

## Forest Ecology and Forest Management Group

## **Tree factsheet**

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

## Ulmus hollandica (x) Miller

taxonomy	
author, year	Miller, 1768
synonym	U. x dippeliana Schneid.
Family	Ulmaceae
Eng. Name	Dutch elm
Dutch name	Hollandse iep
subspecies	•
varieties	•
hybrids	Ulmus x hollandica (U. minor x U. glabra)
cultivars, frequently used	
'Columella'	columnar shape, street tree
'Lobel'	landscape and street tree
references	Weeda, 2003, Nederlandse Oecologische Flora deel 1
	Heybroek, H.M. 1987. Het genus Ulmus (in Dutch). in: Schmidt, P. 1987
	Nederlandse boomsoorten I, Syllabus Vakgroep Bosbouw Landbouwuniversiteit
	Wageningen
morphology	
crown habit	tree, oval or vase-shaped
max. height (m)	30
max. dbh (cm)	100 and more
actual size Europe	
actual size Netherlands	h 33 m, cultivar 'Belgica', Amsterdam, approx 1850.
	5-10
leaf length (cm)	1-2
leaf petiole (cm)	
leaf colour upper surface	green
leaf colour under surface	green
leaves arrangement	alternate
flowering	March
flowering plant	monoecious
flower	hermaphrodite
flower diameter (cm)	0,2
pollination	wind
fruit; length	samara (=winged nut); 2-2,5 cm
fruit petiole (cm)	0,1-0,2
seed; length	nut; 0,5-1,5 cm
seed-wing length (cm)	2-2,5
weight 1000 seeds (g)	7-9
seeds ripen	April-May
seed dispersal	wind, water (river)
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habitat	
natural distribution	West, South and Mid Europe
in N.W. Europe since	approx. 1600
natural areas The Netherlands	
geological landscape types The Netherlands (Hoek 1997)	river and brook valleys, inner dune area, loess covered terraces, holocene cover
forested areas The Netherlands	none
area Netherlands	not a forest tree any more
% of forest trees in the Netherlands	•
soil type	
pH-KCI	neutral to alkaline
soil fertility	nutrient rich
light	shade tolerant
Shade tolerance	no data; probably as U. minor
(0=no tolerance to 5=max. tolerance)	
Odrought tolerance	no data; probably as U. minor
(0=no tolerance to 5=max. tolerance)	
•waterlogging tolerance	no data; probably as U. minor
(0=no tolerance to 5=max. tolerance)	
plant communities in the Netherlands	Klasse der Eiken-beukenbossen van voedselrijke grond:
	-Violo odoratae-Ulmetum – Abelen-lepenbos
	-Fraxino-Ulmetum – Essen-lepenbos
management	
status Europe	natural hybrid, scattered, locally frequent in landscape and urban environment
status The Netherlands	scattered, locally frequent in landscape and urban environment
application	timber tree, landscape tree, street tree, windbreak
propagation	grafting, cuttings, layering
regeneration	planting; natural regeneration from seed or up-rooting
optimal gap size for regeneration	1-2x tree length
first plantation Netherlands	possibly in Roman times as supporting trees for grapes
resprouting after cutting	very good
growth rate (M.A.I. in m <sup>3</sup> ha <sup>-1</sup> j <sup>-1</sup> )	fast (data unknown)
diseases	Ophiostoma ulmi, Ophiostoma novo-ulmi, fungi in xylem (iepenziekte) for non-resistant trees
insects	Scolytus scolytus, Scolytus multistriatus, Scolytus pygmaeus (Dutch: lepenspintkevers)
wood	alar (Dutaha ian an)
wood	elm (Dutch: iepen)
wood structures key characteristics of pores	Ring porous. Tangential bands of pores. 4-5 seriate rays.
vol. mass heartwood (kg/m3)	630-680 (12% moisture content)
elastic modulus (N/mm <sup>2</sup> )	10.800
durability boartwood	fungue 4
durability heartwood heartwood color	fungus 4 light brown to dark brown
sapwood color	grey-white to light brown
contents	
products	construction timber, cladding, furniture, tools, coach-building, bows (pre-historical)
non-timber products	
leaves and shoots	for fodder (old in Europe, still in Asia)
young leaves	edible
fruits	edible
inner bark	edible

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



Leaves of two different Ulmus x hollandica types: U. x hollandica 'Groeneveld' (left) U. x hollandica 'Belgica' (right)



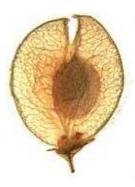
branch of the type U. x hollandica 'Schuurhoek' photos 3x © Leo Goudzwaard



seeds at a branch of cv 'Belgica'



unripe seeds, photos 2x © Leo Goudzwaard



ripe fruit, photo RUG, www.zadenatlas.nl



Ulmus x hollandica 'Belgica', Amsterdam, one of the highest trees in the city photo © Jeroen Philippona



mature Elm 'Belgica', Utrecht photos 2x © Leo Goudzwaard



young Elm, 'Vegeta', Veenendaal



stem of a mature elm photos 2x © Leo Goudzwaard



Elm wood, photo © Chris Sonnemans



the bark in detail