DEVELOPMENT OF ECOTOXICOLOGICAL TEST METHODS FOR AMAZONIAN SOILS: PRELIMINARY RESULTS USING PESTICIDES

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The Amazon region has been suffered a great pressure of human occupation where rain forests are transformed for human use. Crop sites including plantations require high input of chemical products due to the high diversity of pests and diseases. The large increase of agricultural activities in this area, including the use of pesticides, requires urgently the adaptation of existing test methods for tropical regions to assess the ecotoxicological hazard potential of pesticides. Therefore, in this study such tests determining the effects of chemicals on soil macrofauna species and decomposition processes are performed under tropical conditions. In detail, a fungicide (carbendazim) and an insecticide (lambda-cyhalothrin) were chosen as model substances. The earthworm *Eisenia fetida* (well known from European compost heaps but also occurring in Amazonia) and the peregrine isopod *Porcellionides pruinosus* were selected as test species. A "tropical" artificial soil, based on OECD recommendations, and an Amazonian field soil (terra preta) serve as test substrates. Acute and chronic tests are performed in the laboratory, using mortality, biomass development and reproduction as measurement endpoints. In addition, the effects of the two pesticides on site-specific oligochaete and isopod species and on organic matter breakdown are determined in terrestrial microcosms (intact soil cores) and in the field (an abandoned rubber plantation) in order to extrapolate data gained in standardised tests to the field situation. Since the two pesticides have been used in Europe for many years, these results can be compared with those from temperate regions.

This work is part of the German-Brazilian cooperation in SHIFT program, project ENV52. Financial support was granted by German Federal Ministry for Education and Research (BMBF), Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq) and Embrapa Amazônia Ocidental, Brazil.