

Title: HUMIC SUBSTANCES AND ORGANIC MATTER IN SOIL AND WATER ENVIRONMENTS: CHARACTERIZATION, TRANSFORMATIONS AND INTERACTIONS

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Interpretive Summary:

Technical Abstract: Humic substances are an important and dynamic portion of soils which exert a powerful control on soil chemistry. Fifty-seven papers are collected in the symposium proceedings from the 7th International Conference of the International Humic Substances Society held on the campus of the University of the West Indies at St. Augustine, Trinidad and Tobago during July 3-8, 1994. These papers are divided into seven sections, and each section is prefaced with a 2-page overview of the history and development of the study of humic substances and very brief description of the papers contained within it. Section 1 begins with papers describing conventionally accepted methods of extraction and characterization of humic substances from soil and water. Section 2 discusses transformations of humic substances contained in various plant residues in soil. Methods employed in this section include UV and infrared studies of humic residues, as well as decomposition studies conducted in situ. Section 3 is a collection of papers describing the effects of land management on the composition and properties of humic substances. Section 4 is composed of spectroscopical characterization and degradation through electromagnetic and chemical means. The interaction of xenobiotics, metals and other minerals with humic substances is contained in Section 5. Biological effects of humic substances and their degradation products are explored in several papers in Section 6. The final section (7) is reserved for characterization of organic matter transformation products from composts, sludges and waste waters. The organic sources used in this section range from wheat straw to sewage sludges and waste waters from mills processing foods.