

FRAGIPANIZATION PHENOMENON – EFFECTS ON SOILS PEDOGEOCHEMISTRY FROM PROTECTED AREAS (GREENHOUSES AND SOLARIUMS)

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Abstract

In this paper are presented several new aspects related to the effects of fragipanization phenomenon on pedogeochemical processes in particular case of soils from protected areas (greenhouses and solariums). A special attention was paid to dynamic evolution of macro- and micro-elements in conditions of soils from protected areas, affected by fragipanization phenomenon, and to the correlation between these and pedogeochemical segregation and salinization processes. In addition, were highlighted a number of issues relating to the conditions of emergence and dynamics of the fragipane in soils from protected areas. The fragipane represents both a degradation phenomenon and an initiator for soil degradation phenomena. The formation of fragipane horizons is directly correlated with the apparition and development of pedogeochemical segregation, compaction and salinization processes that have strong negative influence on pedological and agrochemical characteristics of soils. The impacts fragipane is highlights, in general, by: (i) the discontinuity of water circulation in the soil profile, (ii) contrasting physico-chemical conditions between the upper and lower horizons, (iii) particular and atypical evolutions of the organic matter dynamics, speciation processes and inter-phase distribution of macro- and micro-elements etc., (iv) simultaneously with the formation horizons fragipane (emphasis segregation pedogeochemice) are rapidly degraded the physical-chemical and agrochemical characteristics of soils, with negative effects on their productivity and quality of obtained agricultural products.

Key words: fragipane, pedogeochemical segregation, soils from protected areas, pedogeochemistry
