Content of radionuclides and heavy metals in some agricultural soils of Gardabani region

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Environmental pollution is an actual problem today. This issue is really very serious in Georgia. From the 60s of the 20th century, the construction of the powerful thermal power station "Tbilsres" began in Gardabani. Today, Gardabani Municipality represents one of the most powerful agricultural, social and cultural regions for Georgia, large enterprises, including agro-enterprises, educational and scientific institutions are gathered here. A few years ago, the radiation background was measured and samples were taken for analysis. The content of radionuclides and heavy metals was determined. The GPS coordinates were plotted on the map and a sample taken from the corresponding plot was evaluated. The area surrounding the Gardabani thermal power station was studied in terms of environmental pollution; Our research showed that in the soils of the transition area, the content of specific polluting elements in the soil exceeded the marginally permissible concentration norms. As a result of monitoring, it was established that the content of heavy metals in soils is different. The level of radionuclide contamination was determined. Specifically: K40, Cs137 and Sr 90. A high content of K40 was observed. Cs137 research found that its content decreases with increasing depth. We can say that its content in the soil is not alarming. The same slight increase was noted in the case of Sr 90.

These soils are affected by heavy metals. The following heavy metals were determined: Zn, Pb and Fe. Their content is in different doses in the soils, which is expressed in the increase of some of them with the permissible concentration.