



## Nutrien Ag Solutions® Soil Analysis Services

The Nutrien lab in Perth is Australia's newest soil and plant testing laboratory, designed and equipped by Nutrien Ag Solutions to quickly provide precise, independent analysis in a clear, detailed report. That analysis can also be used to generate targeted advice that addresses existing or potential deficiencies efficiently and cost-effectively, in a single season or over a longer period.

### Standard soil testing suites

#### 1. Topsoil Standard Analysis

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A measure of the soil physical properties and nutrient levels that are most likely to impact yield.

- ✔ pH
- ✔ Electrical Conductivity (EC)
- ✔ Organic carbon
- ✔ Nitrate & ammonium nitrogen
- ✔ Colwell P & Phosphorus Buffering Index (PBI)
- ✔ Colwell K
- ✔ Sulphur (KCl40)

#### 2. Topsoil Comprehensive Analysis

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A measure of all soil physical properties and available nutrients that may impact yield.

- ✔ Topsoil standard analysis
  - + Exchangeable cations (Ca, Mg, K, Na, Al)
  - + Trace elements (DTPA): copper, zinc, manganese, iron
  - + Boron, chloride, and aluminium

#### 3. Subsoil Basic Analysis

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About 70% of soils in WA cropping areas are affected by acidity, which imposes significant yield penalties. Measuring pH in the subsoil can identify underlying acidity to define the true extent of the problem. Measuring aluminium will help determine how restricted plant root growth will be in the subsoil.

- + pH
- + Aluminium (CaCl<sub>2</sub>)

#### 4. Subsoil + PK Analysis

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The addition of phosphorus and potassium measurement to our basic subsoil test identifies extra nutrients that can be accessed by deeper-rooted crops and will help better predict crop response to potassium and phosphorus fertilisers.

- ✔ Subsoil Basic Analysis
  - + Colwell P & Phosphorus Buffering Index (PBI)
  - + Colwell K

For more details or to discuss your testing requirements, contact your local Nutrien Ag Solutions store.

# DGT Soil Analysis Service

The Nutrien lab is now able to conduct DGT (diffusive gradient) analysis for phosphorus. The DGT test is a different method for measuring available P than the standard Colwell P method. Research has shown that the Colwell P test may not be an accurate measure of P availability, particularly on high iron content gravel soil types. The DGT test is better calibrated for these soil types. The implication of a more accurate test is a better understanding of how much P to apply to maximise yield.

## What is DGT?

The DGT test is widely regarded as the most accurate test for available Phosphorus, using an iron oxide gel attract (or diffuse) P through a membrane. Soil is moistened to its 100% water holding capacity and a DGT device containing a clear membrane is placed on top of the soil. The test measures how much P is diffused through the soil and the gel. The amount of P bound to the gel is measured and your available P is established.

## When to use DGT?

Colwell P testing can overestimate available P. A DGT test is likely to be a better measure of available P in high PBI soils, gravel soils or those soils with high aluminium or iron content.

## Why use DGT?

- ✔ Is a more reliable test than Colwell P test
- ✔ DGT P model is a more reliable predictor of P requirement

