

## **Sample Preparation and Presentation**

### **How should my samples be prepared?**

Preparing your samples correctly is essential for quality data.

#### X-Ray Fluorescence (XRF), Infrared Spectroscopy (FTIR) and X-Ray Diffraction (XRD)

Plant and soil material should be milled as fine as possible to provide a homogenous sample.

For plant, material should be milled to 0.5 mm. In the case of soil, material should be milled using a 44-mesh sieve (i.e. < 0.5 mm).

Grinding can be carried out in the Jenkinson building. Use the centrifugal mill for grains, the hammer mill for straw and grass, and the Planetary ball mill for soils.

#### Laser Particle Size Analysis (LPSA)

Gently crush soil material using the Roller machine situated in the Jenkinson Building or mortar and pestle, and sieve through 2-mm sieve.

### **What sort of vials should my samples be in?**

Plant and soil materials should be presented in a glass vial which can withstand drying in a 80°C oven for 48 hours. We recommend: Stores code: **087902** - vial 8dram squat with screw cap (140 per box).

### **What is the minimum weight/volume of sample I can submit?**

This depends on the number of services selected.

#### Plant and soil material for X-Ray Fluorescence (XRF) and/or Infrared Spectroscopy (FTIR)

Ideally, you should have enough material to fill the recommended 8-dram glass vial half-way. At the minimum, 4 g of material is required.

### Soil material for X-Ray Diffraction (XRD)

Ideally, you should have enough material to fill the recommended 8-dram glass vial half-way. At the minimum, 6 g of material is required.

### Soil material for Laser Particle Size Analysis (LPSA)

Ideally, you should have enough material to fill the recommended 8-dram glass vial half-way. At the minimum, 3 g of material is required.

### **What should accompany my samples?**

You must have a Sample Batch Form together with the samples at the time of submission to the AfSIS Lab. This form should have:

Name of Researcher

Department

Contact Details -- Email and Extension number

Description of Samples

Number of Samples

Analyses to be performed

Date of Submission

Any health or safety risks from samples must be clearly marked on the accompanying Sample Batch Form.

You will be later required to email to [afsislab@rothamsted.ac.uk](mailto:afsislab@rothamsted.ac.uk) an Excel spreadsheet containing the above information, as well as the names / QR codes of the individual samples.

### **Where should I submit my samples?**

The AfSIS Lab is situated in the Lawes Open Innovation Hub (LOIH), Room 232. Email [afsislab@rothamsted.ac.uk](mailto:afsislab@rothamsted.ac.uk) and/or call ext. 2190 or 2189 to let us know when you intend to bring your samples into the lab.