

## Nitrate test kit instructions for in clinic testing

This kit is suitable for testing pasture samples on farm, and with access to an accurate balance it can also be used to test nitrate in plant material such as bulb or brassica crops.

**With plant material other than grass it is important to understand that nitrate can differ greatly at different points in the plant; for example, bulb vs stem vs leaf. Therefore, it is important to test each section of the plant separately.**

### This kit contains:

- Instructions for use
- Colour chart to compare to dipstick for your result
- 1 x acid pottle to measure the volume of acid needed
- 1 x grass pottle to measure the quantity of plant matter needed
- 10 x nitrate test strips. 1 strip is needed per test. **The strips need to be kept in the fridge when not in use. The entire kit can be stored in the fridge if possible.**
- **2 x bottles of 2% Acetic acid.** This is enough acid for 10 tests.

**SAFETY: Use caution when dealing with acid. If contact with skin, flush with water. If contact with eye, flush well with water and seek medical advice.**

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### To use this kit for Grass:

1. Collect a representative sample from the paddock you wish to test (See Appendix)
2. Using scissors or a knife (not provided) chop the sample into approx. 1 cm lengths, mixing up the pile as you go
3. Fill the “grass” pottle to the line as marked on the sticker
4. Fill the “acid” pottle to the line as marked on the sticker
5. Pour the acid pottle contents into the grass pottle and seal securely
6. Shake the grass pottle for 1 minute
7. Stand the pottle for 30 mins
8. Remove 1 strip from its cover and dip into the acid/grass mixture for 1 sec, shake off excess acid
9. Compare the colour on the stick to the colour on the chart provided. **Read after 1 minute.**

*The colour on the stick may continue to change after the specified reaction time has elapsed.*

*This must not be considered in the measurement.*

### To use this kit for bulb/stem/leaf samples:

To test a bulbous/thick stemmed crop (e.g. turnip/brassica), you will have to test the plant as 3 separate sections (bulb/stem/leaf) using 3 separate tests, due to the potential variation in nitrate accumulation in the different parts. Use fresh acid and a fresh strip for each crop part to be tested.

1. Using a sharp knife cut the sample into very small pieces (approx. 0.5cm diced). Try to incorporate representative parts from all sections of the bulb (top/middle/base) or stem/leaf.

***For each sample of bulb, stem and leaf - test separately as follows:***

2. Place the “grass” pottle on the balance and read the balance. Add **5g** of mixed diced crop sample to the pottle. (Be as accurate as possible: +/-0.05g)
  3. Fill the acid pottle to the line marked on the sticker
  4. Transfer the acid to the grass pottle with the crop sample, seal securely and shake for 1 minute
  5. Stand the pottle for 30mins (use a timer to get an accurate time)
  6. Remove 1 strip from its cover and dip into the acid/grass mixture for 1 sec, shake off excess acid
  7. Compare the colour on the stick to the colour on the chart provided. **Read after 1 minute.**  
*The colour on the stick may continue to change after the specified reaction time has elapsed.  
This must not be considered in the measurement.*
  8. Repeat test for the other parts of the crop
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## **Result Interpretation**

- **0 – 25:** This is a safe level of nitrate to feed
- **25 – 100:** Feed with caution. Allow animals to feed when not hungry and only allow grazing for a short period; e.g. 1hr
- **> 100:** **DO NOT FEED! TOXIC LEVELS!** Retest pasture in one or two days.

## **Conditions that can cause Nitrate to accumulate in the plant:**

- Dull/warm overcast weather
  - Plant stunting and wilting due to drought followed by period of rapid growth.
  - Application of nitrogenous fertilisers e.g. urea, farm effluent
  - First grazing of new grass
  - Rapid growth or a fast growing plant species
  - A combination of the above risk factors
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## **Appendix**

- When collecting your sample, walk the paddock and collect from several areas
- Collect the entire length of plant as nitrate levels can be different in the stem/bulb compared to the leaves
- As you cut up the sample, mix the cuttings so you get a representative sample of the whole paddock
- The best time of day for sample collection is early morning, as close to sunrise as possible

**If you have any questions or concerns regarding this test,  
please contact your supplier or SVS LABS (0800 787 522)**