

ORGANIC COMPONENT OF MUNICIPAL SOLID WASTE AS A RAW MATERIAL FOR ORGANOMINERAL FERTILIZERS

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One of the urgent tasks is to use the resource potential of solid household waste, in particular, the disposal of the most significant component - easily degradable organic waste. This paper presents an assessment of the prospects for using such waste for the production of fertilizers. In conditions of a decrease in humus content in soils, which is accompanied by a similar trend in the application of organic fertilizers from 9.4 t/ha (1985) to 0.5 t/ha (2017) with a minimum rate to ensure a deficit-free humus balance of 10 t/ha and above, the search for options is relevant. Research methods: mass balance of substances during complex recycling of organic waste. It has been shown that in the case of separating a stream of easily decomposed organic waste from the general stream of household waste at the time of generation, it is possible to obtain raw materials for the production of compost. Additionally, agricultural waste, food industry waste and sewage sludge can be disposed of.

A scheme for the integrated recycling of easily degradable organic waste is proposed, which consists of anaerobic fermentation of waste to produce biogas and digestate, which, if necessary, is composted aerobically.

However, an important condition for ensuring high quality raw materials is the selection of food waste from the general flow of solid household waste at the time of its formation. An assessment of the potential of Odessa in the case of 50% selection of food waste showed that the comprehensive disposal of 55.5 thousand tons of such waste will produce 4.9-12 thousand tons of compost, depending on the need for digestate processing. The use of such fertilizers allows you to involve nutrients in natural cycles and reduce the impact of waste on the environment. For example, carbon is removed in the form of organic compounds of compost and carbon dioxide and methane.

On the contrary, in the case of burial of such waste, about 27% of carbon is released with biogas over 50 years, and the remaining biogens are deposited in waste destruction products in the body of the landfill. Complex recycling can significantly reduce the time of deposition of nutrients in waste (from 2 to 12 months) and is a method of converting waste into organomineral fertilizer.

Keywords: biogenic elements, organomineral fertilizer, municipal solid waste, recycling.