

Summary

The distribution of natural soil carbon (C-13) and its changes as a result of cutting forest and then planting pasture were studied in two areas of an Ultisol from Caquetá, Colombia. The study site had perudic moisture and isohypertermic temperature regimes. One site was under forest (P₀) and the other site had been deforested and cultivated with *Paspalum notatum* (P₁₅) for 15 years. Soil physical, chemical, and mineralogical characteristics at the two sites were very similar. Morphological differences observed could be related to soil management. Total C content decreased with depth in the two profiles. The quantity of carbon lost was around 57.5 tons/ha of C in the pasture system, after 15 years of use. The $\delta^{13}\text{C}$ values are about -29‰ in 0-0.34 m of the profile under forest, and about -19‰ in the 0.14 m layers of the profile under pasture. On layers of 0.14-0.30 m, this value was -25‰.

The $\delta^{13}\text{C}$ values were used to estimate the quantities of C derived from forest and from

pasture. Carbon derived from pasture represented, between 64.6% in surface and 29.5% in depth, of the total carbon at P₁₅.