

## ASSESSING YOUR SOIL'S HEALTH

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### Why should I assess my soil's health?

An annual, recorded assessment of the soil's physical, biological and fertility factors provides you with the tools to:

- judge the rate of soil improvement or degradation under different management systems
- assess whether it is time to 'spell' a cropping paddock
- more accurately define required inputs
- measure the success of inputs
- aid in the assessment a paddock for its suitability under a planned production system eg a reduced tillage system.

### What am I assessing my soils for?

Most soil assessment procedures assess three main points:

- soil physical properties
- soil biological health
- soil fertility

Assessing physical properties usually involves looking for compaction zones, gauging porosity and soil colour and making calculations on water logging.

Biological assessments frequently entail earthworm counts while fertility assessments are usually the standard laboratory analyses.

### How often should I assess my soils?

The frequency of assessment depends on paddock use and history. Most programmes recommend an annual assessment of your soils.

Under intensive farming most assessments can be used to gauge the impact of certain events. You may wish to assess the impact of stock treading over winter, for example. This may involve only a small part of a paddock.

### What assessment procedures are available?

There are several systems available in New Zealand designed for New Zealand soils.

- Visual Soil Assessment procedure (VSA) *Landcare Research Palmerston North*
- Soil Quality Management System (SQMS) *Crop and Food Lincoln*
- Structural Condition Scorecard *Crop and Food Hawke's Bay*

### How can I assess if my paddock is suitable for reduced tillage?

LandWISE recommends you start by digging a hole. Many issues can be revealed by this method. For example topsoil compaction or a plough pan can be judged by the effort taken to get the spade into the ground.

Use one of the formalised assessment procedures listed above. They can help define the extent of a problem and in turn give you an accurate record of the soil condition on a certain date under a particular management system.

### Get advice

Most farm supply companies now have reps with experience in reduced tillage. If your rep doesn't, then find one who does. Ask the advice of a contractor if you are planning to use one. The contractor has a vested interest in making it work for you.

Ask for advice in a timely manner, 6-8 weeks before the anticipated planting date should be adequate. The advisor will offer advice on the required fallow period and be better able to plan the planting schedule.

**VIP:** When trialling reduced tillage we recommend that you use a paddock with good soil health and no long term fertility limitations. We understand that you may wish to try reduced tillage in part of your paddock. Choose an area away from the gate way (to avoid compaction), away from tree lines (to avoid competition) and away from any obvious problem regions e.g. wet areas. Remember that conventionally produced crops won't perform well in these areas either and you don't want to set yourself up to fail.