

ABSTRAK

Lilis Habsari, NIM 41912200005 (2019). Aktivitas Enzim Ekstraseluler Bakteri Endofit Buah Tin (*Ficus carica* L.)

Penggunaan enzim di Indonesia meningkat setiap tahunnya, sehingga dibutuhkan tindakan untuk menyelaraskan produksi dan kebutuhan enzim di Indonesia. Enzim dapat diproduksi dari berbagai sumber seperti tanaman, hewan dan mikroorganisme. Keuntungan pemanfaatan mikroorganisme dalam produksi enzim yaitu dapat diproduksi dalam jumlah yang besar dengan waktu yang lebih singkat dan dapat diproduksi secara berkesinambungan. Sumber penapisan bakteri untuk menghasilkan enzim salah satunya yaitu buah tin. Penelitian ini bertujuan untuk melihat aktivitas enzim ekstraseluler bakteri endofit buah tin dan mengidentifikasi bakteri endofit yang mampu menghasilkan enzim ekstraseluler seperti protease, amilase, selulase dan lipase. Isolasi dan pemurnian bakteri menggunakan media NA selama 24 jam. Uji aktivitas enzim ekstraseluler menggunakan media NA diperkaya amilum, tween 80, susu skim, CMC. Uji biokimia dilakukan untuk identifikasi bakteri endofit buah tin penghasil enzim ekstraseluler. Hasil penelitian diperoleh 21 isolat bakteri endofit buah tin, sebanyak 14 isolat mampu menghasilkan enzim ekstraseluler. Hasil identifikasi bakteri endofit buah tin penghasil enzim ekstraseluler diperoleh 8 isolat diduga berasal dari genus *Bacillus*, 3 isolat diduga berasal dari genus *Micrococcus*, 1 isolat diduga berasal dari genus *Cellulomonas*, 2 isolat diduga berasal dari genus *Acetobacter*.

Kata kunci : Buah tin, bakteri endofit, enzim, amilase, lipase, protease, selulase



ABSTRACT

Lilis Habsari, NIM 41912200005 (2019). Extracellular Enzyme Activity of Fig Fruit Endophytic Bacteria (*Ficus carica* L.)

The use of enzymes in Indonesia increases every year, so action is needed to align production and enzyme needs in Indonesia. Enzymes can be produced from various sources such as plants, animals, and microorganisms. The advantage of using microorganisms in enzyme production is that they can be produced in large quantities in a shorter time and can be produced sustainably. One of the sources for filtering bacteria to produce enzymes is fig fruit. This research aims to examine the extracellular enzyme activity of fig fruit endophytic bacteria and identify endophytic bacteria that are capable of producing extracellular enzymes such as protease, amylase, cellulase, and lipase. Isolation and purification of bacteria using NA media for 24 hours. Test extracellular enzyme activity using NA media enriched with starch, Tween 80, skim milk, and CMC. Biochemical tests were carried out to identify tin fruit endophytic bacteria that produce extracellular enzymes. The results of the research showed that there were 21 isolates of tin fruit endophytic bacteria, 14 of which were able to produce extracellular enzymes. The results of the identification of fig fruit endophytic bacteria producing extracellular enzymes showed that 8 isolates were thought to be from the genus *Bacillus*, 3 isolates were thought to be from the genus *Micrococcus*, 1 isolate was thought to be from the genus *Cellulomonas*, 2 isolates were thought to be from the genus *Acetobacter*.

Keywords: *Fig fruit, endophytic bacteria, enzymes, amylase, lipase, protease, cellulase*

