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 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 and/or call ext. 2190 or 2189 to let us know when you intend to bring your samples into the lab.