

Soil sampling guide

Soil conditions can vary across paddocks and between regions. Each paddock should be considered on a case by case basis, as many factors govern the content and balanced availability of nutrients and elements in the soil. Soil analysis can be used to assess the degree of efficiency with which soils produce crops and pastures. An effective soil program can only be developed when all elements of soil content, air, water, nutrients and microbiological life are taken into account.

Soil Sampling Method

For a soil test to provide a reliable guide to the condition of your soil, the sample must truly reflect the soil of the sampling site. If the soil type varies within the area to be tested, sample the predominant soil type only.

A minimum of 5 to 10 cores per site is recommended. The more sites sampled the more representative and accurate the results.

Core depths of 100 mm for pasture and crops, with 150 mm for orchards and vineyards (2.5 cm or core diameter) are appropriate.

Subsurface soil sampling is beneficial when establishing deep rooted plants, such as vineyards and orchards, or where salinity and acidity are suspected. Take at least 5 to 10 subsample cores from the 150 to 300 mm interval of the soil profile.

Avoid contaminated and deceptive areas such as in the vicinity of gateways, animal tracks, animal camps, fences, troughs, trees, fertiliser or lime dumps, planter or seeder loading areas. The bottom of gullies and water holding depressions, areas where timber windrows have been burnt and extremely wet soils should not be sampled. Where sampling gilgai, take material from the same part of the gilgai for each core (e.g. crest).

Remove surface material such as pasture or weed growth and surface litter, to bare soil at sampling site. Cropped paddock soil sample cores should be taken from between plants within rows.

Areas with major soil type variations, or that differ in appearance, crop growth or past treatment, should be sampled separately, provided the area can be treated separately. A soil or crop map can assist in distinguishing areas and in recording the location of samples.

General Instructions

Several different tools – such as an auger, sampling tube or spade may be used in taking samples. Important: Use a clean plastic bucket to collect and mix samples, a metal bucket may contaminate the sample for trace element analysis.

If a sampling tool is not available, use a spade to dig a small hole with a vertical side and take a uniform slice of soil about 20 mm wide to the required depth. Break up clods, mix thoroughly and spread the total sample evenly on a clean surface. Divide into quarters, discard the two diagonal quarters and remix the remains, continue this reduction process to achieve the volume required to fill to the sample bag line.

Select area to be sampled and take cores at regular intervals as per the relative pattern diagram on the reverse side of this sheet.

Cores should be taken from sites of average growth. For plant sampling, sample half way between the stem and drip-line. Do not sample bare ground unless it predominates, or patches of very good growth such as near urine and dung clumps, or within 10 m of sheds, tracks and fence lines. Thoroughly mix sample cores in a plastic bucket.

Label each sample bag with the relevant sample and crop details, mixing and preparation, then fill sample bag to fill line (approximately 200 g), immediately after sample core collection.

Fill out the Sample Submission Form, one line for each sample, with as much of the requested details as possible. Ensure the sample identification corresponds with that of the sample bag. On receipt of the samples, EAL will email a Sample Receipt Notice; please check samples have been booked in for the correct analysis.

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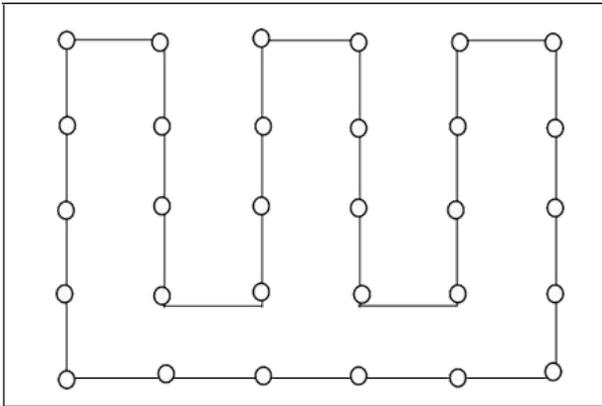
W: scu.edu.au/eal



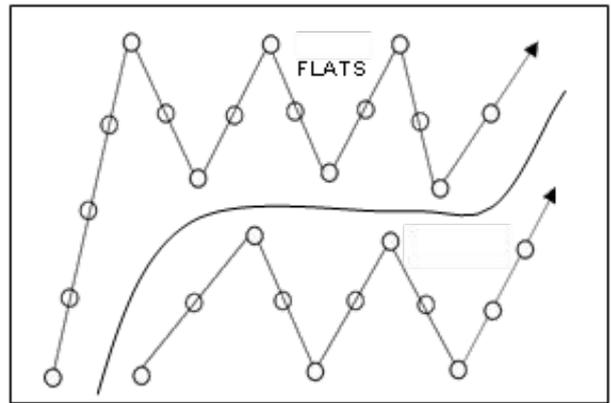
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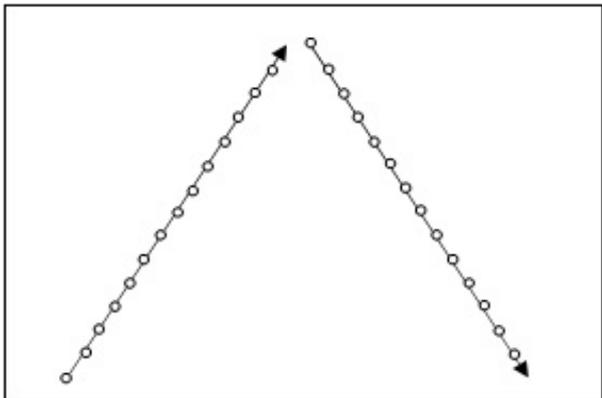
Field sampling strategies



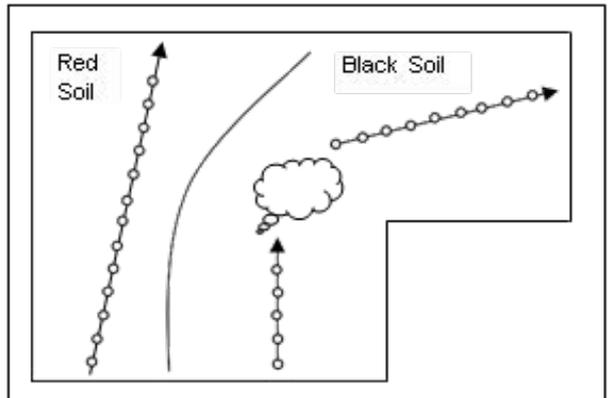
Grid pattern in a small rectangular shaped paddock



Zig-zag pattern in two small adjoining irregular shaped areas



Two transects in a large regular shaped paddock



Two transects in two large irregular shaped areas

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