

Tree factsheet

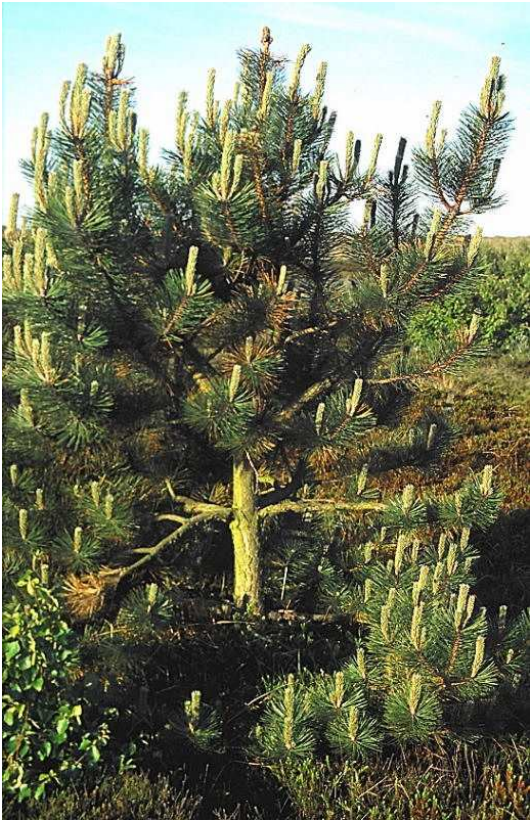
images at page 3

***Pinus nigra* ssp. *nigra* Arnold**

taxonomy	
author, year	Arnold, 1785
synonym	<i>P. nigra</i> var. <i>austriaca</i>
Family	Pinaceae
Eng. Name	Austrian pine, European black pine
Dutch name	Oostenrijkse den
varieties	<i>P. nigra</i> ssp. <i>nigra</i> var. <i>nigra</i> (the taxon planted in The Netherlands) <i>P. nigra</i> ssp. <i>nigra</i> var. <i>caramanica</i> <i>P. nigra</i> ssp. <i>nigra</i> var. <i>pallasiana</i>
hybrids	
cultivars, frequently planted	
references	Earle, C.J.. Gymnosperm database. www.conifers.org USDA Forest Service. http://www.fs.fed.us/database/feis/plants/tree/index.html Baren, B. van & Schoenmakers, A.L. 1987. Pinus (in Dutch). in: Schmidt, P. 1987. Nederlandse boomsoorten I, Syllabus Vakgroep Bosbouw Landbouwniversiteit Wageningen. Plants for a Future Database; www.pfaf.org/index.html
remarks	The taxonomy of Earle is used. Heukels' Flora van Nederland describes the variety name without mentioning the subspecies.
morphology	
crown habit	tree, conical to rounded
max. height (m)	Europe: 30 The Netherlands: 20
max. dbh (cm)	>100
actual size Great Britain	year ..., d(130) 137, h 41, Beaufort Castle, Scotland year ..., d(130) 137, h 37, Beapont Park, Sussex, England
actual size Netherlands	year 1830-1840, d(130) 139, h 35 year 1854, d(130) ..., h ..., Schovenhorst, Putten, Gelderland
leaf length (cm)	8-16 fascicles of two
leaf petiole (cm)	0
leaf colour upper surface	green
leaf colour under surface	green
leaves arrangement	alternate
flowering	May-June
flowering plant	monoecious
flower	monosexual
flower diameter (cm)	0,3
pollination	wind
fruit; length	cone; 4-10 cm
fruit petiole (cm)	0,3
seed; length	samara (=winged nut); ... cm
seed-wing length (cm)	
weight 1000 seeds (g)	17-20
seeds ripen	November - December next year
seed dispersal	wind

habitat	
natural distribution	North East Mediterranean
in N.W. Europe since	1835, Engeland
natural areas The Netherlands	not an indigenous tree
geological landscape types The Netherlands (Hoek 1997)	dune area
forested areas The Netherlands	dry sandy soils
area Netherlands	estimated 1800 ha (18.400 ha Pines, others than <i>P. sylvestris</i> , 2002, Probos)
% of forest trees in the Netherlands	<1 (7,8 other pines, 2002, Probos)
soil type	
pH-KCl	3,5 – 4,5
soil fertility	nutrient poor to nutrient rich
light	light demanding
① shade tolerance (0=no tolerance to 5=max. tolerance)	2.1
① drought tolerance (0=no tolerance to 5=max. tolerance)	4.4
① waterlogging tolerance (0=no tolerance to 5=max. tolerance)	1.4
plant communities in the Netherlands	Vaccinio-Piceetea (klasse der naaldbossen): -Cladonio-Pinetum sylvestris – Kussentjesmos-Dennenbos
management	
status Europe	frequent species in forests
status The Netherlands	infrequent exotic species in forests; frequent in urban environment
application	windbreak, ornamental
propagation	seed
regeneration	planting; natural regeneration; seeding (in past time)
optimal gap size for regeneration	3x tree length
first plantation Netherlands	1869 Schoorl and Wassenaar
resprouting after cutting	no
growth rate (M.A.I. in $m^3ha^{-1}j^{-1}$)	moderate; 4-12
diseases	<i>Gremmeniella abietina</i> – fungus on leaves (Brunchorstia)
insects	
wood	
wood	
wood structures key characteristics of pores	
density heartwood (kg/m^3)	(12% moisture content)
elastic modulus (N/mm^2)	
durability heartwood	fungus 3-4
heartwood colour	yellowish brown to brown
sapwood colour	white to yellow
contents	resin (Dutch: hars)
products	pulpwood, packing-wood
non-timber products	
resin	for turpentine
cones	in flower arrangements

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



young tree



young shoot



male pollen flowers
photography 4x ©L. Goudzwaard, Wageningen University



young cones