ABSTRAK

PENGARUH KONSENTRASI EKSTRAK JAMBU BATU (*Psidium guajava* L.) DAN *Benzyl Amino Purine* TERHADAP PERTUMBUHAN EKSPLAN PISANG CAVENDISH (*Musa acuminata*) SECARA *IN VITRO*

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Pisang cavendish merupakan salah satu jenis pisang yang banyak diminati oleh pasar internasional. Perbanyakan pisang umumnya dilakukan secara vegetatif menggunakan anakan pisang, namun cara ini dinilai kurang efektif karena membutuhkan waktu yang cukup lama. Salah satu cara untuk meningkatkan produksi tanaman pisang dapat dilakukan melalui perbanyakan bibit dengan kultur *in vitro*. Kultur *in vitro* membutuhkan media yang sesuai, penambahan BAP sebagai sitokin dinilai dapat mempercepat pertumbuhan pisang Cavendish. Kultur *in vitro* memiliki beberapa kendala diantaranya adanya *blackening* pada eksplan yang mempengaruhi pertumbuhan eksplan pisang sehingga dengan penambahan ekstrak jambu batu sebagai antioksidan organik diharapkan dapat mengurangi *blackening.* Tujuan penelitian adalah mendapatkan konsentrasi ekstrak jambu batu (*Psidium guajava*) dan *Benzyl Amino Purine* yang terbaik terhadap pertumbuhan ekslan pisang pisang Cavendish (*Musa acuminata*) secara *in vitro*. Penelitian menggunakan Rancangan Acak Lengkap (RAL) yang berpola faktorial 4 x 3 dengan ulangan sebanyak 3 kali. Perlakuan ekstrak jambu batu yang ditambahkan ke dalam media (0 g/L, 1 g/L, 2 g/L, 3 g/L) dan BAP (3 ppm, 6 ppm, 9 ppm). Data dianalisis menggunakan sidik ragam uji F dan dilanjutkan dengan Uji Jarak Berganda Duncan taraf nyata 5%. Hasil penelitian menunjukkan bahwa hasil terbaik untuk waktu muncul tunas terdapat pada interaksi antara perlakuan ektrak jambu batu 1 g/L dan BAP 9 ppm, pada tinggi tunas hasil terbaik terdapat pada interaksi antara perlakuan ekstrak jambu batu 0 g/L dan BAP 6 ppm.

Kata kunci: Pisang cavendish, ekstrak jambu batu, BAP, kultur *in vitro*

ABSTRACT

THE EFFECT OF THE CONCENTRATION OF GUAVA EXTRACT (*Psidium guajava* L.) AND *Benzyl Amino Purine* ON THE GROWTH OF *IN VITRO* CAVENDISH BANANA CULTURE EXPLANTS (*Musa acuminata*)

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Cavendish banana is one type of banana that is in great demand by the international market. Banana propagation is generally done vegetatively using banana tillers, but this method is considered less effective because it takes a long time. One way to increase the production of banana plants can be done through propagation of seeds with *in vitro* culture . *In vitro* culture requires suitable media, the addition of BAP as a cytokine is considered to accelerate the growth of Cavendish bananas. *In vitro* culture has several problems, including the presence of *blackening* on explants that affect the growth of banana explants so that the addition of guava extract as an organic antioxidant is expected to reduce *blackening.* The aim of the research was to obtain the best concentration of guava extract (*Psidium guajava*) and *Benzyl Amino Purine* on the growth of Cavendish banana (*Musa acuminata*) explants *in vitro* . The study used a completely randomized design (CRD) with a factorial pattern of 4 x 3 with 3 replications. Guava extract was added to the media (0 g/L, 1 g/L, 2 g/L, 3 g/L) and BAP (3 ppm, 6 ppm, 9 ppm). Data were analyzed using the F test of variance and continued with Duncan's Multiple Distance Test with 5% significance level. The results showed that the best results for the time of shoot emergence were found in the interaction between guava extract treatment 1 g/L dan BAP 9 ppm, on shoot height the best results were found in the interaction between guava extract treatment 0 g/L dan BAP 6 ppm.

Keywords: Cavendish banana, guava extract, BAP, *in vitro* culture