

## **RADON AND THORON CONCENTRATIONS MESUREMENTS IN LOCAL PRODUCED AND IMPORTED DRY LEGUMES IN IRAQI MARKETS USING SSNTDs TECHNIQUE**

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### **ABSTRACT**

In the present study an attempt has been made to develop and to determine radon and thoron concentration in the some dry legumes produced in Iraq and imported dry Legumes, which are available in markets of Basrah Governorate of Iraq. The passive radon method employed has been achieved by means of cylindrical time integrated technique of Solid State Nuclear Track Detectors (SSNTDs). In the dry legumes produced in Iraq the obtained radon concentrations ranged from  $(379.01\text{Bq/m}^3)$  to  $(831.58\text{Bq/m}^3)$  while the average value is  $(421.01\text{Bq/m}^3)$ . The thoron concentrations from  $(120.48\text{Bq/m}^3)$  to  $(362.62\text{Bq/m}^3)$  while the average value is  $(270.15\text{Bq/m}^3)$ . For imported dry legumes ranged from  $(69.06\text{Bq/m}^3)$  to  $(945.19\text{Bq/m}^3)$  while the average is  $(512.20\text{Bq/m}^3)$  for radon, and  $(51.86\text{Bq/m}^3)$  to  $(865.06\text{Bq/m}^3)$  while the average is  $(279.66\text{Bq/m}^3)$  for thoron. From the measurements all of the dry legumes measured were within permissible level recommended by ICRP (2011) for foods. This study gives us data base about the concentration of radon in dry Legumes found in Basra markets, and compares this data with radon data in vegetable and fish of Basra markets (Iraq).

**KEYWORDS:** Cylindrical Technique, Dry Legumes, Radon, SSNTDs, Thoron Concentration