Kalmar EC●-TECH '05 and
The Second Baltic Symposium on Environmental Chemistry
KALMAR, SWEDEN, November 28-30, 2005

PROMOTING CONSTRUCTED WETLAND TECHNOLOGY FOR WASTEWATER TREATMENT IN EASTERN UKRAINE

Andriy Ishchenko
National Academy of Municipal Economy, Ukraine
Ukrainian Centre of Phytotechnology, Ukraine

ABSTRACT

Studies on sewage water treatment from small communities was carried out on the pilot constructed wetland (CW) system was built in the Kharkiv Oblast (Eastern Ukraine) in the frame of the Joint European Project INCO-COPERNICUS. This CW system consisted of a mechanical treatment unit and constructed wetland, including two horizontal flow systems (HFS) and one free water system (FWS). During the investigation the treatment efficiency of each unit and the whole CW system was identified. The obtained results was shown high treatment efficiency for domestic sewage water during both warm and cold seasons. The rate coefficients for self-purification indicators and destruction of main pollutants, like SS, BOD5, COD, NH4, PO4 was defined by processing data of field experiments. The CW operation manual has been developed too. This research was fundamental for building of nine CW systems for the treatment of domestic sewage water as well as tertiary treatment of industrial sewage water in various climatic zones of Ukraine. In 2003 Nat. Acad. of Municipal Economy and Ukrainian Centre of Phytotechnology developed and submitted the National Programme for Promotion of Constructed Wetland Systems for Wastewater Treatment.