



## TECHNICAL NOTE

# SOIL TESTING AND SAMPLING GUIDE FOR DOMESTIC LAWNS

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### Why test lawn soils?

- To measure the nutrient levels
- To measure any deficiency, excess or imbalance of major nutrients
- To assess the fertiliser and lime requirements.

An annual soil testing programme will allow soil fertility to be managed to ensure optimum soil pH and adequate nutrient levels.

### The benefits

Maintenance of optimum soil pH and adequate nutrient levels, helps to grow quality turf that:

- Is vigorous and recovers quickly from damage due to wear
- Improves resistance to turf pests and diseases
- Improves tolerance to drought or frost
- Minimises weed invasion of turf areas
- Improves persistence of desired turf species.

### Turf soil sampling guide

The following guidelines assist in the selection and submission of soil samples that represent the area being sampled.

1. Soil samples from turf should be taken to a depth of 7.5cm or 3 inches, using a soil auger.
2. To collect a representative soil sample, combine at least twenty soil cores (approximately 500 grams) from areas that receive the same fertiliser.
3. A possible sampling diagram is shown in Figure 1.
4. If a soil auger is not available, a spade or trowel may be used. However, take an even soil thickness and avoid taking a soil wedge. Mix the combined sample well in a clean bucket and send in a 500 gram sample.
5. Take care to avoid contamination of soil samples, especially with fertilisers. Use clean sampling equipment and sample bags.
6. **Do not sample soils within 3 months of the last fertiliser application.**
7. Send samples to the lab as soon as possible and keep samples cool before sending in.
8. Soils from turf areas should be analysed annually at the same time each year. This allows trends in soil nutrients to be monitored so any deficiencies, excess or imbalance of nutrients can be managed.
9. A Basic Soil (BS) profile is the recommended test.
10. Please list the turf type if you know it.

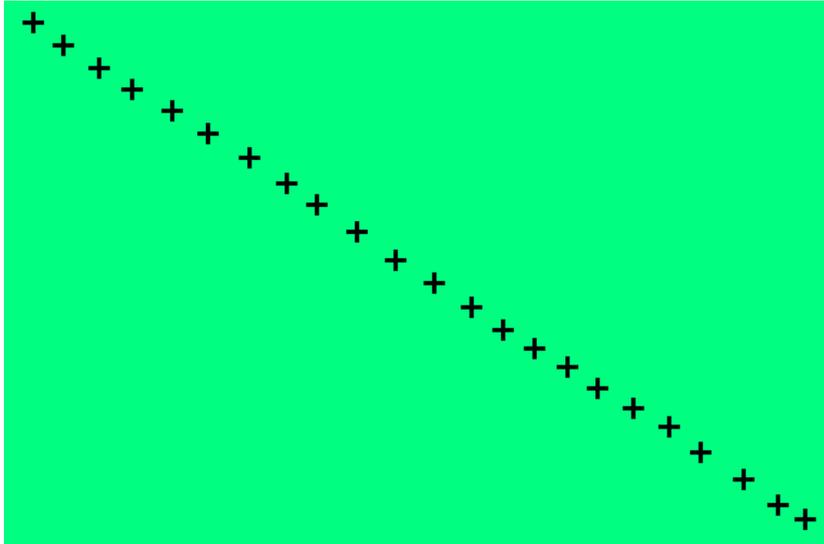


Figure 1: Diagonal Soil Sampling across a lawn area

## Interpretation

The fertility (pH and nutrient levels) of turf are usually monitored using soil tests. Testing lawn clippings may also be used to test plant nitrogen and trace element levels.

Please list the turf type, so we can report the correct soil ranges for your lawn.

## Comments

The cation exchange capacity (CEC) of a soil is a measurement of the soil's ability to hold the exchangeable cations – calcium, magnesium, potassium and sodium. Cation results for calcium, magnesium, potassium and sodium are reported as base saturation percentages (%BS) that show the proportion of that cation to the CEC. Alternative units (me/100g and MAF units) are also reported to show the measured amounts of plant-available nutrients. The Total Base Saturation % (TBS%) is the sum of calcium %BS + magnesium %BS + potassium %BS + sodium %BS.

The base saturation approach is useful for sand-based turf soils with low organic matter levels that have a low CEC. While the amounts of cation present are likely to be low, the ratio of cations may be adequate for the turf grasses grown. These soils require regular small fertiliser applications, as cations such as potassium and magnesium are depleted by plant growth (in addition to the requirement for sulphur and nitrogen).

For your quality assurance, this laboratory is audited by International Accreditation New Zealand.