



What is N-check®?

N-check® (available soil nitrogen analysis) is a measure of the amount of nitrogen that is readily available in the root zone, expressed in kilograms of nitrogen per hectare. Combined with a 24-36 hour turn around between sampling and results, growers and consultants are able to make informed crop nitrogen management decisions and avoid problems and potential financial losses due to over or under fertilisation.

How was the N-check® technology developed?

N-check® is based on the European Nmin system which was developed in Germany 30 years ago to improve decision making on fertiliser applications rates. In 1991 the EU nitrates directive suggested the use of Nmin together with other measures to avoid nitrate leaching into ground and surface water. Growers are using the analysis to get maximum value out of fertiliser, and improve the quality and returns of their harvested product. AgVita Analytical commenced using the N-min technology in 1997, after Bolap GmbH, Germany, had provided intensive training.

AgVita chose the European technology because of the fit with intensive irrigated production, while Australian research at that time focused on dryland, broad acre crops and rice. Further research and development by AgVita Analytical to adapt Nmin to Australian conditions lead to the launch of N-check® in 2000. Even though our initial focus had been on irrigated crops and higher rainfall areas where leaching may be a problem, we found that N-check also has a very good fit with broad acre production, especially for in-crop testing.

How is N-check® different from other measurements of soil nitrogen?

N-check® is used with specific sampling, sample handling and analytical procedures which assure the accuracy and relevance of results. They are:

1. Sampling to root zone depth, excluding non-fertile, compacted or otherwise hostile subsoil
2. Sampling just prior to intended fertiliser applications, allowing for a 24 hour sample turnaround and time to organise the fertiliser
3. Sampling in-crop prior to important crop stages or forecasted rainfall for dry land crops
4. Stabilising nitrogen levels by keeping the sample cold between sampling and analysis
5. Immediate extraction of field moist soil on arrival in the lab, no drying
6. Extraction of a representative, relatively large sample volume
7. Reliable and accurate analytical technology
8. Reporting of nitrogen results in kg/ha and soil moisture w/w%
9. Provision of easy to use, crop specific interpretation aids



How is soil extracts analysed?

AgVita Analytical uses a flow injections analyzer (FIA) to measure nitrate and ammonium in soil extract. This technology allows AgVita to sustain the fast turn around of results clients are familiar with, while maintaining a high level of accuracy and repeatability. The FIA is used for the analysis of chloride, nitrate and ammonium.

