N-check®

Results are available the same day the sample arrives at the laboratory

What is N-check®?

N-check® is a fast turnaround crop monitoring tool that accurately measures freely available, leachable nitrogen (N) in the root zone, or soil profile, allowing for:

- Monitoring of nitrogen dynamics
- Monitoring of available, leachable or leached nitrogen at different depths (e.g. 0-30cm, 30-60cm, 60-90cm)
- Evaluation of shortfalls between crop requirement and soil N supply
- Precise nitrogen applications (top up of soil reserves)
- Crop nitrogen budgeting
- Prevention of nitrogen losses to the environment
- Improved disease and stress resistance
- Extended fruit and vegetable storage life
- Management of protein or sugar levels

Why measure soil Nitrogen reserves?

Nitrogen is available from a number of sources: fertilisers, mineralisation of organic matter, manure, humus, crop debris and soil microbes. Nitrogen may be lost through denitrification, leaching and volatilisation. Improving the efficiency of nitrogen use via monitoring of available N using N-check® can maximise crop yield, quality and profitability while decreasing potential nitrate leaching to ground and surface water.

What information do you get from an N-check® test?

- Nitrate NO_3 (kg/ha) and (mg/kg) available for immediate uptake by plants
- Available ammonium NH_4 (kg/ha) and (mg/kg) (only needed for pasture, rice, crops requiring low pH, or crops treated with fertilisers containing nitrification inhibitors)
- Rootzone moisture (mm)
- Inherent bulk density (g/cm3)
- Soil moisture (w/w%)

We are also able to perform a full expressSoil® and/or Soil Response analysis on your N-check® sample if required.

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When should I sample?

An assessment of the soil's nitrogen. status should be made:

- Prior to intended N fertiliser applications (pre-plant, basal applications, top dressing).
- Prior to rapid growth phases to ensure sufficient N is available.
- Whenever nitrogen availability may have changed suddenly, e.g. after heavy rain, or due to warm, humid conditions.

N-check® sample collection

For N-check® to be an accurate tool, samples must be taken following these guidelines

Take samples from representative areas within the crop, of the same soil type and previous history. If any of these differ, a separate sample should be taken. We recommend sampling in 30cm increments to a depth that represents the root zone, e.g. 0-30cm and 30-60cm and 60-90cm for deep rooting crops; other sampling depths are possible.

After heavy rain, delay sampling for at least two days. If the soil is very dry it may not adhere to an auger. Other tools may be used as long as the correct depth is maintained.

Sending the sample by post

Samples should be double bagged then kept cool prior to posting or sent with an ice pack. This ensures the sample remains at a temperature that will inhibit any changes in free nitrogen content.

Send the samples via overnight express to:

AgVita Analytical
PO Box 188, Devonport, TAS 7310
Ph: (03) 64 209 600
Fax: (03) 64 270 230
Email: info@agvita.com.au

For more information and to obtain a sample label visit:
www.agvita.com.au

Member of ASPAC, Australasian Soil and Plant Analysis Council

Sampling procedure

1. For sampling, select a 1-2ha representative sampling area. Within the area, follow a W or S pattern or use a transect when collecting samples. Return to the same area for subsequent N-check®, soil or plant samples.
2. For row crops, sample within the rows avoiding gaps in the crop. Also avoid irrigation and spray runs, headlands and compacted or non typical areas. In drip irrigated crops, sample between emitters and about 30cm to the side of the drip line.
3. Remove the first 1-2cm of topsoil to eliminate any fertiliser contaminant on the surface.
4. Take 15-20 sub samples with an auger, collecting at least 200g of soil.
5. Empty the contents of each sub sample into a clean bucket, mix and transfer into a plastic zip lock bag, then into a second zip lock bag. Double bagging samples helps to maintain the samples integrity and ensures they meet Quarantine requirement.
6. If more than 200g have been collected, take a well-mixed 200g-sub sample from the bucket. Send up to 500g if other tests are to be conducted on the same sample.
7. Chill the sample immediately by placing it into a car fridge or esky to minimize nitrification or denitrification after sample collection. The samples may be stored over night, provided they are kept below 4°C.
8. Complete a sample label available from AgVita Analytical or from the AgVita website.

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