

Determination of Cs-137 activity concentrations in soil samples from Hungary

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Some radionuclides in the environment are of natural origin, while others originate from various anthropogenic sources. The two most important artificial sources are nuclear weapons tests and nuclear power plants. Nuclear power plants also emit isotopes (primarily H-3 and C-14) during normal operation. However, radionuclides that are not released during normal operation can be emitted into the environment in the event of an accident. Cs-137 is one of the most important of these isotopes. Following the Chernobyl accident, large quantities of cesium were released into the atmosphere. These fell out along the path of the radioactive cloud. In Hungary, a relatively small amount of fallout was observed, but Cs-137 is still present in soils.

In this study, Cs-137 activity concentration of 1100 soil samples were determined in the Transdanubian region, Hungary. The measurement was carried out using HPGe gamma-spectrometry.