

GENERAL INFORMATION

author(s)	Verhegghen J-F
year	1979
English title	Regeneration of ash in the Aelmoeseneie forest (Gontrode) after 1976
original title	De verjonging van de es in het Aelmoeseneiebos te Gontrode, meer bepaald na 1976
reference	Msc thesis, Ghent University, Ghent
pages	87
type	dissertation (d2)
ecosystem service	supporting – forest dynamics
keywords	regeneration
taxa	<i>Fraxinus excelsior</i>
project	Msc thesis Verhegghen
supervisor	Van Miegroet M
institution	Laboratory of Forestry
document	hardcopy
data	

MATERIALS & METHODS

study area	
time period	June 1977-October 1978
goal	Investigation of natural selection in patches of dense regeneration of ash. Formulation of selection criteria of young ash seedlings.
set-up	<ul style="list-style-type: none"> - 6 permanent plots of 5 m x 10 m with 5 subplots of 1 m² with 16 smaller subsubplots of 25 cm x 25 cm - random sampling of 100 ash seedlings
data collection	<p><u>permanent plots</u></p> <ul style="list-style-type: none"> - number of stems counted 9 times, in each of the months June 1977–October 1977 & July 1978–October 1978 - light availability (Weston Illumination Meter): fall 1978 - crown projection: summer 1978 <p><u>seedling morphology</u></p> <ul style="list-style-type: none"> - in June, July, August, September, October 1977 and August, September, October 1978 - number of leaves, height (above/belowground), dry biomass, leaf area and length second growth flush (1978) - and for all remaining seedlings in the sample plots in August 1978: number of leaves, height, length second growth flush
remarks	Stem density per plot for ash, sycamore, and oak in the 9 months studied are reported in Table 5.

RESULTS

(Changes in) seedling density

In 1977, the regeneration in the Aelmoeseneie forest had a mean density of 3 000 000 seedlings/ha, with 66 % ash seedlings. The seedlings of ash are distributed more evenly through the forest than the seedlings of sycamore.

The decrease in stem density occurs faster and is larger for ash than for sycamore. Consequently, mortality was larger for ash. The regeneration period might be shorter for ash than for sycamore. The changes in stem density differ between and within the plots.

Characteristics of ash seedlings

Height growth is similar in the different height classes, which indicates that competition between the seedlings is not important yet. First-year growth was no indication for second-year growth. Growth and seedling density showed no significant relationship. Stem biomass increases over time while leaf biomass is highly variable. The growth crisis for ash seedlings is apparent during the second year: little height growth, small leaf biomass.

Early selection of ash seedlings is possible, but not desirable.