

ABSTRACT

Duku plant propagation through seeds takes a long time so plant propagation using tissue culture techniques is needed to produce plants seeds in a short time. This study aimed to determine the effect of the growth regulator 2,4-D and BAP on leaf explants *Petiolus communis* in inducing callus. Leaf explants were initiated using MS (*Murashige and Skoog*) media with 5 different combinations of concentrations of growth regulators 2,4-D and BAP consisting of 0 ppm 2,4-D + 0 ppm BAP, 1 ppm 2,4-D + 1 ppm BAP, 1 ppm 2,4-D + 2 ppm BAP, 1 ppm 2,4-D + 3 ppm BAP, 1 ppm 2,4-D + 4 ppm BAP. This research was conducted for 35 days at the Tissue Culture Laboratory of UIN Raden Fatah Palembang. The experiment was arranged according to a factorial complete randomized design (CRD) with 5 treatments and 25 repetitions. The data obtained were then analyzed descriptively. The results showed that concentrations of 1 ppm 2,4-D + 1 ppm BAP and 1 ppm 2,4-D + 3 ppm BAP is the most optimal combinations in inducing the appearance of callus explants of *Petiolus communis* duku leaf stalk with a percentage of 20% each, this is indicated by the growth response, namely the formation presence of yellowish-white clumps of cells and thickening of the explants. The results of the development of encyclopedia media as research contributions that have been validated by material experts, media, media experts, and linguists get the final resultd of 94,54% categorized as very valid.

Keywords: *Petiolus Communis* Explants, Callus Induction, Tissue Culture, Duku Plant, Media Encyclopedia, *Murashige and Skoog* (MS), Growth Regulatory Substance 2,4-D and BAP.

ABSTRAK

Perbanyakan tanaman duku (*Lansium domesticum* Corr.) melalui ibu tangkai daun membutuhkan waktu cukup lama sehingga dibutuhkan perbanyakan tanaman dengan teknik kultur jaringan untuk menghasilkan bibit tanaman dalam waktu singkat. Penelitian ini bertujuan untuk mengetahui pengaruh zat pengatur tumbuh 2,4-D dan BAP terhadap eksplan ibu tangkai daun dalam menginduksi kalus. Eksplan ibu tangkai daun diinisiasi menggunakan media MS (*Murashige and Skoog*) dengan 5 macam kombinasi zat pengatur tumbuh 2,4-D dan BAP yaitu 0 ppm 2,4-D + 0 ppm BAP, 1 ppm 2,4-D + 1 ppm BAP, 1 ppm 2,4-D + 2 ppm BAP, 1 ppm 2,4-D + 3 ppm BAP, 1 ppm 2,4-D + 4 ppm BAP. Penelitian ini dilakukan selama 35 hari di Laboratorium Terpadu UIN Raden Fatah Palembang dalam ruang *Tissue Culture*. Percobaan disusun berdasarkan rancangan acak lengkap (RAL) faktorial dengan 5 perlakuan dan 25 kali pengulangan. Data yang diperoleh kemudian dianalisis secara deskriptif. Hasil penelitian menunjukkan bahwa konsentrasi 1 ppm 2,4-D + 1 ppm BAP dan 1 ppm 2,4-D + 3 ppm BAP merupakan kombinasi paling optimal dalam menginduksi munculnya kalus eksplan ibu tangkai daun duku dengan presentase masing-masing sebesar 20%, hal ini ditandai adanya respon yaitu terbentuknya segumpalan sel berwarna putih kekuningan dan terjadi penebalan pada eksplan. Hasil pengembangan media ensiklopedia sebagai sumbangsih penelitian yang telah divalidasi oleh ahli materi, ahli media, dan ahli bahasa mendapatkan hasil akhir sebesar 94,54% dikategorikan sangat valid.

Kata kunci: Ekplan Ibu Tangkai Daun, Induksi Kalus, Kultur Jaringan, Tanaman Duku, Media Ensiklopedia, *Murashige and Skoog* (MS), Zat Pengatur Tumbuh 2,4-D dan BAP.