

GENERAL INFORMATION

author(s)	Samson R, Follens S, Lemeur R
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project	Msc thesis Follens
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institution	Ghent University, Faculty of Agricultural and Applied Biological Sciences, Laboratory of Plant Ecology
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data	

MATERIALS & METHODS

study area	5 n (measuring tower)
time period	May – October 1996 and 1997
goal	Calibration and validation of the water balance module of the WAVE model, which was developed for crop land, for a mixed oak-beech stand in the Aelmoeseneie forest.
set-up	measuring tower <ul style="list-style-type: none">- beech leaves (7, 14, 21 m)- ash (21 m)
data collection	gas exchange <ul style="list-style-type: none">- cut branches in a phytotron: rate of leaf photosynthesis- August-September 1996 vertical distribution of leaf area <ul style="list-style-type: none">- leaf area at 0, 7, 14, 21 m (LAI-2000) on 19 September- 30 litter traps of 1 m², fortnightly collection, August–November 1996 extinction coefficient <ul style="list-style-type: none">- sunny day (21 July), cloudy day (12 August): each hour- PAR above the canopy; at the N, E, W side of the tower at each level; 1 m above ground level
remarks	

RESULTS

The maximum CO₂ exchange rate of beech is half of the rate measured for oak and ash. When the temperature increases from 20 to 25°C, the maximum net photosynthesis of beech declines while it increases for oak. The LAI of ash and oak is very low in the lower canopy layer; total LAI was 2.49 for ash, 4.37 for oak, and 5.87 for beech. LAI was maximal between July and mid-September.

The model FORUG is described.