GENERAL INFORMATION

author(s)	Lust N
year	1973
English title	Respiration and photosynthesis of ash seedlings in different growing conditions
original title	La respiration et la photosynthese de frênes qui poussent dans des conditions differentes
reference	Sylva Gandavensis 36
pages	1–17
type	article (a3)
ecosystem service	supporting – forest dynamics
keywords	regeneration
taxa	*Fraxinus excelsior*
project	PhD Lust
supervisor	Van Miegroet M
institution	Ghent University, Laboratory of Forestry
location	hardcopy, pdf
data	

MATERIALS & METHODS

study area	3b
time period	
goal	Gain insight into the respiration and photosynthesis of ash regeneration in different growing conditions
set-up	- 20-year-old seedlings (h 40–60 cm): transplanted in Virelles (shade) and Gontrode (light) - 1-year-old nursery seedlings (h 40–60 cm): transplanted in Virelles (shade) and Gontrode (light) - 15-year-old natural regeneration (h 6–7 m) in Virelles: dominant, co-dominant, understory - 10-year old planted regeneration (h 6–7m) : dominant, co-dominant, understory - Mature ash tree: leaves of the dominated layer
data collection	Photosynthesis (July/August): manometric method of Warburg
remarks	

RESULTS

- The respiration (/ leaf area) was highly variable, but higher for sun leaves than for shade leaves. The respiration of the nursery seedlings was higher than for the Virelles seedlings. The results for respiration/biomass are different from the respiration/leaf area: less difference between shade/light leaves, differences between nursery/wild seedlings remain.
- Differences between shade/light leaves are clear when photosynthesis is expressed per leaf area. Photosynthesis much higher in Gontrode than in Virelles, higher for nursery plants than for the Virelles seedlings in Virelles.
- Effectiveness of photosynthesis (photosynthesis/respiration) higher for shade leaves, in shaded conditions.