



Pesticide monitoring in surface water and groundwater using passive samplers

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Passive samplers as screening devices have been used within a czech national water quality monitoring network since 2002 (SPMD and DGT samplers for non polar substances and metals). The passive sampler monitoring of surface water was extended to polar substances, in 2005. Pesticide and pharmaceutical POCIS samplers have been exposed in surface water at 21 locations and analysed for polar pesticides, perfluorinated compounds, personal care products and pharmaceuticals. Pesticide POCIS samplers in groundwater were exposed at 5 locations and analysed for polar pesticides. The following active substances of plant protection products were analyzed in surface water and groundwater using LC/MS/MS: 2,4,5-T, 2,4-D, Acetochlor, Alachlor, Atrazine, Atrazine_desethyl, Azoxystrobin, Bentazone, Bromacil, Bromoxynil, Carbofuran, Clopyralid, Cyanazin, Desmetryn, Diazinon, Dicamba, Dichlobenil, Dichlorprop, Dimethoat, Diuron, Ethofumesate, Fenarimol, Fenhexamid, Fipronil, Fluazifop-p-butyl, Hexazinone, Chlorbromuron, Chlorotoluron, Imazethapyr, Isoproturon, Kresoxim-methyl, Linuron, MCPA, MCPP, Metalaxyl, Metamitron, Methabenzthiazuron, Methamidophos, Methidathion, Metobromuron, Metolachlor, Metoxuron, Metribuzin, Monolinuron, Nicosulfuron, Phorate, Phosalone, Phosphamidon, Prometryn, Propiconazole, Propyzamide, Pyridate, Rimsulfuron, Simazine, Tebuconazole, Terbutylazine, Terbutryn, Thifensulfuron-methyl, Thiophanate-methyl and Tri-allate.

The POCIS samplers performed very well being able to provide better picture than grab samples. The results show that polar pesticides and also perfluorinated compounds, personal care products and pharmaceuticals as well occur in hydrosphere of the Czech republic.

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