



Original thinking... applied

## Primary Metabolism in Crops Test

The test is carried out in order to show the fate of an active ingredient in crops. In addition, as part of the overall study, data from the test will show if the active ingredient is likely to undergo changes such as hydrolysis (acid, alkaline, or enzymatic), oxidation or reduction, and photolysis.

It is designed to identify and characterise at least 90% of the total radioactive residue (TRR) in each raw agricultural commodity (RAC) of a treated crop.

In the initial stages of the test we sample, chop or homogenize the crop parts and from this process, the TRR is determined. In commodities with inedible peel, we also determine the distribution of the chemical residue between the peel and pulp.

A series of solvents and solvent mixtures are used to extract the samples.

Identification is accomplished either by co-chromatography of the metabolite standards using two dissimilar systems or by techniques capable of positive structural identification such as mass spectrometry and nuclear magnetic resonance (NMR).

### Test guidelines and references

OECD 501: Metabolism in Crops.

**US-EPA OPPTS 860.1300.**

# FERA'S WORK IN ENVIRONMENTAL FATE AND METABOLISM

Environmental fate studies play a crucial role in providing the data which supports chemical companies in completing thorough environmental risk assessments.

Fera's support and expertise helps chemical companies to achieve successful product registrations and operate ongoing due diligence. Our metabolism studies include a range of regulatory compliant tests to assess the nature of residues and the test substance's metabolic pathways in animals and plants/crops, and we provide a range of services from single studies to complex, whole programmes, including dossier preparation and submission.

Fera's multidisciplinary teams combine decades of agrochemical and veterinary drug industry experience with world-class technical expertise and analytical capabilities.

We operate in GLP-compliant facilities in the UK and provide regulatory compliant studies for submission in all geographic regions.

## MORE ABOUT FERA

Fera is based at the National Agri-Food Innovation Campus near York, UK.

We work closely with plant protection and veterinary medicine product manufacturers to help develop effective, sustainable and safe chemical products that minimise ecosystem impacts and pollution, while maximising the beneficial effects for crops, plants and animals.

Combining the extensive expertise of our scientists with advanced resources and GLP-compliant laboratories, we provide valuable support to companies in their chemical evaluation and registration efforts.

## GET IN TOUCH

For more information and to book a test, call Fera on **+44 (0)300 100 0321**, email **[sales@fera.co.uk](mailto:sales@fera.co.uk)** or visit **[www.fera.co.uk/chemical-regulation](http://www.fera.co.uk/chemical-regulation)**

