

**ALTERNATIVE MEDIA FOR NUTRIENT REMOVAL IN VERTICAL
SUBSURFACE FLOW CONSTRUCTED WETLANDS****ROB VAN DEUN, MIA VAN DYCK, MARTIJN TIMMERMANS**

Katholieke Hogeschool Kempen, Kleinhoefstraat 4, 2440 Geel, Belgium
rob.van.deun@khk.be

**ABSTRACT - Alternative media for nutrient removal in vertical
subsurface flow constructed wetlands**

Discharge of wastewater is one of the major sources of nitrogen and phosphorus entering water bodies, causing undesired environmental problems such as eutrophication and algae bloom. In rural areas people have to rely upon on-site, low-cost small-scale wastewater treatment systems, for instance constructed wetlands. These systems have proved to remove nutrients and different removal mechanisms taking place have been identified. In order to achieve efficient cost effective treatment systems, natural materials, e.g. sands, gravel, lightweight expanded clay, lava rocks, peat, coco products etc., are generally been applied as filter substrates in constructed wetlands. In this research four different types were tested for their ability to remove nutrients: lightweight expanded clay, lava rocks, peat and coco products.

Keywords: wastewater, constructed wetland, filter substrate