

Soil humus and carbon popularity from 1804 (N. de Saussure) to 2015 (COP 21)

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The popularity of humus (or soil organic matter SOM) and later on soil organic carbon (SOC) as related to plant nutrition, soil fertility and environment varied widely from the beginning of the 19th century with the research of Nicolas de Saussure (1804) to Thaer's humus theory (1809) followed by Liebig's mineral theory (1840) until the 20th century with new perceptions of the beneficial roles of SOM. Nowadays, it is known that SOM (with SOC) participates in multiple interactions with the other Earth ecosystem compartments (hydrosphere, biosphere, atmosphere lithosphere). Very recently SOM and SOC were raised to the summit of the international challenges concerning global changes with the French initiative entitled "4 per 1000". Therefore, from the past to the present humus has received varying levels of consideration regarding its benefits for humanity. The central questions of this presentation will be: 1) What were the links between science and society at each of these epistemological steps during these last 200 years, and 2) what were the scientific theories involved?