



Study of the Adaptation and Gene expression in Coffee Beans after Exposure to Mutation

M. Kh. Jabbar

*Department of Plant Genetic and Breeding, Al-qasim Green University, Babylon, Iraq
E-mail: mukhjabbar@gmail.com*

Abstract: Two experiments were conducted to study the adaption of lines from coffee beans breed to cold environment after exposure of shoot apexes to different mutation treatments and its effective on gene expression. The first experiment included exposure cut shoot apexes to ultraviolet radiation in three wavelengths (220, 320 and 400 nm) with two exposure periods (2 and 4 hours per day). In the second experiment, the seeds were sown on five dates in 2016-2017 and 2017-2018. The results in first season showed that 30 January and 15 February sowing dates gave high yield traits in both seasons while 01 March sowing provided biological yield in all seasons but it was not pods. The *atpA* gene was detected as genetic parameter, from leaves at end season 30 January and 15 February sowing dates while the gene was silent in leaves of 01 March, sowing date. This indicates that there were new lines of coffee beans suitable under Iraq conditions.

Keywords: *atpA* gene, Beans, Mutation, Ultraviolet
