

**Tree factsheet**

images at pages 3, 4, 5, 6, 7

***Fraxinus excelsior* L.**

<b>taxonomy</b>	
author, year	Linnaeus 1753
synonym	-
Family	Oleaceae
Eng. Name	Common Ash, European Ash
Dutch name	Es, Gewone es
subspecies	-
varieties	-
hybrids	-
cultivars, frequently used (7e rassenlijst Bomen)	
'Allgold'	parks, avenues, street (Goudes)
'Altena'	landscape planting, avenues, streets
'Atlas'	landscape planting, avenues, streets
'Diversifolia	avenues, streets, parks (Eenbladige es)
'Jaspidea'	parks, avenues, streets (Goudes)
'Westhof's Glorie'	most frequent cultivar; landscape planting, avenues, streets
<b>references</b>	Weeda, 2003, vol.3 (Dutch)
	Arnoldussen, A.H. 1986. Es (in Dutch). in: Schmidt, P. 1987. Nederlandse boomsoorten I, Syllabus Vakgroep Bosbouw Landbouwniversiteit Wageningen
<b>morphology</b>	
crown habit	tree, oval to round
max. height (m)	40 (-45)
max. dbh (cm)	200-300
actual size Europe	year., dbh (140) 336, h 29, Ardfort House, Co Tipperary, Ireland h 49.8 Kelheim, Germany
actual size Netherlands	year 1850-1860, d(130) 165, h 20 year 1860-1870, d(130) 133, h 30 year 1750-1800, d(130) 156, h 15 year 1900, h 41, Hemmen, Betuwe, Gelderland
leaf length (cm)	9-14
leaf petiole (cm)	8
leaf colour upper surface	green
leaf colour under surface	green
leaves arrangement	opposite
flowering	April
flowering plant	dioicous and monoecious
flower	monosexual
flower diameter (cm)	<0,1
flower male catkins length (cm)	1
pollination	wind
fruit; length	samara (winged nut); 2,5-5 cm
fruit petiole (cm)	1
seed; length	nut; 1,5-2,5 cm
seed-wing length (cm)	1,5-2,5
weight 1000 seeds (g)	70-80
seeds ripen	October
seed dispersal	wind

<b>habitat</b>	
natural distribution	Europe, Caucasus, Turkey
in N.W. Europe since	6000 B.C.
natural areas The Netherlands	forests, river banks
geological landscape types The Netherlands (Hoek 1997)	loss-covered terraces, Holocene cover, river valleys
forested areas The Netherlands	loamy and clay soils.
area Netherlands	6955 (2002, Probos)
% of forest trees in the Netherlands	2,7 (2002, Probos)
soil type	
pH-KCl	neutral to alkaline
soil fertility	nutrient rich
light	highly shade tolerant when young, half shade tolerant when mature
① shade tolerance (0=no tolerance to 5=max. tolerance)	2.7
① drought tolerance (0=no tolerance to 5=max. tolerance)	2.5
① waterlogging tolerance (0=no tolerance to 5=max. tolerance)	2.7
plant communities in the Netherlands	Klasse der Eiken-beukenbossen op voedselrijke grond: -Viola odoratae-Ulmetum - Abelen-iepenbos -Fraxino-ulmetum - Essen-iepenbos -Carici remota-Fraxinetum - Goudveil-essenbos -Pruno-fraxinetum - Vogelkers-essenbos -Fago-Quercetum - Beuken-eikenbos -Stellario-carpinetum - Eiken-haagbeukenbos Klasse der Elzenbroekbossen: -Carici elongatae-Alnetum – Elzenzegge-Elzenbroek
<b>management</b>	
status Europe	frequent indigenous species in forests, landscape and urban environment
status The Netherlands	frequent indigenous species in forests, landscape and urban environment
application	Forest tree, street tree, windbreak, coppice
propagation	seed; named cultivars by budding, grafting or cuttings
regeneration	planting; natural regeneration from seed
optimal gap size for regeneration	1-2x tree length
first plantation Netherlands	
resprouting after cutting	good
growth rate (M.A.I. in $m^3ha^{-1}j^{-1}$ )	moderate to fast: 4-9
diseases	<i>Pseudomonas syringae</i> – bacterium (bastwoekerziekte) <i>Verticillium dahliae</i> – Verticillium wilt (essenverwelkingsziekte) <i>Nectria galligena</i> – Nectria Canker (kanker)
insects	<i>Aceria fraxinivora</i> – eriophyid mite – (essengalmijt, veroorzaakt gallen op de bloeiwijzen)
<b>wood</b>	
wood	ash (Dutch: essen)
wood structures key characteristics of pores	ring porous; heterogenous wood; solitary pores or radially pared pore groups
vol. mass heartwood (kg/m <sup>3</sup> )	(510-) 680-750 (-830) (12% moisture content)
elastic modulus (N/mm <sup>2</sup> )	12.800
durability heartwood	fungus 5
heartwood color	brown
sapwood color	white to light yellow-brown
contents	
products	sporting goods, furniture, tools, flooring
<b>non-timber products</b>	

① Ülo Niinemets and Fernando Valladares. 2006. Tolerance to shade, drought, and waterlogging of temperate Northern Hemisphere trees and shrubs. Ecological Monographs 76:521–547



Common Ash leaves



twig and buds in winter



Ash seedlings, New Forest, U.K.



Ash in Rhine river valley, Wageningen





Ash female flowers photo © Leo Goudzwaard



male (violet) and female (whitish) flowers of the Common Ash  
photo © Hans-Cees Speel



unripe fruits

photography 3x © Leo Goudzwaard



ripe fruits





smooth bark of a young tree  
photo © Leo Goudzwaard



fissured bark of a mature tree  
photo © Jeroen Philippona



dried ash wood is brown or light yellowish brown  
photo © Chris Sonnemans



fresh wood has a white colour  
photo © Leo Goudzwaard



Ash forest photo © Jeroen Philippona