Jonathan P Lynch

List of Publications by Year
in descending order

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		4146	8396
230 papers	25,927 citations	87 h-index	147 g-index
248 all docs	248 docs citations	248 times ranked	12967 citing authors

#	Article	IF	Citations
1	Roots of the Second Green Revolution. Australian Journal of Botany, 2007, 55, 493.	0.6	1,025
2	Steep, cheap and deep: an ideotype to optimize water and N acquisition by maize root systems. Annals of Botany, 2013, 112, 347-357.	2.9	971
3	Root Phenes for Enhanced Soil Exploration and Phosphorus Acquisition: Tools for Future Crops. Plant Physiology, 2011, 156, 1041-1049.	4.8	793
4	Topsoil foraging â€“ an architectural adaptation of plants to low phosphorus availability. Plant and Soil, 2001, 237, 225-237.	3.7	700
5	Plant and microbial strategies to improve the phosphorus efficiency of agriculture. Plant and Soil, 2011, 349, 121-156.	3.7	678
6	Shovelomics: high throughput phenotyping of maize (Zea mays L.) root architecture in the field. Plant and Soil, 2011, 341, 75-87.	3.7	545
7	Root phenotypes for improved nutrient capture: an underexploited opportunity for global agriculture. New Phytologist, 2019, 223, 548-564.	7.3	400
8	Root architectural tradeoffs for water and phosphorus acquisition. Functional Plant Biology, 2005, 32, 737.	2.1	378
9	Rhizoeconomics: Carbon costs of phosphorus acquisition. Plant and Soil, 2005, 269, 45-56.	3.7	365
10	Strategies and agronomic interventions to improve the phosphorus-use efficiency of farming systems. Plant and Soil, 2011, 349, 89-120.	3.7	343
11	Opportunities and challenges in the subsoil: pathways to deeper rooted crops. Journal of Experimental Botany, 2015, 66, 2199-2210.	4.8	320
12	The Optimal Lateral Root Branching Density for Maize Depends on Nitrogen and Phosphorus Availability. Plant Physiology, 2014, 166, 590-602.	4.8	286
13	Root cortical aerenchyma improves the drought tolerance of maize (<i>Zea mays</i> L.). Plant, Cell and Environment, 2010, 33, 740-749.	5.7	283
14	Effect of phosphorus deficiency on growth angle of basal roots in Phaseolus vulgaris. New Phytologist, 1996, 132, 281-288.	7.3	281
15	Root Cortical Aerenchyma Enhances the Growth of Maize on Soils with Suboptimal Availability of Nitrogen, Phosphorus, and Potassium Â Â. Plant Physiology, 2011, 156, 1190-1201.	4.8	278
16	Root anatomical phenes associated with water acquisition from drying soil: targets for crop improvement. Journal of Experimental Botany, 2014, 65, 6155-6166.	4.8	262
17	Reduced Lateral Root Branching Density Improves Drought Tolerance in Maize. Plant Physiology, 2015, 168, 1603-1615.	4.8	248
18	Root hairs confer a competitive advantage under low phosphorus availability. Plant and Soil, 2001, 236, 243-250.	3.7	245

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19	The opening of Pandoraâ€™s Box: climate change impacts on soil fertility and crop nutrition in developing countries. Plant and Soil, 2010, 335, 101-115.	3.7	244
20	QTL mapping of root hair and acid exudation traits and their relationship to phosphorus uptake in common bean. Plant and Soil, 2004, 265, 17-29.	3.7	243
21	Image-Based High-Throughput Field Phenotyping of Crop Roots. Plant Physiology, 2014, 166, 470-486.	4.8	239
22	New roots for agriculture: exploiting the root phenome. Philosophical Transactions of the Royal Society B: Biological Sciences, 2012, 367, 1598-1604.	4.0	236
23	Plant phenology: a critical controller of soil resource acquisition. Journal of Experimental Botany, 2009, 60, 1927-1937.	4.8	229
24	Root phenes that reduce the metabolic costs of soil exploration: opportunities for 21st century agriculture. Plant, Cell and Environment, 2015, 38, 1775-1784.	5.7	229
25	Mapping of QTLs for lateral root branching and length in maize (Zea mays L.) under differential phosphorus supply. Theoretical and Applied Genetics, 2005, 111, 688-695.	3.6	224
26	Quantitative Trait Loci for Root Architecture Traits Correlated with Phosphorus Acquisition in Common Bean. Crop Science, 2006, 46, 413-423.	1.8	221
27	Effect of phosphorus availability on basal root shallowness in common bean. Plant and Soil, 2001, 232, 69-79.	3.7	220
28	Mapping of QTL controlling root hair length in maize (Zea mays L.) under phosphorus deficiency. Plant and Soil, 2005, 270, 299-310.	3.7	218
29	Regulation of Root Elongation under Phosphorus Stress Involves Changes in Ethylene Responsiveness. Plant Physiology, 2003, 131, 1381-1390.	4.8	215
30	Light and Excess Manganese. Plant Physiology, 1998, 118, 493-504.	4.8	206
31	Integration of root phenes for soil resource acquisition. Frontiers in Plant Science, 2013, 4, 355.	3.6	203
32	The effect of phosphorus availability on the carbon economy of contrasting common bean (Phaseolus) Tj ETQq0 0 0 rgBT /Overlock 10 T	4.8	202
33	SimRoot: Modelling and visualization of root systems. Plant and Soil, 1997, 188, 139-151.	3.7	197
34	The importance of root gravitropism for inter-root competition and phosphorus acquisition efficiency: results from a geometric simulation model. Plant and Soil, 2000, 218/2, 159-171.	3.7	197
35	Reduced crown root number improves water acquisition under water deficit stress in maize (<i>Zea) Tj ETQq1 1 0.784314 rgBT /Overloc	4.8	195
36	Physiological roles for aerenchyma in phosphorus-stressed roots. Functional Plant Biology, 2003, 30, 493.	2.1	192

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37	Topsoil foraging and phosphorus acquisition efficiency in maize (Zea mays). Functional Plant Biology, 2005, 32, 749.	2.1	191
38	The contribution of lateral rooting to phosphorus acquisition efficiency in maize (Zea mays) seedlings. Functional Plant Biology, 2004, 31, 949.	2.1	189
39	Genetic mapping of basal root gravitropism and phosphorus acquisition efficiency in common bean. Functional Plant Biology, 2004, 31, 959.	2.1	187
40	Mineral stress: the missing link in understanding how global climate change will affect plants in real world soils. Field Crops Research, 2004, 90, 101-115.	5.1	184
41	Low Crown Root Number Enhances Nitrogen Acquisition from Low-Nitrogen Soils in Maize. Plant Physiology, 2014, 166, 581-589.	4.8	183
42	Vegetative Growth of the Common Bean in Response to Phosphorus Nutrition. Crop Science, 1991, 31, 380-387.	1.8	178
43	The efficiency of Arabidopsis thaliana (Brassicaceae) root hairs in phosphorus acquisition. American Journal of Botany, 2000, 87, 964-970.	1.7	174
44	Theoretical evidence for the functional benefit of root cortical aerenchyma in soils with low phosphorus availability. Annals of Botany, 2011, 107, 829-841.	2.9	165
45	Rightsizing root phenotypes for drought resistance. Journal of Experimental Botany, 2018, 69, 3279-3292.	4.8	163
46	Shaping 3D Root System Architecture. Current Biology, 2017, 27, R919-R930.	3.9	162
47	Root strategies for phosphorus acquisition. Plant Ecophysiology, 2008, , 83-116.	1.5	161
48	Field Phenotyping of Soybean Roots for Drought Stress Tolerance. Agronomy, 2014, 4, 418-435.	3.0	158
49	Reduced frequency of lateral root branching improves N capture from low-N soils in maize. Journal of Experimental Botany, 2015, 66, 2055-2065.	4.8	158
50	Phene Synergism between Root Hair Length and Basal Root Growth Angle for Phosphorus Acquisition. Plant Physiology, 2015, 167, 1430-1439.	4.8	158
51	O<scp>pen</scp>S<scp>im</scp>R<scp>oot</scp>: widening the scope and application of root architectural models. New Phytologist, 2017, 215, 1274-1286.	7.3	158
52	Plant growth and phosphorus accumulation of wild type and two root hair mutants of Arabidopsis thaliana (Brassicaceae). American Journal of Botany, 2000, 87, 958-963.	1.7	157
53	Detection of quantitative trait loci for seminal root traits in maize (Zea mays L.) seedlings grown under differential phosphorus levels. Theoretical and Applied Genetics, 2006, 113, 1-10.	3.6	157
54	Complementarity in root architecture for nutrient uptake in ancient maize/bean and maize/bean/squash polycultures. Annals of Botany, 2012, 110, 521-534.	2.9	156

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55	Manganese phytotoxicity: new light on an old problem. Annals of Botany, 2015, 116, 313-319.	2.9	156
56	SALT STRESS DISTURBS THE CALCIUM NUTRITION OF BARLEY (HORDEUM VULGARE L.). New Phytologist, 1985, 99, 345-354.	7.3	155
57	Reduced Root Cortical Cell File Number Improves Drought Tolerance in Maize. Plant Physiology, 2014, 166, 1943-1955.	4.8	154
58	Root Cortical Aerenchyma Enhances Nitrogen Acquisition from Low-Nitrogen Soils in Maize. Plant Physiology, 2014, 166, 726-735.	4.8	153
59	Evolution of US maize (Zea mays L.) root architectural and anatomical phenes over the past 100 years corresponds to increased tolerance of nitrogen stress. Journal of Experimental Botany, 2015, 66, 2347-2358.	4.8	153
60	Genetic variation for adventitious rooting in response to low phosphorus availability: potential utility for phosphorusacquisition from stratified soils. Functional Plant Biology, 2003, 30, 973.	2.1	148
61	Large Root Cortical Cell Size Improves Drought Tolerance in Maize. Plant Physiology, 2014, 166, 2166-2178.	4.8	148
62	QTL Analysis of Adventitious Root Formation in Common Bean under Contrasting Phosphorus Availability. Crop Science, 2006, 46, 1609-1621.	1.8	147
63	Digital imaging of root traits (DIRT): a high-throughput computing and collaboration platform for field-based root phenomics. Plant Methods, 2015, 11, 51.	4.3	146
64	A mechanistic framework for auxin dependent Arabidopsis root hair elongation to low external phosphate. Nature Communications, 2018, 9, 1409.	12.8	146
65	Ethylene and plant responses to nutritional stress. Physiologia Plantarum, 1997, 100, 613-619.	5.2	145
66	Plant roots sense soil compaction through restricted ethylene diffusion. Science, 2021, 371, 276-280.	12.6	145
67	Title is missing!. Plant and Soil, 1997, 195, 221-232.	3.7	144
68	Ethylene and phosphorus availability have interacting yet distinct effects on root hair development. Journal of Experimental Botany, 2003, 54, 2351-2361.	4.8	143
69	Growth and Architecture of Seedling Roots of Common Bean Genotypes. Crop Science, 1993, 33, 1253-1257.	1.8	139
70	Root anatomical phenes predict root penetration ability and biomechanical properties in maize (Zea) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	4.8	135
71	Adaptation of Beans (Phaseolus vulgaris L.) to Low Phosphorus Availability. Hortscience: A Publication of the American Society for Hortcultural Science, 1995, 30, 1165-1171.	1.0	135
72	Genetic Variation for Phosphorus Efficiency of Common Bean in Contrasting Soil Types: I. Vegetative Response. Crop Science, 1995, 35, 1086-1093.	1.8	133

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73	Optimization modeling of plant root architecture for water and phosphorus acquisition. Journal of Theoretical Biology, 2004, 226, 331-340.	1.7	131
74	Root Gravitropism and Below-ground Competition among Neighbouring Plants: A Modelling Approach. Annals of Botany, 2001, 88, 929-940.	2.9	129
75	Architectural Tradeoffs between Adventitious and Basal Roots for Phosphorus Acquisition. Plant and Soil, 2006, 279, 347-366.	3.7	129
76	Salinity Tolerance of<i>Phaseolus</i>Species during Germination and Early Seedling Growth. Crop Science, 2002, 42, 1584-1594.	1.8	126
77	The utility of phenotypic plasticity of root hair length for phosphorus acquisition. Functional Plant Biology, 2010, 37, 313.	2.1	122
78	Growth, gas exchange, water relations, and ion composition of Phaseolus species grown under saline conditions. Field Crops Research, 2003, 80, 207-222.	5.1	120
79	Root cortical burden influences drought tolerance in maize. Annals of Botany, 2013, 112, 429-437.	2.9	117
80	Effects of phosphorus availability and vesicular-arbuscular mycorrhizas on the carbon budget of common bean (Phaseolus vulgaris). New Phytologist, 1998, 139, 647-656.	7.3	112
81	Title is missing!. Plant and Soil, 2001, 236, 221-235.	3.7	112
82	Next generation shovelomics: set up a tent and REST. Plant and Soil, 2015, 388, 1-20.	3.7	112
83	Legume shovelomics: Highâ€"Throughput phenotyping of common bean (Phaseolus vulgaris L.) and cowpea (Vigna unguiculata subsp, unguiculata) root architecture in the field. Field Crops Research, 2016, 192, 21-32.	5.1	112
84	Rice auxin influx carrier OsAUX1 facilitates root hair elongation in response to low external phosphate. Nature Communications, 2018, 9, 1408.	12.8	110
85	Carbon cost of root systems: an architectural approach. Plant and Soil, 1994, 165, 161-169.	3.7	106
86	The effect of artificial selection on phenotypic plasticity in maize. Nature Communications, 2017, 8, 1348.	12.8	105
87	Should Root Plasticity Be a Crop Breeding Target?. Frontiers in Plant Science, 2020, 11, 546.	3.6	105
88	Crops In Silico: Generating Virtual Crops Using an Integrative and Multi-scale Modeling Platform. Frontiers in Plant Science, 2017, 8, 786.	3.6	102
89	Genotypic variation for root traits of maize (Zea mays L.) from the Purhepecha Plateau under contrasting phosphorus availability. Field Crops Research, 2011, 121, 350-362.	5.1	99
90	Reduction in Root Secondary Growth as a Strategy for Phosphorus Acquisition. Plant Physiology, 2018, 176, 691-703.	4.8	99

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91	Phenotypic Diversity of Root Anatomical and Architectural Traits in <i>Zea</i> Species. Crop Science, 2013, 53, 1042-1055.	1.8	98
92	RootScan: Software for high-throughput analysis of root anatomical traits. Plant and Soil, 2012, 357, 189-203.	3.7	96
93	Root anatomy and soil resource capture. Plant and Soil, 2021, 466, 21-63.	3.7	95
94	The Xerobranching Response Represses Lateral Root Formation When Roots Are Not in Contact with Water. Current Biology, 2018, 28, 3165-3173.e5.	3.9	94
95	Harnessing root architecture to address global challenges. Plant Journal, 2022, 109, 415-431.	5.7	93
96	Induction of a Major Leaf Acid Phosphatase Does Not Confer Adaptation to Low Phosphorus Availability in Common Bean. Plant Physiology, 2001, 125, 1901-1911.	4.8	92
97	Topsoil Foraging and Its Role in Plant Competitiveness for Phosphorus in Common Bean. Crop Science, 2003, 43, 598.	1.8	91
98	Phosphorus responses of C3and C4species. Journal of Experimental Botany, 1996, 47, 497-505.	4.8	90
99	QTL mapping and phenotypic variation for root architectural traits in maize (Zea mays L.). Theoretical and Applied Genetics, 2014, 127, 2293-2311.	3.6	90
100	Ethylene insensitivity impedes a subset of responses to phosphorus deficiency in tomato and petunia. Plant, Cell and Environment, 2008, 31, 1744-1755.	5.7	89
101	The hidden half of crop yields. Nature Plants, 2015, 1, 15117.	9.3	89
102	Genetic Variability in Phosphorus Responses of Rice Root Phenotypes. Rice, 2016, 9, 29.	4.0	89
103	Genetic Variation for Phosphorus Efficiency of Common Bean in Contrasting Soil Types: II. Yield Response. Crop Science, 1995, 35, 1094-1099.	1.8	88
104	Fractal geometry of bean root systems: correlations between spatial and fractal dimension. American Journal of Botany, 1997, 84, 26-33.	1.7	88
105	A critical test of the two prevailing theories of plant response to nutrient availability. American Journal of Botany, 2003, 90, 143-152.	1.7	88
106	Intensive field phenotyping of maize (<i>Zea mays</i>L.) root crowns identifies phenes and phene integration associated with plant growth and nitrogen acquisition. Journal of Experimental Botany, 2015, 66, 5493-5505.	4.8	88
107	Root foraging elicits niche complementarity-dependent yield advantage in the ancient â€˜three sistersâ€™ (maize/bean/squash) polyculture. Annals of Botany, 2014, 114, 1719-1733.	2.9	87
108	Phosphorus Distribution and Remobilization in Bean Plants as Influenced by Phosphorus Nutrition. Crop Science, 1996, 36, 929-935.	1.8	86

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109	Large Crown Root Number Improves Topsoil Foraging and Phosphorus Acquisition. Plant Physiology, 2018, 177, 90-104.	4.8	86
110	Greater lateral root branching density in maize improves phosphorus acquisition from low phosphorus soil. Journal of Experimental Botany, 2018, 69, 4961-4970.	4.8	85
111	Key interactions between nutrient limitation and climatic factors in temperate forests: a synthesis of the sugar maple literature. Canadian Journal of Forest Research, 2008, 38, 401-414.	1.7	80
112	Root cortical senescence decreases root respiration, nutrient content and radial water and nutrient transport in barley. Plant, Cell and Environment, 2017, 40, 1392-1408.	5.7	79
113	Title is missing!. Euphytica, 1997, 95, 325-338.	1.2	77
114	Utility of root cortical aerenchyma under water limited conditions in tropical maize (Zea mays L.). Field Crops Research, 2015, 171, 86-98.	5.1	77
115	Reduced root cortical burden improves growth and grain yield under low phosphorus availability in maize. Plant, Cell and Environment, 2018, 41, 1579-1592.	5.7	77
116	Seedling root architecture and its relationship with seed yield across diverse environments in Phaseolus vulgaris. Field Crops Research, 2019, 237, 53-64.	5.1	76
117	Multiple Integrated Root Phenotypes Are Associated with Improved Drought Tolerance. Plant Physiology, 2020, 183, 1011-1025.	4.8	76
118	Single and Multi-trait GWAS Identify Genetic Factors Associated with Production Traits in Common Bean Under Abiotic Stress Environments. G3: Genes, Genomes, Genetics, 2019, 9, 1881-1892.	1.8	76
119	Co-optimization of axial root phenotypes for nitrogen and phosphorus acquisition in common bean. Annals of Botany, 2018, 122, 485-499.	2.9	73
120	Salinity Tolerance in <i>Phaseolus</i> Species during Early Vegetative Growth. Crop Science, 2002, 42, 2184-2192.	1.8	70
121	Genome-wide association mapping and agronomic impact of cowpea root architecture. Theoretical and Applied Genetics, 2017, 130, 419-431.	3.6	69
122	Plants <i>in silico</i>: why, why now and what?â€"an integrative platform for plant systems biology research. Plant, Cell and Environment, 2016, 39, 1049-1057.	5.7	66
123	Delayed reproduction in <i>Arabidopsis thaliana</i> improves fitness in soil with suboptimal phosphorus availability. Plant, Cell and Environment, 2008, 31, 1432-1441.	5.7	63
124	Laser ablation tomography for visualization of root colonization by edaphic organisms. Journal of Experimental Botany, 2019, 70, 5327-5342.	4.8	62
125	Root Cortical Senescence Improves Growth under Suboptimal Availability of N, P, and K. Plant Physiology, 2017, 174, 2333-2347.	4.8	61
126	Morphological Plant Modeling: Unleashing Geometric and Topological Potential within the Plant Sciences. Frontiers in Plant Science, 2017, 8, 900.	3.6	61

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127	Multiseriate cortical sclerenchyma enhance root penetration in compacted soils. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	61
128	The Role of Nutrient-Efficient Crops in Modern Agriculture. The Journal of Crop Improvement: Innovations in Practiceory and Research, 1998, 1, 241-264.	0.4	59
129	Modelling Applicability of Fractal Analysis to Efficiency of Soil Exploration by Roots. Annals of Botany, 2004, 94, 119-128.	2.9	59
130	Influx and Efflux of P in Roots of Intact Maize Plants. Plant Physiology, 1984, 76, 336-341.	4.8	58
131	Subcellular and tissue Mn compartmentation in bean leaves under Mn toxicity stress. Functional Plant Biology, 1999, 26, 811.	2.1	57
132	Root cortical aerenchyma inhibits radial nutrient transport in maize (Zea mays). Annals of Botany, 2014, 113, 181-189.	2.9	57
133	The importance of dominance and genotype-by-environment interactions on grain yield variation in a large-scale public cooperative maize experiment. G3: Genes, Genomes, Genetics, 2021, 11, .	1.8	52
134	Stomata-mediated interactions between plants, herbivores, and the environment. Trends in Plant Science, 2022, 27, 287-300.	8.8	51
135	Rhizoeconomics: The Roots of Shoot Growth Limitations. Hortscience: A Publication of the American Society for Hortcultural Science, 2007, 42, 1107-1109.	1.0	51
136	Shoot Nitrogen Dynamics in Tropical Common Bean. Crop Science, 1992, 32, 392-397.	1.8	50
137	Multiple stress response and belowground competition in multilines of common bean (Phaseolus) Tj ETQq1 1 0.784314 rgBT /Overlock	5.1	49
138	Root responses to neighbouring plants in common bean are mediated by nutrient concentration rather than self/non-self recognition. Functional Plant Biology, 2011, 38, 941.	2.1	49
139	QTL mapping and phenotypic variation of root anatomical traits in maize (Zea mays L.). Theoretical and Applied Genetics, 2015, 128, 93-106.	3.6	49
140	Phenotypic variability and modelling of root structure of wild Lupinus angustifolius genotypes. Plant and Soil, 2011, 348, 345-364.	3.7	48
141	Root anatomical traits contribute to deeper rooting of maize under compacted field conditions. Journal of Experimental Botany, 2020, 71, 4243-4257.	4.8	48
142	Root metaxylem and architecture phenotypes integrate to regulate water use under drought stress. Plant, Cell and Environment, 2021, 44, 49-67.	5.7	48
143	Will nutrient-efficient genotypes mine the soil? Effects of genetic differences in root architecture in common bean (Phaseolus vulgaris L.) on soil phosphorus depletion in a low-input agro-ecosystem in Central America. Field Crops Research, 2010, 115, 67-78.	5.1	47
144	Genotypic variation and nitrogen stress effects on root anatomy in maize are node specific. Journal of Experimental Botany, 2019, 70, 5311-5325.	4.8	47

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145	Root angle in maize influences nitrogen capture and is regulated by calcineurin Bâ€like protein <scp>(CBL)</scp>â€interacting serine/threonineâ€protein kinase 15 (<scp><i>ZmCIPK15</i></scp>). Plant, Cell and Environment, 2022, 45, 837-853.	5.7	46
146	Lack of evidence for programmed root senescence in common bean (Phaseolus vulgaris) grown at different levels of phosphorus supply. New Phytologist, 2002, 153, 63-71.	7.3	45
147	Photosynthetic and antioxidant enzyme responses of sugar maple and red maple seedlings to excess manganese in contrasting light environments. Functional Plant Biology, 2004, 31, 1005.	2.1	44
148	Utility of Climatic Information via Combining Ability Models to Improve Genomic Prediction for Yield Within the Genomes to Fields Maize Project. Frontiers in Genetics, 2020, 11, 592769.	2.3	44
149	The Role of Nutrient-Efficient Crops in Modern Agriculture. The Journal of Crop Improvement: Innovations in Practiceory and Research, 1998, 1, 241-264.	0.4	43
150	Ethylene modulates genetic, positional, and nutritional regulation of root plagiogravitropism. Functional Plant Biology, 2007, 34, 41.	2.1	42
151	Spatiotemporal variation of nitrate uptake kinetics within the maize (<i>Zea mays</i>L.) root system is associated with greater nitrate uptake and interactions with architectural phenes. Journal of Experimental Botany, 2016, 67, 3763-3775.	4.8	42
152	Title is missing!. Plant and Soil, 1998, 206, 181-190.	3.7	41
153	Optimizing Vetch Nitrogen Production and Corn Nitrogen Accumulation under Noâ€Till Management. Agronomy Journal, 2010, 102, 1491-1499.	1.8	40
154	Spatial mapping of phosphorus influx in bean root systems using digital autoradiography. Journal of Experimental Botany, 2004, 55, 2269-2280.	4.8	39
155	Assessment of Inequality of Root Hair Density in Arabidopsis thaliana using the Gini Coefficient: a Close Look at the Effect of Phosphorus and its Interaction with Ethylene. Annals of Botany, 2005, 95, 287-293.	2.9	39
156	Genetic control of root anatomical plasticity in maize. Plant Genome, 2020, 13, e20003.	2.8	39
157	Future roots for future soils. Plant, Cell and Environment, 2022, 45, 620-636.	5.7	39
158	Effects of manganese toxicity on leaf CO2 assimilation of contrasting common bean genotypes. Physiologia Plantarum, 1997, 101, 872-880.	5.2	38
159	Optimizing reproductive phenology in a two-resource world: a dynamic allocation model of plant growth predicts later reproduction in phosphorus-limited plants. Annals of Botany, 2011, 108, 391-404.	2.9	38
160	Maize genomes to fields (G2F): 2014â€“2017 field seasons: genotype, phenotype, climatic, soil, and inbred ear image datasets. BMC Research Notes, 2020, 13, 71.	1.4	38
161	Functional implications of root cortical senescence for soil resource capture. Plant and Soil, 2018, 423, 13-26.	3.7	37
162	Genetic components of root architecture and anatomy adjustments to waterâ€deficit stress in spring barley. Plant, Cell and Environment, 2020, 43, 692-711.	5.7	37

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163	Genetic control of root architectural plasticity in maize. Journal of Experimental Botany, 2020, 71, 3185-3197.	4.8	37
164	Variation in Characters Related to Leaf Photosynthesis in Wild Bean Populations. Crop Science, 1992, 32, 633-640.	1.8	36
165	Root secondary growth: an unexplored component of soil resource acquisition. Annals of Botany, 2020, 126, 205-218.	2.9	36
166	Multiscale computational models can guide experimentation and targeted measurements for crop improvement. Plant Journal, 2020, 103, 21-31.	5.7	36
167	Utilization of Phosphorus Substrates by Contrasting Common Bean Genotypes. Crop Science, 1996, 36, 936-941.	1.8	35
168	Salinity stress inhibits calcium loading into the xylem of excised barley (Hordeum vulgare) roots. New Phytologist, 1997, 135, 419-427.	7.3	35
169	Compensation among root classes in Phaseolus vulgaris L.. Plant and Soil, 2007, 290, 307-321.	3.7	35
170	Responses to low phosphorus in high and low foliar anthocyanin coleus (Solenostemon) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 462 Td (s	2.1	35
171	Characters Related to Leaf Photosynthesis in Wild Populations and Landraces of Common Bean. Crop Science, 1995, 35, 1468-1476.	1.8	34
172	A decline in nitrogen availability affects plant responses to ozone. New Phytologist, 2001, 151, 413-425.	7.3	34
173	A case study on the efficacy of root phenotypic selection for edaphic stress tolerance in low-input agriculture: Common bean breeding in Mozambique. Field Crops Research, 2019, 244, 107612.	5.1	34
174	Silencing the alarm: an insect salivary enzyme closes plant stomata and inhibits volatile release. New Phytologist, 2021, 230, 793-803.	7.3	34
175	Spatial distribution and phenotypic variation in root cortical aerenchyma of maize (Zea mays L.). Plant and Soil, 2013, 367, 263-274.	3.7	32
176	Buffered delivery of phosphate to Arabidopsis alters responses to low phosphate. Journal of Experimental Botany, 2018, 69, 1207-1219.	4.8	32
177	DIRT/3D: 3D root phenotyping for field-grown maize (<i>Zea mays</i>). Plant Physiology, 2021, 187, 739-757.	4.8	32
178	Improving Soil Resource Uptake by Plants Through Capitalizing on Synergies Between Root Architecture and Anatomy and Root-Associated Microorganisms. Frontiers in Plant Science, 2022, 13, 827369.	3.6	30
179	Modeling the belowground response of plants and soil biota to edaphic and climatic changeâ€"What can we expect to gain?. Plant and Soil, 1994, 165, 149-160.	3.7	28
180	Germanium accumulation and toxicity in barley. Journal of Plant Nutrition, 1995, 18, 1417-1426.	1.9	28

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181	Root cortical anatomy is associated with differential pathogenic and symbiotic fungal colonization in maize. Plant, Cell and Environment, 2019, 42, 2999-3014.	5.7	26
182	Comparative phenomics of annual grain legume root architecture. Crop Science, 2020, 60, 2574-2593.	1.8	26
183	Differences in the success of sugar maple and red maple seedlings on acid soils are influenced by nutrient dynamics and light environment. Plant, Cell and Environment, 2005, 28, 874-885.	5.7	25
184	Maize Genomes to Fields: 2014 and 2015 field season genotype, phenotype, environment, and inbred ear image datasets. BMC Research Notes, 2018, 11, 452.	1.4	25
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