**Contamination of wild animal bones with the radioactive isotope 90Sr**

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**Introdution.** Strontium-90, an artificial isotope and beta emitter, plays an important role in the toxicity of radioactive contamination. As a result of recorded nuclear accidents and other radiation events, 90Sr can contaminate natural areas inhabited by wild animals. Due to its long half-life (T1/2=28.5 years) and chemical properties similar to calcium, 90Sr is very easy to penetrate and accumulate in the bone tissue of living organisms. This creates a real possibility of the occurrence of cancer diseases such as leukemia or bone cancer as a result of harmful ionizing radiation. Examination of bone samples from wild animals is an important parameter for estimating the level of exposure of these animals and the level of contamination of the natural environment.

**Objective.** The aim of the study was to estimate the concentration of 90Sr in the bones of wild animals.

**Material and methods.** In order to assess the contamination of bones of wild animals, research material was collected from four groups of animals (wild boars, roe deer, red deer, fallow deer). After grinding and homogenization of the prepared bone tissue material, the samples were ashed and then analyzed using the liquid scintillation counting method (LSC) using the Quantulus 1220™ detector. In the event of the appearance of interferents, an additional step of sample purification was applied using a special Dowex 1x8 ion exchanger.

**Results.** Measurable concentrations of 90Sr were detected in the majority of the tested animal bone samples. The average concentration in deer bones was 7.14 Bq/kg, in roe deer bones it was 5.34 Bq/kg, in fallow deer bones it was 3.98 Bq/kg and 3.74 Bq/kg in wild boar bones. The highest concentration of 90Sr was found in deer bones, which was 17.1 ± 2.23 Bq/kg. The obtained results confirm the migration of 90Sr from environmental areas to the organisms of wild animals and its characteristic accumulation in bone tissue.

**Conclusions.** As a result of radiation incidents and then radioactive fallout, 90Sr can get into the environment. The absorption and accumulation of 90Sr in the bones is mainly caused by the type of food consumed by wild animals and their stay in contaminated areas. Analysis of radioactive contamination of 90Sr bones of wild animals allows for estimating the degree of environmental contamination. This research also confirms that the problem of environmental contamination in Poland following the nuclear reactor accident in Chernobyl is still relevant.

**Keywords:** 90Sr, bones, contamination, wild animals.