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Assessment of Radon Concentration of Vegetables and Fruits in local markets in Muang Nakhon Phanom Municipality, Thailand

Aim of this research is a hazards assessment of radon concentration, effective radium content and radon exhalation rate were estimated in 24 vegetables samples and 9 fruits samples that collected randomly from local markets in Muang Nakhon Phanom Municipality, Thailand by active detecting method (RAD 7). The results showed that radon concentrations in vegetables were in the range of 6.27 –45.11 Bq/m³, the mean was 21.32±2.36 Bq/m³ and radon concentrations in vegetables were in the range of 12.11 –53.19 Bq/m³, the mean was 27.47±2.81 Bq/m³, respectively. All values of radon concentrations for vegetable and fruits in these study were found to be well below than the international standard level of radon concentration 190 Bq/m³ recommended by the EPA. These results were also used to calculate the average effective dose equivalent (EDE) of radium from vegetables and fruits, calculation was 0.034 µSv/y, This is lower than the effective dose equivalent for the standard value of 1.3 mSv/y recommended by the EPA. This study show that vegetables and fruits were found to be safe from radon contamination.

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