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Interlaboratory comparison on the determination of radionuclides in water, food and soil conducted by the National Atomic Energy Agency (NAEA), Poland

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Proficiency tests (PT) on the determination of radionuclides in food and environmental samples have been organized by the National Atomic Energy Agency (NAEA), Poland, since 2004. The activity of the following radionuclides: 241Am, 137Cs, 3H, 239Pu, 226Ra and 90Sr were determined in water, food and soil. The PTs have been conducted by the Institute of Nuclear Chemistry and Technology (INCT), Warsaw, Poland and procedure adopted by the INCT is presented in the paper. The test materials: water, milk powder, wheat flour and soil, were prepared by spiking blank materials with standard solution of the radionuclide of interest. The activity concentrations were calculated and associated uncertainties were evaluated before sending the test materials to the laboratories. The results provided by the participants were statistically evaluated by means of z and zeta scores as well as using the International Atomic Energy Agency (IAEA) criteria for trueness and precision. Observed trends and some benefits for the participants have been presented.

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