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POTENSI PERMUDAAN ALAM DAN KERAGAMAN GENETIK CENDANA (Santalum album Linn.) DI DESA PETIR KECAMATAN RONGKOP KABUPATEN GUNUNGKIDUL
IDWAN S W, Dr. Sapto Indrioko, S.Hut., M.P. ; Dr. Ir. Eny Faridah, M.Sc.
Universitas Gadjah Mada, 2015 | Diunduh dari http://etd.repository.ugm.ac.id/

INTISARI

Santalum album Linn. merupakan pohon asli Indonesia dan spesies cendana terbaik di dunia. Minyak hasil dari ekstrak kayu terasnya bernilai jual tinggi. Kabupaten Gunungkidul memiliki karakteristik topografi beragam dan unik yang dikelompokkan menjadi tiga. Penelitian keragaman genetik populasi cendana menunjukkan ada variasi pada setiap lokasi di wilayah utara dan tengah. Dusun Petir A yang berada pada wilayah selatan memiliki potensi permudaan alam melimpah. Oleh sebab itu, perlu dilakukannya penelitian di seluruh wilayah Desa Petir, lebih tinggi atau bahkan lebih rendah dari populasi lainnya dan bagaimana potensi serta sebaran permudaan alam cendana.

Penelitan menunjukkan terdapat 13 bukit cendana di Desa Petir dengan potensi dan sebaran permudaan alam tergolong tinggi. Frekuensi hingga 77,5% dari total wilayah perbukitan cendana. Selanjutnya, kerapatan menunjukkan bahwa setiap 8000 m^2 perbukitan cenada diisi oleh individu cendana sebanyak 25,4%, dengan potensi reproduktif sebesar 0,51. Pola keragaman genetik bervariasi, rata-rata heterozigositas teramati (H_o) 0,137, heterozigositas harapan (H_e) 0,227, dan indeks fiksasi (F_{IS}) 0,341 pada ketiga fase hidup cendana. Potensi reproduksi lebih tinggi dari populasi di wilayah tengah, namun keragaman genetik terendah.

Kata kunci: cendana, isoenzim, potensi permudaan alam, keragaman genetik, wilayah selatan Kabupaten Gunungkidul

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ABSTRACT

Santalum album Linn. is a tree native to Indonesia and the best sandalwood species in the world. Oil resulted from its heartwood extract has high value. Gunungkidul regency has a diverse and unique topographical characteristics grouped into three areas. The study of genetic diversity of sanadlwood population showed that there were variations in each location in the northern and central regions. Petir A hamlet located in the southern region had abundant natural regeneration potential. Therefore, it is necessary to do further research on the entire territory of Petir village, whether it is higher or lower than that in other populations and how the potential and distribution of natural regeneration are.

The study showed that there were 13 sandalwood hills in Petir village with high potential and distribution of natural regeneration. Sandalwood frequency was up to 77.5% of the total area of sandlwood hills. Furthermore, the density of sandalwood showed that every 8000 m^2 of sandalwood hill was filled by sandalwood individual as much as 25.4%, with the reproductive potential of 0.51. The genetic diversity patterns of sandalwood population varied, which can be seen from the magnitude of the average value of the observed heterozygosity (H_o) 0.137, expectation heterozygosity (H_e) 0.227, and fixation index (F_{IS}) 0.341 in the three life phases of sandalwood. reproductive potential in Petir village was higher than the population of sandalwood in the central region, but the genetic diversity of the population was the lowest.

Keywords: sandalwood, isoenzymes, the potential for natural regeneration, genetic diversity, the southern region of Gunungkidul regency