

[FR\_STRESS\_06]

## Establishing a native enchytraeid species for soil-ecotoxicological tests in Brazil

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The Enchytraeid Reproduction Test (ERT) has been implemented as the ISO guideline 16387 to determine toxicity of chemicals in soils of the temperate climatic zone. To obtain relevant results, ecotoxicological tests should use species native to the target environment, therefore, to adapt ERT for (sub-)tropical conditions, we established cultures of local enchytraeids to find suitable species for ecotoxicological studies. For the first time in Brazil we succeeded in culturing different strains of enchytraeids in agar plates, originating from starter specimens extracted from soil samples collected around Curitiba, Paraná. All strains belong to the genus *Enchytraeus*. Three of them reproduce obligately via cocoon production; they belong to *E. buchholzi* (Vejdovský, 1879) s.l. or to a new species *Enchytraeus* spA. Eight strains are fragmenting worms identified as *Enchytraeus dudichi* Dózsa-Farkas, 1995 s.l. and *Enchytraeus bigeminus* Nielsen & Christensen, 1963 s.l.. In order to verify the potential of these local strains in ERT we tested the reproductive performance of *Enchytraeus* spA and *E. buchholzi* s.l. in tropical artificial soil (TAS), a substrate used for ecotoxicological tests with earthworms and at temperatures more compatible with Brazilian climate. *Enchytraeus* spA and *E. buchholzi* s.l. showed results comparable to *E. crypticus* in 20 g of TAS moistened to 50% water holding capacity (WHC) for 30 days at  $22 \pm 1^\circ\text{C}$ . Each group of 10 adults produced on average more than 1000 juveniles, complying with the ERT validity criteria of a minimum of 50 juveniles and a coefficient of variation (CVs) below 50%. We also tested the reproductive performance of *E. buchholzi* s.l. for a shorter period of 21 days in 10 g of TAS under  $22 \pm 1^\circ\text{C}$ ,  $25 \pm 1^\circ\text{C}$  and  $28 \pm 2^\circ\text{C}$ ; here only the treatment at  $28^\circ\text{C}$  did not meet the validity criteria for ERT. Range finding tests with carbendazim in a commercial formulation performed with *E. buchholzi* s.l. did not show 50% of mortality in any of the concentrations tested from 1 to 1000 mg a.i.  $\text{kg}^{-1}$  dry TAS, but from 100 mg a.i.  $\text{kg}^{-1}$  carbendazim clearly impaired reproduction. Definitive tests will be performed to evaluate *E. buchholzi* s.l. usefulness as a test organism for ecotoxicological studies. Tests changing moisture and amount or type of substrate are ongoing, as well as morphological and molecular characterizations of the strains of *E. buchholzi* s.l. and others.