

Studi Produksi Spora Endomikorisa
Asal Kawasan Wisata Merapi
Menggunakan Jagung dan Sorghum

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INTISARI

Penelitian ini adalah untuk mengetahui efektifitas produksi spora endomikorisa dengan metode spora tunggal, dengan menggunakan jagung dan sorghum sebagai tanaman inangnya. Penelitian ini dilakukan melalui empat tahapan, pertama koleksi, yaitu mengambil atau mengumpulkan sampel-sampel tanah di kawasan hutan wisata merapi yang terkena lahar. Kedua isolasi, yaitu memisahkan spora dari sampel-sampel tanah hasil koleksi. Ketiga inokulasi spora, yaitu menularkan spora hasil isolasi ketanaman jagung dan shorgum. Dua peTlakuan di atas dilakukan di Laboratorium Bioteknologi Hutan, Fakultas Kehutanan, Universitas Gadjah Mada. Tahap keempat produksi atau pengembangbiakan spora. Setelah spora diinokulasi sampai batas optimal-pertumbuhan inang, dilakukan di Green House, Fakultas Kehutanan, Universitas Gadjah Mada. Pengamatan hasil produksi dilakukan di Laboratorium Bioteknologi Hutan, Fakultas Kehutanan, Universitas Gadjah Mada.

Spora-spora endomikorisa yang didapatkan dari isolasi dikelompokkan berdasarkan wama, bentuk, dan ukuran. Maka didapatkan tiga kelompok endoendospora (E_1 , E_2 dan E_3). Penyaringan sampel tanah hasil koleksi tanah dari Merapi menunjukkan jumlah spora terbanyak ditemukan pada tanah yang didominasi luwakan (*Panicum ambiguum* Trin) terutama kelompok E_2 .

Penelitian ini dikerjakan di Laboratorium Bioteknologi Hutan selama 2.5 bulan dan di Green House selama 3.5 bulan. Parameter yang diamati adalah, jumlah spora, persen infeksi, rata-rata, jumlah maksimum dan minimum spora.

Penyaringan setelah pembiakan spora (produksi spora), hasil tetinggi ditunjukkan kelompok endospora I (E_1) yang didominasi *Glomus* pad atanaman sorgum, kemudian perbandingan hasil antar blok menunjukkan endospora I (E_1) tertinggi, dari 2 kelompok spora lainnya, dan perbandingan kompatibilitas antar tanaman inang menunjukkan sorghum lebih baik hasilnya dari jagung.

Hasil identifikasi dari tiga kelompok enodspora didapatkan 4 genus spora, yaitu : *Glomus* (1 dan 2), *Acaulospora* (1 dan 2), *Sclerocystis* dan *Scutellospora*.

**Endomikorrhiza Spore Production Research
From Tourism Forest of Mount Merapi
Using Corn and Sorghum.**

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Abstract

The objective of this research is to know the effectiveness of endomycorrhiza spore production using single spore method, with corn and sorghum as their hosts. Four steps were taken to conduct this study. The first step was collecting sample soil directly from the lava area in tourism forest of Mount Merapi. The second step was separating the spores from the collected soil samples. The third step inoculating the spore obtained from the isolation to the corn and sorghum to be produced. The last Faculty of Forestry, Gajah Mada University. The fourth step was producing the spores. This was done after the spores had inoculated at the optimal limit at their host. This step was done at the green house of Faculty of Forestry, Gajah Mada University. Reobservation was done at the Forestry biotechnology Laboratory.

This research was conducted at Forestry Biotechnology Laboratory for 2.5 months. After that, the other 3.5 months period was added to complete the research done at the Green House. The parameters observed here were the amount of spores, infection percentage, means, and maximum and minimum spores number.

The endomycorrhizal spores obtained by isolation were classified by colour, form, and size. Using this classification, the writer obtains 3 types of endospore. They were E_1 , E_2 , E_3 .

The result obtained by isolating the sample soil from the Mount Merapi showed that the most spores were found in the soil dominated by luwakan (Panicum ambiguum Trin), especially E_2 type.

After the spore were grown the highest result was showed by the endospore I (E_1) which dominated by glomus, in sorghum plants, the inter-block comparison showed that the endospore I (E_1) had the highest result, and the inter-host compatibility showed that sorghum had better result than corn.

By identifying three types of endospore, the writer got four kinds of genus spores. They were glomus (1 and 2), Acaulosporas (1 and 2), Sclerocytis and Scutellospores.

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