

A weighable Lysimeter for studying evaporation from paved urban soils

RIM Yong-Nam, WESSOLEK Gerd, TRINKS Steffen and NEHLS Thomas

Berlin Institute of Technology, Dept. of Ecology, Chair for Soil Conservation

Abstract:

In comparison to natural habitats there have been many physical and hydraulic modifications of soils in urban industrial settlements and congested urban areas in the last few decades. Soil sealing is the most severe influence on urban water and solute fluxes. Paved urban soils may be completely sealed with tar or concrete but they are often permeable, constructed from pavers e.g. cobbles-stones and open sand filled spaces in between. While the rainfall-surface runoff relation of such systems is well studied e.g. for sewage system dimensioning, little is known about the evaporation from paved urban soils. One of the most important goals of a progressive, ecological city planning and urban water management nowadays is to retard and infiltrate water, to store it in the soil as long as possible in order to reduce the runoff and to release rivers and surface waters from urban discharge and the pollutions connected to it. The evaporation has not been considered a way to get rid of the surplus water in urban areas. This is surprisingly as greening the cities and reducing urban heat island effects are other important goals of town planning.

Keywords: paved urban soils, run off, evaporation, lysimeter

Topic: C. Urban soils and ecosystem services

Sub-topic: C3. Urban soils and hydrology

Presentation type: Poster

Information of corresponding author

Full Name: Yong-Name Rim

Organization: State Key Laboratory of Soil and Sustainable Agriculture, Berlin Institute of Technology, Dept. of Ecology, Chair for Soil Conservation

Mailing address: Salzufer 12, D-10587 Berlin, Germany

Tel: ++49 (0)30 314 73529

Email: yongnamrim@yahoo.de