

ABSTRAK

IDENTIFIKASI FUNGI MIKORIZA ARBUSKULAR (FMA) PADA RHIZOSFER AREAL REVEGETASI LAHAN PASCATAMBANG EMAS PT NATARANG MINING

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Kegiatan penambangan emas berdampak dalam menurunkan kesuburan tanah. Hal ini menyebabkan lahan pascatambang sulit ditumbuhi tanaman karena kurangnya kandungan unsur hara hingga kematian pada tanaman. Identifikasi FMA lokal sangat penting dalam mempercepat proses keberhasilan revegetasi lahan pascatambang. Penelitian ini bertujuan untuk mendapatkan sebaran, frekuensi dan keragaman jenis FMA pada rhizosfer areal revegetasi lahan pascatambang emas PT Natarang Mining dan menganalisis perbedaan keragaman jenis FMA pada dua lokasi dan umur penanaman yang berbeda. Pengambilan sampel tanah menggunakan teknik purposive sampling secara non proporsional dengan plot berukuran 20m x 20m yang ditentukan pada sebaran vegetasi yang tumbuh di lokasi. Lokasi pengambilan sampel tanah ditentukan pada lahan revegetasi tahun 2018 (Site-1) dan 2015 (Site-2). Spora FMA diperoleh menggunakan metode saring basah. Sifat kimia tanah dengan parameter pH, N total, P-tersedia, dan C-Organik dianalisis di laboratorium. Data yang diperoleh dianalisis menggunakan analisis deskriptif.

Hasil penelitian menunjukkan bahwa terdapat 3 genus yang ditemukan, yaitu *Acaulospora sp* (5 tipe spora), *Gigaspora sp* (8 tipe spora), dan *Glomus sp* (6 tipe spora). Jumlah sebaran spora FMA pada kedua lokasi memiliki sebaran yang bervariasi. Pada site-1 ditemukan 314 spora/250 gr tanah dengan 17 tipe spora, sedangkan pada site-2 ditemukan sebanyak 257 spora/250 gr tanah dengan 12 tipe spora. Jenis spora FMA yang paling banyak pada site-1 adalah genus *Acaulospora sp* dengan kelimpahan relatif 49,04% dan frekuensi relatif 37,50%. Pada site-2 jenis spora FMA yang paling banyak adalah genus *Glomus sp* dengan kelimpahan relatif 87,16% dan frekuensi relatif 37,50%. Keanekaragaman spora FMA pada kedua lokasi tergolong sedang. Kondisi sifat kimia tanah tampaknya berpengaruh terhadap jumlah dan tipe spora FMA yang ditemukan pada lokasi penelitian.

Kata kunci: *acaulospora sp*; emas; fungi mikoriza arbuscular; *gigaspora sp*; *glomus sp*; pascatambang

ABSTRACT

IDENTIFICATION OF ARBUSCULAR MYCORRIZAL FUNGI (AMF) IN THE RHIZOSPHERE OF POST-GOLD MINING REVEGETATION AREA PT NATARANG MINING

By

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Gold mining activities have an impact on reducing soil fertility. Because the post-mining land to be difficult growing cause of the lack of nutrients and the death of the plant. Identification of local AMF is very important in accelerating the successful process of post-mining land revegetation. This study aims to obtain the distribution, frequency and diversity of AMF species in the rhizosphere of the post-gold mining revegetation area of PT Natarang Mining and to analyze the differences in the diversity of AMF species at two locations and at different planting ages. Soil samples were taken using a non-proportional purposive sampling technique with a plot measuring 20 m x 20 m determined on the distribution of vegetation growing in the location. Soil sampling locations on revegetation land in 2018 (Site-1) and 2015 (Site-2). AMF spores were obtained using the wet filter method. Soil chemical properties with parameters of pH, total N, available P, and C-Organic were analyzed in the laboratory. The data obtained were analyzed using descriptive analysis.

The results showed that there were 3 genera found, namely *Acaulospora* sp (5 spore types), *Gigaspora* sp (8 spore types), and *Glomus* sp (6 spore types). The distribution of AMF spores at both locations varied. At site-1 found 314 spores/250 g of soil with 17 types of spores, while at site-2 found as many as 257 spores/250 g of soil with 12 types of spores. The most abundant type of AMF spores at site-1 was the genus *Acaulospora* sp with a relative abundance of 49.04% and a relative frequency of 37.50%. At site-2 the most abundant AMF spores were the genus *Glomus* sp with a relative abundance of 87.16% and a relative frequency of 37.50%. The diversity of AMF spores at both locations was moderate. The condition of the chemical properties of the soil affected the number and type of AMF spores found at the study site.

Keywords: acaulospora sp; arbuscular mycorrhizal fungi; glomus sp; gigaspora sp; gold; post-mining