



## **Total organic carbon in a soil recovered with sewage sludge and native species of the Atlantic Forest**

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The use of organic waste such as sewage sludge, in the recovery of degraded áreas have shown very satisfactory results, because they are constituted by high contentes of organic matter and nutrients, essential to improve the physical and chemical properties of the soil. Thus, the objective of this study was to verify the total organic carbon (TOC) of a degraded soil, up to a metre deep, after 10 years of application of sewage sludge and planting native species of the Atlantic forest. The experiment was conducted at Fazenda Entre-Rios, owned by Suzano Papel e Celulose, in Itatinga, São Paulo, Brazil. The experiment was designed as randomized block with four replications, six doses of sewage sludge (0, 2.5, 5, 10, 15 and 20 t ha<sup>-1</sup>), conventional chemical fertilizer and only with potassium application, totaling eight treatments. Samples were collected every 20 cm (0-20, 20-40, 40-60, 60-80 and 80-100 cm) until reaching a metre deep. Ten years after trial deployment, the sewage sludge application in degraded soil was significantly influenced the TOC at all depths sampled. The highest values of the COT were observed in plots that received 15 and 20 t ha<sup>-1</sup> of sewage sludge, in all depths sampled, except for the layer of 80-100 cm, which presented the highest average COT in the treatment with 10 t ha<sup>-1</sup> of residue. As observed for all treatments, the highest TOC averages were observed in the superficial layers of the soil (0-20 and 20-40 cm). The sewage sludge application is useful to recover degraded soils, as it improving their chemical characteristics and showing to be a good alternative to the final destination of this residue.