Hendrik Poorter

List of Publications by Year
in descending order

120 papers	43,229 citations	13068 68 h-index	20307 116 g-index
127 all docs	127 docs citations	127 times ranked	28779 citing authors

#	Article	IF	Citations
1	The worldwide leaf economics spectrum. Nature, 2004, 428, 821-827.	13.7	6,489
2	A handbook of protocols for standardised and easy measurement of plant functional traits worldwide. Australian Journal of Botany, 2003, 51, 335.	0.3	3,071
3	New handbook for standardised measurement of plant functional traits worldwide. Australian Journal of Botany, 2013, 61, 167.	0.3	2,818
4	Causes and consequences of variation in leaf mass per area (LMA): a metaâ€analysis. New Phytologist, 2009, 182, 565-588.	3.5	2,056
5	The global spectrum of plant form and function. Nature, 2016, 529, 167-171.	13.7	2,022
6	Biomass allocation to leaves, stems and roots: metaâ€analyses of interspecific variation and environmental control. New Phytologist, 2012, 193, 30-50.	3.5	2,012
7	TRY â€" a global database of plant traits. Global Change Biology, 2011, 17, 2905-2935.	4.2	2,002
8	Assessing the generality of global leaf trait relationships. New Phytologist, 2005, 166, 485-496.	3.5	1,704
9	TRY plant trait database â€" enhanced coverage and open access. Global Change Biology, 2020, 26, 119-188.	4.2	1,038
10	Inherent Variation in Growth Rate Between Higher Plants: A Search for Physiological Causes and Ecological Consequences. Advances in Ecological Research, 1992, , 187-261.	1.4	956
11	Photosynthetic acclimation of plants to growth irradiance: the relative importance of specific leaf area and nitrogen partitioning in maximizing carbon gain. Plant, Cell and Environment, 2001, 24, 755-767.	2.8	945
12	Leaf area ratio and net assimilation rate of 24 wild species differing in relative growth rate. Oecologia, 1990, 83, 553-559.	0.9	880
13	The effects of phenotypic plasticity and local adaptation on forecasts of species range shifts under climate change. Ecology Letters, 2014, 17, 1351-1364.	3.0	802
14	The role of biomass allocation in the growth response of plants to different levels of light, CO2, nutrients and water: a quantitative review. Functional Plant Biology, 2000, 27, 1191.	1.1	690
15	Blue light dose-responses of leaf photosynthesis, morphology, and chemical composition of Cucumis sativus grown under different combinations of red and blue light. Journal of Experimental Botany, 2010, 61, 3107-3117.	2.4	679
16	Modulation of leaf economic traits and trait relationships by climate. Global Ecology and Biogeography, 2005, 14, 411-421.	2.7	669
17	Plant functional traits have globally consistent effects on competition. Nature, 2016, 529, 204-207.	13.7	655
18	Interspecific variation in the growth response of plants to an elevated ambient CO2 concentration. Plant Ecology, 1993, 104-105, 77-97.	1.2	586

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19	Pot size matters: a meta-analysis of the effects of rooting volume on plant growth. Functional Plant Biology, 2012, 39, 839.	1.1	578
20	Carbon and Nitrogen Economy of 24 Wild Species Differing in Relative Growth Rate. Plant Physiology, 1990, 94, 621-627.	2.3	540
21	Plant growth and competition at elevated CO 2 : on winners, losers and functional groups. New Phytologist, 2003, 157, 175-198.	3.5	522
22	Photosynthetic nitrogen-use efficiency of species that differ inherently in specific leaf area. Oecologia, 1998, 116, 26-37.	0.9	476
23	Avoiding Bias in Calculations of Relative Growth Rate. Annals of Botany, 2002, 90, 37-42.	1.4	462
24	Plant functional trait change across a warming tundra biome. Nature, 2018, 562, 57-62.	13.7	451
25	Physiological and structural tradeoffs underlying the leaf economics spectrum. New Phytologist, 2017, 214, 1447-1463.	3.5	412
26	The Janus face of ethylene: growth inhibition and stimulation. Trends in Plant Science, 2006, 11, 176-183.	4.3	398
27	Pampered inside, pestered outside? Differences and similarities between plants growing in controlled conditions and in the field. New Phytologist, 2016, 212, 838-855.	3.5	397
28	Specific Leaf Area and Dry Matter Content Estimate Thickness in Laminar Leaves. Annals of Botany, 2005, 96, 1129-1136.	1.4	374
29	A metaâ€analysis of plant responses to light intensity for 70 traits ranging from molecules to whole plant performance. New Phytologist, 2019, 223, 1073-1105.	3.5	307
30	A comparison of specific leaf area, chemical composition and leaf construction costs of field plants from 15 habitats differing in productivity. New Phytologist, 1999, 143, 163-176.	3.5	297
31	Inherent Variation in Growth Rate Between Higher Plants: A Search for Physiological Causes and Ecological Consequences. Advances in Ecological Research, 2004, , 283-362.	1.4	280
32	Root traits as drivers of plant and ecosystem functioning: current understanding, pitfalls and future research needs. New Phytologist, 2021, 232, 1123-1158.	3.5	277
33	Temperature drives global patterns in forest biomass distribution in leaves, stems, and roots. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 13721-13726.	3.3	249
34	How does biomass distribution change with size and differ among species? An analysis for 1200 plant species from five continents. New Phytologist, 2015, 208, 736-749.	3.5	239
35	The art of growing plants for experimental purposes: a practical guide for the plant biologist. Functional Plant Biology, 2012, 39, 821.	1.1	217
36	A starting guide to root ecology: strengthening ecological concepts and standardising root classification, sampling, processing and trait measurements. New Phytologist, 2021, 232, 973-1122.	3.5	216

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37	The role of biomass allocation in the growth response of plants to different levels of light, CO2, nutrients and water: a quantitative review. Functional Plant Biology, 2000, 27, 595.	1.1	204
38	Interspecific variation in the growth response of plants to an elevated ambient CO2 concentration. , 1993, , 77-98.		204
39	Multilevel genomic analysis of the response of transcripts, enzyme activities and metabolites in <i>Arabidopsis</i> rosettes to a progressive decrease of temperature in the nonâ€freezing range. Plant, Cell and Environment, 2008, 31, 518-547.	2.8	191
40	The growth response of plants to elevated CO2 under non-optimal environmental conditions. Oecologia, 2001, 129, 1-20.	0.9	188
41	Respiratory energy requirements of roots vary with the potential growth rate of a plant species. Physiologia Plantarum, 1991, 83, 469-475.	2.6	183
42	Construction costs, chemical composition and payback time of high- and low-irradiance leaves. Journal of Experimental Botany, 2006, 57, 355-371.	2.4	181
43	Leaf Mass per Area (LMA) and Its Relationship with Leaf Structure and Anatomy in 34 Mediterranean Woody Species along a Water Availability Gradient. PLoS ONE, 2016, 11, e0148788.	1.1	177
44	How do leaf veins influence the worldwide leaf economic spectrum? Review and synthesis. Journal of Experimental Botany, 2013, 64, 4053-4080.	2.4	171
45	The Fate of Acquired Carbon in Plants: Chemical Composition and Construction Costs. , 1997, , 39-72.		170
46	Building a better foundation: improving rootâ€trait measurements to understand and model plant and ecosystem processes. New Phytologist, 2017, 215, 27-37.	3.5	159
47	No evidence for substantial aerobic methane emission by terrestrial plants: a 13 Câ€labelling approach. New Phytologist, 2007, 175, 29-35.	3.5	158
48	An integrated framework of plant form and function: the belowground perspective. New Phytologist, 2021, 232, 42-59.	3.5	153
49	A method to construct doseâ€“response curves for a wide range of environmental factors and plant traits by means of a meta-analysis of phenotypic data. Journal of Experimental Botany, 2010, 61, 2043-2055.	2.4	151
50	Interspecific Variation in the Growth Response of Plants to Elevated CO2: A Search for Functional Types. , 1996, , 375-412.		148
51	Plant growth analysis: towards a synthesis of the classical and the functional approach. Physiologia Plantarum, 1989, 75, 237-244.	2.6	146
52	Carbon gain in a multispecies canopy: the role of specific leaf area and photosynthetic nitrogen-use efficiency in the tragedy of the commons. New Phytologist, 1999, 143, 201-211.	3.5	140
53	Testing differences in relative growth rate: A method avoiding curve fitting and pairing. Physiologia Plantarum, 1986, 67, 223-226.	2.6	139
54	The anatomical and compositional basis of leaf mass per area. Ecology Letters, 2017, 20, 412-425.	3.0	139

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55	The effect of an elevated atmospheric CO2 concentration on growth, photosynthesis and respiration of Plantago major. Physiologia Plantarum, 1988, 73, 553-559.	2.6	135
56	Trait correlation networks: a wholeâ€plant perspective on the recently criticized leaf economic spectrum. New Phytologist, 2014, 201, 378-382.	3.5	131
57	Differences in construction costs and chemical composition between deciduous and evergreen woody species are small as compared to differences among families. Plant, Cell and Environment, 2006, 29, 1629-1643.	2.8	117
58	Towards a thesaurus of plant characteristics: an ecological contribution. Journal of Ecology, 2017, 105, 298-309.	1.9	114
59	Pitfalls and Possibilities in the Analysis of Biomass Allocation Patterns in Plants. Frontiers in Plant Science, 2012, 3, 259.	1.7	113
60	Measures for interoperability of phenotypic data: minimum information requirements and formatting. Plant Methods, 2016, 12, 44.	1.9	109
61	Phenotyping plants: genes, phenes and machines. Functional Plant Biology, 2012, 39, 813.	1.1	106
62	Interactive effects of water table and precipitation on net CO₂ assimilation of three coâ€occurring <i>Sphagnum</i> mosses differing in distribution above the water table. Global Change Biology, 2009, 15, 680-691.	4.2	104
63	Do slowâ€growing species and nutrientâ€stressed plants respond relatively strongly to elevated CO 2 ?. Global Change Biology, 1998, 4, 693-697.	4.2	101
64	Exploring variation in leaf mass per area (LMA) from leaf to cell: An anatomical analysis of 26 woody species. American Journal of Botany, 2013, 100, 1969-1980.	0.8	96
65	Ecological Significance of Inherent Variation in Relative Growth Rate and Its Components. , 2007, , 67-100.		96
66	Global root traits (GRooT) database. Global Ecology and Biogeography, 2021, 30, 25-37.	2.7	90
67	Growth and carbon economy of a fast-growing and a slow-growing grass species as dependent on ontogeny. New Phytologist, 1992, 120, 159-166.	3.5	88
68	Growth and carbon economy of a fast-growing and a slow-growing grass species as dependent on nitrate supply. Plant and Soil, 1995, 171, 217-227.	1.8	84
69	Connecting the Green and Brown Worlds. Advances in Ecological Research, 2013, 49, 69-175.	1.4	84
70	Enabling reusability of plant phenomic datasets with MIAPPE 1.1. New Phytologist, 2020, 227, 260-273.	3.5	84
71	Plant growth analysis: an evaluation of experimental design and computational methods. Journal of Experimental Botany, 1996, 47, 1343-1351.	2.4	83
72	Physiological mechanisms in plant growth models: do we need a supraâ€cellular systems biology approach?. Plant, Cell and Environment, 2013, 36, 1673-1690.	2.8	79

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73	Ethylene Insensitivity Does Not Increase Leaf Area or Relative Growth Rate in Arabidopsis, Nicotiana tabacum, and Petunia x hybrida. Plant Physiology, 2004, 134, 1803-1812.	2.3	70
74	Ethylene Insensitivity Results in Down-Regulation of Rubisco Expression and Photosynthetic Capacity in Tobacco. Plant Physiology, 2007, 144, 1305-1315.	2.3	70
75	Differences in relative growth rate in 11 grasses correlate with differences in chemical composition as determined by pyrolysis mass spectrometry. Oecologia, 1992, 89, 567-573.	0.9	68
76	Dividing the pie: A quantitative review on plant density responses. Plant, Cell and Environment, 2021, 44, 1072-1094.	2.8	67
77	The limits to leaf and root plasticity: what is so special about specific root length?. New Phytologist, 2015, 206, 1188-1190.	3.5	64
78	Energizing marginal soils â€“ The establishment of the energy crop Sida hermaphrodita as dependent on digestate fertilization, NPK, and legume intercropping. Biomass and Bioenergy, 2016, 87, 9-16.	2.9	64
79	Root traits explain plant species distributions along climatic gradients yet challenge the nature of ecological trade-offs. Nature Ecology and Evolution, 2021, 5, 1123-1134.	3.4	62
80	Morphological Plant Modeling: Unleashing Geometric and Topological Potential within the Plant Sciences. Frontiers in Plant Science, 2017, 8, 900.	1.7	61
81	A metaâ€analysis of responses of C₃ plants to atmospheric CO₂: doseâ€“response curves for 85 traits ranging from the molecular to the wholeâ€plant level. New Phytologist, 2022, 233, 1560-1596.	3.5	55
82	Endogenous Abscisic Acid as a Key Switch for Natural Variation in Flooding-Induced Shoot Elongation Â Â. Plant Physiology, 2010, 154, 969-977.	2.3	50
83	Plasticity as a plastic response: how submergenceâ€induced leaf elongation in <i>Rumex palustris</i> depends on light and nutrient availability in its early life stage. New Phytologist, 2012, 194, 572-582.	3.5	50
84	Computational aspects underlying genome to phenome analysis in plants. Plant Journal, 2019, 97, 182-198.	2.8	50
85	Corrections for rooting volume and plant size reveal negative effects of neighbour presence on root allocation in pea. Functional Ecology, 2015, 29, 1383-1391.	1.7	48
86	Resource limitation, tolerance, and the future of ecological plant classification. Frontiers in Plant Science, 2012, 3, 246.	1.7	45
87	Growth and competitive ability of a highly plastic and a marginally plastic genotype of Plantago major in a fluctuating environment. Physiologia Plantarum, 1986, 67, 217-222.	2.6	44
88	Global patterns of biomass allocation in woody species with different tolerances of shade and drought: evidence for multiple strategies. New Phytologist, 2021, 229, 308-322.	3.5	43
89	A genetic analysis of relative growth rate and underlying components in Hordeum spontaneum. Oecologia, 2005, 142, 360-377.	0.9	42
90	Xeml Lab: a tool that supports the design of experiments at a graphical interface and generates computerâ€readable metadata files, which capture information about genotypes, growth conditions, environmental perturbations and sampling strategy. Plant, Cell and Environment, 2009, 32, 1185-1200.	2.8	42

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91	Effects of digestate fertilization on Sida hermaphrodita : Boosting biomass yields on marginal soils by increasing soil fertility. Biomass and Bioenergy, 2017, 107, 207-213.	2.9	41
92	Growth characteristics in Hordeum spontaneum populations from different habitats. New Phytologist, 2000, 146, 471-481.	3.5	37
93	The Importance of Being First: Exploring Priority and Diversity Effects in a Grassland Field Experiment. Frontiers in Plant Science, 2016, 7, 2008.	1.7	37
94	Is Interspecific Variation in Relative Growth Rate Positively Correlated with Biomass Allocation to the Leaves?. American Naturalist, 1991, 138, 1264-1268.	1.0	36
95	Fame, glory and neglect in meta-analyses. Trends in Ecology and Evolution, 2011, 26, 493-494.	4.2	36
96	Intraspecific variation in the magnitude and pattern of flooding-induced shoot elongation in Rumex palustris. Annals of Botany, 2009, 104, 1057-1067.	1.4	33
97	The effect of irradiance on the carbon balance and tissue characteristics of five herbaceous species differing in shade-tolerance. Frontiers in Plant Science, 2014, 5, 12.	1.7	30
98	Photosynthesis: ancient, essential, complex, diverse â€¦ and in need of improvement in a changing world. New Phytologist, 2017, 213, 43-47.	3.5	30
99	Root traits of herbaceous crops: Preâ€adaptation to cultivation or evolution under domestication?. Functional Ecology, 2019, 33, 273-285.	1.7	29
100	The role of ethylene perception in the control of photosynthesis. Plant Signaling and Behavior, 2008, 3, 108-109.	1.2	27
101	Leaf mass per area is independent of vein length per area: avoiding pitfalls when modelling phenotypic integration (reply to Blonder et al. 2014). Journal of Experimental Botany, 2014, 65, 5115-5123.	2.4	26
102	Interactive effects of growth-limiting N supply and elevated atmospheric CO2 concentration on growth and carbon balance of Plantago major. Physiologia Plantarum, 1998, 103, 451-460.	2.6	22
103	How are nitrogen availability, fineâ€root mass, and nitrogen uptake related empirically? Implications for models and theory. Global Change Biology, 2019, 25, 885-899.	4.2	22
104	A reporting format for leaf-level gas exchange data and metadata. Ecological Informatics, 2021, 61, 101232.	2.3	22
105	Using logâ€"log scaling slope analysis for determining the contributions to variability in biological variables such as leaf mass per area: why it works, when it works and how it can be extended. New Phytologist, 2011, 190, 5-8.	3.5	21
106	Variation in biomass expansion factors for Chinaâ€™s forests in relation to forest type, climate, and stand development. Annals of Forest Science, 2013, 70, 589-599.	0.8	21
107	Differential chemical allocation and plant adaptation: A Py-MS Study of 24 species differing in relative growth rate. Plant and Soil, 1995, 175, 275-289.	1.8	19
108	Coming Late for Dinner: Localized Digestate Depot Fertilization for Extensive Cultivation of Marginal Soil With Sida hermaphrodita. Frontiers in Plant Science, 2018, 9, 1095.	1.7	19

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109	Growth and root nodule nitrogenase activity of Pisum sativum as influenced by transpiration. Physiologia Plantarum, 1984, 61, 637-642.	2.6	16
110	Association of Shoot and Root Responses to Water Deficit in Young Faba Bean (Vicia faba L.) Plants. Frontiers in Plant Science, 2019, 10, 1063.	1.7	15
111	How Does Water Availability Affect the Allocation to Bark in a Mediterranean Conifer?. Frontiers in Plant Science, 2019, 10, 607.	1.7	14
112	The analysis of plant root responses to nutrient concentration, soil volume and neighbour presence: Different statistical approaches reflect different underlying basic questions. Functional Ecology, 2020, 34, 2210-2217.	1.7	12
113	Leaf nitrogen productivity is the major factor behind the growth reduction induced by long-term salt stress. Tree Physiology, 2011, 31, 92-101.	1.4	11
114	Carbon balance of the oldest and mostâ€shaded leaves in a vegetation: a litmus test for canopy models. New Phytologist, 2009, 183, 1-3.	3.5	10
115	Growth and Growth-Related Traits for a Range of Quercus Species Grown as Seedlings Under Controlled Conditions and for Adult Plants from the Field. Tree Physiology, 2017, , 393-417.	0.9	9
116	Applying the economic concept of profitability to leaves. Scientific Reports, 2021, 11, 49.	1.6	7
117	Ecological Significance of Inherent Variation in Relative Growth Rate and Its Components. Books in Soils, Plants, and the Environment, 2007, , .	0.1	3
118	The effects of nutrient fertilization on growth, biomass allocation, and anatomy of maize plants. Journal of Biological Education, 1996, 30, 67-72.	0.8	1
119	Ethylene and Plant Growth. , 2006, , 35-49.		1
120	MetaPhenomics: quantifying the many ways plants respond to their abiotic environment, using light intensity as an example. Plant and Soil, 2022, 476, 421-454.	1.8	1