

## COLLECTING SAMPLES FOR LAB ANALYSIS – PLANT TISSUE

SWEP can send you a sample kit for all your analytical needs. Each kit contains sampling instructions, 2 sample bags and a reply paid express bag for your convenience. Please contact us if you would like a kit sent to you.

### Crop health monitoring

Plants selected for crop health monitoring should provide a good representation of the total plant population for that variety, with samples gathered over a half to one hectare area. For monitoring, it is usual to make up the sample with fully expanded leaves (including the petiole) taken as close as possible to shoot tips.

However, there are a few special cases to remember:

- Spur-bearing deciduous fruit trees should be sampled using the “Mid-shoot” leaves from non-fruiting laterals of the current seasons growth. Lateral bearing fruit trees are sampled using the first fully expanded leaf behind the tip.
- Cereals are also sampled using the first fully expanded leaf, unless they are very young seedlings, in which case the whole plant is taken from just above the ground (high enough to avoid soil contamination).
- For plants with very large leaves (eg. Banana) collect only a narrow strip of tissue from across the mid portion of each leaf. In other cases, such as Walnuts, only a single leaflet from each leaf is required.
- Other special cases include Lettuce, which should be sampled by taking the outermost ‘wrapper’ leaf of the actual head, with 5 leaves per sample.

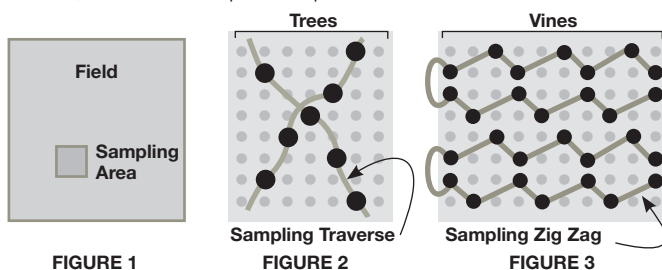


FIGURE 1

FIGURE 2

FIGURE 3

### Sampling paths

For pasture or lucerne, the best approach is to sample from a representative area of 0.5 to 1.0 hectares within the paddock. (See Figure 1).

For tree and vine crops, collect a selection of leaves so that the sample includes equal representation from each quarter of the plant (ie. North, South, East and West). Usually, a sample is comprised of 20-50 leaves (depending mainly on the leaf size). NB: Vines should be sampled at 75% flowering. Where possible, it is best to follow an ‘X’ or zig-zag path through the block (Figures 2 & 3), placing leaves or other sample material directly into a plain brown paper bag.

### Diagnosing nutrition problems

When sampling for a suspected deficiency, sample leaves from affected plants that display the worst symptoms. It is not necessary to follow a pattern in this instance, however it may be useful to note if there are any obvious groupings of plants or areas where symptoms are worse. A second sample of healthy leaves may also be useful for comparison.

### General

Care should be taken not to let the sample make contact with any potential contaminant. The sample should be removed and handled with clean hands or gloves, (and stainless steel tools where applicable) and placed into a paper bag. They should then be refrigerated until ready to send to the laboratory. Don't allow the sample to have contact with soil, fertiliser/chemicals or irrigation residue and avoid exposing the sample to temperature extremes – samples should not be frozen, or left for long periods of time in the sun or heat (including in transit to laboratory). If you think your sample may have to sit in the post all weekend, it may be better to leave the sampling until first thing Monday morning.

While tissue analysis is a useful tool for plant nutrient status, it should not replace soil sampling for the complete picture. Tissue analysis should be used to complement soil samples, but does not provide a basis for nutrient recommendations - only soil analysis can determine fertiliser requirements. Do remember when sampling soil and tissue for analysis to collect and send both samples at the same time, but make sure they are securely packaged separately.

### Take special care of the following points:

- Do not sample from plants under temperature or water stress. Sampling before 10am is preferred.
- Where possible, avoid including leaves that are contaminated with soil in the sample.
- Avoid sampling leaves after flowering or after shoot growth has stopped, unless the particular crop has a specific time requirement (eg. Vines at 75% flowering).
- Before taking the sample, wash hands thoroughly or wear disposable plastic gloves.
- Do not send wet material as it may begin to rot in transit.
- Preferably send the material straight away. If this is not possible, refrigerate (but do not freeze) the sample in its paper bag until it can be sent.

If you have any queries regarding sampling methods, techniques or preparation please contact us to discuss **prior to sample collection**.

**Please be aware that samples are tested as received.**

Preparation, collection, handling, labelling & transport of samples for analysis are fully and wholly the responsibility of the person or persons submitting the sample for analysis. The information provided in this factsheet is for use of a general nature only and is not intended to be relied upon as, nor to be a substitute for, specific professional advice. SWEP Pty Ltd will not be responsible for any loss or damage occasioned to any persons acting on or refraining from action as a result of any material in this publication.

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