

**GUTASI DAN TRANSPIRASI PERMUDAAN ALAM CENDANA
(*Santalum album* Linn.) DENGAN MORFOLOGI DAUN KECIL DAN
BESAR DI DESA PETIR, KECAMATAN RONGKOP, KABUPATEN
GUNUNGKIDUL**

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Intisari

Salah satu tegakan cendana terluas di Gunungkidul terdapat di Desa Petir, Kecamatan Rongkop, Kabupaten Gunungkidul. Cendana di Desa merupakan permudaan alam cendana dengan morfologi daun kecil dan besar. Ada faktor iklim mikro lingkungan dan tempat tumbuh mempengaruhi proses gutasi dan transpirasi tanaman cendana. Penelitian ini bertujuan untuk mengetahui produktivitas cairan gutasi dan transpirasi permudaan alam cendana daun kecil dan besar pada berbagai ketinggian tempat di bukit dan posisi arah tajuk pada musim kemarau.

Metode penelitian dibagi menjadi sembilan tahapan selama September sampai November 2019, yaitu: (1) survei lokasi bukit, (2) penentuan lokasi dengan membagi ketinggian tempat menjadi 3 posisi bukit (Timur, Atas, dan Barat) berdasar hasil penelitian Sejati (3) penentuan individu cendana dengan 2 karakter (daun kecil dan besar) berdasar hasil penelitian Arifriana, dkk., dengan metode *purposive sampling*: setiap karakter cendana dipilih 3 individu pada tiap ketinggian tempat di bukit dengan kisaran diameter 3-5 cm (4) pembagian tajuk cendana dengan membagi menjadi 3 posisi arah tajuk (Timur, Atas, dan Barat) (5) pengambilan data volume cairan meliputi pemasangan, pengambilan sampel dari pohon, pengambilan cairan dari tiap sampel, dan perhitungan jumlah daun (6) pengukuran karakteristik lingkungan meliputi parameter intensitas cahaya, suhu, dan kelembaban udara (7) pengukuran sampel tanah meliputi solum, pH, tekstur, dan struktur tanah (8) pengamatan di laboratorium meliputi penimbangan berat basah dan berat kering, pengukuran luas daun yang telah dioven, dan pengamatan stomata daun menggunakan mikroskop (9) analisis data penelitian dengan uji analisis anova menggunakan SPSS versi 2.1.

Hasil penelitian diketahui volume cairan berdasarkan: a.) varietas: cendana daun besar (CB) 0,138 ml lebih banyak dibandingkan cendana daun kecil (CK) 0,076 ml b.) ketinggian tempat di bukit: posisi bukit barat (PBB) 0,163 ml paling banyak dibandingkan posisi bukit Timur (PBT) 0,073 ml dan posisi bukit Atas (PBA) 0,085 ml c.) posisi arah tajuk: posisi arah tajuk Barat (PTB) 0,110 ml paling banyak dibandingkan pada posisi arah tajuk Timur (PTT) 0,103 ml dan posisi arah tajuk Atas (PTA) 0,109 ml.

Kata Kunci: Gutasi, transpirasi, cendana, Desa Petir, Gunungkidul

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GUTTATION AND TRANSPIRATION ON NATURAL REGENERATION OF SANDALWOOD (*Santalum album* Linn.) WITH SMALL AND LARGE LEAVES GROWN AT PETIR VILLAGE, RONGKOP DISTRICT, GUNUNGKIDUL REGENCY

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Abstract

One of the broadest sandalwood stands in Gunungkidul is in Petir Village, Rongkop District, Gunungkidul Regency. Sandalwood in the village is a natural regeneration of sandalwood with small and large leaf morphology. There are microclimate factors to the environment and the place to grow to influence the process of gutation and transpiration of sandalwood. This study aims to determine the productivity of gutation fluids and transpiration of young and large leaves of young sandalwood at various altitudes on the hill and position of the canopy direction in the dry season.

The research method is divided into nine stages from September to November 2019, namely: (1) surveying the location of the hill, (2) determining the location by dividing the height of the place into 3 hill positions (East, Top, and West) based on the results of the True research (3) determination Sandalwood individuals with 2 characters (small and large leaves) based on the research results of Arifriana, et al., with a purposive sampling method: each sandalwood character is selected 3 individuals at each height on the hill with a diameter range of 3-5 cm (4) division of sandalwood canopy with dividing into 3 canopy direction positions (East, Upper, and West) (5) taking fluid volume data including installation, taking samples from trees, taking fluid from each sample, and calculating the number of leaves (6) measuring environmental characteristics including light intensity parameters, temperature and humidity (7) measurement of soil samples including solum, pH, texture, and soil structure (8) observations in the laboratory include weighing wet and dry weight, measurement of leaf area that has been roasted, and observation of leaf stomata using a microscope (9) analysis of research data with ANOVA analysis using SPSS version 2.1.

The result of this research is known the volume of liquid based on: (a) variety: large leaf sandalwood (CB) 0.138 ml more than small leaf sandalwood (CK) 0.076 ml (b) altitude on the hill: west hill position (PBB) 0.163 ml at most compared East hill position (PBT) 0.073 ml and Upper hill position (PBA) 0.085 ml (c) crown direction position: West canopy position (PTB) 0.110 ml at most compared to East crown direction position (PTT) 0.103 ml and crown direction position Above (PTA) 0.109 ml.

Keywords: *Guttation, transpiration, sandalwood, Petir Village, Gunungkidul*

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