

The Study Case #1 – ReSoil[®]-Urban in Prevalje, SLOVENIA

Information of site

owner/site provider

- Municipality Prevalje, Slovenia
- Source of funding: EU LIFE+ program, Grant No. LIFE12 ENV/SI/000969

Objective

Production of safe vegetables on remediated soil

Contaminated site

characterization

- Remediation of **calcareous soil** contaminated with 1850 mg kg⁻¹ Pb and 21 mg kg⁻¹ Cd
- pH: 7.3

Remediation results

- No hazardous leachates from the soil
- Plants with rich root system is needed to restore the natural structure of the soil
- After a year of growing vegetables there were no differences in physical, chemical and biotic properties between the remediated and original soil
- Plant uptake of Pb and Cd was reduced by up to 95 and 91 % respectively



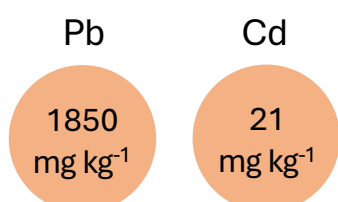
Courtesy of Envit Ltd.

Site description

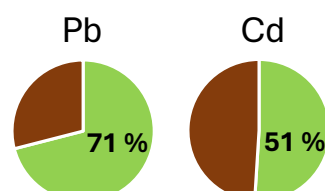
In the upper Meza Valley in Slovenia, more than 500 years of mining and smelting of lead (Pb) have resulted in a contaminated environment. Occasional flooding of the Meza River brought contaminated material to the floodplains downstream, including the municipality of Prevalje. As a result, the topsoil in Prevalje contains high average Pb levels (410 mg kg⁻¹), while the garden soils have even higher levels recorded (2,300 mg kg⁻¹). Cadmium (Cd) as a co-contaminating toxic metal is also present in the soils in harmful quantities. In the summer of 2023, devastating floods occurred in Prevalje, further contaminating areas and raising awareness of the urgent need for soil remediation to ensure the long-term health of ecosystems and the community in the area.

ReSoil[®] REMEDIATION EFFICIENCY

Initial metal concentration



Reduction of metal concentration



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Contaminated site



Photo: Rihard Murn

Soil transportation to ReSoil[®] remediation plant



In the remediation plant



1. Soil washing
2. Soil rinsing, separation
3. EDTA, water recycle ...alkaline phase
4. EDTA, water recycle ...acidic phase