

## **A quantitative model of the role of soil fauna in decomposition as affected by different forested cropping systems in central Amazonia**

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The role of soil fauna in nutrient cycles of different natural and man-made ecosystems of central Amazonia (a rain forest, FLO; a secondary forest site, SEC; and two agroforestry plantation sites, POA and POC, at the campus of the Embrapa Amazônia Ocidental near Manaus) was investigated in a field study undertaken 1997-1999. Litter production was determined in weekly collections using 0.25m<sup>2</sup>-sized litter samplers established in the field sites. Litter stocks were determined on the basis of monthly collections of the litter layer using a 21 cm diameter soil corer. Biomass of fauna in litter and soil was determined in three-monthly collections using the 21 cm corer, and the respiration rates of key fauna groups were determined in an Infrared-Gas-Absorption-Spectrometer (IRGA). These and other data including decomposition rates based on litterbag experiments, and microclimatic data are used to model the role of soil fauna in the decomposition process quantitatively.