

## GENERAL INFORMATION

<b>author(s)</b>	Muys B, Lust N
<b>year</b>	1993
<b>English title</b>	Ecological changes following artificial afforestation with different tree species on a sandy loam soil in Flanders (Belgium)
<b>original title</b>	
<b>reference</b>	In: Watkins C (ed) Ecological effects of afforestation. CAB International, Oxford
<b>pages</b>	179-189
<b>type</b>	book chapter (b)
<b>ecosystem service</b>	supporting – soil formation and fertility
<b>keywords</b>	species effect – earthworms – litter decomposition – soil degradation
<b>taxa</b>	<i>Quercus palustris</i> , <i>Tilia platyphyllos</i> , <i>Prunus avium</i> , <i>Alnus glutinosa</i> , <i>Fraxinus excelsior</i> , <i>Quercus robur</i> , <i>Fraxinus excelsior</i>
<b>project</b>	PhD Muys
<b>supervisor</b>	Lust N
<b>institution</b>	Ghent University, Laboratory of Forestry
<b>location</b>	hardcopy, pdf
<b>data</b>	

## MATERIALS & METHODS

<b>study area</b>	3b, 3c, 5h, 5k, 5m, 5n
<b>time period</b>	
<b>goal</b>	comparison of chemical and physical soil properties, earthworm communities, production and decomposition of litter in 5 young forest stands on former pasture, 2 old forest stands, and a pasture
<b>set-up</b>	
<b>data collection</b>	
<b>remarks</b>	Material&Methods are described in Muys_etal_1992_SoilBiolBiochem

## RESULTS

The poor quality of the pin oak litter resulted in litter accumulation and degradation of the chemical soil properties. A threshold was set at pH=4, at which the soil passes from the exchange-buffer range to the aluminium-buffer range. Below this pH, no burrowing earthworms were found.

If pastures with an active earthworm community are afforested, the quality of the litter will determine whether a mull or moder humus will develop. Ash, sycamore maple, cherry and fast-growing pioneer species such as willow, poplar, and alder will result in mull humus.