

# Pengaruh Intensitas Cahaya terhadap Anatomi Jaringan Mesofil Daun *Syngonium podophyllum* Schott = Effect of Light Intensity on Leaf Mesophyll Tissue Anatomy of *Syngonium podophyllum* Schott

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## Abstrak

*Syngonium podophyllum* memiliki warna daun yang bervariasi. Variasi warna tersebut terdiri dari merah muda, kombinasi merah muda-hijau, dan hijau. Warna-warna yang terdapat pada daun dipengaruhi oleh faktor internal dan eksternal tanaman. Intensitas cahaya diduga merupakan faktor yang paling berpengaruh terhadap variasi warna daun *S. podophyllum*. Penelitian dilakukan menggunakan naungan paranet berbentuk kubus pada berbagai variasi kerapatan sebagai representasi intensitas cahaya yang diterima tanaman. Sistem naungan dan jumlah sampel tanaman di dalam naungan disusun menggunakan metode purposive sampling. Terdapat tiga perlakuan kerapatan paranet, yaitu 45%, 65%, dan 85% serta kontrol. Studi anatomi dilakukan untuk melihat bagaimana pengaruh intensitas cahaya terhadap tampilan jaringan mesofil pada berbagai variasi warna daun yang dimiliki oleh *S. podophyllum*. Preparat anatomi berupa sayatan segar yang disayat melintang (cross section) dengan metode hand section. Data yang diambil bersifat kualitatif dan kuantitatif. Data kualitatif berupa tampilan morfologi warna daun dan struktur anatomi jaringan mesofil daun, sedangkan data kuantitatif berupa ketebalan jaringan mesofil daun dan parameter lingkungan. Hasil penelitian menunjukkan bahwa variasi warna daun berkorelasi dengan struktur anatomi jaringan mesofil. Meski demikian, belum ditemukan korelasi secara langsung antara struktur anatomi mesofil daun dengan variasi intensitas cahaya. Penelitian lebih lanjut masih dibutuhkan khususnya dalam menentukan area daun yang menjadi sumber sayatan, frekuensi pembuatan preparat yang disesuaikan dengan kondisi lingkungan, serta metode sayatan yang menunjang keakuratan hasil pengukuran ketebalan jaringan.

.....*Syngonium podophyllum* has a variety of leaf colors. The variations include pink, pink-green combination, and green. Plant internal and external factors influence leaf color. Intensity of sunlight is believed to be the most impactful factor that affect leaf color variations of *S. podophyllum*. The study was conducted using cube shaped shade net on several densities to represent received light intensity. Shade type and number of samples for each shade were arranged using purposive sampling method. Three shade net densities were used as treatments: 45%, 65%, and 85% along with control. Anatomical study was conducted to observe the effect of light intensity towards the appearance of mesophyll tissue in the different leaf color variations of *S. podophyllum*. The anatomy slide was fresh sectioned in cross section with free-hand sectioning method. Data were collected for each plant, including qualitative data such as leaf color and mesophyll tissue anatomy, and quantitative data such as mesophyll tissue thickness and environmental parameters. The research results indicated that leaf color correlated with the anatomical structure of mesophyll tissue. Nevertheless, the direct correlation between mesophyll anatomy structure with variation of shade net densities has yet to be found. Further studies were required particularly on determining leaf area used in anatomy slide, frequencies of anatomy slide preparation in accordance to environment condition, as well as sectioning method which support the accuracy of mesophyll thickness measurement results.