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 6–7 m): dominant, co-dominant, understory
- Mature ash tree: leaves of the dominated layer

data collection Photosynthesis (July/August): manometric method of Warburg

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.