Matt Liebman

List of Publications by Year
in descending order

146 papers	7,566 citations	71004 43 h-index	93651 72 g-index
158 all docs	158 docs citations	158 times ranked	6705 citing authors

#	Article	IF	Citations
1	Crop Rotation and Intercropping Strategies for Weed Management. , 1993, 3, 92-122.		662
2	Increasing Cropping System Diversity Balances Productivity, Profitability and Environmental Health. PLoS ONE, 2012, 7, e47149.	1.1	410
3	Agricultural diversification promotes multiple ecosystem services without compromising yield. Science Advances, 2020, 6, .	4.7	405
4	Benefits of increasing plant diversity in sustainable agroecosystems. Journal of Ecology, 2017, 105, 871-879.	1.9	360
5	Prairie strips improve biodiversity and the delivery of multiple ecosystem services from cornâ€“soybean croplands. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 11247-11252.	3.3	225
6	Many Little Hammers: Ecological Management of Crop-Weed Interactions. , 1997, , 291-343.		205
7	Are many little hammers effective? Velvetleaf (Abutilon theophrasti) population dynamics in two- and four-year crop rotation systems. Weed Science, 2005, 53, 382-392.	0.8	162
8	Crop Species Diversity Affects Productivity and Weed Suppression in Perennial Polycultures under Two Management Strategies. Crop Science, 2008, 48, 331-342.	0.8	133
9	Theoretical and practical challenges to an IPM approach to weed management. Weed Science, 2000, 48, 274-280.	0.8	127
10	Does diversifying crop rotations suppress weeds? A meta-analysis. PLoS ONE, 2019, 14, e0219847.	1.1	122
11	Nitrogen Influences Biomass and Nutrient Partitioning by Perennial, Warmâ€Season Grasses. Agronomy Journal, 2009, 101, 1363-1371.	0.9	120
12	Seasonal patterns in post-dispersal seed predation ofAbutilon theophrastiandSetaria faberiin three cropping systems. Journal of Applied Ecology, 2006, 43, 999-1010.	1.9	114
13	Adaptive Radiation of the Hawaiian Silversword Alliance (Compositae- Madiinae): Ecological, Morphological, and Physiological Diversity. Annals of the Missouri Botanical Garden, 1990, 77, 64.	1.3	110
14	Productivity and Nutrient Dynamics in Bioenergy Doubleâ€Cropping Systems. Agronomy Journal, 2008, 100, 1740-1748.	0.9	105
15	Agronomic and Economic Performance Characteristics of Conventional and Lowâ€Externalâ€Input Cropping Systems in the Central Corn Belt. Agronomy Journal, 2008, 100, 600-610.	0.9	97
16	Cropping system effects on giant foxtail (Setaria faberi) demography: I. Green manure and tillage timing. Weed Science, 2003, 51, 919-929.	0.8	96
17	Post-dispersal weed seed predation by invertebrates in conventional and low-external-input crop rotation systems. Agriculture, Ecosystems and Environment, 2006, 116, 280-288.	2.5	95
18	Rye cover crop effects on maize: A system-level analysis. Field Crops Research, 2016, 196, 145-159.	2.3	92

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19	Predicting crop yields and soilâ€plant nitrogen dynamics in the US Corn Belt. Crop Science, 2020, 60, 721-738.	0.8	91
20	Enhancing the competitive ability of crops. , 2001, , 269-321.		88
21	Comparing Estimates of Seed Viability in Three Foxtail (Setaria) Species Using the Imbibed Seed Crush Test with and Without Additional Tetrazolium Testing. Weed Technology, 2007, 21, 518-522.	0.4	82
22	How efficiently do cornâ€•and soybeanâ€based cropping systems use water? A systems modeling analysis. Global Change Biology, 2016, 22, 666-681.	4.2	80
23	Diverse perennial crop mixtures sustain higher productivity over time based on ecological complementarity. Renewable Agriculture and Food Systems, 2011, 26, 317-327.	0.8	78
24	Title is missing!. Plant and Soil, 2002, 238, 245-256.	1.8	76
25	Using biodiversity to link agricultural productivity with environmental quality: Results from three field experiments in Iowa. Renewable Agriculture and Food Systems, 2013, 28, 115-128.	0.8	72
26	Maize and soybean root front velocity and maximum depth in Iowa, USA. Field Crops Research, 2018, 215, 122-131.	2.3	72
27	Cover Crops for Sweet Corn Production in a Shortâ€Season Environment. Agronomy Journal, 2000, 92, 144-151.	0.9	71
28	Phytotoxic effects of red clover amended soils on wild mustard seedling growth. Agriculture, Ecosystems and Environment, 2000, 78, 187-192.	2.5	69
29	Integrating measurements of seed availability and removal to estimate weed seed losses due to predation. Weed Science, 2006, 54, 566-574.	0.8	69
30	Potential for Enhanced Nutrient Cycling through Coupling of Agricultural and Bioenergy Systems. Crop Science, 2007, 47, 1327-1335.	0.8	64
31	Densityâ€dependent predation of weed seeds in maize fields. Journal of Applied Ecology, 2008, 45, 1612-1620.	1.9	64
32	Linking crop- and soil-based approaches to evaluate system nitrogen-use efficiency and tradeoffs. Agriculture, Ecosystems and Environment, 2018, 256, 131-143.	2.5	64
33	Nitrogen source influences wild mustard growth and competitive effect on sweet corn. Weed Science, 2001, 49, 558-566.	0.8	63
34	Ecologically sustainable weed management: How do we get from proofâ€ofâ€concept to adoption?. Ecological Applications, 2016, 26, 1352-1369.	1.8	63
35	Crop diversification for weed management. , 2001, , 322-374.		60
36	Ground Beetle (Coleoptera: Carabidae) Assemblages in Conventional and Diversified Crop Rotation Systems. Environmental Entomology, 2008, 37, 121-130.	0.7	60

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37	Cropping System Diversity Effects on Nutrient Discharge, Soil Erosion, and Agronomic Performance. Environmental Science & Technology, 2019, 53, 1344-1352.	4.6	59
38	Corn Response to Composting and Time of Application of Solid Swine Manure. Agronomy Journal, 2004, 96, 214-223.	0.9	58
39	Weed Productivity and Composition in Sole Crops and Intercrops of Barley and Field Pea. Journal of Applied Ecology, 1987, 24, 685.	1.9	57
40	Enhancing agroecosystem performance and resilience through increased diversification of landscapes and cropping systems. Elementa, 2015, 3, .	1.1	56
41	Can mineralization of soil organic nitrogen meet maize nitrogen demand?. Plant and Soil, 2017, 415, 73-84.	1.8	56
42	Meeting global challenges with regenerative agriculture producing food and energy. Nature Sustainability, 2022, 5, 384-388.	11.5	53
43	USING MATRIX MODELS TO DETERMINE CROPPING SYSTEM EFFECTS ON ANNUAL WEED DEMOGRAPHY. , 2004, 14, 655-668.		52
44	Chemical characterization of soil phosphorus and organic matter in different cropping systems in Maine, U.S.A.. Agriculture, Ecosystems and Environment, 2005, 105, 625-634.	2.5	51
45	Reducing Freshwater Toxicity while Maintaining Weed Control, Profits, And Productivity: Effects of Increased Crop Rotation Diversity and Reduced Herbicide Usage. Environmental Science & Technology, 2017, 51, 1707-1717.	4.6	48
46	Mechanical management of weeds. , 2001, , 139-209.		47
47	Cropping system effects on giant foxtail (Setaria faberi) demography: II. Retrospective perturbation analysis. Weed Science, 2003, 51, 930-939.	0.8	47
48	Subsurface Drainage Nitrate and Total Reactive Phosphorus Losses in Bioenergy-Based Prairies and Corn Systems. Journal of Environmental Quality, 2015, 44, 1638-1646.	1.0	47
49	Seed Feeding, Seed Caching, and Burrowing Behaviors ofHarpalus rufipesDe Geer Larvae (Coleoptera:) Tj ETQq1 1 0.784314 rgBT /Ov	1.4	46
50	Weed life history: identifying vulnerabilities. , 2001, , 40-98.		46
51	Planting Date Effects on Winter Triticale Dry Matter and Nitrogen Accumulation. Agronomy Journal, 2005, 97, 1333-1341.	0.9	46
52	Seed mass affects the susceptibility of weed and crop species to phytotoxins extracted from red clover shoots. Weed Science, 2006, 54, 340-345.	0.8	45
53	An economic analysis of integrated crop-livestock systems in Iowa, U.S.A.. Agricultural Systems, 2017, 157, 51-69.	3.2	45
54	Effects of pest and soil management systems on weed dynamics in potato. Weed Science, 1998, 46, 238-248.	0.8	44

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55	Agro-ecoregionalization of Iowa using multivariate geographical clustering. Agriculture, Ecosystems and Environment, 2008, 123, 161-174.	2.5	44
56	Nitrogen fertilization increases diversity and productivity of prairie communities used for bioenergy. GCB Bioenergy, 2013, 5, 281-289.	2.5	44
57	Residual Effects of Composted and Fresh Solid Swine (Sus scrofa L.) Manure on Soybean [Glycine max (L.) Merr.] Growth and Yield. Agronomy Journal, 2006, 98, 873-882.	0.9	42
58	Fossil Energy Use in Conventional and Lowâ€Externalâ€Input Cropping Systems. Agronomy Journal, 2010, 102, 934-941.	0.9	41
59	Use of legume green manures as nitrogen sources for corn production. Renewable Agriculture and Food Systems, 2012, 27, 180-191.	0.8	40
60	Aboveâ€•and Belowground Growth, Biomass, and Nitrogen Use in Maize and Reconstructed Prairie Cropping Systems. Crop Science, 2015, 55, 910-923.	0.8	40
61	Tillage and Rotation Crop Effects on Weed Dynamics in Potato Production Systems. Agronomy Journal, 1996, 88, 18-26.	0.9	39
62	Tradeâ€offs among agronomic, energetic, and environmental performance characteristics of corn and prairie bioenergy cropping systems. GCB Bioenergy, 2015, 7, 57-71.	2.5	39
63	Effects of nitrogen fertilizer, irrigation, and crop genotype on canopy relations and yields of an intercrop/weed mixture. Field Crops Research, 1989, 22, 83-100.	2.3	38
64	Impacts of composted swine manure on weed and corn nutrient uptake, growth, and seed production. Weed Science, 2004, 52, 365-375.	0.8	36
65	A deeper look at the relationship between root carbonÂpools and the vertical distribution ofÂtheÂsoilÂcarbonÂpool. Soil, 2017, 3, 139-152.	2.2	35
66	Impact of composted swine manure and tillage on common waterhemp (Amaranthus rudis) competition with soybean. Weed Science, 2004, 52, 605-613.	0.8	33
67	Whole-profile soil organic matter content, composition, and stability under cropping systems that differ in belowground inputs. Agriculture, Ecosystems and Environment, 2020, 291, 106810.	2.5	33
68	Carbonâ€sensitive pedotransfer functions for plant available water. Soil Science Society of America Journal, 2022, 86, 612-629.	1.2	33
69	Growth Analysis of Biomass Production in Soleâ€Crop and Doubleâ€Crop Corn Systems. Crop Science, 2009, 49, 2215-2224.	0.8	32
70	Functional group and fertilization affect the composition and bioenergy yields of prairie plants. GCB Bioenergy, 2012, 4, 671-679.	2.5	32
71	Tradeoffs in Biomass and Nutrient Allocation in Prairies and Corn Managed for Bioenergy Production. Crop Science, 2012, 52, 1330-1342.	0.8	31
72	Synchrony of net nitrogen mineralization and maize nitrogen uptake following applications of composted and fresh swine manure in the Midwest U.S.. Nutrient Cycling in Agroecosystems, 2012, 93, 65-74.	1.1	31

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73	Competition by barley and pea against mustard: Effects on resource acquisition, photosynthesis and yield. Agriculture, Ecosystems and Environment, 1990, 31, 155-172.	2.5	30
74	Agricultural Weed Research: A Critique and Two Proposals. Weed Science, 2014, 62, 672-678.	0.8	30
75	Fossil Energy Use, Climate Change Impacts, and Air Quality-Related Human Health Damages of Conventional and Diversified Cropping Systems in Iowa, USA. Environmental Science & Technology, 2020, 54, 11002-11014.	4.6	30
76	Root Parameters Show How Management Alters Resource Distribution and Soil Quality in Conventional and Low-Input Cropping Systems in Central Iowa. PLoS ONE, 2016, 11, e0164209.	1.1	30
77	Intraseasonal Changes in Switchgrass Nitrogen Distribution Compared with Corn. Agronomy Journal, 2013, 105, 285-294.	0.9	29
78	Patterns of Regional Yield Stability in Association with Regional Environmental Characteristics. Crop Science, 2008, 48, 1545-1559.	0.8	28
79	Nutrients in soil water under three rotational cropping systems, Iowa, USA. Agriculture, Ecosystems and Environment, 2014, 186, 105-114.	2.5	28
80	Predicting Gross Nitrogen Mineralization and Potentially Mineralizable Nitrogen using Soil Organic Matter Properties. Soil Science Society of America Journal, 2017, 81, 1115-1126.	1.2	28
81	Weeds and the soil environment. , 2001, , 210-268.		26
82	Determination of Compost Respiration Rates Using Pressure Sensors. Compost Science and Utilization, 2006, 14, 124-131.	1.2	26
83	Maize root distributions strongly associated with water tables in Iowa, USA. Plant and Soil, 2019, 444, 225-238.	1.8	26
84	Dry Bean Responses to Nitrogen Fertilizer in Two Tillage and Residue Management Systems. Agronomy Journal, 1995, 87, 538-546.	0.9	25
85	Composted Swine Manure Effects on Germination and Early Growth of Crop and Weed Species Under Greenhouse Conditions1. Weed Technology, 2005, 19, 784-789.	0.4	25
86	Biomass Production and Nitrogen Accumulation in Pea, Oat, and Vetch Green Manure Mixtures. Agronomy Journal, 1996, 88, 231-240.	0.9	24
87	Weed Management: A Need to Develop Ecological Approaches. , 1993, 3, 39-41.		22
88	Abundance of carabid beetles and other ground-dwelling arthropods in conventional versus low-input bean cropping systems. Agriculture, Ecosystems and Environment, 1993, 43, 127-139.	2.5	21
89	Differential responses to red clover residue and ammonium nitrate by common bean and wild mustard. Weed Science, 2002, 50, 521-529.	0.8	21
90	Exploring the Potential of High-Resolution Satellite Imagery for the Detection of Soybean Sudden Death Syndrome. Remote Sensing, 2020, 12, 1213.	1.8	21

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91	Weed management: a need for ecological approaches. , 2001, , 1-39.		20
92	Managing Weeds in Organic Farming Systems: An Ecological Approach. Agronomy, 0, , 173-195.	0.2	20
93	Strips of prairie vegetation placed within row crops can sustain native bee communities. PLoS ONE, 2020, 15, e0240354.	1.1	20
94	Postdispersal Weed Seed Predation and Invertebrate Activity Density in Three Tillage Regimes. Weed Science, 2015, 63, 828-838.	0.8	18
95	Effects of Long-Term Cover Cropping on Weed Seedbanks. Frontiers in Agronomy, 2020, 2, .	1.5	18
96	Nutrient enrichment reduces complementarity and increases priority effects in prairies managed for bioenergy. Biomass and Bioenergy, 2012, 36, 381-389.	2.9	17
97	Can soil nitrogen dynamics explain the yield benefit of crop diversification?. Field Crops Research, 2018, 219, 33-42.	2.3	17
98	Corn Growth Responses to Composted and Fresh Solid Swine Manures. Crop Science, 2004, 44, 177.	0.8	17
99	Effects of composted swine manure on weed seedbank. Agriculture, Ecosystems and Environment, 2005, 111, 63-69.	2.5	15
100	Cropping System Redesign for Improved Weed Management: A Modeling Approach Illustrated with Giant Ragweed (Ambrosia trifida). Agronomy, 2020, 10, 262.	1.3	15
101	Comparison of crop management strategies involving crop genotype and weed management practices in conventional and more diverse cropping systems. Renewable Agriculture and Food Systems, 2013, 28, 220-233.	0.8	14
102	Influence of Residue and Nitrogen Fertilizer Additions on Carbon Mineralization in Soils with Different Texture and Cropping Histories. PLoS ONE, 2014, 9, e103720.	1.1	14
103	Comprehensive impacts of diversified cropping on soil health and sustainability. Agroecology and Sustainable Food Systems, 2022, 46, 331-363.	1.0	14
104	Farmer perspectives on benefits of and barriers to extended crop rotations in Iowa, USA. Agricultural and Environmental Letters, 2021, 6, e20049.	0.8	12
105	Planting Date Effects on Winter Triticale Grain Yield and Yield Components. Crop Science, 2006, 46, 1218-1224.	0.8	11
106	Productivity and diversity of annually harvested reconstructed prairie communities. Journal of Applied Ecology, 2019, 56, 330-342.	1.9	11
107	Weed seedbank diversity and sustainability indicators for simple and more diverse cropping systems. Weed Research, 2021, 61, 164-177.	0.8	11
108	The future of agriculture and society in Iowa: four scenarios. International Journal of Agricultural Sustainability, 2012, 10, 76-92.	1.3	10

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109	Fates of <scp>S</scp>etaria faberi and <scp>A</scp>butilon theophrasti seeds in three crop rotation systems. Weed Research, 2014, 54, 293-306.	0.8	10
110	A Laboratory Exercise for Teaching Plant Interference and Relative Growth Rate Concepts1. Weed Technology, 2003, 17, 394-402.	0.4	9
111	Weed evolution and community structure. , 2001, , 444-493.		8
112	Toward Sustainable Agriculture. , 2018, , 367-379.		8
113	Polyculture Cropping Systems. , 2018, , 205-218.		8
114	Excitationâ€Emissionâ€Matrix Fluorescence Spectroscopy of Soil Water Extracts to Predict Nitrogen Mineralization Rates. Soil Science Society of America Journal, 2018, 82, 126-135.	1.2	7
115	Response of Dry Bean Yield to Injury by Mexican Bean Beetle (Coleoptera: Coccinellidae) in Low-Input and Conventional Cropping Systems. Journal of Economic Entomology, 1993, 86, 1574-1578.	0.8	6
116	Agronomic and Economic Performance of Conventional vs. Reduced Input Bean Cropping Systems. Journal of Production Agriculture, 1993, 6, 369-378.	0.4	6
117	Maintaining multifunctionality as landscapes provide ecosystem services. Frontiers in Ecology and the Environment, 2011, 9, 262-262.	1.9	6
118	Soil Organic Carbon Storage under Biofuel Cropping Systems in a Humid, Continental Climate. Agronomy Journal, 2018, 110, 1748-1753.	0.9	6
119	Knowledge, science, and practice in ecological weed management: farmerâ€“extensionistâ€“scientist interactions. , 2001, , 99-138.		5
120	A Laboratory Exercise for Teaching Critical Period for Weed Control Concepts1. Weed Technology, 2003, 17, 403-411.	0.4	5
121	How can cover crops contribute to weed management? A modelling approach illustrated with rye (Secale cereale) and Amaranthus tuberculatus. Weed Research, 2022, 62, 1-11.	0.8	5
122	The Agroecosystem: Determinants, Resources, Processes, and Sustainability. , 2018, , 41-68.		5
123	Siteâ€specific effects of winter cover crops on soil water storage. , 2022, 5, .		5
124	Research and extension efforts for improving agricultural sustainability in the north central and northeastern United States. Agriculture, Ecosystems and Environment, 1992, 39, 101-122.	2.5	4
125	Managing weeds with insects and pathogens. , 2001, , 375-408.		4
126	Determination of accurate baseline representation for three Central Iowa watersheds within a HAWQS-based SWAT analyses. Science of the Total Environment, 2022, 839, 156302.	3.9	4

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127	Impact of Sustainable Agriculture Programs on U.S. Landgrand Universities. Agroecology and Sustainable Food Systems, 1995, 5, 19-33.	0.9	3
128	A Laboratory Exercise for Teaching Depth of Weed Emergence Concepts. Weed Technology, 2004, 18, 473-479.	0.4	3
129	Weed Management in Low-External-Input and Organic Farming Systems. , 2004, , 285-315.		3
130	Impact of Cropping System Diversification on Vegetative and Reproductive Characteristics of Waterhemp (Amaranthus tuberculatus). Frontiers in Agronomy, 2022, 4, .	1.5	3
131	Weed management: the broader context. , 2001, , 494-518.		2
132	A multi-model approach for sustainable agriculture in the US corn belt. , 2003, , .		2
133	Water availability, root depths and 2017 crop yields. , 0, , .		2
134	Weed Community Composition in Simple and More Diverse Cropping Systems. Frontiers in Agronomy, 2022, 4, .	1.5	2
135	Weed Ecology and Management.. , 2018, , 283-305.		1
136	Producing food, feed and energy: How can agriculture do it all?. , 0, , .		1
137	Determination of Compost Respiration Rates Using Pressure Sensors. , 2004, , .		0
138	Farm and County Scale Scenarios for Sustainable Agriculture in Western Iowa. , 2004, , .		0
139	Long-term Weed Management Using Diverse Crop Rotation Systems. , 0, , .		0
140	Diversified weed management tactics in diversified cropping systems: Foundations for durable crop production and protection. , 0, , .		0
141	Crop diversification: Impact on weeds, soybean sudden death syndrome and crop productivity. , 0, , .		0
142	Diversity: A Key Element of Sustainable Agricultural Systems. , 0, , .		0
143	Integrated Pest Management. , 2018, , 267-281.		0
144	Ecologically Based Agricultural Development Programs. , 2018, , 145-178.		0

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145	Improving Soil Quality: Inplications for Weed Management. , 2020, , 95-121.		0
146	Seed Predation by Insects. , 0, , 1983-1983.		0