

# Quantitative Assessment of Annual effective Dose In Selected Samples of Bottled Water and Coffee In Saudi Market, Makkah Area, KSA

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The present work aims to estimate the annual effective dose rate due to consumption of selected samples of coffee and water and compare it with permissible limit to ensure the safety of human health. Important and new references are used in this study.

In this work, three coffee powder (2 Arabian and one Turkish) and four different bottled water (Hana, Aquafina· Nova, Safa) samples were purchased from local market in Makkah area, KSA. All were analyzed by high-purity germanium HPGe gamma spectrometry to determine the concentration of natural radionuclides. Both radium equivalent and annual effective dose rate due to yearly consumption were calculated for all detected radionuclides and all were found to be below the limit recommended by UNSCEAR. Results revealed that the use of these types of coffee has no significant radiological health risk

This study is an excellent work and is at the leading edge of current research on the problem of soil micro pollutants and the aquatic environment. Investigation techniques Implement high level equipment. The results obtained and illustrated by the graphs testify to the extent of the work. This introduction to these types of analysis is very beneficial for the students who have accomplished them.