

# NU-test<sup>®</sup>

nutrient uptake

**Make sure your crop gets what it needs throughout the season**

## **What are the benefits?**

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

- Early detection of nutritional disorders before crop performance is affected
- Correct fertiliser decisions in timing, placement and fertiliser type
- Savings due to high fertiliser recovery
- Reliable yield and quality - no deficiencies or imbalances, sustained growth
- Improved disease resistance of well balanced crops
- An insight into growing conditions

## **NU-test<sup>®</sup> provides real time information on**

- The nutrient balance allowing for correction if NU-test<sup>®</sup> shows an imbalance
- The composition of nutrients in the plants sap stream – nutrient uptake
- Nutrient uptake trends over the life of the crop – stress can be avoided
- Soluble solids (brix) in crop where requested

## **NU-test<sup>®</sup> allows the monitoring of a selection of major and trace elements using state of the art analytical instrumentation:**

### *Major elements include:*

Nitrate	NO <sub>3</sub>
Ammonium	NH <sub>4</sub>
Phosphorus	P
Potassium	K
Sulphur	S
Calcium	Ca
Sodium	Na
Magnesium	Mg

### *Trace elements include:*

Iron	Fe
Manganese	Mn
Boron	B
Zinc	Zn
Copper	Cu
Molybdenum	Mo
Chloride	Cl

*For more information on NU-test<sup>®</sup>:*

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ANALYTICAL

# Sampling

## General sampling rules

NU-test® is a sensitive monitoring tool and correct, consistent sampling is essential in getting meaningful results and trends from consecutive samples. The general rule when sampling for NU-test® analysis is to take actively growing parts from randomly selected plants chosen from a representative area of the crop, or from plants that are representative of the crop (e.g. tree crops).

## Timing and frequency

The timing and frequency of sampling depends on the crop and the initial results obtained. A regular sampling program with 3 to 5 samples taken during the early and main growing season, when correction of deficiencies or imbalances is still possible, is recommended. Detailed crop specific sampling information will be supplied on request. They are also available from [www.agvita.com.au](http://www.agvita.com.au)

## Sampling area selection

- Collect from a representative area within the crop or block, or representative trees. Samples must be taken at defined growth stages for all crops; refer to crop specific sampling instructions.
- Check the area to be sampled beforehand, exclude areas that are not representative of the crop including:
  - Fence lines or windbreaks, culverts, headlands and irrigator runs
  - High or low points within the paddock (waterlogged or very dry)
  - Fertiliser dumps or burn off sites
  - Variations in soil type (more than one sample may be necessary)
  - Irrigation overlaps, waterlogged or dry areas
  - Variation in crop growth stages
- For random sampling follow a zigzag (W or Z) pattern or transect through the selected area
- Re-visit the same sampling area for all subsequent nutrition monitoring samples of the season

## Sample collection

- Collect samples in the morning while plants are still in full turgor but not wet. If this is not possible; ensure all subsequent samples are taken at the same time of the day as the first sample, but avoid sampling stressed crops (heat, draught, water logging). Do not sample in the heat of the day.
- Do not collect samples after heavy irrigation or rain, the soil should have drained to field capacity.
- Do not sample for 5-7 days after fungicide or foliar nutrient applications, if possible.
- Try to collect a sample that is free of dirt, obvious spray residues or any other type of contamination.
- Check with crop specific instructions, or AgVita prior to sampling to ensure adequate volume is sampled.
- In most dicotyledonous plants (vegetables, flowers, etc), the Youngest Fully Expanded Leaf (YFEL) is taken, which usually is the 4th leaf from the shoot tip. If plants are very small, entire plants, e.g. brassica seedlings, young cereals, carrot or onion tops may be sampled; consult with the lab, if unsure.
- In monocotyledons, entire plants or the first 5-10cm above the soil surface have to be taken.
- After sampling, remove leave blades from petioles, leaves from shoot tips or excess foliage.

**Refer to crop specific growth stages and sampling procedures for detailed instructions. They are available by calling the laboratory or [www.agvita.com.au](http://www.agvita.com.au)**

## Sample handling, labelling and posting

- **All samples are required to be double bagged**, to do this place the sample into a sealable plastic bag (e.g. zip lock bag, leak proof containers maybe required for fruit), then into a second sealable plastic bag before placing into an express post or courier bag.

**Never store samples in paper bags, as paper will dehydrate the samples**

- Never allow samples to warm up, or to freeze!
- Place the sample in a cooler with an ice pack. Avoid putting the sample directly onto the ice pack as it will freeze and cannot be processed because results will not represent the sap stream.
- Clearly label the bag or box and include a completed sample label with the sample(s), labels are available from AgVita, or at [www.agvita.com.au](http://www.agvita.com.au).
- Interstate samples should be posted by Wednesdays to reduce the risk of them being caught in the post over the weekend.

Member of ASPAC,  
Australasian Soil and  
Plant Analysis Council



[www.agvita.com.au](http://www.agvita.com.au)