OP205

Treatment of Contaminated Areas through *Opuntia vulgaris* Mill.

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Aim of the study: The purpose of the research is consist of reducing of concentration heavy metals through their transportation to *Opuntia vulgaris* Mill in contaminated areas and treatment of contaminated soils from heavy metals at least partially.

Materials and methods: The contaminated field has been taken for research in Gala exploring area in Apsheron Peninsula. The study area was equal to 10 m x 10 m. First of all, soil samples have been taken in research area and has been appointed the concentrations of heavy metals (Cd, Pb, Zn, Ni, Co, Mn) in soil samples. XRF spectrometer was applied for determining of concentrations. Then Opuntia Vulgaris Mill saplings were brought from ecologically clean areas and were planted in contaminated areas. It should be noted that, storing water collected ability of this plant is very strong, so it is very resistant to drought and harsh climatic conditions. At the same time, this plant does not require any care in its growing process. The examples were taken from the same saplings before planting and have been identified the initial concentrations heavy metals according to plant examples. Six months later, Opuntia vulgaris Mill examples were taken from research area and analyzed.

Results. The taking examples of plants from research area through special technology and have been appointed concentrations (Cd, Pb, Zn, Ni, Co, Mn) of heavy metals in these examples. The concentrations of heavy metals were as below mentioned before the beginning of research in taking examples (average rate for 3 piece) (measurement mg/kg) Cd-1.76; Pb-8.05; Zn-57.3; Ni-29.63; Co-5.42; Mn-42.53. At the end of the study it was determined that Cd, 57.2%; Pb, 36.4%; Zn-47.8%; Ni-36.9%; Co-62.5%; 49.2% Mn-contaminated soil was transported to Opuntia Vulgaris Mill. These results indicate that the plant is effective in the treatment of contaminated areas.

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Keywords. Contaminated areas; concentrations of heavy metals; transport of heavy metals.