ABSTRAK

Albin Vesta S.K Sitompul, NIM 4192520003 (2025). Pengaruh Ekstrak Jagung (*Zea mays*) dan Air Kelapa (*Cocos nucifera*) terhadap Pertumbuhan Tunas Kentang Granola (*Solanum tuberosum* L.) pada Media MS secara In vitro.

Penelitian ini bertujuan untuk mengetahui pengaruh ekstrak jagung (*Zea mays*) dan air kelapa (*Cocos nucifera*) terhadap pertumbuhan planlet kentang granola (*Solanum tuberosum* L.) secara *in vitro.* Penelitian ini dilaksanakan pada bulan Juli – Oktober 2024 di Laboratorium Kultur Jaringan G10 Agro Tech Medan. Pada penelitian ini tanaman kentang ditanam pada media MS (*Murashige and Skoog*) yang dikombinasikan dengan ekstrak jagung dan air kelapa menggunakan desain penelitian Rancangan Acak Lengkap (RAL), dengan masing-masing 4 perlakuan dan tiga ulangan dengan konentrasi yang terdiri atas 4 taraf yaitu ekstrak jagung 0 g/L, 25 g/L, 50 g/L, 75 g/L dan air kelapa yaitu 0 ml/L, 50 ml/L, 100 ml/L, 150 ml/L. Parameter pengamatan dalam penelitian ini adalah persentase kontaminasi, tinggi planlet, jumlah tunas, jumlah daun, dan jumlah akar. Data yang diperoleh dianalisis menggunakan Analysis of variance (ANOVA) dan pada perlakuan berbeda dilakukan uji lanjut Duncan's multiple range test (DMRT). Hasil analisis setelah pengamatan ke-6 minggu setelah tanam (MST) menunjukkan bahwa perlakuan penambahan ekstrak jagung dan air kelapa berpengaruh sangat nyata terhadap tinggi planlet, jumlah tunas, jumlah daun, dan jumlah akar. Tinggi planlet terbaik dihasilkan oleh kombinasi J2A3 (ekstrak jagung 50 g/L + air kelapa 150 ml/L) yaitu 19,70 cm. Jumlah tunas terbaik dihasilkan oleh J3A2 (ekstrak jagung 75 g/L + air kelapa 150 ml/L) yaitu 4,67 tunas. Jumlah daun terbanyak yaitu J1A2 (ekstrak jagung 25 g/L + air kelapa 100 ml/L) yaitu 22 helai dan kombinasi perlakuan pada jumlah akar terbaik dihasilkan oleh J3A3 (ekstrak jagung 75 g/L + air kelapa 150 ml/L) yaitu 7,67 akar. Sehingga dapat disimpulkan media organik ekstrak jagung dan air kelapa dapat digunakan sebagai media alternatif karena memberikan pengaruh yang sangat nyata terhadap pertumbuhan kentang granola secara *in vitro*.

Kata kunci : *Kentang granola, zat pengatur tumbuh alami, jagung, air kelapa, kultur in vitro*

ABSTRACT

Albin Vesta S.K Sitompul, NIM 4192520003 (2025). The Effect of Corn Extract (*Zea mays*) and Coconut Water (*Cocos nucifera*) on the Growth of Granola Potato (*Solanum tuberosum* L.) Shoots on MS Media In vitro.

This study aims to determine the effect of corn extract (*Zea mays*) and coconut water (*Cocos nucifera*) on the growth of granola potato planlets (*Solanum tuberosum* L.) *in vitro*. This research was conducted from July to October 2024 at the Laboratory of Tissue Culture G10 Agro Tech Medan. In this study, potato plants were grown on MS (*Murashige and Skoog*) media combined with corn extract and coconut water using a completely randomized design (RAL) research design, with 4 treatments each and three replicates with a concentration consisting of 4 levels, namely 0 g/L corn extract, 25 g/L, 50 g/L, 75 g/L and coconut water, namely 0 ml/L, 50 ml/L, 100 ml/L, 150 ml/L. The observation parameters in this study were the percentage of contamination, planlet height, number of shoots, number of leaves, and number of roots. The data obtained were analyzed using Analysis of variance (ANOVA) and on different treatments, Duncan's multiple range test (DMRT) was conducted. The results of the analysis after the 6th observation week after planting (MST) showed that the treatment of the addition of corn extract and coconut water had a very significant effect on the height of the planlets, the number of shoots, the number of leaves, and the number of roots. The best planlet height was produced by the combination of J2A3 (corn extract 50 g/L + coconut water 150 ml/L) which was 19.70 cm. The best number of shoots was produced by J3A2 (corn extract 75 g/L + coconut water 150 ml/L) which was 4.67 shoots. The highest number of leaves is J1A2 (corn extract 25 g/L + coconut water 100 ml/L) which is 22 leaves and the treatment combination on the best number of roots is produced by J3A3 (corn extract 75 g/L + coconut water 150 ml/L) which is 7.67 roots. So it can be concluded that organic media of corn extract and coconut water can be used as an alternative media because it gives a very real influence on the growth of granola potatoes *in vitro*.

Keywords : *Potato granola, natural growth regulators, corn extract, coconut water, in vitro culture*