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Induksi Pembungaan Durian (Durio zibethinus L.) 'Menoreh Kuning'
Devi Zidna Maghfira, Prof. Dr. Rudi Hari Murti; Adji Baskoro Dwi Nugroho, S.P., Ph.D.
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INTISARI

Durian Menoreh Kuning merupakan varietas unggul lokal Kulon Progo yang memiliki potensi ekonomi tinggi, tetapi pembungaannya belum seragam dan keberhasilan perkembangan bunga menjadi buah masih menjadi kendala. Penelitian ini bertujuan mengevaluasi pengaruh kombinasi teknik pemangkasan, aplikasi paklobutrazol, penggunaan *weedmat*, dan pupuk NASA terhadap induksi pembungaan durian Menoreh Kuning dibandingkan tanaman kontrol, serta memahami mekanisme fisiologis yang mendasarinya. Penelitian dilaksanakan di Kebun Durian Kebun Embung Tonogoro, Kalibawang, Kulon Progo menggunakan Rancangan Acak Kelompok (RAK) dengan empat perlakuan, yaitu kontrol (P0), pemangkasan + paklobutrazol (P1), pemangkasan + paklobutrazol + *weedmat* (P2), dan pemangkasan + paklobutrazol + produk NASA (P3), masing-masing tiga kali ulangan. Parameter yang diamati meliputi kandungan hara tanah, fitohormon, luas daun, rasio C/N, waktu berbunga, jumlah bunga maksimum, persentase pohon berbunga, serta kondisi lingkungan. Data dianalisis menggunakan analisis ragam yang dilanjutkan dengan uji kontras ortogonal pada α=5%. Hasil penelitian menunjukkan bahwa kombinasi perlakuan memengaruhi beberapa aspek fisiologis tanaman melalui perubahan status hara tanah, keseimbangan fitohormon, dan rasio C/N. Perlakuan memberikan pengaruh nyata terhadap kandungan C-organik dan nitrogen tanah, kandungan IAA, GA_3, dan zeatin, luas daun, serta rasio C/N. Namun, perlakuan tidak memberikan pengaruh nyata terhadap waktu berbunga, jumlah bunga maksimum, maupun persentase pohon berbunga dibandingkan kontrol. Penurunan kandungan GA_3 yang diikuti perubahan keseimbangan fitohormon dan rasio C/N menunjukkan bahwa paklobutrazol mampu memodifikasi kondisi fisiologis tanaman yang berkaitan dengan proses induksi pembungaan. Meskipun demikian, perubahan fisiologis tersebut belum mampu meningkatkan respons pembungaan secara nyata, yang diduga dipengaruhi oleh kondisi lingkungan selama penelitian, terutama pola curah hujan pada fase pembentukan bunga.

Kata kunci: durian Menoreh Kuning, induksi pembungaan, paklobutrazol, fitohormon, rasio C/N

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ABSTRACT

The Menoreh Kuning durian is a superior local cultivar from Kulon Progo with high economic potential. However, its flowering is not yet uniform, and the successful development of flowers into fruit remains a challenge. This study aimed to evaluate the effects of a combination of pruning, paclobutrazol application, weed mat use, and NASA products on flowering induction in Menoreh Kuning durian compared with untreated control plants, as well as to elucidate the underlying physiological mechanisms. The study was conducted at the Embung Tonogoro Durian Orchard, Kalibawang, Kulon Progo, using a Randomized Complete Block Design (RCBD) with four treatments: control (P0), pruning + paclobutrazol (P1), pruning + paclobutrazol + weed mat (P2), and pruning + paclobutrazol + NASA products (P3), each with three replicates. The observed parameters included soil nutrient content, phytohormone content, leaf area, C/N ratio, flowering time, maximum number of flowers, percentage of flowering trees, and environmental conditions. Data were analyzed using analysis of variance (ANOVA), followed by orthogonal contrast tests at the 5% significance level. The results showed that the treatment combinations affected several physiological characteristics through changes in soil nutrient status, phytohormone balance, and the C/N ratio. Significant effects were observed on soil organic carbon and total nitrogen contents, IAA, GA_3, and zeatin concentrations, leaf area, and the C/N ratio. However, the treatments did not significantly affect flowering time, maximum flower number, or the percentage of flowering trees compared with the control. The reduction in GA_3 concentration, accompanied by changes in phytohormone balance and the C/N ratio, indicates that paclobutrazol modified the physiological conditions associated with the flowering induction process. Nevertheless, these physiological changes were insufficient to significantly improve the flowering response, which was likely influenced by environmental conditions during the study, particularly rainfall patterns during the flower development stage.

Keywords: C/N ratio, flowering induction, Menoreh Kuning durian, paclobutrazol, phytohormones