

ABSTRAK

Nurkamilah Arifah. 2016. Studi Morfogenesis Kuncup Bunga Gerbera (*Gerbera Jamesonii* Bolus) Pada Dua Varietas Dan Media Regenerasi Yang Berbeda Di Bawah Bimbingan Liberty Chaidir Dan Budi Winarto.

Gerbera merupakan salah satu anggota famili Asteraceae yang memiliki nilai ekonomi tinggi sebagai bunga potong. Kebutuhan bunga potong dunia mendorong akan teknologi yang mampu menunjang terpenuhinya permintaan pasar dunia, memnuhi kebutuhan lokal khususnya di Indonesia, dan menekan impor. Maka perbanyak tanaman secara kultur jaringan merupakan salah satu cara untuk mengatasi masalah tersebut, diharapkan dengan metode kultur jaringan akan diperoleh bibit dalam jumlah yang banyak, cepat, dan seragam. Penelitian ini dilaksanakan di Laboratorium Kultur Jaringan Balai Penelitian Tanaman Hias (BALITHI) Segunung Pacet Cianjur dari Januari sampai Juni 2016. Metode yang digunakan adalah metode Rancangan Acak Kelompok (RAK) faktorial dua faktor, faktor pertama varietas eksplan kuncup bunga Gerbera (Lokal Pink dan Lokal Merah), sedangkan faktor keduanya jenis media regenerasi [GC -1 : $\frac{1}{2}$ Murashige dan Skoog (MS) + 0,75 mg l⁻¹ Thidiazuron (TDZ), GC -2: $\frac{1}{2}$ MS + 0,50 mg l⁻¹ TDZ + 0,25 mg l⁻¹ N6-benzylaminopurine (BAP) (kontrol 1), GC -3 : $\frac{1}{2}$ MS + 0,50 mg l⁻¹ TDZ, GC -4: $\frac{1}{2}$ MS + 0,25 mg l⁻¹ TDZ, GC -5: $\frac{1}{2}$ MS + 0,125 mg l⁻¹ TDZ dan GC -6: $\frac{1}{2}$ MS + 0,25 mg l⁻¹ BAP (kontrol 2)]. Sehingga terdapat 12 kombinasi perlakuan yang diulang tiga kali. Uji lanjut yang digunakan adalah Uji Duncan pada taraf kepercayaan 95%. Hasil penelitian menunjukkan bahwa perlakuan varietas dan media memberikan pengaruh nyata terhadap morfogenesis kuncup bunga, meskipun pengaruh interaksi kedua perlakuan tidak berbeda nyata. Gerbera warna merah memberikan respon lebih baik dibanding warna pink. Gerbera warna merah menginduksi pembentukan kalus dalam waktu 49 hari dengan persentase regenerasi eksplan mencapai 40%, 1,6 eksplan yang membentuk kalus (+ skor kalus), 2,3 tunas per eksplan dan 1,15 cm panjang daun. Sedangkan GC-5 ($\frac{1}{2}$ MS + 0,125 mg l⁻¹ TDZ) merupakan jenis medium yang paling sesuai untuk morfogenesis kuncup bunga muda. Medium ini menstimulasi pembentukan kalus (+ skor kalus) dalam waktu 44,3 hari dengan 41,6% eksplan beregenerasi, 1,7 eksplan membentuk kalus, 2,5 tunas per eksplan dan 1,20 cm panjang daun.

Kata kunci: Gerbera, kuncup bunga muda, media, organogenesis, regenerasi, dan tunas

ABSTRACT

Nurkamilah Arifah. 2016. Morphogenesis studies Buds Flower Gerbera (*Gerbera jamesonii* Bolus) On Two varieties And Medium Regeneration Different Under Guidance Liberty Chaidir Dan Budi Winarto.

Gerbera (Gerbera jamesonii Bolus) is one of Asteraceae family members having high economical values as the cut flower. Consumer and market demand to the flower increase gradually by year both globally and nationally. To support the demand, availability and sustainability of qualified seed shall be addressed. Conventionally the plants are propagated by bud splitting and seed, but the two methods are not suitable for commercial purposes. Application of tissue culture method has high potential utilized to solve the problem. A research focused on studying effect of two varieties and different regeneration media in inducing shoots derived from young flower buds was successfully carried out at tissue culture laboratory of Indonesian Ornamental Crops Research Institute (IOCRI), Segunung, Pacet-Cianjur from January to June 2016. Research materials used in the study were young flower buds harvested from gerbera cultivated by Ciwalen farmer. Factorial experiment was arranged by a randomized complete block design with three replications, where first factor two types of gerbera i.e. pink and red flower and six different regeneration media with half-strength Murashige and Skoog (MS) containing of 0, 75 mg l⁻¹ thidiazuron (TDZ) (GC-1); 0,50 mg l⁻¹ TDZ + 0,25 mg l⁻¹ N6-benzylaminopurine (BAP) (GC-2 and as control 1); 0,50 mg l⁻¹ TDZ (GC-3); 0,25 mg l⁻¹ TDZ (GC-4); 0,125 mg l⁻¹ TDZ (GC-5) dan 0,25 mg l⁻¹ BAP (GC-6 and second control). Significant different effect of treatments were further analyzed by Duncan Multiple Range Test at p= 0.05. Research results indicated that different types of gerbera and regeneration media gave significant effect on shoot regeneration of young flower buds, however the treatments did not exhibit significant interaction effect in all variables observed. Red type of gerbera showed better regeneration response compared to the pink one. The gerbera successfully induced callus during 49 days after culture initiation with 40% explant regeneration; 1,6 explants produced callus (+ callus score); 2,3 shoots per explant and 1,15 cm leaf length. While GC-5 (half-strength MS supplemented with 0,125 mg l⁻¹ TDZ was suitable medium to stimulate callus formation (+ callus score) in 44,3 days after culture initiation of explant with 41,6% explant regeneration; 1,7 explants produced callus; 2,5 shoots per explant and 1,20 cm leaf length.

Keywords: *gerbera, young flower bud, medium, organogenesis, regeneration, and shoots*