



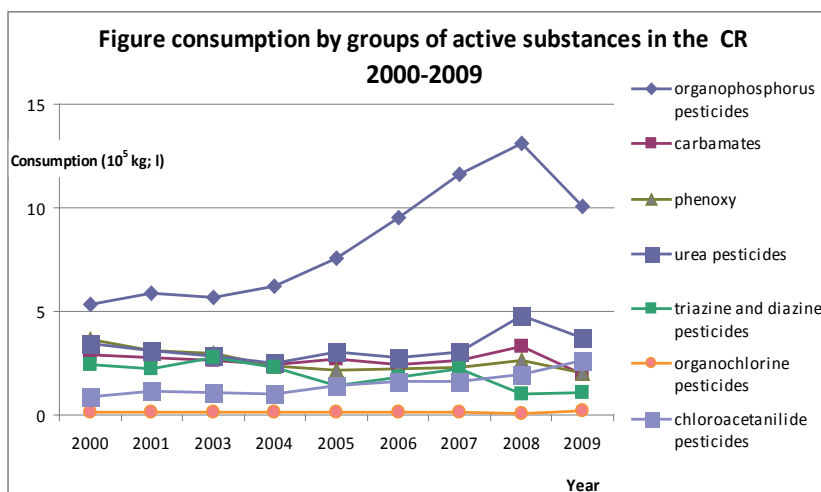
## PESTICIDES IN WATER

Pesticides are chemicals intended to kill, prevent or control plant and animal pests. They are used on agricultural and forest soils, in public health sector, as well as in households and public urban areas where they can get into underground and surface water by different ways.



- ALS is accredited to conduct analysis of more than 250 active pesticide substances in drinking water, surface water and groundwater
- ALS deals with pesticides analysis for several years
- LC/MS/MS system is predominantly used for multi-residual analysis of pesticides in waters
- ALS monitors current legislative requirements for water quality, pesticides usage in different European countries and monitors their positive occurrence

Graph below shows the consumption and representation of the mostly used groups of active substances applied in the Czech republic in recent years (Source: State Phytosanitary Administration, [www.srs.cz](http://www.srs.cz)).



### Influence of environment on water quality:

- Crops production/ destruction of weeds
- Increased occurrence of pests
- Floods
- Landfill of agronomic supplies storage/ dangerous waste
- Production of plant protective agents

### It is important to bear in mind:

- the harmful impacts of pesticides
- the persistence and accumulation of substances in the environment
- the stability of pesticides and properties of their metabolites



### Why analyse pesticides with us?

- Determination of a wide range of pesticides
- Use of modern analytical techniques LC/MS/MS, GC/MS, GC/ECD
- Main use of direct injection of samples
- 40 ml – 500 ml sample for analysis
- Confirmation of positive results
- Use of isotope-labelled standards
- Methods suitable for drinking, surface and groundwater
- Low detection limits of pesticides



LIMS Code	Parametres	Instrument	Nr. of Analytes	Limit of Quantification (µg/L)	Volume (mL)	Container
W-OCPECD01	Organochlorine pesticides	GC/ECD	31	0,005-0,06	500	Glass bottle
W-OCPECD04	Organohalogen pesticides	GC/ECD	7	0,01	500	Glass bottle
W-PESGMS01	Organophosphorus pesticides	GC/MS	21	0,05-0,1	500	Glass bottle
W-PESLMSA1	Acidic herbicides	LC/MS/MS – direct injection	21	0,01-0,05	40	ALS vial
W-PESLMSB1	Pesticides group B1	LC/MS/MS – direct injection	146	0,01-0,05	40	ALS vial
W-PESTRI-LMSB1	Triazine pesticides	LC/MS/MS – direct injection	20	0,01-0,05	40	ALS vial
W-PESLMSC1	Selected metabolite pesticides	LC/MS/MS – direct injection	6	0,05	40	ALS vial
W-PESLMSD1	Glyphosate based pesticides	derivatization, LC/MS/MS	4	0,05-0,1	150	Plastic bottle
W-PESLMSG1	Pesticides group G1	LC/MS/MS – direct injection	49	0,01-0,05	40	ALS vial
W-PESURH-LMSG1	Urea herbicides	LC/MS/MS – direct injection	23	0,05	40	ALS vial
W-PESTIPACK	PestiPack	GC/ECD, GC/MS, LC/MS/MS	225	0,005-0,1	1120	2x Glass bottle + 3 ALS vial

### Storage and transportation of samples

ALS provides samples containers free of charge. Samples are in the laboratory stored kept in the dark at 2–10 ° C. For the transport of samples is recommended to keep samples stored in the dark under cool conditions (use of special thermo boxes).



### Order

To order a specific group of pesticides, fill the corresponding "LIMS" code uniquely identifying the pesticides to be analysed in the chain of custody order form.

### Delivery time

Routine delivery time from the samples receipt to results reporting is 7–10 working days.

Contact us for further details.

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