CONSTRUCTED WETLAND DESIGN FOR WASTEWATER TREATMENT IN THE LEATHER INDUSTRY

Mª Cristina S.C.C. Menezes, António O.S.S. Rangel and Paula M.L. Castro[1]

(1) Escola Superior de Biotecnologia – Universidade Católica Portuguesa
Rua Dr. António Bernardino de Almeida, Porto, Portugal, plc@esb.ucp.pt

ABSTRACT

The leather industry is well known for its high organic loading and the presence, in most of the cases, of chromium in the wastewater. The case study presented here is a result of an investigation aimed to optimise the performance of a biological system, based on phytoremediation, to treat the effluent from a Portuguese leather company. This company has a wastewater treatment plant with the conventional treatment (equalisation, neutralisation, sedimentation, trickling filters) and two constructed wetlands. A study was followed to redesign the constructed wetlands, based on recommendations made by the EPA-Environmental Protection Agency and by other authors. Six lab-scale units were designed and build up, using horizontal subsurface flow, with a substrate composed by expanded clay, each one with different plant species including: *Canna indica, Typha latifolia, Phragmites australis,* and *Stenophrum secundatum*.

KEYWORDS

Constructed Wetland, Horizontal subsurface flow.Wastewater treatment, Leather industry

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