

## GENERAL INFORMATION

author(s)	Muys B, Lust N
year	1992
English title	Inventory of the earthworm communities and the state of litter decomposition in the forests of Flanders (Belgium) and its implications for forest management
original title	
reference	Soil Biology and Biochemistry 24
pages	1677-1681
type	article (a1)
ecosystem service	supporting – soil formation and fertility
keywords	species effect – earthworms – litter decomposition – soil degradation
taxa	
project	PhD Muys
supervisor	Lust N
institution	Ghent University, Laboratory of Forestry
location	pdf, hardcopy
data	

## MATERIALS & METHODS

study area	25 forest plots: 7 plots in the Aelmoeseneie forest (3b, 3c, 5h, 5k, 5m, 5n)
time period	apr 1988 & nov 1988 (earthworms), nov 1987 – nov 1988 (litter decomposition)
goal	Study the relationship between tree species, soil acidity, earthworm communities, and litter decomposition in forests in Flanders.
set-up	<ul style="list-style-type: none"><li>- 25 stands</li><li>- earthworms: 10 samples per stand (5 in April, 5 in November)</li><li>- litterbags: 20 discs of 20 mm diameter per bag, mesh size 1.5 mm or 8 mm, local leaf litter + 2 types of reference leaf litter (<i>Prunus avium</i>, <i>Quercus robur</i>)</li></ul>
data collection	<u>Earthworms</u> <ul style="list-style-type: none"><li>- April: handsorting 25 x 25 x 25 cm<sup>3</sup></li><li>- November: (1) handsorting 30 x 30 x depth hemi-organic and holorganic layer for plots with only epigeic worms, (2) combined method of Bouche &amp; Aliaga (1986) for plots with endogeic and anecic worms as well</li><li>- Soil sample for chemical analysis</li><li>- Worms 2 months in 5 % formaline: determined and weighed</li></ul> <u>Litterbags</u> <ul style="list-style-type: none"><li>- Weight after 1, 2.5, 6, 12 months</li><li>Chemical analysis</li></ul>
remarks	Material & methods described in Muys_1989 (proceedings) & Muys_etal_1992_SoilBiolBiochem

## RESULTS

Within Flanders, the climatological variety was very restricted and did not cause differences in litter decomposition. Tree species and the clay content of the soil are the determining factors for mull formation. The sand/loam ratio is less important and determines whether mor/moder is formed in the absence of burrowing earthworms. The mull sites contained epigeic, endogeic and anecic earthworm species. The moder and mor sites only contained epigeic species.

