Knowledge grows

Analytical Services

Sampling Instructions

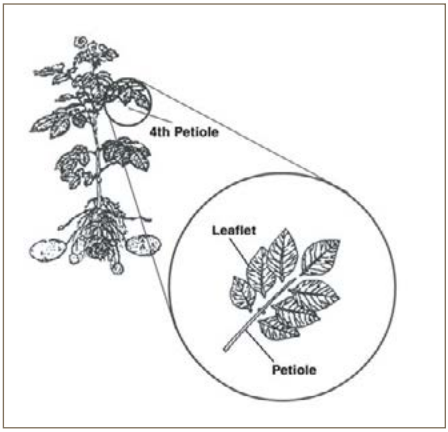
Fruitlet Samples
Sampling time is important. Send fruitlets as early as possible, but not so early as to be too small.

Fruitlets should ideally be between 30-50g in weight, though this will vary with variety. Select 20 trees along the sampling path, as for leaf analysis. Take one fruitlet from each of the north, south, east and west sides, to give 4 fruitlets per tree. Mix the fruitlets thoroughly, and take a sub-sample of 30-50 at random. Label.

Fruit Samples
Samples should be taken within a fortnight before harvest. Parts of orchards which are known to produce fruit of different storage quality should be sampled separately. Select 20 trees along the sampling path. Take one undamaged average-sized apple from each tree. If the first apple is taken from the north side, take one from the next tree on the east, then from the south and so on. Send all 20 apples. Label.

**A list showing optimum growth stages and which part of the plant is required for a range of crops is shown overleaf.*

Sampling Instructions for Potato Petiole Analysis
Choose the youngest fully expanded leaf (usually 4th) at a stage no earlier than 10% flowering. For each complete leaf, separate the leaflets from the petiole, and discard the leaflets as soon as possible after sampling. Keep samples in a cool dark place, and send to the lab immediately.



PLEASE NOTE

- For multiple samples of any type i.e. more than 7, contact the laboratory to arrange courier collection.
- Potato Cyst Nematode Samples due to their bulk cannot be posted in the pre-paid jiffy bags. Self delivery or special arrangements are required. Please contact the laboratory for details.

Sampling Instructions for Soil, Leaf, Petiole and Fruit Analysis

The Importance of Careful Sampling

The reliability of the results and recommendations of analysis depends, ultimately, on the accuracy of the very first step: **sampling.**

Sampling can be considered in terms of three simple stages:-

- Taking a representative sample of soil or leaves.
- Supplying all necessary field and background information (particularly for problem areas).
- Correct packing and immediate despatch to the laboratory. (See Sample Packaging Available).

Do's and Don'ts

✗ **DO NOT** sample immediately after lime or fertiliser application. The best time for soil analysis is after harvesting of the previous crop.

✗ **DO NOT** allow soil contamination of leaves and shoots when sampling.

✗ **DO NOT** despatch fresh plant material so that it will be in transit during a weekend or public holiday

✓ DO clean tools and equipment before sampling a new area.

✓ DO provide the maximum amount of background information on problem fields.

✓ Above all, DO make sure samples are clearly labelled.

Sample packaging available from the laboratories

- 1st class postage paid envelopes – in both A5 for up to 3 soil samples, and A4 for either 4 to 6 soil samples or bulky tissue samples (e.g. hay and silage).
- Polythene sample bags - Soil samples are placed directly in this bag and they are designed to hold the correct amount required by the laboratory (approx 500g). For tissue samples use this bag for the order form to keep it clean and dry.
- **Order forms** - These enable all the customer and sample details to be sent with the sample and provide a unique number for each sample. This number is essential to quote during subsequent enquiries. Each order form has 3 copies please ensure the top white is sent with the sample.

Soil Sampling Augers - Stainless steel construction available.

Sampling Instructions for Soil Analysis (Arable, Grassland including Amenity Grass and Fruit)

Soil analysis is an essential tool for the prediction of available nutrient levels for optimum plant growth and crop production.

The available levels of the following nutrients can be accurately analysed Phosphorus, Potassium, Magnesium, pH, Calcium, Sulphur, Sodium, Iron, Manganese, Copper, Zinc, Boron, Molybdenum (Cobalt, Iodine for Grassland) and it is recommended that a testing regime of this type is carried out once every 4 years.

As a general rule, fields up to 10 Ha (25 Acres) in area can be sampled as one unit, providing each field is uniform e.g. with regard to soil type, past cropping, lime and fertiliser usage. Fields created by hedge removal are unlikely to be uniform.

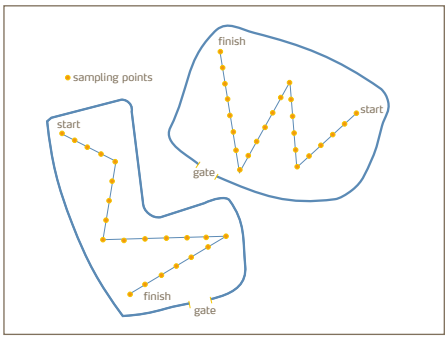
Large fields, and fields which are not uniform, should be subdivided and each part sampled separately. Use a clean auger, hand trowel or spade (preferably chromium plated or of stainless steel). Carry a plastic bucket.

Sampling Instructions for Potato Cyst Nematode (PCN)

Because nematodes are seldom evenly distributed across a field the sampling procedure for PCN needs to be more thorough. At least 50 cores must be taken evenly from an area of no more than 7.5 acres (4 hectares). All the cores & approximately 1-2kg of soil are then sent to the laboratory.

Sampling Paths

Individual samples, whether of soil, leaves or fruit, should be taken along a carefully thoughout route across the field. The 'W-pattern' sampling path is adaptable to most shapes of field (see diagrams.)



Start away from the gate, and avoid all areas which are not representative of the field as a whole such as head-lands, hedges, ditches, footpaths, fences, telegraph poles, sites of bonfires, fertiliser, lime or manure dumps.

We recommend at least 20 sampling guidelines samples, taken at regular intervals along the sampling path. Do not skimp on this number, even in small fields or areas.

At each of the sampling sites, take a sample to a depth of 15 cm (6") for arable or 7.5 cm (3") for grass, and place in a bucket. Thoroughly mix all samples, avoiding spillage. Fill the polythene bag with soil from the bucket, and seal securely. Label.

Areas of land known to differ in some important respects (e.g. soil type, previous cropping, applications of manure, fertiliser or lime) should be sampled separately. Small areas known to differ from the majority of a field should be excluded from the sample.

Sampling Instructions for Leaf or Herbage from Arable Crops and Grassland

Leaf samples from Arable Crops

Leaf analysis should not be used for prediction of seasonal nutrient requirements, as nutrient levels within leaves vary according to season, growth stage, and prevailing growing conditions.

Leaf analysis on arable crops is only of use in diagnosing nutrient levels at a particular moment in time. Soil analysis is the most reliable method for predicting nutrient availability throughout the season.

Select a sampling path as described previously. At each sampling site take several leaves at the same stage of development* preferably the first **fully-expanded** leaves working **away** from the growing point. Take leaves only, not stems or roots. Avoid bruising or tearing the leaves, and do not include leaves showing pest, disease or other damage. Avoid dusty or soil contaminated plants. Mix the leaves thoroughly, and take sufficient to fill the jiffy bag. If the leaves are wet, blot them dry with clean absorbent material.

The order form can then be placed in a plastic bag to keep it dry. Please don't forget to enclose it with the sample. Sample problem areas separately and try to take plants which are starting **to exhibit symptoms** rather than those that are very **badly stunted or nearly dead.**

Grassland Herbage

Select a sampling path as described previously. At each sampling site, use scissors or shears to cut the herbage 2.5-5 cm (1-2") above the ground.
Only sample grass of the same height, and be careful to avoid contamination of the herbage with weeds, soil or animal droppings. Mix the herbage thoroughly, and take sufficient to fill a jiffy bag. If the herbage is wet, blot it dry with clean absorbent material. Label.

Hay, other Fodder in Bulk, Silage

Hay can vary considerably within the bulk, therefore the following procedure is recommended. Avoiding outer bales, select 4-6 bales at random from the stack, open and take a sample from the centre of each. Mix thoroughly, and take sufficient to fill a jiffy bag. Label.

Silage clamps are best sampled with a suitably designed corer, along a diagonal sampling path from front to back. If no corer is available, remove the top layer, and dig as deep as possible at each sampling point. Mix thoroughly, and take sufficient to fill a polythene bag. Seal securely. Label.

Sampling Instructions for Leaf and Fruit Samples from Orchards

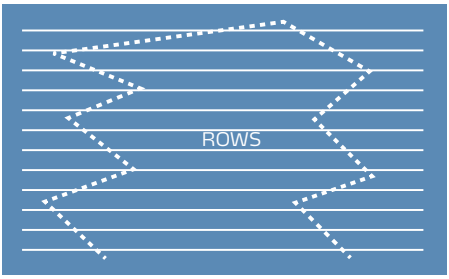
Leaf Samples

Select 20 trees or bushes of the same variety along the sampling path. Exclude pollinators and diseased or otherwise abnormal trees. Take one leaf per shoot from shoots on the north, south,east and west sides to give a total of 4 leaves per tree or bush. Young, fully expanded leaves should be chosen, from the current year's extension growth. Mix the leaves thoroughly, and take sufficient to fill a jiffy bag. If the leaves are wet, blot them dry with clean, absorbent material. Label.

Fruitlet and Fruit Analysis

These services are for apples, in relation to storage potential and the need for calcium and phosphorus orchard sprays. Special arrangements exist for collection. Please telephone early in the season to book in and obtain details.

Sampling Pattern
Draw from at least 20 different locations in the field. At each location take one leaf branch from each of 3-4 plants (minimum of 60-80 branches in total). Do not sample fields within 3-5 days after being sprayed with pesticides or foliar nutrients.



Optimum Plant Part and Timing for Leaf Analysis

Important: As a general rule please ensure approximately 200 grams (about 2 hand fulls) of fresh plant material is sent to the laboratory.

Important: If the plant you are sampling is not shown below, sample the youngest fully expanded leaves available.

Cereals - All the above ground portion clipped at 5-8 cm height.

Maize - Fully developed leaves from 40 cm high.

Sugar Beet - Fully developed and matured leaves during June/July or 50 days after germination.

Potato - Most recent fully developed leaves from 1 week after 100% emergence.

Oilseed Rape - Most recent fully developed leaves from 20 cm high to early bloom.

Legumes - Uppermost fully developed leaves prior to blossom formation. (peas, beans)

Grass - All the above ground portion clipped at 5 cm height. For turf grasses this is lower or take a sample from any recent mowing.

Fruit Trees - Middle leaves from current years growth June - August.

Soft Fruit - Youngest fully developed mature leaves. Early to mid-season.

Trees/Shrubs - Fully developed leaves from current years growth.

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