

## Abstract

A group of substances including human and veterinary products, cosmetic products, perfumes, drugs, detergents and fertilizers is called the Pharmaceutical and Personal Care Products. PPCPs include also metformin, which is a widely prescribed drug for the treatment of the diabetes mellitus type 2. Metformin isn't metabolized in human body and is eliminated by kidneys in its original form. This way the metformin contaminates municipal wastewater. Wastewater treatment plants aren't usually able to clear pollution by pharmaceuticals completely, so part of them gets into the surface water. The ability to eliminate low concentrations of metformin via phytoextraction by *Zea mays* was studied in this thesis. The media of plants were contaminated by two levels of metformin concentration and during the plant cultivation the samples of media were taken in 24 hours interval. The decrease of metformin concentration in the samples was studied by HPLC with UV detection at 233 nm. The decrease was about 15 – 20 % per one day. Afterwards the extractable residues were analysed by TLC and it was found out, that metformin was extracted only by a root part of the plants. The ability of plants to extract metformin was determined at 0,01 g of metformin per 1 gram of plant per 24 hours.