



Appraisal of the black carbon in soils of Harran plain, Turkey

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Abstract

This study aimed to determine Corg, Ccarb, and Crec quantities, concentrations, and stocks of soils belonging to 16 different soil series in the Harran plain, southeastern Turkey. According to the study, on average of Crec content was 0.059%, and the values varied between 0.043- 0.074%. While Crec content was found highest in Sirrin and Irice series, the least was found in Akcakale, Akoren, and Kap series. When the soil series were classified in terms of Crec/ Corg ratio, it was highest in Akoren and Kap series and lowest in Irice series. Besides, there was a significant correlation between Crec and Corg, and it was observed that the level of significance was $r = 0.70$ ($P < 0.05$) and above. However, no statistically significant difference ($P > 0.05$) was observed between Harran and Bellitas, Akcakale and Cekcek, Harran and Begdes and Kap and Harran series. Although most of the Crec content in the soil comes from Corg of organic origin, it was estimated that some of it might be fossil originated and these soils are probably very sensitive to the adverse effects of organic matter decline.

Keywords: Crec/Corg, Inorganic C, Organic C, Recalcitrant C, Soil