

Hendrik Poorter

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

120
papers

31,562
citations

63
h-index

127
g-index

127
ext. papers

37,499
ext. citations

8.1
avg, IF

6.87
L-index

#	Paper	IF	Citations
120	The worldwide leaf economics spectrum. <i>Nature</i> , 2004 , 428, 821-7	50.4	4915
119	A handbook of protocols for standardised and easy measurement of plant functional traits worldwide. <i>Australian Journal of Botany</i> , 2003 , 51, 335	1.2	2483
118	New handbook for standardised measurement of plant functional traits worldwide. <i>Australian Journal of Botany</i> , 2013 , 61, 167	1.2	1983
117	TRY  global database of plant traits. <i>Global Change Biology</i> , 2011 , 17, 2905-2935	11.4	1623
116	Causes and consequences of variation in leaf mass per area (LMA): a meta-analysis. <i>New Phytologist</i> , 2009 , 182, 565-588	9.8	1547
115	Biomass allocation to leaves, stems and roots: meta-analyses of interspecific variation and environmental control. <i>New Phytologist</i> , 2012 , 193, 30-50	9.8	1490
114	Assessing the generality of global leaf trait relationships. <i>New Phytologist</i> , 2005 , 166, 485-96	9.8	1343
113	The global spectrum of plant form and function. <i>Nature</i> , 2016 , 529, 167-71	50.4	1191
112	Inherent Variation in Growth Rate Between Higher Plants: A Search for Physiological Causes and Ecological Consequences. <i>Advances in Ecological Research</i> , 1992 , 187-261	4.6	844
111	Leaf area ratio and net assimilation rate of 24 wild species differing in relative growth rate. <i>Oecologia</i> , 1990 , 83, 553-559	2.9	775
110	Photosynthetic acclimation of plants to growth irradiance: the relative importance of specific leaf area and nitrogen partitioning in maximizing carbon gain. <i>Plant, Cell and Environment</i> , 2001 , 24, 755-767	8.4	717
109	The effects of phenotypic plasticity and local adaptation on forecasts of species range shifts under climate change. <i>Ecology Letters</i> , 2014 , 17, 1351-64	10	583
108	Interspecific variation in the growth response of plants to an elevated ambient CO ₂ concentration. <i>Plant Ecology</i> , 1993 , 104-105, 77-97		541
107	Modulation of leaf economic traits and trait relationships by climate. <i>Global Ecology and Biogeography</i> , 2005 , 14, 411-421	6.1	535
106	The role of biomass allocation in the growth response of plants to different levels of light, CO ₂ , nutrients and water: a quantitative review. <i>Functional Plant Biology</i> , 2000 , 27, 1191	2.7	524
105	Carbon and nitrogen economy of 24 wild species differing in relative growth rate. <i>Plant Physiology</i> , 1990 , 94, 621-7	6.6	488
104	Blue light dose-responses of leaf photosynthesis, morphology, and chemical composition of <i>Cucumis sativus</i> grown under different combinations of red and blue light. <i>Journal of Experimental Botany</i> , 2010 , 61, 3107-17	7	474

103	Plant growth and competition at elevated CO ₂ : on winners, losers and functional groups. <i>New Phytologist</i> , 2003 , 157, 175-198	9.8	460
102	Plant functional traits have globally consistent effects on competition. <i>Nature</i> , 2016 , 529, 204-7	50.4	453
101	Pot size matters: a meta-analysis of the effects of rooting volume on plant growth. <i>Functional Plant Biology</i> , 2012 , 39, 839-850	2.7	428
100	Photosynthetic nitrogen-use efficiency of species that differ inherently in specific leaf area. <i>Oecologia</i> , 1998 , 116, 26-37	2.9	405
99	TRY plant trait database - enhanced coverage and open access. <i>Global Change Biology</i> , 2020 , 26, 119-188	11.4	399
98	Avoiding bias in calculations of relative growth rate. <i>Annals of Botany</i> , 2002 , 90, 37-42	4.1	354
97	The Janus face of ethylene: growth inhibition and stimulation. <i>Trends in Plant Science</i> , 2006 , 11, 176-83	13.1	336
96	Specific leaf area and dry matter content estimate thickness in laminar leaves. <i>Annals of Botany</i> , 2005 , 96, 1129-36	4.1	299
95	Plant functional trait change across a warming tundra biome. <i>Nature</i> , 2018 , 562, 57-62	50.4	264
94	A comparison of specific leaf area, chemical composition and leaf construction costs of field plants from 15 habitats differing in productivity. <i>New Phytologist</i> , 1999 , 143, 163-176	9.8	263
93	Pampered inside, pestered outside? Differences and similarities between plants growing in controlled conditions and in the field. <i>New Phytologist</i> , 2016 , 212, 838-855	9.8	242
92	Physiological and structural tradeoffs underlying the leaf economics spectrum. <i>New Phytologist</i> , 2017 , 214, 1447-1463	9.8	222
91	Temperature drives global patterns in forest biomass distribution in leaves, stems, and roots. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014 , 111, 13721-6	11.5	187
90	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 non-freezing range. <i>Plant, Cell and Environment</i> , 2008 , 31, 518-47	8.4	162
89	The growth response of plants to elevated CO ₂ under non-optimal environmental conditions. <i>Oecologia</i> , 2001 , 129, 1-20	2.9	162
88	The role of biomass allocation in the growth response of plants to different levels of light, CO ₂ , nutrients and water: a quantitative review. <i>Functional Plant Biology</i> , 2000 , 27, 595	2.7	160
87	Respiratory energy requirements of roots vary with the potential growth rate of a plant species. <i>Physiologia Plantarum</i> , 1991 , 83, 469-475	4.6	160
86	How does biomass distribution change with size and differ among species? An analysis for 1200 plant species from five continents. <i>New Phytologist</i> , 2015 , 208, 736-49	9.8	153

85	Construction costs, chemical composition and payback time of high- and low-irradiance leaves. <i>Journal of Experimental Botany</i> , 2006 , 57, 355-71	7	148
84	The art of growing plants for experimental purposes: a practical guide for the plant biologist. <i>Functional Plant Biology</i> , 2012 , 39, 821-838	2.7	144
83	No evidence for substantial aerobic methane emission by terrestrial plants: a ¹³ C-labelling approach. <i>New Phytologist</i> , 2007 , 175, 29-35	9.8	139
82	A meta-analysis of plant responses to light intensity for 70 traits ranging from molecules to whole plant performance. <i>New Phytologist</i> , 2019 , 223, 1073-1105	9.8	137
81	How do leaf veins influence the worldwide leaf economic spectrum? Review and synthesis. <i>Journal of Experimental Botany</i> , 2013 , 64, 4053-80	7	130
80	The effect of an elevated atmospheric CO ₂ concentration on growth, photosynthesis and respiration of <i>Plantago major</i> . <i>Physiologia Plantarum</i> , 1988 , 73, 553-559	4.6	129
79	Carbon gain in a multispecies canopy: the role of specific leaf area and photosynthetic nitrogen-use efficiency in the tragedy of the commons. <i>New Phytologist</i> , 1999 , 143, 201-211	9.8	127
78	Plant growth analysis: towards a synthesis of the classical and the functional approach. <i>Physiologia Plantarum</i> , 1989 , 75, 237-244	4.6	125
77	The Fate of Acquired Carbon in Plants: Chemical Composition and Construction Costs 1997 , 39-72		124
76	A method to construct dose-response curves for a wide range of environmental factors and plant traits by means of a meta-analysis of phenotypic data. <i>Journal of Experimental Botany</i> , 2010 , 61, 2043-55 ⁷		121
75	Testing differences in relative growth rate: A method avoiding curve fitting and pairing. <i>Physiologia Plantarum</i> , 1986 , 67, 223-226	4.6	118
74	Leaf Mass per Area (LMA) and Its Relationship with Leaf Structure and Anatomy in 34 Mediterranean Woody Species along a Water Availability Gradient. <i>PLoS ONE</i> , 2016 , 11, e0148788	3.7	110
73	Interspecific Variation in the Growth Response of Plants to Elevated CO ₂ : A Search for Functional Types 1996 , 375-412		108
72	Building a better foundation: improving root-trait measurements to understand and model plant and ecosystem processes. <i>New Phytologist</i> , 2017 , 215, 27-37	9.8	105
71	Differences in construction costs and chemical composition between deciduous and evergreen woody species are small as compared to differences among families. <i>Plant, Cell and Environment</i> , 2006 , 29, 1629-43	8.4	101
70	Do slow-growing species and nutrient-stressed plants respond relatively strongly to elevated CO ₂ ?. <i>Global Change Biology</i> , 1998 , 4, 693-697	11.4	95
69	Trait correlation networks: a whole-plant perspective on the recently criticized leaf economic spectrum. <i>New Phytologist</i> , 2014 , 201, 378-382	9.8	93
68	Interactive effects of water table and precipitation on net CO ₂ assimilation of three co-occurring <i>Sphagnum</i> mosses differing in distribution above the water table. <i>Global Change Biology</i> , 2009 , 15, 680-691 ¹⁴		88

67	The anatomical and compositional basis of leaf mass per area. <i>Ecology Letters</i> , 2017 , 20, 412-425	10	87
66	Pitfalls and possibilities in the analysis of biomass allocation patterns in plants. <i>Frontiers in Plant Science</i> , 2012 , 3, 259	6.2	85
65	Measures for interoperability of phenotypic data: minimum information requirements and formatting. <i>Plant Methods</i> , 2016 , 12, 44	5.8	83
64	Growth and carbon economy of a fast-growing and a slow-growing grass species as dependent on ontogeny. <i>New Phytologist</i> , 1992 , 120, 159-166	9.8	82
63	Growth and carbon economy of a fast-growing and a slow-growing grass species as dependent on nitrate supply. <i>Plant and Soil</i> , 1995 , 171, 217-227	4.2	77
62	Phenotyping plants: genes, phenes and machines. <i>Functional Plant Biology</i> , 2012 , 39, 813-820	2.7	76
61	Towards a thesaurus of plant characteristics: an ecological contribution. <i>Journal of Ecology</i> , 2017 , 105, 298-309	6	75
60	Connecting the Green and Brown Worlds: Allometric and Stoichiometric Predictability of Above- and Below-Ground Networks. <i>Advances in Ecological Research</i> , 2013 , 49, 69-175	4.6	74
59	Exploring variation in leaf mass per area (LMA) from leaf to cell: an anatomical analysis of 26 woody species. <i>American Journal of Botany</i> , 2013 , 100, 1969-80	2.7	69
58	Root traits as drivers of plant and ecosystem functioning: current understanding, pitfalls and future research needs. <i>New Phytologist</i> , 2021 , 232, 1123-1158	9.8	69
57	Physiological mechanisms in plant growth models: do we need a supra-cellular systems biology approach?. <i>Plant, Cell and Environment</i> , 2013 , 36, 1673-90	8.4	63
56	Plant growth analysis: an evaluation of experimental design and computational methods. <i>Journal of Experimental Botany</i> , 1996 , 47, 1343-1351	7	62
55	Differences in relative growth rate in 11 grasses correlate with differences in chemical composition as determined by pyrolysis mass spectrometry. <i>Oecologia</i> , 1992 , 89, 567-573	2.9	62
54	Ethylene insensitivity does not increase leaf area or relative growth rate in <i>Arabidopsis</i> , <i>Nicotiana tabacum</i> , and <i>Petunia x hybrida</i> . <i>Plant Physiology</i> , 2004 , 134, 1803-12	6.6	60
53	Ethylene insensitivity results in down-regulation of rubisco expression and photosynthetic capacity in tobacco. <i>Plant Physiology</i> , 2007 , 144, 1305-15	6.6	57
52	Inherent Variation in Growth Rate Between Higher Plants: A Search for Physiological Causes and Ecological Consequences. <i>Advances in Ecological Research</i> , 2004 , 283-362	4.6	57
51	Energizing marginal soils The establishment of the energy crop <i>Sida hermaphrodita</i> as dependent on digestate fertilization, NPK, and legume intercropping. <i>Biomass and Bioenergy</i> , 2016 , 87, 9-16	5.3	51
50	The limits to leaf and root plasticity: what is so special about specific root length?. <i>New Phytologist</i> , 2015 , 206, 1188-90	9.8	45

49	Enabling reusability of plant phenomic datasets with MIAPPE 1.1. <i>New Phytologist</i> , 2020 , 227, 260-273	9.8	42
48	Endogenous abscisic acid as a key switch for natural variation in flooding-induced shoot elongation. <i>Plant Physiology</i> , 2010 , 154, 969-77	6.6	42
47	Ecological Significance of Inherent Variation in Relative Growth Rate and Its Components 2007 , 67-100		42
46	Morphological Plant Modeling: Unleashing Geometric and Topological Potential within the Plant Sciences. <i>Frontiers in Plant Science</i> , 2017 , 8, 900	6.2	41
45	Growth and competitive ability of a highly plastic and a marginally plastic genotype of <i>Plantago major</i> in a fluctuating environment. <i>Physiologia Plantarum</i> , 1986 , 67, 217-222	4.6	40
44	Plasticity as a plastic response: how submergence-induced leaf elongation in <i>Rumex palustris</i> depends on light and nutrient availability in its early life stage. <i>New Phytologist</i> , 2012 , 194, 572-582	9.8	39
43	Xeml Lab: a tool that supports the design of experiments at a graphical interface and generates computer-readable metadata files, which capture information about genotypes, growth conditions, environmental perturbations and sampling strategy. <i>Plant, Cell and Environment</i> , 2009 , 32, 1185-200	8.4	37
42	Resource limitation, tolerance, and the future of ecological plant classification. <i>Frontiers in Plant Science</i> , 2012 , 3, 246	6.2	37
41	A genetic analysis of relative growth rate and underlying components in <i>Hordeum spontaneum</i> . <i>Oecologia</i> , 2005 , 142, 360-77	2.9	35
40	Growth characteristics in <i>Hordeum spontaneum</i> populations from different habitats. <i>New Phytologist</i> , 2000 , 146, 471-481	9.8	34
39	Is Interspecific Variation in Relative Growth Rate Positively Correlated with Biomass Allocation to the Leaves?. <i>American Naturalist</i> , 1991 , 138, 1264-1268	3.7	33
38	Computational aspects underlying genome to phenome analysis in plants. <i>Plant Journal</i> , 2019 , 97, 182-188	10.8	33
37	Effects of digestate fertilization on <i>Sida hermaphrodita</i> : Boosting biomass yields on marginal soils by increasing soil fertility. <i>Biomass and Bioenergy</i> , 2017 , 107, 207-213	5.3	32
36	A starting guide to root ecology: strengthening ecological concepts and standardising root classification, sampling, processing and trait measurements. <i>New Phytologist</i> , 2021 , 232, 973-1122	9.8	31
35	Intraspecific variation in the magnitude and pattern of flooding-induced shoot elongation in <i>Rumex palustris</i> . <i>Annals of Botany</i> , 2009 , 104, 1057-67	4.1	30
34	Corrections for rooting volume and plant size reveal negative effects of neighbour presence on root allocation in pea. <i>Functional Ecology</i> , 2015 , 29, 1383-1391	5.6	29
33	Fame, glory and neglect in meta-analyses. <i>Trends in Ecology and Evolution</i> , 2011 , 26, 493-4	10.9	29
32	Global root traits (GRooT) database. <i>Global Ecology and Biogeography</i> , 2021 , 30, 25-37	6.1	28

31	The Importance of Being First: Exploring Priority and Diversity Effects in a Grassland Field Experiment. <i>Frontiers in Plant Science</i> , 2016 , 7, 2008	6.2	25
30	Interspecific variation in the growth response of plants to an elevated ambient CO2 concentration 1993 , 77-98		25
29	Plant Growth and Carbon Economy 2002 ,		22
28	Photosynthesis: ancient, essential, complex, diverse and in need of improvement in a changing world. <i>New Phytologist</i> , 2017 , 213, 43-47	9.8	21
27	Leaf mass per area is independent of vein length per area: avoiding pitfalls when modelling phenotypic integration (reply to Blonder et al. 2014). <i>Journal of Experimental Botany</i> , 2014 , 65, 5115-23	7	21
26	The role of ethylene perception in the control of photosynthesis. <i>Plant Signaling and Behavior</i> , 2008 , 3, 108-9	2.5	20
25	Variation in biomass expansion factors for China's forests in relation to forest type, climate, and stand development. <i>Annals of Forest Science</i> , 2013 , 70, 589-599	3.1	18
24	Using log-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. <i>New Phytologist</i> , 2011 , 190, 5-8	9.8	17
23	The effect of irradiance on the carbon balance and tissue characteristics of five herbaceous species differing in shade-tolerance. <i>Frontiers in Plant Science</i> , 2014 , 5, 12	6.2	16
22	Interactive effects of growth-limiting N supply and elevated atmospheric CO2 concentration on growth and carbon balance of <i>Plantago major</i> . <i>Physiologia Plantarum</i> , 1998 , 103, 451-460	4.6	16
21	Differential chemical allocation and plant adaptation: A Py-MS Study of 24 species differing in relative growth rate. <i>Plant and Soil</i> , 1995 , 175, 275-289	4.2	16
20	Dividing the pie: A quantitative review on plant density responses. <i>Plant, Cell and Environment</i> , 2021 , 44, 1072-1094	8.4	16
19	An integrated framework of plant form and function: the belowground perspective. <i>New Phytologist</i> , 2021 , 232, 42-59	9.8	16
18	Growth and root nodule nitrogenase activity of <i>Pisum sativum</i> as influenced by transpiration. <i>Physiologia Plantarum</i> , 1984 , 61, 637-642	4.6	14
17	Coming Late for Dinner: Localized Digestate Depot Fertilization for Extensive Cultivation of Marginal Soil With. <i>Frontiers in Plant Science</i> , 2018 , 9, 1095	6.2	11
16	Leaf nitrogen productivity is the major factor behind the growth reduction induced by long-term salt stress. <i>Tree Physiology</i> , 2011 , 31, 92-101	4.2	11
15	A reporting format for leaf-level gas exchange data and metadata. <i>Ecological Informatics</i> , 2021 , 61, 101232	4.2	11
14	Root traits explain plant species distributions along climatic gradients yet challenge the nature of ecological trade-offs. <i>Nature Ecology and Evolution</i> , 2021 , 5, 1123-1134	12.3	11

13	Global patterns of biomass allocation in woody species with different tolerances of shade and drought: evidence for multiple strategies. <i>New Phytologist</i> , 2021 , 229, 308-322	9.8	11
12	Carbon balance of the oldest and most-shaded leaves in a vegetation: a litmus test for canopy models. <i>New Phytologist</i> , 2009 , 183, 1-3	9.8	10
11	How are nitrogen availability, fine-root mass, and nitrogen uptake related empirically? Implications for models and theory. <i>Global Change Biology</i> , 2019 , 25, 885-899	11.4	10
10	Association of Shoot and Root Responses to Water Deficit in Young Faba Bean () Plants. <i>Frontiers in Plant Science</i> , 2019 , 10, 1063	6.2	8
9	Root traits of herbaceous crops: Pre-adaptation to cultivation or evolution under domestication?. <i>Functional Ecology</i> , 2019 , 33, 273-285	5.6	8
8	How Does Water Availability Affect the Allocation to Bark in a Mediterranean Conifer?. <i>Frontiers in Plant Science</i> , 2019 , 10, 607	6.2	6
7	The analysis of plant root responses to nutrient concentration, soil volume and neighbour presence: Different statistical approaches reflect different underlying basic questions. <i>Functional Ecology</i> , 2020 , 34, 2210-2217	5.6	6
6	Growth and Growth-Related Traits for a Range of Quercus Species Grown as Seedlings Under Controlled Conditions and for Adult Plants from the Field. <i>Tree Physiology</i> , 2017 , 393-417		4
5	A meta-analysis of responses of C plants to atmospheric CO ₂ : dose-response curves for 85 traits ranging from the molecular to the whole-plant level. <i>New Phytologist</i> , 2021 ,	9.8	4
4	Applying the economic concept of profitability to leaves. <i>Scientific Reports</i> , 2021 , 11, 49	4.9	4
3	Ecological Significance of Inherent Variation in Relative Growth Rate and Its Components. <i>Books in Soils, Plants, and the Environment</i> , 2007 ,		2
2	Global Root Traits (GRoot) Database		2
1	Ethylene and Plant Growth 2006 , 35-49		1