

# PLANT, ANIMAL AND FISH METABOLISM STUDIES



## INTEGRATED METABOLISM SERVICES FOR FAST, RELIABLE ANSWERS.

Move your products to market quickly and confidently with coordinated, customized plant, animal (livestock metabolism and feeding studies) and fish metabolism studies designed for reliable regulatory compliance. We offer comprehensive study design, management and execution, provided by highly experienced scientists and technicians, all operating under Good Laboratory Practice (GLP) in modern and well equipped laboratories to fully meet regulatory guidelines.

### STUDY DESIGN AND DIRECTORSHIP

We can help you at every stage of the process, from needs assessment and study design to execution and dossier development. We can perform single studies for product registration and complex, customized projects to meet your unique requirements. Our Study Directors take a proactive approach to ensure excellent communication is maintained with the client and principal investigators where applicable.

- Study design (including species or crop selection and method selection)
- Study monitoring and project management
- Residue definition
- Dossier preparation and follow-up

### PLANT METABOLISM AND ROTATIONAL CROP STUDIES

Get accurate, defensible data with Battelle's state-of-the-art equipment and analytical techniques. We perform studies on a full range of crops including cereals, vegetables, fruit and vines.

- Plant metabolism and confined rotational crop metabolism studies conducted to appropriate US, European and Japanese guidelines in either controlled greenhouses or dedicated field plots.
- Formulation of the radiolabelled test item for application (pre-emergence and post-emergence) including seed treatments.
- Determination of total radioactive residues (TRR), metabolite profiling and identification
- Structure elucidation using LC-MS/MS



## ANIMAL IN VIVO STUDIES

We conduct *in vivo* studies with relevant species of animals and livestock (rat, hen, goat and swine, etc.) to meet your study requirements.

- Kinetic studies (intravenous, intraperitoneal, intramuscular, intrathecal, oral, dermal, dosed-feed, dosed-water and inhalation)
- *In vivo* pharmacokinetic and toxicokinetic studies in both large and small animal models
- Radiolabelled or unlabelled studies
- Radioactive residue determination
- Metabolic profiling
- Animal welfare

## FISH METABOLISM

Get accurate, defensible regulatory data and meet the new data requirements for Fish Metabolism and Fish Feeding studies under European Commission regulation 1107/2009. Battelle and ECT Oekotoxikologie (ECT) have joined forces to combine ECT's extensive experience in complex fish studies with Battelle's analytical expertise.

- Bioconcentration (BCF) studies
- Fish metabolism studies
- Dietary uptake studies (fish feeding studies)
- Fish early life-cycle studies

## LIVESTOCK METABOLISM AND RESIDUE STUDIES (ANALYTICAL PHASE)

Together with our partners, The Royal Veterinary College of London, Battelle can offer a full range of livestock metabolism and residue studies designed to meet US, OECD, EPA and JMAFF guidelines:

- Metabolism and nature of the residue in goats, cows, pigs and hens
- Radiovalidation studies
- Livestock feeding studies (residue transfer studies)
- Veterinary residue studies in livestock (poultry, cows and pigs)

Every day, the people of Battelle apply science and technology to solving what matters most. At major technology centers and national laboratories around the world, Battelle conducts research and development, designs and manufactures products, and delivers critical services for government and commercial customers. Headquartered in Columbus, Ohio since its founding in 1929, Battelle serves the national security, health and life sciences, and energy and environmental industries. For more information, visit [www.battelle.org](http://www.battelle.org).

1.800.201.2011 | [solutions@battelle.org](mailto:solutions@battelle.org) | [www.battelle.org](http://www.battelle.org)

Battelle and its logos are registered trademarks of Battelle Memorial Institute. © Battelle Memorial Institute 2017. All Rights Reserved.

ID 396 01/17

**BATTELLE**  
It can be done