

# DATA BULLETIN

## *CN determination in soil with the vario MAX cube*

The vario MAX cube instrument combines Elementar's long tradition in macro analyzer design and state of the art electronics, software and robotics, making the vario MAX cube the leading analyzer in soil analysis in terms of analytical performance, reliability, cost and speed of analysis.

Three soil samples from a banana plantation in Ecuador were weighed into standard reusable stainless steel crucibles without any pre-treatment. The samples were analyzed six times. The average values and absolute standard deviations are given below.

SAMPLE	C [%]	N [%]	C/N RATIO
Fluvisol B horizon	$0.670 \pm 0.001$	$0.065 \pm 0.003$	10.3
Fluvisol B/C horizon	$1.921 \pm 0.004$	$0.024 \pm 0.001$	80.0
Fluvisol Ah horizon	$1.488 \pm 0.003$	$0.051 \pm 0.001$	29.2

The results show that the soil samples could be analyzed with a very high precision. The absolute standard deviation for C and N was well below 50 ppm and down to 10 ppm at low concentrations.

The patented sample feeding of the vario MAX cube with reusable open stainless steel crucibles offers a particularly simple sample handling for solid and liquid samples. The high possible sample weight (up to 5 gram soil) is especially important when inhomogeneous samples such as soil and plant material are analyzed. The automatic ash removal enables the operation of large series of mineral samples without any problems.

### INSTRUMENT:

vario MAX cube

### DETAILS:

mode: CN

sample: 1000 mg soil



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