



NIR-Measurement-Technique of N-C-Fractions in Agricultural Soils using Silicadioxid as Transfer- Matrix

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Near-infrared spectroscopy can provide rapid and accurate prediction of total nitrogen and total carbon in soil across a wide range compared as to well accepted feed analysis for qualification of digestibility of main organic nutrients. Regarding the manifold heterogeneity of soil structure and chemical composition opposed to this direct spectroscopic methods are not suitable for only the small amounts of water soluble organic compounds lower than 10 % of total nitrogen.

Using silicadioxid in the form of natural zeolite as adsorptive and homogenous transfer matrix for different water extractable fractions available for plant growth NIRS can be established and will allow most of variabilities in agricultural soils to be adequately sampled as with conventional approaches.