# Hendrik Poorter

List of Publications by Year
in descending order



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|---|---|---|---|
| 120 papers | 43,229 citations | 13099 68 h-index | 20358 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. | 27.8 | 6,489 |
| 2 | A handbook of protocols for standardised and easy measurement of plant functional traits worldwide. Australian Journal of Botany, 2003, 51, 335. | 0.6 | 3,071 |
| 3 | New handbook for standardised measurement of plant functional traits worldwide. Australian Journal of Botany, 2013, 61, 167. | 0.6 | 2,818 |
| 4 | Causes and consequences of variation in leaf mass per area (LMA): a metaâ€analysis. New Phytologist, 2009, 182, 565-588. | 7.3 | 2,056 |
| 5 | The global spectrum of plant form and function. Nature, 2016, 529, 167-171. | 27.8 | 2,022 |
| 6 | Biomass allocation to leaves, stems and roots: metaâ€analyses of interspecific variation and environmental control. New Phytologist, 2012, 193, 30-50. | 7.3 | 2,012 |
| 7 | TRY â€" a global database of plant traits. Global Change Biology, 2011, 17, 2905-2935. | 9.5 | 2,002 |
| 8 | Assessing the generality of global leaf trait relationships. New Phytologist, 2005, 166, 485-496. | 7.3 | 1,704 |
| 9 | TRY plant trait database â€" enhanced coverage and open access. Global Change Biology, 2020, 26, 119-188. | 9.5 | 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. | 2.7 | 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. | 5.7 | 945 |
| 12 | Leaf area ratio and net assimilation rate of 24 wild species differing in relative growth rate. Oecologia, 1990, 83, 553-559. | 2.0 | 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. | 6.4 | 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. | 2.1 | 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. | 4.8 | 679 |
| 16 | Modulation of leaf economic traits and trait relationships by climate. Global Ecology and Biogeography, 2005, 14, 411-421. | 5.8 | 669 |
| 17 | Plant functional traits have globally consistent effects on competition. Nature, 2016, 529, 204-207. | 27.8 | 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. | 2.1 | 578 |
| 20 | Carbon and Nitrogen Economy of 24 Wild Species Differing in Relative Growth Rate. Plant Physiology, 1990, 94, 621-627. | 4.8 | 540 |
| 21 | Plant growth and competition at elevated CO 2 : on winners, losers and functional groups. New Phytologist, 2003, 157, 175-198. | 7.3 | 522 |
| 22 | Photosynthetic nitrogen-use efficiency of species that differ inherently in specific leaf area. Oecologia, 1998, 116, 26-37. | 2.0 | 476 |
| 23 | Avoiding Bias in Calculations of Relative Growth Rate. Annals of Botany, 2002, 90, 37-42. | 2.9 | 462 |
| 24 | Plant functional trait change across a warming tundra biome. Nature, 2018, 562, 57-62. | 27.8 | 451 |
| 25 | Physiological and structural tradeoffs underlying the leaf economics spectrum. New Phytologist, 2017, 214, 1447-1463. | 7.3 | 412 |
| 26 | The Janus face of ethylene: growth inhibition and stimulation. Trends in Plant Science, 2006, 11, 176-183. | 8.8 | 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. | 7.3 | 397 |
| 28 | Specific Leaf Area and Dry Matter Content Estimate Thickness in Laminar Leaves. Annals of Botany, 2005, 96, 1129-1136. | 2.9 | 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. | 7.3 | 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. | 7.3 | 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. | 2.7 | 280 |
| 32 | Root traits as drivers of plant and ecosystem functioning: current understanding, pitfalls and future research needs. New Phytologist, 2021, 232, 1123-1158. | 7.3 | 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. | 7.1 | 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. | 7.3 | 239 |
| 35 | The art of growing plants for experimental purposes: a practical guide for the plant biologist. Functional Plant Biology, 2012, 39, 821. | 2.1 | 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. | 7.3 | 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. | 2.1 | 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. | 5.7 | 191 |
| 40 | The growth response of plants to elevated CO2 under non-optimal environmental conditions. Oecologia, 2001, 129, 1-20. | 2.0 | 188 |
| 41 | Respiratory energy requirements of roots vary with the potential growth rate of a plant species. Physiologia Plantarum, 1991, 83, 469-475. | 5.2 | 183 |
| 42 | Construction costs, chemical composition and payback time of high- and low-irradiance leaves. Journal of Experimental Botany, 2006, 57, 355-371. | 4.8 | 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. | 2.5 | 177 |
| 44 | How do leaf veins influence the worldwide leaf economic spectrum? Review and synthesis. Journal of Experimental Botany, 2013, 64, 4053-4080. | 4.8 | 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. | 7.3 | 159 |
| 47 | No evidence for substantial aerobic methane emission by terrestrial plants: a 13 Câ€labelling approach. New Phytologist, 2007, 175, 29-35. | 7.3 | 158 |
| 48 | An integrated framework of plant form and function: the belowground perspective. New Phytologist, 2021, 232, 42-59. | 7.3 | 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. | 4.8 | 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. | 5.2 | 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. | 7.3 | 140 |
| 53 | Testing differences in relative growth rate: A method avoiding curve fitting and pairing. Physiologia Plantarum, 1986, 67, 223-226. | 5.2 | 139 |
| 54 | The anatomical and compositional basis of leaf mass per area. Ecology Letters, 2017, 20, 412-425. | 6.4 | 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. | 5.2 | 135 |
| 56 | Trait correlation networks: a wholeâ€plant perspective on the recently criticized leaf economic spectrum. New Phytologist, 2014, 201, 378-382. | 7.3 | 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. | 5.7 | 117 |
| 58 | Towards a thesaurus of plant characteristics: an ecological contribution. Journal of Ecology, 2017, 105, 298-309. | 4.0 | 114 |
| 59 | Pitfalls and Possibilities in the Analysis of Biomass Allocation Patterns in Plants. Frontiers in Plant Science, 2012, 3, 259. | 3.6 | 113 |
| 60 | Measures for interoperability of phenotypic data: minimum information requirements and formatting. Plant Methods, 2016, 12, 44. | 4.3 | 109 |
| 61 | Phenotyping plants: genes, phenes and machines. Functional Plant Biology, 2012, 39, 813. | 2.1 | 106 |
| 62 | Interactive effects of water table and precipitation on net CO<sub>2</sub> assimilation of three coâ€occurring <i>Sphagnum</i> mosses differing in distribution above the water table. Global Change Biology, 2009, 15, 680-691. | 9.5 | 104 |
| 63 | Do slowâ€growing species and nutrientâ€stressed plants respond relatively strongly to elevated CO 2 ?. Global Change Biology, 1998, 4, 693-697. | 9.5 | 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. | 1.7 | 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. | 5.8 | 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. | 7.3 | 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. | 3.7 | 84 |
| 69 | Connecting the Green and Brown Worlds. Advances in Ecological Research, 2013, 49, 69-175. | 2.7 | 84 |
| 70 | Enabling reusability of plant phenomic datasets with MIAPPE 1.1. New Phytologist, 2020, 227, 260-273. | 7.3 | 84 |
| 71 | Plant growth analysis: an evaluation of experimental design and computational methods. Journal of Experimental Botany, 1996, 47, 1343-1351. | 4.8 | 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. | 5.7 | 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. | 4.8 | 70 |
| 74 | Ethylene Insensitivity Results in Down-Regulation of Rubisco Expression and Photosynthetic Capacity in Tobacco. Plant Physiology, 2007, 144, 1305-1315. | 4.8 | 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. | 2.0 | 68 |
| 76 | Dividing the pie: A quantitative review on plant density responses. Plant, Cell and Environment, 2021, 44, 1072-1094. | 5.7 | 67 |
| 77 | The limits to leaf and root plasticity: what is so special about specific root length?. New Phytologist, 2015, 206, 1188-1190. | 7.3 | 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. | 5.7 | 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. | 7.8 | 62 |
| 80 | Morphological Plant Modeling: Unleashing Geometric and Topological Potential within the Plant Sciences. Frontiers in Plant Science, 2017, 8, 900. | 3.6 | 61 |
| 81 | A metaâ€analysis of responses of C<sub>3</sub> plants to atmospheric CO<sub>2</sub>: doseâ€“response curves for 85 traits ranging from the molecular to the wholeâ€plant level. New Phytologist, 2022, 233, 1560-1596. | 7.3 | 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. | 4.8 | 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. | 7.3 | 50 |
| 84 | Computational aspects underlying genome to phenome analysis in plants. Plant Journal, 2019, 97, 182-198. | 5.7 | 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. | 3.6 | 48 |
| 86 | Resource limitation, tolerance, and the future of ecological plant classification. Frontiers in Plant Science, 2012, 3, 246. | 3.6 | 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. | 5.2 | 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. | 7.3 | 43 |
| 89 | A genetic analysis of relative growth rate and underlying components in Hordeum spontaneum. Oecologia, 2005, 142, 360-377. | 2.0 | 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. | 5.7 | 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. | 5.7 | 41 |
| 92 | Growth characteristics in Hordeum spontaneum populations from different habitats. New Phytologist, 2000, 146, 471-481. | 7.3 | 37 |
| 93 | The Importance of Being First: Exploring Priority and Diversity Effects in a Grassland Field Experiment. Frontiers in Plant Science, 2016, 7, 2008. | 3.6 | 37 |
| 94 | Is Interspecific Variation in Relative Growth Rate Positively Correlated with Biomass Allocation to the Leaves?. American Naturalist, 1991, 138, 1264-1268. | 2.1 | 36 |
| 95 | Fame, glory and neglect in meta-analyses. Trends in Ecology and Evolution, 2011, 26, 493-494. | 8.7 | 36 |
| 96 | Intraspecific variation in the magnitude and pattern of flooding-induced shoot elongation in Rumex palustris. Annals of Botany, 2009, 104, 1057-1067. | 2.9 | 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. | 3.6 | 30 |
| 98 | Photosynthesis: ancient, essential, complex, diverse â€¦ and in need of improvement in a changing world. New Phytologist, 2017, 213, 43-47. | 7.3 | 30 |
| 99 | Root traits of herbaceous crops: Preâ€adaptation to cultivation or evolution under domestication?. Functional Ecology, 2019, 33, 273-285. | 3.6 | 29 |
| 100 | The role of ethylene perception in the control of photosynthesis. Plant Signaling and Behavior, 2008, 3, 108-109. | 2.4 | 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. | 4.8 | 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. | 5.2 | 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. | 9.5 | 22 |
| 104 | A reporting format for leaf-level gas exchange data and metadata. Ecological Informatics, 2021, 61, 101232. | 5.2 | 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. | 7.3 | 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. | 2.0 | 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. | 3.7 | 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. | 3.6 | 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. | 5.2 | 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. | 3.6 | 15 |
| 111 | How Does Water Availability Affect the Allocation to Bark in a Mediterranean Conifer?. Frontiers in Plant Science, 2019, 10, 607. | 3.6 | 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. | 3.6 | 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. | 3.1 | 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. | 7.3 | 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. | 2.5 | 9 |
| 116 | Applying the economic concept of profitability to leaves. Scientific Reports, 2021, 11, 49. | 3.3 | 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. | 1.5 | 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. | 3.7 | 1 |