

INFLUENCE OF ELICITOR AVAILABILITY ON LIMONENE AND LINALOOL ACCUMULATION FROM *CITRUS GRANDIS* CELL CULTURES

NIK NORULAINI NIK ABDUL RAHMAN¹, ZARINA ZAKARIA² AND MOHD OMAR ABDUL KADIR³

¹School for Distance Learning Education, ³School of Industrial Technology, Universiti Sains Malaysia, 11800 USM, Pulau Pinang, Malaysia ²Faculty of Applied Sciences, University Teknologi MARA, Arau Campus, Arau, 02600 Perlis

Suspended callus cultures of Citrus grandis were elicited with chitosan, a polycationic polimer and also a permeabilizing agent. The procedure, which is based on measurements of the conductivity of the culture medium after addition of chitosan ranging from 0.5 to 7.0 mg per g fresh weight callus, has been applied to modified Murashige and Skoog (MS) medium. Low concentration of chitosan (0.5 mg/g fr.wt.) stimulate limonene production and at the same time increase linalool content. Maximum limonene and linalool accumulations were observed from cultures elicited with 1.0 mg chitosan/g fr. wt. callus incubated for 2 hours. Chitosan successfully influenced limonene and linalool accumulation in a short period and not to permeabilization of the cells.

Keywords: Citrus grandis, Chitosan, Elicitation, Limonene, Linalool