

# HIGHER TIER WATER MONITORING STUDIES

Water monitoring studies are often initiated as higher tier studies to support the registration of plant protection products (PPPs). These specialist studies investigate the leaching and transport behaviour of PPPs and/or metabolites under real environmental conditions.

SGS Institut Fresenius has some 20 years of experience across a range of GLP groundwater, surface water and runoff projects across many countries in the EU.

- **Groundwater monitoring studies** range in scale from local to regional monitoring projects. For local scale monitoring (sometimes also referred to as field leaching tests), test fields representing realistic, worst case conditions are established. PPP residue concentrations in the groundwater are monitored following the application of the test item in the field. In regional groundwater monitoring studies residue concentrations in the groundwater are determined for a

larger catchment scale. Monitoring can be retrospective (where the product has already been applied for several years), or prospective (where farmers are actively directed in their application of the test item within the groundwater catchment).

- **Surface water monitoring studies.** For these studies we usually use automated samplers to take water specimens for residue analysis at set intervals. Sometimes sampling is event-triggered to allow for high sampling frequency at defined flow events. Online weather stations and flow measuring devices that trigger sampling, allow the total residue loading to be estimated. Catchments with different

characteristics can be monitored for comparative analysis, or a single catchment can be intensely monitored to identify areas of residue input.

- **Runoff studies** range from test field to catchment-scale monitoring. Runoff, induced by irrigation or naturally-occurring storm events, is sampled using event-triggered samplers. Sampling intervals can be set to very short intervals once runoff events occur, allowing residue concentrations to be determined in relation to flow regime.

SGS Institut Fresenius has an interdisciplinary team of geologists, hydrogeologists, geocologists, engineers and analytical chemists who work together to define and implement the requirements of a monitoring system. Our team of specifically trained and dedicated water sampling technicians guarantee contamination-free sampling and maintenance of the measuring equipment. We offer a full service from planning, GLP management and execution of the field studies, through to GLP analytics. Our track record includes successfully completed and ongoing studies in a number of EU countries. We have also recently strengthened our local authority contacts in Italy with respect to groundwater monitoring. With some 20 years of experience in GLP water monitoring studies, we have established high acceptance with industry, local authorities, water companies, farmers and the evaluating authorities.



Groundwater sampling



Groundwater monitoring wells at a monitoring test field;



Application of test item for local scale groundwater monitoring

Contact:

**DIRK LISS**  
PROJECT MANAGER

SGS FRESENIUS  
Im Maisel 14  
Taunusstein 65232

Tel: +49 6128 744 204

E-mail: [dirk.liss@sgs.com](mailto:dirk.liss@sgs.com)