David A Laird

List of Publications by Year
in descending order

62 papers	8,808 citations	38 h-index	61 g-index
63 all docs	63 docs citations	63 times ranked	8970 citing authors

87888

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#	Article	IF	Citations
1	Nearâ€Infrared Reflectance Spectroscopyâ€"Principal Components Regression Analyses of Soil Properties. Soil Science Society of America Journal, 2001, 65, 480-490.	2.2	1,444
2	Impact of biochar amendments on the quality of a typical Midwestern agricultural soil. Geoderma, 2010, 158, 443-449.	5.1	1,043
3	Bio-oil and bio-char production from corn cobs and stover by fast pyrolysis. Biomass and Bioenergy, 2010, 34, 67-74.	5.7	573
4	Review of the pyrolysis platform for coproducing bioâ€oil and biochar. Biofuels, Bioproducts and Biorefining, 2009, 3, 547-562.	3.7	554
5	The Charcoal Vision: A Winâ€"Winâ€"Win Scenario for Simultaneously Producing Bioenergy, Permanently Sequestering Carbon, while Improving Soil and Water Quality. Agronomy Journal, 2008, 100, 178-181.	1.8	497
6	Assessing potential of biochar for increasing waterâ€holding capacity of sandy soils. GCB Bioenergy, 2013, 5, 132-143.	5.6	394
7	NEAR-INFRARED REFLECTANCE SPECTROSCOPIC ANALYSIS OF SOIL C AND N. Soil Science, 2002, 167, 110-116.	0.9	337
8	Influence of layer charge on swelling of smectites. Applied Clay Science, 2006, 34, 74-87.	5.2	300
9	Environmental Benefits of Biochar. Journal of Environmental Quality, 2012, 41, 967-972.	2.0	270
10	Characterization and quantification of biochar alkalinity. Chemosphere, 2017, 167, 367-373.	8.2	270
11	The Charcoal Vision: A Winâ€"Winâ€"Win Scenario for Simultaneously Producing Bioenergy, Permanently Sequestering Carbon, while Improving Soil and Water Quality. Agronomy Journal, 2008, 100, 178.	1.8	261
12	Arsenic sorption on zero-valent iron-biochar complexes. Water Research, 2018, 137, 153-163.	11.3	234
13	Anion exchange capacity of biochar. Green Chemistry, 2015, 17, 4628-4636.	9.0	160
14	Sorption of atrazine on Soil Clay Components. Environmental Science & Technology, 1994, 28, 1054-1061.	10.0	153
15	Biochar impact on Midwestern Mollisols and maize nutrient availability. Geoderma, 2014, 230-231, 340-347.	5.1	147
16	Adsorption behaviour and mechanisms of cadmium and nickel on rice straw biochars in single- and binary-metal systems. Chemosphere, 2019, 218, 308-318.	8.2	147
17	Sorption of ammonium and nitrate to biochars is electrostatic and pH-dependent. Scientific Reports, 2018, 8, 17627.	3.3	140
18	Model for Crystalline Swelling of 2:1 Phyllosilicates. Clays and Clay Minerals, 1996, 44, 553-559.	1.3	118

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19	INFLUENCE OF SOIL MOISTURE ON NEAR-INFRARED REFLECTANCE SPECTROSCOPIC MEASUREMENT OF SOIL PROPERTIES. Soil Science, 2005, 170, 244-255.	0.9	115
20	Impact of Pyrolysis Temperature and Feedstock on Surface Charge and Functional Group Chemistry of Biochars. Journal of Environmental Quality, 2018, 47, 452-461.	2.0	111
21	Evaluation of Modified Boehm Titration Methods for Use with Biochars. Journal of Environmental Quality, 2013, 42, 1771-1778.	2.0	92
22	Hysteresis in Crystalline Swelling of Smectites. Journal of Colloid and Interface Science, 1995, 171, 240-245.	9.4	89
23	Extent of Pyrolysis Impacts on Fast Pyrolysis Biochar Properties. Journal of Environmental Quality, 2012, 41, 1115-1122.	2.0	80
24	Effect of Biochar on Soil Greenhouse Gas Emissions at the Laboratory and Field Scales. Soil Systems, 2019, 3, 8.	2.6	80
25	Relationship Between Cation Exchange Selectivity and Crystalline Swelling in Expanding 2:1 Phyllosilicates. Clays and Clay Minerals, 1997, 45, 681-689.	1.3	64
26	Macroporous Carbon Supported Zerovalent Iron for Remediation of Trichloroethylene. ACS Sustainable Chemistry and Engineering, 2017, 5, 1586-1593.	6.7	63
27	Aluminum and iron biomass pretreatment impacts on biochar anion exchange capacity. Carbon, 2017, 118, 422-430.	10.3	62
28	Soil carbon increased by twice the amount of biochar carbon applied after 6Âyears: Field evidence of negative priming. GCB Bioenergy, 2020, 12, 240-251.	5.6	60
29	Corn and soil response to biochar application and stover harvest. Field Crops Research, 2016, 187, 96-106.	5.1	54
30	Distinguishing black carbon from biogenic humic substances in soil clay fractions. Geoderma, 2008, 143, 115-122.	5.1	50
31	Estimating the organic oxygen content of biochar. Scientific Reports, 2020, 10, 13082.	3.3	50
32	Exchangeable Cation Hydration Properties Strongly Influence Soil Sorption of Nitroaromatic Compounds. Soil Science Society of America Journal, 2006, 70, 1470-1479.	2.2	46
33	Producing energy while sequestering carbon? The relationship between biochar and agricultural productivity. Biomass and Bioenergy, 2014, 63, 167-176.	5.7	45
34	A model for mechanistic and system assessments of biochar effects on soils and crops and tradeâ€offs. GCB Bioenergy, 2016, 8, 1028-1045.	5.6	45
35	Carbon Sequestration in Clay Mineral Fractions from ¹⁴Câ€Labeled Plant Residues. Soil Science Society of America Journal, 2003, 67, 1715-1720.	2.2	44
36	Vertical Distribution of Corn Stover Dry Mass Grown at Several US Locations. Bioenergy Research, 2011, 4, 11-21.	3.9	43

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37	Spectroscopic Study of Carbaryl Sorption on Smectite from Aqueous Suspension. Environmental Science & Technology, 2005, 39, 9123-9129.	10.0	42
38	Sustainable Pyrolytic Production of Zerovalent Iron. ACS Sustainable Chemistry and Engineering, 2017, 5, 767-773.	6.7	41
39	Long term biochar effects on corn yield, soil quality and profitability in the US Midwest. Field Crops Research, 2018, 227, 30-40.	5.1	41
40	Comparison of the Physical and Chemical Properties of Laboratory and Fieldâ€Aged Biochars. Journal of Environmental Quality, 2016, 45, 1627-1634.	2.0	35
41	Development of field mobile soil nitrate sensor technology to facilitate precision fertilizer management. Precision Agriculture, 2019, 20, 40-55.	6.0	35
42	Regenerating Agricultural Landscapes with Perennial Groundcover for Intensive Crop Production. Agronomy, 2019, 9, 458.	3.0	34
43	Enhancing Biochar as Scaffolding for Slow Release of Nitrogen Fertilizer. ACS Sustainable Chemistry and Engineering, 2021, 9, 8222-8231.	6.7	34
44	Quantitative mechanisms of cadmium adsorption on rice straw- and swine manure-derived biochars. Environmental Science and Pollution Research, 2018, 25, 32418-32432.	5.3	33
45	Capture and Release of Orthophosphate by Fe-Modified Biochars: Mechanisms and Environmental Applications. ACS Sustainable Chemistry and Engineering, 2021, 9, 658-668.	6.7	33
46	Impact of six lignocellulosic biochars on C and N dynamics of two contrasting soils. GCB Bioenergy, 2017, 9, 1279-1291.	5.6	28
47	Impact of Biochar Organic and Inorganic Carbon on Soil CO 2 and N 2 O Emissions. Journal of Environmental Quality, 2017, 46, 505-513.	2.0	28
48	Interactions Between Atrazine and Smectite Surfaces. ACS Symposium Series, 1996, , 86-100.	0.5	24
49	Triazine Soil Interactions. , 2008, , 275-299.		20
50	Quantification and characterization of chemically-and thermally-labile and recalcitrant biochar fractions. Chemosphere, 2018, 194, 247-255.	8.2	19
51	Temperature and reaction atmosphere effects on the properties of corn stover biochar. Environmental Progress and Sustainable Energy, 2017, 36, 696-707.	2.3	17
52	Strategic switchgrass (<i>Panicum virgatum</i>) production within row cropping systems: Regionalâ€scale assessment of soil erosion loss and water runoff impacts. GCB Bioenergy, 2020, 12, 955-967.	5.6	17
53	Perennial biomass crop establishment, community characteristics, and productivity in the upper US Midwest: Effects of cropping systems seed mixtures and biochar applications. European Journal of Agronomy, 2018, 101, 121-128.	4.1	15
54	Establishment of Perennial Groundcovers for Maize-Based Bioenergy Production Systems. Agronomy Journal, 2017, 109, 822-835.	1.8	13

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55	Living Mulch for Sustainable Maize Stover Biomass Harvest. Crop Science, 2017, 57, 3273-3290.	1.8	11
56	Role of Smectite Quasicrystal Dynamics in Adsorption of Dinitrophenol. Soil Science Society of America Journal, 2008, 72, 347-354.	2.2	10
57	Quantitative Prediction of Biochar Soil Amendments by Near-Infrared Reflectance Spectroscopy. Soil Science Society of America Journal, 2013, 77, 1784-1794.	2.2	9
58	Commentary on â€˜Current economic obstacles to biochar use in agriculture and climate change mitigationâ€™ regarding uncertainty, context-specificity and alternative value sources. Carbon Management, 2017, 8, 215-217.	2.4	7
59	Perennial cover crop influences on soil C and N and maize productivity. Nutrient Cycling in Agroecosystems, 2020, 116, 135-150.	2.2	6
60	Temperature Effects on Properties of Rice Husk Biochar and Calcinated Burkina Phosphate Rock. Agriculture (Switzerland), 2021, 11, 432.	3.1	6
61	Real-Time Sensing of Soil Nitrate Concentration in the Parts per Million Range While the Soil is in Motion. Applied Spectroscopy, 2013, 67, 1106-1110.	2.2	4
62	Vertical Distribution of Structural Components in Corn Stover. Agriculture (Switzerland), 2014, 4, 274-287.	3.1	3