GENERAL INFORMATION

author(s)	Schauvliege M
year	1995
English title	C sequestration in old stands of the forest Aelmoeseneie
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type	dissertation (d2)
ecosystem service	regulating – climate
keywords	C-sequestration – C-content – herb layer – shrub layer – tree layer – dead wood
taxa	*Fraxinus excelsior – Quercus robur – Fagus sylvatica – Acer pseudoplatanus – Corylus avellana – Sorbus aucuparia*
project	Msc thesis Schauvliege
supervisor	Lust N
institution	Faculty of Agricultural and Applied Biological Sciences, Laboratory of Forestry
document	hardcopy, pdf_short
data	appendices (p 87-99): stem diameterdistribution, volume and C content of branches and stems, C content soil

MATERIALS & METHODS

study area	*scientific zone (5n)*
time period	
goal	Quantification of the C sequestration capacity of forest stands of oak/beech and ash
set-up	- oak/beech (1.061 ha) vs. ash (0.766 ha) - C content tree layer, shrub layer - bulk density soil - 3 model trees per species (tree with arithmetic mean diameter dm, dm - sd, dm + sd): C content leaves, twigs, branches, stems - shadow vs. light crown - transect 5 m x 120 m shrub layer (1 cm < d < 7.5 cm): count of three shrub species, d on subsample - humus layer: LFH - soil sampling up to 1 m depth
data collection	- dbh of all trees of the three study species, height of a subsample - all leaves per tree: fresh weight – 100 leaves: oven-dry (80°C) mass - twigs (d < 1.5 cm): - branches (1.5 cm < d < 4.5 cm < d < 7.5 cm): fresh weight – oven-dry weight subsample - stems & large branches: volume (d each 0.5 m) + density (wedges each 1 m: dry and fresh weight, volume) - soil samples (4 per stand): Kopecky rings: oven-dry weight
remarks	C content for LFH and soil from Haleplis & Vakalopoulos (1993) and unpublished data from the Laboratory of Forestry Data for dead wood C content from literature map two zones (p 24) + shrub transect (p 29)

RESULTS

stand	oak/beech (moder)			ash (mull)
species	young beech	old beech	oak	ash
total C (ton/ha)	264			286
below/aboveground	1.5			2.5
living tree layer (ton/ha)	1.5	40	60.5	92
% C branches d > 7.5 cm	-	17	13	22
% C branches d < 7.5 cm	23	21	10	13
% C leaves	3	2	1	1
% C stem	48	43	59	43
C shrub layer (ton/ha)	1.2			3.4
L layer (g C /m²)	49			20
F layer (g C /m²)	1620			296
H layer (gC /m²)	788			86
0-100 cm soil (ton C/ha)	133			184