IDENTIFIKASI FUNGI MIKORIZA ARBUSKULA (FMA) DI BAWAH TEGAKAN SENGON SOLOMON (*Paraserienthes Falcataria Moluccana* Subsp. Solomonensis) DI KAWASAN REVEGETASI TAMBANG BATUBARA

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ABSTRAK

PT Nan Riang telah melaksanakan revegetasi dengan melakukan penanaman alpukat, jabon, jambu, karet, kelapa sawit, papaya, rambutan, jati, mahoni, dan sengon. Sengon solomon merupakan tanaman kehutanan tergolong legum yang memiliki fungsi antara lain mengembalikan kesuburan tanah yang pada lahan bekas tambang batubara digunakan sebagai tanaman reklamasi dan revegetasi lahan bekas tambang. Maliyana *et al.* (2011) tentang populasi FMA pada lahan pasca tambang batubara terdapat 3 genus FMA yang ditemukan pada lokasi 8, 9, 10, dan 19 tahun umur lahan tambang pasca penimbunan dan pada umur 0 tahun lahan tambang pasca penimbunan hanya ditemukan 2 genus FMA. Penelitian Lubis, (2019) ditemukan 5 genus FMA yaitu *Glomus* sp, *Acaulospora* sp, *Gigaspora* sp, *Scutellospora* sp, dan *Entrophospora* sp pada 5 lokasi penelitian dikawasan pertambangan batubara PT Nan Riang. Berdasarkan beberapa uraian di atas peneliti ingin melakukan penelitian dengan judul "Identifikasi Fungi Mikoriza Arbuskula (FMA) di Bawah Tegakan Sengon Solomon *(Paraserienthes falcataria moluccana* Subsp. Solomonensis) di Kawasan Revegetasi Tambang Batubara". Dimana penelitian ini dapat diharapkan berguna bagi pemanfaatan mikoriza sebagai salah satu upaya reklamasi lahan bekas tambang batubara.

Penelitian ini dilaksanakan pada bulan Januari sampai Mei 2022. Pengambilan sampel tanah di areal reklamasi lahan bekas tambang batubara PT. Nan Riang di Desa Ampelu Mudo, Kecamatan Muara Tembesi, Kabupaten Batanghari, yang dilakukan di lima areal tegakan sengon solomon dengan umur tanaman 1,2,3,4 dan 5 tahun tanah diambil dengan system diagonal disetiap lokasi penelitian pada kedalaman 0-20 cm dan 20-40cm. Ekstraksi dan identifikasi spora FMA dilakukan di Laboratorium Kimia dan Kesuburan Tanah Fakultas Pertanian Universitas Jambi. Ekstraksi spora menggunakan metode tuang saring basah dari Pacioni (1992) dan dilanjutkan dengan sentrifugasi dari Brundrett *et al*., (1996). Sampel tanah diambil 3 kali ulangan sebanyak 50 gram dilanjutkan dengan tanah yang dilarutkan kedalam air dan disaring menggunakan saringan ukuran 500 µm, 250 µm, 53µm, dan 45µm dan di sentrifus menggunakan aquades dan larutan glukosa selanjutnya dibilas menggunakan air mengalir dan dipindahkan ke dalam cawan petri dan dilanjutkan proses identifikasi. identifikasi dilakukan berdasarkan karakteristik morfologi spora FMA mengunakan Mikroskop Stereo yang digunakan untuk pemisahan spora FMA berdasarkan warna, selanjutnya dilakukan identifikasi mengunakan Mikroskop Binokuler untuk melihat morfologi FMA.

Hasil penelitian dari 5 lokasi penelitian didapat 23 jenis genus, 22 jenis acaulospora, 6 jenis gigaspora, 4 jenis scutellospora, 2 jenis paraglomus, 2 jenis entrophospora,dan 2 jenis archaeospora. Spora FMA yang teridentifikasi berpotensi dapat dikembangkan sebagai salah satu upaya dalam reklamasi lahan bekas tambang batubara.

Kata kunci : Tegakan Sengon, Mikoriza

ABSTRACT

PT Nan Riang has carried out revegetation by planting avocado, jabon, guava, rubber, oil palm, papaya, rambutan, teak, mahogany and sengon. Sengon solomon is a forestry plant classified as a legume which has functions, among others, to restore soil fertility in ex-coal mining land which is used as a reclamation plant and revegetation of ex-mining land. Maliyana et al. (2011) regarding the population of AMF in post-piling land, there are 3 AMF genera which were found at locations 8, 9, 10, and 19 years after the age of post-filling mine land and at the age of 0 years of post-filling mining land, only 2 AMF genera were found. Lubis' research, (2019) found 5 AMF genera, namely Glomus sp, Acaulospora sp, Gigaspora sp, Scutellospora sp, and Entrophospora sp at 5 research locations in the coal mining area of PT Nan Riang. Based on some of the descriptions above, the researcher wanted to conduct a study entitled "Identification of Arbuscular Mycorrhizal Fungi (FMA) Under Sengon Solomon Stands (Paraserienthes falcataria moluccana Subsp. Solomonensis) in the Coal Mine Revegetation Area". Where this research can be expected to be useful for the use of mycorrhiza as an effort to reclamation of former coal mining land.

This research was conducted from January to May 2022. Soil sampling in the reclamation area of PT. Nan Riang in Apelu Mudo Village, Muara Tembesi District, Batanghari Regency, which was carried out in five areas of sengon solomon stands with plant ages of 1, 2, 3, 4 and 5 years. 20-40cm. Extraction and identification of AMF spores was carried out at the Laboratory of Chemistry and Soil Fertility, Faculty of Agriculture, University of Jambi. Spore extraction used the wet filter pouring method from Pacioni (1992) and followed by centrifugation from Brundrett et al., (1996). Soil samples were taken 3 times for 50 grams, followed by dissolving the soil in water and filtered using a 500 µm, 250 µm, 53µm, and 45µm filter and centrifuged using distilled water and glucose solution, then rinsed using running water and transferred to a petri dish. and continue the identification process. identification was carried out based on the morphological characteristics of AMF spores using a Stereo Microscope which was used to separate AMF spores based on color, then identification was carried out using a Binocular Microscope to see the morphology of FMA.

The results of the 5 study sites obtained 23 species of genus, 22 species of acaulospora, 6 species of gigaspora, 4 species of scutellospora, 2 species of paraglomus, 2 types of entrophospora, and 2 types of archaeospora. The identified

AMF spores have the potential to be developed as an effort in reclamation of ex-coal mining land.

Keywords: Sengon Stands, Mycorrhiza