

# Opbrengsttabellen Nederland 2018

Redactie: Hans Jansen en Anne Oosterbaan



Forest Ecology and Forest Management group, Wageningen University,  
Department of Environmental Sciences  
Wageningen Environmental Research (WENR)



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J.J. Jansen en A. Oosterbaan (redactie), 2018. *Opbrengsttabellen Nederland 2018*, 172 blz.

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## Voorwoord

In Nederland is met behulp van permanente proef- en steekproefperken groei- en productieonderzoek gedaan in gelijkjarige monoculturen van boomsoorten. De waarnemingen liggen ongeveer tussen 1920 en 2010, maar het merendeel van die waarnemingen ligt tussen 1950 en 2000. Voortrekkers hierbij waren De Exotencommissie<sup>1</sup>, en vanaf 1950 Becking op de Landbouwhogeschool, Van Soest op de Dorschkamp en Grandjean en Stoffels bij het Staatsbosbeheer. Bartelink *et al.* (2001)<sup>2</sup> geven een uitgebreid overzicht van de context en publicaties van het groei- en productieonderzoek aan boomsoorten in Nederland. Samen met Anne Oosterbaan heb ik deze data voor zover te achterhalen in een set databases opgenomen op de DANS-site van de KNAW, welke te raadplegen is via <https://doi.org/10.17026/dans-zan-sjhm>. Daarin zijn ook databases met gegevens van gemengd bos en van ongelijkjarig bos opgenomen.

Hans Jansen,  
Wageningen, 2018

<sup>1</sup> “Commissie tot onderzoek van exotische coniferen” opgericht door de Nederlandsche Heidemaatschappij in 1899.

<sup>2</sup> Bartelink, H.H., A.F.M. Olsthoorn, A. Oosterbaan & S.M.J. Wijdeven, 2001. Overzicht van een eeuw onderzoek naar groei en opstandsontwikkeling in relatie tot groeiplaats en beheer. Alterra, Research Instituut voor de Groene Ruimte, Wageningen, Alterra-rapport 256.

De eerste set opbrengsttabellen<sup>3</sup> voor gebruik in Nederland is in 1959 verschenen als Bijlage 10 (IV) bij het “Groene boekje”. Het betrof 11 boomsoorten, waarvan 4 gebaseerd op Nederlandse gegevens. Jansen *et al.*<sup>4</sup> publiceerden in 1996 een opbrengsttabellenboek met 12 boomsoorten, waarvan er 9 gebaseerd waren op Nederlandse gegevens. In het huidige boek komen de opbrengsttabellen van 15 boomsoorten aan de orde, alle gebaseerd op Nederlandse gegevens.

Anders dan bij Jansen *et al.* (1996) wordt er naast de tabellen geen uitvoerige uitleg over de modellen gegeven, Hiervoor wordt verwezen naar de afzonderlijke rapporten per soort (een verwijzing is per soort opgenomen). Voor de toelichting op het gebruik van opbrengsttabellen, definities van de gebruikte begrippen is het boek van Jansen *et al.* (1996) nog steeds aan te bevelen.

In de rapporten van de afzonderlijke tabellen per soort zijn vaak meerdere varianten (dunning of plantverband) opgenomen; in dit boek is daar een selectie uit opgenomen. Bij boomsoorten met voldoende data een matige en een sterke dunning, anders een matige dunning of een sterke dunning. De meeste tabellen komen rechtstreeks uit de rapporten, in sommige gevallen is er met de gepubliceerde modellen een andere variant berekend. Bij populier is gekozen voor de plantverbanden 4 x 4, 5 x 5 en 5 x 6 m en voor lijnbeplantingen met een plantverband van 3,2 m.

<sup>3</sup> Becking, J.H. en P.G. de Vries, 1959. Richtlijnen voor de bedrijfsregeling van bosbezit in Nederland: samengesteld door de commissie bosbedrijfsregeling van de Nederlandsche Boschbouwvereniging, ingesteld op 7 januari 1954 (<http://edepot.wur.nl/454998>)

<sup>4</sup> Jansen, J.J., J. Sevenster & P.G. Faber (redactie), 1996. Opbrengsttabellen voor belangrijke boomsoorten in Nederland. IBN rapport 96/Hinkeloord reports No.17, 202 pag. (<http://library.wur.nl/WebQuery/groenekennis/922890>)





## Toelichting/Explanation

Voor alle boomsoorten exclusief (tril)populier.  
For all tree species excluding poplar and aspen.

symbool	eenheid/unit	betekenis	meaning
Boniteit		relatieve indeling in groeiklassen	site class
$h_{xx}$	m	site index (opperhoogte op xx jr)	site index (top height at xx yr)
$t$	j	leeftijd vanaf kieming	age since germination
$h_{top}$	m	opperhoogte	top height
$h_{dom}$	m	dominante hoogte	dominant height
$d_{dom}$	cm	gemiddelde diameter van dominante hoogte boom	mean diameter of dominant tree
$S\%$		S% (dunningsindex van Hart)	Hart-Becking spacing index
$N$	ha <sup>-1</sup>	stamtal per ha	density (number of trees)
$G$	m <sup>2</sup> ha <sup>-1</sup>	grondvlak per ha	basal area
$d_g$	cm	diameter (1,30 m) van de grondvlakmiddenboom	diameter at breast height of mean basal area tree
$h_g$	m	hoogte van de grondvlakmiddenboom	height of mean basal area tree
$V$	m <sup>3</sup> ha <sup>-1</sup>	spilvolume met schors	stem volume over bark
$lc_G$	m <sup>2</sup> ha <sup>-1</sup> j <sup>-1</sup>	lopende grondvlakbijgroei op leeftijd $t$ jaar	current basal area increment at age $t$
$lc_V$	m <sup>3</sup> ha <sup>-1</sup> .j <sup>-1</sup>	lopende volumebijgroei op leeftijd $t$ jaar	current volume increment at age $t$
$lm_G$	m <sup>2</sup> ha <sup>-1</sup> .j <sup>-1</sup>	gemiddelde grondvlakbijgroei tot op leeftijd $t$ jaar	mean basal area increment until age $t$
$lm_V$	m <sup>3</sup> ha <sup>-1</sup> .j <sup>-1</sup>	gemiddelde volumebijgroei tot op leeftijd $t$ jaar	mean volume increment until age $t$

Voor (tril)populier in bosverband / For poplar and aspen in forest.

symbool	eenheid/unit	betekenis	meaning
Boniteit		relatieve indeling in groeiklassen	site class
$h_{25}$	m	site index (gemiddelde hoogte op 25 j)	site index (mean height at 25 yr)
$t$	j	kiem- of stekleeftijd	age since germination or sprouting
$h_m$	m	gemiddelde hoogte	mean height
$S\%$		S% (dunningsindex van Hart)	Hart-Becking spacing index
$N$	ha <sup>-1</sup>	stamtal per ha	density (number of trees)
$G$	m <sup>2</sup> ha <sup>-1</sup>	grondvlak per ha	basal area
$d_g$	cm	diameter (1,30 m) van de grondvlakmiddenboom	diameter at breast height of mean basal area tree
$V$	m <sup>3</sup> ha <sup>-1</sup>	spilvolume met schors	stem volume over bark
$lc_G$	m <sup>2</sup> ha <sup>-1</sup> .j <sup>-1</sup>	lopende grondvlakbijgroei op leeftijd $t$ jaar	current basal area increment at age $t$
$lc_V$	m <sup>3</sup> ha <sup>-1</sup> .j <sup>-1</sup>	lopende volumebijgroei op leeftijd $t$ jaar	current volume increment at age $t$
$lm_G$	m <sup>2</sup> ha <sup>-1</sup> .j <sup>-1</sup>	gemiddelde grondvlakbijgroei tot op leeftijd $t$ jaar	mean basal area increment until age $t$
$lm_V$	m <sup>3</sup> ha <sup>-1</sup> .j <sup>-1</sup>	gemiddelde volumebijgroei tot op leeftijd $t$ jaar	mean volume increment until age $t$

Voor populier in lijnbeplanting / For poplar line plantation.

symbool	eenheid	betekenis	meaning
Boniteit		relatieve indeling in groeiklassen	site class
$h_{25}$	m	Site index gemiddelde hoogte op 25 jr)	site index (top height at 25 yr)
$t$	j	leeftijd vanaf kieming	age since germination
$h_m$	m	gemiddelde hoogte	mean height
$S\%$		S% (dunningindex van Hart)	Hart-Becking spacing index
$N$	km <sup>-1</sup>	stamtal	density (number of trees)
$G$	m <sup>2</sup> km <sup>-1</sup>	grondvla	basal area
$d_g$	cm	diameter (1,30 m) van de grondvlakmiddenboom	diameter at breast height of mean basal area tree
$d_{or}$	cm	diameter loodrecht op rij	diameter on row
$d_{ir}$	cm	diameter in de rij	diameter in row
$V$	m <sup>3</sup> km <sup>-1</sup>	spilvolume met schors	stem volume over bark
$lc_G$	m <sup>2</sup> km <sup>-1</sup> .j <sup>-1</sup>	lopende grondvlakbijgroei op leeftijd $t$ jaar	current basal area increment at age $t$
$lc_V$	m <sup>3</sup> km <sup>-1</sup> .j <sup>-1</sup>	lopende volumebijgroei op leeftijd $t$ jaar	current volume increment at age $t$
$lm_G$	m <sup>2</sup> km <sup>-1</sup> .j <sup>-1</sup>	gemiddelde grondvlakbijgroei tot op leeftijd $t$ jaar	mean basal area increment until age $t$
$lm_V$	m <sup>3</sup> km <sup>-1</sup> .j <sup>-1</sup>	gemiddelde volumebijgroei tot op leeftijd $t$ jaar	mean volume increment until age $t$



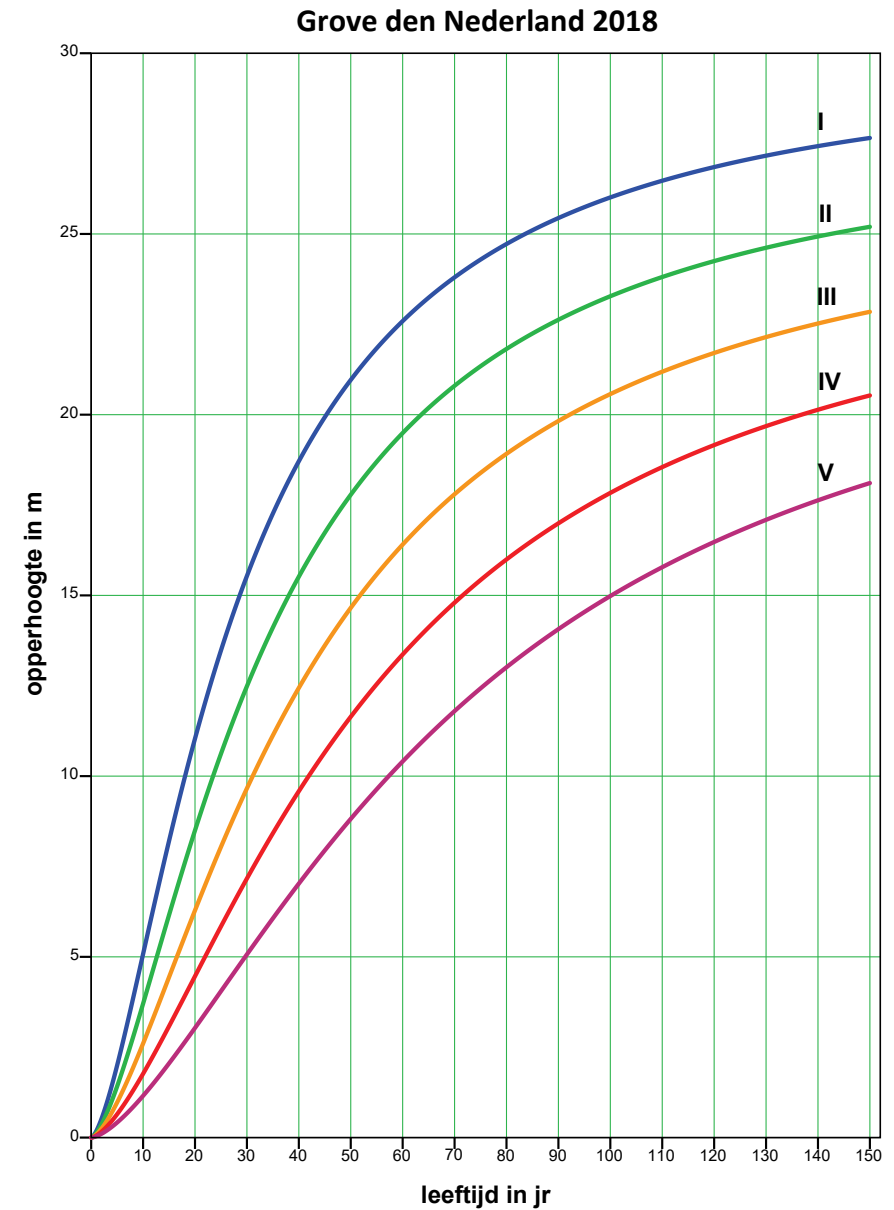
## Grove den (*Pinus sylvestris*)

## Scots pine

Jansen, J.J., G.M.J. Mohren, A. Oosterbaan, L. Goudzwaard, en J. den Ouden

**Bron:** Jansen, J.J., G.M.J. Mohren, A. Oosterbaan, L. Goudzwaard, en J. den Ouden, 2018. *Groei en productie van grove den in Nederland*. FEM Groei en Productie Rapport 2018 – 3, 87 blz.

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op: <https://doi.org/10.18174/444090>



**GROVE DEN, Nederland 2018**

SCOTS PINE, Netherlands 2018

**matige dunning**

moderate thinning

**Boniteit I,  $h_{70} = 23.8$**

Site Class I,  $h_{70} = 23.8$

<i>t</i>	Opstandkenmerken Stand characteristics				Kenmerken voor dunning Characteristics before thinning					Dunning Thinning				Kenmerken na dunning Characteristics after thinning					Bijgroei Increment				<i>t</i>
	<i>h<sub>top</sub></i>	<i>h<sub>dom</sub></i>	<i>d<sub>dom</sub></i>	<i>S%</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>h<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>h<sub>g</sub></i>	<i>V</i>	<i>lc<sub>G</sub></i>	<i>lm<sub>G</sub></i>	<i>lc<sub>V</sub></i>	<i>lm<sub>V</sub></i>	
5	2.0	1.9	1.7		5000	0.6	1.3	1.6	1					5000	0.6	1.3	1.6	1	0.83	0.12	1.1	0.1	5
10	5.1	4.9	7.1		5000	10.5	5.2	4.3	26					5000	10.5	5.2	4.3	26	2.96	1.05	10.7	2.6	10
15	8.2	8.0	13.2	19.0	5000	25.5	8.1	7.2	106	252	0.8	6.3	3	4748	24.7	8.1	7.2	103	2.23	1.70	17.1	7.0	15
20	11.0	10.8	16.3	19.0	4748	34.4	9.6	9.9	184	2123	10.3	7.8	53	2626	24.2	10.8	10.0	131	1.69	1.76	15.5	9.4	20
25	13.5	13.2	18.9	19.0	2626	31.4	12.3	12.3	202	864	7.0	10.1	43	1761	24.5	13.3	12.4	159	1.26	1.70	13.2	10.3	25
30	15.5	15.2	21.3	19.0	1761	30.3	14.8	14.4	221	436	5.2	12.3	36	1325	25.2	15.6	14.5	185	1.09	1.61	12.1	10.7	30
35	17.3	16.9	23.4	19.0	1325	30.3	17.1	16.1	243	252	4.0	14.3	31	1073	26.3	17.7	16.2	212	0.97	1.53	11.1	10.8	35
40	18.7	18.4	25.3	19.0	1073	30.9	19.1	17.6	265	160	3.3	16.2	27	914	27.6	19.6	17.7	238	0.87	1.45	10.3	10.8	40
45	19.9	19.6	27.1	19.0	914	31.7	21.0	18.8	288	108	2.8	18.0	24	805	29.0	21.4	19.0	264	0.79	1.38	9.6	10.7	45
50	21.0	20.6	28.7	19.0	805	32.8	22.8	19.9	310	77	2.4	19.7	22	728	30.4	23.1	20.0	289	0.73	1.32	9.0	10.6	50
55	21.8	21.5	30.2	19.6	728	33.9	24.4	20.8	332	98	3.6	21.5	33	630	30.4	24.8	21.0	299	0.68	1.27	8.4	10.4	55
60	22.6	22.2	31.7	20.2	630	33.7	26.1	21.6	339	76	3.2	23.4	32	555	30.5	26.4	21.7	308	0.64	1.21	7.9	10.2	60
65	23.2	22.9	33.2	20.8	555	33.6	27.8	22.3	346	60	3.0	25.2	30	494	30.5	28.1	22.4	316	0.59	1.17	7.3	10.0	65
70	23.8	23.4	34.5	21.4	494	33.4	29.3	22.9	351	49	2.8	27.0	29	445	30.6	29.6	23.0	323	0.54	1.13	6.7	9.8	70
75	24.3	23.9	35.7	22.0	445	33.2	30.8	23.4	355	41	2.7	28.8	27	404	30.5	31.0	23.6	327	0.50	1.09	6.2	9.6	75
80	24.7	24.3	36.9	22.6	404	32.9	32.2	23.9	357	34	2.5	30.5	26	370	30.4	32.4	24.1	331	0.47	1.05	5.8	9.3	80
85	25.1	24.7	38.1	23.2	370	32.7	33.6	24.3	359	29	2.4	32.2	25	341	30.3	33.7	24.5	333	0.44	1.01	5.4	9.1	85
90	25.4	25.0	39.4	23.8	341	32.5	34.8	24.7	360	25	1.8	30.2	19	315	30.6	35.2	24.9	340	0.42	0.98	5.1	8.9	90
95	25.7	25.3	40.7	24.4	315	32.7	36.3	25.0	365	22	1.7	31.5	19	293	31.0	36.7	25.2	346	0.40	0.95	4.8	8.7	95
100	26.0	25.6	42.0	25.0	293	32.9	37.8	25.4	370	20	1.7	32.7	18	273	31.3	38.2	25.6	352	0.38	0.92	4.6	8.5	100
105	26.3	25.9	43.3	25.6	273	33.1	39.3	25.7	374	17	1.6	34.0	17	256	31.5	39.6	25.8	357	0.36	0.90	4.4	8.3	105
110	26.5	26.1	44.6	26.2	256	33.3	40.7	25.9	378	16	1.5	35.2	17	240	31.8	41.1	26.1	362	0.35	0.87	4.2	8.1	110
115	26.7	26.3	45.8	26.8	240	33.5	42.2	26.2	382	14	1.5	36.5	16	226	32.0	42.5	26.4	366	0.34	0.85	4.0	7.9	115
120	26.9	26.5	47.0	27.4	226	33.7	43.6	26.4	386	13	1.4	37.7	16	213	32.3	43.9	26.6	370	0.32	0.83	3.8	7.8	120
125	27.0	26.7	48.3	28.0	213	33.9	44.9	26.6	389	12	1.4	38.9	15	202	32.5	45.3	26.8	374	0.31	0.81	3.7	7.6	125
130	27.2	26.9	49.5	28.6	202	34.0	46.3	26.8	392	11	1.3	40.1	15	191	32.7	46.6	27.0	377	0.30	0.79	3.5	7.5	130
135	27.3	27.1	50.7	29.2	191	34.2	47.7	27.0	394	10	1.3	41.2	14	182	32.9	48.0	27.2	380	0.29	0.77	3.4	7.3	135
140	27.4	27.2	51.9	29.8	182	34.3	49.0	27.2	396	9	1.3	42.4	14	173	33.1	49.4	27.4	383	0.28	0.75	3.3	7.2	140
145	27.5	27.3	53.1	30.4	173	34.5	50.4	27.4	399	8	1.2	43.6	14	165	33.2	50.7	27.6	385	0.27	0.74	3.1	7.0	145
150	27.7	27.5	54.3	31.0	165	34.6	51.7	27.5	400	8	1.2	44.7	13	157	33.4	52.0	27.7	387	0.27	0.72	3.0	6.9	150



**GROVE DEN, Nederland 2018**

SCOTS PINE, Netherlands 2018

**matige dunning**

moderate thinning

**Boniteit II,  $h_{70} = 20.8$**

Site Class II,  $h_{70} = 20.8$

	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning						Bijgroei				
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning						Increment				
<i>t</i>	<i>h<sub>top</sub></i>	<i>h<sub>dom</sub></i>	<i>d<sub>dom</sub></i>	<i>S%</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>h<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>h<sub>g</sub></i>	<i>V</i>	<i>lc<sub>G</sub></i>	<i>lm<sub>G</sub></i>	<i>lc<sub>V</sub></i>	<i>lm<sub>V</sub></i>	<i>t</i>	
5	1.4	1.3	0.4		5000	0.0	0.3	1.1	0					5000	0.0	0.3	1.1	0	0.20	0.01	0.2	0.0	5	
10	3.7	3.6	4.9		5000	4.9	3.5	3.0	9					5000	4.9	3.5	3.0	9	1.67	0.49	4.3	0.9	10	
15	6.2	6.0	8.7		5000	16.0	6.4	5.3	49					5000	16.0	6.4	5.3	49	2.66	1.06	11.9	3.2	15	
20	8.5	8.3	13.7	19.0	5000	27.2	8.3	7.5	116	571	1.9	6.5	8	4429	25.3	8.5	7.5	108	1.82	1.36	12.8	5.8	20	
25	10.6	10.4	16.3	19.0	4429	33.5	9.8	9.5	173	1592	7.8	7.9	39	2837	25.7	10.7	9.6	134	1.47	1.42	12.5	7.2	25	
30	12.5	12.2	18.5	19.0	2837	32.3	12.0	11.4	193	785	5.9	9.8	34	2052	26.4	12.8	11.5	159	1.15	1.40	11.0	8.0	30	
35	14.1	13.8	20.4	19.0	2052	31.6	14.0	13.0	211	445	4.6	11.5	30	1606	27.0	14.6	13.1	181	0.99	1.35	10.1	8.3	35	
40	15.5	15.2	22.2	19.0	1606	31.7	15.9	14.4	230	278	3.8	13.2	27	1328	27.9	16.4	14.5	204	0.90	1.30	9.5	8.5	40	
45	16.7	16.4	23.9	19.0	1328	32.2	17.6	15.7	249	186	3.2	14.8	24	1142	29.0	18.0	15.8	226	0.82	1.25	8.9	8.6	45	
50	17.8	17.5	25.3	19.0	1142	32.9	19.2	16.7	269	131	2.7	16.3	22	1011	30.2	19.5	16.8	247	0.76	1.20	8.4	8.6	50	
55	18.7	18.4	26.8	19.6	1011	33.8	20.6	17.7	288	151	3.8	17.9	31	860	30.0	21.1	17.8	257	0.70	1.16	7.9	8.6	55	
60	19.5	19.1	28.2	20.2	860	33.4	22.2	18.5	295	115	3.5	19.6	30	745	29.9	22.6	18.6	265	0.66	1.12	7.4	8.5	60	
65	20.2	19.8	29.6	20.8	745	33.1	23.8	19.2	301	90	3.2	21.3	28	655	29.9	24.1	19.4	273	0.61	1.08	6.9	8.4	65	
70	20.8	20.4	30.9	21.4	655	32.9	25.3	19.9	306	72	3.0	22.9	27	583	29.9	25.5	20.0	280	0.56	1.05	6.3	8.3	70	
75	21.3	21.0	32.1	22.0	583	32.5	26.7	20.5	310	59	2.8	24.6	26	524	29.8	26.9	20.6	284	0.51	1.01	5.9	8.1	75	
80	21.8	21.5	33.2	22.6	524	32.2	28.0	21.0	313	49	2.6	26.1	25	475	29.6	28.2	21.1	288	0.48	0.98	5.5	8.0	80	
85	22.2	21.9	34.3	23.2	475	31.9	29.3	21.4	315	41	2.5	27.7	24	434	29.5	29.4	21.6	291	0.45	0.95	5.1	7.8	85	
90	22.6	22.3	35.5	23.8	434	31.7	30.5	21.9	316	35	1.9	26.4	19	398	29.7	30.8	22.0	297	0.43	0.92	4.9	7.6	90	
95	23.0	22.6	36.7	24.4	398	31.8	31.9	22.3	321	31	1.8	27.6	18	368	30.0	32.2	22.4	303	0.41	0.90	4.6	7.5	95	
100	23.3	22.9	37.9	25.0	368	32.0	33.3	22.6	326	27	1.7	28.8	17	341	30.2	33.6	22.8	309	0.39	0.87	4.4	7.3	100	
105	23.6	23.2	39.1	25.6	341	32.1	34.6	22.9	330	23	1.7	30.0	16	318	30.5	34.9	23.1	314	0.37	0.85	4.2	7.2	105	
110	23.8	23.4	40.3	26.2	318	32.3	36.0	23.2	334	21	1.6	31.1	16	297	30.7	36.3	23.4	318	0.36	0.83	4.0	7.1	110	
115	24.0	23.7	41.4	26.8	297	32.4	37.3	23.5	338	19	1.5	32.3	15	278	30.9	37.6	23.7	323	0.34	0.81	3.8	6.9	115	
120	24.2	23.9	42.6	27.4	278	32.6	38.6	23.8	341	17	1.5	33.4	15	262	31.1	38.9	23.9	327	0.33	0.79	3.6	6.8	120	
125	24.4	24.1	43.7	28.0	262	32.7	39.9	24.0	344	15	1.4	34.5	14	247	31.3	40.2	24.2	330	0.32	0.77	3.5	6.7	125	
130	24.6	24.2	44.9	28.6	247	32.9	41.2	24.2	347	14	1.4	35.6	14	233	31.5	41.5	24.4	334	0.31	0.75	3.4	6.5	130	
135	24.8	24.4	46.0	29.2	233	33.0	42.5	24.4	350	12	1.3	36.7	13	221	31.7	42.8	24.6	337	0.30	0.73	3.2	6.4	135	
140	24.9	24.6	47.1	29.8	221	33.2	43.8	24.6	353	11	1.3	37.8	13	209	31.9	44.1	24.8	339	0.29	0.72	3.1	6.3	140	
145	25.1	24.8	48.2	30.4	209	33.3	45.0	24.8	355	10	1.2	38.9	13	199	32.1	45.3	25.0	342	0.28	0.70	3.0	6.2	145	
150	25.2	24.9	49.3	31.0	199	33.4	46.3	25.0	357	10	1.2	40.0	12	189	32.2	46.6	25.2	345	0.27	0.69	2.9	6.1	150	





GROVE DEN, Nederland 2018					matige dunning										Boniteit V, $h_{70} = 11.8$									
SCOTS PINE, Netherlands 2018					moderate thinning										Site Class V, $h_{70} = 11.8$									
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei					
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning					Increment					
<i>t</i>	<i>h<sub>top</sub></i>	<i>h<sub>dom</sub></i>	<i>d<sub>dom</sub></i>	<i>S%</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>h<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>h<sub>g</sub></i>	<i>V</i>	<i>lc<sub>G</sub></i>	<i>lm<sub>G</sub></i>	<i>lc<sub>V</sub></i>	<i>lm<sub>V</sub></i>	<i>t</i>	
5	0.4	0.4			5000				0					5000				0				0.0	0.0	5
10	1.2	1.1			5000				0					5000				0				0.0	0.0	10
15	2.1	1.9	1.8		5000	0.7	1.3	1.6	1					5000	0.7	1.3	1.6	1	0.30	0.05	0.4	0.1	15	
20	3.0	2.9	3.7		5000	2.8	2.7	2.5	4					5000	2.8	2.7	2.5	4	0.55	0.14	1.1	0.2	20	
25	4.0	3.9	5.4		5000	6.2	4.0	3.4	14					5000	6.2	4.0	3.4	14	0.76	0.25	2.2	0.6	25	
30	5.1	4.9	7.1		5000	10.4	5.2	4.3	26					5000	10.4	5.2	4.3	26	0.94	0.35	3.4	0.9	30	
35	6.1	5.9	8.6		5000	15.4	6.3	5.3	47					5000	15.4	6.3	5.3	47	1.06	0.44	4.7	1.3	35	
40	7.0	6.8	12.5	21.6	5000	21.0	7.3	6.2	74					5000	21.0	7.3	6.2	74	1.14	0.53	7.0	1.8	40	
45	7.9	7.7	13.8	19.1	5000	26.4	8.2	7.1	106					5000	26.4	8.2	7.1	106	1.08	0.59	6.2	2.3	45	
50	8.8	8.6	15.1	19.0	5000	31.8	9.0	7.9	138	885	3.7	7.3	15	4115	28.1	9.3	7.9	123	1.02	0.64	6.5	2.8	50	
55	9.6	9.4	16.4	19.6	4115	33.0	10.1	8.7	155	878	4.8	8.3	22	3237	28.2	10.5	8.8	133	0.93	0.67	6.3	3.1	55	
60	10.4	10.2	17.7	20.2	3237	32.7	11.3	9.5	164	624	4.4	9.5	21	2613	28.3	11.7	9.5	143	0.86	0.69	6.1	3.4	60	
65	11.1	10.9	18.9	20.8	2613	32.4	12.6	10.2	173	457	4.1	10.7	21	2156	28.3	12.9	10.3	152	0.77	0.70	5.7	3.6	65	
70	11.8	11.5	20.1	21.4	2156	31.9	13.7	10.9	179	345	3.8	11.9	21	1811	28.1	14.1	11.0	159	0.68	0.70	5.3	3.7	70	
75	12.4	12.2	21.1	22.0	1811	31.3	14.8	11.5	184	266	3.5	13.0	20	1545	27.7	15.1	11.6	164	0.59	0.69	4.8	3.8	75	
80	13.0	12.7	22.1	22.6	1545	30.5	15.9	12.1	187	210	3.3	14.1	19	1335	27.2	16.1	12.2	167	0.53	0.68	4.5	3.8	80	
85	13.6	13.3	23.0	23.2	1335	29.8	16.9	12.7	189	168	3.1	15.2	19	1167	26.7	17.1	12.8	170	0.50	0.67	4.2	3.9	85	
90	14.1	13.8	23.9	23.8	1167	29.2	17.8	13.2	191	137	2.6	15.5	16	1031	26.6	18.1	13.3	175	0.47	0.66	4.1	3.9	90	
95	14.5	14.2	24.9	24.4	1031	28.9	18.9	13.7	195	113	2.4	16.4	15	918	26.5	19.2	13.8	179	0.45	0.65	3.9	3.9	95	
100	15.0	14.7	25.9	25.0	918	28.7	19.9	14.2	198	94	2.2	17.3	15	823	26.5	20.2	14.3	184	0.42	0.64	3.7	3.9	100	
105	15.4	15.1	26.8	25.6	823	28.5	21.0	14.6	202	80	2.1	18.2	14	744	26.5	21.3	14.8	188	0.40	0.63	3.6	3.9	105	
110	15.8	15.5	27.8	26.2	744	28.4	22.1	15.1	205	68	1.9	19.1	14	676	26.5	22.3	15.2	192	0.39	0.62	3.4	3.9	110	
115	16.1	15.8	28.7	26.8	676	28.4	23.1	15.5	209	58	1.8	20.0	13	617	26.5	23.4	15.6	196	0.37	0.61	3.3	3.8	115	
120	16.5	16.2	29.6	27.4	617	28.4	24.2	15.8	212	51	1.7	20.9	13	567	26.6	24.5	15.9	199	0.36	0.60	3.2	3.8	120	
125	16.8	16.5	30.6	28.0	567	28.4	25.2	16.2	215	44	1.7	21.8	12	522	26.7	25.5	16.3	203	0.34	0.59	3.1	3.8	125	
130	17.1	16.8	31.5	28.6	522	28.4	26.3	16.5	218	39	1.6	22.8	12	483	26.8	26.6	16.6	206	0.33	0.58	3.0	3.8	130	
135	17.4	17.0	32.4	29.2	483	28.4	27.3	16.8	221	34	1.5	23.7	11	449	26.9	27.6	17.0	210	0.32	0.57	2.9	3.7	135	
140	17.6	17.3	33.3	29.8	449	28.4	28.4	17.1	224	31	1.5	24.6	11	418	27.0	28.7	17.3	213	0.31	0.56	2.8	3.7	140	
145	17.9	17.5	34.2	30.4	418	28.5	29.4	17.4	227	27	1.4	25.5	11	391	27.1	29.7	17.5	216	0.30	0.55	2.7	3.7	145	
150	18.1	17.8	35.1	31.0	391	28.6	30.5	17.7	229	25	1.3	26.4	10	367	27.2	30.7	17.8	219	0.29	0.54	2.6	3.6	150	



**GROVE DEN, Nederland 2018**

SCOTS PINE, Netherlands 2018

**sterke dunning**

heavy thinning

**Boniteit I,  $h_{70} = 23.8$**

Site Class I,  $h_{70} = 23.8$

<i>t</i>	Opstandkenmerken Stand characteristics				Kenmerken voor dunning Characteristics before thinning					Dunning Thinning				Kenmerken na dunning Characteristics after thinning					Bijgroei Increment				<i>t</i>
	<i>h<sub>top</sub></i>	<i>h<sub>dom</sub></i>	<i>d<sub>dom</sub></i>	<i>S%</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>h<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>h<sub>g</sub></i>	<i>V</i>	<i>lc<sub>G</sub></i>	<i>lm<sub>G</sub></i>	<i>lc<sub>V</sub></i>	<i>lm<sub>V</sub></i>	
5	2.0	1.9	1.7		5000	0.6	1.3	1.6	1					5000	0.6	1.3	1.6	1	0.83	0.12	1.1	0.1	5
10	5.1	4.9	7.1		5000	10.5	5.2	4.3	26					5000	10.5	5.2	4.3	26	2.96	1.05	10.7	2.6	10
15	8.2	8.0	13.4	22.0	5000	25.1	8.0	7.2	104	1458	4.8	6.5	19	3542	20.2	8.5	7.2	85	2.02	1.67	15.6	6.9	15
20	11.0	10.8	16.6	22.0	3542	29.0	10.2	9.9	156	1583	9.0	8.5	47	1958	20.0	11.4	10.0	110	1.53	1.69	13.7	8.8	20
25	13.5	13.2	19.5	22.0	1958	26.6	13.2	12.3	172	645	6.1	11.0	38	1314	20.5	14.1	12.4	134	1.14	1.62	11.7	9.5	25
30	15.5	15.2	22.0	22.0	1314	25.8	15.8	14.4	189	325	4.6	13.3	32	988	21.2	16.5	14.5	157	0.99	1.52	10.8	9.8	30
35	17.3	16.9	24.3	22.0	988	25.9	18.3	16.1	209	188	3.6	15.6	28	800	22.3	18.8	16.2	181	0.87	1.44	10.0	9.9	35
40	18.7	18.4	26.3	22.0	800	26.4	20.5	17.6	229	119	2.9	17.7	24	681	23.5	21.0	17.7	204	0.79	1.36	9.3	9.8	40
45	19.9	19.6	28.2	22.0	681	27.3	22.6	18.8	249	81	2.5	19.7	22	601	24.8	22.9	19.0	227	0.72	1.30	8.6	9.7	45
50	21.0	20.6	30.0	22.0	601	28.3	24.5	19.9	269	58	2.1	21.6	19	543	26.2	24.8	20.0	250	0.66	1.23	8.1	9.6	50
55	21.8	21.5	31.6	22.6	543	29.4	26.2	20.8	289	69	3.0	23.5	28	474	26.4	26.6	21.0	261	0.61	1.18	7.5	9.4	55
60	22.6	22.2	33.2	23.2	474	29.3	28.0	21.6	297	54	2.7	25.5	27	420	26.5	28.4	21.7	270	0.56	1.13	6.9	9.2	60
65	23.2	22.9	34.7	23.8	420	29.3	29.8	22.3	303	43	2.5	27.5	25	378	26.7	30.0	22.4	278	0.52	1.09	6.4	9.1	65
70	23.8	23.4	36.1	24.4	378	29.2	31.4	22.9	309	35	2.4	29.4	24	342	26.9	31.6	23.0	285	0.49	1.04	6.0	8.8	70
75	24.3	23.9	37.4	25.0	342	29.2	33.0	23.4	314	29	2.2	31.2	23	313	27.0	33.1	23.6	291	0.46	1.01	5.6	8.6	75
80	24.7	24.3	38.7	25.6	313	29.2	34.5	23.9	318	25	2.1	33.1	22	288	27.1	34.6	24.1	296	0.43	0.97	5.3	8.4	80
85	25.1	24.7	39.9	26.2	288	29.2	35.9	24.3	321	21	2.0	34.9	22	267	27.1	36.0	24.5	300	0.41	0.94	5.0	8.3	85
90	25.4	25.0	41.4	26.8	267	29.2	37.3	24.7	324	19	1.5	32.3	16	248	27.6	37.6	24.9	308	0.39	0.91	4.7	8.1	90
95	25.7	25.4	42.8	27.4	248	29.5	38.9	25.0	331	16	1.4	33.7	16	232	28.1	39.3	25.2	316	0.37	0.88	4.5	7.9	95
100	26.0	25.7	44.2	28.0	232	29.9	40.5	25.4	338	14	1.4	35.0	15	218	28.5	40.8	25.6	322	0.36	0.86	4.3	7.7	100
105	26.3	25.9	45.6	28.6	218	30.3	42.1	25.7	343	13	1.3	36.4	15	205	28.9	42.4	25.8	329	0.34	0.83	4.1	7.5	105
110	26.5	26.2	47.0	29.2	205	30.6	43.6	25.9	349	12	1.3	37.7	14	193	29.3	43.9	26.1	335	0.33	0.81	3.9	7.4	110
115	26.7	26.4	48.3	29.8	193	30.9	45.1	26.2	354	10	1.3	39.0	14	183	29.7	45.5	26.4	340	0.32	0.79	3.8	7.2	115
120	26.9	26.6	49.7	30.4	183	31.2	46.6	26.4	359	9	1.2	40.3	13	173	30.0	47.0	26.6	345	0.31	0.77	3.6	7.1	120
125	27.0	26.8	51.0	31.0	173	31.5	48.1	26.6	363	9	1.2	41.6	13	165	30.4	48.4	26.8	350	0.30	0.75	3.5	6.9	125
130	27.2	27.0	52.3	31.6	165	31.8	49.6	26.8	367	8	1.1	42.9	13	157	30.7	49.9	27.0	354	0.29	0.73	3.3	6.8	130
135	27.3	27.2	53.6	32.2	157	32.1	51.0	27.0	371	7	1.1	44.1	12	149	30.9	51.3	27.2	358	0.28	0.71	3.2	6.7	135
140	27.4	27.3	54.9	32.8	149	32.3	52.5	27.2	374	7	1.1	45.4	12	143	31.2	52.8	27.4	362	0.27	0.70	3.1	6.5	140
145	27.5	27.4	56.2	33.4	143	32.5	53.9	27.4	377	6	1.1	46.6	12	136	31.5	54.2	27.6	365	0.26	0.68	3.0	6.4	145
150	27.7	27.6	57.5	34.0	136	32.8	55.3	27.5	380	6	1.0	47.8	12	131	31.7	55.6	27.7	368	0.25	0.67	2.9	6.3	150

**GROVE DEN, Nederland 2018**

SCOTS PINE, Netherlands 2018

**sterke dunning**

heavy thinning

**Boniteit II,  $h_{70} = 20.8$**

Site Class II,  $h_{70} = 20.8$

<i>t</i>	Opstandkenmerken Stand characteristics				Kenmerken voor dunning Characteristics before thinning					Dunning Thinning				Kenmerken na dunning Characteristics after thinning					Bijgroei Increment				<i>t</i>
	<i>h<sub>top</sub></i>	<i>h<sub>dom</sub></i>	<i>d<sub>dom</sub></i>	<i>S%</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>h<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>h<sub>g</sub></i>	<i>V</i>	<i>lc<sub>G</sub></i>	<i>lm<sub>G</sub></i>	<i>lc<sub>V</sub></i>	<i>lm<sub>V</sub></i>	
5	1.4	1.3	0.4		5000	0.0	0.3	1.1	0					5000	0.0	0.3	1.1	0	0.20	0.01	0.2	0.0	5
10	3.7	3.6	4.9		5000	4.9	3.5	3.0	9					5000	4.9	3.5	3.0	9	1.67	0.49	4.3	0.9	10
15	6.2	6.0	8.7		5000	16.0	6.4	5.3	49					5000	16.0	6.4	5.3	49	2.66	1.06	11.9	3.2	15
20	8.5	8.3	13.9	22.0	5000	26.6	8.2	7.5	114	1697	5.9	6.7	24	3303	20.7	8.9	7.5	89	1.65	1.33	11.6	5.7	20
25	10.6	10.4	16.6	22.0	3303	28.1	10.4	9.5	146	1187	6.8	8.6	34	2116	21.3	11.3	9.6	112	1.33	1.36	11.0	6.8	25
30	12.5	12.2	19.0	22.0	2116	27.2	12.8	11.4	164	586	5.2	10.6	30	1530	22.0	13.5	11.5	134	1.04	1.33	9.8	7.4	30
35	14.1	13.8	21.1	22.0	1530	26.8	14.9	13.0	180	332	4.1	12.5	26	1198	22.7	15.5	13.1	154	0.90	1.28	9.0	7.7	35
40	15.5	15.2	23.0	22.0	1198	27.0	16.9	14.4	197	207	3.4	14.4	24	991	23.6	17.4	14.5	174	0.81	1.23	8.5	7.8	40
45	16.7	16.4	24.7	22.0	991	27.5	18.8	15.7	214	139	2.8	16.1	21	852	24.7	19.2	15.8	193	0.74	1.18	8.0	7.9	45
50	17.8	17.5	26.4	22.0	852	28.2	20.5	16.7	232	98	2.4	17.8	19	754	25.8	20.9	16.8	213	0.68	1.13	7.5	7.8	50
55	18.7	18.4	27.9	22.6	754	29.1	22.2	17.7	249	108	3.2	19.6	27	647	25.8	22.6	17.8	222	0.63	1.09	7.0	7.8	55
60	19.5	19.1	29.4	23.2	647	28.9	23.8	18.5	256	82	2.9	21.3	25	565	25.9	24.2	18.6	231	0.58	1.05	6.5	7.7	60
65	20.2	19.8	30.8	23.8	565	28.7	25.4	19.2	263	64	2.7	23.1	24	500	26.0	25.7	19.4	239	0.54	1.01	6.1	7.6	65
70	20.8	20.4	32.1	24.4	500	28.6	27.0	19.9	268	52	2.5	24.8	23	448	26.1	27.2	20.0	245	0.50	0.97	5.7	7.5	70
75	21.3	21.0	33.4	25.0	448	28.5	28.5	20.5	273	43	2.4	26.6	22	406	26.1	28.6	20.6	251	0.47	0.94	5.3	7.3	75
80	21.8	21.5	34.6	25.6	406	28.4	29.9	21.0	277	36	2.2	28.2	21	370	26.2	30.0	21.1	256	0.44	0.91	5.0	7.2	80
85	22.2	21.9	35.8	26.2	370	28.4	31.2	21.4	281	30	2.1	29.9	20	340	26.2	31.3	21.6	260	0.42	0.88	4.8	7.1	85
90	22.6	22.3	37.1	26.8	340	28.3	32.5	21.9	284	26	1.6	28.2	16	314	26.7	32.9	22.0	268	0.40	0.86	4.5	6.9	90
95	23.0	22.6	38.4	27.4	314	28.6	34.1	22.3	290	22	1.5	29.5	15	292	27.1	34.4	22.4	275	0.38	0.83	4.3	6.8	95
100	23.3	22.9	39.8	28.0	292	28.9	35.5	22.6	296	20	1.5	30.8	14	272	27.5	35.9	22.8	282	0.36	0.81	4.1	6.7	100
105	23.6	23.2	41.0	28.6	272	29.3	37.0	22.9	302	17	1.4	32.0	14	254	27.9	37.3	23.1	288	0.35	0.79	3.9	6.5	105
110	23.8	23.4	42.3	29.2	254	29.6	38.5	23.2	307	16	1.3	33.3	13	239	28.2	38.8	23.4	294	0.33	0.77	3.8	6.4	110
115	24.0	23.7	43.6	29.8	239	29.9	39.9	23.5	312	14	1.3	34.5	13	225	28.6	40.2	23.7	299	0.32	0.75	3.6	6.3	115
120	24.2	23.9	44.8	30.4	225	30.1	41.3	23.8	316	13	1.3	35.7	13	213	28.9	41.6	23.9	304	0.31	0.73	3.5	6.2	120
125	24.4	24.2	46.0	31.0	213	30.4	42.7	24.0	321	11	1.2	36.9	12	201	29.2	43.0	24.2	308	0.30	0.71	3.3	6.1	125
130	24.6	24.4	47.2	31.6	201	30.7	44.0	24.2	325	10	1.2	38.1	12	191	29.5	44.3	24.4	313	0.29	0.70	3.2	6.0	130
135	24.8	24.5	48.4	32.2	191	30.9	45.4	24.4	328	9	1.1	39.3	12	181	29.8	45.7	24.6	317	0.28	0.68	3.1	5.9	135
140	24.9	24.7	49.6	32.8	181	31.1	46.8	24.6	332	9	1.1	40.4	11	173	30.0	47.0	24.8	320	0.27	0.67	3.0	5.8	140
145	25.1	24.9	50.8	33.4	173	31.4	48.1	24.8	335	8	1.1	41.6	11	165	30.3	48.4	25.0	324	0.26	0.65	2.9	5.7	145
150	25.2	25.0	52.0	34.0	165	31.6	49.4	25.0	338	7	1.1	42.7	11	157	30.5	49.7	25.2	327	0.26	0.64	2.8	5.6	150







**GROVE DEN, Nederland 2018**

SCOTS PINE, Netherlands 2018

**sterke dunning**

heavy thinning

**Boniteit V,  $h_{70} = 11.8$**

Site Class V,  $h_{70} = 11.8$

<i>t</i>	Opstandkenmerken Stand characteristics				Kenmerken voor dunning Characteristics before thinning					Dunning Thinning				Kenmerken na dunning Characteristics after thinning					Bijgroei Increment				<i>t</i>
	<i>h<sub>top</sub></i>	<i>h<sub>dom</sub></i>	<i>d<sub>dom</sub></i>	<i>S%</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>h<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>h<sub>g</sub></i>	<i>V</i>	<i>lc<sub>G</sub></i>	<i>lm<sub>G</sub></i>	<i>lc<sub>V</sub></i>	<i>lm<sub>V</sub></i>	
5	0.4	0.4			5000				0					5000				0			0.0	0.0	5
10	1.2	1.1			5000				0					5000				0			0.0	0.0	10
15	2.1	1.9	1.8		5000	0.7	1.3	1.6	1					5000	0.7	1.3	1.6	1	0.30	0.05	0.4	0.1	15
20	3.0	2.9	3.7		5000	2.8	2.7	2.5	4					5000	2.8	2.7	2.5	4	0.55	0.14	1.1	0.2	20
25	4.0	3.9	5.4		5000	6.2	4.0	3.4	14					5000	6.2	4.0	3.4	14	0.76	0.25	2.2	0.6	25
30	5.1	4.9	7.1		5000	10.4	5.2	4.3	26					5000	10.4	5.2	4.3	26	0.94	0.35	3.4	0.9	30
35	6.1	5.9	8.6		5000	15.4	6.3	5.3	47					5000	15.4	6.3	5.3	47	1.06	0.44	4.7	1.3	35
40	7.0	6.8	12.4	21.6	5000	21.0	7.3	6.2	74					5000	21.0	7.3	6.2	74	1.13	0.53	6.9	1.8	40
45	7.9	7.7	14.0	22.0	5000	26.3	8.2	7.0	105	1221	4.3	6.7	16	3779	22.1	8.6	7.1	89	1.01	0.59	5.9	2.3	45
50	8.8	8.6	15.4	22.0	3779	26.9	9.5	7.9	118	710	3.4	7.8	14	3069	23.5	9.9	7.9	103	0.92	0.62	5.8	2.7	50
55	9.6	9.4	16.8	22.6	3069	27.9	10.8	8.7	132	635	4.1	9.0	18	2434	23.8	11.2	8.8	113	0.84	0.65	5.6	3.0	55
60	10.4	10.2	18.1	23.2	2434	27.8	12.1	9.5	141	453	3.8	10.3	18	1981	24.0	12.4	9.5	122	0.75	0.66	5.3	3.2	60
65	11.1	10.9	19.4	23.8	1981	27.6	13.3	10.2	148	334	3.5	11.5	18	1647	24.1	13.7	10.3	130	0.68	0.66	5.0	3.3	65
70	11.8	11.5	20.5	24.4	1647	27.3	14.5	10.9	155	254	3.2	12.8	18	1393	24.1	14.8	11.0	137	0.61	0.66	4.7	3.4	70
75	12.4	12.2	21.6	25.0	1393	27.0	15.7	11.5	160	197	3.0	14.0	17	1196	24.0	16.0	11.6	142	0.54	0.66	4.3	3.5	75
80	13.0	12.7	22.6	25.6	1196	26.5	16.8	12.1	163	156	2.8	15.2	17	1041	23.7	17.0	12.2	146	0.49	0.65	4.1	3.5	80
85	13.6	13.3	23.6	26.2	1041	26.1	17.9	12.7	166	125	2.6	16.4	16	915	23.4	18.1	12.8	150	0.46	0.64	3.9	3.6	85
90	14.1	13.8	24.7	26.8	915	25.7	18.9	13.2	169	103	2.2	16.4	14	813	23.5	19.2	13.3	155	0.44	0.63	3.7	3.6	90
95	14.5	14.2	25.7	27.4	813	25.7	20.1	13.7	174	85	2.0	17.4	13	728	23.7	20.3	13.8	161	0.42	0.62	3.6	3.6	95
100	15.0	14.7	26.7	28.0	728	25.7	21.2	14.2	178	71	1.9	18.4	13	656	23.8	21.5	14.3	166	0.40	0.61	3.5	3.6	100
105	15.4	15.1	27.8	28.6	656	25.7	22.3	14.6	183	61	1.8	19.4	12	596	24.0	22.6	14.8	171	0.38	0.60	3.4	3.6	105
110	15.8	15.5	28.8	29.2	596	25.8	23.5	15.1	187	52	1.7	20.3	12	544	24.1	23.8	15.2	175	0.36	0.59	3.2	3.6	110
115	16.1	15.8	29.8	29.8	544	25.9	24.6	15.5	191	45	1.6	21.3	11	499	24.3	24.9	15.6	180	0.35	0.58	3.1	3.5	115
120	16.5	16.2	30.8	30.4	499	26.0	25.8	15.8	195	39	1.5	22.3	11	460	24.5	26.0	15.9	184	0.34	0.57	3.0	3.5	120
125	16.8	16.5	31.8	31.0	460	26.2	26.9	16.2	199	34	1.5	23.3	11	426	24.7	27.2	16.3	188	0.32	0.56	2.9	3.5	125
130	17.1	16.8	32.8	31.6	426	26.3	28.0	16.5	203	30	1.4	24.3	10	396	24.9	28.3	16.6	193	0.31	0.55	2.8	3.5	130
135	17.4	17.0	33.8	32.2	396	26.4	29.2	16.8	206	27	1.3	25.2	10	369	25.1	29.4	17.0	196	0.30	0.54	2.7	3.5	135
140	17.6	17.3	34.7	32.8	369	26.6	30.3	17.1	210	24	1.3	26.2	10	345	25.3	30.5	17.3	200	0.29	0.53	2.7	3.4	140
145	17.9	17.5	35.7	33.4	345	26.7	31.4	17.4	213	21	1.2	27.1	10	324	25.5	31.6	17.5	204	0.28	0.52	2.6	3.4	145
150	18.1	17.8	36.7	34.0	324	26.9	32.5	17.7	216	19	1.2	28.1	9	305	25.7	32.8	17.8	207	0.27	0.51	2.5	3.4	150

## Corsicaanse den (*Pinus nigra* subsp. *laricio*) Corsican pine

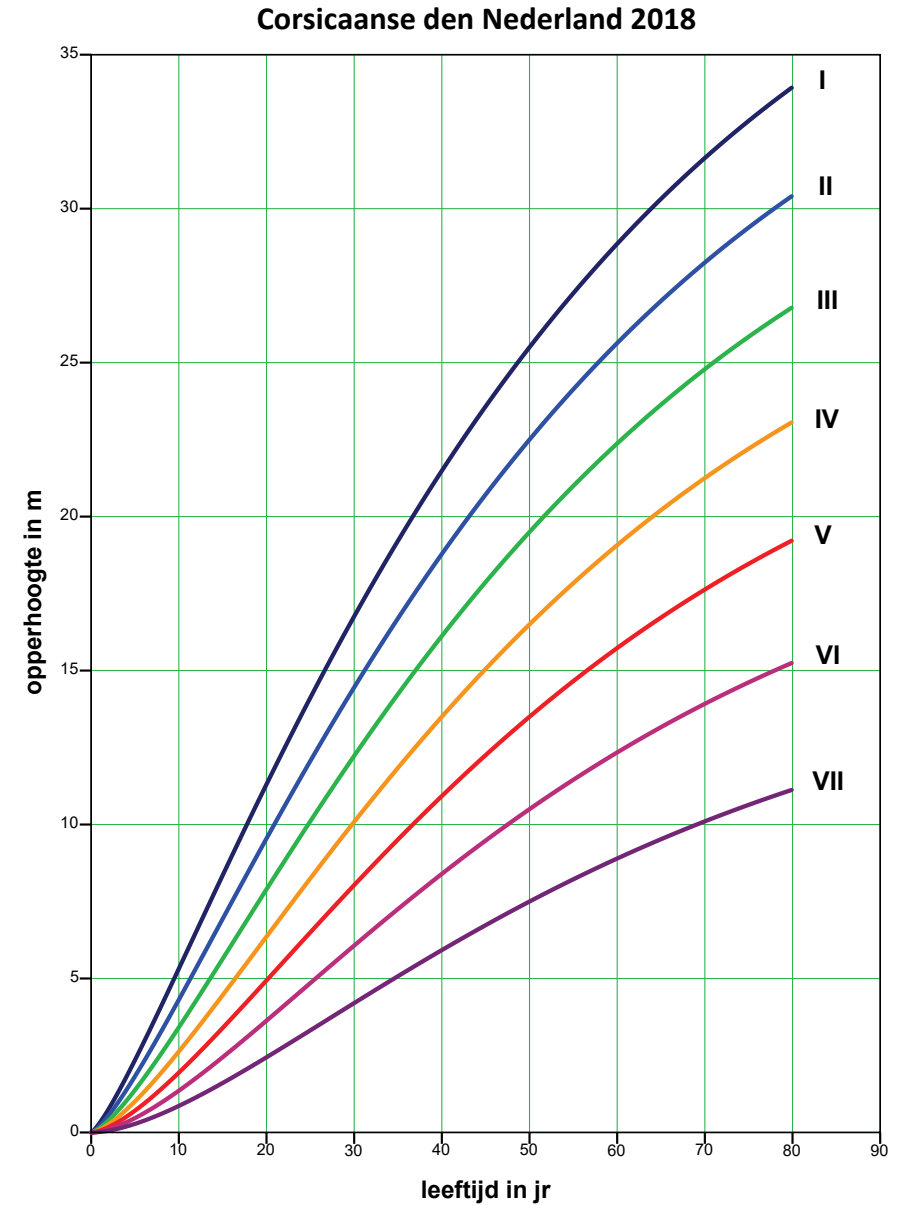
Jansen, J.J., A. Oosterbaan, G.M.J. Mohren en J. den Ouden

**Bron:** Jansen, J.J., A. Oosterbaan, G.M.J. Mohren en J. den Ouden, 2018. *Groei en productie van Corsicaanse den in Nederland*. FEM Groei en Productie Rapport 2018 – 6, 109 blz.

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<https://doi.org/10.18174/444095>

**N.B. In het Binnenland is de range van boniteiten voornamelijk I tot en met V. In het Kustgebied betreft dat de boniteiten III tot en met VII!**



CORSICAANSE DEN, Nederland 2018										matige dunning						Boniteit I, $h_{50} = 25.5$							
CORSICAN PINE, Netherlands 2018										moderate thinning						Site Class I, $h_{50} = 25.5$							
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	2.4	2.1	3.0		5000	1.6	2.0	1.9	3					5000	1.6	2.0	1.9	3	0.84	0.32	2.0	0.5	5
10	5.3	5.0	8.3		5000	12.3	5.6	4.3	39					5000	12.3	5.6	4.3	39	3.82	1.24	15.2	3.9	10
15	8.4	8.1	13.9	19.0	5000	31.4	8.9	6.9	134	414	1.6	7.1	7	4586	29.8	9.1	7.0	127	2.48	2.10	19.2	8.9	15
20	11.3	11.0	18.5	19.0	4586	41.1	10.7	9.7	232	2084	12.4	8.7	69	2502	28.7	12.1	9.8	163	2.09	2.14	21.0	11.9	20
25	14.1	13.9	22.3	19.0	2502	38.5	14.0	12.4	267	898	9.1	11.4	62	1605	29.4	15.3	12.5	205	1.84	2.10	21.1	13.7	25
30	16.8	16.5	26.0	19.0	1605	38.1	17.4	15.0	310	466	7.3	14.1	58	1139	30.8	18.6	15.1	252	1.66	2.04	21.3	14.9	30
35	19.2	19.0	29.6	19.0	1139	38.8	20.8	17.3	358	273	6.1	16.9	56	866	32.6	21.9	17.5	302	1.52	1.98	21.4	15.8	35
40	21.5	21.2	33.4	19.7	866	39.9	24.2	19.5	409	224	6.9	19.8	70	642	33.0	25.6	19.7	339	1.41	1.91	21.3	16.5	40
45	23.6	23.3	37.1	20.5	642	39.8	28.1	21.5	445	146	6.2	23.2	68	496	33.6	29.4	21.7	377	1.31	1.85	21.0	17.0	45
50	25.5	25.2	40.7	21.2	496	40.0	32.0	23.3	481	101	5.6	26.6	66	396	34.4	33.3	23.5	415	1.24	1.79	20.7	17.4	50
55	27.3	27.0	44.4	21.9	396	40.4	36.1	25.0	517	72	5.1	30.1	65	324	35.3	37.3	25.2	452	1.17	1.74	20.3	17.7	55
60	28.9	28.6	47.9	22.6	324	41.0	40.2	26.5	553	53	4.8	33.8	63	270	36.2	41.3	26.7	489	1.11	1.69	19.9	17.9	60
65	30.3	30.1	51.5	23.4	270	41.6	44.3	27.8	587	40	4.5	37.5	62	230	37.2	45.4	28.1	525	1.05	1.64	19.4	18.0	65
70	31.6	31.4	54.9	24.1	230	42.3	48.4	29.1	621	31	4.2	41.2	61	198	38.1	49.4	29.3	560	1.00	1.60	18.8	18.1	70
75	32.9	32.6	58.4	24.8	198	42.9	52.5	30.2	652	25	4.0	45.0	60	173	39.0	53.5	30.5	593	0.95	1.56	18.2	18.1	75
80	33.9	33.7	61.7	25.6	173	43.6	56.6	31.2	682	20	3.8	48.8	58	153	39.8	57.5	31.5	624	0.90	1.52	17.6	18.1	80





CORSICAANSE DEN, Nederland 2018										matige dunning						Boniteit III, $h_{50} = 19.5$							
CORSICAN PINE, Netherlands 2018										moderate thinning						Site Class III, $h_{50} = 19.5$							
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	1.4	1.2	1.9		5000	0.6	1.3	1.1	1					5000	0.6	1.3	1.1	1	0.47	0.13	0.6	0.1	5
10	3.4	3.1	4.7		5000	4.0	3.2	2.7	9					5000	4.0	3.2	2.7	9	1.28	0.40	3.8	0.9	10
15	5.6	5.4	9.2		5000	15.1	6.2	4.5	49					5000	15.1	6.2	4.5	49	3.25	1.00	13.7	3.3	15
20	7.9	7.6	13.4	19.2	5000	31.1	8.9	6.6	126					5000	31.1	8.9	6.6	126	2.16	1.56	11.0	6.3	20
25	10.1	9.8	16.8	19.0	5000	41.2	10.2	8.6	209	1869	10.2	8.3	51	3131	31.0	11.2	8.7	158	1.89	1.65	16.8	8.4	25
30	12.2	12.0	19.8	19.0	3131	39.9	12.7	10.7	242	992	8.4	10.4	50	2138	31.6	13.7	10.8	192	1.69	1.67	17.0	9.8	30
35	14.2	14.0	22.8	19.0	2138	39.6	15.4	12.7	277	561	6.9	12.5	47	1578	32.8	16.3	12.8	230	1.54	1.66	17.1	10.8	35
40	16.1	15.9	25.9	19.7	1578	40.2	18.0	14.5	315	436	7.5	14.8	58	1141	32.7	19.1	14.7	257	1.43	1.64	17.1	11.6	40
45	17.9	17.6	29.1	20.5	1141	39.6	21.0	16.2	342	278	6.6	17.3	56	863	33.0	22.1	16.4	286	1.33	1.61	16.9	12.2	45
50	19.5	19.2	32.2	21.2	863	39.5	24.1	17.9	370	187	5.9	20.0	54	676	33.6	25.1	18.0	315	1.25	1.58	16.7	12.6	50
55	21.0	20.7	35.4	21.9	676	39.7	27.3	19.3	398	131	5.4	22.8	53	545	34.3	28.3	19.5	345	1.18	1.55	16.4	13.0	55
60	22.4	22.1	38.4	22.6	545	40.1	30.6	20.7	426	95	5.0	25.7	52	450	35.1	31.5	20.9	374	1.12	1.51	16.2	13.3	60
65	23.6	23.4	41.5	23.4	450	40.6	33.9	22.0	454	71	4.6	28.7	51	378	35.9	34.8	22.2	403	1.06	1.48	15.8	13.5	65
70	24.8	24.5	44.4	24.1	378	41.1	37.2	23.1	481	55	4.3	31.7	50	323	36.8	38.1	23.3	431	1.01	1.45	15.4	13.6	70
75	25.8	25.6	47.3	24.8	323	41.7	40.5	24.2	507	43	4.1	34.7	49	280	37.6	41.3	24.4	458	0.95	1.42	14.9	13.7	75
80	26.8	26.6	50.2	25.6	280	42.2	43.8	25.1	531	34	3.9	37.8	48	246	38.4	44.6	25.4	483	0.91	1.39	14.5	13.8	80

CORSICAANSE DEN, Nederland 2018										matige dunning										Boniteit IV, $h_{50} = 16.5$					
CORSICAN PINE, Netherlands 2018										moderate thinning										Site Class IV, $h_{50} = 16.5$					
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei						
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning					Increment						
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$		
5	1.0	0.9			5000				0					5000				0			0.3	0.0	5		
10	2.6	2.3	3.5		5000	2.2	2.4	2.1	4					5000	2.2	2.4	2.1	4	0.66	0.22	1.7	0.4	10		
15	4.5	4.2	6.8		5000	8.2	4.6	3.6	22					5000	8.2	4.6	3.6	22	1.86	0.55	6.5	1.5	15		
20	6.4	6.1	10.9		5000	21.3	7.4	5.2	77					5000	21.3	7.4	5.2	77	3.37	1.07	16.1	3.8	20		
25	8.3	8.0	14.1	19.0	5000	34.0	9.3	6.9	143	302	1.3	7.4	5	4698	32.7	9.4	7.0	138	1.92	1.36	13.9	5.7	25		
30	10.1	9.8	16.9	19.0	4698	41.8	10.6	8.7	212	1555	9.1	8.7	46	3143	32.6	11.5	8.7	166	1.72	1.44	14.8	7.2	30		
35	11.8	11.6	19.4	19.0	3143	40.8	12.9	10.4	240	862	7.4	10.5	43	2281	33.4	13.7	10.5	197	1.56	1.47	14.9	8.3	35		
40	13.5	13.2	22.2	19.7	2281	40.9	15.1	12.0	272	653	7.9	12.4	52	1627	33.0	16.1	12.1	220	1.44	1.47	14.9	9.2	40		
45	15.1	14.8	25.0	20.5	1627	40.0	17.7	13.6	294	410	6.9	14.6	50	1217	33.1	18.6	13.7	244	1.34	1.46	14.7	9.8	45		
50	16.5	16.2	27.8	21.2	1217	39.6	20.4	15.0	318	273	6.1	16.9	48	945	33.5	21.2	15.2	269	1.26	1.44	14.6	10.3	50		
55	17.8	17.6	30.6	21.9	945	39.6	23.1	16.4	341	189	5.6	19.3	47	755	34.1	24.0	16.5	294	1.19	1.42	14.4	10.6	55		
60	19.1	18.8	33.4	22.6	755	39.9	25.9	17.6	366	137	5.1	21.8	46	619	34.8	26.8	17.8	320	1.13	1.40	14.2	11.0	60		
65	20.2	20.0	36.2	23.4	619	40.3	28.8	18.8	390	101	4.7	24.4	45	517	35.5	29.6	18.9	345	1.07	1.38	13.9	11.2	65		
70	21.3	21.0	38.9	24.1	517	40.7	31.7	19.8	413	77	4.4	27.0	44	440	36.3	32.4	20.0	369	1.01	1.36	13.5	11.4	70		
75	22.2	22.0	41.5	24.8	440	41.2	34.5	20.8	435	60	4.2	29.6	43	380	37.1	35.3	21.0	392	0.96	1.33	13.1	11.5	75		
80	23.1	22.8	44.1	25.6	380	41.8	37.4	21.7	457	48	3.9	32.3	42	332	37.8	38.1	21.9	414	0.91	1.31	12.8	11.6	80		

CORSICAANSE DEN, Nederland 2018										matige dunning										Boniteit V, $h_{50} = 13.5$					
CORSICAN PINE, Netherlands 2018										moderate thinning										Site Class V, $h_{50} = 13.5$					
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei						
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning					Increment						
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$		
5	0.7	0.6			5000				0					5000				0			0.0	0.0	5		
10	1.9	1.7	2.6		5000	1.2	1.7	1.6	2					5000	1.2	1.7	1.6	2	0.33	0.12	0.7	0.2	10		
15	3.4	3.1	4.8		5000	4.1	3.3	2.7	9					5000	4.1	3.3	2.7	9	0.93	0.28	2.7	0.6	15		
20	4.9	4.7	7.9		5000	11.1	5.3	4.0	33					5000	11.1	5.3	4.0	33	1.90	0.56	7.1	1.6	20		
25	6.5	6.2	11.4		5000	23.3	7.7	5.3	86					5000	23.3	7.7	5.3	86	2.92	0.93	14.3	3.4	25		
30	8.0	7.8	13.9	19.0	5000	34.4	9.4	6.7	141	44	0.2	7.5	1	4956	34.2	9.4	6.8	141	1.75	1.15	12.0	4.7	30		
35	9.5	9.2	16.2	19.0	4956	42.5	10.5	8.2	204	1423	8.1	8.5	38	3533	34.5	11.1	8.2	166	1.59	1.22	12.8	5.9	35		
40	10.9	10.7	18.8	19.7	3533	42.1	12.3	9.6	230	1048	8.4	10.1	45	2485	33.7	13.1	9.6	184	1.46	1.26	12.7	6.7	40		
45	12.3	12.0	20.8	20.5	2485	40.7	14.4	10.9	247	649	7.2	11.9	43	1837	33.5	15.2	11.0	204	1.36	1.28	12.6	7.4	45		
50	13.5	13.2	23.3	21.2	1837	40.1	16.7	12.1	266	426	6.4	13.8	42	1411	33.6	17.4	12.2	224	1.28	1.28	12.4	7.9	50		
55	14.7	14.4	25.7	21.9	1411	39.8	19.0	13.3	286	293	5.8	15.9	41	1119	34.1	19.7	13.4	245	1.20	1.28	12.3	8.3	55		
60	15.7	15.5	28.2	22.6	1119	39.9	21.3	14.4	306	209	5.3	17.9	40	910	34.6	22.0	14.5	266	1.14	1.27	12.1	8.6	60		
65	16.7	16.5	30.6	23.4	910	40.2	23.7	15.4	326	154	4.9	20.1	39	756	35.3	24.4	15.6	287	1.08	1.26	11.9	8.9	65		
70	17.6	17.4	33.0	24.1	756	40.5	26.1	16.4	345	117	4.5	22.3	38	639	36.0	26.8	16.5	307	1.02	1.24	11.6	9.1	70		
75	18.5	18.2	35.3	24.8	639	41.0	28.6	17.3	364	90	4.3	24.5	37	549	36.7	29.2	17.4	327	0.97	1.22	11.3	9.2	75		
80	19.2	19.0	37.6	25.6	549	41.4	31.0	18.1	382	71	4.0	26.8	36	478	37.4	31.6	18.3	346	0.92	1.21	10.9	9.3	80		



CORSICAANSE DEN, Nederland 2018										matige dunning							Boniteit VII, $h_{50} = 7.5$						
CORSICAN PINE, Netherlands 2018										moderate thinning							Site Class VII, $h_{50} = 7.5$						
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	0.3	0.2			5000				0					5000				0			0.0	0.0	5
10	0.9	0.7			5000				0					5000				0			0.0	0.0	10
15	1.6	1.4	2.3		5000	0.9	1.5	1.3	1					5000	0.9	1.5	1.3	1	0.16	0.06	0.3	0.1	15
20	2.4	2.1	3.4		5000	2.1	2.3	2.0	4					5000	2.1	2.3	2.0	4	0.32	0.11	0.8	0.2	20
25	3.3	3.0	4.9		5000	4.3	3.3	2.7	9					5000	4.3	3.3	2.7	9	0.58	0.17	1.6	0.4	25
30	4.2	3.9	6.7		5000	8.0	4.5	3.4	21					5000	8.0	4.5	3.4	21	0.89	0.27	3.0	0.7	30
35	5.1	4.8	8.6		5000	13.2	5.8	4.1	40					5000	13.2	5.8	4.1	40	1.22	0.38	4.7	1.1	35
40	5.9	5.6	10.6		5000	20.1	7.1	4.9	69					5000	20.1	7.1	4.9	69	1.51	0.50	6.9	1.7	40
45	6.7	6.5	12.6		5000	28.2	8.5	5.6	108					5000	28.2	8.5	5.6	108	1.72	0.63	8.8	2.4	45
50	7.5	7.2	14.0	21.2	5000	35.7	9.5	6.3	137	427	2.1	7.9	8	4573	33.6	9.7	6.4	130	1.34	0.71	7.5	2.7	50
55	8.2	8.0	15.9	21.9	4573	40.1	10.6	7.1	168	1017	6.2	8.8	26	3556	33.8	11.0	7.1	142	1.25	0.77	7.6	3.2	55
60	8.9	8.6	17.8	22.6	3556	39.9	12.0	7.8	180	711	5.7	10.1	25	2845	34.2	12.4	7.8	155	1.18	0.80	7.5	3.6	60
65	9.5	9.3	18.9	23.4	2845	40.0	13.4	8.4	192	515	5.2	11.3	25	2330	34.8	13.8	8.5	167	1.11	0.83	7.4	3.9	65
70	10.1	9.8	20.7	24.1	2330	40.2	14.8	9.0	204	383	4.8	12.6	24	1946	35.4	15.2	9.1	180	1.05	0.85	7.2	4.1	70
75	10.6	10.4	22.5	24.8	1946	40.5	16.3	9.6	216	293	4.5	14.0	24	1654	36.0	16.6	9.7	192	0.99	0.86	7.0	4.3	75
80	11.1	10.9	22.9	25.6	1654	40.8	17.7	10.1	227	228	4.2	15.3	23	1426	36.6	18.1	10.2	204	0.94	0.87	6.9	4.5	80

CORSICAANSE DEN, Nederland 2018										sterke dunning						Boniteit I, $h_{50} = 25.5$							
CORSICAN PINE, Netherlands 2018										heavy thinning						Site Class I, $h_{50} = 25.5$							
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	2.4	2.1	3.0		5000	1.6	2.0	1.9	3					5000	1.6	2.0	1.9	3	0.84	0.32	2.0	0.5	5
10	5.3	5.0	8.3		5000	12.3	5.6	4.3	39					5000	12.3	5.6	4.3	39	3.82	1.24	15.2	3.9	10
15	8.4	8.1	14.5	22.0	5000	31.4	8.9	6.9	134	1580	6.7	7.3	28	3420	24.8	9.6	7.0	106	2.48	2.10	18.5	8.9	15
20	11.3	11.0	19.2	22.0	3420	36.1	11.6	9.7	204	1554	11.3	9.6	63	1866	24.8	13.0	9.8	141	2.09	2.14	19.9	11.6	20
25	14.1	13.9	23.5	22.0	1866	34.6	15.4	12.4	240	669	8.5	12.7	58	1197	26.1	16.7	12.5	182	1.84	2.10	20.2	13.2	25
30	16.8	16.5	27.6	22.0	1197	34.8	19.2	15.0	284	347	6.9	15.9	56	849	27.9	20.5	15.1	228	1.66	2.04	20.6	14.4	30
35	19.2	19.0	31.6	22.0	849	35.8	23.2	17.3	331	203	5.9	19.2	54	646	30.0	24.3	17.5	278	1.52	1.98	20.8	15.3	35
40	21.5	21.2	35.7	22.7	646	37.2	27.1	19.5	382	162	6.5	22.6	66	484	30.8	28.4	19.7	316	1.40	1.91	20.8	16.0	40
45	23.6	23.3	39.8	23.5	484	37.5	31.4	21.5	419	107	5.8	26.3	64	377	31.7	32.7	21.7	355	1.30	1.85	20.4	16.5	45
50	25.5	25.2	43.7	24.2	377	37.9	35.8	23.3	456	74	5.3	30.2	63	304	32.7	37.0	23.5	394	1.21	1.79	20.0	16.9	50
55	27.3	27.0	47.6	24.9	304	38.5	40.2	25.0	492	53	4.9	34.1	61	250	33.6	41.4	25.2	431	1.13	1.73	19.5	17.2	55
60	28.9	28.6	51.4	25.6	250	39.1	44.6	26.5	527	40	4.5	38.1	60	211	34.6	45.7	26.7	468	1.06	1.68	19.0	17.3	60
65	30.3	30.1	55.2	26.4	211	39.8	49.0	27.8	561	30	4.2	42.1	59	181	35.6	50.1	28.1	503	1.00	1.63	18.5	17.4	65
70	31.6	31.4	58.8	27.1	181	40.4	53.4	29.1	594	24	4.0	46.1	57	157	36.5	54.4	29.3	536	0.95	1.58	17.9	17.5	70
75	32.9	32.6	62.1	27.8	157	41.1	57.7	30.2	624	19	3.7	50.2	56	138	37.3	58.7	30.5	569	0.90	1.54	17.4	17.5	75
80	33.9	33.7	65.4	28.6	138	41.7	62.0	31.2	654	15	3.5	54.2	55	123	38.2	62.9	31.5	599	0.85	1.50	16.8	17.5	80

CORSICAANSE DEN, Nederland 2018										sterke dunning										Boniteit II, $h_{50} = 22.5$					
CORSICAN PINE, Netherlands 2018										heavy thinning										Site Class II, $h_{50} = 22.5$					
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei						
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning					Increment						
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$		
5	1.8	1.6	2.4		5000	1.0	1.6	1.5	1					5000	1.0	1.6	1.5	1	0.47	0.20	1.0	0.3	5		
10	4.3	4.0	6.3		5000	7.1	4.3	3.4	19					5000	7.1	4.3	3.4	19	2.30	0.71	7.9	1.9	10		
15	6.9	6.7	12.0		5000	25.5	8.1	5.7	99					5000	25.5	8.1	5.7	99	3.77	1.70	21.0	6.6	15		
20	9.5	9.3	16.5	22.0	5000	37.3	9.8	8.1	180	2382	12.3	8.1	59	2618	25.0	11.0	8.2	121	2.12	1.87	17.7	9.0	20		
25	12.1	11.8	20.4	22.0	2618	34.9	13.0	10.5	210	979	9.0	10.8	53	1639	26.0	14.2	10.6	157	1.86	1.89	18.0	10.7	25		
30	14.5	14.2	24.1	22.0	1639	34.8	16.4	12.8	247	497	7.2	13.6	51	1142	27.6	17.5	12.9	196	1.67	1.87	18.3	12.0	30		
35	16.7	16.4	27.8	22.0	1142	35.5	19.9	15.0	289	286	6.1	16.5	49	856	29.4	20.9	15.1	240	1.53	1.83	18.6	12.9	35		
40	18.8	18.5	31.6	22.7	856	36.8	23.4	17.0	333	222	6.7	19.5	59	633	30.1	24.6	17.2	274	1.41	1.78	18.6	13.6	40		
45	20.7	20.5	35.4	23.5	633	36.9	27.3	18.9	366	145	5.9	22.9	58	489	31.0	28.4	19.1	308	1.31	1.74	18.4	14.1	45		
50	22.5	22.2	39.1	24.2	489	37.3	31.2	20.6	399	99	5.4	26.3	57	390	31.9	32.3	20.8	342	1.21	1.69	18.1	14.6	50		
55	24.1	23.9	42.7	24.9	390	37.8	35.1	22.2	432	71	4.9	29.8	56	319	32.9	36.2	22.4	376	1.14	1.64	17.7	14.9	55		
60	25.6	25.4	46.2	25.6	319	38.4	39.1	23.6	463	52	4.6	33.4	54	267	33.8	40.1	23.9	409	1.07	1.60	17.2	15.1	60		
65	27.0	26.8	49.7	26.4	267	39.0	43.1	25.0	494	40	4.3	37.0	53	228	34.7	44.1	25.2	441	1.01	1.55	16.8	15.2	65		
70	28.3	28.0	53.1	27.1	228	39.6	47.1	26.2	523	31	4.0	40.7	52	197	35.6	48.0	26.4	471	0.95	1.51	16.3	15.3	70		
75	29.4	29.1	56.5	27.8	197	40.2	51.0	27.3	552	24	3.8	44.3	51	173	36.5	51.9	27.5	501	0.90	1.47	15.8	15.4	75		
80	30.4	30.2	59.7	28.6	173	40.9	54.9	28.3	579	20	3.6	48.0	50	153	37.3	55.7	28.6	529	0.86	1.44	15.3	15.4	80		

CORSICAANSE DEN, Nederland 2018										sterke dunning						Boniteit III, $h_{50} = 19.5$							
CORSICAN PINE, Netherlands 2018										heavy thinning						Site Class III, $h_{50} = 19.5$							
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	1.4	1.2	1.9		5000	0.6	1.3	1.1	1					5000	0.6	1.3	1.1	1	0.47	0.13	0.6	0.1	5
10	3.4	3.1	4.7		5000	4.0	3.2	2.7	9					5000	4.0	3.2	2.7	9	1.28	0.40	3.8	0.9	10
15	5.6	5.4	9.2		5000	15.1	6.2	4.5	49					5000	15.1	6.2	4.5	49	3.25	1.00	13.7	3.3	15
20	7.9	7.6	14.0	22.0	5000	31.1	8.9	6.5	126	1174	4.9	7.3	20	3826	26.2	9.3	6.6	106	2.16	1.56	10.5	6.3	20
25	10.1	9.8	17.6	22.0	3826	36.3	11.0	8.6	185	1491	9.7	9.1	49	2335	26.6	12.0	8.7	136	1.89	1.65	15.9	8.2	25
30	12.2	12.0	20.8	22.0	2335	35.5	13.9	10.7	216	740	7.7	11.5	46	1595	27.8	14.9	10.8	169	1.69	1.67	16.2	9.5	30
35	14.2	14.0	24.2	22.0	1595	35.8	16.9	12.7	251	418	6.4	14.0	45	1177	29.4	17.8	12.8	206	1.54	1.66	16.5	10.4	35
40	16.1	15.9	27.6	22.7	1177	36.8	20.0	14.5	289	317	6.9	16.7	53	860	29.9	21.0	14.7	236	1.42	1.64	16.5	11.2	40
45	17.9	17.6	31.0	23.5	860	36.8	23.3	16.2	318	203	6.1	19.6	52	657	30.6	24.4	16.4	265	1.32	1.61	16.4	11.8	45
50	19.5	19.2	34.4	24.2	657	37.0	26.8	17.9	346	138	5.5	22.6	51	519	31.5	27.8	18.0	295	1.22	1.58	16.1	12.2	50
55	21.0	20.7	37.7	24.9	519	37.4	30.3	19.3	375	97	5.0	25.7	50	422	32.3	31.2	19.5	325	1.14	1.54	15.8	12.6	55
60	22.4	22.1	41.0	25.6	422	37.8	33.8	20.7	403	71	4.7	28.9	49	351	33.2	34.7	20.9	354	1.07	1.50	15.4	12.8	60
65	23.6	23.4	44.2	26.4	351	38.4	37.3	22.0	430	54	4.3	32.1	48	297	34.1	38.2	22.2	382	1.01	1.47	15.0	13.0	65
70	24.8	24.5	47.3	27.1	297	39.0	40.9	23.1	456	41	4.1	35.3	47	256	34.9	41.7	23.3	409	0.96	1.43	14.6	13.1	70
75	25.8	25.6	50.4	27.8	256	39.6	44.4	24.2	481	33	3.8	38.6	46	223	35.8	45.2	24.4	436	0.91	1.40	14.2	13.2	75
80	26.8	26.6	53.4	28.6	223	40.2	47.9	25.1	506	26	3.6	41.9	45	197	36.6	48.6	25.4	461	0.86	1.37	13.8	13.3	80



CORSICAANSE DEN, Nederland 2018										sterke dunning										Boniteit IV, $h_{50} = 16.5$					
CORSICAN PINE, Netherlands 2018										heavy thinning										Site Class IV, $h_{50} = 16.5$					
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei						
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning					Increment						
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$		
5	1.0	0.9			5000				0					5000				0			0.3	0.0	5		
10	2.6	2.3	3.5		5000	2.2	2.4	2.1	4					5000	2.2	2.4	2.1	4	0.66	0.22	1.7	0.4	10		
15	4.5	4.2	6.8		5000	8.2	4.6	3.6	22					5000	8.2	4.6	3.6	22	1.86	0.55	6.5	1.5	15		
20	6.4	6.1	10.9		5000	21.3	7.4	5.2	77					5000	21.3	7.4	5.2	77	3.37	1.07	16.1	3.8	20		
25	8.3	8.0	14.7	22.0	5000	34.0	9.3	6.9	143	1496	6.9	7.7	29	3504	27.1	9.9	7.0	115	1.92	1.36	13.4	5.7	25		
30	10.1	9.8	17.8	22.0	3504	36.2	11.5	8.7	184	1160	8.2	9.5	41	2344	28.0	12.3	8.7	142	1.72	1.44	14.0	7.1	30		
35	11.8	11.6	20.4	22.0	2344	36.1	14.0	10.4	213	643	6.8	11.6	40	1701	29.3	14.8	10.5	173	1.56	1.47	14.3	8.1	35		
40	13.5	13.2	23.5	22.7	1701	36.8	16.6	12.0	245	475	7.2	13.9	47	1226	29.7	17.5	12.1	198	1.44	1.47	14.4	8.9	40		
45	15.1	14.8	26.6	23.5	1226	36.6	19.5	13.6	269	300	6.3	16.4	46	926	30.3	20.4	13.7	224	1.33	1.46	14.2	9.5	45		
50	16.5	16.2	29.6	24.2	926	36.7	22.5	15.0	294	201	5.7	19.0	45	725	31.0	23.3	15.2	249	1.23	1.44	14.0	9.9	50		
55	17.8	17.6	32.6	24.9	725	36.9	25.5	16.4	319	141	5.2	21.6	44	584	31.8	26.3	16.5	275	1.15	1.42	13.8	10.3	55		
60	19.1	18.8	35.5	25.6	584	37.3	28.5	17.6	343	102	4.8	24.4	43	482	32.6	29.3	17.8	300	1.08	1.39	13.5	10.6	60		
65	20.2	20.0	38.4	26.4	482	37.8	31.6	18.8	366	76	4.4	27.2	42	406	33.4	32.4	18.9	324	1.02	1.37	13.2	10.8	65		
70	21.3	21.0	41.3	27.1	406	38.4	34.7	19.8	389	58	4.1	30.0	41	348	34.2	35.4	20.0	348	0.96	1.34	12.8	10.9	70		
75	22.2	22.0	44.0	27.8	348	38.9	37.7	20.8	411	46	3.9	32.8	40	302	35.1	38.4	21.0	371	0.91	1.31	12.5	11.1	75		
80	23.1	22.8	46.8	28.6	302	39.5	40.8	21.7	433	36	3.6	35.7	39	266	35.9	41.4	21.9	393	0.87	1.29	12.1	11.1	80		

CORSICAANSE DEN, Nederland 2018										sterke dunning							Boniteit V, $h_{50} = 13.5$						
CORSICAN PINE, Netherlands 2018										heavy thinning							Site Class V, $h_{50} = 13.5$						
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	S%	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	0.7	0.6			5000				0					5000				0			0.0	0.0	5
10	1.9	1.7	2.6		5000	1.2	1.7	1.6	2					5000	1.2	1.7	1.6	2	0.33	0.12	0.7	0.2	10
15	3.4	3.1	4.8		5000	4.1	3.3	2.7	9					5000	4.1	3.3	2.7	9	0.93	0.28	2.7	0.6	15
20	4.9	4.7	7.9		5000	11.1	5.3	4.0	33					5000	11.1	5.3	4.0	33	1.90	0.56	7.1	1.6	20
25	6.5	6.2	11.4		5000	23.3	7.7	5.3	86					5000	23.3	7.7	5.3	86	2.92	0.93	14.3	3.4	25
30	8.0	7.8	14.5	22.0	5000	34.4	9.4	6.7	141	1303	6.1	7.7	25	3697	28.3	9.9	6.8	117	1.75	1.15	11.6	4.7	30
35	9.5	9.2	17.0	22.0	3697	36.6	11.2	8.2	176	1061	7.2	9.3	34	2635	29.4	11.9	8.2	142	1.59	1.22	12.0	5.7	35
40	10.9	10.7	19.9	22.7	2635	37.0	13.4	9.6	202	763	7.5	11.2	40	1873	29.5	14.2	9.6	162	1.46	1.26	12.1	6.5	40
45	12.3	12.0	22.0	23.5	1873	36.6	15.8	10.9	222	476	6.5	13.2	39	1397	30.0	16.5	11.0	183	1.35	1.27	12.0	7.2	45
50	13.5	13.2	24.6	24.2	1397	36.5	18.2	12.1	243	314	5.9	15.4	38	1083	30.6	19.0	12.2	204	1.25	1.28	11.9	7.6	50
55	14.7	14.4	27.3	24.9	1083	36.6	20.8	13.3	263	217	5.3	17.6	38	865	31.3	21.5	13.4	226	1.16	1.27	11.7	8.0	55
60	15.7	15.5	29.9	25.6	865	37.0	23.3	14.4	284	156	4.9	19.9	37	709	32.1	24.0	14.5	247	1.09	1.26	11.5	8.3	60
65	16.7	16.5	32.4	26.4	709	37.4	25.9	15.4	303	116	4.5	22.3	36	594	32.9	26.5	15.6	267	1.03	1.24	11.2	8.5	65
70	17.6	17.4	34.9	27.1	594	37.8	28.5	16.4	323	88	4.2	24.6	35	505	33.6	29.1	16.5	287	0.97	1.23	11.0	8.7	70
75	18.5	18.2	37.4	27.8	505	38.4	31.1	17.3	342	69	3.9	27.0	35	437	34.4	31.7	17.4	307	0.92	1.21	10.7	8.9	75
80	19.2	19.0	39.8	28.6	437	38.9	33.7	18.1	360	54	3.7	29.5	34	383	35.2	34.2	18.3	326	0.87	1.19	10.4	9.0	80





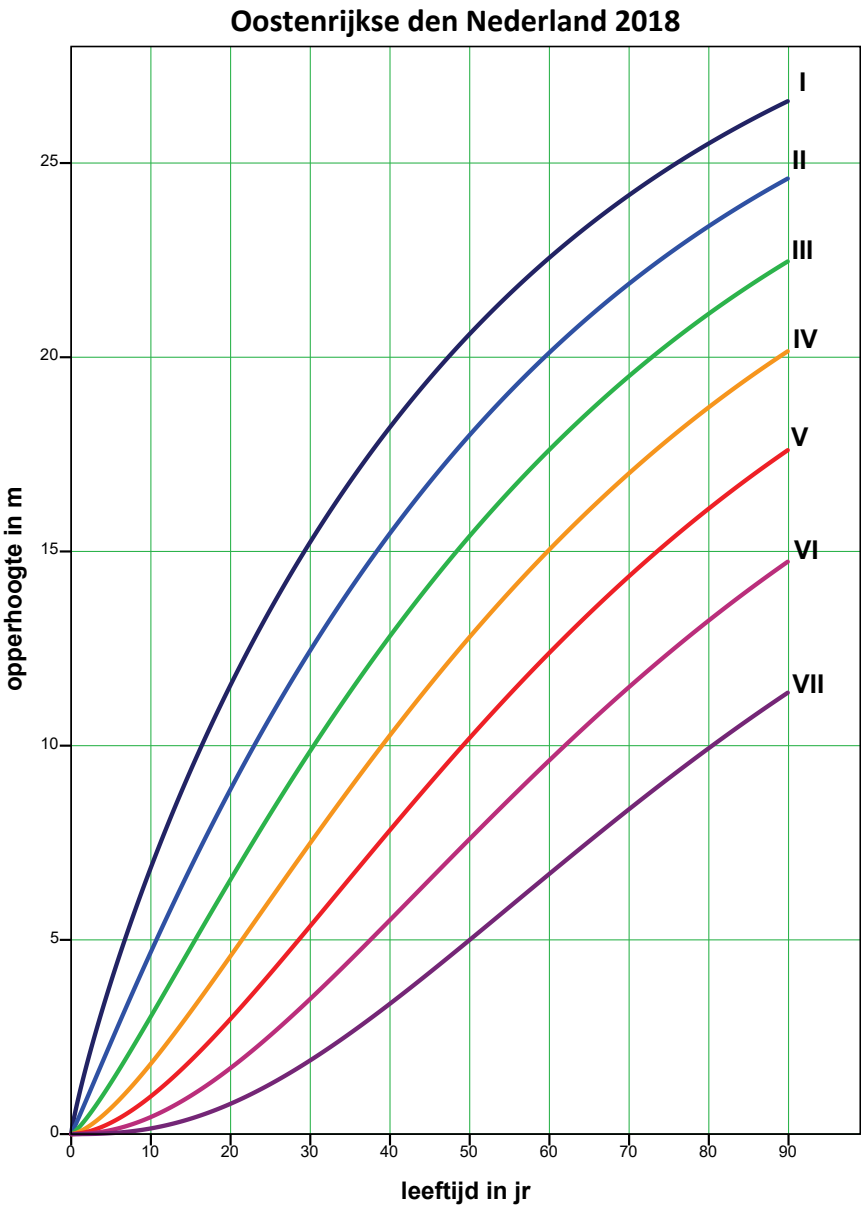
# Oostenrijkse den (*Pinus nigra* subsp. *nigra*) Austrian pine

Jansen, J.J., A. Oosterbaan, G.M.J. Mohren en J. den Ouden

Bron: Jansen, J.J., A. Oosterbaan, G.M.J. Mohren en J. den Ouden, 2018. *Groei en productie van Oostenrijkse den in Nederland*. FEM Groei en Productie Rapport 2018 – 7, 96 blz.

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**N.B. In het Binnenland is de range van boniteiten voornamelijk I tot en met V. In het Kustgebied betreft dat de boniteiten III tot en met VII!**



OOSTENRIJKSE DEN, Nederland 2018										matige dunning										Boniteit I, $h_{50} = 20.6$					
AUSTRIAN PINE, Netherlands 2018										moderate thinning										Site Class I, $h_{50} = 20.6$					
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei						
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning					Increment						
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$		
5	3.9	3.6	6.7		5000	7.9	4.5	3.1	17					5000	7.9	4.5	3.1	17	2.66	1.58	8.1	3.4	5		
10	6.9	6.6	11.1		5000	22.2	7.5	5.5	77					5000	22.2	7.5	5.5	77	2.95	2.22	15.5	7.7	10		
15	9.4	9.1	15.8	19.0	5000	35.7	9.5	7.9	173	1358	4.7	6.6	23	3642	31.0	10.4	7.9	150	2.41	2.38	19.0	11.5	15		
20	11.6	11.3	19.8	19.0	3642	42.0	12.1	10.1	246	1251	7.4	8.7	44	2391	34.6	13.6	10.2	202	2.03	2.34	19.1	13.5	20		
25	13.5	13.2	23.3	19.0	2391	44.1	15.3	12.0	295	639	6.2	11.1	43	1752	37.9	16.6	12.1	253	1.77	2.25	18.6	14.5	25		
30	15.2	15.0	26.4	19.0	1752	46.2	18.3	13.7	344	376	5.4	13.5	41	1376	40.8	19.4	13.8	303	1.58	2.15	18.1	15.1	30		
35	16.8	16.5	29.3	19.0	1376	48.4	21.2	15.2	392	243	4.8	15.9	40	1133	43.6	22.1	15.3	352	1.44	2.06	17.5	15.5	35		
40	18.2	17.9	32.3	19.7	1133	50.5	23.8	16.5	438	238	6.3	18.4	56	895	44.1	25.1	16.6	382	1.32	1.97	16.9	15.7	40		
45	19.5	19.2	35.1	20.5	895	50.5	26.8	17.6	465	167	5.9	21.2	56	728	44.6	27.9	17.8	409	1.23	1.89	16.1	15.8	45		
50	20.6	20.3	37.8	21.2	728	50.5	29.7	18.6	488	122	5.6	24.1	55	606	45.0	30.7	18.8	433	1.15	1.82	15.4	15.8	50		
55	21.6	21.4	40.4	21.9	606	50.5	32.6	19.5	508	92	5.3	27.0	54	513	45.2	33.5	19.7	453	1.08	1.76	14.7	15.7	55		
60	22.6	22.3	42.9	22.7	513	50.5	35.4	20.3	526	72	5.0	29.9	54	442	45.5	36.2	20.5	472	1.02	1.70	14.1	15.6	60		
65	23.4	23.2	45.3	23.4	442	50.5	38.1	21.0	541	57	4.8	32.9	53	385	45.6	38.9	21.2	488	0.97	1.65	13.6	15.5	65		
70	24.2	23.9	47.6	24.1	385	50.4	40.8	21.6	555	46	4.6	35.9	52	339	45.8	41.4	21.8	502	0.93	1.60	13.0	15.3	70		
75	24.9	24.6	49.8	24.9	339	50.3	43.4	22.2	566	37	4.4	38.9	51	302	45.9	44.0	22.4	515	0.89	1.55	12.5	15.2	75		
80	25.5	25.3	51.9	25.6	302	50.2	46.0	22.7	576	31	4.3	41.9	50	271	45.9	46.4	22.9	526	0.85	1.51	12.0	15.0	80		
85	26.1	25.8	54.0	26.3	271	50.1	48.5	23.1	585	26	4.1	45.0	50	245	45.9	48.9	23.3	536	0.82	1.47	11.6	14.8	85		
90	26.6	26.4	56.1	27.1	245	50.0	51.0	23.5	593	22	4.0	48.1	49	223	46.0	51.2	23.7	544	0.79	1.43	11.2	14.6	90		

OOSTENRIJKSE DEN, Nederland 2018										matige dunning										Boniteit II, $h_{50} = 18.0$					
AUSTRIAN PINE, Netherlands 2018										moderate thinning										Site Class II, $h_{50} = 18.0$					
$t$	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning						Bijgroei				$t$	
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning						Increment					
	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$			
5	2.4	2.1	3.6		5000	2.4	2.4	1.9	3					5000	2.4	2.4	1.9	3	1.43	0.47	2.6	0.7	5		
10	4.7	4.4	8.0		5000	11.5	5.4	3.8	29					5000	11.5	5.4	3.8	29	2.10	1.15	7.6	2.9	10		
15	6.9	6.6	11.3		5000	22.7	7.6	5.5	78					5000	22.7	7.6	5.5	78	2.39	1.52	12.5	5.2	15		
20	8.9	8.6	14.8	19.0	5000	34.3	9.3	7.4	158	945	3.2	6.6	15	4055	31.1	9.9	7.5	143	2.13	1.72	15.8	7.9	20		
25	10.7	10.5	18.4	19.0	4055	41.0	11.3	9.3	224	1283	6.9	8.3	39	2772	34.1	12.5	9.4	186	1.85	1.77	16.3	9.6	25		
30	12.5	12.2	21.3	19.0	2772	42.8	14.0	11.0	267	710	6.0	10.4	38	2062	36.8	15.1	11.1	229	1.65	1.77	16.2	10.7	30		
35	14.0	13.8	24.1	19.0	2062	44.7	16.6	12.6	309	436	5.3	12.5	38	1626	39.4	17.6	12.7	271	1.50	1.74	16.0	11.5	35		
40	15.5	15.2	27.0	19.7	1626	46.5	19.1	14.0	350	386	6.6	14.8	51	1239	39.9	20.3	14.1	299	1.38	1.70	15.6	12.0	40		
45	16.8	16.5	29.8	20.5	1239	46.6	21.9	15.2	376	261	6.2	17.3	51	978	40.4	22.9	15.4	325	1.28	1.66	15.0	12.4	45		
50	18.0	17.7	32.5	21.2	978	46.6	24.6	16.4	399	185	5.8	20.0	51	793	40.8	25.6	16.5	348	1.19	1.62	14.5	12.6	50		
55	19.1	18.9	35.1	21.9	793	46.6	27.3	17.4	419	136	5.5	22.6	50	658	41.1	28.2	17.5	369	1.12	1.57	14.0	12.8	55		
60	20.1	19.9	37.5	22.7	658	46.5	30.0	18.3	437	102	5.2	25.4	50	555	41.4	30.8	18.5	388	1.06	1.53	13.5	12.8	60		
65	21.0	20.8	39.9	23.4	555	46.5	32.7	19.1	454	79	4.9	28.2	49	476	41.6	33.3	19.3	404	1.00	1.49	13.0	12.9	65		
70	21.9	21.6	42.2	24.1	476	46.5	35.2	19.8	468	62	4.7	31.0	49	414	41.8	35.8	20.0	420	0.96	1.46	12.6	12.9	70		
75	22.7	22.4	44.5	24.9	414	46.4	37.8	20.5	481	50	4.5	33.9	48	364	41.9	38.3	20.7	433	0.91	1.42	12.1	12.8	75		
80	23.4	23.1	46.6	25.6	364	46.4	40.3	21.1	493	41	4.3	36.8	47	323	42.0	40.7	21.3	446	0.88	1.39	11.7	12.8	80		
85	24.0	23.8	48.7	26.3	323	46.3	42.8	21.6	503	34	4.2	39.7	47	289	42.1	43.1	21.8	456	0.84	1.36	11.3	12.7	85		
90	24.6	24.4	50.8	27.1	289	46.3	45.2	22.1	512	28	4.0	42.6	46	260	42.2	45.4	22.3	466	0.81	1.33	10.9	12.6	90		

















OOSTENRIJKSE DEN, Nederland 2018										sterke dunning										Boniteit III, $h_{50} = 15.4$					
AUSTRIAN PINE, Netherlands 2018										heavy thinning										Site Class III, $h_{50} = 15.4$					
$t$	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning						Bijgroei				$t$	
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning						Increment					
	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$			
5	1.3	1.1	0.3		5000	0.0	0.2	1.1	0					5000	0.0	0.2	1.1	0	0.27	0.00	0.3	0.0	5		
10	3.0	2.7	5.1		5000	4.7	3.5	2.4	8					5000	4.7	3.5	2.4	8	1.31	0.47	3.1	0.8	10		
15	4.8	4.5	8.3		5000	12.4	5.6	3.8	32					5000	12.4	5.6	3.8	32	1.73	0.83	6.4	2.1	15		
20	6.6	6.3	11.0		5000	21.7	7.4	5.2	72					5000	21.7	7.4	5.2	72	1.96	1.08	9.6	3.6	20		
25	8.3	8.0	14.5	22.0	5000	31.9	9.0	6.8	138	1496	5.4	6.8	24	3504	26.4	9.8	6.9	114	1.96	1.28	13.0	5.5	25		
30	9.9	9.6	17.7	22.0	3504	35.6	11.4	8.4	180	1053	6.3	8.8	33	2451	29.3	12.3	8.5	147	1.74	1.37	13.5	6.8	30		
35	11.4	11.1	20.3	22.0	2451	37.6	14.0	10.0	215	612	5.7	10.9	34	1839	31.8	14.9	10.1	182	1.57	1.41	13.7	7.8	35		
40	12.8	12.6	23.3	22.7	1839	39.4	16.5	11.4	250	479	6.6	13.2	43	1359	32.8	17.5	11.5	208	1.44	1.42	13.6	8.5	40		
45	14.2	13.9	26.2	23.5	1359	39.7	19.3	12.7	275	313	6.1	15.8	43	1046	33.6	20.2	12.9	232	1.33	1.42	13.4	9.1	45		
50	15.4	15.1	29.0	24.2	1046	40.0	22.1	14.0	298	215	5.7	18.4	44	832	34.3	22.9	14.1	255	1.24	1.40	13.1	9.5	50		
55	16.6	16.3	31.8	24.9	832	40.3	24.9	15.1	319	153	5.4	21.1	44	678	35.0	25.6	15.2	276	1.17	1.39	12.8	9.8	55		
60	17.6	17.4	34.4	25.7	678	40.6	27.6	16.1	339	113	5.1	23.9	44	565	35.5	28.3	16.2	295	1.10	1.36	12.5	10.0	60		
65	18.6	18.3	37.0	26.4	565	40.9	30.4	17.0	357	86	4.9	26.8	43	479	36.0	30.9	17.2	314	1.04	1.34	12.2	10.2	65		
70	19.5	19.3	39.4	27.1	479	41.1	33.1	17.8	374	67	4.6	29.7	43	412	36.5	33.6	18.0	331	0.99	1.32	11.8	10.3	70		
75	20.4	20.1	41.8	27.9	412	41.3	35.7	18.6	389	53	4.4	32.7	43	359	36.9	36.1	18.8	346	0.94	1.30	11.5	10.4	75		
80	21.1	20.9	44.1	28.6	359	41.5	38.3	19.3	403	43	4.3	35.6	42	317	37.2	38.7	19.5	360	0.90	1.27	11.2	10.5	80		
85	21.8	21.6	46.4	29.3	317	41.7	40.9	19.9	415	35	4.1	38.7	42	282	37.6	41.2	20.1	374	0.84	1.25	10.6	10.5	85		
90	22.5	22.2	48.5	30.1	282	41.6	43.3	20.5	424	29	3.9	41.6	41	253	37.6	43.5	20.7	383	0.77	1.22	9.8	10.5	90		





OOSTENRIJKSE DEN, Nederland 2018										sterke dunning										Boniteit V, $h_{50} = 10.2$					
AUSTRIAN PINE, Netherlands 2018										heavy thinning										Site Class V, $h_{50} = 10.2$					
$t$	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning						Bijgroei				$t$	
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning						Increment					
	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$			
5	0.3	0.3			5000				0					5000				0			0.0	0.0	5		
10	1.0	0.8			5000				0					5000				0			0.0	0.0	10		
15	1.9	1.6	2.6		5000	1.2	1.7	1.5	1					5000	1.2	1.7	1.5	1	0.55	0.08	0.8	0.1	15		
20	3.0	2.7	5.2		5000	4.9	3.5	2.4	8					5000	4.9	3.5	2.4	8	0.91	0.24	2.1	0.4	20		
25	4.1	3.9	7.5		5000	10.1	5.1	3.3	23					5000	10.1	5.1	3.3	23	1.18	0.40	3.8	0.9	25		
30	5.4	5.1	9.6		5000	16.5	6.5	4.3	46					5000	16.5	6.5	4.3	46	1.38	0.55	5.6	1.5	30		
35	6.6	6.3	11.6		5000	23.8	7.8	5.3	79					5000	23.8	7.8	5.3	79	1.53	0.68	7.6	2.3	35		
40	7.8	7.6	14.0	22.7	5000	32.0	9.0	6.4	132	1352	5.5	7.2	23	3648	26.5	9.6	6.5	108	1.62	0.80	10.1	3.3	40		
45	9.0	8.8	16.4	23.5	3648	34.2	10.9	7.6	159	1077	6.8	9.0	32	2571	27.4	11.7	7.7	127	1.48	0.88	10.3	4.1	45		
50	10.2	9.9	19.0	24.2	2571	34.6	13.1	8.8	179	675	6.3	10.9	34	1896	28.2	13.8	8.9	145	1.38	0.94	10.4	4.7	50		
55	11.3	11.1	20.8	24.9	1896	34.9	15.3	10.0	198	446	6.0	13.0	35	1449	28.9	15.9	10.1	163	1.28	0.97	10.5	5.2	55		
60	12.4	12.1	23.2	25.7	1449	35.1	17.6	11.1	215	308	5.6	15.3	35	1142	29.5	18.1	11.2	180	1.21	1.00	10.4	5.7	60		
65	13.4	13.1	25.6	26.4	1142	35.4	19.9	12.1	232	220	5.3	17.6	36	922	30.0	20.4	12.2	196	1.14	1.01	10.3	6.0	65		
70	14.4	14.1	27.9	27.1	922	35.6	22.2	13.1	247	162	5.0	19.9	36	761	30.5	22.6	13.2	211	1.08	1.02	10.2	6.3	70		
75	15.3	15.0	30.2	27.9	761	35.8	24.5	14.0	262	122	4.8	22.4	36	639	31.0	24.9	14.1	226	1.03	1.02	10.0	6.6	75		
80	16.1	15.8	32.4	28.6	639	36.0	26.8	14.8	275	94	4.6	24.9	36	545	31.4	27.1	14.9	240	0.98	1.02	9.8	6.8	80		
85	16.9	16.6	34.6	29.3	545	36.2	29.1	15.6	288	74	4.4	27.5	36	471	31.8	29.3	15.7	252	0.91	1.01	9.4	7.0	85		
90	17.6	17.4	36.6	30.1	471	36.1	31.2	16.3	298	59	4.2	30.0	35	412	31.9	31.4	16.4	262	0.83	1.01	8.8	7.1	90		





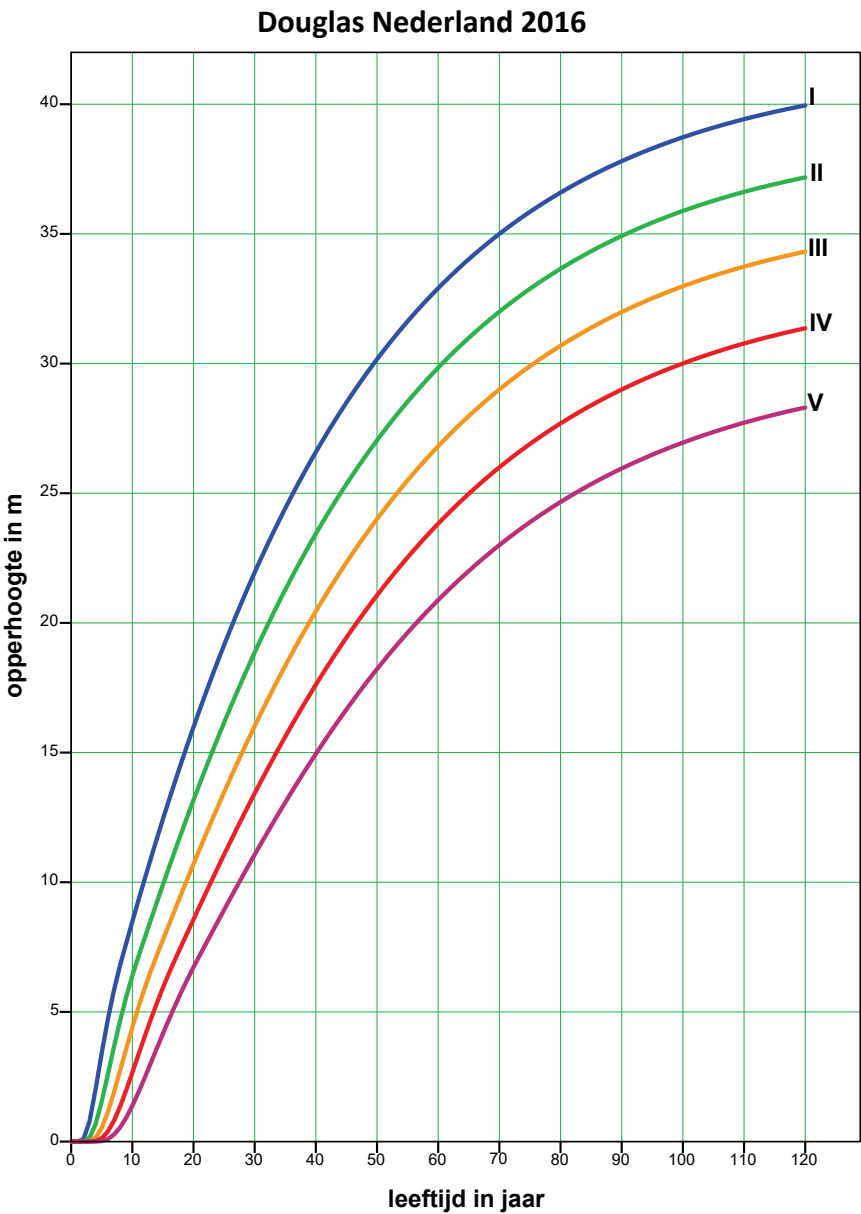
**Douglas (*Pseudotsuga menziesii*)** **Douglas fir**  
Jansen, J.J., H. Schoonderwoerd, G.M.J. Mohren, E.A.H. Thomassen en J. den Ouden

**Bron:** Jansen, J.J., H. Schoonderwoerd, G.M.J. Mohren en J. den Ouden, 2016. Groei en productie van douglas in Nederland. Becking’s dunningproeven ontsloten. Wageningen Academic Publishers, 180 blz.

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In het rapport worden twee productieniveaus onderscheiden, een laag niveau tot en met 1980 en een hoog niveau vanaf 1981. In het rapport worden meerdere opbrengsttabellen gepresenteerd, die alle met het gemiddelde productieniveau zijn berekend.

In dit opbrengsttabellenboek is gekozen om alleen tabellen met het hoge productieniveau te presenteren.



DOUGLAS, Nederland 2018										matige dunning										Boniteit I, $h_{70} = 35.0$					
DOUGLAS FIR, Netherlands 2018										moderate thinning										Site Class I, $h_{70} = 35.0$					
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei						
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning					Increment						
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$		
5	3.4	3.4	3.9		5000	0.7	1.3	2.7	2					5000	0.7	1.3	2.7	2	1.17	0.14	3.5	0.4	5		
10	8.5	8.4	11.8	19.0	5000	19.7	7.1	6.0	99	559	1.3	5.3	6	4441	18.4	7.3	6.1	93	5.83	1.97	35.4	9.9	10		
15	12.4	12.3	17.9	19.0	4441	38.2	10.5	10.3	247	2371	12.7	8.3	82	2069	25.5	12.5	10.4	165	2.91	2.63	27.0	16.9	15		
20	16.0	15.9	23.0	19.0	2069	38.8	15.4	14.0	296	818	9.5	12.2	73	1252	29.2	17.2	14.2	223	2.43	2.64	25.7	19.2	20		
25	19.1	19.0	27.9	19.0	1252	40.4	20.3	17.3	348	380	7.7	16.1	66	872	32.7	21.9	17.5	282	2.07	2.56	24.3	20.4	25		
30	21.9	21.8	32.5	19.0	872	42.3	24.9	20.1	399	208	6.5	19.9	61	664	35.9	26.2	20.4	338	1.79	2.45	22.8	20.9	30		
35	24.4	24.2	36.7	19.0	664	44.2	29.1	22.6	448	128	5.5	23.5	56	536	38.7	30.3	22.9	392	1.56	2.34	21.2	21.0	35		
40	26.6	26.4	40.5	19.0	536	46.0	33.0	24.8	494	84	4.8	26.9	51	452	41.2	34.1	25.1	443	1.37	2.23	19.6	21.0	40		
45	28.5	28.2	43.9	19.0	452	47.7	36.6	26.8	537	58	4.2	30.1	47	394	43.5	37.5	27.1	490	1.21	2.12	18.1	20.7	45		
50	30.2	29.9	47.0	19.0	394	49.2	39.9	28.5	577	42	3.6	33.1	43	351	45.6	40.6	28.8	534	1.08	2.03	16.7	20.4	50		
55	31.6	31.3	49.9	19.1	351	50.7	42.8	29.9	614	36	3.7	36.0	44	315	47.0	43.6	30.3	570	0.96	1.93	15.3	20.0	55		
60	32.9	32.6	52.5	19.3	315	51.6	45.6	31.3	643	28	3.3	38.7	41	288	48.3	46.2	31.6	602	0.87	1.85	14.1	19.5	60		
65	34.0	33.7	54.9	19.4	288	52.4	48.2	32.4	669	22	3.0	41.3	38	265	49.4	48.7	32.8	631	0.78	1.77	12.9	19.1	65		
70	35.0	34.7	57.1	19.5	265	53.2	50.5	33.4	693	18	2.7	43.8	35	248	50.5	51.0	33.8	658	0.71	1.70	11.9	18.6	70		
75	35.9	35.5	59.1	19.6	248	53.9	52.6	34.3	715	15	2.5	46.1	33	233	51.4	53.0	34.7	683	0.65	1.63	10.9	18.1	75		
80	36.6	36.3	60.9	19.8	233	54.5	54.6	35.0	735	12	2.2	48.4	30	221	52.3	54.9	35.4	705	0.60	1.57	10.1	17.6	80		
85	37.2	37.0	62.6	19.9	221	55.1	56.4	35.7	754	10	2.1	50.5	28	210	53.1	56.7	36.1	725	0.55	1.51	9.4	17.2	85		
90	37.8	37.6	64.1	20.0	210	55.7	58.1	36.3	771	9	1.9	52.5	26	201	53.8	58.3	36.7	744	0.51	1.45	8.7	16.7	90		
95	38.3	38.1	65.6	20.2	201	56.3	59.7	36.8	786	8	1.8	54.4	25	194	54.5	59.8	37.2	761	0.48	1.40	8.1	16.3	95		
100	38.7	38.5	66.9	20.3	194	56.8	61.1	37.2	801	7	1.7	56.3	23	187	55.2	61.3	37.6	777	0.45	1.36	7.6	15.9	100		
105	39.1	38.9	68.2	20.4	187	57.3	62.5	37.6	814	6	1.6	58.1	22	181	55.8	62.6	38.0	792	0.42	1.31	7.2	15.5	105		
110	39.4	39.2	69.4	20.5	181	57.9	63.7	37.9	827	5	1.5	59.9	21	176	56.4	63.9	38.4	806	0.40	1.27	6.8	15.1	110		
115	39.7	39.5	70.5	20.7	176	58.3	65.0	38.2	839	5	1.4	61.5	20	171	57.0	65.0	38.7	819	0.38	1.23	6.4	14.7	115		
120	40.0	39.8	71.5	20.8	171	58.8	66.1	38.5	850	4	1.3	63.2	19	167	57.5	66.2	38.9	831	0.36	1.20	6.1	14.4	120		

DOUGLAS, Nederland 2018					matige dunning										Boniteit II, $h_{70} = 32.0$								
DOUGLAS FIR, Netherlands 2018					moderate thinning										Site Class II, $h_{70} = 32.0$								
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
<i>t</i>	<i>h<sub>top</sub></i>	<i>h<sub>dom</sub></i>	<i>d<sub>dom</sub></i>	<i>S%</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>h<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>h<sub>g</sub></i>	<i>V</i>	<i>lc<sub>G</sub></i>	<i>lm<sub>G</sub></i>	<i>lc<sub>V</sub></i>	<i>lm<sub>V</sub></i>	<i>t</i>
5	1.6	1.5	1.8		5000	0.0	0.3	1.2	0					5000	0.0	0.3	1.2	0	0.11	0.01	0.2	0.0	5
10	6.4	6.4	8.0		5000	6.5	4.1	5.1	27					5000	6.5	4.1	5.1	27	2.51	0.65	13.6	2.7	10
15	9.9	9.8	14.7	19.0	5000	28.7	8.5	7.6	159	1740	5.8	6.5	32	3260	22.9	9.5	7.7	127	3.73	1.91	26.9	10.6	15
20	13.2	13.1	19.5	19.0	3260	36.7	12.0	11.1	244	1415	9.6	9.3	64	1845	27.1	13.7	11.2	181	2.43	2.12	22.8	13.8	20
25	16.2	16.0	24.1	19.0	1845	38.4	16.3	14.2	293	620	7.8	12.7	59	1225	30.6	17.8	14.3	233	2.09	2.15	22.1	15.5	25
30	18.9	18.7	28.4	19.0	1225	40.4	20.5	17.0	341	326	6.6	16.0	56	899	33.8	21.9	17.2	285	1.82	2.12	21.1	16.5	30
35	21.3	21.1	32.4	19.0	899	42.3	24.5	19.5	388	193	5.7	19.3	52	706	36.7	25.7	19.7	336	1.60	2.06	19.9	17.1	35
40	23.4	23.2	36.1	19.0	706	44.2	28.2	21.7	432	124	4.9	22.5	48	582	39.2	29.3	21.9	384	1.41	1.99	18.6	17.4	40
45	25.4	25.1	39.4	19.0	582	45.9	31.7	23.6	473	85	4.3	25.5	45	498	41.6	32.6	23.9	429	1.26	1.92	17.3	17.4	45
50	27.0	26.8	42.5	19.0	498	47.5	34.9	25.3	512	60	3.8	28.4	41	437	43.7	35.7	25.6	471	1.12	1.84	16.1	17.4	50
55	28.5	28.3	45.4	19.1	437	49.0	37.8	26.8	548	50	3.8	31.1	42	388	45.2	38.5	27.1	506	1.01	1.77	14.8	17.2	55
60	29.8	29.6	48.0	19.3	388	50.0	40.5	28.2	577	38	3.4	33.8	39	350	46.6	41.2	28.5	538	0.90	1.70	13.7	16.9	60
65	31.0	30.7	50.3	19.4	350	50.9	43.0	29.3	603	30	3.1	36.3	36	320	47.8	43.6	29.7	567	0.82	1.64	12.6	16.6	65
70	32.0	31.7	52.5	19.5	320	51.7	45.4	30.4	627	24	2.8	38.6	34	296	48.9	45.9	30.7	593	0.74	1.58	11.6	16.3	70
75	32.9	32.6	54.5	19.6	296	52.5	47.5	31.3	649	19	2.5	40.9	31	277	49.9	47.9	31.6	618	0.68	1.52	10.7	16.0	75
80	33.7	33.4	56.3	19.8	277	53.2	49.4	32.1	669	16	2.3	43.0	29	261	50.8	49.8	32.4	639	0.62	1.47	9.8	15.6	80
85	34.3	34.0	58.0	19.9	261	53.8	51.3	32.8	687	13	2.1	45.1	27	247	51.7	51.6	33.1	660	0.57	1.41	9.1	15.2	85
90	34.9	34.6	59.5	20.0	247	54.4	52.9	33.4	703	11	2.0	47.0	25	236	52.4	53.2	33.8	678	0.53	1.37	8.5	14.9	90
95	35.4	35.1	61.0	20.2	236	55.0	54.5	33.9	719	10	1.8	48.9	24	226	53.2	54.7	34.3	695	0.49	1.32	7.9	14.5	95
100	35.9	35.6	62.3	20.3	226	55.6	55.9	34.4	733	8	1.7	50.7	22	218	53.9	56.1	34.8	711	0.46	1.28	7.4	14.2	100
105	36.3	36.0	63.5	20.4	218	56.1	57.3	34.8	746	7	1.6	52.4	21	211	54.5	57.4	35.2	725	0.44	1.24	6.9	13.8	105
110	36.6	36.4	64.7	20.5	211	56.6	58.5	35.1	758	6	1.5	54.1	20	204	55.1	58.7	35.5	738	0.41	1.20	6.5	13.5	110
115	36.9	36.7	65.8	20.7	204	57.2	59.7	35.4	770	6	1.4	55.7	19	198	55.7	59.8	35.9	751	0.39	1.17	6.1	13.2	115
120	37.2	37.0	66.8	20.8	198	57.7	60.8	35.7	781	5	1.3	57.3	18	193	56.3	60.9	36.1	763	0.37	1.13	5.8	12.9	120

DOUGLAS, Nederland 2018					matige dunning										Boniteit III, $h_{70} = 29.0$								
DOUGLAS FIR, Netherlands 2018					moderate thinning										Site Class III, $h_{70} = 29.0$								
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5					5000				0					5000				0			0.0	0.0	5
10	4.4	4.4	5.6		5000	1.9	2.2	3.5	6					5000	1.9	2.2	3.5	6	1.26	0.19	4.3	0.6	10
15	7.8	7.7	11.0	19.5	5000	14.5	6.1	5.2	68					5000	14.5	6.1	5.3	68	4.62	0.96	24.9	4.5	15
20	10.7	10.6	16.4	19.0	5000	32.7	9.1	8.4	188	2209	8.3	6.9	48	2791	24.4	10.5	8.5	140	2.51	1.63	20.2	9.4	20
25	13.5	13.4	20.5	19.0	2791	35.6	12.7	11.4	238	1028	7.6	9.7	51	1763	28.0	14.2	11.5	187	2.09	1.75	19.5	11.4	25
30	16.0	15.9	24.5	19.0	1763	37.8	16.5	14.1	283	517	6.5	12.7	49	1246	31.2	17.9	14.2	234	1.84	1.79	19.0	12.7	30
35	18.3	18.2	28.3	19.0	1246	39.9	20.2	16.5	327	296	5.7	15.6	47	950	34.2	21.4	16.6	281	1.63	1.78	18.2	13.6	35
40	20.4	20.3	31.9	19.0	950	41.9	23.7	18.6	369	185	5.0	18.5	44	765	36.9	24.8	18.8	325	1.44	1.75	17.3	14.1	40
45	22.3	22.1	35.1	19.0	765	43.7	27.0	20.5	409	123	4.4	21.3	41	641	39.3	27.9	20.8	368	1.29	1.71	16.3	14.4	45
50	24.0	23.8	38.1	19.0	641	45.4	30.0	22.2	447	86	3.9	24.0	38	555	41.5	30.9	22.5	408	1.15	1.66	15.2	14.5	50
55	25.5	25.3	40.9	19.1	555	47.0	32.8	23.8	481	70	3.8	26.5	39	485	43.1	33.6	24.0	442	1.04	1.61	14.1	14.5	55
60	26.8	26.6	43.5	19.3	485	48.0	35.5	25.1	510	52	3.5	29.0	37	433	44.6	36.2	25.4	473	0.93	1.55	13.0	14.4	60
65	28.0	27.7	45.8	19.4	433	49.0	38.0	26.3	536	40	3.1	31.4	34	393	45.9	38.6	26.6	501	0.84	1.50	12.0	14.3	65
70	29.0	28.7	47.9	19.5	393	49.9	40.2	27.4	559	32	2.8	33.6	32	361	47.0	40.8	27.7	527	0.77	1.45	11.1	14.1	70
75	29.9	29.6	49.9	19.6	361	50.7	42.3	28.3	580	26	2.6	35.8	30	335	48.1	42.8	28.6	551	0.70	1.40	10.2	13.9	75
80	30.7	30.4	51.7	19.8	335	51.4	44.2	29.1	600	21	2.4	37.8	28	314	49.1	44.6	29.4	572	0.64	1.36	9.4	13.6	80
85	31.4	31.1	53.3	19.9	314	52.1	46.0	29.8	617	18	2.2	39.8	26	296	50.0	46.4	30.2	592	0.59	1.32	8.7	13.4	85
90	32.0	31.7	54.9	20.0	296	52.8	47.6	30.4	634	15	2.0	41.6	24	281	50.8	47.9	30.8	610	0.55	1.27	8.1	13.1	90
95	32.5	32.2	56.3	20.2	281	53.4	49.2	31.0	649	13	1.9	43.4	23	269	51.6	49.4	31.3	626	0.51	1.23	7.5	12.8	95
100	33.0	32.7	57.6	20.3	269	54.0	50.6	31.5	662	11	1.7	45.1	21	258	52.3	50.8	31.8	641	0.47	1.20	7.0	12.5	100
105	33.4	33.1	58.8	20.4	258	54.6	51.9	31.9	675	9	1.6	46.8	20	249	53.0	52.1	32.3	655	0.45	1.16	6.5	12.2	105
110	33.7	33.4	59.9	20.5	249	55.1	53.1	32.3	687	8	1.5	48.4	19	240	53.6	53.3	32.6	668	0.42	1.13	6.1	12.0	110
115	34.0	33.8	61.0	20.7	240	55.7	54.3	32.6	698	7	1.4	49.9	18	233	54.3	54.4	33.0	680	0.40	1.10	5.8	11.7	115
120	34.3	34.0	62.0	20.8	233	56.2	55.4	32.9	708	6	1.3	51.4	17	227	54.9	55.5	33.2	691	0.38	1.07	5.5	11.5	120

DOUGLAS, Nederland 2018					matige dunning										Boniteit IV, $h_{70} = 26.0$								
DOUGLAS FIR, Netherlands 2018					moderate thinning										Site Class IV, $h_{70} = 26.0$								
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5					5000				0					5000				0			0.0	0.0	5
10	2.7	2.6	3.4		5000	0.3	0.8	2.1	1					5000	0.3	0.8	2.1	1	0.28	0.03	0.7	0.1	10
15	5.9	5.9	8.1		5000	5.2	3.6	4.7	20					5000	5.2	3.6	4.7	20	1.51	0.35	6.4	1.3	15
20	8.6	8.5	13.1	19.0	5000	20.4	7.2	6.1	100	644	1.4	5.2	7	4356	19.0	7.5	6.2	93	3.60	1.02	21.4	5.0	20
25	11.1	11.0	17.6	19.0	4356	33.0	9.8	8.8	192	1744	7.4	7.3	43	2612	25.6	11.2	9.0	149	2.06	1.37	16.9	7.9	25
30	13.4	13.3	21.2	19.0	2612	35.3	13.1	11.4	233	838	6.4	9.9	42	1774	28.9	14.4	11.5	191	1.83	1.47	16.8	9.4	30
35	15.6	15.5	24.8	19.0	1774	37.5	16.4	13.6	274	463	5.6	12.4	41	1312	31.9	17.6	13.8	233	1.63	1.50	16.4	10.4	35
40	17.6	17.5	28.1	19.0	1312	39.6	19.6	15.7	313	281	5.0	15.0	39	1030	34.7	20.7	15.9	274	1.46	1.51	15.7	11.1	40
45	19.4	19.3	31.2	19.0	1030	41.6	22.7	17.6	350	183	4.4	17.5	37	847	37.1	23.6	17.8	313	1.31	1.50	14.9	11.6	45
50	21.1	20.9	34.1	19.0	847	43.3	25.5	19.3	386	126	3.9	19.9	35	721	39.4	26.4	19.5	350	1.17	1.47	14.1	11.9	50
55	22.5	22.3	36.8	19.1	721	44.9	28.2	20.8	418	99	3.9	22.3	36	622	41.1	29.0	21.0	383	1.06	1.44	13.1	12.1	55
60	23.8	23.6	39.3	19.3	622	46.1	30.7	22.1	446	73	3.5	24.6	34	548	42.6	31.4	22.4	412	0.95	1.40	12.2	12.1	60
65	25.0	24.8	41.5	19.4	548	47.1	33.1	23.3	471	56	3.2	26.8	32	492	44.0	33.7	23.6	439	0.86	1.36	11.3	12.1	65
70	26.0	25.8	43.6	19.5	492	48.1	35.3	24.3	493	44	2.9	28.9	30	449	45.2	35.8	24.6	464	0.78	1.32	10.4	12.0	70
75	26.9	26.7	45.5	19.6	449	48.9	37.3	25.3	514	35	2.6	30.9	28	414	46.3	37.8	25.6	486	0.71	1.29	9.6	11.9	75
80	27.7	27.5	47.2	19.8	414	49.7	39.1	26.1	532	28	2.4	32.8	26	385	47.3	39.5	26.4	507	0.66	1.25	8.9	11.7	80
85	28.4	28.1	48.8	19.9	385	50.5	40.8	26.8	549	23	2.2	34.7	24	362	48.3	41.2	27.1	525	0.60	1.21	8.2	11.5	85
90	29.0	28.7	50.3	20.0	362	51.2	42.4	27.4	565	20	2.0	36.4	22	342	49.1	42.7	27.8	542	0.56	1.18	7.6	11.3	90
95	29.5	29.3	51.7	20.2	342	51.8	43.9	28.0	579	17	1.9	38.1	21	326	49.9	44.2	28.3	558	0.52	1.14	7.1	11.1	95
100	30.0	29.7	53.0	20.3	326	52.4	45.3	28.5	592	14	1.7	39.7	20	312	50.7	45.5	28.8	572	0.48	1.11	6.6	10.9	100
105	30.4	30.1	54.1	20.4	312	53.0	46.5	28.9	604	12	1.6	41.2	19	300	51.4	46.7	29.2	586	0.45	1.08	6.1	10.7	105
110	30.8	30.5	55.2	20.5	300	53.6	47.7	29.3	615	11	1.5	42.7	17	289	52.1	47.9	29.6	598	0.43	1.05	5.7	10.5	110
115	31.1	30.8	56.3	20.7	289	54.2	48.9	29.6	626	9	1.4	44.2	16	280	52.8	49.0	30.0	609	0.41	1.02	5.4	10.2	115
120	31.4	31.1	57.2	20.8	280	54.7	49.9	29.9	635	8	1.3	45.6	16	271	53.4	50.0	30.3	619	0.39	1.00	5.1	10.0	120



DOUGLAS, Nederland 2018										matige dunning										Boniteit V, $h_{70} = 23.0$					
DOUGLAS FIR, Netherlands 2018										moderate thinning										Site Class V, $h_{70} = 23.0$					
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei						
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning					Increment						
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$		
5					5000				0					5000				0			0.0	0.0	5		
10	1.4	1.4	2.1		5000	0.0	0.2	1.1	0					5000	0.0	0.2	1.1	0	0.03	0.00	0.1	0.0	10		
15	4.2	4.1	5.9		5000	1.5	2.0	3.3	5					5000	1.5	2.0	3.3	5	0.78	0.10	2.5	0.3	15		
20	6.7	6.7	9.5		5000	7.4	4.3	5.3	31					5000	7.4	4.3	5.4	31	1.79	0.37	10.0	1.5	20		
25	8.9	8.9	14.4	19.0	5000	23.0	7.7	6.5	115	993	2.3	5.5	12	4007	20.7	8.1	6.6	103	2.94	0.92	18.1	4.6	25		
30	11.1	11.0	18.3	19.0	4007	32.1	10.1	8.9	184	1395	6.0	7.4	35	2611	26.1	11.3	9.0	150	1.80	1.15	14.4	6.5	30		
35	13.1	13.0	21.5	19.0	2611	34.6	13.0	11.0	221	742	5.4	9.6	35	1869	29.2	14.1	11.1	187	1.61	1.23	14.3	7.6	35		
40	15.0	14.8	24.6	19.0	1869	36.8	15.8	13.0	257	438	4.8	11.9	34	1431	32.0	16.9	13.1	224	1.45	1.27	13.9	8.5	40		
45	16.7	16.5	27.6	19.0	1431	38.9	18.6	14.7	292	279	4.3	14.1	33	1152	34.5	19.5	14.9	259	1.31	1.28	13.4	9.0	45		
50	18.2	18.1	30.3	19.0	1152	40.7	21.2	16.3	325	188	3.9	16.2	31	963	36.8	22.1	16.5	293	1.18	1.27	12.7	9.4	50		
55	19.6	19.5	32.8	19.1	963	42.5	23.7	17.8	355	144	3.8	18.4	32	819	38.6	24.5	18.0	323	1.07	1.26	12.0	9.7	55		
60	20.9	20.7	35.2	19.3	819	43.7	26.1	19.1	381	105	3.5	20.5	30	714	40.2	26.8	19.3	351	0.96	1.24	11.2	9.9	60		
65	22.0	21.8	37.3	19.4	714	44.8	28.3	20.3	405	79	3.1	22.5	28	635	41.7	28.9	20.5	376	0.87	1.22	10.4	9.9	65		
70	23.0	22.8	39.3	19.5	635	45.8	30.3	21.3	426	61	2.9	24.4	27	573	43.0	30.9	21.6	399	0.79	1.19	9.6	9.9	70		
75	23.9	23.7	41.1	19.6	573	46.8	32.2	22.2	446	49	2.6	26.2	25	525	44.1	32.7	22.5	421	0.73	1.16	8.9	9.9	75		
80	24.7	24.5	42.8	19.8	525	47.6	34.0	23.0	463	39	2.4	28.0	23	486	45.2	34.4	23.3	440	0.66	1.13	8.2	9.8	80		
85	25.3	25.1	44.4	19.9	486	48.4	35.6	23.7	479	32	2.2	29.7	22	454	46.2	36.0	24.0	458	0.61	1.10	7.6	9.7	85		
90	26.0	25.7	45.8	20.0	454	49.1	37.1	24.4	494	26	2.0	31.3	20	427	47.1	37.5	24.7	474	0.57	1.07	7.0	9.6	90		
95	26.5	26.3	47.1	20.2	427	49.8	38.5	24.9	507	22	1.9	32.8	19	405	48.0	38.8	25.2	488	0.53	1.05	6.5	9.4	95		
100	27.0	26.7	48.3	20.3	405	50.5	39.8	25.4	520	19	1.7	34.3	18	386	48.8	40.1	25.7	502	0.49	1.02	6.0	9.3	100		
105	27.4	27.1	49.4	20.4	386	51.1	41.1	25.8	531	16	1.6	35.8	17	370	49.5	41.3	26.1	514	0.46	0.99	5.6	9.1	105		
110	27.7	27.5	50.5	20.5	370	51.8	42.2	26.2	541	14	1.5	37.1	16	356	50.2	42.4	26.5	525	0.43	0.97	5.2	8.9	110		
115	28.0	27.8	51.5	20.7	356	52.3	43.3	26.6	551	12	1.4	38.5	15	344	50.9	43.4	26.9	536	0.41	0.94	4.9	8.8	115		
120	28.3	28.1	52.4	20.8	344	52.9	44.3	26.8	560	11	1.3	39.8	14	333	51.6	44.4	27.2	545	0.39	0.92	4.6	8.6	120		







DOUGLAS, Nederland 2018										sterke dunning										Boniteit IV, $h_{70} = 26.0$					
DOUGLAS FIR, Netherlands 2018										heavy thinning										Site Class IV, $h_{70} = 26.0$					
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei						
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning					Increment						
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$		
5					5000				0					5000				0			0.0	0.0	5		
10	2.7	2.6	3.1		5000	0.3	0.8	2.1	1					5000	0.3	0.8	2.1	1	0.28	0.03	0.7	0.1	10		
15	5.9	5.9	7.6		5000	5.2	3.6	4.7	20					5000	5.2	3.6	4.7	20	1.51	0.35	6.4	1.3	15		
20	8.6	8.5	12.9	22.0	5000	19.5	7.1	6.7	96	1751	3.9	5.3	19	3249	15.6	7.8	6.8	77	3.35	0.98	19.8	4.8	20		
25	11.1	11.0	17.7	22.0	3249	28.6	10.6	9.4	166	1301	6.8	8.1	39	1948	21.9	12.0	9.5	127	1.92	1.30	15.4	7.4	25		
30	13.4	13.3	21.7	22.0	1948	30.9	14.2	11.8	204	625	5.9	11.0	39	1323	25.0	15.5	12.0	165	1.70	1.39	15.4	8.8	30		
35	15.6	15.5	25.5	22.0	1323	33.0	17.8	14.1	241	345	5.2	13.9	38	978	27.8	19.0	14.3	203	1.52	1.42	15.0	9.7	35		
40	17.6	17.5	29.1	22.0	978	35.0	21.3	16.2	276	210	4.6	16.8	37	769	30.4	22.4	16.3	240	1.36	1.42	14.4	10.3	40		
45	19.4	19.3	32.5	22.0	769	36.8	24.7	18.0	310	137	4.1	19.6	35	632	32.7	25.7	18.2	275	1.22	1.41	13.7	10.7	45		
50	21.1	20.9	35.6	22.0	632	38.4	27.8	19.7	342	94	3.7	22.3	33	538	34.7	28.7	19.9	309	1.09	1.38	12.9	11.0	50		
55	22.5	22.3	38.5	22.1	538	39.9	30.8	21.2	372	73	3.6	25.0	33	465	36.4	31.6	21.4	339	0.98	1.35	12.1	11.1	55		
60	23.8	23.6	41.2	22.3	465	41.0	33.5	22.5	397	54	3.2	27.5	31	411	37.8	34.2	22.7	366	0.89	1.31	11.2	11.2	60		
65	25.0	24.8	43.6	22.4	411	42.1	36.1	23.7	420	41	2.9	30.0	29	369	39.1	36.7	23.9	391	0.80	1.28	10.4	11.1	65		
70	26.0	25.8	45.9	22.5	369	43.0	38.5	24.7	441	32	2.6	32.3	27	337	40.3	39.0	25.0	414	0.73	1.24	9.6	11.1	70		
75	26.9	26.7	48.0	22.6	337	43.8	40.7	25.6	460	26	2.4	34.5	25	311	41.4	41.2	25.9	435	0.67	1.21	8.9	10.9	75		
80	27.7	27.5	49.9	22.8	311	44.6	42.7	26.4	478	21	2.2	36.6	24	290	42.4	43.1	26.7	454	0.61	1.17	8.2	10.8	80		
85	28.4	28.1	51.6	22.9	290	45.4	44.6	27.1	494	17	2.0	38.6	22	273	43.3	44.9	27.4	472	0.56	1.14	7.6	10.6	85		
90	29.0	28.7	53.2	23.0	273	46.1	46.3	27.8	509	14	1.9	40.6	20	259	44.2	46.6	28.1	488	0.52	1.10	7.1	10.4	90		
95	29.5	29.3	54.7	23.2	259	46.7	47.9	28.3	522	12	1.7	42.4	19	247	45.0	48.2	28.6	503	0.49	1.07	6.6	10.3	95		
100	30.0	29.7	56.1	23.3	247	47.4	49.4	28.8	535	10	1.6	44.2	18	237	45.8	49.6	29.1	517	0.45	1.04	6.1	10.1	100		
105	30.4	30.2	57.4	23.4	237	48.0	50.8	29.2	547	9	1.5	45.9	17	228	46.5	51.0	29.5	530	0.43	1.01	5.7	9.9	105		
110	30.8	30.5	58.6	23.5	228	48.6	52.1	29.6	557	8	1.4	47.5	16	220	47.2	52.3	29.9	542	0.40	0.99	5.3	9.7	110		
115	31.1	30.9	59.7	23.7	220	49.2	53.3	29.9	568	7	1.3	49.1	15	213	47.9	53.5	30.2	553	0.38	0.96	5.0	9.5	115		
120	31.4	31.2	60.8	23.8	213	49.8	54.5	30.2	577	6	1.2	50.6	14	207	48.6	54.6	30.5	563	0.36	0.94	4.7	9.3	120		



## Japanse lariks (*Larix kaempferi*)

## Japanese larch

Jansen, J.J., A. Oosterbaan, G.M. J. Mohren en J. den Ouden

**Bron:** Jansen, J.J., A. Oosterbaan, G.M. J. Mohren en J. den Ouden, 2018. *Groei en productie van Japanse lariks in Nederland*. FEM Groei en Productie Rapport 2018 – 1. 120 blz.

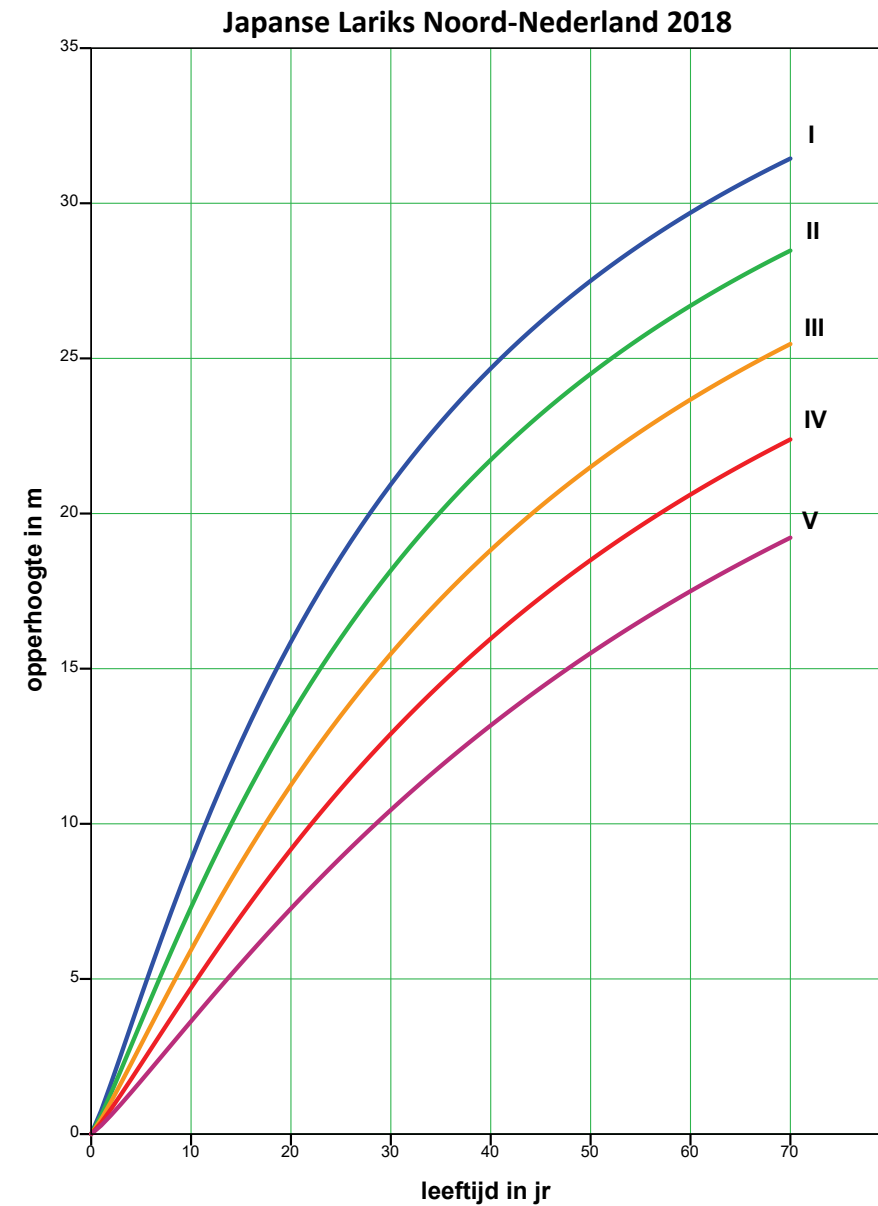
Dit rapport is gratis te downloaden op:

<https://doi.org/10.18174/444088>

Er is een tabel voor Noord-Nederland en een tabel voor Zuid-Nederland.

Het bosgebied Zuid-Nederland bestaat uit Noord-Brabant, Noord en Midden Limburg.

Het bosgebied Noord-Nederland bestaat uit de rest van Nederland dus inclusief Zuid-Limburg.









JAPANESE LARIKS, Noord Nederland 2018										matige dunning							Boniteit III, $h_{50} = 21.5$						
JAPANESE LARCH, North Netherlands 2018										moderate thinning							Site Class III, $h_{50} = 21.5$						
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	2.9	2.8	1.8		5000	0.7	1.3	2.3	1					5000	0.7	1.3	2.3	1	0.57	0.14	1.1	0.2	5
10	5.9	5.8	6.2		5000	7.9	4.5	5.0	23					5000	7.9	4.5	5.0	23	2.03	0.79	8.1	2.3	10
15	8.7	8.5	10.0	19.0	5000	18.8	6.9	7.6	83	745	1.9	5.7	8	4255	16.9	7.1	7.7	75	1.91	1.25	12.8	5.5	15
20	11.2	11.0	13.0	19.0	4255	25.3	8.7	10.1	140	1697	7.1	7.3	39	2557	18.2	9.5	10.1	102	1.49	1.36	12.8	7.4	20
25	13.4	13.2	15.7	19.0	2557	25.0	11.2	12.3	163	783	5.4	9.4	35	1774	19.5	11.8	12.4	128	1.25	1.36	12.1	8.4	25
30	15.4	15.2	18.3	19.0	1774	25.4	13.5	14.3	187	430	4.4	11.4	32	1345	21.0	14.1	14.4	155	1.09	1.33	11.5	9.0	30
35	17.2	16.9	20.7	19.0	1345	26.2	15.7	16.1	211	264	3.7	13.4	30	1081	22.4	16.2	16.2	181	0.99	1.28	11.0	9.3	35
40	18.8	18.5	23.0	19.0	1081	27.2	17.9	17.7	235	175	3.3	15.4	28	906	23.9	18.3	17.8	207	0.91	1.24	10.5	9.5	40
45	20.2	19.9	25.1	19.0	906	28.3	19.9	19.2	259	123	2.9	17.3	26	782	25.4	20.3	19.3	233	0.86	1.20	10.1	9.6	45
50	21.5	21.2	27.2	19.0	782	29.6	21.9	20.5	282	91	2.6	19.2	25	692	27.0	22.3	20.6	258	0.81	1.17	9.7	9.6	50
55	22.7	22.3	29.2	19.2	692	30.9	23.9	21.7	305	84	2.9	21.1	28	608	28.0	24.2	21.8	277	0.78	1.13	9.3	9.6	55
60	23.7	23.4	31.2	19.5	608	31.8	25.8	22.8	322	66	2.7	23.1	27	543	29.1	26.1	22.9	295	0.75	1.10	9.0	9.5	60
65	24.7	24.3	33.1	19.7	543	32.7	27.7	23.8	339	53	2.6	25.0	26	490	30.1	28.0	23.9	313	0.73	1.07	8.6	9.5	65
70	25.5	25.2	35.0	19.9	490	33.7	29.6	24.7	355	43	2.5	27.0	26	446	31.2	29.8	24.9	329	0.71	1.05	8.3	9.4	70





**JAPANESE LARIKS, Noord Nederland 2018**

JAPANESE LARCH, North Netherlands 2018

**sterke dunning**

heavy thinning

**Boniteit I,  $h_{50} = 27.5$**

Site Class I,  $h_{50} = 27.5$

<i>t</i>	<b>Opstandkenmerken</b> Stand characteristics				<b>Kenmerken voor dunning</b> Characteristics before thinning					<b>Dunning</b> Thinning				<b>Kenmerken na dunning</b> Characteristics after thinning					<b>Bijgroei</b> Increment				<i>t</i>
	<i>h<sub>top</sub></i>	<i>h<sub>dom</sub></i>	<i>d<sub>dom</sub></i>	<i>S%</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>h<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>h<sub>g</sub></i>	<i>V</i>	<i>lc<sub>G</sub></i>	<i>lm<sub>G</sub></i>	<i>lc<sub>V</sub></i>	<i>lm<sub>V</sub></i>	
5	4.4	4.3	4.0		5000	3.2	2.9	3.6	7					5000	3.2	2.9	3.6	7	2.21	0.64	6.5	1.4	5
10	8.7	8.6	10.3	22.0	5000	19.1	7.0	7.7	85	1853	5.0	5.9	22	3147	14.1	7.5	7.7	63	2.94	1.91	19.5	8.5	10
15	12.5	12.3	14.6	22.0	3147	26.0	10.3	11.3	162	1618	9.9	8.8	61	1529	16.2	11.6	11.4	102	2.00	2.07	19.1	12.3	15
20	15.7	15.5	18.9	22.0	1529	24.9	14.4	14.6	191	564	6.8	12.4	51	965	18.1	15.5	14.7	140	1.56	1.99	17.4	13.7	20
25	18.5	18.2	22.8	22.0	965	25.2	18.2	17.4	223	266	5.2	15.7	45	699	20.0	19.1	17.5	178	1.31	1.88	16.1	14.3	25
30	20.8	20.5	26.4	22.0	699	26.1	21.8	19.8	256	149	4.2	19.0	41	550	21.9	22.5	19.9	215	1.15	1.77	15.1	14.5	30
35	22.9	22.6	29.7	22.0	550	27.4	25.2	21.9	288	93	3.6	22.0	37	456	23.8	25.8	22.1	252	1.04	1.67	14.2	14.5	35
40	24.6	24.3	32.8	22.0	456	28.8	28.3	23.8	321	63	3.1	25.0	34	394	25.7	28.8	23.9	287	0.96	1.59	13.4	14.4	40
45	26.2	25.8	35.8	22.0	394	30.4	31.3	25.4	352	45	2.7	27.9	31	349	27.6	31.8	25.5	321	0.90	1.51	12.7	14.3	45
50	27.5	27.1	38.6	22.0	349	32.0	34.2	26.8	383	33	2.5	30.7	29	315	29.6	34.6	27.0	354	0.86	1.45	12.1	14.1	50
55	28.7	28.3	41.3	22.2	315	33.8	36.9	28.1	414	32	2.8	33.5	33	284	31.0	37.3	28.2	380	0.83	1.40	11.6	13.9	55
60	29.7	29.4	43.9	22.5	284	35.1	39.7	29.2	437	25	2.6	36.3	32	259	32.5	40.0	29.4	405	0.80	1.35	11.1	13.7	60
65	30.7	30.3	46.4	22.7	259	36.4	42.3	30.2	459	21	2.5	39.1	31	238	33.9	42.6	30.4	428	0.78	1.30	10.6	13.5	65
70	31.5	31.2	48.9	22.9	238	37.8	44.9	31.1	480	17	2.4	41.9	30	221	35.4	45.2	31.3	451	0.76	1.27	10.2	13.2	70

**JAPANESE LARIKS, Noord Nederland 2018**

JAPANESE LARCH, North Netherlands 2018

**sterke dunning**

heavy thinning

**Boniteit II,  $h_{50} = 24.5$**

Site Class II,  $h_{50} = 24.5$

<i>t</i>	Opstandkenmerken Stand characteristics				Kenmerken voor dunning Characteristics before thinning					Dunning Thinning				Kenmerken na dunning Characteristics after thinning					Bijgroei Increment				<i>t</i>
	<i>h<sub>top</sub></i>	<i>h<sub>dom</sub></i>	<i>d<sub>dom</sub></i>	<i>S%</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>h<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>h<sub>g</sub></i>	<i>V</i>	<i>lc<sub>G</sub></i>	<i>lm<sub>G</sub></i>	<i>lc<sub>V</sub></i>	<i>lm<sub>V</sub></i>	
5	3.6	3.5	2.8		5000	1.6	2.0	2.9	3					5000	1.6	2.0	2.9	3	1.23	0.31	3.0	0.6	5
10	7.2	7.1	8.1	21.0	5000	13.2	5.8	6.3	47					5000	13.2	5.8	6.3	47	2.89	1.32	16.0	4.7	10
15	10.5	10.3	12.3	22.0	5000	24.8	8.0	9.4	131	2838	10.5	6.9	55	2162	14.3	9.2	9.5	77	1.95	1.66	15.8	8.7	15
20	13.4	13.2	15.8	22.0	2162	22.9	11.6	12.2	151	830	6.5	10.0	42	1332	16.4	12.5	12.3	109	1.52	1.67	14.6	10.3	20
25	15.9	15.7	19.3	22.0	1332	23.3	14.9	14.8	179	387	5.1	12.9	38	944	18.3	15.7	14.8	141	1.27	1.61	13.7	11.0	25
30	18.1	17.8	22.6	22.0	944	24.2	18.1	17.0	208	215	4.2	15.7	35	729	20.0	18.7	17.1	173	1.12	1.54	13.0	11.4	30
35	20.0	19.7	25.6	22.0	729	25.4	21.0	19.0	236	133	3.5	18.4	32	596	21.8	21.6	19.1	204	1.01	1.47	12.4	11.6	35
40	21.7	21.4	28.5	22.0	596	26.7	23.9	20.7	264	89	3.1	21.1	30	507	23.6	24.3	20.8	234	0.94	1.41	11.8	11.7	40
45	23.2	22.9	31.2	22.0	507	28.1	26.6	22.2	291	63	2.8	23.6	28	444	25.3	26.9	22.4	263	0.88	1.35	11.3	11.6	45
50	24.5	24.2	33.7	22.0	444	29.6	29.1	23.6	319	47	2.5	26.1	26	397	27.1	29.5	23.8	292	0.83	1.30	10.8	11.6	50
55	25.7	25.3	36.2	22.2	397	31.2	31.6	24.9	345	43	2.8	28.6	30	354	28.4	31.9	25.0	315	0.80	1.26	10.4	11.5	55
60	26.7	26.4	38.6	22.5	354	32.3	34.1	26.0	366	34	2.6	31.2	29	320	29.7	34.4	26.2	337	0.77	1.22	9.9	11.4	60
65	27.7	27.3	41.0	22.7	320	33.5	36.5	27.0	385	28	2.5	33.7	28	292	31.0	36.8	27.2	357	0.75	1.19	9.6	11.3	65
70	28.6	28.2	43.3	22.9	292	34.7	38.9	27.9	404	23	2.4	36.3	27	270	32.4	39.1	28.1	377	0.73	1.15	9.2	11.1	70



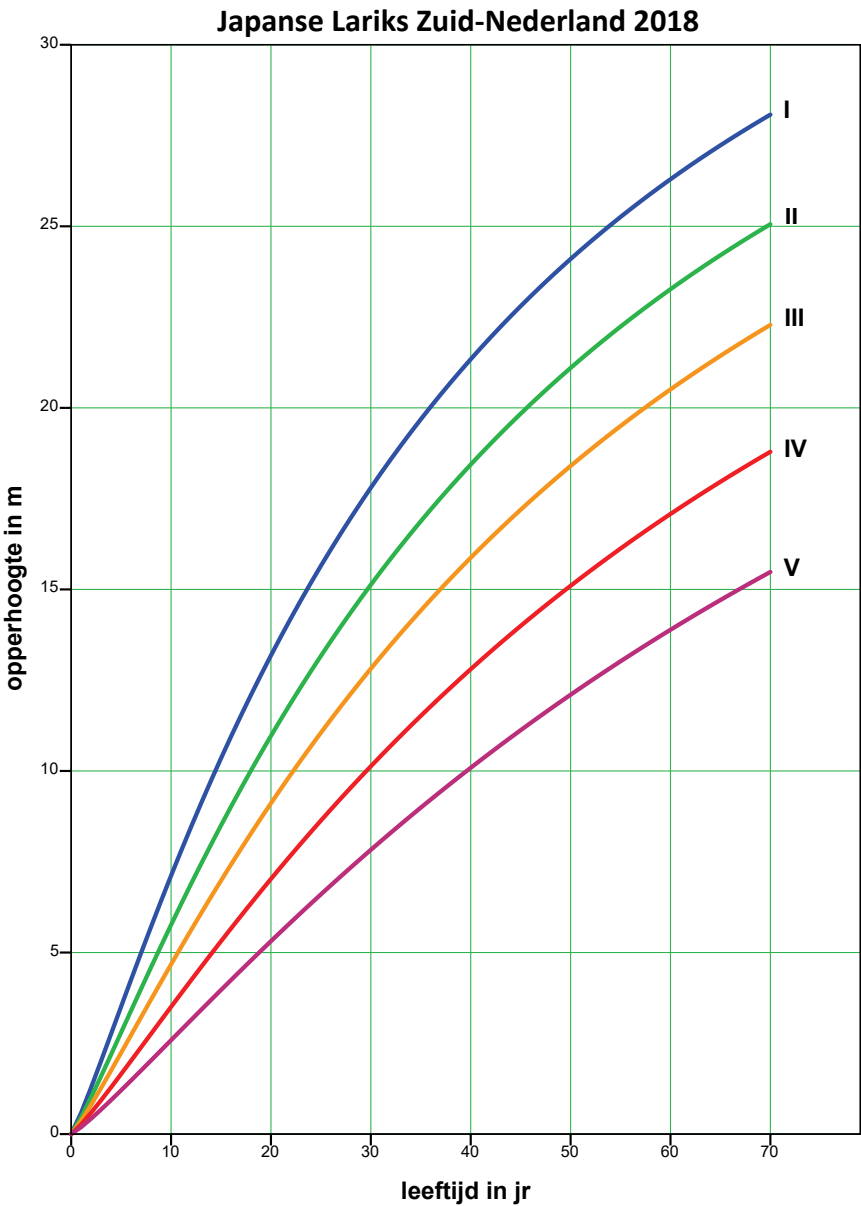






Het bosgebied Zuid-Nederland bestaat uit:

- Noord-Brabant
- Noord en Midden Limburg



**JAPANESE LARIKS, Zuid Nederland 2018**

JAPANESE LARCH, South Netherlands 2018

**matige dunning**

moderate thinning

**Boniteit I,  $h_{50} = 24.1$**

Site Class I,  $h_{50} = 24.1$

<i>t</i>	<b>Opstandkenmerken</b> Stand characteristics				<b>Kenmerken voor dunning</b> Characteristics before thinning					<b>Dunning</b> Thinning				<b>Kenmerken na dunning</b> Characteristics after thinning					<b>Bijgroei</b> Increment				<i>t</i>
	<i>h<sub>top</sub></i>	<i>h<sub>dom</sub></i>	<i>d<sub>dom</sub></i>	<i>S%</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>h<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>h<sub>g</sub></i>	<i>V</i>	<i>lc<sub>G</sub></i>	<i>lm<sub>G</sub></i>	<i>lc<sub>V</sub></i>	<i>lm<sub>V</sub></i>	
5	5.8	5.7	6.1		5000	7.5	4.4	4.9	22					5000	7.5	4.4	4.9	22	2.88	1.50	11.3	4.3	5
10	9.4	9.3	10.2	19.0	5000	18.6	6.9	8.4	90	1407	3.5	5.6	17	3593	15.1	7.3	8.4	73	1.59	1.86	12.7	9.0	10
15	12.3	12.1	13.1	19.0	3593	22.0	8.8	11.2	135	1490	6.3	7.3	38	2103	15.7	9.7	11.3	97	1.21	1.70	11.8	10.1	15
20	14.7	14.5	15.7	19.0	2103	21.2	11.3	13.6	153	632	4.4	9.4	31	1472	16.8	12.0	13.7	122	1.02	1.55	10.9	10.4	20
25	16.8	16.6	18.2	19.0	1472	21.6	13.7	15.7	175	339	3.5	11.5	28	1132	18.1	14.3	15.8	147	0.92	1.43	10.4	10.4	25
30	18.6	18.3	20.6	19.0	1132	22.5	15.9	17.5	198	209	3.0	13.5	26	923	19.6	16.4	17.6	173	0.85	1.34	10.1	10.4	30
35	20.2	19.9	22.9	19.0	923	23.7	18.1	19.2	222	140	2.6	15.4	24	783	21.1	18.5	19.3	198	0.81	1.27	9.8	10.3	35
40	21.6	21.3	25.1	19.0	783	25.0	20.2	20.6	247	100	2.4	17.3	23	683	22.7	20.6	20.8	224	0.77	1.21	9.6	10.3	40
45	22.9	22.6	27.2	19.0	683	26.5	22.2	22.0	271	75	2.2	19.3	22	608	24.3	22.5	22.1	249	0.75	1.16	9.4	10.2	45
50	24.1	23.8	29.2	19.0	608	28.0	24.2	23.2	296	58	2.0	21.2	21	551	26.0	24.5	23.4	275	0.73	1.12	9.2	10.1	50
55	25.2	24.8	31.2	19.2	551	29.6	26.1	24.3	320	58	2.4	23.1	26	493	27.1	26.5	24.5	294	0.71	1.08	9.0	10.0	55
60	26.2	25.8	33.2	19.5	493	30.6	28.1	25.4	339	47	2.3	25.2	25	446	28.3	28.4	25.5	313	0.70	1.05	8.8	9.9	60
65	27.1	26.7	35.2	19.7	446	31.8	30.1	26.3	357	39	2.3	27.2	25	406	29.5	30.4	26.5	332	0.69	1.02	8.6	9.8	65
70	27.9	27.6	37.2	19.9	406	32.9	32.1	27.2	374	33	2.2	29.3	25	373	30.7	32.3	27.4	349	0.68	1.00	8.4	9.7	70





**JAPANESE LARIKS, Zuid Nederland 2018**

JAPANESE LARCH, South Netherlands 2018

**matige dunning**

moderate thinning

**Boniteit IV,  $h_{50} = 15.1$**

Site Class IV,  $h_{50} = 15.1$

<i>t</i>	Opstandkenmerken Stand characteristics				Kenmerken voor dunning Characteristics before thinning					Dunning Thinning				Kenmerken na dunning Characteristics after thinning					Bijgroei Increment				<i>t</i>
	<i>h<sub>top</sub></i>	<i>h<sub>dom</sub></i>	<i>d<sub>dom</sub></i>	<i>S%</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>h<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>h<sub>g</sub></i>	<i>V</i>	<i>lc<sub>G</sub></i>	<i>lm<sub>G</sub></i>	<i>lc<sub>V</sub></i>	<i>lm<sub>V</sub></i>	
5	3.1	3.1	2.2		5000	1.0	1.6	2.5	2					5000	1.0	1.6	2.5	2	0.56	0.19	1.2	0.3	5
10	5.3	5.2	5.3		5000	5.8	3.8	4.5	15					5000	5.8	3.8	4.5	15	1.23	0.58	4.3	1.5	10
15	7.0	6.9	8.1	21.6	5000	12.4	5.6	6.1	43					5000	12.4	5.6	6.1	43	1.29	0.82	7.3	2.9	15
20	8.6	8.4	9.7	19.0	5000	17.0	6.6	7.5	73	641	1.5	5.4	6	4359	15.5	6.7	7.6	67	0.86	0.85	5.8	3.7	20
25	9.9	9.8	11.5	19.0	4359	19.6	7.6	8.8	96	1112	3.5	6.4	17	3247	16.0	7.9	8.9	79	0.77	0.84	5.7	4.1	25
30	11.1	11.0	13.2	19.0	3247	19.7	8.8	10.0	107	674	2.9	7.4	16	2573	16.8	9.1	10.1	91	0.71	0.82	5.5	4.3	30
35	12.3	12.1	14.7	19.0	2573	20.2	10.0	11.1	119	446	2.6	8.5	15	2127	17.7	10.3	11.2	104	0.67	0.81	5.4	4.5	35
40	13.3	13.1	16.0	19.0	2127	20.9	11.2	12.1	131	314	2.3	9.6	14	1813	18.7	11.4	12.2	117	0.64	0.79	5.4	4.6	40
45	14.2	14.0	17.4	19.0	1813	21.8	12.4	13.1	144	232	2.1	10.7	14	1581	19.7	12.6	13.2	130	0.62	0.77	5.3	4.7	45
50	15.1	14.9	18.7	19.0	1581	22.7	13.5	14.0	156	178	2.0	11.8	13	1403	20.8	13.7	14.0	143	0.60	0.75	5.2	4.8	50
55	15.9	15.7	20.0	19.2	1403	23.7	14.7	14.8	169	170	2.3	13.0	16	1233	21.5	14.9	14.9	153	0.58	0.74	5.2	4.8	55
60	16.7	16.4	21.3	19.5	1233	24.3	15.9	15.5	179	137	2.2	14.2	16	1096	22.2	16.1	15.6	163	0.57	0.72	5.1	4.8	60
65	17.4	17.1	22.7	19.7	1096	25.0	17.0	16.3	188	112	2.1	15.4	15	984	22.9	17.2	16.4	173	0.56	0.71	5.0	4.8	65
70	18.1	17.8	23.9	19.9	984	25.7	18.2	17.0	198	93	2.0	16.6	15	891	23.7	18.4	17.1	183	0.55	0.70	4.9	4.8	70

**JAPANESE LARIKS, Zuid Nederland 2018**

JAPANESE LARCH, South Netherlands 2018

**matige dunning**

moderate thinning

**Boniteit V,  $h_{50} = 12.1$**

Site Class V,  $h_{50} = 12.1$

<i>t</i>	Opstandkenmerken Stand characteristics				Kenmerken voor dunning Characteristics before thinning					Dunning Thinning				Kenmerken na dunning Characteristics after thinning					Bijgroei Increment				<i>t</i>
	<i>h<sub>top</sub></i>	<i>h<sub>dom</sub></i>	<i>d<sub>dom</sub></i>	<i>S%</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>h<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>h<sub>g</sub></i>	<i>V</i>	<i>lc<sub>G</sub></i>	<i>lm<sub>G</sub></i>	<i>lc<sub>V</sub></i>	<i>lm<sub>V</sub></i>	
5	2.4	2.3	1.3		5000	0.3	0.9	1.9	0					5000	0.3	0.9	1.9	0	0.20	0.07	0.3	0.1	5
10	4.0	3.9	3.5		5000	2.4	2.5	3.3	5					5000	2.4	2.5	3.3	5	0.64	0.24	1.7	0.5	10
15	5.4	5.3	5.6		5000	6.3	4.0	4.6	17					5000	6.3	4.0	4.6	17	0.86	0.42	3.1	1.2	15
20	6.7	6.5	7.2		5000	10.6	5.2	5.8	35					5000	10.6	5.2	5.8	35	0.83	0.53	3.9	1.8	20
25	7.8	7.6	8.9	19.6	5000	14.6	6.1	6.8	57					5000	14.6	6.1	6.8	57	0.71	0.59	4.1	2.3	25
30	8.8	8.6	10.1	19.0	5000	18.0	6.8	7.7	78	844	2.2	5.7	9	4156	15.8	7.0	7.8	69	0.65	0.60	4.2	2.6	30
35	9.7	9.5	11.7	19.0	4156	19.0	7.6	8.6	90	755	2.5	6.5	12	3401	16.5	7.9	8.7	78	0.61	0.60	4.1	2.8	35
40	10.6	10.4	12.9	19.0	3401	19.4	8.5	9.4	98	530	2.2	7.3	11	2871	17.2	8.7	9.5	87	0.58	0.60	4.1	3.0	40
45	11.4	11.2	14.4	19.0	2871	20.1	9.4	10.2	107	390	2.0	8.2	11	2482	18.0	9.6	10.3	97	0.56	0.60	4.0	3.1	45
50	12.1	11.9	15.4	19.0	2482	20.8	10.3	11.0	117	297	1.9	9.0	10	2185	18.9	10.5	11.0	106	0.54	0.59	4.0	3.2	50
55	12.8	12.6	16.5	19.2	2185	21.5	11.2	11.7	126	279	2.2	9.9	12	1905	19.4	11.4	11.7	113	0.53	0.59	3.9	3.3	55
60	13.5	13.3	17.6	19.5	1905	22.0	12.1	12.3	133	223	2.1	10.8	12	1682	19.9	12.3	12.4	121	0.52	0.58	3.9	3.3	60
65	14.1	13.9	18.7	19.7	1682	22.5	13.1	12.9	140	182	2.0	11.8	12	1500	20.5	13.2	13.0	128	0.51	0.58	3.9	3.4	65
70	14.7	14.5	19.8	19.9	1500	23.0	14.0	13.5	147	150	1.9	12.8	12	1350	21.1	14.1	13.6	135	0.50	0.57	3.8	3.4	70





**JAPANESE LARIKS, Zuid Nederland 2018**

JAPANESE LARCH, South Netherlands 2018

**sterke dunning**

heavy thinning

**Boniteit II,  $h_{50} = 21.1$**

Site Class II,  $h_{50} = 21.1$

<i>t</i>	Opstandkenmerken Stand characteristics				Kenmerken voor dunning Characteristics before thinning					Dunning Thinning				Kenmerken na dunning Characteristics after thinning					Bijgroei Increment				<i>t</i>
	<i>h<sub>top</sub></i>	<i>h<sub>dom</sub></i>	<i>d<sub>dom</sub></i>	<i>S%</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>h<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>h<sub>g</sub></i>	<i>V</i>	<i>lc<sub>G</sub></i>	<i>lm<sub>G</sub></i>	<i>lc<sub>V</sub></i>	<i>lm<sub>V</sub></i>	
5	4.8	4.7	4.7		5000	4.5	3.4	4.1	11					5000	4.5	3.4	4.1	11	2.05	0.89	6.6	2.2	5
10	8.0	7.8	9.0	22.0	5000	14.7	6.1	7.0	61	1244	2.6	5.1	10	3756	12.2	6.4	7.0	50	1.51	1.47	10.9	6.1	10
15	10.5	10.3	11.8	22.0	3756	18.6	7.9	9.4	99	1588	5.7	6.8	30	2168	12.9	8.7	9.4	69	1.14	1.41	9.3	7.3	15
20	12.6	12.4	14.3	22.0	2168	18.1	10.3	11.5	113	669	4.1	8.8	25	1499	14.0	10.9	11.5	88	0.97	1.32	8.7	7.7	20
25	14.5	14.2	16.7	22.0	1499	18.6	12.6	13.3	131	357	3.3	10.8	23	1142	15.3	13.1	13.4	108	0.87	1.24	8.4	7.8	25
30	16.1	15.8	19.0	22.0	1142	19.4	14.7	14.9	149	219	2.8	12.8	21	923	16.6	15.1	15.0	128	0.80	1.17	8.2	7.9	30
35	17.5	17.3	21.3	22.0	923	20.5	16.8	16.4	169	146	2.5	14.7	20	777	18.0	17.2	16.5	149	0.76	1.12	8.1	7.9	35
40	18.8	18.6	23.4	22.0	777	21.8	18.9	17.7	189	104	2.3	16.7	19	673	19.5	19.2	17.9	169	0.73	1.07	7.9	8.0	40
45	20.0	19.7	25.5	22.0	673	23.1	20.9	19.0	209	77	2.1	18.6	19	596	21.0	21.2	19.1	190	0.70	1.03	7.8	7.9	45
50	21.1	20.8	27.5	22.0	596	24.4	22.8	20.1	229	60	2.0	20.5	18	536	22.4	23.1	20.2	211	0.68	1.00	7.7	7.9	50
55	22.1	21.8	29.5	22.2	536	25.8	24.8	21.1	249	57	2.3	22.4	21	478	23.5	25.0	21.2	227	0.67	0.97	7.5	7.9	55
60	23.0	22.7	31.5	22.5	478	26.8	26.7	22.1	265	47	2.2	24.5	21	432	24.7	27.0	22.2	243	0.65	0.94	7.4	7.9	60
65	23.9	23.6	33.5	22.7	432	27.9	28.7	23.0	280	39	2.1	26.5	21	393	25.8	28.9	23.1	259	0.64	0.92	7.3	7.8	65
70	24.7	24.3	35.4	22.9	393	29.0	30.6	23.8	295	32	2.1	28.6	21	361	26.9	30.8	24.0	274	0.63	0.90	7.1	7.8	70





**JAPANESE LARIKS, Zuid Nederland 2018**

JAPANESE LARCH, South Netherlands 2018

**sterke dunning**

heavy thinning

**Boniteit V,  $h_{50} = 12.1$**

Site Class V,  $h_{50} = 12.1$

<i>t</i>	Opstandkenmerken Stand characteristics				Kenmerken voor dunning Characteristics before thinning					Dunning Thinning				Kenmerken na dunning Characteristics after thinning					Bijgroei Increment				<i>t</i>
	<i>h<sub>top</sub></i>	<i>h<sub>dom</sub></i>	<i>d<sub>dom</sub></i>	<i>S%</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>h<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>h<sub>g</sub></i>	<i>V</i>	<i>lc<sub>G</sub></i>	<i>lm<sub>G</sub></i>	<i>lc<sub>V</sub></i>	<i>lm<sub>V</sub></i>	
5	2.4	2.3	1.3		5000	0.3	0.9	1.9	0					5000	0.3	0.9	1.9	0	0.20	0.07	0.3	0.1	5
10	4.0	3.9	3.5		5000	2.4	2.5	3.3	5					5000	2.4	2.5	3.3	5	0.64	0.24	1.7	0.5	10
15	5.4	5.3	5.6		5000	6.3	4.0	4.6	17					5000	6.3	4.0	4.6	17	0.86	0.42	3.1	1.2	15
20	6.7	6.5	7.2		5000	10.6	5.2	5.8	35					5000	10.6	5.2	5.8	35	0.83	0.53	3.9	1.8	20
25	7.8	7.6	9.1	22.0	5000	14.6	6.1	6.8	57	1045	2.3	5.2	9	3955	12.3	6.3	6.8	48	0.70	0.58	4.0	2.3	25
30	8.8	8.6	10.5	22.0	3955	15.7	7.1	7.7	68	855	2.6	6.2	11	3100	13.1	7.3	7.8	57	0.64	0.60	3.9	2.6	30
35	9.7	9.5	12.1	22.0	3100	16.2	8.2	8.6	77	563	2.3	7.2	11	2537	14.0	8.4	8.7	66	0.61	0.60	3.9	2.8	35
40	10.6	10.4	13.4	22.0	2537	16.9	9.2	9.4	86	395	2.1	8.1	10	2141	14.9	9.4	9.5	76	0.58	0.60	3.9	2.9	40
45	11.4	11.2	14.8	22.0	2141	17.7	10.3	10.2	95	291	1.9	9.1	10	1851	15.8	10.4	10.3	85	0.56	0.60	3.9	3.0	45
50	12.1	11.9	16.0	22.0	1851	18.5	11.3	11.0	104	221	1.8	10.1	10	1629	16.8	11.4	11.0	94	0.54	0.59	3.9	3.1	50
55	12.8	12.6	17.2	22.2	1629	19.4	12.3	11.7	114	204	2.0	11.2	11	1426	17.4	12.5	11.7	102	0.52	0.59	3.8	3.2	55
60	13.5	13.3	18.4	22.5	1426	20.0	13.4	12.3	121	163	1.9	12.2	11	1263	18.1	13.5	12.4	110	0.51	0.58	3.8	3.2	60
65	14.1	13.9	19.6	22.7	1263	20.6	14.4	12.9	129	133	1.9	13.3	11	1130	18.8	14.5	13.0	117	0.50	0.58	3.8	3.3	65
70	14.7	14.5	20.8	22.9	1130	21.3	15.5	13.5	136	110	1.8	14.4	11	1020	19.5	15.6	13.6	125	0.50	0.57	3.7	3.3	70

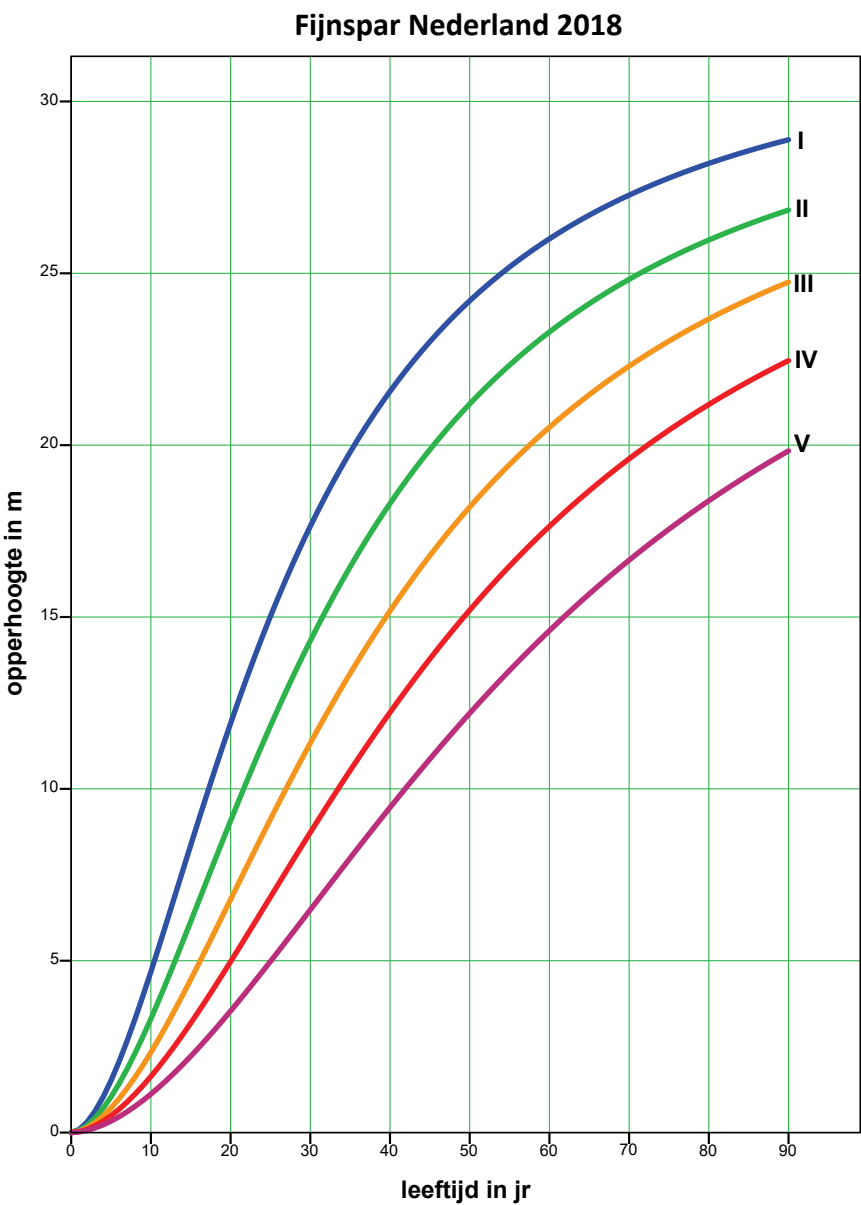
**Fijnspar (*Picea abies*)**

**Norway spruce**

Jansen, J.J., G.M.J. Mohren, A. Oosterbaan en J. den Ouden

**Bron:** Jansen, J.J., G.M.J. Mohren, A. Oosterbaan en J. den Ouden, 2018. *Groei en productie van fijnspar in Nederland*. FEM Groei en Productie Rapport 2018 – 2, 88 blz.

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<https://doi.org/10.18174/444089>



FIJNSPAR, Nederland 2018										matige dunning										Boniteit I, $h_{50} = 24.2$				
NORWAY SPRUCE, Netherlands 2018										moderate thinning										Site Class I, $h_{50} = 24.2$				
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei					
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning					Increment					
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$	
5	1.5	1.5	1.5		5000	0.5	1.1	1.2	0					5000	0.5	1.1	1.2	0	0.44	0.10	0.5	0.1	5	
10	4.7	4.6	6.1		5000	8.1	4.5	3.9	18					5000	8.1	4.5	3.9	18	4.08	0.81	11.6	1.8	10	
15	8.4	8.3	14.3	19.0	5000	40.4	10.1	7.2	181	427	2.3	8.3	10	4573	38.1	10.3	7.3	171	4.41	2.69	46.6	12.1	15	
20	11.9	11.8	19.8	19.0	4573	54.4	12.3	10.6	328	2316	19.2	10.3	116	2256	35.2	14.1	10.7	212	2.19	2.84	26.1	16.9	20	
25	15.0	14.9	23.8	19.0	2256	45.0	15.9	13.6	330	839	11.4	13.2	84	1418	33.6	17.4	13.7	246	1.75	2.66	22.1	18.2	25	
30	17.6	17.5	27.4	19.0	1418	41.5	19.3	16.1	348	390	7.7	15.9	65	1028	33.8	20.5	16.2	283	1.45	2.48	19.4	18.6	30	
35	19.8	19.7	30.7	19.0	1028	40.5	22.4	18.1	374	212	5.6	18.3	52	816	34.9	23.3	18.3	322	1.24	2.32	17.3	18.6	35	
40	21.6	21.4	33.6	19.0	816	40.7	25.2	19.8	404	128	4.3	20.6	42	688	36.4	26.0	20.0	362	1.08	2.17	15.5	18.3	40	
45	23.0	22.9	36.2	19.0	688	41.5	27.7	21.2	435	84	3.4	22.6	35	604	38.2	28.4	21.4	400	0.96	2.04	14.1	17.9	45	
50	24.2	24.0	38.5	19.0	604	42.7	30.0	22.4	467	58	2.7	24.4	30	546	40.0	30.5	22.6	437	0.87	1.93	12.9	17.4	50	
55	25.2	25.0	40.8	19.4	546	44.1	32.1	23.4	499	61	3.3	26.3	37	485	40.8	32.7	23.5	462	0.79	1.83	11.8	17.0	55	
60	26.0	25.8	42.9	19.7	485	44.6	34.2	24.2	518	47	2.9	28.1	34	438	41.7	34.8	24.4	484	0.72	1.74	10.8	16.5	60	
65	26.7	26.5	44.9	20.1	438	45.1	36.2	24.9	536	38	2.6	29.9	31	401	42.5	36.7	25.1	505	0.66	1.66	10.0	16.0	65	
70	27.3	27.1	46.7	20.5	401	45.7	38.1	25.5	552	31	2.4	31.6	29	370	43.3	38.6	25.7	523	0.61	1.59	9.2	15.6	70	
75	27.8	27.6	48.4	20.9	370	46.2	39.9	26.1	568	26	2.2	33.2	27	344	44.0	40.3	26.2	540	0.57	1.52	8.6	15.1	75	
80	28.2	28.0	50.0	21.2	344	46.8	41.6	26.5	582	22	2.1	34.8	26	322	44.7	42.0	26.7	556	0.54	1.46	8.1	14.7	80	
85	28.6	28.4	51.6	21.6	322	47.3	43.2	27.0	595	19	2.0	36.3	25	303	45.3	43.6	27.1	570	0.51	1.41	7.6	14.3	85	
90	28.9	28.7	53.0	22.0	303	47.8	44.8	27.3	607	17	1.9	37.8	24	287	46.0	45.2	27.5	583	0.48	1.35	7.2	13.9	90	

FIJNSPAR, Nederland 2018										matige dunning										Boniteit II, $h_{50} = 21.2$					
NORWAY SPRUCE, Netherlands 2018										moderate thinning										Site Class II, $h_{50} = 21.2$					
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning						Bijgroei					
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning						Increment					
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$		
5	1.0	1.0			5000				0					5000				0			0.2	0.0	5		
10	3.3	3.3	3.6		5000	2.8	2.7	2.6	5					5000	2.8	2.7	2.6	5	1.30	0.28	2.9	0.5	10		
15	6.1	6.1	9.7		5000	20.1	7.2	5.2	56					5000	20.1	7.2	5.2	56	6.61	1.34	22.8	3.7	15		
20	9.1	9.0	15.7	19.0	5000	45.3	10.7	7.9	217	1112	6.8	8.8	33	3888	38.6	11.2	8.0	185	3.35	2.27	26.8	10.9	20		
25	11.8	11.8	19.8	19.0	3888	51.4	13.0	10.6	308	1604	14.6	10.7	88	2284	36.8	14.3	10.6	220	1.84	2.32	21.0	13.6	25		
30	14.3	14.2	23.1	19.0	2284	45.2	15.9	12.9	318	722	9.7	13.1	68	1562	35.5	17.0	13.0	249	1.53	2.22	18.5	14.6	30		
35	16.5	16.3	26.1	19.0	1562	42.6	18.6	15.0	337	382	7.0	15.3	56	1181	35.6	19.6	15.1	281	1.31	2.10	16.7	15.0	35		
40	18.3	18.2	28.9	19.0	1181	41.7	21.2	16.8	361	226	5.3	17.4	46	955	36.4	22.0	16.9	314	1.15	1.99	15.2	15.1	40		
45	19.9	19.7	31.4	19.0	955	41.8	23.6	18.3	387	145	4.2	19.3	39	810	37.6	24.3	18.5	348	1.02	1.89	14.0	15.1	45		
50	21.2	21.1	33.7	19.0	810	42.4	25.8	19.6	415	98	3.4	21.0	34	712	39.0	26.4	19.8	381	0.92	1.80	12.9	14.9	50		
55	22.3	22.2	36.0	19.4	712	43.3	27.8	20.8	443	95	3.9	22.8	40	617	39.5	28.5	20.9	403	0.83	1.72	11.8	14.7	55		
60	23.3	23.1	38.1	19.7	617	43.4	29.9	21.7	460	71	3.4	24.6	36	546	40.0	30.6	21.9	424	0.76	1.64	10.9	14.4	60		
65	24.1	24.0	40.1	20.1	546	43.7	31.9	22.6	476	55	3.0	26.4	33	491	40.6	32.5	22.7	443	0.69	1.57	10.0	14.1	65		
70	24.8	24.7	42.0	20.5	491	44.0	33.8	23.3	492	44	2.7	28.0	31	446	41.3	34.3	23.5	461	0.64	1.50	9.3	13.8	70		
75	25.4	25.3	43.7	20.9	446	44.4	35.6	23.9	506	36	2.5	29.6	29	410	41.9	36.0	24.1	477	0.60	1.44	8.7	13.4	75		
80	26.0	25.8	45.4	21.2	410	44.7	37.3	24.5	519	30	2.3	31.2	27	380	42.4	37.7	24.7	493	0.56	1.39	8.1	13.1	80		
85	26.4	26.3	47.0	21.6	380	45.2	38.9	25.0	532	26	2.2	32.7	25	354	43.0	39.3	25.2	507	0.53	1.34	7.7	12.8	85		
90	26.8	26.7	48.5	22.0	354	45.6	40.5	25.5	544	22	2.0	34.1	24	332	43.5	40.9	25.6	520	0.50	1.29	7.2	12.5	90		

	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning						Bijgroei				
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning						Increment				
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$	
5	0.7	0.7			5000				0					5000				0			0.0	0.0	5	
10	2.3	2.3	2.3		5000	1.2	1.7	1.9	1					5000	1.2	1.7	1.9	1	0.45	0.12	0.8	0.1	10	
15	4.5	4.4	5.7		5000	6.9	4.2	3.7	15					5000	6.9	4.2	3.7	15	2.26	0.46	6.2	1.0	15	
20	6.8	6.7	11.4		5000	28.3	8.5	5.8	85					5000	28.3	8.5	5.8	85	5.73	1.41	22.3	4.3	20	
25	9.1	9.1	15.8	19.0	5000	46.6	10.9	8.0	224	1152	7.2	8.9	35	3848	39.4	11.4	8.1	190	2.83	1.86	22.4	9.0	25	
30	11.3	11.3	19.2	19.0	3848	50.8	13.0	10.1	294	1357	12.2	10.7	71	2492	38.6	14.0	10.2	223	1.69	1.93	17.9	10.9	30	
35	13.4	13.3	21.9	19.0	2492	46.0	15.3	12.1	306	699	8.7	12.6	58	1793	37.3	16.3	12.2	248	1.39	1.87	15.9	11.7	35	
40	15.2	15.1	24.4	19.0	1793	43.8	17.6	13.9	324	404	6.6	14.5	49	1389	37.2	18.5	14.0	274	1.21	1.80	14.7	12.2	40	
45	16.8	16.7	26.8	19.0	1389	42.9	19.8	15.4	345	254	5.2	16.2	42	1135	37.6	20.5	15.5	303	1.08	1.73	13.6	12.4	45	
50	18.2	18.1	29.0	19.0	1135	42.8	21.9	16.8	368	170	4.3	17.9	37	966	38.5	22.5	16.9	331	0.97	1.66	12.7	12.5	50	
55	19.4	19.3	31.3	19.4	966	43.1	23.8	18.1	392	151	4.5	19.6	42	814	38.6	24.6	18.2	351	0.88	1.59	11.7	12.4	55	
60	20.5	20.4	33.4	19.7	814	42.8	25.9	19.1	407	111	4.0	21.3	38	704	38.8	26.5	19.3	370	0.80	1.53	10.9	12.3	60	
65	21.5	21.3	35.4	20.1	704	42.6	27.8	20.1	422	84	3.5	23.0	35	619	39.2	28.4	20.2	387	0.73	1.47	10.1	12.2	65	
70	22.3	22.1	37.3	20.5	619	42.7	29.6	20.9	436	66	3.1	24.6	32	553	39.5	30.2	21.1	404	0.68	1.41	9.4	12.0	70	
75	23.0	22.9	39.1	20.9	553	42.8	31.4	21.7	449	53	2.8	26.2	30	501	40.0	31.9	21.8	419	0.63	1.36	8.8	11.8	75	
80	23.7	23.5	40.8	21.2	501	43.0	33.1	22.4	462	43	2.6	27.7	28	457	40.4	33.5	22.5	434	0.59	1.32	8.2	11.6	80	
85	24.2	24.1	42.4	21.6	457	43.2	34.7	23.0	474	36	2.4	29.1	26	421	40.8	35.1	23.1	447	0.55	1.27	7.8	11.4	85	
90	24.7	24.6	43.9	22.0	421	43.5	36.3	23.5	485	31	2.2	30.6	25	391	41.3	36.7	23.7	460	0.52	1.23	7.3	11.2	90	



FIJNSPAR, Nederland 2018										matige dunning										Boniteit IV, $h_{50} = 15.2$					
NORWAY SPRUCE, Netherlands 2018										moderate thinning										Site Class IV, $h_{50} = 15.2$					
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning						Bijgroei					
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning						Increment					
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$		
5	0.5	0.5			5000				0					5000				0			0.0	0.0	5		
10	1.6	1.6	1.6		5000	0.6	1.2	1.3	1					5000	0.6	1.2	1.3	1	0.17	0.06	0.2	0.1	10		
15	3.2	3.2	3.4		5000	2.5	2.5	2.5	4					5000	2.5	2.5	2.5	4	0.75	0.17	1.6	0.3	15		
20	5.0	4.9	6.8		5000	9.9	5.0	4.2	28					5000	9.9	5.0	4.2	28	2.44	0.49	7.2	1.4	20		
25	6.9	6.8	11.7		5000	29.3	8.6	5.9	90					5000	29.3	8.6	5.9	90	4.69	1.17	18.5	3.6	25		
30	8.7	8.7	15.0	19.0	5000	45.1	10.7	7.7	209	804	4.8	8.7	23	4196	40.2	11.0	7.7	187	2.57	1.50	19.0	7.0	30		
35	10.5	10.5	18.0	19.0	4196	51.2	12.5	9.4	279	1314	10.9	10.3	59	2883	40.4	13.4	9.5	219	1.83	1.60	16.9	8.6	35		
40	12.2	12.1	20.3	19.0	2883	47.6	14.5	11.1	294	742	8.3	11.9	51	2141	39.4	15.3	11.1	242	1.28	1.58	13.9	9.4	40		
45	13.8	13.7	22.5	19.0	2141	45.4	16.4	12.6	309	456	6.5	13.5	44	1684	38.9	17.1	12.7	265	1.14	1.54	13.0	9.8	45		
50	15.2	15.1	24.6	19.0	1684	44.3	18.3	14.0	328	300	5.3	15.0	39	1384	39.0	18.9	14.1	289	1.03	1.50	12.2	10.1	50		
55	16.5	16.4	26.7	19.4	1384	43.9	20.1	15.3	348	252	5.4	16.5	43	1133	38.5	20.8	15.4	305	0.93	1.45	11.4	10.3	55		
60	17.6	17.5	28.7	19.7	1133	43.0	22.0	16.4	360	180	4.7	18.1	39	952	38.3	22.6	16.5	321	0.85	1.40	10.7	10.3	60		
65	18.7	18.5	30.7	20.1	952	42.4	23.8	17.5	373	134	4.1	19.7	36	818	38.3	24.4	17.6	337	0.77	1.36	10.0	10.3	65		
70	19.6	19.5	32.5	20.5	818	42.0	25.6	18.4	385	102	3.6	21.2	33	716	38.4	26.1	18.5	351	0.71	1.31	9.3	10.3	70		
75	20.4	20.3	34.3	20.9	716	41.8	27.3	19.3	397	80	3.3	22.7	31	636	38.5	27.8	19.4	366	0.66	1.27	8.8	10.2	75		
80	21.2	21.0	36.0	21.2	636	41.7	28.9	20.0	408	65	3.0	24.2	29	571	38.8	29.4	20.2	379	0.62	1.23	8.3	10.1	80		
85	21.9	21.7	37.6	21.6	571	41.7	30.5	20.7	419	53	2.7	25.6	27	518	39.0	31.0	20.9	392	0.58	1.19	7.8	10.0	85		
90	22.5	22.3	39.2	22.0	518	41.8	32.1	21.4	430	44	2.5	27.0	26	474	39.3	32.5	21.5	404	0.54	1.16	7.4	9.8	90		

	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning						Bijgroei				
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning						Increment				
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$	
5	0.3	0.3			5000				0					5000				0			0.0	0.0	5	
10	1.1	1.1			5000				0					5000				0			0.2	0.0	10	
15	2.2	2.2	2.2		5000	1.0	1.6	1.8	1					5000	1.0	1.6	1.8	1	0.26	0.07	0.4	0.1	15	
20	3.5	3.5	4.0		5000	3.4	3.0	2.9	7					5000	3.4	3.0	2.9	7	0.79	0.17	1.8	0.4	20	
25	5.0	4.9	6.8		5000	9.9	5.0	4.2	24					5000	9.9	5.0	4.2	24	1.95	0.40	5.8	0.9	25	
30	6.5	6.4	10.6		5000	24.2	7.8	5.6	71					5000	24.2	7.8	5.6	71	3.87	0.81	14.0	2.4	30	
35	8.0	7.9	13.7	19.0	5000	40.2	10.1	7.0	173					5000	40.2	10.1	7.0	173	2.47	1.15	16.1	5.0	35	
40	9.5	9.4	16.2	19.0	5000	51.3	11.4	8.4	255	1424	9.9	9.4	49	3576	41.4	12.1	8.5	206	1.94	1.28	15.6	6.4	40	
45	10.9	10.8	18.6	19.0	3576	49.8	13.3	9.8	278	867	8.1	10.9	46	2708	41.7	14.0	9.9	233	1.39	1.33	13.2	7.3	45	
50	12.2	12.1	20.2	19.0	2708	47.5	14.9	11.1	292	559	6.6	12.2	41	2149	40.9	15.6	11.2	252	1.08	1.31	11.5	7.7	50	
55	13.4	13.4	22.1	19.4	2149	46.1	16.5	12.3	308	447	6.5	13.6	43	1702	39.6	17.2	12.4	264	0.98	1.29	10.9	8.1	55	
60	14.6	14.5	24.0	19.7	1702	44.3	18.2	13.5	317	313	5.5	15.0	40	1389	38.7	18.8	13.6	277	0.89	1.26	10.2	8.3	60	
65	15.7	15.6	25.8	20.1	1389	43.0	19.9	14.6	327	227	4.8	16.5	37	1162	38.2	20.5	14.7	290	0.82	1.23	9.6	8.4	65	
70	16.7	16.5	27.6	20.5	1162	42.1	21.5	15.6	337	170	4.3	17.9	34	992	37.9	22.0	15.7	302	0.76	1.19	9.1	8.5	70	
75	17.6	17.4	29.3	20.9	992	41.5	23.1	16.5	347	131	3.8	19.3	32	861	37.7	23.6	16.6	315	0.70	1.16	8.6	8.5	75	
80	18.4	18.3	30.9	21.2	861	41.1	24.6	17.4	356	103	3.4	20.7	30	758	37.6	25.1	17.5	326	0.65	1.13	8.2	8.5	80	
85	19.1	19.0	32.5	21.6	758	40.8	26.2	18.1	366	83	3.1	22.0	28	676	37.6	26.6	18.3	338	0.61	1.10	7.7	8.4	85	
90	19.8	19.7	34.1	22.0	676	40.6	27.7	18.9	376	67	2.9	23.4	27	608	37.7	28.1	19.0	349	0.57	1.07	7.4	8.4	90	

FIJNSPAR, Nederland 2018										sterke dunning										Boniteit I, $h_{50} = 24.2$					
NORWAY SPRUCE, Netherlands 2018										heavy thinning										Site Class I, $h_{50} = 24.2$					
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei						
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning					Increment						
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$		
5	1.5	1.5	1.5		5000	0.5	1.1	1.2	0					5000	0.5	1.1	1.2	0	0.44	0.10	0.5	0.1	5		
10	4.7	4.6	6.1		5000	8.1	4.5	3.9	18					5000	8.1	4.5	3.9	18	4.08	0.81	11.6	1.8	10		
15	8.4	8.3	14.7	22.0	5000	39.8	10.1	7.2	178	1589	9.2	8.6	41	3411	30.6	10.7	7.3	137	4.10	2.65	43.7	11.9	15		
20	11.9	11.8	20.2	22.0	3411	45.7	13.1	10.6	275	1728	17.2	11.3	104	1683	28.5	14.7	10.7	171	2.04	2.75	22.9	15.8	20		
25	15.0	14.9	24.3	22.0	1683	37.6	16.9	13.6	275	625	10.2	14.4	75	1057	27.3	18.1	13.7	200	1.63	2.56	19.6	16.8	25		
30	17.6	17.5	28.2	22.0	1057	34.7	20.5	16.1	291	291	6.9	17.4	58	767	27.8	21.5	16.2	233	1.35	2.38	17.3	17.0	30		
35	19.8	19.7	31.7	22.0	767	34.0	23.8	18.1	314	158	5.1	20.2	47	609	29.0	24.6	18.3	267	1.15	2.22	15.5	16.9	35		
40	21.6	21.4	34.8	22.0	609	34.4	26.8	19.8	341	96	3.9	22.7	39	513	30.5	27.5	20.0	302	1.00	2.07	14.0	16.7	40		
45	23.0	22.9	37.6	22.0	513	35.2	29.6	21.2	369	62	3.1	25.0	32	451	32.1	30.1	21.4	337	0.89	1.95	12.7	16.3	45		
50	24.2	24.0	40.1	22.0	451	36.4	32.1	22.4	398	43	2.5	27.1	27	407	33.9	32.5	22.6	370	0.80	1.84	11.7	15.9	50		
55	25.2	25.0	42.5	22.4	407	37.7	34.3	23.4	427	44	2.9	29.1	33	364	34.8	34.9	23.5	394	0.73	1.74	10.7	15.5	55		
60	26.0	25.8	44.7	22.7	364	38.3	36.6	24.2	445	34	2.6	31.2	30	330	35.8	37.1	24.4	415	0.67	1.65	9.9	15.0	60		
65	26.7	26.5	46.8	23.1	330	39.0	38.8	24.9	463	27	2.3	33.1	27	303	36.7	39.2	25.1	435	0.62	1.58	9.1	14.6	65		
70	27.3	27.1	48.7	23.5	303	39.6	40.8	25.5	479	22	2.1	35.0	26	281	37.5	41.2	25.7	454	0.57	1.51	8.5	14.2	70		
75	27.8	27.6	50.5	23.9	281	40.3	42.7	26.1	495	18	1.9	36.7	24	263	38.4	43.1	26.2	471	0.54	1.44	7.9	13.8	75		
80	28.2	28.0	52.2	24.2	263	40.9	44.5	26.5	509	16	1.8	38.4	23	247	39.1	44.9	26.7	487	0.50	1.39	7.5	13.4	80		
85	28.6	28.4	53.9	24.6	247	41.6	46.3	27.0	523	14	1.7	40.1	22	234	39.9	46.6	27.1	501	0.48	1.33	7.0	13.0	85		
90	28.9	28.7	55.4	25.0	234	42.2	47.9	27.3	535	12	1.6	41.6	21	222	40.6	48.2	27.5	515	0.45	1.28	6.7	12.7	90		

FIJNSPAR, Nederland 2018					sterke dunning										Boniteit II, $h_{50} = 21.2$								
NORWAY SPRUCE, Netherlands 2018					heavy thinning										Site Class II, $h_{50} = 21.2$								
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	1.0	1.0			5000				0					5000				0			0.2	0.0	5
10	3.3	3.3	3.6		5000	2.8	2.7	2.6	5					5000	2.8	2.7	2.6	5	1.30	0.28	2.9	0.5	10
15	6.1	6.1	9.7		5000	20.1	7.2	5.2	56					5000	20.1	7.2	5.2	56	6.61	1.34	22.8	3.7	15
20	9.1	9.0	16.0	22.0	5000	44.3	10.6	7.9	213	2100	13.7	9.1	66	2900	30.6	11.6	8.0	147	3.11	2.22	24.5	10.6	20
25	11.8	11.8	20.2	22.0	2900	42.5	13.7	10.6	255	1196	12.9	11.7	78	1704	29.6	14.9	10.6	177	1.71	2.25	18.4	12.8	25
30	14.3	14.2	23.6	22.0	1704	37.4	16.7	12.9	263	538	8.6	14.3	61	1165	28.8	17.7	13.0	202	1.43	2.13	16.4	13.5	30
35	16.5	16.3	26.8	22.0	1165	35.4	19.7	15.0	280	285	6.3	16.7	50	881	29.1	20.5	15.1	230	1.22	2.02	14.9	13.8	35
40	18.3	18.2	29.7	22.0	881	34.8	22.4	16.8	301	168	4.8	19.0	42	712	30.1	23.2	16.9	260	1.07	1.91	13.6	13.9	40
45	19.9	19.7	32.5	22.0	712	35.1	25.0	18.3	325	108	3.8	21.2	35	604	31.3	25.7	18.5	289	0.95	1.81	12.5	13.8	45
50	21.2	21.1	35.0	22.0	604	35.7	27.4	19.6	350	73	3.1	23.2	30	531	32.6	28.0	19.8	319	0.85	1.72	11.6	13.6	50
55	22.3	22.2	37.4	22.4	531	36.7	29.7	20.8	375	68	3.4	25.2	35	463	33.3	30.3	20.9	340	0.77	1.63	10.7	13.4	55
60	23.3	23.1	39.6	22.7	463	37.0	31.9	21.7	392	51	3.0	27.2	32	411	34.0	32.4	21.9	360	0.70	1.56	9.9	13.1	60
65	24.1	24.0	41.7	23.1	411	37.4	34.0	22.6	408	40	2.6	29.1	29	372	34.7	34.5	22.7	379	0.65	1.49	9.2	12.8	65
70	24.8	24.7	43.7	23.5	372	37.9	36.0	23.3	423	32	2.4	30.9	27	340	35.5	36.5	23.5	396	0.60	1.43	8.5	12.6	70
75	25.4	25.3	45.5	23.9	340	38.4	37.9	23.9	437	26	2.2	32.6	25	314	36.2	38.3	24.1	412	0.56	1.37	8.0	12.3	75
80	26.0	25.8	47.3	24.2	314	38.9	39.7	24.5	451	22	2.0	34.3	24	292	36.9	40.1	24.7	428	0.52	1.32	7.5	12.0	80
85	26.4	26.3	49.0	24.6	292	39.4	41.5	25.0	464	19	1.9	35.9	22	273	37.5	41.8	25.2	442	0.49	1.27	7.1	11.7	85
90	26.8	26.7	50.5	25.0	273	39.9	43.1	25.5	476	16	1.8	37.5	21	257	38.2	43.5	25.6	455	0.47	1.23	6.7	11.4	90

FIJNSPAR, Nederland 2018					sterke dunning										Boniteit III, $h_{50} = 18.2$								
NORWAY SPRUCE, Netherlands 2018					heavy thinning										Site Class III, $h_{50} = 18.2$								
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	0.7	0.7			5000				0					5000				0			0.0	0.0	5
10	2.3	2.3	2.3		5000	1.2	1.7	1.9	1					5000	1.2	1.7	1.9	1	0.45	0.12	0.8	0.1	10
15	4.5	4.4	5.7		5000	6.9	4.2	3.7	15					5000	6.9	4.2	3.7	15	2.26	0.46	6.2	1.0	15
20	6.8	6.7	11.4		5000	28.3	8.5	5.8	85					5000	28.3	8.5	5.8	85	5.65	1.41	22.1	4.3	20
25	9.1	9.1	16.0	22.0	5000	45.5	10.8	8.0	219	2130	14.3	9.2	69	2870	31.2	11.8	8.1	150	2.62	1.82	20.5	8.8	25
30	11.3	11.3	19.5	22.0	2870	41.8	13.6	10.1	242	1012	10.8	11.6	62	1858	31.1	14.6	10.2	179	1.57	1.87	15.7	10.4	30
35	13.4	13.3	22.3	22.0	1858	38.0	16.1	12.1	252	521	7.7	13.7	51	1337	30.3	17.0	12.2	201	1.29	1.80	14.0	11.0	35
40	15.2	15.1	25.0	22.0	1337	36.3	18.6	13.9	268	301	5.9	15.8	44	1036	30.4	19.3	14.0	224	1.13	1.73	13.0	11.3	40
45	16.8	16.7	27.6	22.0	1036	35.7	20.9	15.4	287	189	4.7	17.8	38	847	31.0	21.6	15.5	249	1.00	1.65	12.1	11.4	45
50	18.2	18.1	30.0	22.0	847	35.8	23.2	16.8	308	126	3.8	19.6	33	720	31.9	23.8	16.9	275	0.90	1.58	11.3	11.4	50
55	19.4	19.3	32.4	22.4	720	36.2	25.3	18.1	329	110	4.0	21.5	36	611	32.2	25.9	18.2	293	0.82	1.52	10.6	11.4	55
60	20.5	20.4	34.6	22.7	611	36.1	27.5	19.1	344	80	3.5	23.4	33	530	32.7	28.0	19.3	311	0.74	1.46	9.8	11.3	60
65	21.5	21.3	36.7	23.1	530	36.2	29.5	20.1	358	61	3.1	25.2	30	469	33.2	30.0	20.2	328	0.68	1.40	9.2	11.2	65
70	22.3	22.1	38.7	23.5	469	36.5	31.5	20.9	372	48	2.7	27.0	28	421	33.7	31.9	21.1	344	0.63	1.34	8.6	11.0	70
75	23.0	22.9	40.6	23.9	421	36.8	33.3	21.7	386	38	2.5	28.7	26	383	34.3	33.8	21.8	359	0.59	1.30	8.0	10.8	75
80	23.7	23.5	42.4	24.2	383	37.1	35.1	22.4	398	32	2.3	30.3	25	351	34.8	35.5	22.5	374	0.55	1.25	7.6	10.6	80
85	24.2	24.1	44.1	24.6	351	37.5	36.9	23.0	410	26	2.1	31.9	23	325	35.4	37.2	23.1	387	0.52	1.21	7.1	10.4	85
90	24.7	24.6	45.7	25.0	325	37.9	38.5	23.5	422	22	2.0	33.5	22	302	35.9	38.9	23.7	400	0.49	1.17	6.8	10.2	90





## Zomereik (Quercus robur)

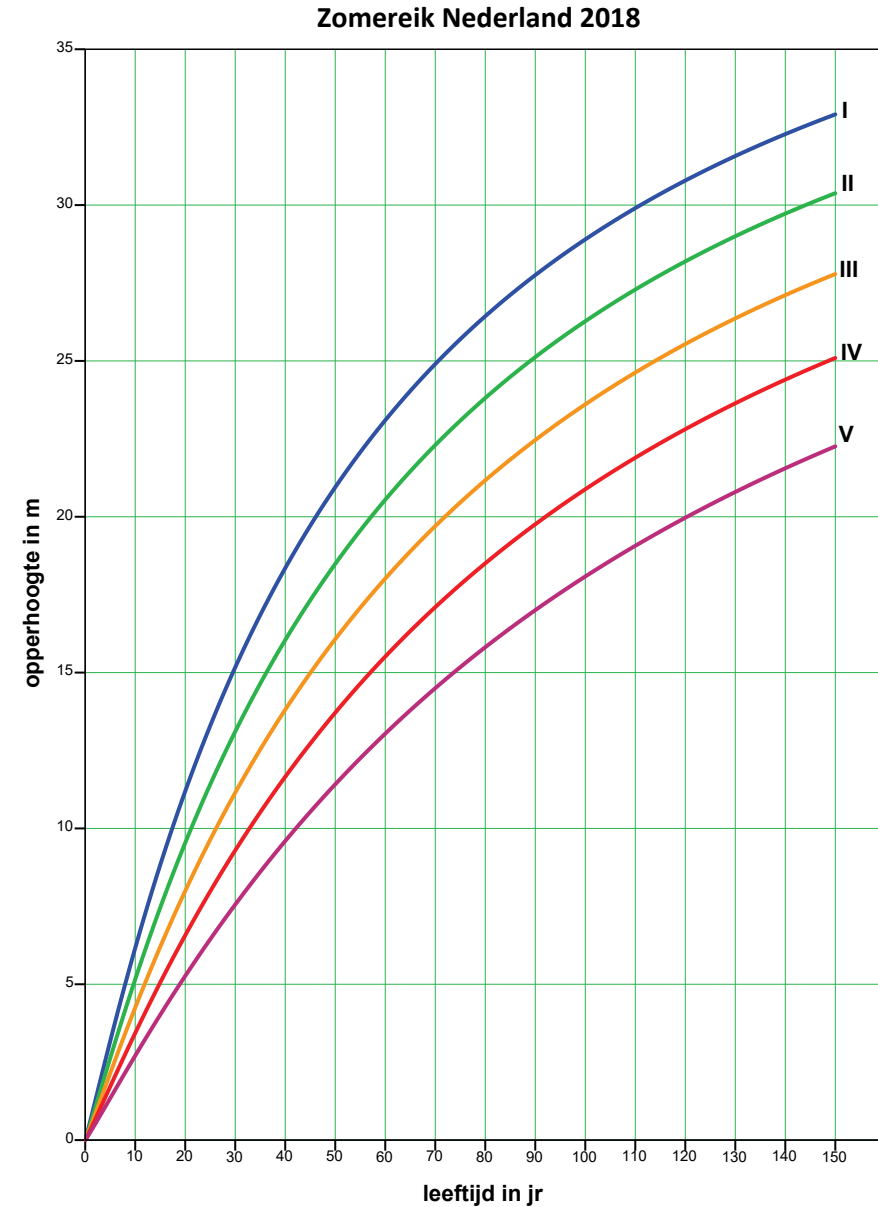
## Common oak

Jansen, J.J., A. Oosterbaan, G.M.J. Mohren en J. den Ouden

**Bron:** Jansen, J.J., A. Oosterbaan, G.M.J. Mohren en J. den Ouden, 2018. *Groei en productie van zomereik in Nederland*. FEM Groei en Productie Rapport 2018 – 4, 87 blz.

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<https://doi.org/10.18174/444093>







ZOMEREIK, Nederland 2018					matige dunning										Boniteit II, $h_{70} = 22.0$								
COMMON OAK, Netherlands 2018					moderate thinning										Site Class II, $h_{70} = 22.0$								
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	2.6	2.5	3.0		5000	1.6	2.0	2.0	3					5000	1.6	2.0	2.0	3	1.02	0.32	2.2	0.5	5
10	5.0	5.0	7.4		5000	9.9	5.0	4.0	26					5000	9.9	5.0	4.0	26	2.07	0.99	7.6	2.6	10
15	7.3	7.2	11.2	20.9	5000	20.9	7.3	6.1	75					5000	20.9	7.3	6.1	75	1.92	1.39	10.5	5.0	15
20	9.3	9.2	13.3	19.0	5000	28.8	8.6	8.1	128	1325	4.9	6.8	21	3675	24.0	9.1	8.1	108	1.41	1.44	10.4	6.4	20
25	11.2	11.0	15.6	20.1	3675	30.4	10.3	10.0	159	1384	7.5	8.3	38	2291	22.8	11.3	10.0	121	1.18	1.41	9.9	7.2	25
30	12.9	12.7	17.9	21.1	2291	28.3	12.5	11.7	169	725	6.0	10.2	34	1566	22.3	13.5	11.7	135	1.03	1.36	9.3	7.6	30
35	14.4	14.2	20.2	22.1	1566	27.2	14.9	13.3	180	425	5.0	12.2	31	1142	22.3	15.8	13.3	149	0.90	1.30	8.7	7.8	35
40	15.8	15.6	22.5	23.1	1142	26.4	17.2	14.7	190	269	4.2	14.1	29	873	22.2	18.0	14.8	161	0.77	1.24	8.0	7.8	40
45	17.0	16.8	24.6	24.0	873	25.8	19.4	16.0	199	181	3.7	16.1	27	692	22.1	20.2	16.1	172	0.68	1.18	7.4	7.8	45
50	18.2	18.0	26.7	24.8	692	25.3	21.6	17.2	208	127	3.2	18.0	25	564	22.1	22.3	17.3	183	0.61	1.13	7.0	7.7	50
55	19.3	19.0	28.7	25.7	564	25.0	23.8	18.3	217	93	2.9	19.9	24	472	22.2	24.5	18.4	193	0.56	1.08	6.6	7.7	55
60	20.3	20.0	30.7	26.5	472	24.9	25.9	19.4	225	70	2.6	21.8	22	402	22.3	26.6	19.5	203	0.52	1.04	6.3	7.6	60
65	21.2	20.9	32.6	27.2	402	24.8	28.0	20.3	234	54	2.4	23.6	21	348	22.5	28.7	20.4	213	0.49	1.00	6.1	7.5	65
70	22.0	21.7	34.6	27.9	348	24.8	30.1	21.2	243	42	2.2	25.5	20	306	22.7	30.7	21.3	223	0.46	0.96	5.9	7.4	70
75	22.8	22.5	36.5	28.6	306	24.9	32.2	22.0	252	34	2.0	27.4	19	272	23.0	32.8	22.1	233	0.44	0.92	5.7	7.2	75
80	23.5	23.2	38.3	29.2	272	25.1	34.3	22.8	261	27	1.8	29.2	18	245	23.3	34.8	22.9	242	0.42	0.89	5.5	7.1	80
85	24.2	23.9	40.2	29.8	245	25.3	36.3	23.5	270	22	1.7	31.0	17	222	23.6	36.8	23.6	252	0.40	0.87	5.4	7.0	85
90	24.8	24.6	42.0	30.3	222	25.6	38.3	24.1	279	19	1.6	32.8	16	204	24.0	38.8	24.2	263	0.39	0.84	5.2	6.9	90
95	25.4	25.2	43.8	30.8	204	25.9	40.3	24.8	288	16	1.5	34.6	16	188	24.5	40.7	24.9	273	0.38	0.82	5.1	6.9	95
100	26.0	25.8	45.6	31.3	188	26.3	42.2	25.3	298	13	1.4	36.4	15	175	24.9	42.6	25.5	283	0.36	0.79	5.0	6.8	100
105	26.5	26.3	47.3	31.7	175	26.7	44.1	25.9	308	11	1.3	38.1	14	164	25.5	44.5	26.0	294	0.35	0.77	4.9	6.7	105
110	27.0	26.8	49.1	32.1	164	27.2	46.0	26.4	319	10	1.2	39.8	13	154	26.0	46.4	26.5	305	0.34	0.75	4.8	6.6	110
115	27.5	27.3	50.8	32.4	154	27.7	47.9	26.9	329	8	1.1	41.4	13	146	26.6	48.2	27.0	317	0.34	0.74	4.8	6.5	115
120	27.9	27.8	52.5	32.7	146	28.3	49.7	27.4	340	7	1.0	43.1	12	139	27.2	50.0	27.5	329	0.33	0.72	4.7	6.4	120
125	28.3	28.2	54.1	33.0	139	28.9	51.5	27.8	352	6	1.0	44.7	11	132	27.9	51.8	28.0	341	0.32	0.70	4.6	6.4	125
130	28.7	28.6	55.7	33.2	132	29.5	53.2	28.3	364	5	0.9	46.2	10	127	28.6	53.5	28.4	354	0.32	0.69	4.6	6.3	130
135	29.1	29.0	57.3	33.4	127	30.2	55.0	28.7	376	5	0.8	47.8	10	123	29.4	55.2	28.8	367	0.31	0.67	4.5	6.2	135
140	29.4	29.4	58.9	33.5	123	30.9	56.6	29.1	389	4	0.7	49.3	9	119	30.2	56.9	29.2	381	0.31	0.66	4.5	6.2	140
145	29.8	29.7	60.4	33.6	119	31.7	58.3	29.4	403	3	0.7	50.7	8	116	31.1	58.5	29.6	395	0.30	0.65	4.5	6.1	145
150	30.1	30.0	60.1	33.6	116	32.6	59.9	29.8	417	3	0.6	52.1	7	113	32.0	60.1	29.9	410	0.30	0.64	4.4	6.1	150

ZOMEREIK, Nederland 2018										matige dunning										Boniteit III, $h_{70} = 18.8$					
COMMON OAK, Netherlands 2018										moderate thinning										Site Class III, $h_{70} = 18.8$					
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei						
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning					Increment						
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$		
5	2.0	1.9	1.8		5000	0.6	1.2	1.6	1					5000	0.6	1.2	1.6	1	0.52	0.11	0.9	0.2	5		
10	3.9	3.9	5.5		5000	5.5	3.8	3.1	12					5000	5.5	3.8	3.1	12	1.32	0.55	3.8	1.2	10		
15	5.8	5.7	8.6		5000	13.4	5.8	4.6	40					5000	13.4	5.8	4.6	40	1.76	0.89	7.4	2.7	15		
20	7.5	7.4	11.4	20.4	5000	21.5	7.4	6.3	79					5000	21.5	7.4	6.3	79	1.39	1.08	7.8	4.0	20		
25	9.0	8.9	13.2	20.1	5000	28.1	8.5	7.8	122	1488	5.8	7.1	24	3512	22.3	9.0	7.9	97	1.21	1.12	8.3	4.9	25		
30	10.5	10.3	15.1	21.1	3512	27.9	10.1	9.3	138	1152	6.5	8.5	31	2360	21.4	10.7	9.3	107	1.05	1.12	7.9	5.4	30		
35	11.8	11.6	17.0	22.1	2360	26.4	11.9	10.7	146	666	5.3	10.1	28	1694	21.0	12.6	10.7	118	0.92	1.11	7.4	5.7	35		
40	13.0	12.9	18.9	23.1	1694	25.2	13.8	11.9	153	418	4.5	11.7	26	1276	20.7	14.4	12.0	127	0.79	1.07	6.9	5.9	40		
45	14.2	14.0	20.6	24.0	1276	24.4	15.6	13.1	160	278	3.9	13.4	24	998	20.5	16.2	13.2	136	0.69	1.04	6.4	6.0	45		
50	15.2	15.0	22.4	24.8	998	23.8	17.4	14.2	167	194	3.4	15.0	23	805	20.4	17.9	14.3	144	0.62	1.00	6.1	6.0	50		
55	16.2	16.0	24.1	25.7	805	23.3	19.2	15.3	173	140	3.0	16.6	21	665	20.3	19.7	15.3	152	0.57	0.96	5.8	6.0	55		
60	17.1	16.9	25.8	26.5	665	23.1	21.0	16.2	180	104	2.7	18.2	20	561	20.3	21.5	16.3	160	0.53	0.93	5.6	6.0	60		
65	18.0	17.8	27.5	27.2	561	22.9	22.8	17.1	187	80	2.5	19.9	19	481	20.4	23.3	17.2	168	0.50	0.89	5.4	5.9	65		
70	18.8	18.6	29.2	27.9	481	22.9	24.6	18.0	194	62	2.3	21.5	18	419	20.6	25.0	18.1	176	0.47	0.87	5.2	5.9	70		
75	19.5	19.3	30.9	28.6	419	22.9	26.4	18.8	202	49	2.1	23.1	17	370	20.8	26.8	18.9	184	0.45	0.84	5.0	5.8	75		
80	20.3	20.0	32.5	29.2	370	23.0	28.1	19.5	209	40	1.9	24.7	17	330	21.1	28.5	19.6	193	0.43	0.81	4.9	5.8	80		
85	20.9	20.6	34.1	29.8	330	23.2	29.9	20.2	217	33	1.8	26.4	16	297	21.4	30.3	20.3	201	0.41	0.79	4.8	5.7	85		
90	21.5	21.3	35.7	30.3	297	23.4	31.6	20.9	225	27	1.7	28.0	15	270	21.7	32.0	21.0	210	0.39	0.77	4.7	5.7	90		
95	22.1	21.8	37.3	30.8	270	23.7	33.4	21.5	233	22	1.5	29.6	14	248	22.1	33.7	21.6	219	0.38	0.75	4.6	5.6	95		
100	22.7	22.4	38.9	31.3	248	24.0	35.1	22.1	241	19	1.4	31.2	14	229	22.5	35.4	22.2	228	0.37	0.73	4.5	5.6	100		
105	23.2	22.9	40.4	31.7	229	24.4	36.8	22.7	250	16	1.3	32.7	13	213	23.0	37.1	22.8	237	0.36	0.71	4.5	5.5	105		
110	23.7	23.5	42.0	32.1	213	24.8	38.5	23.2	259	14	1.3	34.3	12	200	23.5	38.7	23.3	247	0.35	0.70	4.4	5.5	110		
115	24.2	24.0	43.5	32.4	200	25.2	40.1	23.7	268	12	1.2	35.8	12	188	24.1	40.4	23.8	256	0.34	0.68	4.3	5.4	115		
120	24.6	24.4	45.0	32.7	188	25.7	41.7	24.2	278	10	1.1	37.3	11	178	24.6	42.0	24.3	267	0.33	0.67	4.3	5.4	120		
125	25.0	24.9	46.5	33.0	178	26.3	43.4	24.7	288	9	1.0	38.8	11	169	25.3	43.6	24.8	277	0.32	0.65	4.2	5.3	125		
130	25.4	25.3	47.9	33.2	169	26.9	44.9	25.1	298	7	0.9	40.2	10	162	25.9	45.1	25.2	288	0.32	0.64	4.2	5.3	130		
135	25.8	25.7	49.4	33.4	162	27.5	46.5	25.6	309	6	0.9	41.7	9	156	26.6	46.7	25.7	300	0.31	0.63	4.2	5.2	135		
140	26.2	26.1	50.8	33.5	156	28.2	48.0	26.0	321	5	0.8	43.1	9	150	27.4	48.2	26.1	312	0.31	0.62	4.1	5.2	140		
145	26.5	26.4	52.2	33.6	150	28.9	49.5	26.3	333	5	0.7	44.4	8	145	28.2	49.7	26.5	325	0.31	0.61	4.1	5.2	145		
150	26.9	26.8	53.6	33.6	145	29.7	51.0	26.7	345	4	0.7	45.8	7	141	29.1	51.2	26.8	338	0.30	0.60	4.1	5.1	150		

ZOMEREIK, Nederland 2018										matige dunning										Boniteit IV, $h_{70} = 15.6$					
COMMON OAK, Netherlands 2018										moderate thinning										Site Class IV, $h_{70} = 15.6$					
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei						
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning					Increment						
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$		
5	1.5	1.5	0.6		5000	0.1	0.4	1.2	0					5000	0.1	0.4	1.2	0	0.20	0.01	0.3	0.0	5		
10	3.0	2.9	3.8		5000	2.6	2.6	2.4	5					5000	2.6	2.6	2.4	5	0.76	0.26	1.7	0.5	10		
15	4.4	4.4	6.4		5000	7.3	4.3	3.5	18					5000	7.3	4.3	3.5	18	1.09	0.49	3.5	1.2	15		
20	5.8	5.7	8.6		5000	13.4	5.8	4.6	40					5000	13.4	5.8	4.7	40	1.32	0.67	5.6	2.0	20		
25	7.1	7.0	11.2	21.5	5000	20.4	7.2	5.9	72					5000	20.4	7.2	5.9	72	1.32	0.82	6.5	2.9	25		
30	8.3	8.1	12.7	21.1	5000	26.2	8.2	7.1	105	1204	4.7	7.1	18	3796	21.5	8.5	7.1	87	1.09	0.87	6.6	3.5	30		
35	9.4	9.3	14.2	22.1	3796	26.6	9.4	8.2	119	1115	6.0	8.3	26	2681	20.6	9.9	8.2	94	0.94	0.90	6.3	3.9	35		
40	10.4	10.3	15.7	23.1	2681	25.0	10.9	9.3	124	691	5.0	9.6	24	1990	20.0	11.3	9.3	100	0.81	0.89	5.8	4.2	40		
45	11.4	11.3	17.2	24.0	1990	23.7	12.3	10.3	128	455	4.2	10.9	22	1535	19.5	12.7	10.4	106	0.71	0.88	5.4	4.3	45		
50	12.4	12.2	18.6	24.8	1535	22.9	13.8	11.3	133	314	3.7	12.2	20	1222	19.2	14.1	11.3	113	0.64	0.86	5.2	4.4	50		
55	13.3	13.1	20.1	25.7	1222	22.2	15.2	12.2	138	225	3.2	13.5	19	997	19.0	15.6	12.3	119	0.58	0.83	4.9	4.5	55		
60	14.1	13.9	21.5	26.5	997	21.8	16.7	13.1	143	166	2.9	14.9	18	831	18.9	17.0	13.1	125	0.54	0.81	4.8	4.5	60		
65	14.9	14.7	22.9	27.2	831	21.5	18.1	13.9	148	126	2.6	16.3	17	706	18.9	18.5	14.0	131	0.51	0.79	4.6	4.5	65		
70	15.6	15.4	24.3	27.9	706	21.3	19.6	14.7	154	97	2.4	17.7	16	608	19.0	19.9	14.8	137	0.48	0.77	4.5	4.5	70		
75	16.3	16.1	25.7	28.6	608	21.3	21.1	15.5	159	77	2.2	19.0	16	532	19.1	21.4	15.5	144	0.45	0.75	4.4	4.5	75		
80	17.0	16.7	27.1	29.2	532	21.3	22.6	16.2	165	61	2.0	20.4	15	470	19.3	22.8	16.2	151	0.43	0.73	4.3	4.5	80		
85	17.6	17.4	28.5	29.8	470	21.4	24.1	16.8	172	50	1.9	21.8	14	420	19.5	24.3	16.9	157	0.41	0.71	4.2	4.5	85		
90	18.2	17.9	29.9	30.3	420	21.5	25.5	17.5	178	41	1.7	23.2	14	379	19.8	25.8	17.6	164	0.40	0.69	4.1	4.5	90		
95	18.7	18.5	31.3	30.8	379	21.7	27.0	18.1	185	34	1.6	24.6	13	345	20.1	27.2	18.2	172	0.38	0.68	4.1	4.5	95		
100	19.3	19.0	32.6	31.3	345	22.0	28.5	18.7	192	29	1.5	26.0	13	317	20.5	28.7	18.8	179	0.37	0.66	4.0	4.4	100		
105	19.8	19.5	34.0	31.7	317	22.3	29.9	19.3	199	24	1.4	27.4	12	293	20.9	30.1	19.3	187	0.36	0.65	3.9	4.4	105		
110	20.3	20.0	35.3	32.1	293	22.7	31.4	19.8	207	20	1.3	28.8	12	272	21.3	31.6	19.9	195	0.35	0.63	3.9	4.4	110		
115	20.8	20.5	36.7	32.4	272	23.1	32.8	20.3	214	17	1.2	30.2	11	255	21.8	33.0	20.4	203	0.34	0.62	3.9	4.4	115		
120	21.2	20.9	38.0	32.7	255	23.5	34.3	20.8	223	15	1.2	31.5	11	240	22.3	34.4	20.9	212	0.33	0.61	3.8	4.3	120		
125	21.6	21.4	39.3	33.0	240	24.0	35.7	21.3	231	13	1.1	32.8	10	227	22.9	35.8	21.4	221	0.33	0.60	3.8	4.3	125		
130	22.0	21.8	40.6	33.2	227	24.5	37.1	21.7	240	11	1.0	34.2	9	216	23.5	37.2	21.8	231	0.32	0.59	3.8	4.3	130		
135	22.4	22.2	41.9	33.4	216	25.1	38.5	22.2	249	10	0.9	35.5	9	206	24.2	38.6	22.3	240	0.32	0.58	3.7	4.3	135		
140	22.8	22.6	43.1	33.5	206	25.7	39.8	22.6	259	8	0.9	36.7	8	198	24.8	40.0	22.7	251	0.31	0.57	3.7	4.3	140		
145	23.2	23.0	44.4	33.6	198	26.4	41.2	23.0	269	7	0.8	38.0	8	191	25.6	41.3	23.1	262	0.31	0.56	3.7	4.2	145		
150	23.5	23.3	45.6	33.6	191	27.1	42.5	23.4	280	6	0.7	39.2	7	185	26.4	42.6	23.5	273	0.30	0.55	3.7	4.2	150		

ZOMEREIK, Nederland 2018					matige dunning										Boniteit V, $h_{70} = 12.4$								
COMMON OAK, Netherlands 2018					moderate thinning										Site Class V, $h_{70} = 12.4$								
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	1.1	1.1			5000				0					5000				0			0.0	0.0	5
10	2.2	2.1	2.2		5000	0.9	1.5	1.7	1					5000	0.9	1.5	1.7	1	0.36	0.09	0.6	0.1	10
15	3.2	3.2	4.3		5000	3.3	2.9	2.6	6					5000	3.3	2.9	2.6	6	0.60	0.22	1.4	0.4	15
20	4.3	4.2	6.2		5000	6.8	4.2	3.4	16					5000	6.8	4.2	3.4	16	0.77	0.34	2.4	0.8	20
25	5.3	5.2	7.8		5000	11.0	5.3	4.2	31					5000	11.0	5.3	4.2	31	0.90	0.44	3.4	1.2	25
30	6.2	6.1	9.4		5000	15.7	6.3	5.1	50					5000	15.7	6.3	5.1	50	0.99	0.52	4.6	1.7	30
35	7.1	7.0	11.4	22.1	5000	20.6	7.2	6.0	73	353	1.2	6.5	4	4647	19.4	7.3	6.0	69	0.93	0.59	4.5	2.1	35
40	8.0	7.9	12.6	23.1	4647	23.9	8.1	6.8	93	1249	5.3	7.3	20	3397	18.7	8.4	6.9	74	0.83	0.63	4.7	2.4	40
45	8.8	8.7	13.7	24.0	3397	22.5	9.2	7.7	96	814	4.5	8.3	18	2584	18.1	9.4	7.7	78	0.73	0.64	4.4	2.7	45
50	9.6	9.5	14.9	24.8	2584	21.5	10.3	8.5	100	555	3.8	9.4	17	2028	17.7	10.5	8.5	83	0.65	0.65	4.2	2.8	50
55	10.4	10.2	16.1	25.7	2028	20.8	11.4	9.2	103	394	3.4	10.5	16	1634	17.4	11.6	9.3	87	0.60	0.65	4.0	2.9	55
60	11.1	10.9	17.2	26.5	1634	20.2	12.6	10.0	107	288	3.0	11.5	15	1346	17.2	12.8	10.0	92	0.55	0.64	3.9	3.0	60
65	11.7	11.6	18.4	27.2	1346	19.9	13.7	10.7	111	217	2.7	12.7	15	1129	17.2	13.9	10.8	97	0.52	0.63	3.8	3.1	65
70	12.4	12.2	19.6	27.9	1129	19.7	14.9	11.4	115	166	2.5	13.8	14	963	17.2	15.1	11.5	102	0.49	0.62	3.7	3.1	70
75	13.0	12.8	20.7	28.6	963	19.5	16.1	12.1	120	130	2.3	14.9	13	833	17.3	16.2	12.1	107	0.46	0.61	3.7	3.2	75
80	13.6	13.4	21.9	29.2	833	19.5	17.3	12.7	125	104	2.1	16.1	13	729	17.4	17.4	12.8	112	0.44	0.60	3.6	3.2	80
85	14.2	14.0	23.1	29.8	729	19.5	18.5	13.3	130	84	2.0	17.2	12	646	17.6	18.6	13.4	117	0.42	0.59	3.5	3.2	85
90	14.7	14.5	24.2	30.3	646	19.6	19.7	13.9	135	68	1.8	18.4	12	578	17.8	19.8	14.0	123	0.40	0.58	3.5	3.2	90
95	15.3	15.1	25.4	30.8	578	19.8	20.9	14.5	140	56	1.7	19.6	11	521	18.1	21.0	14.6	129	0.39	0.57	3.4	3.3	95
100	15.8	15.6	26.6	31.3	521	20.0	22.1	15.1	146	47	1.6	20.8	11	474	18.4	22.2	15.1	135	0.38	0.56	3.4	3.3	100
105	16.2	16.0	27.7	31.7	474	20.3	23.3	15.6	152	39	1.5	22.0	11	435	18.8	23.5	15.7	141	0.36	0.55	3.4	3.3	105
110	16.7	16.5	28.9	32.1	435	20.6	24.5	16.1	158	33	1.4	23.1	10	401	19.2	24.7	16.2	148	0.35	0.54	3.3	3.3	110
115	17.2	16.9	30.0	32.4	401	20.9	25.8	16.6	165	28	1.3	24.3	10	373	19.6	25.9	16.7	155	0.35	0.54	3.3	3.3	115
120	17.6	17.4	31.1	32.7	373	21.3	27.0	17.1	171	24	1.2	25.5	9	349	20.1	27.1	17.2	162	0.34	0.53	3.3	3.3	120
125	18.0	17.8	32.3	33.0	349	21.7	28.2	17.5	178	21	1.2	26.7	9	328	20.6	28.3	17.6	169	0.33	0.52	3.3	3.3	125
130	18.4	18.2	33.4	33.2	328	22.2	29.4	18.0	186	18	1.1	27.8	9	310	21.1	29.5	18.1	177	0.32	0.51	3.3	3.3	130
135	18.8	18.5	34.5	33.4	310	22.7	30.6	18.4	193	16	1.0	29.0	8	294	21.7	30.7	18.5	185	0.32	0.51	3.3	3.3	135
140	19.1	18.9	35.6	33.5	294	23.3	31.8	18.8	201	13	1.0	30.1	8	281	22.3	31.8	18.9	193	0.31	0.50	3.3	3.3	140
145	19.5	19.2	36.7	33.6	281	23.9	32.9	19.2	210	12	0.9	31.2	7	269	23.0	33.0	19.3	202	0.31	0.49	3.3	3.3	145
150	19.8	19.6	37.8	33.6	269	24.6	34.1	19.6	219	10	0.8	32.3	7	259	23.7	34.1	19.7	212	0.31	0.49	3.3	3.3	150

ZOMEREIK, Nederland 2018					sterke dunning										Boniteit I, $h_{70} = 25.2$								
COMMON OAK, Netherlands 2018					heavy thinning										Site Class I, $h_{70} = 25.2$								
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	3.2	3.2	4.3		5000	3.3	2.9	2.6	6					5000	3.3	2.9	2.6	6	1.72	0.65	4.4	1.2	5
10	6.3	6.2	9.4		5000	15.9	6.4	5.1	51					5000	15.9	6.4	5.1	51	2.61	1.59	12.0	5.1	10
15	9.0	8.8	12.7	22.0	5000	24.7	7.9	7.7	107	2034	6.4	6.3	26	2966	18.3	8.9	7.8	80	1.37	1.65	10.6	7.1	15
20	11.4	11.2	15.8	22.0	2966	25.6	10.5	10.1	137	1121	6.1	8.3	31	1845	19.5	11.6	10.2	106	1.31	1.60	11.1	8.2	20
25	13.5	13.3	18.8	23.1	1845	25.5	13.3	12.3	159	656	5.8	10.6	35	1189	19.6	14.5	12.4	125	1.06	1.52	10.1	8.7	25
30	15.4	15.2	21.6	24.1	1189	24.4	16.1	14.3	172	352	4.7	13.0	31	837	19.7	17.3	14.3	141	0.86	1.42	9.1	8.8	30
35	17.1	16.9	24.3	25.1	837	23.7	19.0	16.0	184	211	3.9	15.3	29	627	19.8	20.0	16.1	155	0.75	1.33	8.4	8.8	35
40	18.6	18.4	26.9	26.1	627	23.3	21.7	17.6	196	136	3.3	17.7	27	490	19.9	22.8	17.7	169	0.66	1.25	7.9	8.7	40
45	20.0	19.7	29.4	27.0	490	23.1	24.5	19.0	207	93	2.9	20.0	25	397	20.1	25.4	19.1	182	0.60	1.18	7.4	8.6	45
50	21.2	21.0	31.9	27.8	397	23.0	27.2	20.3	218	67	2.6	22.2	24	330	20.4	28.0	20.4	195	0.55	1.12	7.0	8.5	50
55	22.4	22.1	34.3	28.7	330	23.0	29.8	21.4	229	50	2.3	24.5	22	281	20.7	30.6	21.5	207	0.51	1.07	6.7	8.3	55
60	23.4	23.1	36.7	29.5	281	23.1	32.4	22.5	240	38	2.1	26.8	21	243	21.0	33.2	22.6	219	0.47	1.02	6.4	8.2	60
65	24.3	24.0	39.0	30.2	243	23.3	34.9	23.4	250	29	1.9	29.0	20	214	21.3	35.7	23.5	230	0.45	0.98	6.2	8.0	65
70	25.2	24.9	41.3	30.9	214	23.5	37.4	24.3	261	23	1.8	31.2	19	190	21.7	38.1	24.4	242	0.42	0.94	6.0	7.9	70
75	26.0	25.8	43.6	31.6	190	23.8	39.9	25.1	271	19	1.7	33.3	18	171	22.1	40.6	25.2	253	0.40	0.90	5.8	7.8	75
80	26.7	26.6	45.8	32.2	171	24.1	42.3	25.9	281	16	1.5	35.5	17	156	22.6	43.0	26.0	264	0.38	0.87	5.6	7.6	80
85	27.4	27.3	48.0	32.8	156	24.4	44.7	26.6	292	13	1.4	37.6	16	143	23.0	45.3	26.7	276	0.37	0.84	5.4	7.5	85
90	28.1	28.0	50.1	33.3	143	24.8	47.1	27.2	303	11	1.3	39.6	15	132	23.5	47.6	27.3	287	0.36	0.82	5.3	7.4	90
95	28.6	28.6	52.2	33.8	132	25.2	49.3	27.8	313	9	1.2	41.7	15	123	24.0	49.9	28.0	299	0.34	0.79	5.2	7.3	95
100	29.2	29.1	54.3	34.3	123	25.7	51.6	28.4	324	8	1.2	43.7	14	115	24.5	52.1	28.5	310	0.33	0.77	5.1	7.2	100
105	29.7	29.7	54.3	34.7	115	26.2	53.8	28.9	335	7	1.1	45.6	13	108	25.1	54.3	29.1	322	0.33	0.75	5.0	7.1	105
110	30.2	30.2	56.4	35.1	108	26.7	56.0	29.4	347	6	1.0	47.6	12	103	25.7	56.4	29.6	334	0.32	0.73	4.9	7.0	110
115	30.7	30.6	58.5	35.4	103	27.3	58.1	29.9	358	5	0.9	49.4	12	98	26.3	58.5	30.0	347	0.31	0.71	4.8	6.9	115
120	31.1	31.1	60.6	35.7	98	27.9	60.2	30.4	370	4	0.9	51.3	11	94	27.0	60.6	30.5	359	0.30	0.69	4.7	6.8	120
125	31.5	31.5	62.6	36.0	94	28.5	62.2	30.8	383	4	0.8	53.1	10	90	27.7	62.6	30.9	372	0.30	0.68	4.7	6.7	125
130	31.9	31.9	64.5	36.2	90	29.1	64.2	31.2	396	3	0.7	54.8	10	87	28.4	64.5	31.3	386	0.29	0.66	4.6	6.6	130
135	32.2	32.2	66.4	36.4	87	29.9	66.2	31.6	409	3	0.7	56.5	9	84	29.2	66.4	31.7	400	0.29	0.65	4.5	6.5	135
140	32.6	32.6	68.3	36.5	84	30.6	68.1	31.9	423	2	0.6	58.2	8	82	30.0	68.3	32.1	414	0.28	0.64	4.5	6.5	140
145	32.9	32.9	70.1	36.6	82	31.4	69.9	32.3	437	2	0.6	59.8	7	80	30.8	70.1	32.4	430	0.28	0.62	4.5	6.4	145
150	33.2	33.2	71.9	36.6	80	32.2	71.7	32.6	452	2	0.5	61.3	7	78	31.7	71.9	32.8	445	0.28	0.61	4.4	6.3	150

ZOMEREIK, Nederland 2018					sterke dunning										Boniteit II, $h_{70} = 22.0$								
COMMON OAK, Netherlands 2018					heavy thinning										Site Class II, $h_{70} = 22.0$								
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	2.6	2.5	3.0		5000	1.6	2.0	2.0	3					5000	1.6	2.0	2.0	3	1.02	0.32	2.2	0.5	5
10	5.0	5.0	7.4		5000	9.9	5.0	4.0	26					5000	9.9	5.0	4.0	26	2.07	0.99	7.6	2.6	10
15	7.3	7.2	11.2	22.0	5000	20.8	7.3	6.1	75	502	1.4	5.9	5	4498	19.5	7.4	6.1	70	1.87	1.39	10.2	5.0	15
20	9.3	9.2	13.6	22.0	4498	27.0	8.7	8.1	120	1757	7.2	7.2	31	2741	19.8	9.6	8.1	90	1.34	1.42	9.7	6.3	20
25	11.2	11.0	16.1	23.1	2741	25.9	11.0	10.0	137	1007	6.6	9.1	33	1734	19.4	11.9	10.0	104	1.08	1.38	8.9	6.9	25
30	12.9	12.7	18.5	24.1	1734	24.2	13.3	11.7	145	533	5.2	11.1	30	1201	19.0	14.2	11.7	115	0.88	1.31	8.0	7.1	30
35	14.4	14.2	20.8	25.1	1201	23.1	15.6	13.3	154	316	4.2	13.1	27	885	18.8	16.5	13.3	127	0.76	1.24	7.4	7.2	35
40	15.8	15.6	23.0	26.1	885	22.4	17.9	14.7	162	202	3.6	15.1	25	683	18.8	18.7	14.8	137	0.67	1.17	6.9	7.2	40
45	17.0	16.8	25.2	27.0	683	21.9	20.2	16.0	171	137	3.1	17.1	23	546	18.8	20.9	16.1	148	0.60	1.11	6.5	7.1	45
50	18.2	18.0	27.3	27.8	546	21.7	22.5	17.2	180	97	2.8	19.1	22	449	18.9	23.2	17.3	158	0.55	1.06	6.2	7.1	50
55	19.3	19.0	29.4	28.7	449	21.6	24.7	18.3	188	71	2.5	21.0	21	378	19.1	25.4	18.4	168	0.51	1.01	6.0	7.0	55
60	20.3	20.0	31.4	29.5	378	21.6	26.9	19.4	197	54	2.2	23.0	20	324	19.3	27.5	19.5	177	0.48	0.97	5.7	6.9	60
65	21.2	20.9	33.5	30.2	324	21.6	29.1	20.3	205	42	2.0	25.0	19	282	19.6	29.7	20.4	187	0.45	0.93	5.5	6.8	65
70	22.0	21.7	35.5	30.9	282	21.8	31.3	21.2	214	33	1.9	27.0	18	249	19.9	31.9	21.3	197	0.43	0.89	5.4	6.7	70
75	22.8	22.5	37.4	31.6	249	22.0	33.5	22.0	223	27	1.7	28.9	17	223	20.2	34.0	22.1	206	0.41	0.86	5.2	6.6	75
80	23.5	23.3	39.4	32.2	223	22.2	35.6	22.8	232	22	1.6	30.8	16	201	20.6	36.1	22.9	216	0.39	0.83	5.1	6.5	80
85	24.2	24.0	41.3	32.8	201	22.5	37.7	23.5	241	18	1.5	32.7	15	183	21.0	38.2	23.6	225	0.37	0.81	4.9	6.4	85
90	24.8	24.6	43.2	33.3	183	22.8	39.8	24.1	250	15	1.4	34.6	15	169	21.4	40.2	24.2	235	0.36	0.78	4.8	6.3	90
95	25.4	25.3	45.1	33.8	169	23.2	41.8	24.8	259	13	1.3	36.5	14	156	21.9	42.2	24.9	245	0.35	0.76	4.7	6.2	95
100	26.0	25.8	47.0	34.3	156	23.6	43.9	25.3	269	11	1.2	38.3	13	146	22.4	44.2	25.5	255	0.34	0.74	4.6	6.2	100
105	26.5	26.4	48.8	34.7	146	24.0	45.8	25.9	278	9	1.1	40.1	13	136	22.9	46.2	26.0	266	0.33	0.72	4.6	6.1	105
110	27.0	26.9	50.6	35.1	136	24.5	47.8	26.4	288	8	1.1	41.9	12	129	23.4	48.1	26.5	276	0.32	0.70	4.5	6.0	110
115	27.5	27.4	52.4	35.4	129	25.0	49.7	26.9	299	7	1.0	43.7	11	122	24.0	50.0	27.0	287	0.31	0.68	4.4	6.0	115
120	27.9	27.8	54.1	35.7	122	25.5	51.6	27.4	309	6	0.9	45.4	11	116	24.6	51.9	27.5	299	0.31	0.67	4.4	5.9	120
125	28.3	28.3	53.7	36.0	116	26.1	53.5	27.8	320	5	0.9	47.1	10	111	25.3	53.7	28.0	310	0.30	0.65	4.3	5.8	125
130	28.7	28.7	55.5	36.2	111	26.7	55.3	28.3	331	4	0.8	48.7	9	107	25.9	55.5	28.4	322	0.29	0.64	4.3	5.8	130
135	29.1	29.1	57.3	36.4	107	27.4	57.1	28.7	343	4	0.7	50.3	9	103	26.7	57.3	28.8	334	0.29	0.63	4.2	5.7	135
140	29.4	29.4	59.1	36.5	103	28.1	58.8	29.1	355	3	0.7	51.9	8	100	27.4	59.1	29.2	347	0.29	0.62	4.2	5.7	140
145	29.8	29.8	60.7	36.6	100	28.8	60.6	29.4	368	3	0.6	53.4	7	97	28.2	60.7	29.6	361	0.28	0.60	4.2	5.6	145
150	30.1	30.1	62.4	36.6	97	29.6	62.2	29.8	381	2	0.5	54.9	7	95	29.1	62.4	29.9	375	0.28	0.59	4.1	5.6	150

ZOMEREIK, Nederland 2018					sterke dunning										Boniteit III, $h_{70} = 18.8$								
COMMON OAK, Netherlands 2018					heavy thinning										Site Class III, $h_{70} = 18.8$								
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	2.0	1.9	1.8		5000	0.6	1.2	1.6	1					5000	0.6	1.2	1.6	1	0.52	0.11	0.9	0.2	5
10	3.9	3.9	5.5		5000	5.5	3.8	3.1	12					5000	5.5	3.8	3.1	12	1.32	0.55	3.8	1.2	10
15	5.8	5.7	8.6		5000	13.4	5.8	4.6	40					5000	13.4	5.8	4.6	40	1.76	0.89	7.4	2.7	15
20	7.5	7.4	11.4	22.0	5000	21.4	7.4	6.3	79	718	2.2	6.2	8	4282	19.2	7.6	6.3	71	1.34	1.07	7.5	3.9	20
25	9.0	8.9	13.5	23.1	4282	25.5	8.7	7.8	111	1623	7.1	7.5	30	2659	18.4	9.4	7.9	81	1.11	1.11	7.5	4.7	25
30	10.5	10.3	15.4	24.1	2659	23.3	10.6	9.3	117	849	5.5	9.1	26	1810	17.8	11.2	9.3	90	0.90	1.09	6.8	5.1	30
35	11.8	11.6	17.3	25.1	1810	22.0	12.4	10.7	123	496	4.5	10.7	24	1313	17.5	13.0	10.7	99	0.77	1.05	6.3	5.3	35
40	13.0	12.9	19.2	26.1	1313	21.1	14.3	11.9	129	314	3.8	12.4	22	999	17.3	14.8	12.0	107	0.68	1.01	5.9	5.4	40
45	14.2	14.0	21.0	27.0	999	20.5	16.2	13.1	136	211	3.3	14.1	21	789	17.2	16.7	13.2	115	0.61	0.97	5.6	5.5	45
50	15.2	15.0	22.8	27.8	789	20.2	18.0	14.2	143	148	2.9	15.8	20	641	17.3	18.5	14.3	123	0.56	0.93	5.4	5.5	50
55	16.2	16.0	24.6	28.7	641	20.0	19.9	15.3	150	108	2.6	17.5	18	533	17.4	20.4	15.3	131	0.52	0.90	5.2	5.4	55
60	17.1	16.9	26.4	29.5	533	19.9	21.8	16.2	157	81	2.3	19.2	18	452	17.5	22.2	16.3	139	0.48	0.86	5.0	5.4	60
65	18.0	17.8	28.1	30.2	452	19.9	23.7	17.1	164	62	2.1	20.9	17	390	17.7	24.1	17.2	147	0.46	0.83	4.9	5.4	65
70	18.8	18.6	29.9	30.9	390	20.0	25.5	18.0	171	49	2.0	22.6	16	342	18.0	25.9	18.1	155	0.43	0.80	4.7	5.3	70
75	19.5	19.3	31.6	31.6	342	20.1	27.4	18.8	178	39	1.8	24.4	15	303	18.3	27.7	18.9	163	0.41	0.78	4.6	5.3	75
80	20.3	20.0	33.3	32.2	303	20.3	29.2	19.5	186	31	1.7	26.1	15	271	18.6	29.6	19.6	171	0.39	0.76	4.5	5.2	80
85	20.9	20.6	35.0	32.8	271	20.5	31.0	20.2	193	26	1.6	27.8	14	245	19.0	31.4	20.3	179	0.38	0.73	4.4	5.2	85
90	21.5	21.3	36.7	33.3	245	20.8	32.9	20.9	201	21	1.5	29.5	13	224	19.3	33.2	21.0	188	0.36	0.71	4.3	5.2	90
95	22.1	21.9	38.3	33.8	224	21.1	34.7	21.5	209	18	1.4	31.2	13	206	19.8	34.9	21.6	196	0.35	0.69	4.2	5.1	95
100	22.7	22.5	40.0	34.3	206	21.5	36.4	22.1	217	15	1.3	32.8	12	191	20.2	36.7	22.2	205	0.34	0.68	4.2	5.1	100
105	23.2	23.0	41.6	34.7	191	21.9	38.2	22.7	226	13	1.2	34.5	12	178	20.7	38.5	22.8	214	0.33	0.66	4.1	5.0	105
110	23.7	23.5	43.2	35.1	178	22.3	39.9	23.2	234	11	1.1	36.1	11	167	21.2	40.2	23.3	223	0.32	0.65	4.1	5.0	110
115	24.2	24.0	44.8	35.4	167	22.8	41.7	23.7	243	9	1.1	37.7	11	157	21.7	41.9	23.8	233	0.31	0.63	4.0	4.9	115
120	24.6	24.5	46.3	35.7	157	23.3	43.4	24.2	253	8	1.0	39.3	10	149	22.3	43.6	24.3	242	0.31	0.62	4.0	4.9	120
125	25.0	24.9	47.9	36.0	149	23.8	45.0	24.7	262	7	0.9	40.8	10	142	22.9	45.2	24.8	252	0.30	0.61	3.9	4.9	125
130	25.4	25.3	49.4	36.2	142	24.4	46.7	25.1	272	6	0.9	42.4	9	136	23.5	46.9	25.2	263	0.30	0.59	3.9	4.8	130
135	25.8	25.7	50.9	36.4	136	25.0	48.3	25.6	282	5	0.8	43.9	9	131	24.2	48.5	25.7	274	0.29	0.58	3.9	4.8	135
140	26.2	26.1	52.4	36.5	131	25.6	49.9	26.0	293	5	0.7	45.4	8	126	24.9	50.1	26.1	285	0.29	0.57	3.8	4.8	140
145	26.5	26.5	53.9	36.6	126	26.3	51.5	26.3	304	4	0.7	46.8	7	122	25.6	51.6	26.5	297	0.28	0.56	3.8	4.7	145
150	26.9	26.8	55.3	36.6	122	27.1	53.0	26.7	316	3	0.6	48.2	7	119	26.4	53.2	26.8	309	0.28	0.55	3.8	4.7	150



ZOMEREIK, Nederland 2018					sterke dunning										Boniteit IV, $h_{70} = 15.6$								
COMMON OAK, Netherlands 2018					heavy thinning										Site Class IV, $h_{70} = 15.6$								
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	1.5	1.5	0.6		5000	0.1	0.4	1.2	0					5000	0.1	0.4	1.2	0	0.20	0.01	0.3	0.0	5
10	3.0	2.9	3.8		5000	2.6	2.6	2.4	5					5000	2.6	2.6	2.4	5	0.76	0.26	1.7	0.5	10
15	4.4	4.4	6.4		5000	7.3	4.3	3.5	18					5000	7.3	4.3	3.5	18	1.09	0.49	3.5	1.2	15
20	5.8	5.7	8.6		5000	13.4	5.8	4.6	40					5000	13.4	5.8	4.7	40	1.32	0.67	5.6	2.0	20
25	7.1	7.0	11.2	23.1	5000	20.4	7.2	5.9	72	650	2.0	6.3	7	4350	18.4	7.3	5.9	65	1.24	0.82	6.2	2.9	25
30	8.3	8.1	12.8	24.1	4350	23.5	8.3	7.1	94	1439	6.1	7.4	24	2910	17.4	8.7	7.1	71	0.93	0.85	5.7	3.4	30
35	9.4	9.3	14.3	25.1	2910	21.6	9.7	8.2	98	832	4.9	8.7	21	2079	16.7	10.1	8.2	77	0.79	0.85	5.3	3.7	35
40	10.4	10.3	15.8	26.1	2079	20.4	11.2	9.3	102	520	4.1	10.0	20	1558	16.4	11.6	9.3	83	0.70	0.84	5.0	3.9	40
45	11.4	11.3	17.3	27.0	1558	19.7	12.7	10.3	107	345	3.5	11.4	18	1213	16.1	13.0	10.4	89	0.63	0.82	4.8	4.0	45
50	12.4	12.2	18.8	27.8	1213	19.1	14.2	11.3	112	240	3.1	12.8	17	973	16.1	14.5	11.3	95	0.57	0.80	4.6	4.0	50
55	13.3	13.1	20.3	28.7	973	18.8	15.7	12.2	118	173	2.7	14.2	16	800	16.1	16.0	12.3	101	0.53	0.77	4.4	4.1	55
60	14.1	13.9	21.8	29.5	800	18.6	17.2	13.1	123	129	2.5	15.6	16	671	16.1	17.5	13.1	107	0.49	0.75	4.3	4.1	60
65	14.9	14.7	23.3	30.2	671	18.5	18.8	13.9	129	98	2.2	17.1	15	573	16.3	19.0	14.0	114	0.46	0.73	4.2	4.1	65
70	15.6	15.4	24.8	30.9	573	18.5	20.3	14.7	134	76	2.1	18.5	14	496	16.5	20.6	14.8	120	0.44	0.71	4.1	4.1	70
75	16.3	16.1	26.2	31.6	496	18.6	21.8	15.5	140	61	1.9	20.0	14	436	16.7	22.1	15.5	127	0.42	0.69	4.0	4.1	75
80	17.0	16.7	27.7	32.2	436	18.7	23.4	16.2	146	49	1.8	21.5	13	387	16.9	23.6	16.2	133	0.40	0.67	3.9	4.1	80
85	17.6	17.4	29.1	32.8	387	18.9	24.9	16.8	153	40	1.6	23.0	13	347	17.2	25.2	16.9	140	0.38	0.66	3.9	4.1	85
90	18.2	17.9	30.6	33.3	347	19.1	26.5	17.5	159	33	1.5	24.4	12	314	17.6	26.7	17.6	147	0.37	0.64	3.8	4.1	90
95	18.7	18.5	32.0	33.8	314	19.4	28.0	18.1	166	27	1.4	25.9	12	287	17.9	28.2	18.2	154	0.35	0.63	3.7	4.1	95
100	19.3	19.0	33.5	34.3	287	19.7	29.6	18.7	173	23	1.4	27.4	11	264	18.3	29.7	18.8	161	0.34	0.61	3.7	4.0	100
105	19.8	19.5	34.9	34.7	264	20.0	31.1	19.3	180	19	1.3	28.8	11	244	18.7	31.2	19.3	169	0.33	0.60	3.6	4.0	105
110	20.3	20.0	36.3	35.1	244	20.4	32.6	19.8	187	17	1.2	30.3	10	228	19.2	32.7	19.9	176	0.32	0.59	3.6	4.0	110
115	20.8	20.5	37.7	35.4	228	20.8	34.1	20.3	194	14	1.1	31.7	10	214	19.7	34.2	20.4	184	0.32	0.58	3.6	4.0	115
120	21.2	21.0	39.0	35.7	214	21.2	35.6	20.8	202	12	1.1	33.1	10	201	20.2	35.7	20.9	193	0.31	0.56	3.5	4.0	120
125	21.6	21.4	40.4	36.0	201	21.7	37.1	21.3	210	11	1.0	34.6	9	191	20.7	37.2	21.4	201	0.30	0.55	3.5	3.9	125
130	22.0	21.9	41.8	36.2	191	22.2	38.5	21.7	219	9	0.9	35.9	9	182	21.3	38.6	21.8	210	0.30	0.54	3.5	3.9	130
135	22.4	22.3	43.1	36.4	182	22.8	40.0	22.2	227	8	0.9	37.3	8	174	21.9	40.1	22.3	219	0.29	0.54	3.5	3.9	135
140	22.8	22.6	44.4	36.5	174	23.4	41.4	22.6	237	7	0.8	38.7	8	167	22.6	41.5	22.7	229	0.29	0.53	3.5	3.9	140
145	23.2	23.0	45.7	36.6	167	24.0	42.8	23.0	246	6	0.7	40.0	7	161	23.3	42.9	23.1	239	0.29	0.52	3.5	3.9	145
150	23.5	23.4	47.0	36.6	161	24.7	44.2	23.4	256	5	0.7	41.3	7	156	24.0	44.3	23.5	249	0.28	0.51	3.4	3.9	150

ZOMEREIK, Nederland 2018					sterke dunning										Boniteit V, $h_{70} = 12.4$								
COMMON OAK, Netherlands 2018					heavy thinning										Site Class V, $h_{70} = 12.4$								
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	1.1	1.1			5000				0					5000				0			0.0	0.0	5
10	2.2	2.1	2.2		5000	0.9	1.5	1.7	1					5000	0.9	1.5	1.7	1	0.36	0.09	0.6	0.1	10
15	3.2	3.2	4.3		5000	3.3	2.9	2.6	6					5000	3.3	2.9	2.6	6	0.60	0.22	1.4	0.4	15
20	4.3	4.2	6.2		5000	6.8	4.2	3.4	16					5000	6.8	4.2	3.4	16	0.77	0.34	2.4	0.8	20
25	5.3	5.2	7.8		5000	11.0	5.3	4.2	31					5000	11.0	5.3	4.2	31	0.90	0.44	3.4	1.2	25
30	6.2	6.1	9.4		5000	15.7	6.3	5.1	50					5000	15.7	6.3	5.1	50	0.99	0.52	4.6	1.7	30
35	7.1	7.0	11.4	25.1	5000	20.6	7.2	6.0	73	1397	4.8	6.6	16	3603	15.7	7.5	6.0	56	0.86	0.59	4.1	2.1	35
40	8.0	7.9	12.6	26.1	3603	19.6	8.3	6.8	77	942	4.3	7.7	16	2660	15.3	8.5	6.9	61	0.72	0.61	4.0	2.3	40
45	8.8	8.7	13.8	27.0	2660	18.7	9.5	7.7	81	619	3.7	8.7	15	2041	15.0	9.7	7.7	65	0.65	0.62	3.9	2.5	45
50	9.6	9.5	15.0	27.8	2041	18.0	10.6	8.5	84	426	3.2	9.8	14	1615	14.8	10.8	8.5	70	0.59	0.62	3.7	2.6	50
55	10.4	10.2	16.2	28.7	1615	17.6	11.8	9.2	88	305	2.9	11.0	14	1310	14.7	12.0	9.3	75	0.54	0.61	3.6	2.7	55
60	11.1	10.9	17.5	29.5	1310	17.4	13.0	10.0	92	224	2.6	12.1	13	1086	14.8	13.2	10.0	79	0.50	0.61	3.5	2.8	60
65	11.7	11.6	18.7	30.2	1086	17.2	14.2	10.7	97	170	2.4	13.3	13	916	14.8	14.4	10.8	84	0.47	0.60	3.5	2.9	65
70	12.4	12.2	19.9	30.9	916	17.1	15.4	11.4	101	131	2.2	14.5	12	785	15.0	15.6	11.5	89	0.45	0.59	3.4	2.9	70
75	13.0	12.8	21.1	31.6	785	17.1	16.7	12.1	106	103	2.0	15.7	12	682	15.2	16.8	12.1	94	0.42	0.58	3.3	2.9	75
80	13.6	13.4	22.3	32.2	682	17.2	17.9	12.7	111	82	1.9	16.9	11	600	15.4	18.1	12.8	99	0.40	0.57	3.3	3.0	80
85	14.2	14.0	23.6	32.8	600	17.3	19.2	13.3	116	67	1.7	18.1	11	533	15.6	19.3	13.4	105	0.39	0.56	3.3	3.0	85
90	14.7	14.5	24.8	33.3	533	17.5	20.5	13.9	121	55	1.6	19.4	11	478	15.9	20.6	14.0	110	0.37	0.55	3.2	3.0	90
95	15.3	15.1	26.0	33.8	478	17.7	21.7	14.5	126	45	1.5	20.6	10	433	16.2	21.8	14.6	116	0.36	0.54	3.2	3.0	95
100	15.8	15.6	27.2	34.3	433	18.0	23.0	15.1	132	38	1.4	21.9	10	395	16.5	23.1	15.1	122	0.35	0.53	3.1	3.0	100
105	16.2	16.0	28.4	34.7	395	18.3	24.3	15.6	138	32	1.3	23.1	10	363	16.9	24.4	15.7	128	0.34	0.52	3.1	3.0	105
110	16.7	16.5	29.6	35.1	363	18.6	25.5	16.1	143	27	1.3	24.4	9	336	17.3	25.6	16.2	134	0.33	0.51	3.1	3.0	110
115	17.2	16.9	30.8	35.4	336	18.9	26.8	16.6	150	23	1.2	25.6	9	312	17.7	26.9	16.7	141	0.32	0.50	3.1	3.0	115
120	17.6	17.4	32.0	35.7	312	19.3	28.1	17.1	156	20	1.1	26.8	9	293	18.2	28.1	17.2	147	0.31	0.49	3.1	3.0	120
125	18.0	17.8	33.2	36.0	293	19.7	29.3	17.5	163	17	1.1	28.1	8	275	18.7	29.4	17.6	154	0.31	0.49	3.1	3.0	125
130	18.4	18.2	34.3	36.2	275	20.2	30.6	18.0	170	15	1.0	29.3	8	261	19.2	30.6	18.1	162	0.30	0.48	3.0	3.0	130
135	18.8	18.5	35.5	36.4	261	20.7	31.8	18.4	177	13	0.9	30.5	8	248	19.8	31.9	18.5	169	0.30	0.47	3.0	3.0	135
140	19.1	18.9	36.7	36.5	248	21.2	33.0	18.8	184	11	0.9	31.7	7	237	20.4	33.1	18.9	177	0.29	0.47	3.0	3.0	140
145	19.5	19.3	37.8	36.6	237	21.8	34.3	19.2	192	10	0.8	32.9	7	227	21.0	34.3	19.3	185	0.29	0.46	3.0	3.0	145
150	19.8	19.6	38.9	36.6	227	22.4	35.5	19.6	201	8	0.8	34.0	6	219	21.7	35.5	19.7	194	0.29	0.45	3.0	3.0	150

## Amerikaanse eik (*Quercus rubra*)

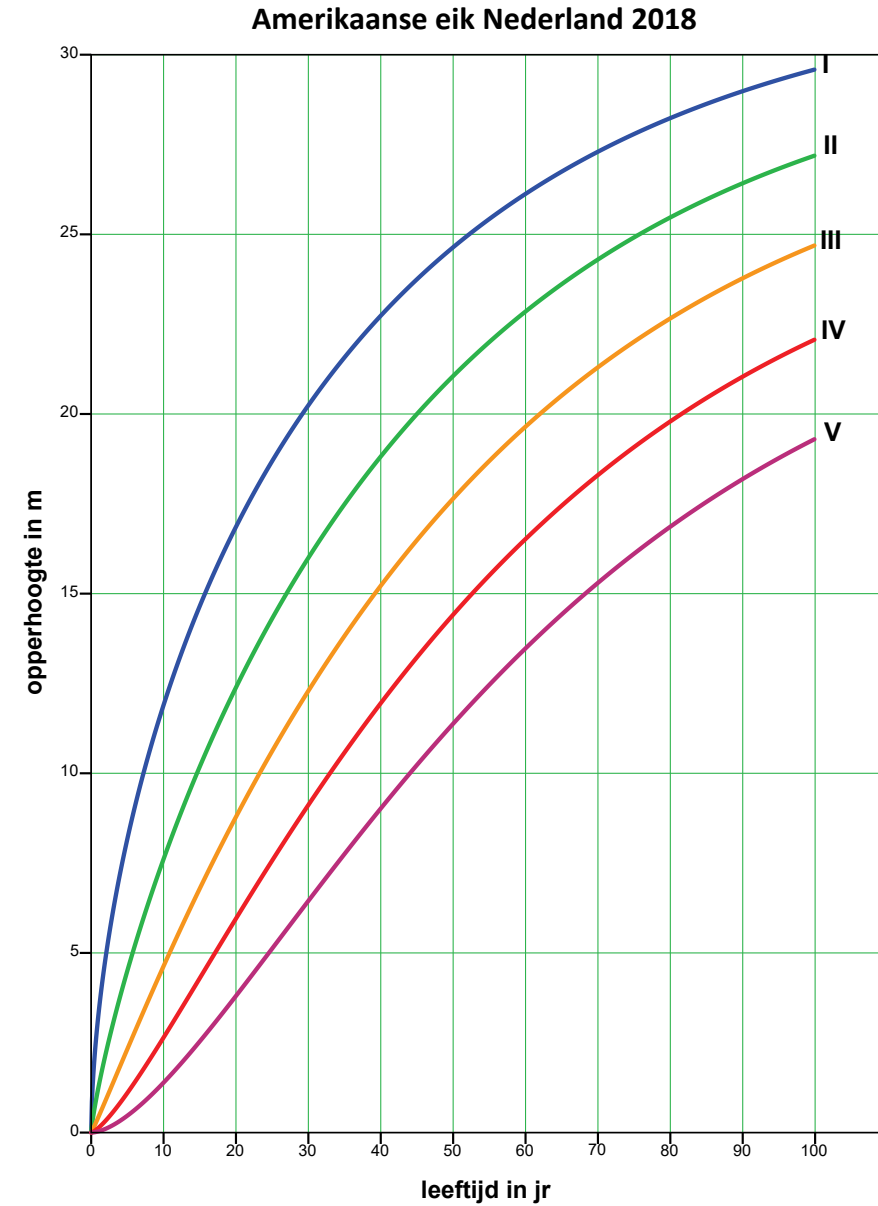
## Red oak

Jansen, J.J., A. Oosterbaan, G.M.J. Mohren en J. den Ouden

**Bron:** Jansen, J.J., A. Oosterbaan, G.M.J. Mohren en J. den Ouden, 2018. *Groei en productie van Amerikaanse eik in Nederland*. FEM Groei en Productie Rapport 2018 – 9, 41 blz.

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<https://doi.org/10.18174/444098>





**AMERIKAANSE EIK, Nederland 2018**

RED OAK, Netherlands 2018

**matige dunning**

moderate thinning

**Boniteit II,  $h_{70} = 24.3$**

Site Class II,  $h_{70} = 24.3$

<i>t</i>	<b>Opstandkenmerken</b> Stand characteristics		<b>Kenmerken voor dunning</b> Characteristics before thinning					<b>Dunning</b> Thinning				<b>Kenmerken na dunning</b> Characteristics after thinning					<b>Bijgroei</b> Increment				<i>t</i>
	<i>h<sub>top</sub></i>	<i>S%</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>h<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>h<sub>g</sub></i>	<i>V</i>	<i>lc<sub>G</sub></i>	<i>lm<sub>G</sub></i>	<i>lc<sub>V</sub></i>	<i>lm<sub>V</sub></i>	
5	4.5		5000	1.5	2.0	3.6	4					5000	1.5	2.0	3.6	4	0.66	0.30	2.2	0.8	5
10	7.6	20.0	5000	6.4	4.0	6.5	28					5000	6.4	4.0	6.5	28	1.38	0.64	8.1	2.8	10
15	10.2	19.0	5000	12.5	5.6	9.0	67	1916	2.7	4.2	13	3084	9.8	6.4	9.0	53	1.18	0.83	8.3	4.5	15
20	12.4	19.0	3084	15.6	8.0	11.2	97	1000	2.9	6.1	17	2084	12.7	8.8	11.3	80	1.11	0.92	8.9	5.5	20
25	14.3	19.0	2084	18.0	10.5	13.1	125	522	2.7	8.0	17	1562	15.4	11.2	13.2	108	1.02	0.95	9.0	6.2	25
30	16.0	19.0	1562	20.3	12.9	14.8	153	312	2.4	10.0	17	1250	17.9	13.5	15.0	136	0.96	0.95	9.0	6.7	30
35	17.5	19.0	1250	22.5	15.1	16.4	181	204	2.3	11.9	17	1046	20.2	15.7	16.5	164	0.90	0.95	9.0	7.0	35
40	18.8	20.2	1046	24.6	17.3	17.7	208	243	3.8	14.0	30	803	20.9	18.2	17.9	179	0.82	0.94	8.5	7.3	40
45	20.0	21.3	803	24.7	19.8	19.0	219	167	3.5	16.4	29	636	21.2	20.6	19.1	190	0.74	0.92	7.9	7.4	45
50	21.1	22.5	636	24.7	22.3	20.1	228	120	3.3	18.9	29	516	21.4	23.0	20.2	199	0.68	0.90	7.4	7.4	50
55	22.0	23.6	516	24.7	24.7	21.1	235	89	3.2	21.3	28	428	21.5	25.3	21.2	207	0.64	0.88	7.0	7.4	55
60	22.9	24.8	428	24.6	27.1	21.9	241	67	3.0	23.9	28	360	21.6	27.7	22.1	214	0.60	0.86	6.7	7.3	60
65	23.6	25.9	360	24.6	29.5	22.7	246	52	2.9	26.4	27	308	21.7	29.9	22.9	219	0.57	0.84	6.3	7.3	65
70	24.3	27.1	308	24.5	31.8	23.5	250	41	2.7	29.0	26	267	21.7	32.2	23.7	224	0.54	0.82	6.0	7.2	70
75	24.9	28.2	267	24.4	34.1	24.1	254	33	2.6	31.7	26	233	21.8	34.5	24.3	228	0.52	0.80	5.8	7.1	75
80	25.5	29.4	233	24.3	36.4	24.7	256	27	2.5	34.4	25	206	21.8	36.7	24.9	231	0.50	0.78	5.5	7.0	80
85	26.0	30.5	206	24.2	38.7	25.2	258	23	2.4	37.1	24	184	21.8	38.9	25.5	234	0.48	0.76	5.3	6.9	85
90	26.4	31.7	184	24.1	40.9	25.7	260	19	1.7	34.0	17	165	22.4	41.6	25.9	242	0.46	0.75	5.0	6.8	90
95	26.8	32.8	165	24.6	43.6	26.2	267	16	1.6	36.2	17	149	23.0	44.3	26.4	250	0.44	0.73	4.8	6.7	95
100	27.2	34.0	149	25.1	46.4	26.6	274	14	1.6	38.5	16	135	23.5	47.1	26.8	258	0.42	0.71	4.6	6.6	100

AMERIKAANSE EIK, Nederland 2018								matige dunning								Boniteit III, $h_{70} = 21.3$					
RED OAK, Netherlands 2018								moderate thinning								Site Class III, $h_{70} = 21.3$					
	Opstandkenmerken		Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics		Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	2.3		5000	0.2	0.6	1.9	0					5000	0.2	0.6	1.9	0	0.14	0.03	0.3	0.1	5
10	4.6		5000	1.6	2.0	3.7	4					5000	1.6	2.0	3.7	4	0.44	0.16	1.5	0.4	10
15	6.8		5000	4.5	3.4	5.7	17					5000	4.5	3.4	5.7	17	0.81	0.30	4.0	1.1	15
20	8.8	19.0	5000	10.2	5.1	7.6	49	857	0.9	3.7	4	4143	9.3	5.3	7.7	45	1.14	0.51	6.8	2.4	20
25	10.6	19.0	4143	14.7	6.7	9.4	80	1306	2.6	5.0	13	2837	12.1	7.4	9.5	67	1.05	0.63	7.4	3.4	25
30	12.3	19.0	2837	17.2	8.8	11.1	105	721	2.5	6.7	14	2116	14.7	9.4	11.2	91	0.98	0.69	7.7	4.1	30
35	13.8	19.0	2116	19.5	10.8	12.6	130	443	2.4	8.3	15	1674	17.1	11.4	12.8	115	0.93	0.73	7.9	4.6	35
40	15.2	20.2	1674	21.6	12.8	14.1	154	446	3.6	10.2	24	1227	18.0	13.7	14.2	130	0.85	0.75	7.6	5.0	40
45	16.5	21.3	1227	21.9	15.1	15.4	167	292	3.4	12.2	24	935	18.5	15.9	15.5	142	0.76	0.76	7.2	5.3	45
50	17.6	22.5	935	22.1	17.4	16.6	177	200	3.3	14.4	24	735	18.9	18.1	16.7	153	0.70	0.75	6.9	5.5	50
55	18.7	23.6	735	22.3	19.6	17.7	186	143	3.1	16.6	24	592	19.2	20.3	17.8	162	0.65	0.75	6.6	5.6	55
60	19.6	24.8	592	22.3	21.9	18.7	194	105	2.9	18.9	24	487	19.4	22.5	18.8	170	0.62	0.74	6.3	5.6	60
65	20.5	25.9	487	22.4	24.2	19.6	201	79	2.8	21.3	24	408	19.6	24.7	19.7	177	0.58	0.73	6.0	5.7	65
70	21.3	27.1	408	22.4	26.4	20.4	207	61	2.7	23.7	23	347	19.7	26.9	20.6	184	0.55	0.71	5.8	5.7	70
75	22.0	28.2	347	22.4	28.7	21.1	212	48	2.6	26.1	23	299	19.8	29.1	21.3	189	0.53	0.70	5.5	5.7	75
80	22.7	29.4	299	22.4	30.9	21.8	216	39	2.5	28.6	22	260	19.9	31.2	22.0	194	0.50	0.69	5.3	5.7	80
85	23.2	30.5	260	22.4	33.1	22.5	219	31	2.4	31.2	22	229	20.0	33.3	22.6	198	0.48	0.68	5.1	5.6	85
90	23.8	31.7	229	22.4	35.3	23.0	222	26	1.7	29.3	16	203	20.6	35.9	23.2	206	0.46	0.67	4.9	5.6	90
95	24.3	32.8	203	22.9	37.9	23.5	230	21	1.7	31.5	16	182	21.2	38.6	23.7	214	0.45	0.66	4.7	5.6	95
100	24.7	34.0	182	23.4	40.5	24.0	237	18	1.6	33.6	15	164	21.8	41.2	24.2	222	0.43	0.65	4.5	5.5	100

AMERIKAANSE EIK, Nederland 2018								matige dunning								Boniteit IV, $h_{70} = 18.3$					
RED OAK, Netherlands 2018								moderate thinning								Site Class IV, $h_{70} = 18.3$					
	Opstandkenmerken		Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics		Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	1.1		5000				0					5000				0			0.0	0.0	5
10	2.6		5000	0.3	0.8	2.1	0					5000	0.3	0.8	2.1	0	0.13	0.03	0.3	0.0	10
15	4.3		5000	1.3	1.8	3.4	3					5000	1.3	1.8	3.4	3	0.30	0.09	0.9	0.2	15
20	6.0		5000	3.2	2.9	4.9	11					5000	3.2	2.9	4.9	11	0.45	0.16	2.1	0.5	20
25	7.6	20.1	5000	6.8	4.2	6.5	29					5000	6.8	4.2	6.5	29	1.04	0.27	5.9	1.2	25
30	9.1	19.0	5000	11.6	5.4	7.9	57	1152	1.4	4.0	7	3848	10.2	5.8	8.0	50	0.97	0.39	5.9	1.9	30
35	10.6	19.0	3848	15.1	7.1	9.4	82	990	2.2	5.3	11	2858	12.9	7.6	9.5	71	0.96	0.47	6.5	2.5	35
40	11.9	20.2	2858	17.5	8.8	10.8	104	867	3.2	6.8	18	1991	14.4	9.6	10.9	86	0.87	0.53	6.5	3.0	40
45	13.2	21.3	1991	18.4	10.9	12.1	118	537	3.1	8.6	19	1453	15.3	11.6	12.2	99	0.78	0.56	6.3	3.4	45
50	14.4	22.5	1453	19.0	12.9	13.3	130	352	3.0	10.5	19	1102	16.0	13.6	13.4	111	0.72	0.58	6.1	3.7	50
55	15.5	23.6	1102	19.5	15.0	14.4	141	241	2.9	12.4	20	861	16.5	15.6	14.5	121	0.67	0.59	5.9	3.9	55
60	16.5	24.8	861	19.8	17.1	15.5	150	171	2.8	14.5	20	690	17.0	17.7	15.6	130	0.63	0.59	5.8	4.1	60
65	17.4	25.9	690	20.0	19.2	16.4	159	125	2.7	16.6	20	564	17.3	19.8	16.6	139	0.60	0.60	5.6	4.2	65
70	18.3	27.1	564	20.2	21.4	17.3	166	94	2.6	18.8	20	470	17.6	21.9	17.5	146	0.57	0.59	5.4	4.3	70
75	19.1	28.2	470	20.4	23.5	18.1	172	72	2.5	21.0	20	398	17.9	23.9	18.3	153	0.54	0.59	5.2	4.3	75
80	19.8	29.4	398	20.5	25.6	18.9	178	57	2.4	23.3	20	341	18.1	26.0	19.0	158	0.51	0.59	5.0	4.4	80
85	20.4	30.5	341	20.6	27.7	19.6	183	45	2.3	25.7	19	296	18.3	28.0	19.7	164	0.49	0.58	4.8	4.4	85
90	21.0	31.7	296	20.7	29.8	20.2	187	37	1.8	24.8	15	260	18.9	30.5	20.4	172	0.47	0.58	4.6	4.4	90
95	21.6	32.8	260	21.2	32.3	20.8	195	30	1.7	26.8	14	230	19.5	32.9	21.0	181	0.45	0.57	4.5	4.4	95
100	22.1	34.0	230	21.8	34.7	21.3	203	25	1.6	28.9	14	205	20.1	35.4	21.5	188	0.44	0.57	4.3	4.4	100

**AMERIKAANSE EIK, Nederland 2018**

RED OAK, Netherlands 2018

**matige dunning**

moderate thinning

**Boniteit V,  $h_{70} = 15.3$**

Site Class V,  $h_{70} = 15.3$

	Opstandkenmerken		Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei					
	Stand characteristics		Characteristics before thinning					Thinning				Characteristics after thinning					Increment					
<i>t</i>	<i>h<sub>top</sub></i>	<i>S%</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>h<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>h<sub>g</sub></i>	<i>V</i>	<i>lc<sub>G</sub></i>	<i>lm<sub>G</sub></i>	<i>lc<sub>V</sub></i>	<i>lm<sub>V</sub></i>	<i>t</i>	
5	0.5		5000				0					5000				0				0.0	0.0	5
10	1.4		5000	0.0	0.1	1.1	0					5000	0.0	0.1	1.1	0	0.01	0.00	0.0	0.0	10	
15	2.5		5000	0.2	0.8	2.0	0					5000	0.2	0.8	2.0	0	0.09	0.02	0.2	0.0	15	
20	3.8		5000	0.9	1.5	3.0	2					5000	0.9	1.5	3.0	2	0.19	0.05	0.6	0.1	20	
25	5.1		5000	2.2	2.3	4.2	6					5000	2.2	2.3	4.2	6	0.30	0.09	1.2	0.3	25	
30	6.4		5000	3.9	3.2	5.4	14					5000	3.9	3.2	5.4	14	0.40	0.13	2.0	0.5	30	
35	7.8	19.6	5000	7.7	4.4	6.7	34					5000	7.7	4.4	6.7	34	0.96	0.22	4.8	1.0	35	
40	9.0	20.2	5000	12.3	5.6	7.9	59	1506	2.1	4.2	9	3494	10.2	6.1	7.9	49	0.87	0.31	5.1	1.5	40	
45	10.2	21.3	3494	14.4	7.2	9.1	75	1065	2.6	5.6	13	2430	11.7	7.8	9.1	63	0.80	0.37	5.2	1.9	45	
50	11.4	22.5	2430	15.6	9.0	10.2	89	663	2.7	7.2	14	1767	12.9	9.6	10.3	75	0.74	0.41	5.2	2.2	50	
55	12.5	23.6	1767	16.5	10.9	11.3	101	434	2.7	8.8	15	1333	13.8	11.5	11.4	85	0.69	0.43	5.2	2.5	55	
60	13.5	24.8	1333	17.2	12.8	12.4	111	297	2.6	10.6	16	1036	14.5	13.4	12.5	95	0.65	0.45	5.1	2.7	60	
65	14.4	25.9	1036	17.7	14.7	13.3	121	210	2.6	12.4	16	826	15.1	15.3	13.4	104	0.61	0.47	5.0	2.9	65	
70	15.3	27.1	826	18.1	16.7	14.2	129	153	2.5	14.4	17	673	15.6	17.2	14.4	113	0.58	0.48	4.9	3.0	70	
75	16.1	28.2	673	18.4	18.7	15.1	137	115	2.4	16.4	17	558	16.0	19.1	15.2	120	0.55	0.48	4.8	3.2	75	
80	16.9	29.4	558	18.7	20.7	15.9	143	88	2.3	18.4	17	470	16.4	21.0	16.0	127	0.53	0.49	4.6	3.3	80	
85	17.6	30.5	470	18.9	22.6	16.6	149	68	2.3	20.6	17	402	16.7	23.0	16.7	132	0.50	0.49	4.5	3.3	85	
90	18.2	31.7	402	19.1	24.6	17.3	154	54	1.8	20.5	13	347	17.3	25.2	17.4	141	0.48	0.49	4.3	3.4	90	
95	18.8	32.8	347	19.7	26.9	17.9	162	44	1.7	22.3	13	304	18.0	27.4	18.0	149	0.46	0.49	4.2	3.4	95	
100	19.3	34.0	304	20.2	29.1	18.4	170	36	1.6	24.2	13	268	18.6	29.7	18.6	157	0.44	0.48	4.1	3.5	100	



**AMERIKAANSE EIK, Nederland 2018**

RED OAK, Netherlands 2018

**sterke dunning**

heavy thinning

**Boniteit I,  $h_{70} = 27.3$**

Site Class I,  $h_{70} = 27.3$

<i>t</i>	<b>Opstandkenmerken</b> Stand characteristics		<b>Kenmerken voor dunning</b> Characteristics before thinning					<b>Dunning</b> Thinning				<b>Kenmerken na dunning</b> Characteristics after thinning					<b>Bijgroei</b> Increment				<i>t</i>
	<i>h<sub>top</sub></i>	<i>S%</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>h<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>h<sub>g</sub></i>	<i>V</i>	<i>lc<sub>G</sub></i>	<i>lm<sub>G</sub></i>	<i>lc<sub>V</sub></i>	<i>lm<sub>V</sub></i>	
5	8.2	22.0	5000	6.8	4.2	7.0	32	1432	1.1	3.2	5	3568	5.7	4.5	7.1	27	1.56	1.36	10.3	6.3	5
10	11.9	22.0	3568	12.4	6.7	10.7	76	1883	4.1	5.2	24	1685	8.3	7.9	10.8	53	1.20	1.35	9.8	8.1	10
15	14.7	22.0	1685	13.9	10.2	13.4	101	574	2.9	8.1	20	1111	10.9	11.2	13.6	81	1.03	1.27	9.5	8.6	15
20	16.9	22.0	1111	15.8	13.5	15.7	128	272	2.4	10.7	18	839	13.4	14.2	15.8	109	0.93	1.20	9.3	8.8	20
25	18.7	22.0	839	17.8	16.4	17.6	155	156	2.1	13.2	17	683	15.7	17.1	17.7	138	0.86	1.14	9.1	8.9	25
30	20.2	22.0	683	19.8	19.2	19.2	182	101	1.9	15.7	17	582	17.9	19.8	19.3	166	0.80	1.08	8.8	8.9	30
35	21.6	22.0	582	21.8	21.8	20.5	209	70	1.8	18.0	16	512	20.0	22.3	20.7	193	0.76	1.04	8.6	8.9	35
40	22.7	23.2	512	23.7	24.3	21.7	235	96	3.2	20.5	29	417	20.5	25.0	21.9	206	0.71	1.00	8.2	8.8	40
45	23.8	24.3	417	23.9	27.0	22.8	246	70	3.0	23.4	29	346	20.9	27.7	23.0	217	0.66	0.97	7.7	8.7	45
50	24.6	25.5	346	24.1	29.8	23.7	254	53	2.9	26.2	28	293	21.2	30.4	23.9	226	0.62	0.93	7.3	8.6	50
55	25.4	26.6	293	24.3	32.4	24.6	261	41	2.7	29.1	28	252	21.5	33.0	24.8	234	0.59	0.90	6.9	8.4	55
60	26.1	27.8	252	24.4	35.1	25.3	267	33	2.6	32.0	27	219	21.7	35.5	25.5	240	0.56	0.88	6.5	8.3	60
65	26.7	28.9	219	24.4	37.7	25.9	272	26	2.5	35.0	26	193	21.9	38.0	26.2	246	0.53	0.85	6.2	8.2	65
70	27.3	30.1	193	24.5	40.2	26.5	276	22	2.4	37.9	26	171	22.0	40.5	26.7	250	0.50	0.83	5.9	8.0	70
75	27.8	31.2	171	24.5	42.7	27.1	279	18	1.8	35.5	19	153	22.7	43.5	27.3	260	0.48	0.80	5.6	7.9	75
80	28.2	32.4	153	25.1	45.7	27.5	288	15	1.7	37.9	18	138	23.4	46.4	27.8	269	0.46	0.78	5.4	7.7	80
85	28.6	33.5	138	25.7	48.6	28.0	295	13	1.7	40.4	18	125	24.0	49.4	28.2	278	0.45	0.76	5.1	7.6	85
90	29.0	34.7	125	26.2	51.6	28.3	303	11	1.6	42.9	17	114	24.6	52.4	28.6	286	0.43	0.75	4.9	7.4	90
95	29.3	35.8	114	26.7	54.6	28.7	310	10	1.5	45.3	17	105	25.2	55.3	28.9	293	0.41	0.73	4.7	7.3	95
100	29.6	37.0	105	27.2	57.5	29.0	316	8	1.5	47.8	16	96	25.7	58.3	29.2	300	0.40	0.71	4.5	7.1	100

**AMERIKAANSE EIK, Nederland 2018**

RED OAK, Netherlands 2018

**sterke dunning**

heavy thinning

**Boniteit II,  $h_{70} = 24.3$**

Site Class II,  $h_{70} = 24.3$

<i>t</i>	<b>Opstandkenmerken</b> Stand characteristics		<b>Kenmerken voor dunning</b> Characteristics before thinning					<b>Dunning</b> Thinning				<b>Kenmerken na dunning</b> Characteristics after thinning					<b>Bijgroei</b> Increment				<i>t</i>
	<i>h<sub>top</sub></i>	<i>S%</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>h<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>h<sub>g</sub></i>	<i>V</i>	<i>lc<sub>G</sub></i>	<i>lm<sub>G</sub></i>	<i>lc<sub>V</sub></i>	<i>lm<sub>V</sub></i>	
5	4.5		5000	1.5	2.0	3.6	4					5000	1.5	2.0	3.6	4	0.66	0.30	2.2	0.8	5
10	7.6	22.0	5000	6.2	4.0	6.5	27	883	0.6	3.0	2	4117	5.6	4.1	6.5	25	1.23	0.62	7.4	2.7	10
15	10.2	22.0	4117	11.2	5.9	9.0	61	1817	3.0	4.6	15	2300	8.3	6.8	9.0	46	1.06	0.79	7.5	4.2	15
20	12.4	22.0	2300	13.3	8.6	11.2	84	746	2.6	6.7	15	1554	10.7	9.3	11.3	68	0.95	0.84	7.7	5.1	20
25	14.3	22.0	1554	15.2	11.2	13.1	107	389	2.4	8.8	16	1165	12.9	11.9	13.2	91	0.88	0.86	7.8	5.6	25
30	16.0	22.0	1165	17.1	13.7	14.8	131	233	2.2	10.9	15	932	15.0	14.3	15.0	115	0.82	0.86	7.8	6.0	30
35	17.5	22.0	932	19.0	16.1	16.4	154	152	2.0	13.0	15	780	16.9	16.6	16.5	139	0.78	0.85	7.8	6.2	35
40	18.8	23.2	780	20.7	18.4	17.7	177	172	3.1	15.2	25	608	17.6	19.2	17.9	152	0.73	0.84	7.6	6.4	40
45	20.0	24.3	608	21.1	21.0	19.0	189	120	3.0	17.8	25	489	18.1	21.7	19.1	164	0.68	0.82	7.2	6.5	45
50	21.1	25.5	489	21.4	23.6	20.1	199	87	2.8	20.4	25	402	18.6	24.3	20.2	175	0.64	0.81	6.9	6.6	50
55	22.0	26.6	402	21.6	26.2	21.1	208	65	2.7	23.0	24	337	18.9	26.8	21.2	184	0.60	0.79	6.6	6.6	55
60	22.9	27.8	337	21.9	28.7	21.9	216	50	2.6	25.7	24	287	19.3	29.2	22.1	192	0.57	0.77	6.3	6.6	60
65	23.6	28.9	287	22.0	31.3	22.7	222	39	2.5	28.5	24	248	19.5	31.7	22.9	199	0.54	0.75	6.0	6.5	65
70	24.3	30.1	248	22.1	33.8	23.5	228	31	2.4	31.3	23	216	19.7	34.1	23.7	205	0.51	0.74	5.7	6.5	70
75	24.9	31.2	216	22.3	36.2	24.1	233	25	1.8	30.1	18	191	20.4	36.9	24.3	215	0.49	0.72	5.5	6.4	75
80	25.5	32.4	191	22.8	39.1	24.7	242	21	1.7	32.5	17	170	21.1	39.8	24.9	225	0.47	0.71	5.2	6.4	80
85	26.0	33.5	170	23.4	41.9	25.2	250	18	1.7	34.8	17	152	21.7	42.7	25.5	234	0.45	0.69	5.0	6.3	85
90	26.4	34.7	152	24.0	44.8	25.7	258	15	1.6	37.2	16	137	22.4	45.5	25.9	242	0.44	0.68	4.8	6.2	90
95	26.8	35.8	137	24.5	47.6	26.2	266	13	1.5	39.6	16	125	22.9	48.4	26.4	250	0.42	0.67	4.6	6.1	95
100	27.2	37.0	125	25.0	50.5	26.6	273	11	1.5	41.9	15	114	23.5	51.2	26.8	258	0.40	0.65	4.4	6.0	100

AMERIKAANSE EIK, Nederland 2018										sterke dunning						Boniteit III, $h_{70} = 21.3$					
RED OAK, Netherlands 2018										heavy thinning						Site Class III, $h_{70} = 21.3$					
	Opstandkenmerken		Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics		Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	2.3		5000	0.2	0.6	1.9	0					5000	0.2	0.6	1.9	0	0.14	0.03	0.3	0.1	5
10	4.6		5000	1.6	2.0	3.7	4					5000	1.6	2.0	3.7	4	0.44	0.16	1.5	0.4	10
15	6.8		5000	4.5	3.4	5.7	17					5000	4.5	3.4	5.7	17	0.77	0.30	3.8	1.1	15
20	8.8	22.0	5000	9.4	4.9	7.6	45	1910	2.1	3.7	9	3090	7.3	5.5	7.7	36	0.98	0.47	5.9	2.3	20
25	10.6	22.0	3090	12.1	7.0	9.4	67	974	2.3	5.4	12	2116	9.8	7.7	9.5	55	0.91	0.57	6.4	3.0	25
30	12.3	22.0	2116	14.2	9.2	11.1	88	538	2.2	7.2	13	1578	12.0	9.8	11.2	75	0.85	0.62	6.6	3.6	30
35	13.8	22.0	1578	16.1	11.4	12.6	109	330	2.1	9.0	13	1248	14.0	11.9	12.8	95	0.80	0.65	6.8	4.1	35
40	15.2	23.2	1248	17.9	13.5	14.1	129	318	3.0	11.0	20	930	14.9	14.3	14.2	109	0.75	0.66	6.7	4.4	40
45	16.5	24.3	930	18.5	15.9	15.4	142	211	2.9	13.2	21	719	15.6	16.6	15.5	122	0.70	0.67	6.5	4.7	45
50	17.6	25.5	719	19.0	18.3	16.6	154	147	2.8	15.5	21	572	16.2	19.0	16.7	133	0.65	0.67	6.3	4.8	50
55	18.7	26.6	572	19.4	20.8	17.7	164	106	2.7	17.9	21	466	16.7	21.3	17.8	143	0.61	0.67	6.1	5.0	55
60	19.6	27.8	466	19.7	23.2	18.7	173	79	2.6	20.4	21	388	17.1	23.7	18.8	152	0.58	0.66	5.9	5.0	60
65	20.5	28.9	388	19.9	25.6	19.6	181	60	2.5	22.9	21	328	17.5	26.1	19.7	160	0.55	0.65	5.7	5.1	65
70	21.3	30.1	328	20.2	28.0	20.4	187	47	2.4	25.4	21	281	17.8	28.4	20.6	167	0.52	0.64	5.4	5.1	70
75	22.0	31.2	281	20.4	30.4	21.1	194	37	1.9	25.3	16	244	18.5	31.1	21.3	177	0.50	0.64	5.2	5.1	75
80	22.7	32.4	244	20.9	33.0	21.8	203	30	1.8	27.5	16	214	19.2	33.7	22.0	187	0.48	0.63	5.0	5.1	80
85	23.2	33.5	214	21.5	35.8	22.5	211	24	1.7	29.7	16	190	19.8	36.5	22.6	196	0.46	0.62	4.8	5.1	85
90	23.8	34.7	190	22.1	38.5	23.0	220	20	1.6	32.0	15	170	20.5	39.2	23.2	205	0.44	0.61	4.7	5.1	90
95	24.3	35.8	170	22.6	41.2	23.5	227	17	1.6	34.2	15	153	21.1	41.9	23.7	213	0.43	0.60	4.5	5.1	95
100	24.7	37.0	153	23.1	43.9	24.0	235	14	1.5	36.5	14	138	21.6	44.6	24.2	220	0.41	0.59	4.3	5.0	100

AMERIKAANSE EIK, Nederland 2018								sterke dunning								Boniteit IV, $h_{70} = 18.3$					
RED OAK, Netherlands 2018								heavy thinning								Site Class IV, $h_{70} = 18.3$					
	Opstandkenmerken		Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics		Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	1.1		5000				0					5000				0			0.0	0.0	5
10	2.6		5000	0.3	0.8	2.1	0					5000	0.3	0.8	2.1	0	0.13	0.03	0.3	0.0	10
15	4.3		5000	1.3	1.8	3.4	3					5000	1.3	1.8	3.4	3	0.30	0.09	0.9	0.2	15
20	6.0		5000	3.2	2.9	4.9	11					5000	3.2	2.9	4.9	11	0.45	0.16	2.1	0.5	20
25	7.6	22.0	5000	6.5	4.1	6.4	28	838	0.6	3.0	2	4162	5.9	4.3	6.5	26	0.94	0.26	5.4	1.1	25
30	9.1	22.0	4162	10.4	5.6	7.9	51	1292	1.9	4.3	9	2870	8.5	6.2	8.0	43	0.87	0.37	5.3	1.8	30
35	10.6	22.0	2870	12.8	7.5	9.4	70	739	2.0	5.8	10	2132	10.8	8.0	9.5	60	0.82	0.44	5.6	2.3	35
40	11.9	23.2	2132	14.8	9.4	10.8	89	624	2.7	7.5	15	1508	12.1	10.1	10.9	73	0.77	0.48	5.8	2.7	40
45	13.2	24.3	1508	15.8	11.5	12.1	102	391	2.7	9.4	16	1117	13.1	12.2	12.2	86	0.71	0.51	5.7	3.1	45
50	14.4	25.5	1117	16.5	13.7	13.3	114	260	2.6	11.4	17	857	13.9	14.4	13.4	97	0.67	0.53	5.7	3.3	50
55	15.5	26.6	857	17.2	16.0	14.4	125	180	2.6	13.5	17	678	14.6	16.6	14.5	108	0.63	0.54	5.5	3.5	55
60	16.5	27.8	678	17.6	18.2	15.5	135	129	2.5	15.7	18	549	15.2	18.8	15.6	117	0.59	0.54	5.4	3.7	60
65	17.4	28.9	549	18.0	20.5	16.4	144	95	2.4	17.9	18	453	15.6	21.0	16.6	126	0.56	0.55	5.2	3.8	65
70	18.3	30.1	453	18.4	22.7	17.3	152	72	2.3	20.3	18	381	16.0	23.2	17.5	134	0.54	0.55	5.1	3.9	70
75	19.1	31.2	381	18.7	25.0	18.1	159	56	1.9	20.8	15	325	16.8	25.6	18.3	144	0.51	0.55	4.9	4.0	75
80	19.8	32.4	325	19.3	27.5	18.9	168	44	1.8	22.9	15	281	17.5	28.1	19.0	153	0.49	0.54	4.8	4.0	80
85	20.4	33.5	281	19.8	30.0	19.6	177	35	1.7	24.9	14	246	18.1	30.6	19.7	162	0.47	0.54	4.6	4.1	85
90	21.0	34.7	246	20.4	32.5	20.2	185	29	1.7	27.0	14	217	18.7	33.2	20.4	171	0.45	0.53	4.4	4.1	90
95	21.6	35.8	217	21.0	35.1	20.8	193	24	1.6	29.2	14	193	19.4	35.7	21.0	179	0.43	0.53	4.3	4.1	95
100	22.1	37.0	193	21.5	37.7	21.3	200	20	1.5	31.3	13	173	20.0	38.3	21.5	187	0.42	0.52	4.1	4.1	100

**AMERIKAANSE EIK, Nederland 2018**

RED OAK, Netherlands 2018

**sterke dunning**

heavy thinning

**Boniteit V,  $h_{70} = 15.3$**

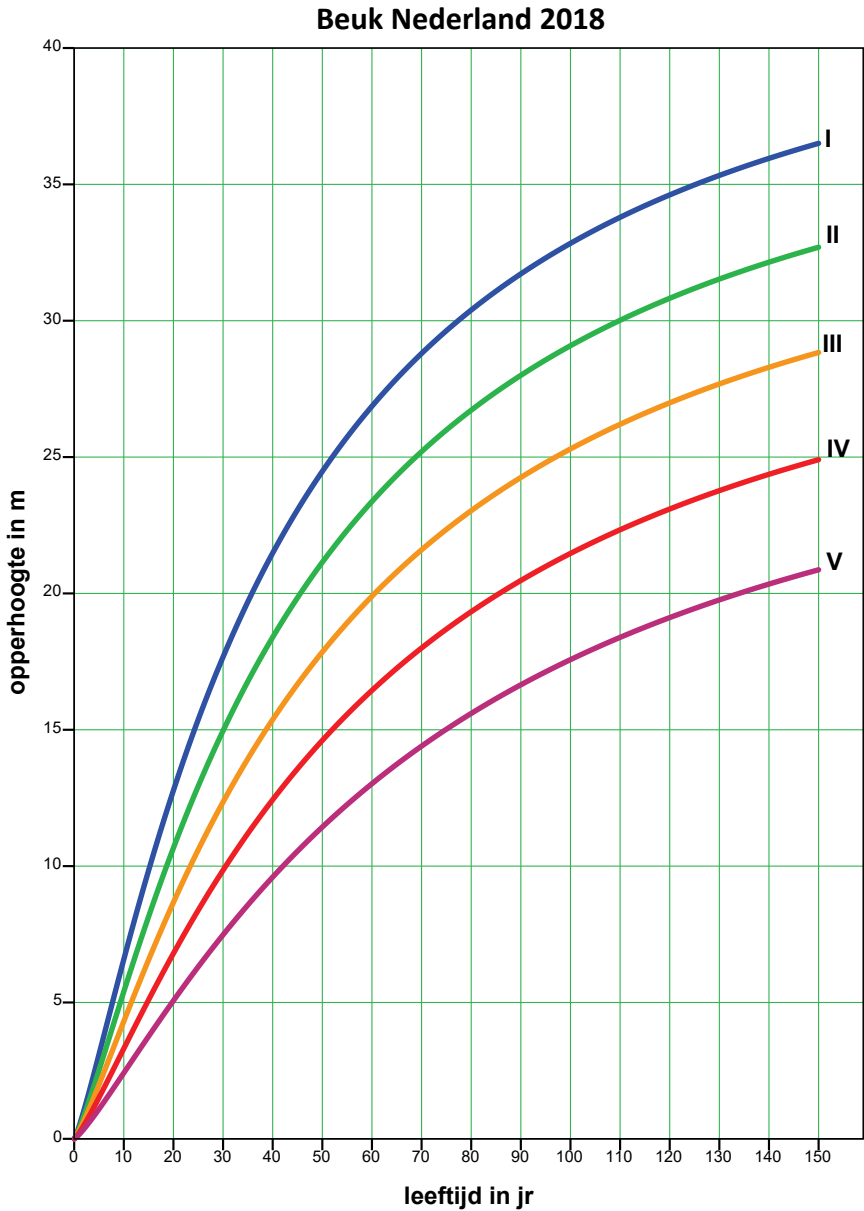
Site Class V,  $h_{70} = 15.3$

<i>t</i>	<b>Opstandkenmerken</b> Stand characteristics		<b>Kenmerken voor dunning</b> Characteristics before thinning					<b>Dunning</b> Thinning				<b>Kenmerken na dunning</b> Characteristics after thinning					<b>Bijgroei</b> Increment				<i>t</i>
	<i>h<sub>top</sub></i>	<i>S%</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>h<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>h<sub>g</sub></i>	<i>V</i>	<i>lc<sub>G</sub></i>	<i>lm<sub>G</sub></i>	<i>lc<sub>V</sub></i>	<i>lm<sub>V</sub></i>	
5	0.5		5000				0					5000				0			0.0	0.0	5
10	1.4		5000	0.0	0.1	1.1	0					5000	0.0	0.1	1.1	0	0.01	0.00	0.0	0.0	10
15	2.5		5000	0.2	0.8	2.0	0					5000	0.2	0.8	2.0	0	0.09	0.02	0.2	0.0	15
20	3.8		5000	0.9	1.5	3.0	2					5000	0.9	1.5	3.0	2	0.19	0.05	0.6	0.1	20
25	5.1		5000	2.2	2.3	4.2	6					5000	2.2	2.3	4.2	6	0.30	0.09	1.2	0.3	25
30	6.4		5000	3.9	3.2	5.4	14					5000	3.9	3.2	5.4	14	0.40	0.13	2.0	0.5	30
35	7.8	22.0	5000	7.3	4.3	6.6	32	1033	0.8	3.2	3	3967	6.5	4.6	6.7	29	0.85	0.21	4.3	0.9	35
40	9.0	23.2	3967	10.6	5.8	7.9	51	1320	2.1	4.5	10	2648	8.5	6.4	7.9	42	0.79	0.29	4.7	1.4	40
45	10.2	24.3	2648	12.3	7.7	9.1	65	780	2.3	6.1	11	1867	10.0	8.3	9.1	54	0.74	0.34	4.8	1.7	45
50	11.4	25.5	1867	13.6	9.6	10.2	78	492	2.3	7.8	13	1375	11.2	10.2	10.3	66	0.69	0.38	4.8	2.1	50
55	12.5	26.6	1375	14.6	11.6	11.3	90	326	2.4	9.6	14	1050	12.2	12.2	11.4	76	0.65	0.40	4.8	2.3	55
60	13.5	27.8	1050	15.3	13.6	12.4	100	225	2.3	11.5	14	825	13.0	14.2	12.5	86	0.61	0.42	4.8	2.5	60
65	14.4	28.9	825	16.0	15.7	13.3	110	161	2.3	13.5	15	664	13.7	16.2	13.4	95	0.58	0.43	4.7	2.7	65
70	15.3	30.1	664	16.5	17.8	14.2	118	118	2.3	15.6	15	545	14.2	18.2	14.4	103	0.55	0.44	4.6	2.8	70
75	16.1	31.2	545	16.9	19.9	15.1	126	89	1.9	16.6	13	456	15.0	20.5	15.2	113	0.52	0.45	4.5	2.9	75
80	16.9	32.4	456	17.5	22.1	15.9	135	69	1.8	18.4	13	387	15.7	22.7	16.0	122	0.50	0.45	4.4	3.0	80
85	17.6	33.5	387	18.1	24.4	16.6	143	54	1.8	20.3	13	333	16.4	25.0	16.7	131	0.48	0.46	4.3	3.1	85
90	18.2	34.7	333	18.7	26.8	17.3	152	43	1.7	22.3	13	290	17.1	27.4	17.4	139	0.46	0.46	4.2	3.2	90
95	18.8	35.8	290	19.3	29.1	17.9	159	35	1.6	24.2	12	255	17.7	29.7	18.0	147	0.44	0.46	4.0	3.2	95
100	19.3	37.0	255	19.9	31.5	18.4	167	29	1.5	26.2	12	226	18.3	32.1	18.6	155	0.42	0.45	3.9	3.3	100

# **Beuk (*Fagus sylvatica*)** **Common beech** Jansen, J.J., G.M.J. Mohren, A. Oosterbaan, L. Goudzwaard en J. den Ouden

**Bron:** Jansen, J.J., G.M.J. Mohren, A. Oosterbaan, L. Goudzwaard en J. den Ouden, 2018. *Groei en productie van beuk in Nederland*. FEM Groei en Productie Rapport 2018 – 5, 96 blz.

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<https://doi.org/10.18174/444094>



BEUK, Nederland 2018					matige dunning										Boniteit I, $h_{70} = 28.8$								
COMMON BEECH, Netherlands 2018					moderate thinning										Site Class I, $h_{70} = 28.8$								
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	3.1	3.1	3.3		5000	1.8	2.2	2.5	3					5000	1.8	2.2	2.5	3	1.20	0.37	2.2	0.5	5
10	6.6	6.5	8.3		5000	11.4	5.4	5.4	31					5000	11.4	5.4	5.4	31	2.55	1.14	10.4	3.1	10
15	9.8	9.8	14.1	19.0	5000	24.3	7.9	8.5	110	1699	5.6	6.5	24	3301	18.7	8.5	8.5	86	2.25	1.62	15.0	7.3	15
20	12.8	12.7	18.2	19.0	3301	28.7	10.5	11.4	161	1342	7.9	8.7	43	1959	20.7	11.6	11.4	118	1.77	1.71	14.7	9.2	20
25	15.4	15.2	21.5	19.0	1959	28.8	13.7	14.0	189	607	6.0	11.2	38	1353	22.8	14.6	14.1	151	1.47	1.69	13.9	10.2	25
30	17.7	17.5	24.6	19.0	1353	29.6	16.7	16.4	219	328	4.8	13.6	34	1024	24.8	17.6	16.4	185	1.27	1.64	13.2	10.8	30
35	19.7	19.5	27.5	19.0	1024	30.8	19.6	18.4	250	200	4.0	15.9	31	825	26.8	20.3	18.5	219	1.12	1.57	12.6	11.1	35
40	21.5	21.3	30.2	19.0	825	32.1	22.3	20.3	280	132	3.4	18.1	28	693	28.7	23.0	20.3	252	1.01	1.51	12.1	11.2	40
45	23.1	22.9	32.7	19.0	693	33.5	24.8	21.9	311	92	2.9	20.1	26	601	30.6	25.5	22.0	285	0.92	1.45	11.5	11.3	45
50	24.5	24.2	35.0	19.0	601	35.0	27.2	23.4	341	67	2.6	22.1	24	534	32.4	27.8	23.4	317	0.84	1.39	11.0	11.3	50
55	25.7	25.5	37.4	19.5	534	36.5	29.5	24.7	371	75	3.4	24.1	33	459	33.0	30.3	24.7	338	0.77	1.34	10.5	11.3	55
60	26.9	26.6	39.8	20.0	459	36.7	31.9	25.8	389	58	3.1	26.2	32	400	33.6	32.7	25.9	357	0.71	1.29	9.9	11.2	60
65	27.9	27.6	42.0	20.5	400	37.0	34.3	26.9	405	46	2.9	28.2	30	354	34.1	35.0	27.0	375	0.66	1.24	9.4	11.0	65
70	28.8	28.5	44.2	21.0	354	37.3	36.6	27.9	420	38	2.7	30.3	29	316	34.6	37.3	27.9	391	0.61	1.20	8.9	10.9	70
75	29.6	29.3	46.3	21.5	316	37.5	38.9	28.7	434	31	2.5	32.2	28	285	35.0	39.5	28.8	406	0.57	1.16	8.4	10.8	75
80	30.4	30.1	48.4	22.0	285	37.7	41.1	29.5	447	26	2.4	34.2	27	259	35.3	41.7	29.6	420	0.54	1.12	8.1	10.6	80
85	31.1	30.8	50.4	22.5	259	37.9	43.2	30.3	459	22	2.3	36.1	26	237	35.7	43.8	30.4	433	0.51	1.08	7.7	10.4	85
90	31.7	31.4	52.3	23.0	237	38.1	45.3	31.0	471	19	2.2	38.0	26	218	36.0	45.9	31.0	445	0.48	1.05	7.4	10.3	90
95	32.3	32.1	54.2	23.5	218	38.3	47.3	31.6	481	17	2.1	39.9	25	201	36.2	47.9	31.7	456	0.46	1.02	7.1	10.1	95
100	32.8	32.6	56.1	24.0	201	38.5	49.4	32.2	491	14	2.0	41.7	24	187	36.5	49.9	32.3	467	0.43	0.99	6.8	10.0	100
105	33.3	33.1	57.9	24.4	187	38.6	51.3	32.7	500	13	1.9	43.6	24	174	36.7	51.8	32.8	477	0.41	0.97	6.6	9.8	105
110	33.8	33.6	59.7	24.9	174	38.7	53.3	33.2	509	11	1.8	45.4	23	163	36.9	53.8	33.3	486	0.40	0.94	6.3	9.7	110
115	34.2	34.1	61.2	25.4	163	38.8	55.2	33.7	517	10	1.8	47.2	23	152	37.1	55.7	33.8	495	0.38	0.92	6.1	9.5	115
120	34.6	34.5	62.6	25.9	152	38.9	57.0	34.1	525	9	1.7	48.9	22	143	37.2	57.5	34.2	503	0.36	0.89	5.9	9.4	120
125	35.0	34.9	63.9	26.4	143	39.0	58.9	34.5	532	8	1.7	50.7	22	135	37.3	59.3	34.6	510	0.35	0.87	5.7	9.2	125
130	35.3	35.2	65.3	26.9	135	39.1	60.7	34.9	539	7	1.6	52.4	21	128	37.5	61.1	35.0	517	0.34	0.85	5.6	9.1	130
135	35.7	35.6	66.7	27.4	128	39.1	62.5	35.3	545	7	1.6	54.1	21	121	37.6	62.9	35.4	524	0.33	0.83	5.4	8.9	135
140	36.0	35.9	68.1	27.9	121	39.2	64.2	35.7	551	6	1.5	55.8	20	115	37.6	64.7	35.8	530	0.31	0.81	5.3	8.8	140
145	36.2	36.2	69.4	28.4	115	39.2	66.0	36.0	556	6	1.5	57.5	20	109	37.7	66.4	36.1	536	0.30	0.80	5.1	8.7	145
150	36.5	36.5	70.8	28.9	109	39.2	67.7	36.3	561	5	1.4	59.2	20	104	37.8	68.1	36.4	541	0.29	0.78	5.0	8.6	150

BEUK, Nederland 2018					matige dunning										Boniteit II, $h_{70} = 25.2$								
COMMON BEECH, Netherlands 2018					moderate thinning										Site Class II, $h_{70} = 25.2$								
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	2.5	2.5	2.4		5000	0.9	1.6	2.0	1					5000	0.9	1.6	2.0	1	0.75	0.19	1.1	0.2	5
10	5.4	5.4	6.7		5000	7.4	4.3	4.3	17					5000	7.4	4.3	4.3	17	1.74	0.74	5.6	1.7	10
15	8.2	8.1	11.3	19.0	5000	18.2	6.8	6.8	71	185	0.4	5.5	2	4815	17.7	6.8	6.9	69	2.28	1.21	12.4	4.7	15
20	10.7	10.6	15.5	19.0	4815	27.8	8.6	9.3	134	2005	7.9	7.1	37	2810	19.9	9.5	9.3	97	1.79	1.41	12.7	6.8	20
25	12.9	12.8	18.9	19.0	2810	28.0	11.3	11.6	159	899	6.0	9.2	33	1911	22.0	12.1	11.6	126	1.49	1.45	12.2	7.9	25
30	15.0	14.8	21.7	19.0	1911	28.9	13.9	13.6	186	483	4.9	11.3	30	1428	24.0	14.6	13.7	156	1.28	1.44	11.7	8.6	30
35	16.8	16.6	24.3	19.0	1428	30.0	16.4	15.5	213	292	4.1	13.3	28	1137	26.0	17.1	15.5	185	1.13	1.41	11.2	9.0	35
40	18.4	18.2	26.7	19.0	1137	31.3	18.7	17.1	240	191	3.5	15.2	26	945	27.8	19.4	17.2	214	1.02	1.37	10.7	9.2	40
45	19.8	19.7	28.9	19.0	945	32.7	21.0	18.6	267	133	3.0	17.0	24	812	29.6	21.6	18.7	243	0.92	1.32	10.3	9.4	45
50	21.1	20.9	31.0	19.0	812	34.1	23.1	20.0	294	97	2.7	18.7	22	716	31.4	23.6	20.1	272	0.85	1.28	9.9	9.4	50
55	22.3	22.1	33.2	19.5	716	35.5	25.1	21.2	320	105	3.5	20.5	30	610	32.0	25.8	21.3	290	0.78	1.24	9.5	9.5	55
60	23.4	23.2	35.4	20.0	610	35.7	27.3	22.3	336	81	3.2	22.4	29	529	32.5	28.0	22.4	307	0.72	1.20	8.9	9.4	60
65	24.3	24.1	37.4	20.5	529	36.0	29.4	23.3	351	64	3.0	24.2	28	465	33.0	30.1	23.4	323	0.66	1.16	8.5	9.4	65
70	25.2	25.0	39.4	21.0	465	36.2	31.5	24.3	365	52	2.8	26.0	27	413	33.5	32.1	24.3	338	0.62	1.12	8.1	9.3	70
75	26.0	25.7	41.3	21.5	413	36.4	33.5	25.1	378	43	2.6	27.8	26	370	33.9	34.1	25.2	352	0.58	1.08	7.7	9.2	75
80	26.7	26.5	43.2	22.0	370	36.6	35.5	25.9	389	35	2.4	29.6	25	335	34.2	36.1	25.9	365	0.54	1.05	7.4	9.1	80
85	27.4	27.1	45.0	22.5	335	36.8	37.4	26.6	401	30	2.3	31.3	24	305	34.5	38.0	26.7	377	0.51	1.02	7.0	9.0	85
90	28.0	27.7	46.8	23.0	305	37.0	39.3	27.3	411	26	2.2	33.0	23	279	34.8	39.8	27.3	388	0.48	0.99	6.8	8.9	90
95	28.6	28.3	48.5	23.5	279	37.2	41.2	27.9	421	22	2.1	34.7	23	257	35.1	41.7	27.9	398	0.46	0.96	6.5	8.8	95
100	29.1	28.8	50.2	24.0	257	37.3	43.0	28.4	430	19	2.0	36.4	22	238	35.3	43.5	28.5	408	0.44	0.94	6.3	8.6	100
105	29.6	29.3	51.9	24.4	238	37.5	44.8	29.0	439	17	1.9	38.0	22	221	35.5	45.3	29.0	417	0.42	0.91	6.0	8.5	105
110	30.0	29.8	53.5	24.9	221	37.6	46.5	29.5	447	15	1.9	39.7	21	206	35.7	47.0	29.5	426	0.40	0.89	5.8	8.4	110
115	30.4	30.2	55.1	25.4	206	37.7	48.3	29.9	454	13	1.8	41.3	21	193	35.9	48.7	30.0	434	0.38	0.87	5.6	8.3	115
120	30.8	30.6	56.7	25.9	193	37.8	50.0	30.4	461	12	1.7	42.9	20	181	36.0	50.4	30.5	441	0.37	0.85	5.4	8.2	120
125	31.2	31.0	58.2	26.4	181	37.8	51.6	30.8	468	11	1.7	44.5	20	170	36.2	52.1	30.9	448	0.35	0.83	5.3	8.1	125
130	31.5	31.4	59.8	26.9	170	37.9	53.3	31.2	474	10	1.6	46.0	19	160	36.3	53.7	31.3	455	0.34	0.81	5.1	7.9	130
135	31.8	31.7	61.0	27.4	160	38.0	54.9	31.6	480	9	1.6	47.6	19	151	36.4	55.3	31.6	461	0.33	0.79	5.0	7.8	135
140	32.1	32.0	62.1	27.9	151	38.0	56.5	31.9	486	8	1.5	49.1	19	143	36.5	56.9	32.0	467	0.32	0.78	4.8	7.7	140
145	32.4	32.3	63.3	28.4	143	38.0	58.1	32.2	491	7	1.5	50.7	18	136	36.6	58.5	32.3	473	0.31	0.76	4.7	7.6	145
150	32.7	32.6	64.5	28.9	136	38.1	59.7	32.6	496	7	1.4	52.2	18	129	36.6	60.1	32.6	478	0.30	0.74	4.6	7.5	150



BEUK, Nederland 2018					matige dunning										Boniteit III, $h_{70} = 21.6$								
COMMON BEECH, Netherlands 2018					moderate thinning										Site Class III, $h_{70} = 21.6$								
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	2.0	2.0	1.5		5000	0.4	1.0	1.6	1					5000	0.4	1.0	1.6	1	0.40	0.07	0.5	0.1	5
10	4.3	4.3	5.1		5000	4.4	3.3	3.4	8					5000	4.4	3.3	3.4	8	1.14	0.44	2.9	0.8	10
15	6.6	6.5	8.2		5000	11.3	5.4	5.4	31					5000	11.3	5.4	5.4	31	1.60	0.76	6.6	2.1	15
20	8.7	8.6	12.3	19.0	5000	21.0	7.3	7.4	86	746	2.1	5.9	8	4254	18.9	7.5	7.4	78	1.82	1.05	10.4	4.3	20
25	10.6	10.5	15.9	19.0	4254	27.2	9.0	9.3	131	1407	6.1	7.4	28	2847	21.1	9.7	9.3	103	1.51	1.17	10.4	5.5	25
30	12.4	12.2	18.8	19.0	2847	28.1	11.2	11.0	154	750	4.9	9.2	26	2096	23.2	11.9	11.0	128	1.30	1.21	10.1	6.3	30
35	13.9	13.8	21.1	19.0	2096	29.2	13.3	12.6	177	450	4.2	10.9	24	1646	25.1	13.9	12.6	153	1.14	1.21	9.7	6.8	35
40	15.4	15.2	23.3	19.0	1646	30.5	15.4	14.1	201	293	3.6	12.5	23	1353	26.9	15.9	14.1	178	1.03	1.19	9.4	7.2	40
45	16.7	16.5	25.3	19.0	1353	31.8	17.3	15.4	224	203	3.1	14.0	21	1151	28.6	17.8	15.5	203	0.93	1.17	9.1	7.4	45
50	17.9	17.7	27.1	19.0	1151	33.1	19.1	16.7	248	147	2.8	15.5	20	1004	30.3	19.6	16.7	228	0.86	1.14	8.8	7.6	50
55	18.9	18.7	29.1	19.5	1004	34.5	20.9	17.8	271	155	3.6	17.1	27	849	30.9	21.5	17.8	244	0.79	1.11	8.4	7.7	55
60	19.9	19.7	31.0	20.0	849	34.7	22.8	18.8	285	119	3.3	18.7	26	730	31.4	23.4	18.8	259	0.72	1.08	8.0	7.7	60
65	20.8	20.6	32.9	20.5	730	34.9	24.7	19.7	298	93	3.0	20.3	25	637	31.9	25.2	19.8	273	0.67	1.05	7.6	7.7	65
70	21.6	21.4	34.6	21.0	637	35.1	26.5	20.6	310	75	2.8	21.9	24	562	32.3	27.0	20.7	287	0.62	1.02	7.2	7.7	70
75	22.3	22.1	36.4	21.5	562	35.3	28.3	21.4	322	61	2.6	23.5	23	501	32.7	28.8	21.5	299	0.58	1.00	6.9	7.6	75
80	23.0	22.8	38.1	22.0	501	35.5	30.0	22.1	333	50	2.5	25.0	22	451	33.0	30.5	22.2	310	0.55	0.97	6.6	7.6	80
85	23.7	23.4	39.7	22.5	451	35.7	31.7	22.8	343	42	2.3	26.6	22	408	33.3	32.2	22.9	321	0.52	0.94	6.3	7.5	85
90	24.3	24.0	41.3	23.0	408	35.8	33.4	23.5	352	36	2.2	28.1	21	372	33.6	33.9	23.5	331	0.49	0.92	6.1	7.4	90
95	24.8	24.6	42.9	23.5	372	36.0	35.1	24.0	361	31	2.1	29.6	20	341	33.8	35.5	24.1	341	0.46	0.90	5.9	7.4	95
100	25.3	25.1	44.4	24.0	341	36.1	36.7	24.6	370	27	2.0	31.1	20	314	34.1	37.1	24.7	350	0.44	0.87	5.7	7.3	100
105	25.8	25.5	45.9	24.4	314	36.2	38.3	25.1	378	23	2.0	32.5	19	291	34.3	38.7	25.2	358	0.42	0.85	5.5	7.2	105
110	26.2	26.0	47.4	24.9	291	36.3	39.9	25.6	385	21	1.9	34.0	19	270	34.5	40.3	25.7	366	0.40	0.83	5.3	7.1	110
115	26.6	26.4	48.8	25.4	270	36.4	41.4	26.1	392	18	1.8	35.4	19	252	34.6	41.8	26.1	373	0.39	0.81	5.1	7.0	115
120	27.0	26.7	50.3	25.9	252	36.5	43.0	26.5	399	16	1.7	36.9	18	236	34.8	43.3	26.6	380	0.37	0.80	4.9	7.0	120
125	27.3	27.1	51.7	26.4	236	36.6	44.5	26.9	405	15	1.7	38.3	18	221	34.9	44.8	27.0	387	0.36	0.78	4.8	6.9	125
130	27.7	27.5	53.1	26.9	221	36.7	45.9	27.3	411	13	1.6	39.7	17	208	35.0	46.3	27.4	393	0.34	0.76	4.7	6.8	130
135	28.0	27.8	54.4	27.4	208	36.7	47.4	27.7	416	12	1.6	41.1	17	196	35.1	47.8	27.7	399	0.33	0.75	4.5	6.7	135
140	28.3	28.1	55.8	27.9	196	36.7	48.9	28.0	421	11	1.5	42.5	17	185	35.2	49.2	28.1	404	0.32	0.73	4.4	6.6	140
145	28.6	28.4	57.1	28.4	185	36.8	50.3	28.3	426	10	1.5	43.9	17	175	35.3	50.6	28.4	410	0.31	0.72	4.3	6.5	145
150	28.8	28.7	58.4	28.9	175	36.8	51.7	28.7	431	9	1.5	45.2	16	166	35.3	52.0	28.7	415	0.30	0.70	4.2	6.5	150

BEUK, Nederland 2018					matige dunning										Boniteit IV, $h_{70} = 18.0$								
COMMON BEECH, Netherlands 2018					moderate thinning										Site Class IV, $h_{70} = 18.0$								
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	1.5	1.5	0.5		5000	0.0	0.4	1.2	0					5000	0.0	0.4	1.2	0	0.13	0.01	0.1	0.0	5
10	3.3	3.3	3.6		5000	2.2	2.4	2.6	3					5000	2.2	2.4	2.6	3	0.68	0.22	1.3	0.3	10
15	5.1	5.1	6.2		5000	6.5	4.1	4.1	14					5000	6.5	4.1	4.1	14	1.02	0.44	3.0	0.9	15
20	6.8	6.7	8.5		5000	12.2	5.6	5.6	35					5000	12.2	5.6	5.6	35	1.34	0.61	5.6	1.7	20
25	8.4	8.3	12.1	19.0	5000	20.3	7.2	7.1	81	451	1.2	5.8	5	4549	19.1	7.3	7.1	77	1.54	0.81	8.3	3.2	25
30	9.9	9.8	15.2	19.0	4549	26.2	8.6	8.5	119	1253	4.8	7.0	21	3296	21.4	9.1	8.6	98	1.32	0.91	8.4	4.1	30
35	11.2	11.1	17.9	19.0	3296	27.6	10.3	9.9	139	746	4.2	8.4	20	2551	23.4	10.8	9.9	119	1.16	0.96	8.2	4.7	35
40	12.4	12.3	19.8	19.0	2551	29.0	12.0	11.1	160	482	3.6	9.8	19	2068	25.3	12.5	11.2	140	1.04	0.98	8.0	5.1	40
45	13.6	13.5	21.5	19.0	2068	30.3	13.7	12.3	180	331	3.2	11.1	18	1737	27.1	14.1	12.3	162	0.95	0.98	7.8	5.4	45
50	14.6	14.5	23.2	19.0	1737	31.6	15.2	13.4	200	239	2.9	12.4	17	1499	28.8	15.6	13.4	183	0.87	0.97	7.6	5.7	50
55	15.6	15.4	25.0	19.5	1499	33.0	16.7	14.4	220	245	3.6	13.7	23	1254	29.4	17.3	14.4	197	0.80	0.96	7.3	5.8	55
60	16.4	16.3	26.6	20.0	1254	33.2	18.4	15.3	232	185	3.3	15.1	22	1069	29.9	18.9	15.3	210	0.73	0.94	6.9	5.9	60
65	17.3	17.1	28.3	20.5	1069	33.4	20.0	16.1	244	144	3.1	16.4	21	924	30.4	20.4	16.2	223	0.68	0.93	6.6	6.0	65
70	18.0	17.8	29.8	21.0	924	33.6	21.5	16.9	255	115	2.9	17.8	21	810	30.8	22.0	17.0	234	0.63	0.91	6.3	6.0	70
75	18.7	18.5	31.4	21.5	810	33.8	23.1	17.7	265	93	2.7	19.2	20	717	31.1	23.5	17.7	245	0.59	0.89	6.1	6.0	75
80	19.3	19.2	32.9	22.0	717	34.0	24.6	18.3	275	76	2.5	20.5	20	640	31.5	25.0	18.4	255	0.55	0.87	5.8	6.0	80
85	19.9	19.7	34.3	22.5	640	34.2	26.1	19.0	284	64	2.4	21.8	19	576	31.8	26.5	19.0	265	0.52	0.85	5.6	6.0	85
90	20.5	20.3	35.8	23.0	576	34.3	27.5	19.6	293	54	2.3	23.1	18	522	32.1	28.0	19.6	274	0.49	0.83	5.4	6.0	90
95	21.0	20.8	37.2	23.5	522	34.5	29.0	20.1	301	46	2.2	24.4	18	476	32.3	29.4	20.2	283	0.47	0.81	5.2	5.9	95
100	21.5	21.3	38.6	24.0	476	34.6	30.4	20.7	308	40	2.1	25.7	18	437	32.5	30.8	20.7	291	0.45	0.79	5.0	5.9	100
105	21.9	21.7	39.9	24.4	437	34.7	31.8	21.2	315	34	2.0	27.0	17	402	32.7	32.2	21.2	298	0.43	0.78	4.9	5.9	105
110	22.3	22.1	41.2	24.9	402	34.8	33.2	21.6	322	30	1.9	28.3	17	372	32.9	33.6	21.7	305	0.41	0.76	4.7	5.8	110
115	22.7	22.5	42.5	25.4	372	34.9	34.6	22.1	329	27	1.8	29.6	16	345	33.1	34.9	22.1	312	0.39	0.74	4.6	5.8	115
120	23.1	22.9	43.8	25.9	345	35.0	35.9	22.5	335	24	1.8	30.8	16	322	33.2	36.3	22.6	318	0.37	0.73	4.4	5.7	120
125	23.4	23.2	45.1	26.4	322	35.1	37.2	22.9	340	21	1.7	32.1	16	301	33.4	37.6	23.0	324	0.36	0.71	4.3	5.7	125
130	23.8	23.5	46.3	26.9	301	35.1	38.6	23.3	346	19	1.6	33.3	15	282	33.5	38.9	23.3	330	0.35	0.70	4.2	5.6	130
135	24.1	23.9	47.5	27.4	282	35.2	39.9	23.6	351	17	1.6	34.5	15	265	33.6	40.2	23.7	336	0.33	0.69	4.1	5.5	135
140	24.4	24.1	48.7	27.9	265	35.2	41.1	24.0	356	15	1.5	35.8	15	249	33.7	41.5	24.0	341	0.32	0.67	4.0	5.5	140
145	24.6	24.4	49.9	28.4	249	35.3	42.4	24.3	360	14	1.5	37.0	15	236	33.8	42.7	24.4	346	0.31	0.66	3.8	5.4	145
150	24.9	24.7	51.1	28.9	236	35.3	43.7	24.6	365	13	1.5	38.2	14	223	33.8	44.0	24.7	350	0.30	0.65	3.8	5.4	150

BEUK, Nederland 2018					matige dunning										Boniteit V, $h_{70} = 14.4$								
COMMON BEECH, Netherlands 2018					moderate thinning										Site Class V, $h_{70} = 14.4$								
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	S%	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	1.1	1.1			5000				0					5000				0			0.0	0.0	5
10	2.4	2.4	2.2		5000	0.8	1.4	1.9	1					5000	0.8	1.4	1.9	1	0.34	0.08	0.5	0.1	10
15	3.8	3.7	4.3		5000	3.1	2.8	3.0	5					5000	3.1	2.8	3.0	5	0.57	0.21	1.3	0.3	15
20	5.1	5.0	6.2		5000	6.4	4.0	4.1	14					5000	6.4	4.0	4.1	14	0.74	0.32	2.2	0.7	20
25	6.3	6.3	7.9		5000	10.4	5.2	5.1	34					5000	10.4	5.2	5.1	34	0.85	0.42	3.4	1.3	25
30	7.5	7.4	10.8	20.3	5000	15.9	6.4	6.3	58					5000	15.9	6.4	6.3	58	1.34	0.53	6.2	1.9	30
35	8.6	8.5	12.7	19.0	5000	22.0	7.5	7.3	90	652	1.9	6.1	7	4348	20.1	7.7	7.3	82	1.17	0.63	6.4	2.6	35
40	9.6	9.5	15.4	19.0	4348	25.8	8.7	8.3	115	876	3.4	7.1	15	3472	22.3	9.1	8.3	100	1.07	0.69	6.5	3.1	40
45	10.5	10.5	17.1	19.0	3472	27.4	10.0	9.3	132	598	3.1	8.2	14	2874	24.3	10.4	9.3	118	0.97	0.73	6.3	3.4	45
50	11.4	11.3	19.1	19.0	2874	28.9	11.3	10.2	149	427	2.8	9.2	14	2447	26.1	11.7	10.2	135	0.89	0.75	6.2	3.7	50
55	12.3	12.2	20.7	19.5	2447	30.4	12.6	11.0	166	424	3.5	10.3	18	2022	26.9	13.0	11.0	147	0.82	0.76	6.0	3.9	55
60	13.0	12.9	22.1	20.0	2022	30.8	13.9	11.8	177	318	3.3	11.4	18	1704	27.5	14.3	11.8	159	0.75	0.76	5.8	4.1	60
65	13.7	13.6	23.5	20.5	1704	31.1	15.2	12.5	187	245	3.0	12.6	18	1458	28.0	15.6	12.6	170	0.69	0.76	5.6	4.2	65
70	14.4	14.3	24.9	21.0	1458	31.4	16.6	13.2	197	193	2.8	13.7	17	1265	28.5	16.9	13.3	180	0.64	0.75	5.4	4.3	70
75	15.0	14.9	26.3	21.5	1265	31.6	17.8	13.9	206	155	2.7	14.8	17	1110	29.0	18.2	13.9	190	0.60	0.74	5.2	4.4	75
80	15.6	15.5	27.6	22.0	1110	31.9	19.1	14.5	215	127	2.5	15.9	16	983	29.3	19.5	14.5	199	0.56	0.73	5.0	4.4	80
85	16.1	16.0	28.9	22.5	983	32.1	20.4	15.1	223	105	2.4	17.1	16	878	29.7	20.7	15.1	207	0.53	0.72	4.8	4.4	85
90	16.6	16.5	30.1	23.0	878	32.3	21.6	15.6	231	88	2.3	18.2	16	790	30.0	22.0	15.7	215	0.50	0.71	4.7	4.5	90
95	17.1	17.0	31.4	23.5	790	32.4	22.9	16.2	238	75	2.2	19.3	15	715	30.2	23.2	16.2	223	0.48	0.70	4.5	4.5	95
100	17.6	17.4	32.6	24.0	715	32.6	24.1	16.6	245	64	2.1	20.4	15	652	30.5	24.4	16.7	230	0.45	0.69	4.4	4.5	100
105	18.0	17.8	33.8	24.4	652	32.7	25.3	17.1	251	55	2.0	21.5	15	597	30.7	25.6	17.2	237	0.43	0.67	4.2	4.5	105
110	18.4	18.2	34.9	24.9	597	32.8	26.5	17.5	258	48	1.9	22.6	14	549	30.9	26.8	17.6	243	0.41	0.66	4.1	4.4	110
115	18.8	18.6	36.1	25.4	549	32.9	27.6	18.0	263	42	1.8	23.6	14	507	31.1	27.9	18.0	249	0.40	0.65	4.0	4.4	115
120	19.1	18.9	37.2	25.9	507	33.0	28.8	18.4	269	37	1.8	24.7	14	470	31.2	29.1	18.4	255	0.38	0.64	3.9	4.4	120
125	19.4	19.3	38.3	26.4	470	33.1	30.0	18.7	274	33	1.7	25.8	14	437	31.4	30.2	18.8	261	0.36	0.63	3.8	4.4	125
130	19.8	19.6	39.4	26.9	437	33.2	31.1	19.1	279	29	1.7	26.9	13	408	31.5	31.4	19.1	266	0.35	0.62	3.7	4.4	130
135	20.1	19.9	40.5	27.4	408	33.2	32.2	19.4	284	26	1.6	27.9	13	382	31.6	32.5	19.5	271	0.34	0.61	3.6	4.3	135
140	20.3	20.2	41.6	27.9	382	33.3	33.3	19.8	288	24	1.6	29.0	13	358	31.7	33.6	19.8	275	0.33	0.60	3.5	4.3	140
145	20.6	20.4	42.6	28.4	358	33.3	34.4	20.1	293	21	1.5	30.0	13	337	31.8	34.7	20.1	280	0.31	0.59	3.4	4.3	145
150	20.9	20.7	43.7	28.9	337	33.4	35.5	20.4	297	19	1.5	31.1	12	317	31.9	35.8	20.4	284	0.30	0.58	3.3	4.2	150



BEUK, Nederland 2018					sterke dunning										Boniteit II, $h_{70} = 25.2$								
COMMON BEECH, Netherlands 2018					heavy thinning										Site Class II, $h_{70} = 25.2$								
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	2.5	2.5	2.4		5000	0.9	1.6	2.0	1					5000	0.9	1.6	2.0	1	0.75	0.19	1.1	0.2	5
10	5.4	5.4	6.7		5000	7.4	4.3	4.3	17					5000	7.4	4.3	4.3	17	1.74	0.74	5.6	1.7	10
15	8.2	8.1	11.4	22.0	5000	17.7	6.7	6.8	69	1409	3.5	5.7	13	3591	14.2	7.1	6.9	56	2.10	1.18	11.3	4.6	15
20	10.7	10.6	15.6	22.0	3591	23.4	9.1	9.3	114	1495	7.0	7.7	33	2096	16.4	10.0	9.3	81	1.64	1.35	11.4	6.4	20
25	12.9	12.8	18.9	22.0	2096	23.9	12.1	11.6	137	670	5.4	10.2	30	1426	18.5	12.8	11.6	107	1.37	1.38	11.0	7.3	25
30	15.0	14.8	21.9	22.0	1426	24.8	14.9	13.6	161	360	4.4	12.5	27	1065	20.4	15.6	13.7	133	1.18	1.36	10.6	7.9	30
35	16.8	16.6	24.7	22.0	1065	25.9	17.6	15.5	185	218	3.7	14.7	25	848	22.2	18.3	15.5	159	1.04	1.32	10.1	8.2	35
40	18.4	18.2	27.3	22.0	848	27.1	20.2	17.1	209	143	3.2	16.9	24	705	23.9	20.8	17.2	186	0.93	1.28	9.7	8.4	40
45	19.8	19.7	29.7	22.0	705	28.4	22.6	18.6	233	99	2.8	18.9	22	606	25.6	23.2	18.7	211	0.85	1.24	9.4	8.6	45
50	21.1	20.9	32.0	22.0	606	29.7	25.0	20.0	257	72	2.5	20.8	20	534	27.2	25.5	20.1	237	0.78	1.19	9.0	8.6	50
55	22.3	22.1	34.3	22.5	534	30.9	27.2	21.2	281	75	3.1	22.8	27	458	27.9	27.8	21.3	254	0.72	1.15	8.6	8.6	55
60	23.4	23.2	36.6	23.0	458	31.3	29.5	22.3	296	58	2.8	24.8	26	400	28.5	30.1	22.4	271	0.66	1.12	8.2	8.6	60
65	24.3	24.1	38.7	23.5	400	31.7	31.8	23.3	311	46	2.6	26.8	25	354	29.1	32.4	23.4	286	0.62	1.08	7.8	8.6	65
70	25.2	25.0	40.9	24.0	354	32.1	34.0	24.3	325	37	2.4	28.8	24	316	29.6	34.5	24.3	301	0.58	1.04	7.5	8.5	70
75	26.0	25.7	42.9	24.5	316	32.4	36.1	25.1	337	31	2.3	30.7	23	285	30.1	36.7	25.2	315	0.54	1.01	7.1	8.4	75
80	26.7	26.5	44.9	25.0	285	32.7	38.2	25.9	350	26	2.2	32.6	22	259	30.6	38.7	25.9	328	0.51	0.98	6.9	8.3	80
85	27.4	27.1	46.8	25.5	259	33.0	40.3	26.6	361	22	2.0	34.5	21	237	31.0	40.8	26.7	340	0.48	0.95	6.6	8.2	85
90	28.0	27.8	48.7	26.0	237	33.3	42.3	27.3	372	19	2.0	36.3	21	219	31.4	42.8	27.3	351	0.46	0.93	6.3	8.1	90
95	28.6	28.3	50.6	26.5	219	33.6	44.2	27.9	382	16	1.9	38.1	20	202	31.7	44.7	27.9	362	0.43	0.90	6.1	8.0	95
100	29.1	28.9	52.4	27.0	202	33.9	46.2	28.4	392	14	1.8	39.9	20	188	32.1	46.6	28.5	372	0.41	0.88	5.9	7.9	100
105	29.6	29.4	54.1	27.4	188	34.1	48.1	29.0	401	13	1.7	41.7	19	175	32.4	48.5	29.0	382	0.40	0.85	5.7	7.8	105
110	30.0	29.9	55.9	27.9	175	34.3	49.9	29.5	409	11	1.7	43.4	19	164	32.6	50.3	29.5	391	0.38	0.83	5.5	7.7	110
115	30.4	30.3	57.4	28.4	164	34.5	51.7	29.9	418	10	1.6	45.1	18	154	32.9	52.1	30.0	399	0.36	0.81	5.3	7.6	115
120	30.8	30.7	58.7	28.9	154	34.7	53.5	30.4	425	9	1.5	46.8	18	145	33.1	53.9	30.5	407	0.35	0.79	5.2	7.5	120
125	31.2	31.1	60.1	29.4	145	34.8	55.3	30.8	433	8	1.5	48.5	18	137	33.3	55.7	30.9	415	0.34	0.78	5.0	7.4	125
130	31.5	31.5	61.4	29.9	137	35.0	57.0	31.2	439	7	1.5	50.2	17	130	33.5	57.4	31.3	422	0.32	0.76	4.9	7.3	130
135	31.8	31.8	62.8	30.4	130	35.1	58.7	31.6	446	7	1.4	51.8	17	123	33.7	59.1	31.6	429	0.31	0.74	4.7	7.2	135
140	32.1	32.1	64.1	30.9	123	35.2	60.4	31.9	452	6	1.4	53.5	17	117	33.9	60.7	32.0	435	0.30	0.73	4.6	7.2	140
145	32.4	32.4	65.5	31.4	117	35.3	62.1	32.2	458	6	1.2	52.5	15	111	34.1	62.5	32.3	443	0.29	0.71	4.5	7.1	145
150	32.7	32.7	66.9	31.9	111	35.6	63.8	32.6	465	5	1.2	54.0	15	106	34.4	64.2	32.6	450	0.28	0.70	4.4	7.0	150





BEUK, Nederland 2018					sterke dunning										Boniteit V, $h_{70} = 14.4$								
COMMON BEECH, Netherlands 2018					heavy thinning										Site Class V, $h_{70} = 14.4$								
	Opstandkenmerken				Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics				Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	$h_{dom}$	$d_{dom}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	1.1	1.1			5000				0					5000				0			0.0	0.0	5
10	2.4	2.4	2.2		5000	0.8	1.4	1.9	1					5000	0.8	1.4	1.9	1	0.34	0.08	0.5	0.1	10
15	3.8	3.7	4.3		5000	3.1	2.8	3.0	5					5000	3.1	2.8	3.0	5	0.57	0.21	1.3	0.3	15
20	5.1	5.0	6.2		5000	6.4	4.0	4.1	14					5000	6.4	4.0	4.1	14	0.74	0.32	2.2	0.7	20
25	6.3	6.3	7.9		5000	10.4	5.2	5.1	34					5000	10.4	5.2	5.1	34	0.85	0.42	3.4	1.3	25
30	7.5	7.4	10.7	22.0	5000	15.7	6.3	6.2	58	738	1.6	5.3	6	4262	14.1	6.5	6.3	52	1.25	0.52	5.8	1.9	30
35	8.6	8.5	12.9	22.0	4262	19.9	7.7	7.3	81	1019	3.4	6.5	13	3243	16.6	8.1	7.3	68	1.10	0.62	5.9	2.5	35
40	9.6	9.5	15.5	22.0	3243	21.8	9.2	8.3	98	654	3.1	7.7	13	2589	18.7	9.6	8.3	84	0.98	0.67	5.8	2.9	40
45	10.5	10.5	17.4	22.0	2589	23.3	10.7	9.3	113	446	2.8	9.0	13	2144	20.5	11.0	9.3	100	0.89	0.70	5.7	3.2	45
50	11.4	11.3	19.1	22.0	2144	24.8	12.1	10.2	129	319	2.6	10.1	13	1825	22.2	12.5	10.2	116	0.82	0.71	5.6	3.5	50
55	12.3	12.2	20.7	22.5	1825	26.2	13.5	11.0	144	306	3.1	11.3	16	1519	23.1	13.9	11.0	127	0.75	0.72	5.5	3.7	55
60	13.0	12.9	22.3	23.0	1519	26.7	15.0	11.8	154	231	2.9	12.6	16	1288	23.8	15.3	11.8	139	0.69	0.72	5.3	3.8	60
65	13.7	13.6	23.8	23.5	1288	27.1	16.4	12.5	165	179	2.7	13.8	16	1110	24.4	16.7	12.6	149	0.64	0.72	5.1	3.9	65
70	14.4	14.3	25.2	24.0	1110	27.5	17.8	13.2	174	141	2.5	15.1	15	968	25.0	18.1	13.3	159	0.60	0.71	5.0	4.0	70
75	15.0	14.9	26.7	24.5	968	27.9	19.2	13.9	183	114	2.4	16.3	15	854	25.5	19.5	13.9	168	0.56	0.70	4.8	4.1	75
80	15.6	15.5	28.0	25.0	854	28.3	20.5	14.5	192	93	2.3	17.5	15	761	26.0	20.9	14.5	177	0.53	0.69	4.6	4.1	80
85	16.1	16.0	29.4	25.5	761	28.6	21.9	15.1	200	78	2.1	18.7	14	683	26.5	22.2	15.1	186	0.50	0.68	4.5	4.1	85
90	16.6	16.5	30.7	26.0	683	28.9	23.2	15.6	208	65	2.0	19.9	14	618	26.8	23.5	15.7	194	0.47	0.67	4.3	4.1	90
95	17.1	17.0	32.0	26.5	618	29.2	24.5	16.2	215	56	1.9	21.1	14	562	27.2	24.8	16.2	201	0.45	0.66	4.2	4.1	95
100	17.6	17.4	33.3	27.0	562	29.4	25.8	16.6	222	48	1.9	22.3	13	515	27.5	26.1	16.7	209	0.43	0.65	4.1	4.1	100
105	18.0	17.8	34.6	27.4	515	29.6	27.1	17.1	229	41	1.8	23.5	13	473	27.8	27.4	17.2	216	0.41	0.64	4.0	4.1	105
110	18.4	18.2	35.8	27.9	473	29.8	28.3	17.5	235	36	1.7	24.6	13	437	28.1	28.6	17.6	222	0.39	0.63	3.9	4.1	110
115	18.8	18.6	37.0	28.4	437	30.0	29.6	18.0	241	32	1.7	25.8	13	406	28.4	29.8	18.0	229	0.37	0.62	3.8	4.1	115
120	19.1	18.9	38.2	28.9	406	30.2	30.8	18.4	247	28	1.6	27.0	13	377	28.6	31.1	18.4	234	0.36	0.61	3.7	4.1	120
125	19.4	19.3	39.3	29.4	377	30.4	32.0	18.7	252	25	1.5	28.1	12	352	28.8	32.3	18.8	240	0.35	0.59	3.6	4.1	125
130	19.8	19.6	40.5	29.9	352	30.5	33.2	19.1	258	22	1.5	29.2	12	330	29.0	33.5	19.1	246	0.33	0.59	3.5	4.1	130
135	20.1	19.9	41.6	30.4	330	30.7	34.4	19.4	263	20	1.5	30.4	12	310	29.2	34.6	19.5	251	0.32	0.58	3.4	4.0	135
140	20.3	20.2	42.7	30.9	310	30.8	35.6	19.8	267	18	1.4	31.5	12	292	29.4	35.8	19.8	256	0.31	0.57	3.3	4.0	140
145	20.6	20.4	43.9	31.4	292	30.9	36.7	20.1	272	16	1.2	31.1	10	275	29.6	37.0	20.1	262	0.30	0.56	3.2	4.0	145
150	20.9	20.7	45.1	31.9	275	31.1	37.9	20.4	277	15	1.2	32.1	10	260	29.9	38.2	20.4	267	0.29	0.55	3.1	4.0	150



## Populier (*Populus cultivars*)

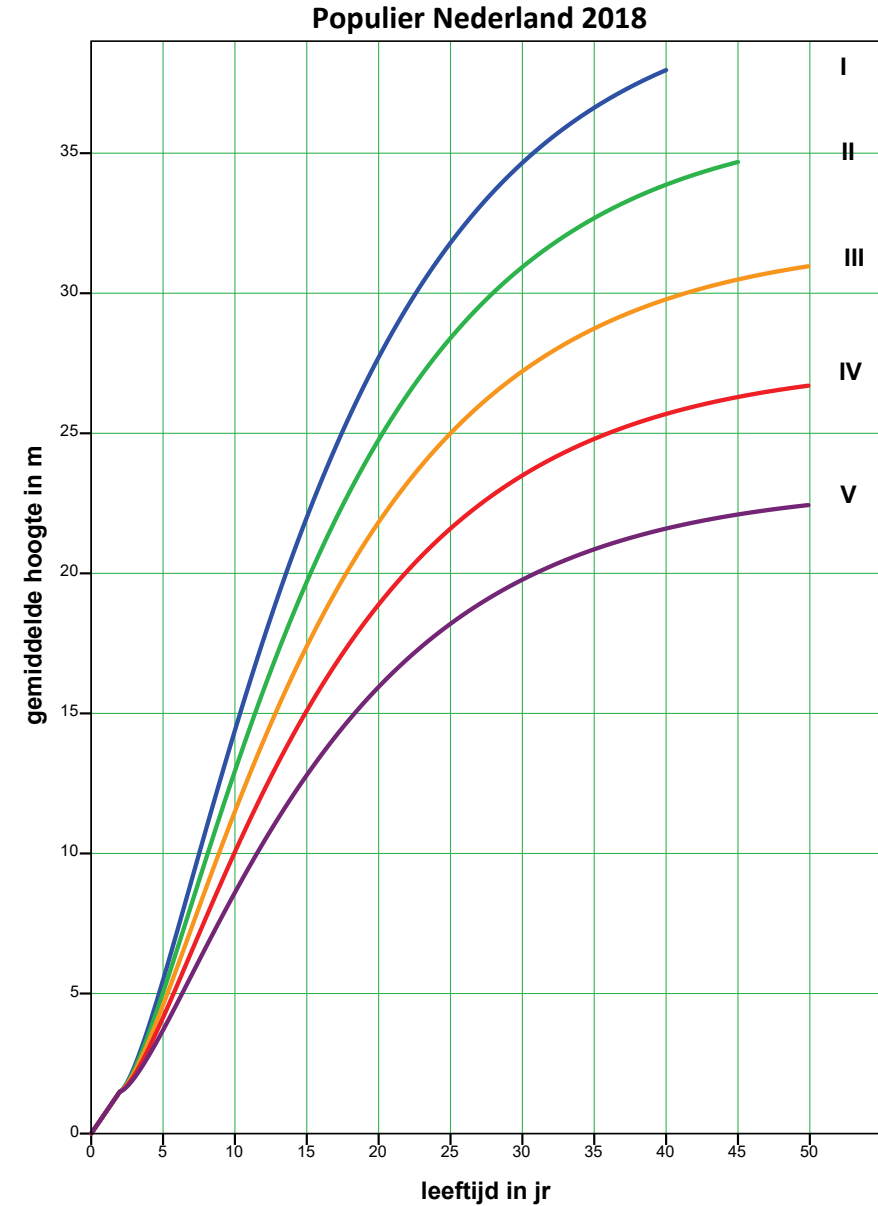
## Poplar

Jansen, J.J., G.M.J. Mohren, P. Schmidt, L. Goudzwaard, A. Oosterbaan en J. den Ouden

**Bron:** Jansen, J.J., G.M.J. Mohren, P. Schmidt, L. Goudzwaard, A. Oosterbaan en J. den Ouden, 2018. *Groei en productie van populier in Nederland*. FEM Groei en Productie Rapport 2018 - 8, 127 blz.

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Het plantverband 4 x 4 is ontleend aan het rapport.  
 Bij het plantverband 5 x 5 en 5 x 6 is de in Flevoland gebruikelijke dunning en eindkap aan gehouden. Dat houdt in dat er dunning plaats vindt zodra het grondvlak boven 20 m<sup>2</sup>ha<sup>-1</sup> stijgt. Voor de eindkap is de massaomloop aangehouden.



Populier, plantverband 4 x 4 m							met en zonder systematische				Boniteit I, $h_{25} = 31.8$				
Poplar, spacing 4 x 4 m							with and without systematically thinning				Site Class I, $h_{25} = 31.8$				
	Kenmerken blijvende opstand						met dunning				Bijgroei				
	Characteristics remaining stand						with thinning				Increment				
$t$	$h_m$	$S\%$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	5.5	73.0	625	3.2	8.1	8	313	15.6	25.2	139	2.18	0.65	10.6	1.6	5
10	14.4	27.8	625	18.7	19.5	120					2.93	1.87	28.9	12.0	10
15	22.0	25.7	313	15.6	25.2	136					2.03	2.07	27.3	18.3	15
20	27.7	28.9	156	12.0	31.3	125					1.45	1.98	20.2	19.5	20
25	31.8	25.2	156	18.3	38.6	211					1.10	1.84	16.1	19.1	25
30	34.7	23.1	156	23.2	43.5	286					0.87	1.69	13.7	18.4	30
35	36.6	21.8	156	27.1	47.0	349					0.72	1.56	11.6	17.6	35
40	38.0	21.1	156	30.4	49.8	402					0.61	1.45	9.9	16.7	40
5	5.5	73.0	625	3.2	8.1	8	zonder dunning				2.18	0.65	10.6	1.6	5
10	14.4	27.8	625	18.7	19.5	120	without thinning				2.93	1.87	28.9	12.0	10
15	22.0	18.2	625	31.1	25.2	275					2.03	2.07	30.2	18.3	15
16	23.3	17.2	625	33.0	25.9	305					1.89	2.07	29.5	19.1	16

Populier, plantverband 4 x 4 m							met en zonder systematische				Boniteit II, $h_{25} = 28.4$				
Poplar, spacing 4 x 4 m							with and without systematically thinning				Site Class II, $h_{25} = 28.4$				
	Kenmerken blijvende opstand						met dunning				Bijgroei				
	Characteristics remaining stand						with thinning				Increment				
$t$	$h_m$	$S\%$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	5.0	79.5	625	2.5	7.2	6	313	13.6	23.5	111	1.83	0.51	8.3	1.2	5
10	12.9	30.9	625	15.9	18.0	94					2.58	1.59	23.2	9.4	10
15	19.7	28.7	313	13.6	23.5	109					1.87	1.81	22.6	14.7	15
20	24.8	22.8	313	21.4	29.5	206					1.34	1.75	18.2	15.9	20
25	28.4	28.2	156	13.6	33.3	144					1.02	1.63	14.4	16.1	25
30	30.9	25.9	156	18.1	38.4	205					0.81	1.51	11.3	15.4	30
35	32.7	24.5	156	21.7	42.1	257					0.67	1.40	9.6	14.7	35
40	33.9	23.6	156	24.8	45.0	301					0.57	1.30	8.2	14.0	40
45	34.7	23.1	156	27.4	47.3	339					0.49	1.21	7.2	13.3	45
5	5.0	79.5	625	2.5	7.2	6	zonder dunning				1.83	0.51	8.3	1.2	5
10	12.9	30.9	625	15.9	18.0	94	without thinning				2.58	1.59	23.2	9.4	10
15	19.7	20.3	625	27.1	23.5	221					1.87	1.81	24.9	14.7	15
18	22.9	17.4	625	32.1	25.6	293					1.52	1.79	23.1	16.3	18







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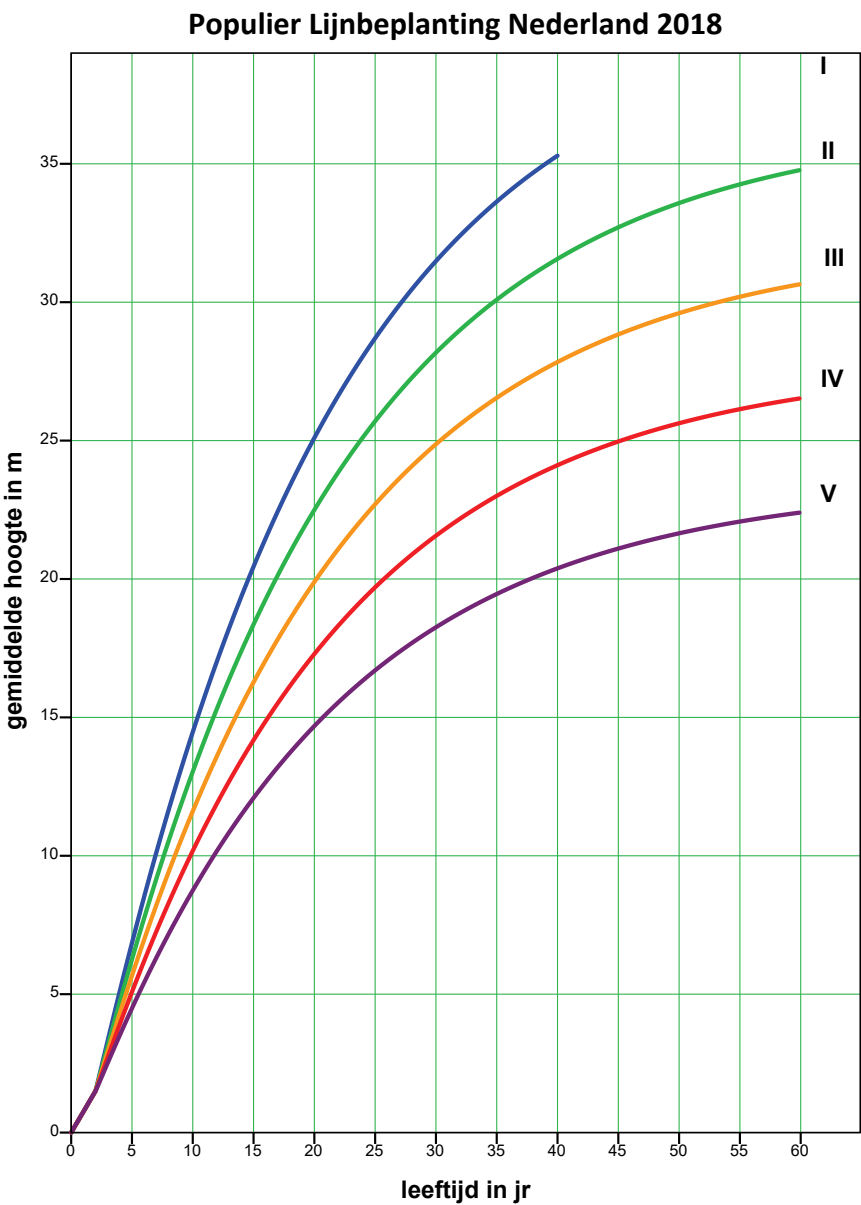
Populier, plantverband 5 x 6 m							met Flevoland beheer				Boniteit III, h25 = 25.0				
Poplar, spacing 5 x 6 m							with Flevoland management				Site Class III, h25 = 25.0				
	Kenmerken blijvende opstand						Dunning				Bijgroei				
	Characteristics remaining stand						Thinning				Increment				
<i>t</i>	<i>h<sub>m</sub></i>	<i>S</i> %	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>V</i>	<i>lc<sub>G</sub></i>	<i>lm<sub>G</sub></i>	<i>lc<sub>V</sub></i>	<i>lm<sub>V</sub></i>	<i>t</i>
5	4.6	119.4	333	1.3	7.0	3	167	10.5	28.3	84	1.01	0.26	4.2	0.5	5
10	11.5	47.6	333	9.3	18.9	50					1.74	0.93	13.6	5.0	10
15	17.4	31.5	333	17.9	26.1	132					1.57	1.19	17.1	8.8	15
17	19.3	40.1	167	10.5	28.3	84					1.39	1.23	15.4	9.8	17
20	21.8	35.5	167	14.1	32.8	123					1.09	1.23	12.6	10.3	20
25	25.0	31.0	167	19.0	38.1	183					0.89	1.18	11.3	10.7	25

Populier, plantverband 5 x 6 m							met Flevoland beheer				Boniteit IV, h25 = 21.6				
Poplar, spacing 5 x 6 m							with Flevoland management				Site Class IV, h25 = 21.6				
	Kenmerken blijvende opstand						Dunning				Bijgroei				
	Characteristics remaining stand						Thinning				Increment				
<i>t</i>	<i>h<sub>m</sub></i>	<i>S</i> %	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>V</i>	<i>lc<sub>G</sub></i>	<i>lm<sub>G</sub></i>	<i>lc<sub>V</sub></i>	<i>lm<sub>V</sub></i>	<i>t</i>
5	4.1	132.3	333	0.9	5.9	2	167	10.1	27.8	80	0.80	0.19	2.7	0.4	5
10	10.1	54.5	333	7.3	16.7	36					1.38	0.73	9.9	3.6	10
15	15.1	36.3	333	14.3	23.4	95					1.30	0.95	12.7	6.3	15
20	18.9	41.0	167	10.1	27.8	80					1.03	1.01	11.0	8.0	20
25	21.6	35.9	167	14.4	33.1	124					0.74	0.98	8.4	8.1	25
30	23.5	33.0	167	17.7	36.8	164					0.62	0.93	7.4	8.1	30

Populier, plantverband 5 x 6 m							met Flevoland beheer				Boniteit V, h25 = 18.2				
Poplar, spacing 5 x 6 m							with Flevoland management				Site Class V, h25 = 18.2				
t	Kenmerken blijvende opstand						Dunning				Bijgroei				t
	Characteristics remaining stand						Thinning				Increment				
	<i>h<sub>m</sub></i>	<i>S</i> %	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>V</i>	<i>lc<sub>G</sub></i>	<i>lm<sub>G</sub></i>	<i>lc<sub>V</sub></i>	<i>lm<sub>V</sub></i>	
5	3.7	148.3	333	0.6	4.9	1					0.58	0.13	1.6	0.2	5
10	8.6	63.6	333	5.6	14.6	24					1.05	0.56	6.9	2.4	10
15	12.8	42.8	333	10.9	20.4	64					1.03	0.73	8.7	4.3	15
20	15.9	34.3	333	15.7	24.5	108					0.87	0.78	8.7	5.4	20
25	18.2	30.1	333	19.6	27.4	150					0.71	0.79	7.3	6.0	25
26	18.6	41.7	167	10.2	27.9	79	167	10.2	27.9	79	0.67	0.78	6.7	6.1	26
30	19.8	39.2	167	12.4	30.8	101					0.50	0.75	5.1	6.0	30

Lijnbeplantingen van Populier

Poplar line plantations











Populier, Nederland 2018				lijnbeplanting met plantafstand 3.2 m, zonder dunning					Boniteit IV, $h_{25} = 19.7$				
Poplar, Netherlands 2018				line plantation with spacing 3.2 m, without thinning					Site Class IV, $h_{25} = 19.7$				
	Kenmerken blijvende opstand								Bijgroei				
	Characteristics remaining stand								Increment				
$t$	$h_m$	$S\%$	$N$	$G$	$d_g$	$d_{or}$	$d_{ir}$	$V$	$lc_G$	$lm_G$	$lc_v$	$lm_v$	$t$
5	5.1	63.0	313	1.7	8.3	8.5	8.1	4	1.07	0.34	3.2	0.8	5
10	10.2	31.4	313	5.6	15.1	15.5	14.6	27	1.02	0.56	6.8	2.7	10
15	14.2	22.6	313	11.0	21.2	21.9	20.5	69	1.11	0.73	9.6	4.6	15
20	17.3	18.5	313	16.5	25.9	26.8	25.1	121	1.07	0.82	10.8	6.0	20
25	19.7	16.2	313	21.6	29.7	30.7	28.7	175	0.97	0.86	10.7	7.0	25
30	21.6	14.8	313	26.1	32.6	33.8	31.5	227	0.84	0.87	10.0	7.6	30
35	23.0	13.9	313	30.0	35.0	36.2	33.8	274	0.72	0.86	8.9	7.8	35
40	24.1	13.3	313	33.3	36.8	38.1	35.6	316	0.60	0.83	7.7	7.9	40
45	25.0	12.8	313	36.1	38.3	39.7	37.0	351	0.50	0.80	6.5	7.8	45
50	25.6	12.5	313	38.3	39.5	40.9	38.2	380	0.41	0.77	5.4	7.6	50
55	26.1	12.2	313	40.2	40.5	41.9	39.1	405	0.33	0.73	4.4	7.4	55
60	26.5	12.1	313	41.7	41.2	42.7	39.8	425	0.27	0.69	3.6	7.1	60

Populier, Nederland 2018				lijnbeplanting met plantafstand 3.2 m, zonder dunning					Boniteit V, $h_{25} = 16.7$				
Poplar, Netherlands 2018				line plantation with spacing 3.2 m, without thinning					Site Class V, $h_{25} = 16.7$				
	Kenmerken blijvende opstand								Bijgroei				
	Characteristics remaining stand								Increment				
$t$	$h_m$	$S\%$	$N$	$G$	$d_g$	$d_{or}$	$d_{ir}$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	4.5	71.3	313	1.2	6.9	7.1	6.7	2	0.77	0.23	2.0	0.5	5
10	8.7	36.6	313	3.8	12.4	12.9	12.0	17	0.70	0.38	4.1	1.7	10
15	12.1	26.5	313	7.5	17.5	18.2	16.8	42	0.76	0.50	5.8	2.8	15
20	14.7	21.8	313	11.2	21.4	22.3	20.6	73	0.73	0.56	6.5	3.6	20
25	16.7	19.2	313	14.7	24.5	25.5	23.5	105	0.66	0.59	6.4	4.2	25
30	18.3	17.5	313	17.8	26.9	28.1	25.9	136	0.58	0.59	6.0	4.5	30
35	19.5	16.4	313	20.5	28.9	30.1	27.7	165	0.49	0.59	5.3	4.7	35
40	20.4	15.7	313	22.7	30.4	31.7	29.2	189	0.41	0.57	4.6	4.7	40
45	21.1	15.2	313	24.6	31.7	33.0	30.4	210	0.34	0.55	3.9	4.7	45
50	21.7	14.8	313	26.1	32.6	34.0	31.3	228	0.28	0.52	3.2	4.6	50
55	22.1	14.5	313	27.4	33.4	34.8	32.1	243	0.23	0.50	2.6	4.4	55
60	22.4	14.3	313	28.4	34.0	35.5	32.7	255	0.19	0.47	2.2	4.2	60

**Trilpopulier (*Populus tremula*)**

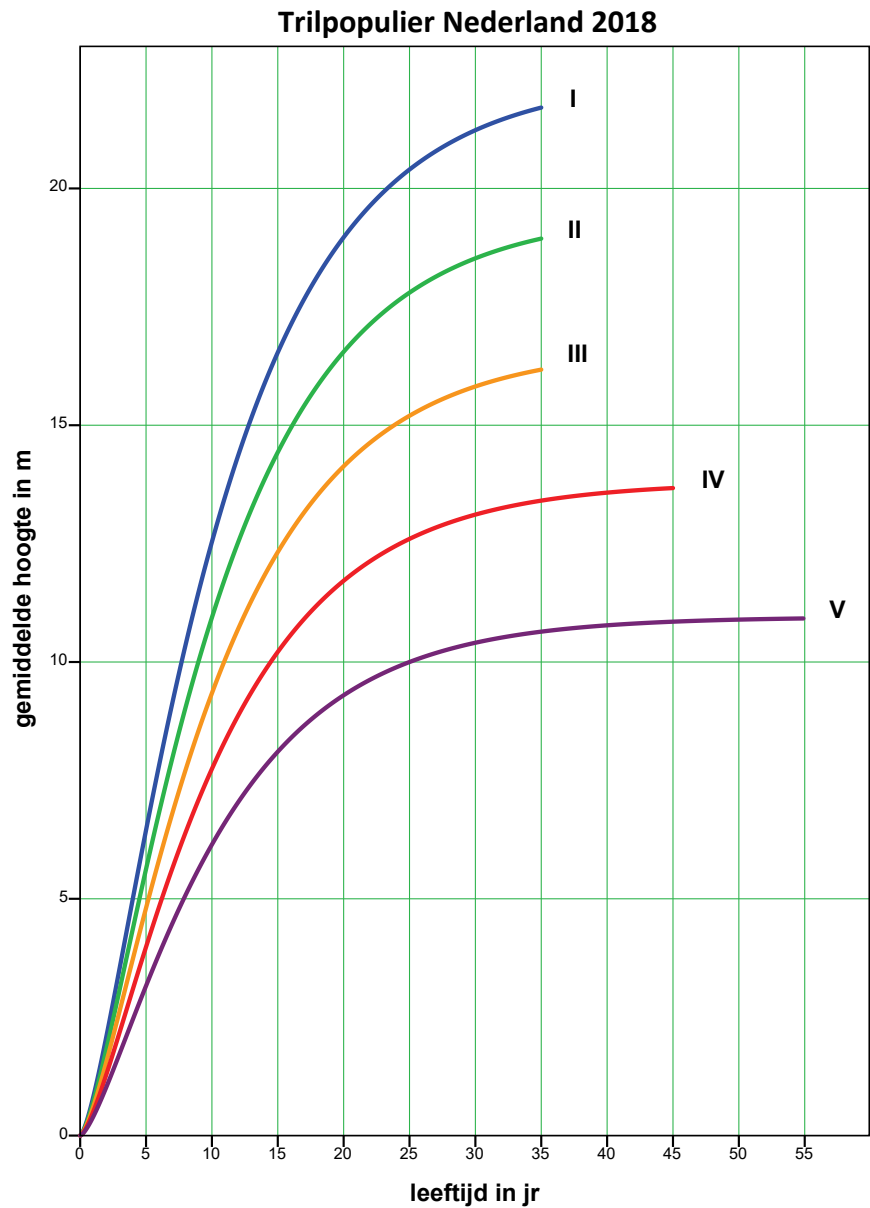
**Aspen**

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Bron: Jansen, J.J., G.M.J. Mohren, P. Schmidt, L. Goudzwaard, A. Oosterbaan en J. den Ouden, 2018. *Groei en productie van populier in Nederland*. FEM Groei en Productie Rapport 2018 - 8, 127 blz.

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Voor de trilpopulier is alleen een tabel met sterke dunning beschikbaar.



TRILPOPULIER, Nederland 2018									sterke dunning							Boniteit I $h_{25} = 20.4$						
ASPEN, Netherlands 2018									heavy thinning							Site Class I, $h_{25} = 20.4$						
	Opstandkenmerk			Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics			Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_m$	$h_{top}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	6.4	8.0		2500	13.5	8.3	6.4	40					2500	13.5	8.3	6.4	40	4.29	2.71	21.5	8.0	5
10	12.5	14.5	22.0	2500	27.8	11.9	12.4	162	1185	9.3	10.0	55	1315	18.5	13.4	12.6	107	1.92	2.78	19.1	16.2	10
15	16.5	18.5	22.0	1315	26.0	15.9	16.3	185	559	7.7	13.3	56	756	18.2	17.5	16.7	130	1.21	2.35	13.1	16.0	15
20	19.0	20.9	22.0	756	23.2	19.8	18.7	183	181	3.8	16.4	31	574	19.4	20.7	19.1	153	0.85	2.01	9.3	14.7	20
25	20.4	22.3	22.0	574	23.1	22.6	20.1	193	78	2.1	18.7	18	496	21.0	23.2	20.6	175	0.65	1.76	7.0	13.4	25
30	21.2	23.1	22.0	496	23.9	24.8	21.0	205	38	1.2	20.4	11	458	22.7	25.1	21.4	195	0.53	1.56	5.5	12.1	30
35	21.7	23.6	22.0	458	25.1	26.4	21.4	219	20	0.7	21.7	7	438	24.4	26.6	21.9	213	0.45	1.41	4.5	11.1	35

TRILPOPULIER, Nederland 2018									sterke dunning								Boniteit II $h_{25} = 17.8$					
ASPEN, Netherlands 2018									heavy thinning								Site Class II, $h_{25} = 17.8$					
	Opstandkenmerk			Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics			Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_m$	$h_{top}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	5.6	7.1		2500	9.6	7.0	5.6	25					2500	9.6	7.0	5.6	25	3.84	1.93	17.1	5.1	5
10	10.9	12.8	22.0	2500	24.6	11.2	10.8	129	773	5.3	9.3	28	1727	19.3	11.9	11.0	101	1.76	2.46	15.9	12.9	10
15	14.4	16.4	22.0	1727	26.2	13.9	14.3	169	734	7.8	11.6	51	992	18.4	15.3	14.6	118	1.11	2.10	11.2	13.1	15
20	16.6	18.5	22.0	992	23.0	17.2	16.3	164	238	3.8	14.2	27	754	19.2	18.0	16.7	137	0.79	1.80	7.9	12.1	20
25	17.8	19.8	22.0	754	22.6	19.5	17.6	170	102	2.1	16.1	16	652	20.5	20.0	18.0	154	0.60	1.58	5.9	11.1	25
30	18.5	20.5	22.0	652	23.2	21.3	18.3	180	50	1.2	17.5	9	602	22.0	21.6	18.7	171	0.49	1.41	4.6	10.1	30
35	18.9	20.9	22.0	602	24.3	22.7	18.7	192	26	0.7	18.6	6	576	23.6	22.8	19.1	186	0.42	1.27	3.8	9.2	35

TRILPOPULIER, Nederland 2018									sterke dunning							Boniteit III $h_{25} = 15.2$						
ASPEN, Netherlands 2018									heavy thinning							Site Class III, $h_{25} = 15.2$						
	Opstandkenmerk			Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics			Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_m$	$h_{top}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	4.8	6.2		2500	6.1	5.6	4.8	14					2500	6.1	5.6	4.8	14	3.29	1.22	11.8	2.8	5
10	9.3	11.1	22.0	2500	21.3	10.4	9.2	100	132	0.8	8.6	4	2368	20.6	10.5	9.4	96	1.63	2.13	13.9	10.0	10
15	12.3	14.2	22.0	2368	26.7	12.0	12.2	154	1007	8.0	10.0	46	1361	18.8	13.2	12.4	107	1.00	1.83	9.5	10.5	15
20	14.1	16.1	22.0	1361	22.9	14.7	14.0	146	327	3.8	12.1	24	1034	19.2	15.4	14.3	121	0.71	1.58	6.5	9.8	20
25	15.2	17.2	22.0	1034	22.3	16.6	15.0	149	140	2.0	13.6	14	894	20.2	17.0	15.3	135	0.55	1.39	4.9	8.9	25
30	15.8	17.8	22.0	894	22.7	18.0	15.6	157	69	1.2	14.8	8	826	21.5	18.2	16.0	148	0.45	1.24	3.8	8.2	30
35	16.2	18.1	22.0	826	23.6	19.1	16.0	166	36	0.7	15.7	5	790	22.9	19.2	16.3	161	0.39	1.12	3.1	7.5	35

TRILPOPULIER, Nederland 2018										sterke dunning							Boniteit IV $h_{25} = 12.6$					
ASPEN, Netherlands 2018										heavy thinning							Site Class IV, $h_{25} = 12.6$					
$t$	Opstandkenmerk			Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				$t$
	Stand characteristics			Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
	$h_m$	$h_{top}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	
5	4.0	5.2		2500	3.3	4.1	4.0	7					2500	3.3	4.1	4.0	7	2.27	0.67	6.4	1.3	5
10	7.7	9.4	25.8	2500	17.9	9.5	7.7	72					2500	17.9	9.5	7.7	72	1.87	1.79	12.8	7.2	10
15	10.2	12.1	22.0	2500	23.4	10.9	10.1	117	519	3.3	9.0	17	1981	20.1	11.4	10.3	100	0.90	1.56	7.5	7.8	15
20	11.7	13.6	22.0	1981	23.8	12.4	11.6	132	475	3.9	10.2	22	1505	19.9	13.0	11.8	110	0.64	1.36	5.3	7.4	20
25	12.6	14.5	22.0	1505	22.7	13.8	12.4	132	204	2.1	11.4	12	1301	20.6	14.2	12.7	120	0.50	1.20	3.9	6.8	25
30	13.1	15.1	22.0	1301	22.8	14.9	13.0	137	100	1.2	12.3	7	1202	21.6	15.1	13.2	130	0.41	1.07	3.1	6.3	30
35	13.4	15.4	22.0	1202	23.5	15.8	13.2	144	52	0.7	13.0	4	1149	22.8	15.9	13.5	139	0.35	0.97	2.5	5.8	35
40	13.6	15.5	22.0	1149	24.5	16.5	13.4	151	28	0.4	13.5	3	1121	24.1	16.5	13.7	148	0.31	0.89	2.1	5.3	40
45	13.7	15.6	22.0	1121	25.5	17.0	13.5	158	16	0.2	14.0	2	1105	25.3	17.1	13.8	157	0.28	0.83	1.9	5.0	45

**TRILPOPULIER, Nederland 2018**

ASPEN, Netherlands 2018

**sterke dunning**

heavy thinning

**Boniteit V  $h_{25} = 10.0$**

Site Class V,  $h_{25} = 10.0$

<i>t</i>	<b>Opstandkenmerk</b> Stand characteristics			<b>Kenmerken voor dunning</b> Characteristics before thinning					<b>Dunning</b> Thinning				<b>Kenmerken na dunning</b> Characteristics after thinning					<b>Bijgroei</b> Increment				<i>t</i>
	<i>h<sub>m</sub></i>	<i>h<sub>top</sub></i>	<i>S%</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>h<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>V</i>	<i>N</i>	<i>G</i>	<i>d<sub>g</sub></i>	<i>h<sub>g</sub></i>	<i>V</i>	<i>lc<sub>G</sub></i>	<i>lm<sub>G</sub></i>	<i>lc<sub>V</sub></i>	<i>lm<sub>V</sub></i>	
5	3.2	4.3		2500	1.5	2.7	3.2	3					2500	1.5	2.7	3.2	3	1.19	0.30	2.8	0.5	5
10	6.1	7.7		2500	12.1	7.8	6.1	34					2500	12.1	7.8	6.1	34	2.16	1.21	10.2	3.4	10
15	8.1	9.8	24.7	2500	18.9	9.8	8.1	79					2500	18.9	9.8	8.1	79	0.78	1.26	5.5	5.3	15
20	9.3	11.1	22.0	2500	22.2	10.6	9.2	103	110	0.7	8.7	3	2390	21.5	10.7	9.4	100	0.56	1.11	4.1	5.2	20
25	10.0	11.8	22.0	2390	24.0	11.3	9.9	118	324	2.2	9.3	11	2066	21.8	11.6	10.1	107	0.44	0.99	3.1	4.8	25
30	10.4	12.3	22.0	2066	23.7	12.1	10.3	120	158	1.2	9.9	6	1908	22.5	12.3	10.5	114	0.36	0.89	2.4	4.5	30
35	10.6	12.5	22.0	1908	24.2	12.7	10.5	124	83	0.7	10.4	4	1825	23.5	12.8	10.7	121	0.31	0.81	1.9	4.1	35
40	10.8	12.6	22.0	1825	24.9	13.2	10.6	130	45	0.4	10.8	2	1780	24.5	13.2	10.9	127	0.28	0.74	1.6	3.8	40
45	10.9	12.7	22.0	1780	25.8	13.6	10.7	135	25	0.2	11.1	1	1755	25.6	13.6	10.9	134	0.25	0.69	1.4	3.6	45
50	10.9	12.8	22.0	1755	26.8	13.9	10.8	140	14	0.1	11.4	1	1741	26.6	14.0	11.0	140	0.23	0.64	1.3	3.4	50
55	10.9	12.8	22.0	1741	27.7	14.2	10.8	146	8	0.1	11.7	0	1733	27.6	14.3	11.0	145	0.22	0.61	1.2	3.2	55

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RUWE BERK, Nederland 2018							sterke dunning							Boniteit I, $h_{50} = 23.2$							
SILVER BIRCH, Netherlands 2018							heavy thinning							Site Class I, $h_{50} = 23.2$							
	Opstandkenmerken		Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics		Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	4.7		5000	5.8	3.8	4.3	17					5000	5.8	3.8	4.3	17	2.78	1.16	10.4	3.4	5
10	9.5	22.0	5000	16.9	6.6	8.1	75	2337	6.2	5.8	27	2663	10.7	7.2	8.1	48	1.28	1.69	9.8	7.5	10
15	13.1	22.0	2663	16.2	8.8	11.2	93	1277	6.1	7.8	34	1386	10.1	9.6	11.3	59	0.95	1.49	8.2	8.0	15
20	15.9	22.0	1386	14.3	11.5	13.7	96	437	3.5	10.1	23	949	10.8	12.0	13.8	73	0.77	1.33	6.9	7.8	20
25	17.9	22.0	949	14.3	13.9	15.8	106	206	2.4	12.2	17	743	11.9	14.3	15.9	89	0.65	1.21	6.1	7.5	25
30	19.5	22.0	743	15.0	16.0	17.4	118	116	1.8	14.0	13	627	13.2	16.4	17.5	104	0.57	1.11	5.5	7.3	30
35	20.7	22.0	627	15.9	17.9	18.8	131	73	1.4	15.7	11	554	14.5	18.2	18.9	120	0.51	1.03	5.1	7.0	35
40	21.7	22.0	554	16.9	19.7	19.9	144	49	1.1	17.2	9	505	15.7	19.9	20.0	135	0.47	0.96	4.7	6.7	40
45	22.5	22.0	505	18.0	21.3	20.8	158	35	1.0	18.6	8	470	17.0	21.5	21.0	149	0.43	0.90	4.4	6.5	45
50	23.2	22.0	470	19.1	22.8	21.6	171	26	0.8	19.8	7	443	18.3	22.9	21.8	164	0.40	0.85	4.1	6.3	50
55	23.8	22.5	443	20.2	24.1	22.3	184	38	1.3	21.1	12	405	18.9	24.4	22.4	172	0.38	0.81	3.9	6.0	55
60	24.2	23.0	405	20.7	25.5	22.9	191	32	1.2	22.3	11	374	19.5	25.8	23.0	180	0.36	0.77	3.7	5.9	60
65	24.6	23.4	374	21.2	26.9	23.4	198	27	1.2	23.5	10	347	20.1	27.2	23.6	188	0.34	0.74	3.5	5.7	65
70	25.0	23.9	347	21.7	28.2	23.8	205	23	1.1	24.6	10	324	20.6	28.5	24.0	195	0.32	0.71	3.3	5.5	70
75	25.3	24.4	324	22.2	29.5	24.2	211	20	1.0	25.8	9	304	21.2	29.8	24.4	202	0.31	0.68	3.1	5.4	75
80	25.5	24.9	304	22.7	30.8	24.6	217	18	1.0	26.9	9	287	21.7	31.0	24.8	208	0.29	0.66	3.0	5.2	80



RUWE BERK, Nederland 2018								sterke dunning								Boniteit II, $h_{50} = 20.4$					
SILVER BIRCH, Netherlands 2018								heavy thinning								Site Class II, $h_{50} = 20.4$					
	Opstandkenmerken		Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics		Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	3.6		5000	3.2	2.8	3.4	8					5000	3.2	2.8	3.4	8	1.77	0.64	5.4	1.6	5
10	7.5	20.2	5000	14.0	6.0	6.5	56					5000	14.0	6.0	6.5	56	1.38	1.40	7.2	5.6	10
15	10.7	22.0	5000	19.1	7.0	9.1	93	2921	8.9	6.2	42	2079	10.2	7.9	9.2	51	0.89	1.27	7.2	6.2	15
20	13.2	22.0	2079	14.2	9.3	11.3	82	710	3.8	8.2	21	1369	10.4	9.9	11.4	61	0.73	1.16	5.9	6.2	20
25	15.1	22.0	1369	13.8	11.3	13.1	89	329	2.5	9.9	16	1040	11.2	11.7	13.2	73	0.62	1.06	5.3	6.1	25
30	16.7	22.0	1040	14.1	13.1	14.6	98	182	1.9	11.5	13	858	12.2	13.5	14.7	86	0.54	0.98	4.8	5.9	30
35	17.9	22.0	858	14.8	14.8	15.8	109	113	1.5	12.9	11	744	13.3	15.1	15.9	98	0.49	0.91	4.4	5.7	35
40	18.9	22.0	744	15.6	16.3	16.8	120	76	1.2	14.3	9	668	14.4	16.6	17.0	111	0.44	0.86	4.1	5.5	40
45	19.7	22.0	668	16.5	17.7	17.7	131	54	1.0	15.5	8	614	15.5	17.9	17.8	123	0.41	0.81	3.9	5.4	45
50	20.4	22.0	614	17.5	19.0	18.5	142	40	0.9	16.6	7	573	16.6	19.2	18.6	135	0.38	0.77	3.6	5.2	50
55	21.0	22.5	573	18.4	20.2	19.1	153	54	1.3	17.7	10	519	17.1	20.5	19.3	142	0.36	0.73	3.4	5.1	55
60	21.5	23.0	519	18.9	21.5	19.7	159	44	1.2	18.8	10	476	17.7	21.7	19.8	149	0.34	0.70	3.2	4.9	60
65	21.9	23.4	476	19.3	22.7	20.2	165	37	1.1	19.8	9	439	18.2	23.0	20.3	155	0.32	0.67	3.1	4.8	65
70	22.3	23.9	439	19.7	23.9	20.6	170	31	1.1	20.9	9	408	18.7	24.1	20.8	162	0.30	0.64	2.9	4.6	70
75	22.6	24.4	408	20.1	25.1	21.0	176	27	1.0	21.9	8	381	19.1	25.3	21.2	167	0.29	0.62	2.8	4.5	75
80	22.8	24.9	381	20.6	26.2	21.4	181	23	1.0	22.9	8	358	19.6	26.4	21.5	173	0.28	0.60	2.7	4.4	80

RUWE BERK, Nederland 2018							sterke dunning										Boniteit III, $h_{50} = 17.6$					
SILVER BIRCH, Netherlands 2018							heavy thinning										Site Class III, $h_{50} = 17.6$					
	Opstandkenmerken		Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei					
	Stand characteristics		Characteristics before thinning					Thinning				Characteristics after thinning					Increment					
$t$	$h_{top}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$	
5	2.7		5000	1.4	1.9	2.6	3					5000	1.4	1.9	2.6	3	1.00	0.28	2.5	0.6	5	
10	5.8		5000	8.9	4.8	5.1	29					5000	8.9	4.8	5.1	29	1.83	0.89	8.0	2.9	10	
15	8.4	22.0	5000	15.6	6.3	7.3	63	1655	4.0	5.6	16	3345	11.6	6.6	7.3	48	0.84	1.04	5.8	4.2	15	
20	10.6	22.0	3345	15.3	7.6	9.1	75	1239	4.4	6.7	21	2106	10.9	8.1	9.2	54	0.68	0.97	5.1	4.5	20	
25	12.4	22.0	2106	14.1	9.2	10.6	78	562	2.9	8.1	15	1544	11.2	9.6	10.7	62	0.58	0.90	4.5	4.6	25	
30	13.9	22.0	1544	13.9	10.7	12.0	84	307	2.1	9.4	12	1238	11.8	11.0	12.0	72	0.51	0.84	4.1	4.5	30	
35	15.1	22.0	1238	14.2	12.1	13.1	91	188	1.7	10.6	10	1049	12.5	12.3	13.2	81	0.46	0.79	3.8	4.4	35	
40	16.1	22.0	1049	14.7	13.4	14.0	100	125	1.3	11.7	9	924	13.4	13.6	14.1	91	0.42	0.75	3.6	4.3	40	
45	16.9	22.0	924	15.4	14.6	14.9	108	88	1.1	12.7	8	835	14.3	14.8	15.0	101	0.39	0.71	3.4	4.2	45	
50	17.6	22.0	835	16.2	15.7	15.6	117	65	1.0	13.7	7	770	15.2	15.8	15.7	110	0.36	0.67	3.2	4.1	50	
55	18.2	22.5	770	17.0	16.7	16.2	126	80	1.3	14.6	10	690	15.6	17.0	16.3	116	0.34	0.65	3.0	4.1	55	
60	18.7	23.0	690	17.3	17.8	16.8	131	64	1.2	15.6	9	626	16.0	18.1	16.9	122	0.32	0.62	2.8	4.0	60	
65	19.2	23.4	626	17.6	18.9	17.2	136	53	1.1	16.5	8	573	16.4	19.1	17.4	127	0.30	0.60	2.7	3.9	65	
70	19.5	23.9	573	17.9	20.0	17.7	140	44	1.1	17.4	8	528	16.9	20.2	17.8	132	0.29	0.57	2.6	3.8	70	
75	19.9	24.4	528	18.3	21.0	18.1	145	38	1.0	18.3	8	491	17.3	21.2	18.2	137	0.27	0.55	2.4	3.7	75	
80	20.2	24.9	491	18.6	22.0	18.4	149	33	0.9	19.2	7	458	17.7	22.2	18.6	142	0.26	0.54	2.3	3.6	80	

RUWE BERK, Nederland 2018							sterke dunning										Boniteit IV, $h_{50} = 14.8$					
SILVER BIRCH, Netherlands 2018							heavy thinning										Site Class IV, $h_{50} = 14.8$					
	Opstandkenmerken		Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei					
	Stand characteristics		Characteristics before thinning					Thinning				Characteristics after thinning					Increment					
$t$	$h_{top}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$	
5	1.9		5000	0.4	1.0	2.0	1					5000	0.4	1.0	2.0	1	0.44	0.08	0.9	0.2	5	
10	4.2		5000	4.6	3.4	3.9	12					5000	4.6	3.4	3.9	12	1.11	0.46	3.8	1.2	10	
15	6.4		5000	10.9	5.3	5.6	38					5000	10.9	5.3	5.6	38	1.36	0.72	6.5	2.6	15	
20	8.2	22.0	5000	15.3	6.3	7.1	61	1480	3.5	5.5	13	3520	11.8	6.5	7.1	48	0.63	0.77	4.2	3.0	20	
25	9.8	22.0	3520	14.8	7.3	8.4	68	1044	3.4	6.4	15	2476	11.4	7.6	8.5	53	0.54	0.73	3.8	3.2	25	
30	11.2	22.0	2476	13.9	8.5	9.6	71	559	2.4	7.4	12	1917	11.5	8.7	9.6	59	0.48	0.69	3.5	3.3	30	
35	12.3	22.0	1917	13.8	9.6	10.6	76	338	1.9	8.4	10	1579	11.9	9.8	10.6	66	0.43	0.66	3.2	3.3	35	
40	13.3	22.0	1579	14.0	10.6	11.4	81	222	1.5	9.3	8	1357	12.5	10.8	11.5	73	0.39	0.63	3.0	3.3	40	
45	14.1	22.0	1357	14.4	11.6	12.2	88	155	1.3	10.1	7	1202	13.1	11.8	12.3	80	0.36	0.60	2.9	3.2	45	
50	14.8	22.0	1202	14.9	12.6	12.9	94	113	1.1	11.0	6	1089	13.8	12.7	13.0	88	0.34	0.58	2.7	3.2	50	
55	15.4	22.5	1089	15.5	13.4	13.5	101	128	1.4	11.7	9	961	14.1	13.7	13.6	92	0.32	0.55	2.6	3.1	55	
60	16.0	23.0	961	15.6	14.4	14.0	105	101	1.3	12.6	8	860	14.4	14.6	14.1	97	0.30	0.53	2.4	3.1	60	
65	16.4	23.4	860	15.8	15.3	14.5	109	82	1.1	13.4	8	779	14.7	15.5	14.6	101	0.28	0.51	2.3	3.0	65	
70	16.9	23.9	779	16.0	16.2	14.9	112	67	1.1	14.1	7	711	15.0	16.4	15.0	105	0.27	0.50	2.2	3.0	70	
75	17.2	24.4	711	16.3	17.1	15.3	116	57	1.0	14.9	7	655	15.3	17.3	15.4	109	0.26	0.48	2.1	2.9	75	
80	17.6	24.9	655	16.6	17.9	15.7	119	48	0.9	15.7	6	606	15.6	18.1	15.8	113	0.24	0.47	2.0	2.9	80	

RUWE BERK, Nederland 2018							sterke dunning										Boniteit V, $h_{50} = 12.0$				
SILVER BIRCH, Netherlands 2018							heavy thinning										Site Class V, $h_{50} = 12.0$				
	Opstandkenmerken		Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics		Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	1.3		5000				0					5000				0			0.1	0.0	5
10	2.9		5000	1.8	2.1	2.8	4					5000	1.8	2.1	2.8	4	0.58	0.18	1.5	0.4	10
15	4.6		5000	5.4	3.7	4.2	15					5000	5.4	3.7	4.2	15	0.82	0.36	3.0	1.0	15
20	6.0		5000	9.8	5.0	5.4	33					5000	9.8	5.0	5.4	33	0.92	0.49	4.2	1.7	20
25	7.4	22.0	5000	13.8	5.9	6.4	50	609	1.3	5.2	4	4391	12.5	6.0	6.4	46	0.50	0.55	1.1	2.0	25
30	8.5	22.0	4391	14.9	6.6	7.4	61	1125	2.9	5.8	12	3265	11.9	6.8	7.4	49	0.44	0.54	2.9	2.2	30
35	9.6	22.0	3265	14.0	7.4	8.2	63	667	2.2	6.5	10	2598	11.8	7.6	8.3	54	0.40	0.52	2.7	2.3	35
40	10.5	22.0	2598	13.7	8.2	9.0	66	431	1.7	7.2	8	2167	12.0	8.4	9.1	58	0.36	0.50	2.5	2.3	40
45	11.3	22.0	2167	13.7	9.0	9.7	70	296	1.4	7.9	7	1871	12.3	9.1	9.8	63	0.34	0.49	2.4	2.3	45
50	12.0	22.0	1871	13.9	9.7	10.3	75	214	1.2	8.5	6	1657	12.7	9.9	10.4	69	0.32	0.47	2.3	2.3	50
55	12.6	22.5	1657	14.2	10.5	10.9	80	223	1.5	9.1	8	1434	12.8	10.6	11.0	72	0.30	0.46	2.1	2.3	55
60	13.2	23.0	1434	14.2	11.2	11.4	82	173	1.3	9.8	7	1261	12.9	11.4	11.5	75	0.28	0.44	2.0	2.3	60
65	13.7	23.4	1261	14.2	12.0	11.9	85	137	1.2	10.5	7	1124	13.1	12.2	12.0	78	0.26	0.43	1.9	2.3	65
70	14.1	23.9	1124	14.3	12.7	12.3	88	111	1.1	11.1	6	1012	13.2	12.9	12.4	81	0.25	0.42	1.8	2.2	70
75	14.5	24.4	1012	14.4	13.5	12.7	90	92	1.0	11.8	6	920	13.4	13.6	12.8	84	0.24	0.40	1.8	2.2	75
80	14.9	24.9	920	14.6	14.2	13.1	93	77	0.9	12.4	6	842	13.7	14.4	13.2	87	0.23	0.39	1.7	2.2	80

**Es (Fraxinus excelsior)**

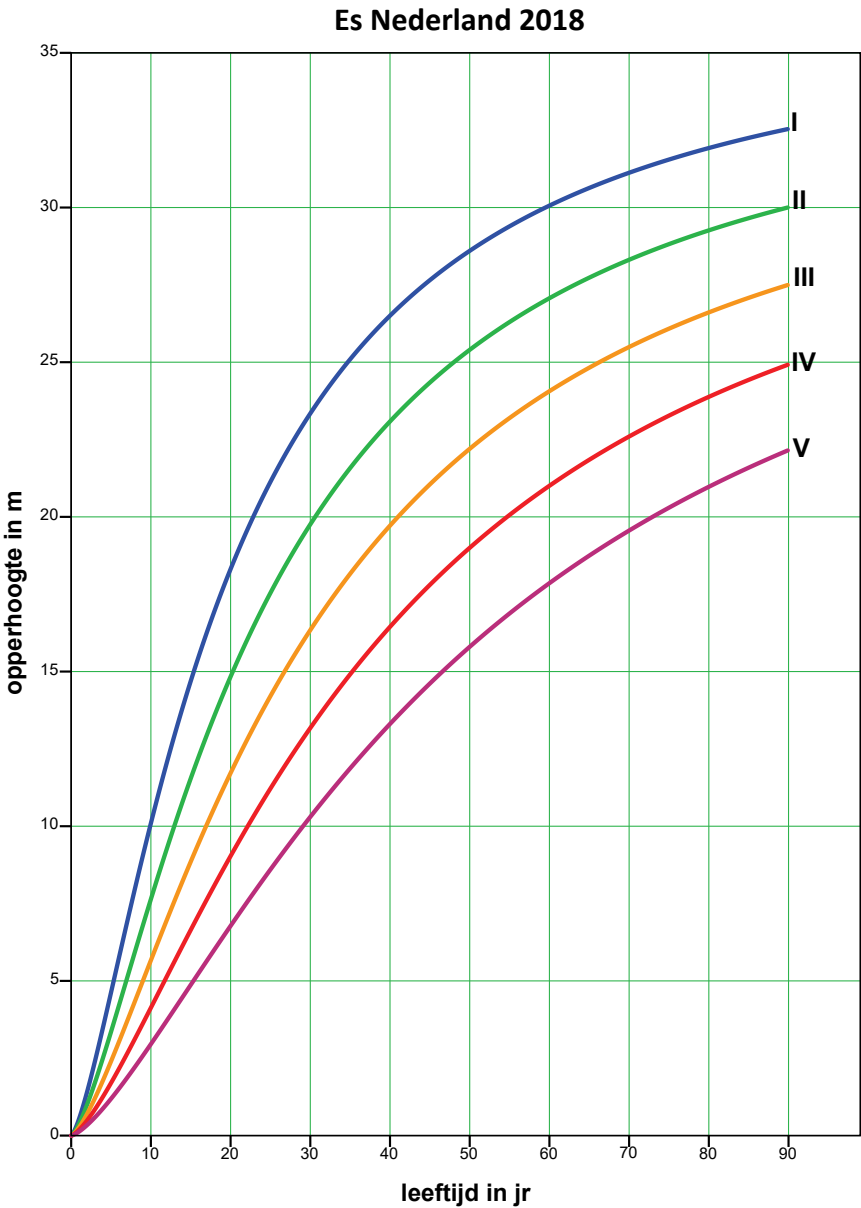
**Ash**

Jansen, J.J. L. Goudzwaard, A. Oosterbaan, G.M.J. Mohren en J. den Ouden

Bron: Jansen, J.J. L. Goudzwaard, A. Oosterbaan, G.M.J. Mohren en J. den Ouden, 2018. *Groei en productie van es in Nederland*. FEM Groei en Productie Rapport 2018 – 11, 44 blz.

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Voor de es is alleen een tabel met matige dunning beschikbaar.



ES, Nederland 2018			matige dunning													Boniteit I, $h_{50} = 27.0$					
ASH, Netherlands 2018			moderate thinning													Site Class I, $h_{50} = 27.0$					
	Opstandkenmerken		Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics		Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	3.2		5000	1.5	2.0	2.6	2					5000	1.5	2.0	2.6	2	1.58	0.30	3.1	0.4	5
10	8.5	19.0	5000	17.4	6.7	6.8	78	613	1.9	6.2	8	4387	15.5	6.7	6.9	70	2.58	1.74	25.5	7.8	10
15	13.5	19.0	4387	26.4	8.8	11.4	163	2622	14.1	8.3	84	1765	12.3	9.4	11.6	79	1.87	1.88	17.2	11.4	15
20	17.3	19.0	1765	20.7	12.2	15.1	156	701	7.2	11.5	53	1064	13.4	12.7	15.3	104	1.51	1.83	14.9	12.4	20
25	20.2	19.0	1064	20.4	15.6	17.9	174	284	4.8	14.6	39	780	15.6	16.0	18.1	136	1.29	1.74	13.6	12.7	25
30	22.4	19.0	780	21.7	18.8	19.9	201	143	3.5	17.6	31	637	18.2	19.1	20.2	170	1.14	1.66	12.6	12.8	30
35	24.0	19.0	637	23.6	21.7	21.5	231	83	2.7	20.3	25	554	21.0	22.0	21.8	206	1.03	1.57	11.7	12.7	35
40	25.3	19.0	554	25.9	24.4	22.7	262	53	2.2	22.8	21	501	23.7	24.6	23.0	241	0.95	1.50	11.0	12.5	40
45	26.2	19.0	501	28.3	26.8	23.6	295	36	1.8	25.0	18	465	26.5	27.0	23.9	277	0.88	1.43	10.3	12.3	45
50	27.0	19.0	465	30.7	29.0	24.4	327	26	1.5	27.1	15	439	29.3	29.1	24.7	312	0.82	1.38	9.8	12.1	50
55	27.6	19.2	439	33.2	31.0	25.0	360	29	1.9	29.0	20	410	31.3	31.2	25.3	340	0.77	1.32	9.3	11.9	55
60	28.1	19.5	410	35.0	33.0	25.5	386	24	1.8	30.8	18	386	33.2	33.1	25.8	367	0.72	1.27	8.8	11.6	60
65	28.5	19.7	386	36.7	34.8	25.9	410	20	1.6	32.5	17	366	35.1	34.9	26.2	392	0.68	1.23	8.4	11.4	65
70	28.8	19.9	366	38.4	36.5	26.2	433	17	1.5	34.2	17	349	36.8	36.6	26.6	417	0.64	1.19	8.0	11.2	70
75	29.1	20.2	349	39.9	38.2	26.5	456	15	1.5	35.7	16	335	38.5	38.3	26.9	440	0.61	1.15	7.6	10.9	75
80	29.4	20.4	335	41.4	39.7	26.8	477	13	1.4	37.2	15	322	40.0	39.8	27.1	462	0.58	1.12	7.3	10.7	80
85	29.6	20.6	322	42.9	41.2	27.0	498	12	1.4	38.6	15	310	41.5	41.3	27.4	483	0.55	1.08	7.1	10.5	85
90	29.8	20.9	310	44.2	42.6	27.2	518	11	1.3	40.0	15	299	42.9	42.7	27.6	503	0.53	1.05	6.8	10.3	90



ES, Nederland 2018			matige dunning												Boniteit III, $h_{50} = 21.0$						
ASH, Netherlands 2018			moderate thinning												Site Class III, $h_{50} = 21.0$						
	Opstandkenmerken		Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics		Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	1.4		5000	0.0	0.1	1.2	0					5000	0.0	0.1	1.2	0	0.08	0.00	0.1	0.0	5
10	4.2		5000	3.6	3.0	3.4	7					5000	3.6	3.0	3.4	7	1.52	0.36	3.7	0.7	10
15	7.4	20.5	5000	14.9	6.2	5.9	45					5000	14.9	6.2	5.9	45	2.14	0.99	18.6	3.0	15
20	10.4	19.0	5000	23.5	7.7	8.6	120	2053	6.6	6.4	32	2947	16.9	8.5	8.7	88	1.58	1.17	12.1	6.0	20
25	13.1	19.0	2947	24.3	10.2	11.1	148	1071	6.0	8.5	35	1875	18.3	11.1	11.2	113	1.36	1.24	11.7	7.2	25
30	15.3	19.0	1875	24.6	12.9	13.2	169	508	4.5	10.6	29	1368	20.1	13.7	13.3	140	1.19	1.24	11.1	7.9	30
35	17.1	19.0	1368	25.8	15.5	15.0	193	280	3.5	12.7	25	1088	22.2	16.1	15.1	168	1.07	1.23	10.5	8.3	35
40	18.7	19.0	1088	27.3	17.9	16.4	219	171	2.9	14.6	22	917	24.5	18.4	16.6	197	0.98	1.20	10.0	8.5	40
45	19.9	19.0	917	29.2	20.1	17.7	246	113	2.4	16.4	19	804	26.8	20.6	17.9	227	0.90	1.17	9.5	8.7	45
50	21.0	19.0	804	31.1	22.2	18.7	273	79	2.0	18.1	17	725	29.1	22.6	18.9	256	0.84	1.14	9.1	8.7	50
55	21.9	19.2	725	33.2	24.1	19.6	301	73	2.2	19.7	19	652	30.9	24.6	19.8	282	0.78	1.11	8.6	8.7	55
60	22.6	19.5	652	34.7	26.0	20.3	324	56	2.0	21.2	18	596	32.7	26.4	20.5	306	0.73	1.08	8.2	8.7	60
65	23.2	19.7	596	36.3	27.8	20.9	346	45	1.8	22.7	16	551	34.4	28.2	21.2	329	0.69	1.05	7.8	8.7	65
70	23.8	19.9	551	37.8	29.6	21.4	368	37	1.7	24.1	16	514	36.1	29.9	21.7	352	0.65	1.03	7.5	8.6	70
75	24.2	20.2	514	39.3	31.2	21.9	389	31	1.6	25.5	15	483	37.7	31.5	22.2	374	0.62	1.00	7.2	8.5	75
80	24.6	20.4	483	40.7	32.8	22.3	409	26	1.5	26.8	14	457	39.3	33.1	22.6	395	0.59	0.97	6.9	8.4	80
85	25.0	20.6	457	42.1	34.2	22.7	429	23	1.4	28.0	13	435	40.7	34.5	23.0	416	0.56	0.95	6.7	8.3	85
90	25.3	20.9	435	43.5	35.7	23.0	449	20	1.3	29.2	13	415	42.2	36.0	23.3	436	0.54	0.93	6.4	8.2	90



ES, Nederland 2018			matige dunning										Boniteit IV, $h_{50} = 18.0$								
ASH, Netherlands 2018			moderate thinning										Site Class IV, $h_{50} = 18.0$								
	Opstandkenmerken		Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics		Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	S%	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	1.0		5000				0					5000				0			0.0	0.0	5
10	2.9		5000	1.1	1.6	2.3	1					5000	1.1	1.6	2.3	1	0.60	0.11	1.0	0.1	10
15	5.3		5000	6.5	4.1	4.2	15					5000	6.5	4.1	4.2	15	1.61	0.44	4.7	1.0	15
20	7.7	19.7	5000	16.1	6.4	6.2	67					5000	16.1	6.4	6.2	67	1.69	0.80	17.4	3.3	20
25	10.0	19.0	5000	23.6	7.8	8.2	118	1795	4.9	5.9	23	3205	18.7	8.6	8.3	94	1.40	0.94	10.2	4.7	25
30	12.1	19.0	3205	25.3	10.0	10.1	145	1007	4.6	7.6	25	2198	20.8	11.0	10.3	120	1.23	1.01	10.1	5.6	30
35	13.9	19.0	2198	26.6	12.4	11.9	170	539	3.7	9.4	23	1659	22.9	13.2	12.0	147	1.10	1.03	9.7	6.2	35
40	15.5	19.0	1659	28.1	14.7	13.4	195	322	3.1	11.0	20	1337	25.0	15.4	13.6	174	1.00	1.03	9.4	6.6	40
45	16.8	19.0	1337	29.8	16.8	14.7	220	208	2.6	12.6	18	1129	27.2	17.5	14.9	202	0.92	1.02	9.0	6.9	45
50	18.0	19.0	1129	31.6	18.9	15.8	247	142	2.2	14.1	17	987	29.4	19.5	16.0	230	0.85	1.01	8.7	7.1	50
55	19.0	19.2	987	33.5	20.8	16.8	273	123	2.3	15.6	18	864	31.2	21.4	17.0	255	0.80	0.99	8.3	7.2	55
60	19.9	19.5	864	35.0	22.7	17.7	295	93	2.1	17.0	17	771	32.9	23.3	17.9	278	0.74	0.97	8.0	7.3	60
65	20.6	19.7	771	36.5	24.5	18.4	317	72	1.9	18.4	16	699	34.6	25.1	18.6	302	0.70	0.95	7.6	7.4	65
70	21.3	19.9	699	38.0	26.3	19.1	339	57	1.8	19.7	15	642	36.2	26.8	19.3	324	0.66	0.94	7.3	7.4	70
75	21.8	20.2	642	39.4	28.0	19.6	360	47	1.6	21.0	14	595	37.8	28.4	19.9	346	0.62	0.92	7.0	7.4	75
80	22.3	20.4	595	40.9	29.6	20.1	381	39	1.5	22.2	13	556	39.3	30.0	20.4	367	0.59	0.90	6.8	7.3	80
85	22.8	20.6	556	42.2	31.1	20.6	401	33	1.4	23.4	13	523	40.8	31.5	20.8	388	0.57	0.88	6.6	7.3	85
90	23.2	20.9	523	43.6	32.6	21.0	420	29	1.3	24.5	12	494	42.2	33.0	21.2	408	0.54	0.86	6.3	7.2	90

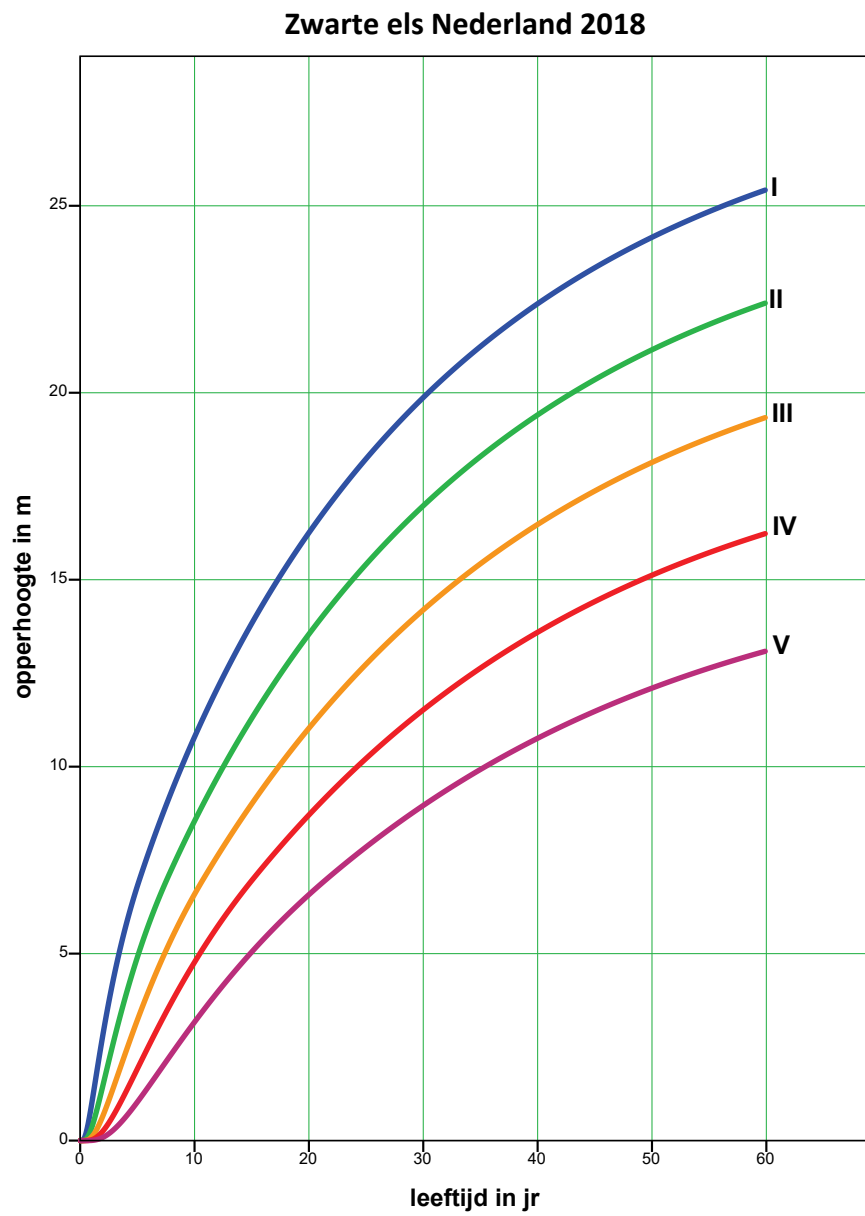
ES, Nederland 2018			matige dunning										Boniteit V, $h_{50} = 15.0$								
ASH, Netherlands 2018			moderate thinning										Site Class V, $h_{50} = 15.0$								
	Opstandkenmerken		Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics		Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	S%	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	0.6		5000				0					5000				0			0.0	0.0	5
10	2.0		5000	0.2	0.7	1.6	0					5000	0.2	0.7	1.6	0	0.18	0.02	0.2	0.0	10
15	3.7		5000	2.3	2.4	2.9	4					5000	2.3	2.4	2.9	4	0.72	0.16	1.5	0.3	15
20	5.5		5000	7.5	4.4	4.4	17					5000	7.5	4.4	4.4	17	1.33	0.37	4.1	0.9	20
25	7.4	20.5	5000	15.2	6.2	5.9	62					5000	15.2	6.2	5.9	62	1.47	0.61	15.4	2.5	25
30	9.2	19.0	5000	21.8	7.5	7.5	103	1236	2.5	5.1	11	3764	19.3	8.1	7.6	92	1.26	0.73	8.5	3.4	30
35	10.9	19.0	3764	25.4	9.3	9.1	135	1066	3.4	6.3	17	2698	22.0	10.2	9.2	118	1.14	0.80	8.7	4.2	35
40	12.4	19.0	2698	27.4	11.4	10.5	161	621	2.9	7.7	16	2077	24.5	12.3	10.6	145	1.03	0.83	8.6	4.7	40
45	13.8	19.0	2077	29.5	13.4	11.8	187	392	2.6	9.1	15	1685	26.9	14.3	11.9	172	0.94	0.85	8.4	5.1	45
50	15.0	19.0	1685	31.4	15.4	13.0	213	263	2.2	10.4	14	1422	29.2	16.2	13.1	199	0.87	0.86	8.2	5.5	50
55	16.1	19.2	1422	33.4	17.3	14.0	239	215	2.3	11.7	16	1206	31.1	18.1	14.2	223	0.81	0.85	8.0	5.7	55
60	17.0	19.5	1206	35.0	19.2	15.0	262	158	2.1	13.0	15	1048	32.9	20.0	15.2	247	0.76	0.85	7.7	5.9	60
65	17.9	19.7	1048	36.6	21.1	15.8	285	120	1.9	14.3	14	928	34.7	21.8	16.0	271	0.71	0.84	7.4	6.0	65
70	18.7	19.9	928	38.1	22.9	16.5	307	94	1.8	15.5	14	834	36.4	23.6	16.8	294	0.67	0.83	7.1	6.1	70
75	19.3	20.2	834	39.6	24.6	17.2	329	75	1.6	16.7	13	759	38.0	25.2	17.4	316	0.63	0.82	6.9	6.2	75
80	19.9	20.4	759	41.1	26.2	17.8	350	61	1.5	17.8	12	698	39.5	26.9	18.1	338	0.60	0.80	6.7	6.2	80
85	20.5	20.6	698	42.5	27.8	18.4	370	51	1.4	18.9	12	647	41.1	28.4	18.6	359	0.57	0.79	6.5	6.2	85
90	21.0	20.9	647	43.9	29.4	18.8	390	43	1.3	20.0	11	604	42.5	29.9	19.1	379	0.55	0.78	6.3	6.2	90

**Zwarte els (*Alnus glutinosa*)** **Black alder**  
 Jansen, J.J., A. Oosterbaan, G.M.J. Mohren, P. Copini en J. den Ouden

Bron: Jansen, J.J., A. Oosterbaan, G.M.J. Mohren, P. Copini en J. den Ouden, 2018. Groei en productie van zwarte els in Nederland. FEM Groei en Productie Rapport 2018 – 10, 47 blz.

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<https://doi.org/10.18174/444099>

Voor de zwarte els is alleen een tabel met matige dunning beschikbaar









ZWARTE ELS, Nederland 2018								matige dunning								Boniteit IV, $h_{50} = 15.0$					
BLACK ALDER, Netherlands 2018								moderate thinning								Site Class IV, $h_{50} = 15.0$					
	Opstandkenmerken		Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics		Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	1.8		5000	0.2	0.8	1.4	0					5000	0.2	0.8	1.4	0	0.48	0.05	0.8	0.1	5
10	4.5		5000	6.4	4.0	3.6	16					5000	6.4	4.0	3.6	16	1.65	0.64	5.6	1.6	10
15	6.7		5000	15.3	6.2	5.5	54					5000	15.3	6.2	5.5	54	1.76	1.02	8.8	3.6	15
20	8.5	19.0	5000	22.1	7.5	7.1	99	556	1.8	6.4	8	4444	20.3	7.6	7.2	91	1.20	1.10	8.1	5.0	20
25	10.0	19.0	4444	26.0	8.6	8.6	132	1251	5.4	7.4	27	3193	20.6	9.1	8.6	105	1.08	1.11	8.0	5.6	25
30	11.3	19.0	3193	25.7	10.1	9.8	143	700	4.1	8.7	23	2493	21.6	10.5	9.9	120	0.99	1.10	7.6	6.0	30
35	12.5	19.0	2493	26.4	11.6	10.9	158	434	3.3	9.9	20	2060	23.0	11.9	11.0	138	0.92	1.08	7.4	6.2	35
40	13.4	19.0	2060	27.5	13.0	11.9	174	289	2.8	11.1	18	1771	24.7	13.3	12.0	156	0.87	1.05	7.1	6.3	40
45	14.3	19.0	1771	28.9	14.4	12.7	191	202	2.4	12.3	16	1569	26.5	14.7	12.8	175	0.82	1.03	6.9	6.4	45
50	15.0	19.0	1569	30.5	15.7	13.5	209	147	2.1	13.4	14	1422	28.5	16.0	13.6	195	0.79	1.01	6.7	6.4	50
55	15.6	19.3	1422	32.3	17.0	14.1	228	155	2.5	14.5	18	1267	29.8	17.3	14.2	210	0.75	0.99	6.5	6.5	55
60	16.1	19.7	1267	33.4	18.3	14.6	242	121	2.3	15.6	17	1145	31.1	18.6	14.7	225	0.70	0.96	6.2	6.4	60

ZWARTE ELS, Nederland 2018								matige dunning								Boniteit V, $h_{50} = 12.0$					
BLACK ALDER, Netherlands 2018								moderate thinning								Site Class V, $h_{50} = 12.0$					
	Opstandkenmerken		Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics		Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	1.0		5000				0					5000				0			0.0	0.0	5
10	3.0		5000	2.2	2.4	2.4	4					5000	2.2	2.4	2.4	4	0.86	0.22	2.0	0.4	10
15	4.9		5000	7.5	4.4	3.9	20					5000	7.5	4.4	3.9	20	1.20	0.50	4.3	1.4	15
20	6.4		5000	13.8	5.9	5.2	47					5000	13.8	5.9	5.2	47	1.27	0.69	6.0	2.3	20
25	7.7	19.8	5000	19.8	7.1	6.4	83					5000	19.8	7.1	6.4	83	1.09	0.79	6.5	3.3	25
30	8.8	19.0	5000	24.9	8.0	7.4	115	875	3.2	6.8	15	4125	21.7	8.2	7.5	100	0.99	0.83	6.5	3.8	30
35	9.8	19.0	4125	26.6	9.1	8.4	133	783	3.7	7.7	18	3342	22.9	9.3	8.4	114	0.94	0.85	6.4	4.2	35
40	10.6	19.0	3342	27.5	10.2	9.2	146	512	3.1	8.7	16	2830	24.4	10.5	9.2	130	0.88	0.86	6.2	4.5	40
45	11.4	19.0	2830	28.7	11.4	9.9	160	354	2.6	9.7	15	2476	26.1	11.6	9.9	146	0.84	0.86	6.0	4.7	45
50	12.0	19.0	2476	30.2	12.5	10.5	175	255	2.2	10.6	13	2221	27.9	12.7	10.6	162	0.80	0.85	5.9	4.8	50
55	12.5	19.3	2221	31.8	13.5	11.0	191	258	2.7	11.5	16	1963	29.1	13.7	11.1	175	0.76	0.85	5.7	4.9	55
60	13.0	19.7	1963	32.8	14.6	11.5	203	200	2.4	12.4	15	1763	30.4	14.8	11.6	188	0.71	0.84	5.4	4.9	60



## Gewone Esdoorn (*Acer pseudoplatanus*)

## Sycamore

Jansen, J.J. A. Oosterbaan, G.M.J. Mohren en J. den Ouden

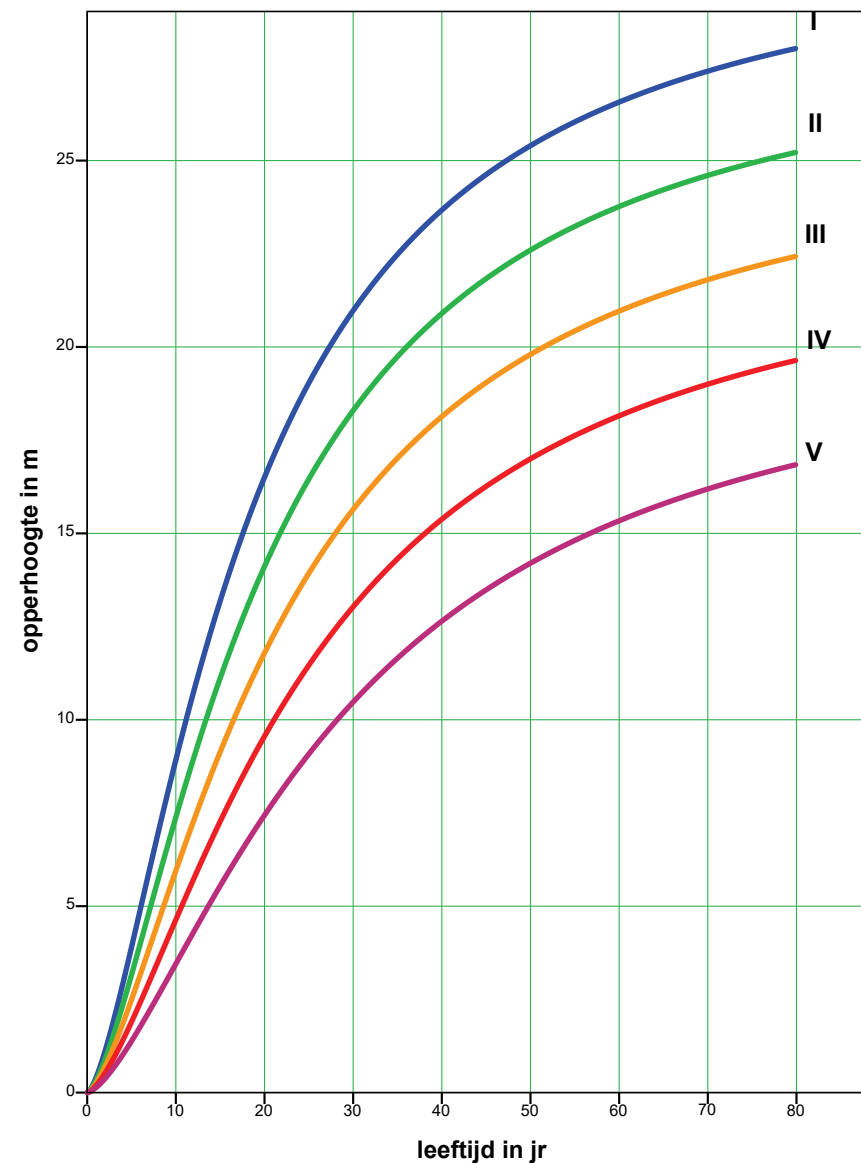
Bron: Jansen, J.J. A. Oosterbaan, G.M.J. Mohren en J. den Ouden, 2018. *Groei en productie van gewone esdoorn in Nederland*. FEM Groei en Productie Rapport 2018 – 12, 38 blz.

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<https://doi.org/10.18174/444101>

Voor gewone esdoorn is alleen een tabel met sterke dunning beschikbaar.

## Gewone esdoorn Nederland 2018



GEWONE ESDOORN, Nederland 2018							sterke dunning							Boniteit I, $h_{50} = 25.4$							
SYCAMORE, Netherlans 2018							heavy thinning							Site Class I, $h_{50} = 25.4$							
	Opstandkenmerken		Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics		Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	3.9		5000	3.0	2.7	3.5	6					5000	3.0	2.7	3.5	6	2.21	0.59	5.9	1.2	5
10	8.9	22.0	5000	19.9	7.1	8.3	88	2004	6.7	6.5	28	2996	13.2	7.5	8.3	59	3.06	1.99	21.6	8.8	10
15	13.2	22.0	2996	26.1	10.5	12.5	160	1624	12.0	9.7	72	1372	14.1	11.4	12.6	89	2.19	2.18	19.3	12.6	15
20	16.5	22.0	1372	23.8	14.9	15.8	178	496	7.2	13.6	52	876	16.6	15.6	15.9	126	1.73	2.12	17.0	13.9	20
25	19.0	22.0	876	24.5	18.9	18.4	206	217	5.0	17.2	41	658	19.5	19.4	18.4	165	1.44	2.01	15.2	14.3	25
30	21.0	22.0	658	26.1	22.5	20.3	236	116	3.8	20.4	33	542	22.3	22.9	20.3	203	1.24	1.90	13.6	14.3	30
35	22.5	22.0	542	28.2	25.7	21.7	268	70	3.0	23.3	28	472	25.2	26.1	21.8	240	1.10	1.80	12.3	14.1	35
40	23.7	22.0	472	30.4	28.6	22.8	299	46	2.4	25.9	23	426	28.0	28.9	22.9	275	0.99	1.70	11.1	13.8	40
45	24.6	22.0	426	32.7	31.3	23.7	328	32	2.0	28.3	20	393	30.7	31.5	23.8	309	0.91	1.62	10.1	13.5	45
50	25.4	22.0	393	35.1	33.7	24.3	357	24	1.7	30.5	17	370	33.3	33.9	24.4	340	0.84	1.54	9.3	13.1	50
55	26.0	22.2	370	37.4	35.9	24.9	385	25	2.1	32.5	21	345	35.3	36.1	25.0	364	0.79	1.48	8.5	12.7	55
60	26.6	22.5	345	39.1	38.0	25.3	405	20	1.9	34.4	19	324	37.2	38.3	25.4	386	0.74	1.42	7.8	12.3	60
65	27.0	22.7	324	40.8	40.1	25.6	423	17	1.8	36.3	18	307	39.1	40.3	25.7	406	0.70	1.36	7.2	12.0	65
70	27.4	22.9	307	42.5	42.0	25.9	441	15	1.6	38.0	16	292	40.8	42.2	26.0	424	0.66	1.32	6.7	11.6	70
75	27.7	23.2	292	44.1	43.8	26.0	456	13	1.6	39.6	16	280	42.5	44.0	26.1	441	0.63	1.27	6.2	11.3	75
80	28.0	23.4	280	45.6	45.6	26.2	471	11	1.5	41.2	15	269	44.1	45.7	26.3	456	0.61	1.23	5.8	10.9	80

GEWONE ESDOORN, Nederland 2018								sterke dunning								Boniteit II, $h_{50} = 22.6$					
SYCAMORE, Netherlans 2018								heavy thinning								Site Class II, $h_{50} = 22.6$					
	Opstandkenmerken		Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics		Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	3.2		5000	1.6	2.0	2.8	3					5000	1.6	2.0	2.8	3	1.35	0.31	2.9	0.5	5
10	7.4	20.6	5000	14.8	6.1	6.8	52					5000	14.8	6.1	6.8	52	3.17	1.48	18.4	5.2	10
15	11.1	22.0	5000	27.8	8.4	10.5	146	3069	14.5	7.8	75	1931	13.3	9.3	10.5	72	2.22	1.85	17.2	9.7	15
20	14.1	22.0	1931	23.1	12.3	13.4	150	733	7.3	11.3	46	1198	15.7	12.9	13.5	104	1.75	1.88	15.1	11.2	20
25	16.5	22.0	1198	23.7	15.9	15.7	175	317	5.2	14.4	37	881	18.5	16.4	15.8	138	1.46	1.82	13.7	11.8	25
30	18.3	22.0	881	25.3	19.1	17.5	203	168	4.0	17.4	31	713	21.3	19.5	17.6	172	1.26	1.74	12.4	12.0	30
35	19.7	22.0	713	27.2	22.0	18.9	231	101	3.2	20.0	26	612	24.0	22.4	19.0	205	1.11	1.66	11.2	12.0	35
40	20.9	22.0	612	29.3	24.7	20.0	258	66	2.6	22.4	22	546	26.7	25.0	20.1	236	1.01	1.59	10.3	11.8	40
45	21.8	22.0	546	31.5	27.1	20.8	285	46	2.2	24.6	19	500	29.4	27.3	20.9	266	0.92	1.52	9.4	11.6	45
50	22.6	22.0	500	33.8	29.3	21.5	311	33	1.8	26.5	16	467	31.9	29.5	21.6	295	0.85	1.45	8.6	11.3	50
55	23.2	22.2	467	36.1	31.4	22.0	336	34	2.2	28.4	20	433	33.9	31.6	22.1	317	0.80	1.40	7.9	11.1	55
60	23.8	22.5	433	37.7	33.3	22.4	355	28	2.0	30.2	18	405	35.8	33.5	22.5	337	0.75	1.34	7.3	10.8	60
65	24.2	22.7	405	39.4	35.2	22.8	372	23	1.8	31.9	17	382	37.6	35.4	22.9	356	0.70	1.30	6.8	10.5	65
70	24.6	22.9	382	41.0	37.0	23.1	388	19	1.7	33.4	16	363	39.3	37.1	23.1	373	0.67	1.25	6.3	10.2	70
75	24.9	23.2	363	42.6	38.6	23.3	403	17	1.6	35.0	15	346	41.0	38.8	23.4	388	0.64	1.21	5.9	9.9	75
80	25.2	20.4	457	48.5	36.8	23.4	457	21	1.8	33.3	16	436	46.7	36.9	23.5	441	0.63	1.31	5.6	10.8	80

GEWONE ESDOORN, Nederland 2018							sterke dunning							Boniteit III, $h_{50} = 19.8$							
SYCAMORE, Netherlans 2018							heavy thinning							Site Class III, $h_{50} = 19.8$							
	Opstandkenmerken		Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics		Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	2.5		5000	0.7	1.3	2.2	1					5000	0.7	1.3	2.2	1	0.72	0.13	1.2	0.2	5
10	6.0		5000	9.0	4.8	5.4	26					5000	9.0	4.8	5.4	26	2.53	0.90	10.0	2.6	10
15	9.1	22.0	5000	21.9	7.5	8.5	97	2142	7.9	6.8	34	2858	14.0	7.9	8.5	63	2.24	1.46	14.2	6.5	15
20	11.8	22.0	2858	23.9	10.3	11.1	133	1142	8.0	9.4	43	1716	16.0	10.9	11.1	90	1.77	1.59	13.4	8.3	20
25	13.9	22.0	1716	24.0	13.3	13.2	153	487	5.6	12.2	35	1229	18.4	13.8	13.2	118	1.48	1.59	12.2	9.2	25
30	15.6	22.0	1229	25.2	16.2	14.8	176	254	4.3	14.7	29	975	20.9	16.5	14.9	147	1.28	1.56	11.2	9.6	30
35	17.0	22.0	975	26.9	18.7	16.1	201	151	3.4	17.0	25	824	23.5	19.0	16.2	176	1.13	1.51	10.2	9.8	35
40	18.1	22.0	824	28.8	21.1	17.2	225	98	2.8	19.1	21	726	26.0	21.4	17.2	203	1.02	1.45	9.4	9.8	40
45	19.0	22.0	726	30.9	23.3	18.0	248	68	2.4	21.1	18	658	28.5	23.5	18.1	230	0.93	1.40	8.6	9.7	45
50	19.8	22.0	658	33.0	25.3	18.7	271	49	2.0	22.9	16	609	31.0	25.5	18.7	255	0.86	1.35	8.0	9.5	50
55	20.4	22.2	609	35.1	27.1	19.2	294	49	2.3	24.6	19	560	32.8	27.3	19.3	275	0.80	1.30	7.4	9.4	55
60	21.0	22.5	560	36.7	28.9	19.6	310	39	2.1	26.2	17	521	34.6	29.1	19.7	293	0.75	1.26	6.8	9.2	60
65	21.4	22.7	521	38.3	30.6	20.0	326	32	1.9	27.7	16	489	36.3	30.8	20.1	310	0.71	1.22	6.3	9.0	65
70	21.8	22.9	489	39.8	32.2	20.3	340	27	1.8	29.1	15	462	38.0	32.4	20.4	326	0.67	1.18	5.9	8.8	70
75	22.1	23.2	462	41.3	33.7	20.5	354	23	1.7	30.5	14	439	39.6	33.9	20.6	340	0.64	1.15	5.5	8.6	75
80	22.4	23.4	439	42.8	35.2	20.7	367	20	1.6	31.9	13	419	41.2	35.4	20.8	354	0.61	1.11	5.1	8.4	80

GEWONE ESDOORN, Nederland 2018								sterke dunning								Boniteit IV, $h_{50} = 17.0$					
SYCAMORE, Netherlans 2018								heavy thinning								Site Class IV, $h_{50} = 17.0$					
	Opstandkenmerken		Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics		Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	$S\%$	$N$	$G$	$d_g$	$h_g$	$V$	$N$	$G$	$d_g$	$V$	$N$	$G$	$d_g$	$h_g$	$V$	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	1.9		5000	0.2	0.7	1.6	0					5000	0.2	0.7	1.6	0	0.30	0.04	0.4	0.0	5
10	4.6		5000	4.8	3.5	4.2	11					5000	4.8	3.5	4.2	11	1.51	0.48	4.6	1.1	10
15	7.3	20.9	5000	14.6	6.1	6.7	50					5000	14.6	6.1	6.7	50	2.25	0.97	12.8	3.3	15
20	9.6	22.0	5000	24.7	7.9	8.9	113	2389	9.9	7.3	44	2611	14.8	8.5	8.9	69	1.80	1.24	11.5	5.7	20
25	11.5	22.0	2611	23.0	10.6	10.7	124	796	5.8	9.6	30	1816	17.2	11.0	10.7	93	1.50	1.32	10.6	6.7	25
30	13.0	22.0	1816	24.1	13.0	12.2	144	410	4.5	11.8	26	1405	19.6	13.3	12.2	118	1.30	1.33	9.8	7.3	30
35	14.3	22.0	1405	25.7	15.3	13.4	165	241	3.6	13.9	23	1164	22.1	15.5	13.5	142	1.15	1.31	9.1	7.6	35
40	15.4	22.0	1164	27.5	17.4	14.4	186	155	3.0	15.7	20	1009	24.5	17.6	14.5	166	1.04	1.29	8.4	7.7	40
45	16.3	22.0	1009	29.5	19.3	15.2	207	106	2.6	17.5	17	902	26.9	19.5	15.3	190	0.95	1.25	7.8	7.8	45
50	17.0	22.0	902	31.5	21.1	15.9	227	77	2.2	19.1	15	826	29.3	21.2	15.9	212	0.88	1.22	7.2	7.8	50
55	17.6	22.2	826	33.5	22.7	16.4	247	73	2.4	20.6	17	752	31.1	22.9	16.5	229	0.82	1.18	6.7	7.7	55
60	18.2	22.5	752	35.0	24.3	16.9	262	58	2.2	22.0	16	694	32.8	24.5	16.9	246	0.76	1.15	6.3	7.6	60
65	18.6	22.7	694	36.5	25.9	17.2	276	47	2.0	23.4	15	647	34.5	26.0	17.3	261	0.72	1.12	5.8	7.5	65
70	19.0	22.9	647	38.0	27.3	17.5	289	39	1.9	24.7	14	608	36.1	27.5	17.6	276	0.68	1.09	5.4	7.3	70
75	19.3	23.2	608	39.4	28.7	17.8	302	33	1.8	26.0	13	575	37.7	28.9	17.8	289	0.65	1.06	5.1	7.2	75
80	19.6	23.4	575	40.8	30.1	18.0	313	28	1.7	27.2	12	546	39.2	30.2	18.0	301	0.62	1.04	4.8	7.1	80

GEWONE ESDOORN, Nederland 2018								sterke dunning								Boniteit V, $h_{50} = 14.2$					
SYCAMORE, Netherlands 2018								heavy thinning								Site Class V, $h_{50} = 14.2$					
	Opstandkenmerken		Kenmerken voor dunning					Dunning				Kenmerken na dunning					Bijgroei				
	Stand characteristics		Characteristics before thinning					Thinning				Characteristics after thinning					Increment				
$t$	$h_{top}$	S%	N	G	$d_g$	$h_g$	V	N	G	$d_g$	V	N	G	$d_g$	$h_g$	V	$lc_G$	$lm_G$	$lc_V$	$lm_V$	$t$
5	1.4		5000	0.0	0.1	1.1	0					5000	0.0	0.1	1.1	0	0.06	0.00	0.1	0.0	5
10	3.5		5000	2.1	2.3	3.0	4					5000	2.1	2.3	3.0	4	0.79	0.21	1.8	0.4	10
15	5.5		5000	7.6	4.4	5.0	20					5000	7.6	4.4	5.0	20	1.37	0.51	5.0	1.3	15
20	7.4	22.0	5000	15.6	6.3	6.8	58	690	1.8	5.7	6	4310	13.9	6.4	6.8	52	1.85	0.78	10.7	2.9	20
25	9.1	22.0	4310	22.3	8.1	8.3	98	1417	6.1	7.4	26	2893	16.2	8.4	8.4	72	1.54	0.96	8.9	4.2	25
30	10.5	22.0	2893	23.3	10.1	9.7	115	719	4.8	9.2	23	2174	18.5	10.4	9.7	92	1.33	1.04	8.4	4.9	30
35	11.7	22.0	2174	24.8	12.0	10.8	133	417	3.9	10.9	20	1757	20.9	12.3	10.8	113	1.18	1.07	7.9	5.4	35
40	12.6	22.0	1757	26.4	13.8	11.7	151	265	3.3	12.6	18	1492	23.1	14.1	11.7	133	1.06	1.08	7.4	5.7	40
45	13.5	22.0	1492	28.2	15.5	12.5	169	180	2.8	14.1	16	1312	25.4	15.7	12.5	152	0.97	1.07	6.9	5.8	45
50	14.2	22.0	1312	30.0	17.1	13.1	186	129	2.4	15.5	14	1183	27.6	17.2	13.2	171	0.89	1.05	6.5	5.9	50
55	14.8	22.2	1183	31.9	18.5	13.6	203	118	2.6	16.8	16	1065	29.3	18.7	13.7	187	0.83	1.04	6.1	5.9	55
60	15.3	22.5	1065	33.3	20.0	14.1	216	92	2.4	18.1	15	972	31.0	20.1	14.1	201	0.78	1.02	5.7	5.9	60
65	15.8	22.7	972	34.7	21.3	14.5	229	74	2.2	19.3	14	898	32.6	21.5	14.5	215	0.73	1.00	5.3	5.9	65
70	16.2	22.9	898	36.1	22.6	14.8	241	61	2.0	20.5	13	838	34.1	22.8	14.8	228	0.69	0.98	5.0	5.9	70
75	16.5	23.2	838	37.5	23.9	15.0	252	51	1.9	21.6	12	787	35.6	24.0	15.1	240	0.66	0.96	4.7	5.8	75
80	16.8	23.4	787	38.8	25.1	15.2	262	43	1.8	22.7	11	743	37.1	25.2	15.3	251	0.63	0.94	4.4	5.7	80