

PENGARUH GIBERELIN TERHADAP PEMBENTUKAN KAYU TARIK PADA SEMAI GAHARU (*Gyrinops versteegii* (Gilg.) Domke)

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INTISARI

Kayu gaharu (*Gyrinops versteegii* (Gilg.) Domke) merupakan salah satu spesies angiospermae yang memiliki anatomi kayu yang unik yaitu adanya *interxylary phloem*. Kayu reaksi pada spesies angiospermae disebut kayu tarik dan biasanya ditandai dengan kehadiran lapisan gelatin (*g-layer*). Giberelin merupakan hormon tumbuhan yang dapat berperan penting dalam pembentukan kayu tarik dan gravitropisme. Penelitian ini bertujuan untuk mengetahui pengaruh giberelin terhadap sudut pemulihan batang, lebar zona kayu tarik, *g-layer* dan struktur anatomi kayu terutama *interxylary phloem* yang terdapat pada kayu normal (0°), kayu tarik maupun kayu *opposite* pada spesies ini.

Penelitian ini dilakukan dengan menggunakan semai gaharu (*G.versteegii*) yang dimiringkan 45° dan diberi 3 perlakuan hormonal yaitu hormon giberelin (0,01%,w/w), kontrol (air suling) dan uniconazole-p (0,01%,w/w) dengan 3 kali ulangan. Bagian kayu yang diamati terdiri dari kayu tarik dan kayu *opposite*. Sebagai pembanding diamati juga kayu normal. Penelitian di *green house* dilakukan dengan pengukuran sudut pemulihan batang setiap 3 hari sekali selama 1 bulan (30 hari). Sedangkan penelitian di laboratorium dilakukan dengan pembuatan preparat irisan melintang batang dan maserasi untuk mengukur parameter-parameter yang telah ditentukan.

Hasil penelitian menunjukkan bahwa semai gaharu (*G.versteegii*) mengalami pembentukan kayu tarik namun tidak terbentuk lapisan gelatin (*g-layer*). Perlakuan hormonal memberikan pengaruh terhadap sudut pemulihan batang, lebar zona kayu tarik, panjang serat, diameter serat, tebal dinding serat, diameter pembuluh, frekuensi pembuluh, tinggi jari-jari, proporsi *interxylary phloem* dan frekuensi *interxylary phloem*. Bagian kayu memberikan pengaruh terhadap tebal dinding serat, diameter pembuluh, frekuensi pembuluh, tinggi jari-jari dan frekuensi *interxylary phloem*.

Kata Kunci: Kayu tarik, *Gyrinops versteegii*, *interxylary phloem*, *g-layer*, giberelin.

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EFFECTS OF GIBBERELLIN ON TENSION WOOD FORMATION IN AGARWOOD (*Gyrinops versteegii* (Gilg.) Domke) SEEDLINGS

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ABSTRACT

Agarwood (*Gyrinops versteegii* (Gilg.) Domke) is a species of angiosperms that has a unique wood anatomy namely the presence of interxylary phloem. The reaction wood that occurs in angiosperm species is referred to tension wood and usually characterized by the presence of gelatinous layer (g-layer). Gibberellin is a plant hormone that can play an important role in the formation of tension wood and gravitropism. The aim of this study was to observe the effect of gibberellin to stem inclination, width of tension wood zone, g-layer and wood anatomical structure especially the presence of interxylary phloem in normal wood (0°), tension wood and opposite wood in this species.

This study conducted by using agarwood (*G.versteegii*) seedlings were tilted for 45° and given 3 hormonal treatments namely gibberellin hormone (0,01%, w/w), control (distilled water) and uniconazole-p (0,01%, w/w) with 3 repetitions. The observed part consists of tension wood and opposite wood. As a comparison normal wood was also observed. Research in the greenhouse was conducted by measuring the stem inclination every 3 days for 1 month (30 days). Meanwhile, research in the laboratory was conducted by making cut cross stem and maceration for measuring determined parameters.

These results showed that agarwood (*G.versteegii*) seedlings produced tension wood formation but did not form a gelatinous layer (g-layer). Hormonal treatments had an affect on the stem inclination, width of tension wood zone, length of fiber, diameter of fiber, thickness of fiber wall, diameter of vessel, frequency of vessel, height of rays, proportion of *interxylary phloem* and frequency of *interxylary phloem*. The wood part had an affect on the thickness of fiber wall, diameter of vessel, frequency of vessel, height of rays and frequency of *interxylary phloem*.

Key word: Tension wood, *Gyrinops versteegii*, *interxylary phloem*, g-layer, gibberellin.

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