Donald R Ort

List of Publications by Year
in descending order

102 papers	18,877 citations	31976 53 h-index	32842 100 g-index
104 all docs	104 docs citations	104 times ranked	16241 citing authors

#	Article	IF	Citations
1	Lâ€malic acid production from xylose by engineered <i>Saccharomyces cerevisiae</i>. Biotechnology Journal, 2022, 17, e2000431.	3.5	16
2	The photosynthetic response of C₃ and C₄ bioenergy grass species to fluctuating light. GCB Bioenergy, 2022, 14, 37-53.	5.6	13
3	Photoautotrophic organic acid production: Glycolic acid production by microalgal cultivation. Chemical Engineering Journal, 2022, 433, 133636.	12.7	12
4	Alternative pathway to photorespiration protects growth and productivity at elevated temperatures in a model crop. Plant Biotechnology Journal, 2022, 20, 711-721.	8.3	33
5	Microalgal metabolic engineering strategies for the production of fuels and chemicals. Bioresource Technology, 2022, 345, 126529.	9.6	22
6	A role for differential Rubisco activase isoform expression in C₄ bioenergy grasses at high temperature. GCB Bioenergy, 2021, 13, 211-223.	5.6	21
7	High sink strength prevents photosynthetic down-regulation in cassava grown at elevated CO2 concentration. Journal of Experimental Botany, 2021, 72, 542-560.	4.8	25
8	Glycolate production by a Chlamydomonas reinhardtii mutant lacking carbon-concentrating mechanism. Journal of Biotechnology, 2021, 335, 39-46.	3.8	7
9	Perspectives on improving light distribution and light use efficiency in crop canopies. Plant Physiology, 2021, 185, 34-48.	4.8	50
10	A phytophotonic approach to enhanced photosynthesis. Energy and Environmental Science, 2020, 13, 4794-4807.	30.8	5
11	Soybean photosynthetic and biomass responses to carbon dioxide concentrations ranging from pre-industrial to the distant future. Journal of Experimental Botany, 2020, 71, 3690-3700.	4.8	11
12	Arabidopsis plants expressing only the redoxâ€regulated Rcaâ€Î± isoform have constrained photosynthesis and plant growth. Plant Journal, 2020, 103, 2250-2262.	5.7	7
13	Photosynthetic Efficiency Improvement. , 2020, , 256-256.		0
14	A wish list for synthetic biology in photosynthesis research. Journal of Experimental Botany, 2020, 71, 2219-2225.	4.8	31
15	Towards a multiscale crop modelling framework for climate change adaptation assessment. Nature Plants, 2020, 6, 338-348.	9.3	181
16	Yield response of fieldâ€grown soybean exposed to heat waves under current and elevated [CO₂]. Global Change Biology, 2019, 25, 4352-4368.	9.5	47
17	Economical synthesis of 14C-labeled aminolevulinic acid for specific in situ labeling of plant tetrapyrroles. Photosynthesis Research, 2019, 142, 241-247.	2.9	0
18	Are we approaching a water ceiling to maize yields in the United States?. Ecosphere, 2019, 10, e02773.	2.2	42

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19	In vivo evidence for a regulatory role of phosphorylation of <i>Arabidopsis</i> Rubisco activase at the Thr78 site. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 18723-18731.	7.1	22
20	Perspective: Understanding the Intersection of Climate/Environmental Change, Health, Agriculture, and Improved Nutrition â€“ A Case Study: Type 2 Diabetes. Advances in Nutrition, 2019, 10, 731-738.	6.4	5
21	Carbon assimilation in crops at high temperatures. Plant, Cell and Environment, 2019, 42, 2750-2758.	5.7	52
22	Synthetic glycolate metabolism pathways stimulate crop growth and productivity in the field. Science, 2019, 363, .	12.6	437
23	Photosystem II Subunit S overexpression increases the efficiency of water use in a field-grown crop. Nature Communications, 2018, 9, 868.	12.8	181
24	Chlorophyll Can Be Reduced in Crop Canopies with Little Penalty to Photosynthesis. Plant Physiology, 2018, 176, 1215-1232.	4.8	99
25	The Impacts of Fluctuating Light on Crop Performance. Plant Physiology, 2018, 176, 990-1003.	4.8	182
26	Canopy warming accelerates development in soybean and maize, offsetting the delay in soybean reproductive development by elevated CO₂ concentrations. Plant, Cell and Environment, 2018, 41, 2806-2820.	5.7	22
27	Optimizing photorespiration for improved crop productivity. Journal of Integrative Plant Biology, 2018, 60, 1217-1230.	8.5	58
28	Expression of cyanobacterial FBP/SBPase in soybean prevents yield depression under future climate conditions. Journal of Experimental Botany, 2017, 68, erw435.	4.8	61
29	Leaf and canopy scale drivers of genotypic variation in soybean response to elevated carbon dioxide concentration. Global Change Biology, 2017, 23, 3908-3920.	9.5	26
30	Simulated heat waves during maize reproductive stages alter reproductive growth but have no lasting effect when applied during vegetative stages. Agriculture, Ecosystems and Environment, 2017, 240, 162-170.	5.3	73
31	Photosynthesis: ancient, essential, complex, diverse â€¦ and in need of improvement in a changing world. New Phytologist, 2017, 213, 43-47.	7.3	30
32	Uncertainty in measurements of the photorespiratory CO2 compensation point and its impact on models of leaf photosynthesis. Photosynthesis Research, 2017, 132, 245-255.	2.9	16
33	Bile Acid Sodium Symporter BASS6 Can Transport Glycolate and Is Involved in Photorespiratory Metabolism in <i>Arabidopsis thaliana</i>. Plant Cell, 2017, 29, 808-823.	6.6	56
34	The impact of modifying photosystem antenna size on canopy photosynthetic efficiencyâ€"Development of a new canopy photosynthesis model scaling from metabolism to canopy level processes. Plant, Cell and Environment, 2017, 40, 2946-2957.	5.7	81
35	Recycling Carbon Dioxide during Xylose Fermentation by Engineered <i>Saccharomyces cerevisiae</i>. ACS Synthetic Biology, 2017, 6, 276-283.	3.8	60
36	Photosynthesis, Light Use Efficiency, and Yield of Reduced-Chlorophyll Soybean Mutants in Field Conditions. Frontiers in Plant Science, 2017, 8, 549.	3.6	114

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37	The Role of Sink Strength and Nitrogen Availability in the Down-Regulation of Photosynthetic Capacity in Field-Grown Nicotiana tabacum L. at Elevated CO2 Concentration. Frontiers in Plant Science, 2017, 8, 998.	3.6	64
38	The Plastid Casein Kinase 2 Phosphorylates Rubisco Activase at the Thr-78 Site but Is Not Essential for Regulation of Rubisco Activation State. Frontiers in Plant Science, 2016, 7, 404.	3.6	15
39	Physiological evidence for plasticity in glycolate/glycerate transport during photorespiration. Photosynthesis Research, 2016, 129, 93-103.	2.9	30
40	Light sheet microscopy reveals more gradual light attenuation in light-green versus dark-green soybean leaves. Journal of Experimental Botany, 2016, 67, 4697-4709.	4.8	37
41	Intensifying drought eliminates the expected benefits of elevated carbon dioxide for soybean. Nature Plants, 2016, 2, 16132.	9.3	229
42	An improved approach for measuring the impact of multiple CO₂ conductances on the apparent photorespiratory CO₂ compensation point through slopeâ€“intercept regression. Plant, Cell and Environment, 2016, 39, 1198-1203.	5.7	21
43	The Costs of Photorespiration to Food Production Now and in the Future. Annual Review of Plant Biology, 2016, 67, 107-129.	18.7	277
44	Manipulating photorespiration to increase plant productivity: recent advances and perspectives for crop improvement. Journal of Experimental Botany, 2016, 67, 2977-2988.	4.8	127
45	Colin A. Wraight, 1945â€“2014. Photosynthesis Research, 2016, 127, 237-256.	2.9	9
46	Investigating the Control of Chlorophyll Degradation by Genomic Correlation Mining. PLoS ONE, 2016, 11, e0162327.	2.5	33
47	Canopy warming caused photosynthetic acclimation and reduced seed yield in maize grown at ambient and elevated [<scp>CO</scp>₂]. Global Change Biology, 2015, 21, 4237-4249.	9.5	111
48	Improved method for measuring the apparent <scp>CO</scp>₂ photocompensation point resolves the impact of multiple internal conductances to <scp>CO</scp>₂ to net gas exchange. Plant, Cell and Environment, 2015, 38, 2462-2474.	5.7	46
49	Heat waves imposed during early pod development in soybean (<i><scp>G</scp>lycine max</i>) cause significant yield loss despite a rapid recovery from oxidative stress. Global Change Biology, 2015, 21, 3114-3125.	9.5	108
50	Identical Substitutions in Magnesium Chelatase Paralogs Result in Chlorophyll-Deficient Soybean Mutants. G3: Genes, Genomes, Genetics, 2015, 5, 123-131.	1.8	57
51	Photosynthetic terpene hydrocarbon production for fuels and chemicals. Plant Biotechnology Journal, 2015, 13, 137-146.	8.3	45
52	The influence of photosynthetic acclimation to rising CO₂ and warmer temperatures on leaf and canopy photosynthesis models. Global Biogeochemical Cycles, 2015, 29, 194-206.	4.9	51
53	Redesigning photosynthesis to sustainably meet global food and bioenergy demand. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 8529-8536.	7.1	751
54	Photosynthetic Energy Conversion Efficiency: Setting a Baseline for Gauging Future Improvements in Important Food and Biofuel Crops. Plant Physiology, 2015, 168, 383-392.	4.8	58

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55	Leaf hydraulic conductance declines in coordination with photosynthesis, transpiration and leaf water status as soybean leaves age regardless of soil moisture. Journal of Experimental Botany, 2014, 65, 6617-6627.	4.8	52
56	Limits on Yields in the Corn Belt. Science, 2014, 344, 484-485.	12.6	132
57	Biochemical acclimation, stomatal limitation and precipitation patterns underlie decreases in photosynthetic stimulation of soybean (Glycine max) at elevated [CO2] and temperatures under fully open air field conditions. Plant Science, 2014, 226, 136-146.	3.6	37
58	Impacts of rising tropospheric ozone on photosynthesis and metabolite levels on field grown soybean. Plant Science, 2014, 226, 147-161.	3.6	45
59	Inconsistency of mesophyll conductance estimate causes the inconsistency for the estimates of maximum rate of Rubisco carboxylation among the linear, rectangular and non-rectangular hyperbola biochemical models of leaf photosynthesisâ€”A case study of CO2 enrichment and leaf aging effects in soybean. Plant Science, 2014, 226, 49-60.	3.6	18
60	Energy and carbon accounting to compare bioenergy crops. Current Opinion in Biotechnology, 2013, 24, 369-375.	6.6	13
61	<i>e</i>â€photosynthesis: a comprehensive dynamic mechanistic model of C3 photosynthesis: from light capture to sucrose synthesis. Plant, Cell and Environment, 2013, 36, 1711-1727.	5.7	118
62	Global Warming Can Negate the Expected CO2 Stimulation in Photosynthesis and Productivity for Soybean Grown in the Midwestern United States Â Â. Plant Physiology, 2013, 162, 410-423.	4.8	161
63	A meta-analysis of responses of canopy photosynthetic conversion efficiency to environmental factors reveals major causes of yield gap. Journal of Experimental Botany, 2013, 64, 3723-3733.	4.8	45
64	Examining Cassavaâ€™s Potential to Enhance Food Security Under Climate Change. Tropical Plant Biology, 2012, 5, 30-38.	1.9	55
65	Greater antioxidant and respiratory metabolism in fieldâ€grown soybean exposed to elevated O₃ under both ambient and elevated CO₂. Plant, Cell and Environment, 2012, 35, 169-184.	5.7	81
66	Cassava aboutâ€<scp>FACE</scp>: Greater than expected yield stimulation of cassava (<i><scp>M</scp>anihot esculenta</i>) by future <scp>CO</scp>₂ levels. Global Change Biology, 2012, 18, 2661-2675.	9.5	68
67	Elements of a dynamic systems model of canopy photosynthesis. Current Opinion in Plant Biology, 2012, 15, 237-244.	7.1	83
68	Optimizing Antenna Size to Maximize Photosynthetic Efficiency. Plant Physiology, 2011, 155, 79-85.	4.8	266
69	Differential responses in two varieties of winter wheat to elevated ozone concentration under fully open-air field conditions. Global Change Biology, 2011, 17, 580-591.	9.5	159
70	Comparing Photosynthetic and Photovoltaic Efficiencies and Recognizing the Potential for Improvement. Science, 2011, 332, 805-809.	12.6	1,369
71	Over-expressing the C3 photosynthesis cycle enzyme Sedoheptulose-1-7 Bisphosphatase improves photosynthetic carbon gain and yield under fully open air CO2fumigation (FACE). BMC Plant Biology, 2011, 11, 123.	3.6	156
72	Improving Photosynthetic Efficiency for Greater Yield. Annual Review of Plant Biology, 2010, 61, 235-261.	18.7	1,410

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73	More than taking the heat: crops and global change. Current Opinion in Plant Biology, 2010, 13, 240-247.	7.1	309
74	How Do We Improve Crop Production in a Warming World?. Plant Physiology, 2010, 154, 526-530.	4.8	218
75	Genomic basis for stimulated respiration by plants growing under elevated carbon dioxide. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 3597-3602.	7.1	202
76	Elevated CO2 effects on plant carbon, nitrogen, and water relations: six important lessons from FACE. Journal of Experimental Botany, 2009, 60, 2859-2876.	4.8	1,343
77	Gene expression profiling: opening the black box of plant ecosystem responses to global change. Global Change Biology, 2009, 15, 1201-1213.	9.5	35
78	FACE-ing the global change: Opportunities for improvement in photosynthetic radiation use efficiency and crop yield. Plant Science, 2009, 177, 511-522.	3.6	54
79	What is the maximum efficiency with which photosynthesis can convert solar energy into biomass?. Current Opinion in Biotechnology, 2008, 19, 153-159.	6.6	897
80	FACEâ€ing the facts: inconsistencies and interdependence among field, chamber and modeling studies of elevated [CO₂] impacts on crop yield and food supply. New Phytologist, 2008, 179, 5-9.	7.3	251
81	Decreases in Stomatal Conductance of Soybean under Open-Air Elevation of [CO2] Are Closely Coupled with Decreases in Ecosystem Evapotranspiration. Plant Physiology, 2007, 143, 134-144.	4.8	233
82	Food for Thought: Lower-Than-Expected Crop Yield Stimulation with Rising CO2 Concentrations. Science, 2006, 312, 1918-1921.	12.6	1,299
83	Increased C availability at elevated carbon dioxide concentration improves N assimilation in a legume. Plant, Cell and Environment, 2006, 29, 1651-1658.	5.7	172
84	Long-term growth of soybean at elevated [CO2] does not cause acclimation of stomatal conductance under fully open-air conditions. Plant, Cell and Environment, 2006, 29, 1794-1800.	5.7	119
85	Hourly and seasonal variation in photosynthesis and stomatal conductance of soybean grown at future CO2and ozone concentrations for 3 years under fully open-air field conditions. Plant, Cell and Environment, 2006, 29, 2077-2090.	5.7	132
86	Can improvement in photosynthesis increase crop yields?. Plant, Cell and Environment, 2006, 29, 315-330.	5.7	1,236
87	The Role of Pheophorbide a Oxygenase Expression and Activity in the Canola Green Seed Problem. Plant Physiology, 2006, 142, 88-97.	4.8	51
88	Photosynthesis, Productivity, and Yield of Maize Are Not Affected by Open-Air Elevation of CO2 Concentration in the Absence of Drought. Plant Physiology, 2006, 140, 779-790.	4.8	451
89	The growth of soybean under free air [CO2] enrichment (FACE) stimulates photosynthesis while decreasing in vivo Rubisco capacity. Planta, 2005, 220, 434-446.	3.2	181
90	Chlorophyll a fluorescence induction kinetics in leaves predicted from a model describing each discrete step of excitation energy and electron transfer associated with Photosystem II. Planta, 2005, 223, 114-133.	3.2	252

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91	The slow reversibility of photosystem II thermal energy dissipation on transfer from high to low light may cause large losses in carbon gain by crop canopies: a theoretical analysis. Journal of Experimental Botany, 2004, 55, 1167-1175.	4.8	258
92	An In Vivo Analysis of the Effect of Season-Long Open-Air Elevation of Ozone to Anticipated 2050 Levels on Photosynthesis in Soybean. Plant Physiology, 2004, 135, 2348-2357.	4.8	135
93	RISING ATMOSPHERIC CARBON DIOXIDE: Plants FACE the Future. Annual Review of Plant Biology, 2004, 55, 591-628.	18.7	1,472
94	A photoprotective role for O2 as an alternative electron sink in photosynthesis?. Current Opinion in Plant Biology, 2002, 5, 193-198.	7.1	386
95	Chilling-Induced Limitations on Photosynthesis in Warm Climate Plants: Contrasting Mechanisms.. Seibutsu Kankyo Chosetsu [Environment Control in Biology, 2002, 40, 7-18.	0.2	12
96	When There Is Too Much Light: Fig. 1.. Plant Physiology, 2001, 125, 29-32.	4.8	316
97	Variation in measured values of photosynthetic quantum yield in ecophysiological studies. Oecologia, 2001, 128, 15-23.	2.0	142
98	Diurnal regulation of photosynthesis in understory saplings. New Phytologist, 2000, 145, 39-49.	7.3	52
99	Differential Effects of Chilling-Induced Photooxidation on the Redox Regulation of Photosynthetic Enzymesâ€. Biochemistry, 2000, 39, 6679-6688.	2.5	81
100	Chilling Delays Circadian Pattern of Sucrose Phosphate Synthase and Nitrate Reductase Activity in Tomato1. Plant Physiology, 1998, 118, 149-158.	4.8	80
101	The recovery of photosynthesis in tomato subsequent to chilling exposure. Photosynthesis Research, 1985, 6, 121-132.	2.9	48
102	Cooperation among electron-transfer complexes in ATP synthesis in chloroplasts. FEBS Journal, 1985, 149, 503-510.	0.2	25