas Matematika dan Ilmu Pengetahuan Alam Universitas Negeri Medan. Isolat yang didapatkan berbeda-beda potensi daya hambatnya. Isolat yang diperoleh dari daun Kemangi (*Ocimum sanctum L.*) yaitu K2.HM, K7.CT, K2.HT, K2.HL, dan K5.AB AB dengan genus masing-masing *Aspergillus*, *Scopulariopsis*, *Nigrospora*, *Alterania*, dan *Aspergillus*. Jamur endofit tersebut diuji pada tiga jamur patogen *Candida albicans*, *Aspergillus niger* dan *Penicillium sp.* sebanyak tiga kali pengulangan. Langkah yang dilakukan yaitu menumbuh isolat murni jamur patogen kemudian meletakkan kertas blanked yang sudah ditetesi dengan larutan jamur endofit dan dibungkus dengan kertas kemudian diinkubasi selama 7 hari. Setelah 7 Hari diameter zona bening diukur menggunakan jangka sorong. Jamur endofit yang berpotensi menghambat jamur patogen terdapat 3 isolat yaitu dengan kode K7.CT, K2.HT dan K2.HL. Ketiga isolat tersebut diuji kembali sebanyak tiga kali terhadap jamur patogen supaya data hasil pengujian bisa dinyatakan valid, sehingga sampai pengujian yang ketiga diameter zona bening yang diukur sama dengan hasil sebelumnya. Isolat yang berpotensi besar dalam menghambat jamur patogen yaitu isolat kode K7.CT, K2.HT dengan diameter masing-masing 6.8mm dan 7.2mm, respon hambatan pertumbuhan jamur patogen yaitu sedang (diameter  $\leq 5-20$ mm).

**Kata kunci :** Antifungi, Daya Hambat, Jamur Endofit, Daun Kemangi, Jamur Patogen, Diameter Zona Bening.



## ABSTRACT

Rotua, NIM 416222007 (2016). Antifungal Activity Test of Endophytic Fungi Isolates from Basil (*Ocimum sanctum* L.) on Growth of Fungi (*Candida albicans*, *Aspergillus niger* and *Penicillium* sp.)

This study aims to determine the diameter of endophytic fungal inhibition test against pathogenic fungi (*Candida albicans*, *Aspergillus niger* and *Penicillium* sp). This research was conducted by measuring the diameter of the clear zone and three replications (antifungal screening) conducted in January-April 2020 at the Microbiology Laboratory of the Faculty of Mathematics and Natural Sciences State University of Medan. The isolates obtained differed in their inhibitory potential, while the isolates obtained from the leaves of Basil (*Ocimum sanctum* L.) were K2.HM, K7.CT, K2.HT, K2.HL and K5.AB, with genus *Aspergillus*, *Scopulariopsis*, *Nigrospora*, *Alterania*, dan *Aspergillus*. Endophytic fungi were tested on three pathogenic fungi *Candida albicans*, *Aspergillus niger* and *Penicillium* sp three times. The steps taken are to grow pure isolates of pathogenic fungi and then put blanked paper that has been dropped with a solution of endophytic fungi and wrapped in paper and then incubated for 7 days. After 7 days the diameter of the clear zone was measured using a crossbar or calipers. Endophytic fungi that have the potential to inhibit pathogenic fungi, there are 3 isolates, namely the code K7.CT, K2.HT and K2.HL. The three isolates were tested again three times against fungal pathogens so that the test results could be declared valid, so that until the third test the diameter of the clear zone measured was the same as the previous results. Isolates that have great potential to inhibit pathogenic fungi are isolates code K7.CT, K2.HT with diameters of 6.8mm and 7.2mm, respectively, the response to inhibition of growth of pathogenic fungi is moderate (diameter  $\leq$ 5-20mm).

**Keywords:** Antifungal, inhibitory power, Endophytic Fungus, Basil Leaves, Pathogenic Fungus, Clear Zone Diameter

