Kurt A Spokas

List of Publications by Year
in descending order

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146	11,524	34076 52	29127 104
papers	citations	h-index	g-index

152	152	152	10116
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Review of the stability of biochar in soils: predictability of O:C molar ratios. Carbon Management, 2010, 1, 289-303.	1.2	847
2	Biochar: A Synthesis of Its Agronomic Impact beyond Carbon Sequestration. Journal of Environmental Quality, 2012, 41, 973-989.	1.0	738
3	Impacts of woodchip biochar additions on greenhouse gas production and sorption/degradation of two herbicides in a Minnesota soil. Chemosphere, 2009, 77, 574-581.	4.2	526
4	Microbial methane oxidation processes and technologies for mitigation of landfill gas emissions. Waste Management and Research, 2009, 27, 409-455.	2.2	406
5	Qualitative analysis of volatile organic compounds on biochar. Chemosphere, 2011, 85, 869-882.	4.2	384
6	Characteristics and Applications of Biochar for Environmental Remediation: A Review. Critical Reviews in Environmental Science and Technology, 2015, 45, 939-969.	6.6	362
7	Biochar, soil and land-use interactions that reduce nitrate leaching and N2O emissions: A meta-analysis. Science of the Total Environment, 2019, 651, 2354-2364.	3.9	339
8	Feedstock choice, pyrolysis temperature and type influence biochar characteristics: a comprehensive meta-data analysis review. Biochar, 2020, 2, 421-438.	6.2	333
9	Physical and chemical characterization of waste wood derived biochars. Waste Management, 2015, 36, 256-268.	3.7	297
10	Methane mass balance at three landfill sites: What is the efficiency of capture by gas collection systems?. Waste Management, 2006, 26, 516-525.	3.7	292
11	Ethylene: potential key for biochar amendment impacts. Plant and Soil, 2010, 333, 443-452.	1.8	274
12	Nitrogen Oxide and Methane Emissions under Varying Tillage and Fertilizer Management. Journal of Environmental Quality, 2005, 34, 1467-1477.	1.0	251
13	Physical Disintegration of Biochar: An Overlooked Process. Environmental Science and Technology Letters, 2014, 1, 326-332.	3.9	245
14	Biocharâ€™s role as an alternative N-fertilizer: ammonia capture. Plant and Soil, 2012, 350, 35-42.	1.8	242
15	Challenges and opportunities for mitigating nitrous oxide emissions from fertilized cropping systems. Frontiers in Ecology and the Environment, 2012, 10, 562-570.	1.9	220
16	Phosphorus Reclamation through Hydrothermal Carbonization of Animal Manures. Environmental Science & Technology, 2014, 48, 10323-10329.	4.6	201
17	Impact of biochar field aging on laboratory greenhouse gas production potentials. GCB Bioenergy, 2013, 5, 165-176.	2.5	198
18	Predicting the impact of biochar additions on soil hydraulic properties. Chemosphere, 2016, 142, 136-144.	4.2	196

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19	Activated Carbon, Biochar and Charcoal: Linkages and Synergies across Pyrogenic Carbonâ€™s ABCs. Water (Switzerland), 2018, 10, 182.	1.2	195
20	Microstructural and associated chemical changes during the composting of a high temperature biochar: Mechanisms for nitrate, phosphate and other nutrient retention and release. Science of the Total Environment, 2018, 618, 1210-1223.	3.9	163
21	Kinetics of Methane Oxidation in a Landfill Cover Soil:Â Temporal Variations, a Whole-Landfill Oxidation Experiment, and Modeling of Net CH4Emissions. Environmental Science & Technology, 1997, 31, 2504-2514.	4.6	151
22	Influence of biochar amendments on the sorptionâ€“desorption of aminocyclopyrachlor, bentazone and pyraclostrobin pesticides to an agricultural soil. Science of the Total Environment, 2014, 470-471, 438-443.	3.9	144
23	BIOCHAR AS A TOOL TO REDUCE THE AGRICULTURAL GREENHOUSE-GAS BURDEN â€“ KNOWNS, UNKNOWNS AND FUTURE RESEARCH NEEDS. Journal of Environmental Engineering and Landscape Management, 2017, 25, 114-139.	0.4	144
24	Landfills as atmospheric methane sources and sinks. Chemosphere, 1995, 31, 4119-4130.	4.2	142
25	Sorption of ammonium and nitrate to biochars is electrostatic and pH-dependent. Scientific Reports, 2018, 8, 17627.	1.6	140
26	Comparative Sorption and Leaching Study of the Herbicides Fluometuron and 4-Chloro-2-methylphenoxyacetic Acid (MCPA) in a Soil Amended with Biochars and Other Sorbents. Journal of Agricultural and Food Chemistry, 2011, 59, 12550-12560.	2.4	125
27	Landfill CH4: Rates, fates, and role in global carbon cycle. Chemosphere, 1993, 26, 369-386.	4.2	123
28	Limits and dynamics of methane oxidation in landfill cover soils. Waste Management, 2011, 31, 823-832.	3.7	122
29	Determination of polycyclic aromatic hydrocarbons in biochar and biochar amended soil. Journal of Analytical and Applied Pyrolysis, 2013, 103, 60-67.	2.6	122
30	Influence of Soil Biochar Aging on Sorption of the Herbicides MCPA, Nicosulfuron, Terbuthylazine, Indaziflam, and Fluoroethyldiaminotriazine. Journal of Agricultural and Food Chemistry, 2014, 62, 10855-10860.	2.4	102
31	Accuracy and Precision Analysis of Chamberâ€Based Nitrous Oxide Gas Flux Estimates. Soil Science Society of America Journal, 2009, 73, 1087-1093.	1.2	95
32	Remediation of an acidic mine spoil: Miscanthus biochar and lime amendment affects metal availability, plant growth, and soil enzyme activity. Chemosphere, 2018, 205, 709-718.	4.2	91
33	Implications of the spatial variability of landfill emission rates on geospatial analyses. Waste Management, 2003, 23, 599-607.	3.7	90
34	Designing advanced biochar products for maximizing greenhouse gas mitigation potential. Critical Reviews in Environmental Science and Technology, 2016, 46, 1367-1401.	6.6	86
35	Biochar and Manure Effects on Net Nitrogen Mineralization and Greenhouse Gas Emissions from Calcareous Soil under Corn. Soil Science Society of America Journal, 2014, 78, 1641-1655.	1.2	82
36	Analytical pyrolysis of synthetic chars derived from biomass with potential agronomic application (biochar). Relationships with impacts on microbial carbon dioxide production. Journal of Analytical and Applied Pyrolysis, 2012, 93, 77-84.	2.6	79

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37	Short-term temporal changes of soil carbon losses after tillage described by a first-order decay model. Soil and Tillage Research, 2008, 99, 108-118.	2.6	77
38	Seasonal Greenhouse Gas Emissions (Methane, Carbon Dioxide, Nitrous Oxide) from Engineered Landfills: Daily, Intermediate, and Final California Cover Soils. Journal of Environmental Quality, 2011, 40, 1010-1020.	1.0	77
39	Impact of Biochar on Earthworm Populations: A Review. Applied and Environmental Soil Science, 2011, 2011, 1-12.	0.8	76
40	Genetic Variation for Life History Sensitivity to Seasonal Warming inArabidopsis thaliana. Genetics, 2014, 196, 569-577.	1.2	69
41	Biochars impact on water infiltration and water quality through a compacted subsoil layer. Chemosphere, 2016, 142, 160-167.	4.2	67
42	Rapid and distinct responses of particulate and mineral-associated organic nitrogen to conservation tillage and cover crops. Geoderma, 2020, 359, 114001.	2.3	66
43	Estimating hourly incoming solar radiation from limited meteorological data. Weed Science, 2006, 54, 182-189.	0.8	65
44	Observations on the methane oxidation capacity of landfill soils. Waste Management, 2011, 31, 914-925.	3.7	65
45	A Hydrothermal Seedling Emergence Model for Giant Ragweed (Ambrosia trifida). Weed Science, 2008, 56, 555-560.	0.8	64
46	Enhancing Cation Exchange Capacity of Weathered Soils Using Biochar: Feedstock, Pyrolysis Conditions and Addition Rate. Agronomy, 2020, 10, 824.	1.3	64
47	Software Tools for Weed Seed Germination Modeling. Weed Science, 2009, 57, 216-227.	0.8	63
48	Review of the Effects of Biochar Amendment on Soil Properties and Carbon Sequestration. Journal of Hazardous, Toxic, and Radioactive Waste, 2016, 20, .	1.2	63
49	Pesticide sorption and leaching potential on three Hawaiian soils. Journal of Environmental Management, 2015, 159, 227-234.	3.8	62
50	Carbon and Nitrogen Storage are Greater under Biennial Tillage in a Minnesota Corn-Soybean Rotation. Soil Science Society of America Journal, 2006, 70, 1752-1762.	1.2	60
51	Assessment of Mesotrione Leaching Applied Alone and Mixed in Seven Tropical Soils Columns under Laboratory Conditions. Agriculture (Switzerland), 2018, 8, 1.	1.4	59
52	Efficacies of designer biochars in improving biomass and nutrient uptake of winter wheat grown in a hard setting subsoil layer. Chemosphere, 2016, 142, 176-183.	4.2	57
53	Changes in sorption and bioavailability of herbicides in soil amended with fresh and aged biochar. Geoderma, 2019, 337, 341-349.	2.3	55
54	Multi-year and multi-location soil quality and crop biomass yield responses to hardwood fast pyrolysis biochar. Geoderma, 2017, 289, 46-53.	2.3	54

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55	Influence of pyrolysis temperature and hardwood species on resulting biochar properties and their effect on azimsulfuron sorption as compared to other sorbents. Science of the Total Environment, 2016, 566-567, 1454-1464.	3.9	51
56	Quantification and source apportionment of the methane emission flux from the city of Indianapolis. Elementa, 2015, 3, .	1.1	50
57	GHG impacts of biochar: Predictability for the same biochar. Agriculture, Ecosystems and Environment, 2015, 207, 183-191.	2.5	48
58	Soil Health, Crop Productivity, Microbial Transport, and Mine Spoil Response to Biochars. Bioenergy Research, 2016, 9, 454-464.	2.2	48
59	Biochar Soil Additions Affect Herbicide Fate: Importance of Application Timing and Feedstock Species. Journal of Agricultural and Food Chemistry, 2017, 65, 3109-3117.	2.4	48
60	Temporal Variations in Greenhouse Gas Emissions at a Midlatitude Landfill. Journal of Environmental Quality, 1999, 28, 278-288.	1.0	47
61	Characterization and selection of biochar for an efficient retention of tricyclazole in a flooded alluvial paddy soil. Journal of Hazardous Materials, 2015, 286, 581-588.	6.5	47
62	Biochars multifunctional role as a novel technology in the agricultural, environmental, and industrial sectors. Chemosphere, 2016, 142, 1-3.	4.2	47
63	Mechanisms of N2O production following chloropicrin fumigation. Applied Soil Ecology, 2006, 31, 101-109.	2.1	44
64	An Emergence Model for Wild Oat (Avena fatua). Weed Science, 2007, 55, 584-591.	0.8	44
65	Understanding Activation Effects on Low-Temperature Biochar for Optimization of Herbicide Sorption. Agronomy, 2019, 9, 588.	1.3	40
66	Greenhouse Gas Production in Mixtures of Soil with Composted and Noncomposted Biochars Is Governed by Char-Associated Organic Compounds. Journal of Environmental Quality, 2014, 43, 971-979.	1.0	39
67	A process-based inventory model for landfill CH₄emissions inclusive of seasonal soil microclimate and CH₄oxidation. Journal of Geophysical Research, 2011, 116, .	3.3	38
68	Sorption and predicted mobility of herbicides in Baltic soils. Journal of Environmental Science and Health - Part B Pesticides, Food Contaminants, and Agricultural Wastes, 2007, 42, 641-647.	0.7	37
69	Leachate water quality of soils amended with different swine manure-based amendments. Chemosphere, 2016, 142, 92-99.	4.2	37
70	Greenhouse gas production and emission from a forest nursery soil following fumigation with chloropicrin and methyl isothiocyanate. Soil Biology and Biochemistry, 2005, 37, 475-485.	4.2	36
71	Metolachlor Sorption and Degradation in Soil Amended with Fresh and Aged Biochars. Journal of Agricultural and Food Chemistry, 2016, 64, 3141-3149.	2.4	36
72	Carbon Dosing Increases Nitrate Removal Rates in Denitrifying Bioreactors at Lowâ€Temperature Highâ€Flow Conditions. Journal of Environmental Quality, 2018, 47, 856-864.	1.0	35

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73	Large differences in potential denitrification and sediment microbial communities across the Laurentian great lakes. Biogeochemistry, 2016, 128, 353-368.	1.7	34
74	Denitrification kinetics in biomass- and biochar-amended soils of different landscape positions. Environmental Science and Pollution Research, 2015, 22, 5152-5163.	2.7	32
75	Concentration and Release of Phosphorus and Potassium From Lignocellulosic- and Manure-Based Biochars for Fertilizer Reuse. Frontiers in Sustainable Food Systems, 2018, 2, .	1.8	31
76	Biochar reduces the efficiency of nitrification inhibitor 3,4-dimethylpyrazole phosphate (DMPP) mitigating N2O emissions. Scientific Reports, 2019, 9, 2346.	1.6	31
77	Construction of an Electrical Device for Sampling Earthworm Populations in the Field. Applied Engineering in Agriculture, 2008, 24, 391-397.	0.3	30
78	Soil Functional Zone Management: A Vehicle for Enhancing Production and Soil Ecosystem Services in Row-Crop Agroecosystems. Frontiers in Plant Science, 2016, 7, 65.	1.7	30
79	Pyrolysis biochar has negligible effects on soil greenhouse gas production, microbial communities, plant germination, and initial seedling growth. Chemosphere, 2019, 228, 565-576.	4.2	30
80	Assessing the Effect of Organoclays and Biochar on the Fate of Abscisic Acid in Soil. Journal of Agricultural and Food Chemistry, 2017, 65, 29-38.	2.4	28
81	Glyphosate sorption/desorption on biochars â€“ interactions of physical and chemical processes. Pest Management Science, 2018, 74, 1206-1212.	1.7	27
82	Phytostabilization of acidic mine tailings with biochar, biosolids, lime, and locally-sourced microbial inoculum: Do amendment mixtures influence plant growth, tailing chemistry, and microbial composition?. Applied Soil Ecology, 2021, 165, 103962.	2.1	27
83	Degradation of Methyl Isothiocyanate and Chloropicrin in Forest Nursery Soils. Journal of Environmental Quality, 2005, 34, 1566-1572.	1.0	25
84	Plastics â€“ still young, but having a mature impact. Waste Management, 2008, 28, 473-474.	3.7	25
85	Mechanisms for 1,3-Dichloropropene Dissipation in Biochar-Amended Soils. Journal of Agricultural and Food Chemistry, 2016, 64, 2531-2540.	2.4	25
86	Response of maize germination and growth to hydrothermal carbonization filtrate type and amount. Plant and Soil, 2015, 396, 127-136.	1.8	23
87	Reconciling opposing soil processes in row-crop agroecosystems via soil functional zone management. Agriculture, Ecosystems and Environment, 2017, 236, 99-107.	2.5	23
88	Shortâ€term temporal changes of bare soil CO₂ fluxes after tillage described by firstâ€order decay models. European Journal of Soil Science, 2009, 60, 258-264.	1.8	22
89	Structural Equation Modeling Facilitates Transdisciplinary Research on Agriculture and Climate Change. Crop Science, 2014, 54, 475-483.	0.8	22
90	Can using polymer-coated seed reduce the risk of poor soybean emergence in no-tillage soil?. Field Crops Research, 2012, 125, 109-116.	2.3	21

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91	Crop residue decomposition in Minnesota biochar-amended plots. Solid Earth, 2014, 5, 499-507.	1.2	21
92	Effects of biochars and hydrochars produced from lignocellulosic and animal manure on fertility of a Mollisol and Entisol. Soil Use and Management, 2014, 30, 175-181.	2.6	21
93	CO2 and N2O emissions in a soil chronosequence at a glacier retreat zone in Maritime Antarctica. Science of the Total Environment, 2015, 521-522, 336-345.	3.9	21
94	Phytostabilization of Zn and Cd in Mine Soil Using Corn in Combination with Biochars and Manure-Based Compost. Environments - MDPI, 2019, 6, 69.	1.5	21
95	Fumigant distribution in forest nursery soils under water seal and plastic film after application of dazomet, metam-sodium and chloropicrin. Pest Management Science, 2006, 62, 263-273.	1.7	20
96	Stimulation of nitrous oxide production resulted from soil fumigation with chloropicrin. Atmospheric Environment, 2003, 37, 3501-3507.	1.9	19
97	SeedChaser: Vertical soil tillage distribution model. Computers and Electronics in Agriculture, 2007, 57, 62-73.	3.7	19
98	A comparison of soil hydrothermal properties in zonal and uniform tillage systems across the US Corn Belt. Geoderma, 2016, 273, 12-19.	2.3	19
99	Assessing biochar's ability to reduce bioavailability of aminocyclopyrachlor in soils. Environmental Pollution, 2014, 189, 92-97.	3.7	18
100	Biochar research activities and their relation to development and environmental quality. A meta-analysis. Agronomy for Sustainable Development, 2017, 37, 1.	2.2	17
101	Dynamic Effect of Fresh and Aged Biochar on the Behavior of the Herbicide Mesotrione in Soils. Journal of Agricultural and Food Chemistry, 2019, 67, 9450-9459.	2.4	17
102	Global Diversity of the Brachypodium Species Complex as a Resource for Genome-Wide Association Studies Demonstrated for Agronomic Traits in Response to Climate. Genetics, 2019, 211, 317-331.	1.2	17
103	Emergence Prediction of Common Groundsel (Senecio Vulgaris). Weed Science, 2008, 56, 58-65.	0.8	16
104	From California dreaming to California data: Challenging historic models for landfill CH4 emissions. Elementa, 2015, 3, .	1.1	16
105	Atmospheric emissions of methyl isothiocyanate and chloropicrin following soil fumigation and surface containment treatment in bare-root forest nurseries. Canadian Journal of Forest Research, 2005, 35, 1202-1212.	0.8	15
106	Effects of soil fumigants on methanotrophic activity. Atmospheric Environment, 2007, 41, 8150-8162.	1.9	15
107	Evaluating Agricultural Management Effects on Alachlor Availability: Tillage, Green Manure, and Biochar. Agronomy, 2017, 7, 64.	1.3	15
108	Collapse of Reacted Fracture Surface Decreases Permeability and Frictional Strength. Journal of Geophysical Research: Solid Earth, 2019, 124, 12799-12811.	1.4	15

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109	Precision control of soil nitrogen cycling via soil functional zone management. Agriculture, Ecosystems and Environment, 2016, 231, 291-295.	2.5	14
110	Field measurements and modeling to resolve m2 to km2 CH4 emissions for a complex urban source: An Indiana landfill study. Elementa, 2017, 5, .	1.1	14
111	First-order decay models to describe soil C-CO2 Loss after rotary tillage. Scientia Agricola, 2009, 66, 650-657.	0.6	12
112	Biochar changes the bioavailability and bioefficacy of the allelochemical coumarin in agricultural soils. Pest Management Science, 2021, 77, 834-843.	1.7	12
113	Ratio of CO2 and O2 as index for categorising soil biological activity in sugarcane areas under contrasting straw management regimes. Soil Research, 2018, 56, 373.	0.6	11
114	Improved methodology to assess modification and completion of landfill gas management in the aftercare period. Waste Management, 2012, 32, 2364-2373.	3.7	10
115	Phenolic Acid Sorption to Biochars from Mixtures of Feedstock Materials. Water, Air, and Soil Pollution, 2014, 225, 1.	1.1	10
116	Columns and Detectors Recommended in Gas Chromatography to Measure Greenhouse Emission and O ₂ Uptake in Soil: A Review. Communications in Soil Science and Plant Analysis, 2020, 51, 582-594.	0.6	10
117	Impact of Biochar Particle Shape and Size on Saturated Hydraulic Properties of Soil. Korean Journal of Environmental Agriculture, 2018, 37, 1-8.	0.0	10
118	Special issue on landfill gas emission and mitigation. Waste Management, 2011, 31, 821-822.	3.7	9
119	Assessing Microbial Contributions to N2O Impacts Following Biochar Additions. Agronomy, 2014, 4, 478-496.	1.3	9
120	Research and Application of Biochar in North America. SSSA Special Publication Series, 0, , 475-494.	0.2	9
121	Temperature alters dicyandiamide (DCD) efficacy for multiple reactive nitrogen species in urea-amended soils: Experiments and modeling. Soil Biology and Biochemistry, 2021, 160, 108341.	4.2	9
122	Impacts of Biochar (Black Carbon) Additions on the Sorption and Efficacy of Herbicides. , 0, , .		8
123	Swathing and Windrowing as Harvest Aids for Cuphea. Agronomy Journal, 2007, 99, 415-418.	0.9	7
124	Soil Greenhouse Gases: Relations to Soil Attributes in a Sugarcane Production Area. Soil Science Society of America Journal, 2017, 81, 1168-1178.	1.2	7
125	Sugarcane residue management impact soil greenhouse gas. Ciencia E Agrotecnologia, 2018, 42, 195-203.	1.5	7
126	Microbial response to designer biochar and compost treatments for mining impacted soils. Biochar, 2021, 3, 299-314.	6.2	7

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127	Relative proportions of organic carbon functional groups in biochars as influenced by spectral data collection and processing. Chemosphere, 2021, 283, 131023.	4.2	6
128	Field System for Continuous Measurement of Landfill Gas Pressures and Temperatures. Waste Management and Research, 1996, 14, 233-242.	2.2	5
129	Plant Macro- and Micronutrient Dynamics in a Biochar-Amended Wetland Muck. Water, Air, and Soil Pollution, 2015, 226, 1.	1.1	5
130	Biomass or biochar â€“ which is better at improving soil hydraulic properties?. Acta Horticulturae, 2016, , 235-242.	0.1	5
131	Biochar insights from laboratory incubations monitoring O2 consumption and CO2 production. Biochar, 2019, 1, 249-258.	6.2	5
132	Nitrate removal and nitrous oxide production from upflow and downflow column woodchip bioreactors. Agricultural and Environmental Letters, 2020, 5, e20024.	0.8	4
133	Potential greenhouse gases emissions by different plant communities in maritime Antarctica. Anais Da Academia Brasileira De Ciencias, 2022, 94, .	0.3	4
134	Measurement of Microbial Biomass and Activity in Landfill Soils. Waste Management and Research, 1995, 13, 137-147.	2.2	3
135	Microbial Response to Phytostabilization in Mining Impacted Soils Using Maize in Conjunction with Biochar and Compost. Microorganisms, 2021, 9, 2545.	1.6	3
136	Measurement of nitrous oxide concentrations from Wisconsin dairy barns. , 2009, , .		2
137	Measurement of microbial biomass and activity in landfill soils. Waste Management and Research, 1995, 13, 137-147.	2.2	1
138	FIELD SYSTEM FOR CONTINUOUS MEASUREMENT OF LANDFILL GAS PRESSURES AND TEMPERATURES. Waste Management and Research, 1996, 14, 233-242.	2.2	1
139	Methane: Signs of progress along the road. Waste Management, 2007, 27, 459-460.	3.7	0
140	Know Your Community-Biochar: Agronomic and Environmental Uses Community. CSA News, 2013, 58, 25-25.	0.1	0
141	Enhanced control of soil nitrogen cycling through soil functional zone management. Crops & Soils, 2016, 49, 42-45.	0.1	0
142	Creating a Biochar Roadmap. CSA News, 2018, 63, 24-25.	0.1	0
143	Stable Isotopes in Evaluation of Greenhouse Gas Emissions. Encyclopedia of Earth Sciences Series, 2011, , 845-849.	0.1	0
144	Effect of Carbonaceous Soil Amendments on Potential Mobility of Weak Acid Herbicides in Soil. , 2013, , 497-500.		0

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145	Sorption and desorption of bicyclopyrone on soils. Agricultural and Environmental Letters, 2020, 5, e20039.	0.8	0
146	Does Turbulent-flow Conditioning of Irrigation Water Influence Soil Chemical Processes: II. Long-term Soil and Crop Study. Communications in Soil Science and Plant Analysis, 2022, 53, 636-650.	0.6	0