

How to measure nitrate content with test strips

Sample preparation

Soil samples:

The most important foundation for measuring the nitrate content in soil exactly is to take a representative sample.

We recommend to take 30-40 single samples per hectare, for testing smaller areas, take at least 5 single samples (either with a soil sampler or with a spade) in 0-30 cm depth, lawn areas are sampled in a depth of 0-10 cm.

Put them all into a clean bowl or bucket and mix the soil thoroughly.

The mixed sample is now ready for use. Weigh out the required sample amount for analysis and attend the extraction ratio of 1 : 1 (1 part sample : 1 part distilled water).

If Round filter papers are missing, you can also use coffee filter papers (filtration of loamy soils will take more time).

Fruits and vegetables:

For simple measurement, cut through the sample and moisturize the test strip on the cut surface. Exact measurements require a plantjuice sample. Therefore press a sample of 10 ml juice out of the fresh matter, add 100 ml distilled water. Filter the dilution and measure it as mentioned for soil samples. Read the result from the colour scale on the test strip packing and multiply it by 10 (because of dilution).

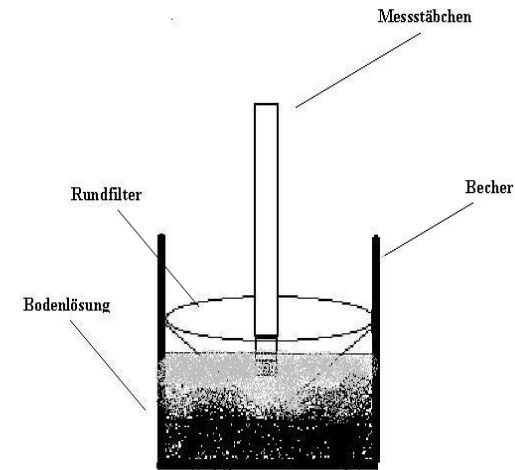
Unit of the value is mg nitrate / kg fresh matter.

The evaluation of the result for fertilizing measures depends from the nitrogen requirement of the sampled plant, furthermore from the used fertilizer etc.

Please attend to the manufacturers instructions on the fertilizer packing.

Maximum permissible values:

tap- and irrigation water	50 mg / Liter
soil, compost, greenhouse	100 mg / Liter
plant juice, fruits and vegetable	250 mg / Liter



- fill 100 g soil into the sample beaker
- add 100 ml of distilled water
- mix sample thoroughly until there are no more clumps in the solution.
- wait 10 minutes, then place from above a round filter into the beaker. The solution will now enter inside the filter.
- dip the nitrate test strip into this filtered solution for 1 sec.
- wait 1 min., then compare the discoloration of the test strip to the colour scale on the packing to read the nitrate content.
- the measured value is kg N/ha in the sampled soil layer.

