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Assessment of land use in protected areas of the state of Sao Paulo, Brazil

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It is of universal knowledge that the soil, a basic natural resource, is renewable only if conserved or used correctly(Primavesi, 2002). It is salient for Araújo et al. (2007) that the establishment of index of soil quality is an important tool in the functions of control, supervision and monitoring of areas for environmental protection. The objective of this study was to compare the quality of the soil by means of a comparative diagram in different soil uses in permanent preservation areas (APP). The study was conducted in areas near the Ribeira de Iguape river in the city of Registro - São Paulo - Brazil, belonging to the Atlantic Forest domain, a Haplic Cambisol. The following uses of the soil had been evaluated: a) banana culture (CBAN) without agricultural traffic of machines; b) degraded pasture (PDEG) with extensive system predominantly Brachiaria decumbens L. c) use silvopastoral (MPIs), consisted in a kills with a traffic free for the animals, and d) native vegetation (MNAT), proposed in this study as a reference area.The following physical indicators were analyzed: bulk density (BD), total soil porosity (TP), macroporosity (Ma), microporosity (Mi), water dispersible clay (ADA), flocculation index (FI), preconsolidation pressure (PP), soil shear strength (SS), soil resistance to penetration (RP). To construct the comparative diagram the values for each attribute of the soil in each land use were related to the values of the native forest. It was feasible to use the comparative model in the qualitative evaluation of soil use, allowing separate environments under different uses. According to the comparative diagram of banana culture is the use that most negatively impacts the physical and mechanical soil due to the smaller size of the lower polygon.

References:

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