RESEARCH OF THE RECULTIVATED LANDFILL PILE COVER LAYER IN LITHUANIA

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Introduction. As the social well-being of society improves, increasing amounts of waste are analyzed in many scientific articles. Lithuania is no exception. According to surveys, 89 % of the population seeks to reduce the amount of household waste. The amount of waste generated per capita in the country according to the data of 2018 is 464 kg and has increased compared to 2005, when this figure was 387 kg. The country has committed itself to rehabilitating environmentally unsafe landfills through recultivation, and to dispose of waste in only 11 regional landfills in the future. This article analyses the course of recultivation of landfills operating in Šilutė (5 landfills) and Kaunas (4 landfills) districts and the quality of performed works.

Materials and methods. The environment of the closed landfill, groundwater level, color of surface waters, vegetation, smells, waste in the territory of the formed pile are inspected and assessed on site. After the inspection, a decision is made as to which method of examination of the cover layer to choose. With a drill, or with a shovel - if the landfill recultivation project includes a protective geomembrane cover.

Results and discussion. During the research, it was found that the thickness of the vegetation layer in Šilutė district, Gardamas landfill was only ~ 10 cm, such layer thickness is too small, favorable conditions for plant growth are not ensured. A layer of waterproof clay was also not detected. During the research of the Klugonai landfill cover, it was established that the soil layer does not meet the regulatory requirements. A layer of waterproof clay was found in the landfill during the research, which is formed at a depth of 30-70 cm. After the research, it was established that the piles of Berciškiai, Galnė, Papjaunis landfills were covered in accordance with the requirements of the technical design, and in Gardamas and Klugonai landfills an additional layer of ~ 15 cm of soil should be applied. After reviewing 4 landfills in Kaunas district, it was found that the thickness of the vegetation cover of all landfills is approximately similar (vegetation layer - sand or sandy loam - loam). The thickness of the vegetation layer is ~ 10 cm, such a layer thickness is too small, as a layer thickness of at least 20 cm is recommended according to the requirements. The thickness of the vegetation layer in Digriai landfill is the closest to the recommended one and reaches 16-17 cm. No artificial insulation layer was found in Digriai and Miškiniai landfills at a depth of 50 cm, in Gaižėnėliai landfill this layer is too close to the ground surface - 30-36 cm, in Ilgakiemis landfill this layer does not exist.

Conclusion. It can be stated that 75 % of investigated landfills pile covers did not meet regulatory requirements. 20 % of landfills is moderately maintained and it should be more maintained, moreover, it was possible to choose thicker cover layers. 5 % -should be recultivated once more, because the process and results does not meet minimal environmental requirements.