

ABSTRAK

PENGARUH KONSENTRASI *INDOLE BUTYRIC ACID* (IBA) DAN *BENZYL AMINO PURIN* (BAP) TERHADAP PERTUMBUHAN EKSPLAN PISANG BARANGAN (*Musa acuminata* C.) SECARA *IN VITRO*

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Perbanyakan pisang secara konvensional dapat melalui anakan dan bonggol namun bibit yang dihasilkan sedikit, membutuhkan waktu yang lama, pertumbuhan tidak seragam, sehingga sulit dikembangkan dalam skala besar. Kultur jaringan dapat menjadi solusi dalam masalah tersebut. Penelitian ini dilakukan dengan tujuan untuk mendapatkan kombinasi media terbaik IBA dan BAP dalam menstimulasi pertumbuhan eksplan pisang barangan. Penelitian dilaksanakan di Laboratorium Bioteknologi Fakultas Pertanian Universitas Siliwangi pada Juli sampai November 2021. Penelitian ini menggunakan Rancangan Acak Lengkap (RAL) pola faktorial diulang sebanyak 3 kali. Faktor pertama adalah konsentrasi IBA, terdiri dari 3 taraf, yaitu 0 ppm (tanpa IBA), 1 ppm, dan 2 ppm. Faktor kedua yaitu konsentrasi BAP, terdiri dari 3 taraf yaitu 0 ppm (tanpa BAP), 2 ppm, dan 4 ppm. Data dianalisis menggunakan analisis sidik ragam dan diuji lanjut menggunakan uji lanjut berganda Duncan. Hasil penelitian menunjukkan tidak terdapat interaksi antara konsentrasi IBA dan BAP terhadap persentase eksplan berkalus, jumlah tunas, panjang tunas, dan jumlah akar pisang barangan (*Musa acuminata* C.) secara *in vitro*. Secara mandiri perlakuan 0 ppm IBA menghasilkan jumlah tunas terbanyak dan panjang tunas terpanjang pada umur 8 minggu setelah subkultur. Konsentrasi 1 ppm IBA menghasilkan persentase eksplan berkalus tertinggi pada umur 8 minggu setelah subkultur. Konsentrasi 4 ppm BAP menghasilkan persentase eksplan berkalus tertinggi pada umur 8 minggu setelah subkultur.

Kata kunci : Kultur jaringan, Pisang barangan, IBA, BAP

ABSTRACT

THE EFFECT OF INDOLE BUTYRIC ACID (IBA) AND BENZYL AMINO PURIN (BAP) CONCENTRATION TO THE GROWTH EXPLANT OF BARANGAN BANANA (*Musa acuminata* C.) *IN VITRO*

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Conventional propagation of banana through saplings (sucker) and tuber (corm), but the seeds produced in this way produced little puppies and requires a relatively long time, growth is not uniform, and it would be the obstacles large scale cultivation. Tissue culture can be solution in this problem. The research was aimed to obtain the best concentration of IBA and BAP medium to stimulating the growth of barangan banana explant. The research conducted in Biotechnology Laboratory of the Agriculture Faculty, Siliwangi University in July to November 2021. The research used factorial experiment aranged in Completely Randomized Design (CRD). The treatment consisted of two factors. The first factor was IBA concentration, consited of three level: 0 ppm (without IBA), 1 ppm, and 2 ppm. The second factor was BAP concentration, consited of three level: 0 ppm (Without BAP), 2 ppm, and 4 ppm. Data were analyzed using analysis of variance and continued with Duncan's Multiple Range Test (DMRT). The result showed that there was no interaction between IBA and BAP concentration on the percentage of callus, number of shoot, lenght of shoot, and number of root of barangan banana (*Musa acuminata* C.) by *in vitro*. The treatment 0 ppm IBA produced the greatest number and lenght of shoots at 8 week after subculture. The concentration 1 ppm IBA produce the highest percentage of callus at 8 week after subculture. The concentration 4 ppm BAP produce the highest percentage of callus at 8 week after subculture.

Key word: *In vitro*, Barangan banana, IBA, BAP