

The role of persistent organic pollutants in contaminating the soil and their remediation by the method of bioremediation (Based on the example of the municipality of Marneuli)

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Soil contamination with persistent organic pollutants is the biggest problem throughout Georgia. Despite of the implemented projects, it still remains a major problem. Therefore the research in this direction will not only contribute to the remediation of soil, but it will also increase public awareness. These activities are a prerequisite for the protection of soil resources in the future, which is important for producing various agricultural products, when we talk about ecologically clean products. Soil contamination not only reduces its potential but also interrupts the production of ecologically clean products on this soil.

In this paper we are discussing one of the methods of remediation, which is known as bioremediation. Marneuli Municipality has been selected for survey for several reasons. This region was distinguished by the intensive use of agricultural lands, which was accompanied by the usage of pesticides against pests. Additionally, there are pesticides warehouses in Marneuli, because of this, the surrounding area is more polluted and research is important in such a place. The advantage of the region is the existence of irrigation water, which is necessary for the use of bioremediation method. Along with this research, soil samples were taken 50, 100, 200 meters away from the contamination point, (4 cardinal and 4 ordinal direction) to understand how much pollution is carried out in different directions through air masses.

The main aim of this research is to raise public awareness of the use of pesticides and the introduction of this method on soils contaminated by persistent organic pollutants, which are more cost-effective than other methods.