

Annotation

Biodegradable bag waste, often considered an "ecologically clean" material, eventually ends up in the natural environment. Biodegradable bags decompose more rapidly than traditional bags, which can take hundreds of years to degrade. The environmental impact of single-use bags remains a significant challenge. This has led to growing interest in biodegradable alternatives as a potential solution to this issue. However, the full recognition and safety of their production processes are still under scrutiny. Assessing the production, use, and subsequent environmental impact of biodegradable bags is one of the key challenges in contemporary scientific research.

The aim of the present study is to assess the environmental impact of biodegradable bags. Specifically, the study focuses on evaluating the risks associated with the environmental impact of single-use bag waste in Georgia. This includes determining the degree of biodegradation of the bags and identifying the residual heavy metals in the materials used. The results of the research conducted for this Master's thesis demonstrate that the majority of bags do not represent a significant source of heavy metal contamination, as the metal content in nearly all samples was within the acceptable limits, with the exception of one case where the lead concentration exceeded the norm. This, in turn, poses a risk to both public health and the environment. Furthermore, 78.5% of the bag samples were found to be non-biodegradable, which is associated with ecological risks.