

Tree factsheet

images at pages 3, 4

***Quercus petraea* (Mattuschka) Liebl.**

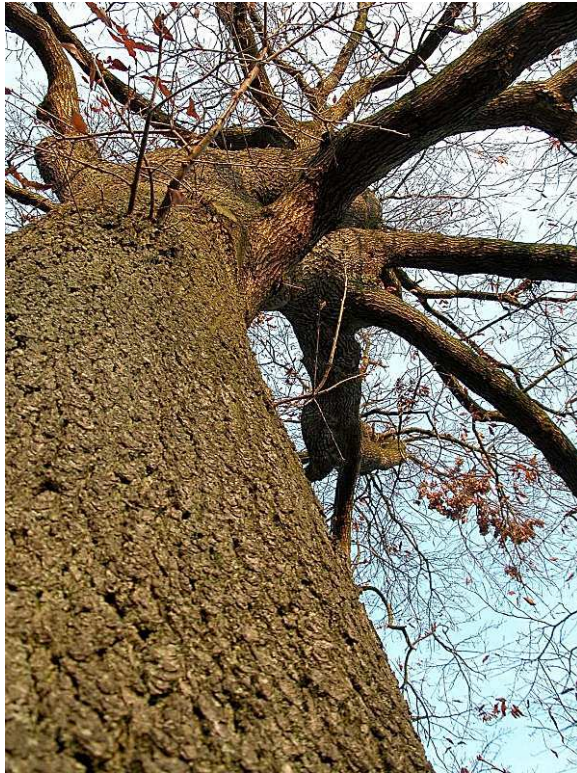
taxonomy	
author, year	Liebl, year
synonym	<i>Quercus sessiliflora</i> Salisbury.
Family	Fagaceae
Eng. Name	Sessile oak, Durmast oak
Dutch name	Wintereik
subspecies	-
varieties	-
hybrids	<i>Q. x rosacea</i> (<i>Q. robur</i> x <i>Q. petraea</i>)
cultivars, frequently used:	
'Columna'	columnar shape, planted in streets
'Mespilifolia'	unlobed leaves, planted in parks
references	Schmidt, P. Schoenmakers, A.L. & Kervel, W. 1987. De eik (in Dutch). in: Schmidt, P. 1987. Nederlandse boomsoorten I, Syllabus Vakgroep Bosbouw Landbouwwuniversiteit Wageningen
	Copini, C. et al. 2005. Clusters of <i>Quercus robur</i> and <i>Quercus petraea</i> at the Veluwe. CGN report 1.
	Plants for a Future Database; www.pfaf.org/index.html
morphology	
crown habit	tree, oval
max. height (m)	Europe: 40 The Netherlands: 30
max. dbh (cm)	200 and more
actual size Europe	approx. year 1680, Chene de lécole, Foret de Belleme, Chartres, France h 47, Foret de Berce, France h 44, Spessart, Germany
actual size Netherlands	year 1700-1750, d(130) 162, h 18 year 1840-1850, d(130) 198, h 25 year 1860-1870, d(130) 142, h 30 h 31, Het Loo, Apeldoorn, Gelderland
leaf length (cm)	8-16
leaf petiole (cm)	1-3
leaf colour upper surface	green
leaf colour under surface	green
leaves arrangement	alternate
flowering	May
flowering plant	monoecious
flower	monosexual
flower diameter (cm)	0,2
pollination	wind
fruit; length	acorn in a napkin; 1-3 cm
fruit petiole (cm)	0-0,5
seed; length	acorn; 1-3 cm
seed-wing length (cm)	not present
weight 1000 seeds (g)	1670-2860
seeds ripen	October same year
seed dispersal	rodents (wood mouse), birds (jay), water (river)

habitat	
natural distribution	West and Mid Europe
in N.W. Europe since	7000 B.C.
natural areas The Netherlands	forests
geological landscape types The Netherlands (Hoek 1997)	ice-pushed ridges, loess covered terraces
forested areas The Netherlands	moist sandy, loamy and clayish soils; half shaded pine forests
area Netherlands	<1700 ha (2002, Probos)
% of forest trees in the Netherlands	<0,7 (2002, Probos)
soil type	
pH-KCl	acid to neutral
soil fertility	nutrient poor to nutrient rich
light	half shade tolerant
① shade tolerance (0=no tolerance to 5=max. tolerance)	2.7
① drought tolerance (0=no tolerance to 5=max. tolerance)	3.0
① waterlogging tolerance (0=no tolerance to 5=max. tolerance)	1.2
plant communities in the Netherlands	Klasse der Eiken-Beukenbossen op voedselarme grond: -Betulo-Quercetum roboris – Eiken-Berkenbos -Fago-Quercetum – Beuken-Eikenbos -Deschampsio-Fagetum – Bochtige smele-Beukenbos -Luzulo luzuloides-Fagetum – Veldbies-Beukenbos
management	
status Europe	frequent indigenous species in forests
status The Netherlands	rare, indigenous species in forests and urban environment
application	timber tree, nature tree, street tree
propagation	seed; named cultivars by grafting
regeneration	planting; natural regeneration
optimal gap size for regeneration	2-3x tree length
first plantation Netherlands	
resprouting after cutting	good
growth rate (M.A.I. in $m^3ha^{-1}j^{-1}$)	moderate; 3-9
diseases	<i>Microspora alphitoides</i> – fungus on leaves (Eikenmeeldauw)
insects, larvae	<i>Curculio glandium</i> – Acorn weevil (Eikelboorder) <i>Tortrix viridana</i> – European oak leaf roller (Groene eikenbladroller) <i>Thaumetopoea processionea</i> - Oak Processionary (Eikenprocessierups) <i>Operophtera brumata</i> – Winter moth (Kleine wintervlinder) <i>Erannis defoliaria</i> – Mottled umber (Grote wintervlinder)
wood	
wood	oak (Dutch: Europees eiken)
wood structures key characteristics of pores	Ring porous. Very wide rays. Flame-like groupings of pores in latewood.
vol. mass heartwood (kg/m ³)	670-760 (12% moisture content)
elastic modulus (N/mm ²)	9.800-10.000
durability heartwood	fungus 2
heartwood color	yellowish brown to dark brown
sapwood color	white to yellow
contents	tannin (Dutch: looizuur)
products	construction timber, flooring, cladding, furniture, barrels for wine, sherry, whiskey, firewood, charcoal, etc.
non-timber products	
acorns	for fodder (old); in some countries still being used
tannin in bark and galls	for ink production, mixed with iron and salts (old)

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



Sessile oak at Doorwerth, Veluwe



Stem and crown



Leaf



Branch with fall-colored leaves



Male and female flowers