PENGARUH PEMBERIAN BEBERAPA KONSENTRASI COUMARIN DAN SUHU RUANG INKUBASI TERHADAP INDUKSI UMBI MIKRO KENTANG (*Solanum tuberosum* L.)

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Abstrak

Penggunaan kultur jaringan sebagai penghasil bibit unggul kentang merupakan alternatif yang paling mungkin dilakukan. Coumarin dan suhu adalah salah satu faktor penentu pembentukan induksi umbi mikro. Penelitian tentang Pengaruh Pemberian Beberapa Konsentrasi Coumarin dan Suhu Ruang Inkubasi terhadap Induksi Umbi Mikro Kentang (*Solanum tuberosum* L.) telah dilaksanakan di Laboratorium Kultur Jaringan, Fakultas Pertanian, Universitas Andalas, Padang pada bulan November 2019 – Maret 2020. Penelitian ini bertujuan untuk melihat interaksi antara konsentrasi coumarin dan suhu ruang inkubasi terbaik terhadap induksi umbi mikro kentang, serta mendapatkan konsentrasi coumarin dan kondisi suhu ruang inkubasi terbaik terhadap induksi umbi mikro kentang. Percobaan disusun berdasarkan Rancangan Acak Lengkap (RAL) Faktorial dua faktor, 6 perlakuan dan 4 ulangan. Faktor pertama yaitu konsentrasi coumarin yang terdiri dari tiga taraf yaitu (0 mg/L, 50 mg/L, 100 mg/L) dan faktor kedua yaitu suhu ruang inkubasi yang terdiri dari dua taraf yaitu (20 ℃ dan 30 ℃). Data dianalisis dengan menggunakan uji F pada taraf 5%, hasil analisis data yang berbeda nyata dilanjutkan dengan uji lanjut DNMRT pada taraf 5%. Hasil penelitian menunjukan terdapat interaksi yang nyata antara pemberian coumarin dan suhu ruang inkubasi terhadap waktu muncul umbi, dengan waktu muncul umbi terbaik 16,70 hari pada suhu 20 ℃ dengan pemberian konsentrasi coumarin 100 mg/L. Pemberian coumarin 100 mg/L menghasilkan jumlah umbi terbanyak pada semua perlakuan suhu dibandingkan dengan konsentrasi 0 mg/L dan 50 mg/L. Terjadi peningkatan persentase planlet yang menghasilkan umbi dengan penurunan suhu yaitu pada suhu 20 ℃ dan persentase planlet sebesar 92,78%.

Kata kunci : coumarin, suhu, *in vitro*, kentang, umbi mikro

THE EFFECT OF APPLICATION SOME COUMARIN CONCENTRATION AND TEMPERATURE OF THE INCUBATION ROOM ON THE POTATO MICRO TUBER INDUCTION (*Solanum tuberosum* L.)

Abstrack

The use of tissue culture as a producer of superior potato seeds is the most feasible alternative. Coumarin and temperature are the determinants of micro tuber induction formation. Research on the Effect of Application of Multiple Concentrations of Coumarin and Incubation Room Temperature on the Induction of Potato Micro Tuber (*Solanum tuberosum* L.) was carried out at the Tissue Culture Laboratory, Faculty of Agriculture, Andalas University, Padang from November 2019 to March 2020. This study aims to see interactions between the coumarin concentration and the best incubation room temperature for potato micro tuber induction, and the best coumarin concentration and incubation room temperature conditions for potato micro tuber induction. The experiment was prepared based on a Completely Randomized Design (CRD) factorial of two factors, 6 treatments and 4 replications. The first factor is the concentration of coumarin which consists of three levels, namely (0 mg/L, 50 mg/ L, 100 mg/L) and the second factor is the temperature of the incubation room which consists of two levels, namely (20 °C and 30 °C). Data were analyzed using the F test at the 5% level, the results of the data analysis were significantly different, followed by the DNMRT further test at the 5% level. The results showed that there was a significant interaction between application of coumarin and incubation room temperature to tuber emergence time, with the best tuber emergence time of 16.70 days at 20 °C with a coumarin concentration of 100 mg/L. Application of 100 mg/L coumarin produced the highest number of tubers in all temperature treatments compared to concentrations of 0 mg/L and 50 mg/L. There was an increase in yield at each temperature level for each coumarin concentration 0 ; 50 ; 100 mg/L at a temperature of 20 °C and 30 °C. There was an increase in the percentage of plantlets that produced tubers with a decrease in temperature, namely at 20 °C and the percentage of plantlets of 92.78%.

Key words : coumarin, temperature, *in vitro*, potato, micro tuber