

INTISARI

Tujuan penelitian untuk menentukan jenis medium dan konsentrasi 2,4-D terbaik terhadap induksi embrio somatik anggrek *Vanda tricolor* secara *in vitro*. Penelitian ini dilaksanakan pada bulan Desember 2018 sampai dengan Maret 2019 bertempat di Laboratorium Kultur *in Vitro* Fakultas Pertanian, Universitas Muhammadiyah Yogyakarta. Penelitian dilakukan dengan metode percobaan faktor tunggal dan disusun dalam Rancangan Acak Lengkap (RAL) dengan 3 ulangan. Adapun perlakuan yang diujikan yaitu kombinasi jenis medium (NDM dan POC) dengan konsentrasi 2,4-D (0; 1; 3; 5 mg/l). TDZ 0,5 mg/l ditambahkan ke dalam setiap perlakuan. Parameter yang diamati meliputi persentase eksplan hidup, persentase eksplan *browning*, persentase eksplan terkontaminasi, persentase eksplan vitrifikasi, waktu muncul pro-embrio, jumlah pro-embrio, persentase eksplan berkalus, waktu muncul kalus, diameter kalus, tekstur kalus, tinggi eksplan, jumlah daun, warna daun, dan pengamatan mikroskop. Hasil penelitian menunjukkan bahwa penggunaan medium POC dengan konsentrasi 1 mg/l 2,4-D cenderung memberikan pengaruh terbaik yang ditunjukkan oleh waktu muncul pro-embrio pada 2,72 minggu; jumlah pro-embrio sebanyak 2,44 pro-embrio; persentase eksplan berkalus sebesar 0,84 %; waktu muncul kalus pada 30,50 hari; dan diameter kalus sebesar 3,13 mm.

Kata Kunci : Anggrek *Vanda tricolor*, *New Dogashima Medium* (NDM), Pupuk Organik Cair (POC), 2,4-*Dichlorophenoxyacetic acid*

ABSTRACT

The research aims to determine the best type of medium and 2,4-D concentration on somatic embryo induction of Vanda tricolor tissue culture. The research was conducted in December 2018 to March 2019 at the Tissue Culture Laboratory of Agriculture Faculty, Universitas Muhammadiyah Yogyakarta. The research was conducted with a single factor experimental method and was arranged in a Completely Randomized Design (CRD) with 3 replications. The treatment tested was a combination of medium types (NDM and POC) with 2,4-D concentrations (0; 1; 3; 5 mg/l). TDZ 0,5 mg/l was added to each treatment. Parameters observed included the percentage of live explants, percentage of browning explants, percentage of contaminated explants, percentage of vitrified explants, time appears of pro-embryo, total of pro-embryos, percentage of callus explants, time appears of callus, callus diameter, callus texture, explant height, total of leaves, leaf color, and microscope observation. The results showed that the use of POC medium with a concentration of 1 mg/l 2,4-D tended to give the best effect as indicated by the time appears of pro-embryo at 2,72 weeks; total of pro-embryos as much as 2,44 pro-embryos; the percentage of callus explants of 0,84%; time appears of callus at 30,50 days; and callus diameter of 3,13 mm.

Key Words : Vanda tricolor, New Dogashima Medium (NDM), Liquid Organic Fertilizer (POC), 2,4-Dichlorophenoxyacetic acid