

PRODUKSI BIBIT Balsa (*Ochroma pyramidale*) PROSPEKTIF MELALUI TEKNIK INDUKSI AKAR

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INTISARI

Balsa (*Ochroma pyramidale*) dikenal sebagai kayu ringan yang cepat tumbuh serta memiliki pasar industri yang diperkirakan terus meningkat. Keunikan pasar kayu balsa menghendaki kayu yang semakin ringan dan kepadatan rendah. Kecepatan pertumbuhan balsa menjadi kunci pemenuhan pasar tersebut. Produksi bibit balsa prospektif melalui teknik induksi akar menjadi salah satu alternatif solusinya. Induksi akar mampu menghasilkan bibit dengan perkembangan akar yang masif dan ekstensif. Penelitian ini bertujuan untuk mengembangkan teknik induksi akar dengan melihat pengaruh umur semai saat dipotong dan ukuran panjang potongan akar terhadap efektivitas induksi akar semai balsa.

Penelitian eksperimental dengan design RCBD (*Randomized Complete Block Design*) dilaksanakan melibatkan dua faktor yaitu umur semai saat dipotong dan ukuran panjang potongan akar. Terdapat 3 blok penelitian, 12 kombinasi perlakuan dan 8 ulangan pada masing-masing blok sehingga total individu sejumlah 288. Perlakuan umur semai terdiri dari umur 1 MST (U1), 2 MST (U2) dan 3 MST (U3), sedangkan perlakuan panjang potongan akar yaitu 0 cm DPA (P0), 0,5 cm DPA (P0,5), 1 cm DPA (P1), dan tidak dipotong (PK). Pengamatan terhadap pertumbuhan akar dan batang semai dilakukan selama 4 bulan. Analisis data menggunakan ANOVA dua arah dilanjutkan uji DMRT pada ketelitian 95%.

Blok 2 menghasilkan keberhasilan semai yang lebih optimal karena intensitas cahaya tinggi. Hasil penelitian menunjukkan bahwa umur semai memiliki pengaruh signifikan terhadap induksi akar. Pemotongan akar umur 1 minggu setelah ditabur menunjukkan pertumbuhan semai terbaik, baik pada persen hidup 83,33%; pertumbuhan tinggi 3,35 cm; diameter 0,17 mm; maupun berat kering akar 0,0459 g. Adapun Panjang potongan akar serta interaksi umur semai dan panjang potongan akar tidak berpengaruh signifikan terhadap pertumbuhan bibit hasil induksi akar, dan berat kering akar.

Kata Kunci: Balsa, induksi akar, umur semai, panjang potongan akar, pertumbuhan akar.

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PROSPECTIVE Balsa (*Ochroma pyramidale*) SEED PRODUCTION THROUGH ROOT INDUCTION TECHNIQUE

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ABSTRACT

Balsa (*Ochroma pyramidale*) is known as a fast-growing, light wood with a growing industrial market. The uniqueness of the balsa wood market calls for increasingly lighter and lower density wood. The speed of balsa growth is the key to fulfill this market. The production of prospective balsa seedlings through root induction techniques is an alternative solution. Root induction can produce seedlings with massive and extensive root development. This study aims to develop the root induction technique by examining the effect of seedling age at cutting and root cutting length on the effectiveness of root induction of balsa seedlings.

Experimental research with RCBD (Randomised Complete Block Design) was conducted involving two factors, namely seedling age at cutting and root cutting length. There were 3 research blocks, 12 treatment combinations and 8 replications in each block so that a total of 288 individuals. The seedling age treatment consisted of 1 MST (U1), 2 MST (U2) and 3 MST (U3), while the root cut length treatment was 0 cm DPA (P0), 0.5 cm DPA (P0.5), 1 cm DPA (P1), and not cut (PK). Observations of seedling root and stem growth were conducted for 4 months. Data analysis used two-way ANOVA followed by DMRT test at 95% accuracy.

Block 2 produced more optimal seedling success due to high light intensity. The results showed that seedling age had a significant effect on root induction. Root cutting at the age of 1 week after sowing showed the best seedling growth, both in terms of 83.33% survival percentage; height growth of 3.35 cm; diameter of 0.17 mm; and root dry weight of 0.0459 g. The length of the root cutting and the interaction of the age of the root cutting and the interaction of the age of the root cutting showed the best seedling growth. The root cutting length and the interaction of seedling age and root cutting length had no significant effect on the growth of root induced seedlings, and root dry weight.

Keywords: Balsa, root induction, seedling age, root cutting length, root growth.

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