

14. Fundamental Study on Recycling Soil Containing Organic Matter

Ryosuke Imai, Hiroomi Habuti, Yuya Shimizu

Foreign substances are required to be removed from soil generated by decontamination efforts and stored in interim storage facilities and from dirt generated by flooding, so that the soil can be recycled. Soil removed for decontamination and dirt generated by disasters often contain vegetation. Additionally, the removed soil is sometimes mixed with various soil modifiers, including superabsorbent polymers (SAP). Little is known about how the characteristics of soil containing foreign substances such as vegetation and SAP (collectively referred to as organic matter) change over time or what impact these changes may have on the environment.

We performed tests and analyses to verify long-term changes in organic matter and changes in the characteristics of soil containing organic matter. Exposure test results for organic matter indicate the possibility that chemical oxygen demand and infrared spectroscopy can serve as indicators of long-term changes in the substances. Embankment test results indicate that the quantity of organic matter in soil declines over time; this decline may lead to embankment settlement or affect the mechanical characteristics of the soil.

Key words: Organic matter, superabsorbent polymer, embankment, characteristics of soil