

Spectrophotometric analysis and some Information about Soil Humic Substances

Sourav Kumar Khan and Sanjib Kar

*Department of Agricultural Chemistry & Soil Science, Institute of Agricultural Science, University of Calcutta, 35, B.C. Road, Kolkata-700019
E-mail: souravkhan.90@gmail.com, sanjib_cu@yahoo.co.in*

Abstract—*UV-Vis spectrophotometric analyses were used to investigate the nature of organic matter in two fractions of soil humic substances. In this study humic substances are extracted from five different forest regions soil of Sikkim. Viscosity average molecular weight (M_v), total acidity and cation exchange capacity (CEC) of both this fraction are determined by viscosity measurement, potentiometric titration & conductrometric titration. Uv-visible absorption at multiple weave length and in different pH is recorded. The ratio of optical densities or absorbance in dilute aqueous humic and fulvic acid solution at different wavelength and in different pH is used in this study to find out new characterization index for these materials. Humic substances are generally show strong absorbance in the Uv-Visible range, particularly in UV region, because of the presence of some aromatic chromophore and/or other organic compound. The spectra appeared to be broad and featureless, showing no maxima and minima, the absorption intensities varied greatly among the humic acid and fulvic acid. Derivative spectrum of fulvic acid content more maxima and minima compare humic acid due to presence of more active functional group.*