Lawrie Brown

List of Publications by Year
in descending order

34 papers	2,254 citations	25 h-index	34 g-index
34 all docs	34 docs citations	34 times ranked	2353 citing authors

#	Article	IF	Citations
1	Root hairs improve root penetration, rootâ€“soil contact, and phosphorus acquisition in soils of different strength. Journal of Experimental Botany, 2013, 64, 3711-3721.	4.8	215
2	Opportunities for mobilizing recalcitrant phosphorus from agricultural soils: a review. Plant and Soil, 2018, 427, 5-16.	3.7	191
3	What are the implications of variation in root hair length on tolerance to phosphorus deficiency in combination with water stress in barley (Hordeum vulgare)?. Annals of Botany, 2012, 110, 319-328.	2.9	175
4	Plant exudates may stabilize or weaken soil depending on species, origin and time. European Journal of Soil Science, 2017, 68, 806-816.	3.9	144
5	A conceptual model of root hair ideotypes for future agricultural environments: what combination of traits should be targeted to cope with limited P availability?. Annals of Botany, 2013, 112, 317-330.	2.9	118
6	Highâ€resolution synchrotron imaging shows that root hairs influence rhizosphere soil structure formation. New Phytologist, 2017, 216, 124-135.	7.3	116
7	Understanding the genetic control and physiological traits associated with rhizosheath production by barley (<i><scp>H</scp>ordeum vulgare</i>). New Phytologist, 2014, 203, 195-205.	7.3	105
8	Organic Acids Regulation of Chemicalâ€“Microbial Phosphorus Transformations in Soils. Environmental Science & Technology, 2016, 50, 11521-11531.	10.0	102
9	Root hair length and rhizosheath mass depend on soil porosity, strength and water content in barley genotypes. Planta, 2014, 239, 643-651.	3.2	101
10	The rhizosheath â€“ a potential trait for future agricultural sustainability occurs in orders throughout the angiosperms. Plant and Soil, 2017, 418, 115-128.	3.7	92
11	Measuring variation in potato roots in both field and glasshouse: the search for useful yield predictors and a simple screen for root traits. Plant and Soil, 2013, 368, 231-249.	3.7	74
12	A Holistic Approach to Understanding the Desorption of Phosphorus in Soils. Environmental Science & Technology, 2016, 50, 3371-3381.	10.0	71
13	Significance of root hairs for plant performance under contrasting field conditions and water deficit. Annals of Botany, 2021, 128, 1-16.	2.9	66
14	Interactions between root hair length and arbuscular mycorrhizal colonisation in phosphorus deficient barley (Hordeum vulgare). Plant and Soil, 2013, 372, 195-205.	3.7	55
15	Surface tension, rheology and hydrophobicity of rhizodeposits and seed mucilage influence soil water retention and hysteresis. Plant and Soil, 2019, 437, 65-81.	3.7	53
16	Imaging microstructure of the barley rhizosphere: particle packing and root hair influences. New Phytologist, 2019, 221, 1878-1889.	7.3	51
17	Genotypic variation in the ability of landraces and commercial cereal varieties to avoid manganese deficiency in soils with limited manganese availability: is there a role for rootâ€exuded phytases?. Physiologia Plantarum, 2014, 151, 243-256.	5.2	46
18	Inter- and intra-species intercropping of barley cultivars and legume species, as affected by soil phosphorus availability. Plant and Soil, 2018, 427, 125-138.	3.7	46

#	Article	IF	Citations
19	Field phenotyping of potato to assess root and shoot characteristics associated with drought tolerance. Plant and Soil, 2014, 378, 351-363.	3.7	43
20	Impact of soil tillage on the robustness of the genetic component of variation in phosphorus (P) use efficiency in barley (Hordeum vulgare L.). Plant and Soil, 2011, 339, 113-123.	3.7	42
21	Significance of root hairs at the field scale â€“ modelling root water and phosphorus uptake under different field conditions. Plant and Soil, 2020, 447, 281-304.	3.7	42
22	Response-based selection of barley cultivars and legume species for complementarity: Root morphology and exudation in relation to nutrient source. Plant Science, 2017, 255, 12-28.	3.6	41
23	Root development impacts on the distribution of phosphatase activity: Improvements in quantification using soil zymography. Soil Biology and Biochemistry, 2018, 116, 158-166.	8.8	40
24	Phosphorus acquisition by citrateâ€•and phytaseâ€•exuding <scp><i>Nicotiana tabacum</i></scp> plant mixtures depends on soil phosphorus availability and root intermingling. Physiologia Plantarum, 2018, 163, 356-371.	5.2	35
25	Differences in nutrient foraging among Trifolium subterraneum cultivars deliver improved P-acquisition efficiency. Plant and Soil, 2018, 424, 539-554.	3.7	34
26	Ancient barley landraces adapted to marginal soils demonstrate exceptional tolerance to manganese limitation. Annals of Botany, 2019, 123, 831-843.	2.9	29
27	Juvenile root vigour improves phosphorus use efficiency of potato. Plant and Soil, 2018, 432, 45-63.	3.7	27
28	Does the combination of citrate and phytase exudation in Nicotiana tabacum promote the acquisition of endogenous soil organic phosphorus?. Plant and Soil, 2017, 412, 43-59.	3.7	25
29	Simultaneous Quantification of Soil Phosphorus Labile Pool and Desorption Kinetics Using DGTs and 3D-DIFS. Environmental Science & Technology, 2019, 53, 6718-6728.	10.0	23
30	Carbon addition reduces labile soil phosphorus by increasing microbial biomass phosphorus in intensive agricultural systems. Soil Use and Management, 2020, 36, 536-546.	4.9	17
31	Interaction between root hairs and soil phosphorus on rhizosphere priming of soil organic matter. Soil Biology and Biochemistry, 2019, 135, 264-266.	8.8	14
32	Linking the depletion of rhizosphere phosphorus to the heterologous expression of a fungal phytase in Nicotiana tabacum as revealed by enzyme-labile P and solution 31P NMR spectroscopy. Rhizosphere, 2017, 3, 82-91.	3.0	12
33	Is Bere barley specifically adapted to fertilisation with seaweed as a nutrient source?. Nutrient Cycling in Agroecosystems, 2020, 118, 149-163.	2.2	5
34	Is Green Manure from Riparian Buffer Strip Species an Effective Nutrient Source for Crops?. Journal of Environmental Quality, 2019, 48, 385-393.	2.0	4