## Taking samples…

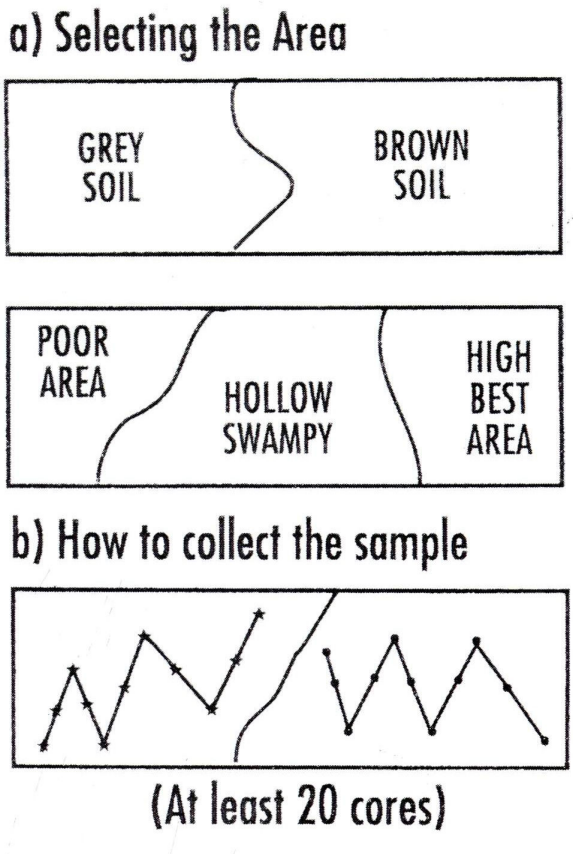
A Soil test is only ever as good as the sample that arrives at the lab, and yet this is a subject we too easily take for granted. Of course, we have described how to take a soil sample in our Fact Sheet #2, but with an awareness that there is still some variation present in the quality of advice (especially among newer agents), we thought it would be timely to give everyone a brief outline and a bit of background to the method.

The first and most important thing is to ensure that samples are taken ONLY with **stainless steel** implements. This sounds a bit extravagant, but it is for an important reason. Stainless Steel is the only metal that will not contaminate the sample. Other forms of steel can produce high Iron results and Galvanised iron will distort the Zinc level. No prizes then for guess why you should not use Copper pipe! This precaution becomes especially important if you need to test for heavy metals. For example, Cadmium and Zinc are often found together in Nature, so the Gal. Pipe sampler could do more than put extra zinc in the sample.

Some people ask if they could use PVC pipe as an alternative. The answer is maybe – if the soil is soft and you think the plastic is strong enough!

The next important thing is sample depth. So long as we know what it is, we can give the appropriate recommendations, but still there are standards you should try and stick to. Basically, soil samples are best at 0-10cm with horticulture and cropping at 0-15cm. But the most important thing is to be consistent. Sending in a 'spadeful of dirt' (even with a stainless steel spade) from "about 6 inches" may mean you are *about* to waste your money. Ten centimetres must be 10cm – not a few at 12cm, some at 9cm, but most at 10cm!

From this point, thing get a bit easier. You need to collect 20 to 30 cores per samples by following a zigzag path across the area you want to look at. Mix these thoroughly in a **clean** plastic bucket and take a sub-sample to fill the plastic bag **only up to the line**. Samples should come areas of no more than 40ha on irrigated areas. Larger areas are possible under dry-land systems, if the soil is consistent throughout.

While many people prefer a transect path – being easier to come back to for repeat samples – there has been a lot of research to show that a zigzag path gives more reliable results. In any case, you should avoid taking cores close to fences gateways or trough. You should also avoid such things as livestock camps, old dung patches, places where hay has been fed out, etc. At least 6 weeks should be allowed between any fertiliser applications and collecting samples.

Finally, you should give some consideration to the area being sampled. Soils do not change because someone puts up a fence. While a paddock can make a reasonable sampling area, be careful in case the soil changes from one place to another. The best method is to sample from areas that have the same soil (colour & texture), topography (flat, undulating, etc.) and Land use history – regardless of the paddock layout.