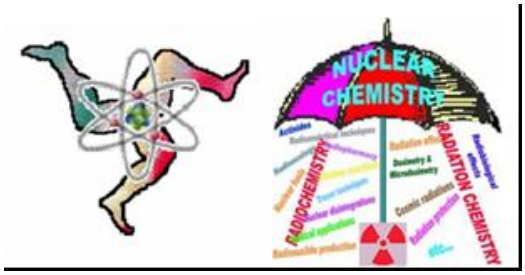

Contribution ID: **79** Type: **poster**

Potassium concentrations and annual effective dose of the most customary-consumed foodstuffs in Mexico as a cultural heritage

Monday 19 September 2011 17:30 (1h 30m)

Measurement of radionuclides concentration in foodstuffs allows to assessing the dose being caused by its intake. It means at least one-eight of the mean annual effective dose due to natural sources. Additionally, among the trace elements in foodstuff, K is one of the most important, it is a well-known essential element and it occurs all over the earth. Three of the most customary-consumed foodstuffs in Mexico as a cultural heritage since pre-Hispanic time to the present (in all economic classes): bean, chili and corn mel (to cook "tortillas") were analyzed by ɣ spectrometry in order to determine 40K activity, the derived annual effective dose, and the potassium concentration. Results show that mean activity of 40K, annual effective dose and % of potassium concentration are as follow: for chili 901±86 Bq kg-1, 37.2 micro-Sievert per year and 2.84±0.27%; for beans, 510±10 Bq kg-1, 27.5 micro-Sievert per year and 1.60±0.04%; for corn meal, "masa", 90 Bq kg-1, 58.1 micro-Sievert per year and 0.27.±0.089%. The total effective dose intake from these typical foodstuffs is about 0.122 mili-Sievert per year in Mexico's urban zones.

Author: Prof. MARTINEZ, Trinidad (National University of Mexico)

Co-authors: Mr FERNÁNDEZ, Alberto (National University of Mexico); Prof. RAMÍREZ, Alejandro (National University of Mexico); Ms VARGAS, Guadalupe J (National University of Mexico); Dr NAVARRETE, Manuel (National University of Mexico); Ms PORTILLA, Victoria (National University of Mexico)

Presenter: Prof. RAMÍREZ, Alejandro (National University of Mexico)

Session Classification: Poster Section 1

Track Classification: Nuclear Chemistry and Radiochemistry