

SWEP FACT SHEET #1

Why Bother Soil Testing?



Many people think of Soil Testing as being like the Magician pulling a rabbit from his hat – it looks impressive, but doesn't really show anything useful.

In this Fact Sheet, we will look at the real reasons for Soil Testing and what the results for your Farm Production can actually be.

Live as if you may die tomorrow, but Farm as if you will live 1,000 years!

This is the objective for those who strive for true sustainability in farm production. The problem is that farming is an expensive business and you need to watch every dollar to make sure it gives you an adequate return.

Many farmers find a dilemma here in deciding whether or not to soil test. The returns from soil testing are not always clear (unless you are an expert), so why bother doing it at all?

There are, of course, good reasons for soil testing and most people are already aware of them:

- **The soil is your most important asset.** To get the most out of it you need to manage it properly.
- **You cannot manage what you cannot measure.**
- **Changes in the soil can go on unseen until it is too late.**
- **Prevention is better than cure.** Fixing problems always works out to be far more expensive and time consuming than preventing them in the first place.

This last point gives us another clue about the problems experienced with the cost of soil testing. That is, the main cost-benefit lies in saving money that **might** need to be spent in the future. This is hard to either predict or quantify – even though we know it may be significant.

But there often are positive returns from soil testing – if it is done properly. The fact is that most Australian soils are naturally degraded.

This means that proper rejuvenation has the potential to greatly increase their productivity. The trouble is that “Proper Rejuvenation” means more than just chucking on a heap of Phosphorus! It also means doing things that can be quite costly. What is needed to generate good sustainable returns is a strategy. In developing such a strategy, here are some things to consider:

- **Do you have enough water to make things work?** In areas with less than 600mm average annual rainfall, without irrigation, the costs may well outweigh the returns.
- **Choose a paddock that is typical of the area you are working on and use it to monitor progress.**
- **Make sure the soil test includes all Exchangeable cations and Trace Elements, not just pH and Major nutrients.**
- **Work to improve one paddock at a time.** In that way, the returns from that paddock will help fund work on the next one.

- **Make sure other management issues are properly addressed.** For example, it is no use improving soil to grow more pasture, if you lack the animals to properly utilise it.

Here is a quick example to illustrate what can be achieved:

On a 100ha property with 800mm of annual rainfall and a “heavy” grey clay loam, pasture production is around 8 tonnes of dry matter per hectare and the stocking rate is 8 sheep per hectare, but much of the returns go on buying in feed over summer as there is seldom enough surplus for making hay to replace this.

One 4 hectare paddock is chosen for improvement on the basis of a soil test. Including the soil test, this will cost \$1500. In the first year (and without renovation), the farmer replaces 40% of his bought-in feed with this paddock.

With the money he saved, he does a second paddock (using the same soil test) and this allows him to start increasing his stocking rate.

After five years, he still has more paddocks to do, but in most years now needs no bought-in feed and has increased his pasture production to nearly 10t DM/ha and his carrying capacity to 10 sheep/ha.

A Guide to working out the Benefits of Soil Testing:

Obviously, you cannot properly work out the benefits of using soil tests to improve production without actually going through the exercise on one of your paddocks, but try this quick calculation as a guide to start with:

1.	Cost of SWEP soil test	\$110.00
2.	Cost of recommendations:	
	Lime or dolomite per ha	\$
	Gypsum per ha	\$
	Fertiliser per ha	\$
	Total costs/hectare	\$
	Times paddock size	x ha
		\$

3. Assuming you achieve only a 20% increase in production over the whole farm, how long will it take the new paddock to pay back the costs above? For example, if you spend \$1,000 and (as a result) earn an extra \$500/yr, the new paddock will have paid you back in two years.

Then, lets say you keep half the extra returns, you can put the rest towards the cost of doing the next paddock, and so on.

Note: A 20% increase is the smallest change you can see without doing careful measurements, but you may feel more comfortable working on 10% pa.

For more information on the material covered in this Fact Sheet, contact SWEP on (03) 9701 6007 or talk with your local SWEP Agent.