

Tree factsheet

images at pages 3 and 4

***Betula pubescens* Ehrh.**

| | |
|--|---|
| taxonomy | |
| author, year | Ehrh. |
| synonym | <i>B. odorata</i> Bechst. <i>B. alba</i> L. |
| Family | Betulaceae |
| Eng. Name | Downy birch, (European) White Birch |
| Dutch name | Zachte berk |
| subspecies | <i>B. c.</i> ssp. <i>carpathica</i> (Willd.) Asch. & Graebn. – (Dutch: Karpatenberk) indigenous in The Netherlands, mainly in Terschelling <i>B. p.</i> ssp. <i>tortuosa</i> – Mountain Birch. In Scandinavia |
| varieties | |
| hybrids | <i>B. x aurata</i> (<i>B. pendula</i> x <i>B. pubescens</i>) rare in nature |
| cultivars, frequently used (7e rassenlijst Bomen) | |
| references | |
| | Weeda, 2003, vol.1 (Dutch) |
| | Schoenmakers, A.L.. 1987. De Berk (in Dutch). in: Schmidt, P. 1987. Nederlandse boomsoorten I, Syllabus Vakgroep Bosbouw Landbouwuniversiteit Wageningen |
| | Plants for a Future Database; www.pfaf.org/index.html |
| morphology | |
| crown habit | tree, oval |
| max. height (m) | 10-20 |
| max. dbh (cm) | >80 |
| actual size Great Britain | year....., d(90) 127, Priory Park, Reigate, Surrey, Great Britain |
| actual size The Netherlands | year 1920-1930, d(130) 50, h 15 |
| leaf length (cm) | 4-6 |
| leaf petiole (cm) | 1,5 – 2 |
| leaf colour upper surface | green |
| leaf colour under surface | green |
| leaves arrangement | alternate |
| flowering | April |
| flowering plant | monoecious |
| flower | monosexual |
| flower diameter (cm) | < 0,1 |
| flower male catkins length (cm) | 6-7 |
| pollination | wind |
| fruit; length | samara; 0,2-0,3 cm |
| fruit petiole (cm) | 1 |
| seed; length | nut; 0,1-0,2 cm |
| seed-wing length (cm) | 0,2-0,3 |
| weight 1000 seeds (g) | 0,5-0,7 |
| seeds ripen | July |
| seed dispersal | wind |
| | |
| | |
| | |
| habitat | |
| natural distribution | North and Mid Europe |
| in N.W. Europe since | 15.000 B.C. |
| natural areas The Netherlands | forests, wet heathland, bogs |

| | |
|---|---|
| geological landscape types The Netherlands (Hoek 1997) | dune area, till plateau, coversand area |
| forested areas The Netherlands | natural, peat soils, wet sandy and loamy soils. |
| area Netherlands | <i>Betula</i> spp. 9736 (2002, Probos) |
| % of forest trees in the Netherlands | 3,7 (2002, Probos) |
| soil type | |
| pH-KCl | indifferent |
| soil fertility | nutrient poor |
| light | light demanding |
| ①shade tolerance (0=no tolerance to 5=max. tolerance) | 1.9 |
| ①drought tolerance (0=no tolerance to 5=max. tolerance) | 1.3 |
| ①waterlogging tolerance (0=no tolerance to 5=max. tolerance) | 3.0 |
| plant communities in the Netherlands | Alnetea glutinosae (klasse der Elzenbroekbossen): -Thelipterido-Alnetum (Moerasvaren-Elzenbroek) -Carici elongatae-Alnetum (Elzenzegge-Elzenbroek) Vaccinio-Piceetea (klasse der Berkenbroekbossen): -Erico-Betuletum pubescentis (Dophei-Berkenbroek) -Carici curtae-Betuletum pubescentis (Zompzegge-Berkenbroek) Quercetea robori-petraea (klasse der Eiken-Beukenbossen op voedselarme grond) -Betulo-Quercetum roboris (Berken-Eikenbos) -Fago-Quercetum (Beuken-Eikenbos) Querco-Fagetea (klasse der Eiken-Beukenbossen op voedselrijke grond): -Luzulo luzuloides-Fagetum (Veldbies-Beukenbos) -Crataego-Betuletum pubescentis (Meidoorn-Berkenbos) |
| | |
| management | |
| status Europe | frequent, indigenous species in forests and landscape |
| status The Netherlands | frequent, indigenous species in forests and landscape |
| application | nature tree, timber tree |
| propagation | seed; named cultivars by grafting, cuttings or budding |
| regeneration | planting; natural regeneration from seed |
| optimal gap size for regeneration | 2-3x tree length |
| first plantation Netherlands | |
| resprouting after cutting | good (but failing in feb-march) |
| growth rate (M.A.I. in $m^3ha^{-1}j^{-1}$) | low |
| diseases | <i>Melampsorium betulinum</i> – leaf fungus (Bladroest) <i>Piptoporus betulinus</i> – parasite on weakened Birches (Berkendoder) |
| insects | aphids |
| | |
| wood | |
| wood | European birch, White birch (Europees berken) |
| wood structures key characteristics of pores | diffuse porous. Sparsely scattered radial rows of pores. |
| vol. mass heartwood (kg/m ³) | (564-)660(-670) (12% moisture content) |
| elastic modulus (N/mm ²) | 14.200 |
| | |
| durability heartwood | fungus 5 |
| heartwood color | white to light-brown |
| sapwood color | white to light-brown |
| contents | |
| products | furniture, cladding, flooring, tools, cutlery, turnery, veneerwood, triplex |
| | |
| non-timber products | |
| sap | medicinal; beer (Dutch: berkenbier) |

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



Betula pubescens, seedling in a dry river bed



twigs in winter showing buds and a pollen inflorescence in bud



a mature tree, probably of natural origin, Zuiderheide, Hilversum



bark of a mature tree



one-year-old *B. pubescens* seedling collected from a Dutch bog photo © Leo Goudzwaard



Betula wood (probably *B. pendula*)
photo © Chris Sonnemans



fruit

fruit bract (vruchtschub)

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