

Ronald Amundson

List of Publications by Year in descending order

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Version: 2024-02-01

138
papers

14,922
citations

20817

60
h-index

19190

118
g-index

141
all docs

141
docs citations

141
times ranked

16258
citing authors

#	ARTICLE	IF	CITATIONS
1	Kiss the ground (and make a wish): soil science and hollywood. <i>Biogeochemistry</i> , 2022, 157, 127-130.	3.5	7
2	Soil biogeochemistry and the global agricultural footprint. <i>Soil Security</i> , 2022, 6, 100022.	2.3	11
3	Negative emissions in agriculture are improbable in the near future. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022, 119, e2118142119.	7.1	1
4	The Pandoraâ€™s box of soil carbon. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022, 119, e2201077119.	7.1	2
5	Stable isotope geochemistry of pedogenic carbonates in calcareous materials, Iran: a review and synthesis. <i>Geological Society Special Publication</i> , 2021, 507, 255-272.	1.3	2
6	Century scale rainfall in the absolute Atacama Desert: Landscape response and implications for past and future rainfall. <i>Quaternary Science Reviews</i> , 2021, 254, 106797.	3.0	31
7	Factors of soil formation in the 21st century. <i>Geoderma</i> , 2021, 391, 114960.	5.1	18
8	Surface materials and landforms as controls on InSAR permanent and transient responses to precipitation events in a hyperarid desert, Chile. <i>Remote Sensing of Environment</i> , 2020, 237, 111544.	11.0	23
9	The policy challenges to managing global soil resources. <i>Geoderma</i> , 2020, 379, 114639.	5.1	11
10	Stable nitrogen and oxygen isotope fractionation during precipitation of nitrate salt from saturated solutions. <i>Rapid Communications in Mass Spectrometry</i> , 2020, 34, e8905.	1.5	0
11	Clades of huge phages from across Earthâ€™s ecosystems. <i>Nature</i> , 2020, 578, 425-431.	27.8	331
12	Reply to Loisel et al.: Soil in climate mitigation and adaptation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 10213-10213.	7.1	4
13	Rare calcium chlorideâ€™rich soil and implications for the existence of liquid water in a hyperarid environment. <i>Geology</i> , 2019, 47, 163-166.	4.4	9
14	Managing for soil carbon sequestration: Letâ€™s get realistic. <i>Global Change Biology</i> , 2019, 25, 386-389.	9.5	140
15	Soil organic carbon and mineral interactions on climatically different hillslopes. <i>Geoderma</i> , 2018, 322, 71-80.	5.1	26
16	Calcic soils as indicators of profound Quaternary climate change in eastern Isfahan, Iran. <i>Geoderma</i> , 2018, 315, 220-230.	5.1	12
17	A late Quaternary paleoenvironmental record in sand dunes of the northern Atacama Desert, Chile. <i>Quaternary Research</i> , 2018, 90, 127-138.	1.7	9
18	Meteoric water alteration of soil and landscapes at Meridiani Planum, Mars. <i>Earth and Planetary Science Letters</i> , 2018, 488, 155-167.	4.4	12

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19	Soil carbon sequestration is an elusive climate mitigation tool. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 11652-11656.	7.1	162
20	Greenhouse Gas Production and Transport in Desert Soils of the Southwestern United States. Global Biogeochemical Cycles, 2018, 32, 1703-1717.	4.9	7
21	Chronology, stratigraphy and hydrological modelling of extensive wetlands and paleolakes in the hyperarid core of the Atacama Desert during the late quaternary. Quaternary Science Reviews, 2018, 197, 224-245.	3.0	52
22	Whose Security is Important? Communicating Environmental Risk About Soil to a Diverse Audience. Progress in Soil Science, 2017, , 383-387.	0.8	4
23	Relict soil evidence for profound quaternary aridification of the Atacama Desert, Chile. Geoderma, 2016, 267, 196-206.	5.1	13
24	Rates and geochemical processes of soil and salt crust formation in Salars of the Atacama Desert, Chile. Geoderma, 2016, 284, 57-72.	5.1	43
25	A new view of the tree of life. Nature Microbiology, 2016, 1, 16048.	13.3	1,823
26	Pedothem carbonates reveal anomalous North American atmospheric circulation 70,000–55,000 years ago. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 919-924.	7.1	27
27	Early to Middle Miocene climate in the Atacama Desert of Northern Chile. Palaeogeography, Palaeoclimatology, Palaeoecology, 2016, 441, 890-900.	2.3	18
28	Climate controls on spatial and temporal variations in the formation of pedogenic carbonate in the western Great Basin of North America. Bulletin of the Geological Society of America, 2016, 128, 1095-1104.	3.3	25
29	Factors Controlling Ecosystem Structure and Function. SSSA Special Publication Series, 2015, , 87-97.	0.2	7
30	Hillslope soils and vegetation. Geomorphology, 2015, 234, 122-132.	2.6	94
31	Soil and human security in the 21st century. Science, 2015, 348, 1261071.	12.6	852
32	Decoupling of sulfur and nitrogen cycling due to biotic processes in a tropical rainforest. Geochimica Et Cosmochimica Acta, 2014, 142, 411-428.	3.9	24
33	Oxygen isotope fractionation effects in soil water via interaction with cations (Mg, Ca, K, Na) adsorbed to phyllosilicate clay minerals. Journal of Hydrology, 2014, 515, 1-9.	5.4	128
34	Hyperarid Soils and the Soil Taxonomy. Soil Science Society of America Journal, 2014, 78, 1845-1851.	2.2	18
35	Zebra stripes in the Atacama Desert: Fossil evidence of overland flow. Geomorphology, 2013, 182, 157-172.	2.6	35
36	Active erosion–deposition cycles in the hyperarid Atacama Desert of Northern Chile. Earth and Planetary Science Letters, 2013, 371-372, 125-133.	4.4	32

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37	Bridging the divide: Soil resources and the geosciences on a cultivated planet. , 2013, , .		0
38	Identifying sources and processes influencing nitrogen export to a small stream using dual isotopes of nitrate. <i>Water Resources Research</i> , 2013, 49, 5715-5731.	4.2	38
39	Geomorphologic evidence for the late Pliocene onset of hyperaridity in the Atacama Desert. <i>Bulletin of the Geological Society of America</i> , 2012, 124, 1048-1070.	3.3	89
40	Using LIDAR to model Mima mound evolution and regional energy balances in the Great Central Valley, California. , 2012, , .		3
41	Greenhouse gas fluxes from Atacama Desert soils: a test of biogeochemical potential at the Earth's arid extreme. <i>Biogeochemistry</i> , 2012, 111, 303-315.	3.5	9
42	The stable isotope composition of halite and sulfate of hyperarid soils and its relation to aqueous transport. <i>Geochimica Et Cosmochimica Acta</i> , 2012, 99, 271-286.	3.9	22
43	The sensitivity of hillslope bedrock erosion to precipitation. <i>Earth Surface Processes and Landforms</i> , 2011, 36, 117-135.	2.5	89
44	Soil Carbon Dioxide Production and Climatic Sensitivity in Contrasting California Ecosystems. <i>Soil Science Society of America Journal</i> , 2010, 74, 1356-1366.	2.2	15
45	Climate-driven processes of hillslope weathering. <i>Geology</i> , 2009, 37, 975-978.	4.4	104
46	The critical role of climate and saprolite weathering in landscape evolution. <i>Earth Surface Processes and Landforms</i> , 2009, 34, 1507-1521.	2.5	218
47	A comparative study of dissolved organic carbon transport and stabilization in California forest and grassland soils. <i>Biogeochemistry</i> , 2009, 92, 41-59.	3.5	51
48	A view of extraterrestrial soils. <i>European Journal of Soil Science</i> , 2009, 60, 1078-1092.	3.9	15
49	Spatial patterns and controls of soil chemical weathering rates along a transient hillslope. <i>Earth and Planetary Science Letters</i> , 2009, 288, 184-193.	4.4	47
50	Linking soils and streams: Sources and chemistry of dissolved organic matter in a small coastal watershed. <i>Water Resources Research</i> , 2009, 45, .	4.2	114
51	Dissolved organic carbon chemistry and dynamics in contrasting forest and grassland soils. <i>Biogeochemistry</i> , 2008, 89, 181-198.	3.5	173
52	A comparative study of dissolved organic carbon transport and stabilization in California forest and grassland soils. <i>Biogeochemistry</i> , 2008, 89, 309-327.	3.5	83
53	Non-biological fractionation of stable Ca isotopes in soils of the Atacama Desert, Chile. <i>Geochimica Et Cosmochimica Acta</i> , 2008, 72, 1096-1110.	3.9	83
54	On the in situ aqueous alteration of soils on Mars. <i>Geochimica Et Cosmochimica Acta</i> , 2008, 72, 3845-3864.	3.9	54

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55	The Urey Instrument: An Advanced In Situ Organic and Oxidant Detector for Mars Exploration. <i>Astrobiology</i> , 2008, 8, 583-595.	3.0	40
56	Leaf Age as a Risk Factor in Contamination of Lettuce with <i>Escherichia coli</i> O157:H7 and <i>Salmonella enterica</i> . <i>Applied and Environmental Microbiology</i> , 2008, 74, 2298-2306.	3.1	208
57	Methods of Separating Soil Carbon Pools Affect the Chemistry and Turnover Time of Isolated Fractions. <i>Radiocarbon</i> , 2008, 50, 83-97.	1.8	35
58	Mineral control of carbon pools in a volcanic soil horizon. <i>Geoderma</i> , 2007, 137, 477-489.	5.1	123
59	Integration of geochemical mass balance with sediment transport to calculate rates of soil chemical weathering and transport on hillslopes. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	112
60	Rainfall limit of the N cycle on Earth. <i>Global Biogeochemical Cycles</i> , 2007, 21, .	4.9	64
61	Terrestrial analogs for interpretation of infrared spectra from the Martian surface and subsurface: Sulfate, nitrate, carbonate, and phyllosilicate-bearing Atacama Desert soils. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	35
62	Role of large-scale soil structure in organic carbon turnover: Evidence from California grassland soils. <i>Journal of Geophysical Research</i> , 2006, 111, .	3.3	67
63	A threshold in soil formation at Earth's arid-hyperarid transition. <i>Geochimica Et Cosmochimica Acta</i> , 2006, 70, 5293-5322.	3.9	233
64	Spatial patterns of soil organic carbon on hillslopes: Integrating geomorphic processes and the biological C cycle. <i>Geoderma</i> , 2006, 130, 47-65.	5.1	199
65	Analysis of Factors Controlling Soil Carbon in the Conterminous United States. <i>Soil Science Society of America Journal</i> , 2006, 70, 601-612.	2.2	92
66	Quantity and Spatial Variability of Soil Carbon in the Conterminous United States. <i>Soil Science Society of America Journal</i> , 2006, 70, 590-600.	2.2	123
67	Hypolithic Cyanobacteria, Dry Limit of Photosynthesis, and Microbial Ecology in the Hyperarid Atacama Desert. <i>Microbial Ecology</i> , 2006, 52, 389-398.	2.8	314
68	Mineralogical control of organic carbon dynamics in a volcanic ash soil on La Reunion. <i>European Journal of Soil Science</i> , 2005, 56, 050912034650042.	3.9	48
69	Process-based model linking pocket gopher (<i>Thomomys bottae</i>) activity to sediment transport and soil thickness. <i>Geology</i> , 2005, 33, 917.	4.4	112
70	The implications for paleodietary and paleoclimatic reconstructions of intrapopulation variability in the oxygen and carbon isotopes of teeth from modern feral horses. <i>Quaternary Research</i> , 2005, 64, 138-146.	1.7	27
71	Erosion of upland hillslope soil organic carbon: Coupling field measurements with a sediment transport model. <i>Global Biogeochemical Cycles</i> , 2005, 19, .	4.9	103
72	The effect of climate and cultivation on soil organic C and N. <i>Biogeochemistry</i> , 2004, 67, 57-72.	3.5	97

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73	Tooth enamel biomineralization in extant horses: implications for isotopic microsampling. <i>Palaeogeography, Palaeoclimatology, Palaeoecology</i> , 2004, 206, 355-365.	2.3	155
74	Isotopic analysis of tooth enamel carbonate from modern North American feral horses: implications for paleoenvironmental reconstructions. <i>Palaeogeography, Palaeoclimatology, Palaeoecology</i> , 2004, 203, 299-311.	2.3	78
75	Effect of land use change on soil carbon in Hawaii. <i>Biogeochemistry</i> , 2003, 65, 213-232.	3.5	79
76	Soil Diversity and Land Use in the United States. <i>Ecosystems</i> , 2003, 6, 470-482.	3.4	104
77	Dating fluvial terraces by $^{230}\text{Th}/\text{U}$ on pedogenic carbonate, Wind River Basin, Wyoming. <i>Quaternary Research</i> , 2003, 59, 139-150.	1.7	146
78	Global patterns of the isotopic composition of soil and plant nitrogen. <i>Global Biogeochemical Cycles</i> , 2003, 17, .	4.9	866
79	Application of eddy covariance measurements to the temperature dependence of soil organic matter mean residence time. <i>Global Biogeochemical Cycles</i> , 2003, 17, n/a-n/a.	4.9	93
80	Pedodiversity in the United States of America. <i>Geoderma</i> , 2003, 117, 99-115.	5.1	88
81	AN ANALYTICAL APPROACH TO ECOSYSTEM BIOGEOCHEMISTRY MODELING. , 2003, 13, 649-663.		47
82	Taxonomic Structure, Distribution, and Abundance of the Soils in the USA. <i>Soil Science Society of America Journal</i> , 2003, 67, 1507-1516.	2.2	19
83	Turnover and storage of C and N in five density fractions from California annual grassland surface soils. <i>Global Biogeochemical Cycles</i> , 2002, 16, 64-1-64-16.	4.9	238
84	A multiisotope C and N modeling analysis of soil organic matter turnover and transport as a function of soil depth in a California annual grassland soil chronosequence. <i>Global Biogeochemical Cycles</i> , 2002, 16, 82-1-82-26.	4.9	131
85	The Carbon Budget in Soils. <i>Annual Review of Earth and Planetary Sciences</i> , 2001, 29, 535-562.	11.0	586
86	Influence of soils on oxygen isotope ratio of atmospheric CO_2 . <i>Global Biogeochemical Cycles</i> , 2001, 15, 753-759.	4.9	45
87	Soil N and ^{15}N variation with time in a California annual grassland ecosystem. <i>Geochimica Et Cosmochimica Acta</i> , 2001, 65, 4171-4186.	3.9	114
88	Terrestrial record of methane hydrate dissociation in the Early Cretaceous. <i>Geology</i> , 2001, 29, 159.	4.4	247
89	Paleoclimatic Reconstruction Using the Correlation in $\delta^{18}\text{O}$ of Hackberry Carbonate and Environmental Water, North America. <i>Quaternary Research</i> , 2001, 56, 252-263.	1.7	22
90	Soil warming and organic carbon content. <i>Nature</i> , 2000, 408, 789-790.	27.8	413

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91	Spatial and temporal variations in the isotopic composition of bison tooth enamel from the Early Holocene Hudson-Meng Bone Bed, Nebraska. <i>Palaeogeography, Palaeoclimatology, Palaeoecology</i> , 2000, 157, 79-93.	2.3	102
92	Can C3 plants faithfully record the carbon isotopic composition of atmospheric carbon dioxide?. <i>Paleobiology</i> , 2000, 26, 137-164.	2.0	334
93	Stable Isotope Tracers and Mathematical Models in Soil Organic Matter Studies. , 2000, , 117-137.		25
94	Seasonal and altitudinal variation in decomposition of soil organic matter inferred from radiocarbon measurements of soil CO ₂ flux. <i>Global Biogeochemical Cycles</i> , 2000, 14, 199-211.	4.9	66
95	Processes controlling the oxygen isotope ratio of soil CO ₂ : analytic and numerical modeling. <i>Geochimica Et Cosmochimica Acta</i> , 1999, 63, 799-814.	3.9	57
96	The impact of land use change on C turnover in soils. <i>Global Biogeochemical Cycles</i> , 1999, 13, 47-57.	4.9	83
97	Biom mineralization in seeds: developmental trends in isotopic signatures of hackberry. <i>Palaeogeography, Palaeoclimatology, Palaeoecology</i> , 1998, 138, 259-269.	2.3	26
98	The isotopic composition of soil and soil-respired CO ₂ . <i>Geoderma</i> , 1998, 82, 83-114.	5.1	288
99	Stable Isotope Dietary Analysis of Bison Bone Samples from the Hudson-Meng Bonebed: Effects of Paleotopography. <i>Journal of Archaeological Science</i> , 1998, 25, 465-475.	2.4	17
100	On a State Factor Model of Ecosystems. <i>BioScience</i> , 1997, 47, 536-543.	4.9	140
101	Determining Stone Tool Use: Chemical and Morphological Analyses of Residues on Experimentally Manufactured Stone Tools. <i>Journal of Archaeological Science</i> , 1997, 24, 245-250.	2.4	52
102	Soil development along an elevational transect in the western Sierra Nevada, California. <i>Geoderma</i> , 1997, 78, 207-236.	5.1	235
103	Trace Metal Geochemistry in Spodosols of the Northeastern United States. <i>Journal of Environmental Quality</i> , 1997, 26, 511-521.	2.0	21
104	Stable carbon isotope composition of Poaceae pollen and its potential in paleovegetational reconstructions. <i>Review of Palaeobotany and Palynology</i> , 1997, 99, 17-24.	1.5	43
105	Potential for ¹⁴ C Dating of Biogenic Carbonate in Hackberry (Celtis) Endocarps. <i>Quaternary Research</i> , 1997, 47, 337-343.	1.7	34
106	ORIENTATION OF CARBONATE LAMINATIONS IN GRAVELLY SOILS ALONG A WINTER/SUMMER PRECIPITATION GRADIENT IN BAJA CALIFORNIA, MEXICO. <i>Soil Science</i> , 1997, 162, 940-952.	0.9	9
107	Response of sugar maple to multiple year exposures to ozone and simulated acidic precipitation. <i>Environmental Pollution</i> , 1996, 92, 119-126.	7.5	14
108	Rapid Exchange Between Soil Carbon and Atmospheric Carbon Dioxide Driven by Temperature Change. <i>Science</i> , 1996, 272, 393-396.	12.6	661

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109	Title is missing!. Bulletin of the Geological Society of America, 1996, 108, 0379.	3.3	72
110	Radiocarbon Dating of Soil Organic Matter. Quaternary Research, 1996, 45, 282-288.	1.7	226
111	Isotopic evidence for shifts in atmospheric circulation patterns during the late Quaternary in midâ€œNorth America. Geology, 1996, 24, 23.	4.4	114
112	A mass balance analysis of podzolization: Examples from the northeastern United States. Geoderma, 1995, 66, 15-42.	5.1	47
113	E. W. Hilgard and John Wesley Powell: Efforts for a Joint Agricultural and Geological Survey. Soil Science Society of America Journal, 1995, 59, 4-13.	2.2	24
114	Stomatal responsiveness to changing light intensityincreases rain-use efficiency of below-crown vegetation in tropical savannas. Journal of Arid Environments, 1995, 29, 139-153.	2.4	41
115	A model for soil ¹⁴ CO ₂ and its implications for using ¹⁴ C to date pedogenic carbonate. Geochimica Et Cosmochimica Acta, 1994, 58, 393-399.	3.9	71
116	Factors and processes governing the ¹⁴ C content of carbonate in desert soils. Earth and Planetary Science Letters, 1994, 125, 385-405.	4.4	97
117	Towards the quantitative modeling of pedogenesis - a review - Comment. Geoderma, 1994, 63, 299-302.	5.1	3
118	The relationship of precipitation seasonality to the flora and stable isotope chemistry of soils in the VizcaÃ±o desert, Baja California, MÃ©xico. Journal of Arid Environments, 1994, 28, 265-279.	2.4	31
119	Processes controlling the ¹⁴ C content of soil carbon dioxide: Model development. Chemical Geology, 1993, 107, 225-226.	3.3	11
120	Comparative Effects of Isolated Trees on Their Undercanopy Environments in High- and Low-Rainfall Savannas. Journal of Applied Ecology, 1993, 30, 143.	4.0	295
121	Physiological response to controlled freezing of attached red spruce branches. Environmental and Experimental Botany, 1993, 33, 591-609.	4.2	13
122	Moderate water stress alters carbohydrate content and cold tolerance of red spruce foliage. Environmental and Experimental Botany, 1993, 33, 383-390.	4.2	22
123	Element distribution in red spruce (<i>Picea</i> <i>rubens</i>) fine roots; evidence for aluminium toxicity at Whiteface Mountain: Discussion. Canadian Journal of Forest Research, 1993, 23, 1732-1733.	1.7	2
124	Comparisons of seasonal changes in photosynthetic capacity, pigments, and carbohydrates of healthy sapling and mature red spruce and of declining and healthy red spruce. Canadian Journal of Forest Research, 1992, 22, 1605-1616.	1.7	33
125	DISABILITY, HANDICAP, AND THE ENVIRONMENT. Journal of Social Philosophy, 1992, 23, 105-119.	0.9	92
126	Winter desiccation and solar radiation in relation to red spruce decline in the northern Appalachians. Canadian Journal of Forest Research, 1991, 21, 269-272.	1.7	45

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127	THE PLACE OF HUMANS IN THE STATE FACTOR THEORY OF ECOSYSTEMS AND THEIR SOILS. <i>Soil Science</i> , 1991, 151, 99-109.	0.9	117
128	Stable Isotope Ratios of Carbon in Phytoliths as a Quantitative Method of Monitoring Vegetation and Climate Change. <i>Quaternary Research</i> , 1991, 35, 222-233.	1.7	144
129	Seasonal changes in the pigments, carbohydrates and growth of red spruce as affected by exposure to ozone for two growing seasons. <i>New Phytologist</i> , 1991, 118, 127-137.	7.3	52
130	THE STABLE ISOTOPE CHEMISTRY OF PEDOGENIC CARBONATE IN AN ALLUVIAL SOIL FROM THE PUNJAB, PAKISTAN. <i>Soil Science</i> , 1990, 149, 199-211.	0.9	32
131	Carbon dioxide and nitrogenous gases in the soil atmosphere. <i>Journal of Geochemical Exploration</i> , 1990, 38, 13-41.	3.2	145
132	A comparison of soil climate and biological activity along an elevation gradient in the eastern Mojave Desert. <i>Oecologia</i> , 1989, 80, 395-400.	2.0	64
133	Soil evolution along an altitudinal transect in the Eastern Mojave Desert of Nevada, U.S.A.. <i>Geoderma</i> , 1989, 43, 349-371.	5.1	34
134	Relationship Between Climate and Vegetation and the Stable Carbon Isotope Chemistry of Soils in the Eastern Mojave Desert, Nevada. <i>Quaternary Research</i> , 1988, 29, 245-254.	1.7	86
135	Annual cycles of physical and biological properties in an uncultivated and an irrigated soil in the San Joaquin Valley of California. <i>Agriculture, Ecosystems and Environment</i> , 1988, 20, 195-208.	5.3	13
136	The chemistry and mineralogy of a CO ₂ -rich travertine depositing spring in the California Coast Range. <i>Geochimica Et Cosmochimica Acta</i> , 1987, 51, 2883-2890.	3.9	39
137	CHANGES IN THE CHEMICAL AND PHYSICAL PROPERTIES OF A RECLAIMED SALINE-SODIC SOIL IN THE SAN JOAQUIN VALLEY OF CALIFORNIA. <i>Soil Science</i> , 1985, 140, 213-222.	0.9	12
138	The Intellectual Background for the Factors of Soil Formation. <i>SSSA Special Publication Series</i> , 0, , 1-13.	0.2	14