



## INTISARI

Akumulasi sampah plastik yang semakin meningkat perlu adanya solusi dengan penggunaan plastik *biodegradable* yang lebih mudah terdegradasi oleh aktivitas mikroorganisme. Jamur amilolitik merupakan salah satu mikroorganisme yang memiliki potensi dalam menghidrolisis pati yang terkandung dalam salah satu jenis plastik *biodegradable*. Penelitian ini bertujuan untuk mendapatkan isolat jamur amilolitik yang mampu mendegradasi plastik *biodegradable* dengan menggunakan metode isolasi dan seleksi. Isolasi dilakukan dengan metode *pour plate* pada medium pati minimal agar yang ditambah antibiotik *chloramphenicol* dan *streptomycin*. Seleksi jamur amilolitik berdasarkan rasio daya amilolitik yaitu perbandingan diameter zona bening dan diameter koloni. Uji degradasi plastik berdasarkan persentase penurunan berat kering plastik dalam medium pati minimal cair selama 30 hari inkubasi. Hasil isolasi memperoleh 21 isolat jamur, 4 isolat memiliki daya amilolitik antara 1,09-2,00. Hasil identifikasi sementara menunjukkan bahwa 4 isolat jamur terpilih masuk ke dalam genus *Penicillium* sp.WI-3, *Aspergillus* sp.WI-5, *Penicillium* sp.WO-6, dan *Penicillium* sp.WO-8. Hasil uji degradasi isolat jamur terpilih menunjukkan bahwa isolat *Penicillium* sp.WO-6 mampu mendegradasi plastik dengan kemampuan tertinggi dalam menurunkan berat plastik, sebesar 8,46% dalam waktu 30 hari.

Kata kunci: degradasi, isolasi, jamur amilolitik, plastik *biodegradable*.



## ***ABSTRACT***

The increasing accumulation of plastic waste requires a solution by using biodegradable plastic which is more easily degraded by the activity of microorganisms. Amylolytic fungi are microorganisms that have the potential to hydrolyze starch contained in a kinds of biodegradable plastic. This research aims to get isolates of amylolytic fungi that are capable of degrading biodegradable plastic using isolation and selection methods. Isolation was carried out using the pour plate method on minimal starch agar medium added with the antibiotics chloramphenicol and streptomycin. Selection of amylolytic fungi based on the amylolytic ability ratio, of the diameter of the clear zone and the diameter of the colony. The plastic degradation test was based on the percentage reduction of dry weight of biodegradable plastic in a minimum liquid starch medium for 30 days of incubation. The isolation results found out 21 fungal isolates, 4 isolates had amylolytic ability between 1.09-2.00. The preliminary identification results showed that the 4 selected fungal isolates belonged to the genus *Penicillium* sp.WI-3, *Aspergillus* sp.WI-5, *Penicillium* sp.WO-6, and *Penicillium* sp.WO-8. The results of the degradation test of selected fungal isolates showed that the *Penicillium* sp.WO-6 was able to degrade plastic with the highest ability reducing the weight of plastic, up to 8,46% within 30 days.

Key words: amylolytic fungi, biodegradable plastic, degradation, isolation.