

Abstract

The presence of organic compounds from commonly used pharmaceuticals in surface waters is considered to be pseudo-persistent contamination with possible negative biological effects. One of the methods for limited entering of these compounds into ecosystem is using biotechnological processes for secondary treatment of sewage treatment plants effluent.

Phytoextraction of naproxene and diclofenac was observed in plants like sunflower, maize and rape using *in vitro* experiments under different conditions ó monocomponent and dicomponent artificial pollution. In the experiments with individual substances the ability of phytoextraction was found in all cases. Contrary to results with maize, sunflower has different phytoextraction ability for naproxene and diclofenac (80 % vs. 34 % of extracted naproxene and diclofenac after 24 hours of experiment) and amounts of extracted material are dependent on used cultivar. In case of rape the difference between both tested substances is not so big (5 % of naproxene vs. 33 % of diclofenac). Generally naproxene is phytoextracted more easily from the medium, whereas the presence of diclofenac decreased uptake of naproxene in all tested cultivars.