ABSTRAK

Jesica Widiya Batubara, NIM 4212520012 (2021). Pengaruh Ekstrak Jagung (*Zea mays* L.) dan NAA (*Naphthalene Acetic Acid*) Terhadap Pertumbuhan Planlet Stevia (*Stevia rebaudiana* Bertoni) Secara *In Vitro*.

Penelitian ini bertujuan untuk mengetahui pengaruh ekstrak jagung (*Zea mays* L.), NAA (*Naphthalene Acetic Acid*) dan interaksi keduanya terhadap pertumbuhan planlet stevia (*Stevia rebaudiana* Bertoni) secara *in vitro*. Penelitian ini dilakukan pada bulan Juni-Agustus 2025 di Laboratorium Kultur Jaringan Tanaman G10 Agro Tech Jl. Sei Bahorok No. 47 F Medan Baru. Penelitian ini menggunakan Rancangan Acak Lengkap (RAL) faktorial dengan dua faktor. Faktor pertama adalah konsentrasi ekstrak ekstrak jagung 4 taraf yaitu 0, 25 dan 50 dan 75 g/L dan faktor kedua adalah NAA yang terdiri dari 3 taraf yaitu 0, 0,5, dan 1 mg/L. Diperoleh 12 kombinasi perlakuan dan masing-masing perlakuan diulang sebanyak 3 kali sehingga diperoleh 36 unit percobaan. Parameter penelitian ini adalah persentase planlet hidup, tinggi planlet, jumlah tunas, jumlah daun dan jumlah akar. Data yang diperoleh dianalisis dengan *Analysis of Variance* (ANOVA) dan jika berbeda nyata akan dilakukan uji lanjut dengan DMRT (*Duncan Multiple Range Test*) pada taraf 5%. Hasil penelitian menunjukkan perlakuan ekstrak jagung dan NAA berpengaruh nyata terhadap tinggi planlet, jumlah tunas, jumlah daun dan jumlah akar. Pemberian ekstrak jagung berpengaruh nyata terhadap pertumbuhan tinggi planlet, jumlah tunas, dan jumlah akar. Rataan tinggi planlet, jumlah tunas dan akar terbanyak dihasilkan oleh ekstrak jagung J_3 (75 gr/L). Penambahan NAA memberikan pengaruh nyata terhadap parameter jumlah daun dan jumlah akar. Rataan jumlah akar tertinggi dihasilkan oleh pemberian NAA N_2 (1 mg/L). Sedangkan jumlah daun terbanyak dihasilkan oleh N_1 (0,5 mg/L). Tinggi planlet terbaik dihasilkan oleh kombinasi perlakuan J_2N_0 (ekstrak jagung 50 g/L + NAA 0 mg/L) yaitu 65,33 mm. Jumlah daun terbanyak dihasilkan oleh kombinasi perlakuan J_2N_2 (ekstrak jagung 50 g/L + NAA 0,5 mg/L) yaitu 39,33 helai daun. Jumlah tunas dan jumlah akar terbanyak dihasilkan oleh kombinasi perlakuan J_3N_2 (ekstrak jagung 75 g/L + NAA 1,0 mg/L) yaitu 16,00 tunas dan jumlah akar 8,33 akar. Persentase planlet hidup sebesar 83,3%.

Kata kunci: Ekstrak jagung, NAA, Planlet stevia.

ABSTRACT

Jesica Widiya Batubara, NIM 4212520012 (2021). The Effect of Corn Extract (*Zea mays* L.) and NAA (*Naphthalene Acetic Acid*) on the Growth of Stevia Plantlets (*Stevia rebaudiana* Bertoni) *In Vitro*

This study aims to determine the effect of corn extract (*Zea mays* L.), NAA (*Naphthalene Acetic Acid*) and the interaction of both on the growth of stevia plantlets (*Stevia rebaudiana* Bertoni) *in vitro*. This study was conducted in June-August 2025 at the G10 Agro Tech Plant Tissue Culture Laboratory, Jl. Sei Bahorok No. 47 F Medan Baru. This study used a factorial Completely Randomized Design (CRD) with two factors. The first factor is the concentration of corn extract with 4 levels, namely 0, 25 and 50 and 75 g/L and the second factor is NAA which consists of 3 levels, namely 0, 0.5, and 1 mg/L. 12 treatment combinations were obtained and each treatment was repeated 3 times so that 36 experimental units were obtained. The parameters of this study were the percentage of live plantlets, plantlet height, number of shoots, number of leaves and number of roots. The data obtained were analyzed using ANOVA (*Analysis of Variance*) and if significantly different, further testing was carried out using DMRT (*Duncan Multiple Range Test*) at the 5% level. The results showed that the treatment of corn extract and NAA significantly affected the height of plantlets, the number of shoots, the number of leaves, and the number of roots. The administration of corn extract significantly affected the growth of plantlet height, the number of shoots, and the number of roots. The average height of plantlets, the highest number of shoots, and roots was produced by J_3 corn extract (75 g/L). The addition of NAA significantly affected the parameters of the number of leaves and the number of roots. The highest average number of roots was produced by the administration of NAA N_2 (1 mg/L). While the highest number of leaves was produced by N_1 (0.5 mg/L). The best height of plantlets was produced by the combination of J_2N_0 treatment (corn extract 50 g/L + NAA 0 mg/L), which was 65.33 mm. The highest number of leaves was produced by the combination of J_2N_2 treatment (corn extract 50 g/L + NAA 0.5 mg/L), which was 39.33 leaves. The highest number of shoots and roots was produced by the J_3N_2 treatment combination (75 g/L corn extract + 1.0 mg/L NAA), namely 16.00 shoots and 8.33 roots. The percentage of live plantlets was 83.3%.

Keywords: Corn extract, NAA, Stevia plantlet.