Graham D Farquhar

List of Publications by Citations

Source: https://exaly.com/author-pdf/5776980/graham-d-farquhar-publications-by-citations.pdf
Version: 2024-04-09

This document has been generated based on the publications and citations recorded by exaly.com. For the latest version of this publication list, visit the link given above.
The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

286 papers	50,229 citations	104 h-index	222 g-index
294 ext. papers	55,136 ext. citations	7.1 avg, IF	7.61 L-index

#	Paper	IF	Citations
286	A biochemical model of photosynthetic CO2 assimilation in leaves of C 3 species. *Planta*, **1980**, 149, 78-90	4.7	6046
285	Carbon Isotope Discrimination and Photosynthesis. *Annual Review of Plant Biology*, **1989**, 40, 503-537		4637
284	Some relationships between the biochemistry of photosynthesis and the gas exchange of leaves. *Planta*, **1981**, 153, 376-87	4.7	3732
283	Stomatal Conductance and Photosynthesis. *Annual Review of Plant Physiology*, **1982**, 33, 317-345		2714
282	Stomatal conductance correlates with photosynthetic capacity. *Nature*, **1979**, 282, 424-426	50.4	1079
281	Fitting photosynthetic carbon dioxide response curves for C(3) leaves. *Plant, Cell and Environment*, **2007**, 30, 1035-40	8.4	883
280	Simple scaling of photosynthesis from leaves to canopies without the errors of big-leaf models. *Plant, Cell and Environment*, **1997**, 20, 537-557	8.4	880
279	Effect of temperature on the CO2/O 2 specificity of ribulose-1,5-bisphosphate carboxylase/oxygenase and the rate of respiration in the light : Estimates from gas-exchange measurements on spinach. *Planta*, **1985**, 165, 397-406	4.7	834
278	Breeding for high water-use efficiency. *Journal of Experimental Botany*, **2004**, 55, 2447-60	7	761
277	Despite slow catalysis and confused substrate specificity, all ribulose bisphosphate carboxylases may be nearly perfectly optimized. *Proceedings of the National Academy of Sciences of the United States of America*, **2006**, 103, 7246-51	11.5	533
276	The Cause of Decreased Pan Evaporation over the Past 50 Years. *Science*, **2002**, 298, 1410-1411	33.3	521
275	An explanation of 13C/12C variations in tree rings. *Nature*, **1982**, 297, 28-31	50.4	466
274	C discrimination during CO assimilation by the terrestrial biosphere. *Oecologia*, **1994**, 99, 201-215	2.9	463
273	Carbon isotope discrimination by plants follows latitudinal and altitudinal trends. *Oecologia*, **1991**, 88, 30-40	2.9	457
272	The ERECTA gene regulates plant transpiration efficiency in Arabidopsis. *Nature*, **2005**, 436, 866-70	50.4	437
271	On the attribution of changing pan evaporation. *Geophysical Research Letters*, **2007**, 34,	4.9	428
270	On the Gaseous Exchange of Ammonia between Leaves and the Environment: Determination of the Ammonia Compensation Point. *Plant Physiology*, **1980**, 66, 710-4	6.6	410

269	A global survey of carbon isotope discrimination in plants from high altitude. *Oecologia*, **1988**, 74, 623-632	2.9	405
268	Carbon and Oxygen Isotope Effects in the Exchange of Carbon Dioxide between Terrestrial Plants and the Atmosphere **1993**, 47-70		381
267	Improving Intrinsic Water-Use Efficiency and Crop Yield. *Crop Science*, **2002**, 42, 122-131	2.4	373
266	On the direct effect of clouds and atmospheric particles on the productivity and structure of vegetation. *Oecologia*, **2001**, 129, 21-30	2.9	369
265	Environmental and physiological determinants of carbon isotope discrimination in terrestrial plants. *New Phytologist*, **2013**, 200, 950-65	9.8	354
264	The mechanical diversity of stomata and its significance in gas-exchange control. *Plant Physiology*, **2007**, 143, 78-87	6.6	351
263	Modelling of Photosynthetic Response to Environmental Conditions **1982**, 549-587		350
262	Impact of CO2 fertilization on maximum foliage cover across the globe's warm, arid environments. *Geophysical Research Letters*, **2013**, 40, 3031-3035	4.9	344
261	Vegetation effects on the isotope composition of oxygen in atmospheric CO2. *Nature*, **1993**, 363, 439-443	50.4	343
260	Effects of rising temperatures and [CO2] on the physiology of tropical forest trees. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2008**, 363, 1811-7	5.8	336
259	Carbon Isotope Fractionation and Plant Water-Use Efficiency. *Ecological Studies*, **1989**, 21-40	1.1	320
258	Heavy water fractionation during transpiration. *Plant Physiology*, **2007**, 143, 11-8	6.6	318
257	Carbon Isotope Discrimination is Positively Correlated with Grain Yield and Dry Matter Production in Field-Grown Wheat1. *Crop Science*, **1987**, 27, 996-1001	2.4	311
256	Selection for Reduced Carbon Isotope Discrimination Increases Aerial Biomass and Grain Yield of Rainfed Bread Wheat. *Crop Science*, **2002**, 42, 739-745	2.4	305
255	Why are non-photosynthetic tissues generally C enriched compared with leaves in C plants? Review and synthesis of current hypotheses. *Functional Plant Biology*, **2009**, 36, 199-213	2.7	304
254	A simple framework for relating variations in runoff to variations in climatic conditions and catchment properties. *Water Resources Research*, **2011**, 47,	5.4	278
253	Relative humidity- and ABA-induced variation in carbon and oxygen isotope ratios of cotton leaves. *Plant, Cell and Environment*, **2000**, 23, 473-485	8.4	278
252	On the relationship between leaf anatomy and CO2 diffusion through the mesophyll of hypostomatous leaves. *Plant, Cell and Environment*, **1995**, 18, 149-157	8.4	270

251	Photosynthetic and Stomatal Responses of Two Mangrove Species, Aegiceras corniculatum and Avicennia marina, to Long Term Salinity and Humidity Conditions. *Plant Physiology*, **1984**, 74, 1-6	6.6	265
250	Leaf Conductance in Relation to Rate of CO(2) Assimilation: I. Influence of Nitrogen Nutrition, Phosphorus Nutrition, Photon Flux Density, and Ambient Partial Pressure of CO(2) during Ontogeny. *Plant Physiology*, **1985**, 78, 821-5	6.6	265
249	Improving Intrinsic Water-Use Efficiency and Crop Yield. *Crop Science*, **2002**, 42, 122-131	2.4	257
248	Sensitivity of plants to changing atmospheric CO2 concentration: from the geological past to the next century. *New Phytologist*, **2013**, 197, 1077-1094	9.8	256
247	Overproduction of abscisic acid in tomato increases transpiration efficiency and root hydraulic conductivity and influences leaf expansion. *Plant Physiology*, **2007**, 143, 1905-17	6.6	256
246	Changes in Australian pan evaporation from 1970 to 2002. *International Journal of Climatology*, **2004**, 24, 1077-1090	3.5	256
245	Effects of partial defoliation, changes of irradiance during growth, short-term water stress and growth at enhanced p(CO2) on the photosynthetic capacity of leaves of Phaseolus vulgaris L. *Planta* , **1984**, 160, 320-9	4.7	254
244	Low conductances for CO2 diffusion from stomata to the sites of carboxylation in leaves of woody species. *Plant, Cell and Environment*, **1992**, 15, 873-899	8.4	252
243	Correlation between the Carbon Isotope Discrimination in Leaf Starch and Sugars of C(3) Plants and the Ratio of Intercellular and Atmospheric Partial Pressures of Carbon Dioxide. *Plant Physiology*, **1988**, 88, 1418-24	6.6	248
242	Global variability in leaf respiration in relation to climate, plant functional types and leaf traits. *New Phytologist*, **2015**, 206, 614-36	9.8	244
241	The CO 2 Dependence of Photosynthesis, Plant Growth Responses to Elevated Atmospheric CO 2 Concentrations and Their Interaction with Soil Nutrient Status. I. General Principles and Forest Ecosystems. *Functional Ecology*, **1996**, 10, 4	5.6	240
240	Improving Intrinsic Water-Use Efficiency and Crop Yield. *Crop Science*, **2002**, 42, 122	2.4	239
239	On the isotopic composition of leaf water in the non-steady state. *Functional Plant Biology*, **2005**, 32, 293-303	2.7	235
238	Stomatal function in relation to leaf metabolism and environment. *Symposia of the Society for Experimental Biology*, **1977**, 31, 471-505		234
237	A hydromechanical and biochemical model of stomatal conductance. *Plant, Cell and Environment*, **2003**, 26, 1767-1785	8.4	233
236	Effect of salinity and humidity on □ value of halophytes-Evidence for diffusional isotope fractionation determined by the ratio of intercellular/atmospheric partial pressure of CO under different environmental conditions. *Oecologia*, **1982**, 52, 121-124	2.9	233
235	CO2 and Water Vapor Exchange across Leaf Cuticle (Epidermis) at Various Water Potentials. *Plant Physiology*, **1997**, 114, 185-191	6.6	229
234	Expressing leaf water and cellulose oxygen isotope ratios as enrichment above source water reveals evidence of a P□let effect. *Oecologia*, **2004**, 138, 426-35	2.9	223

233	Diffusional conductances to CO2 as a target for increasing photosynthesis and photosynthetic water-use efficiency. *Photosynthesis Research*, **2013**, 117, 45-59	3.7	218
232	Water-Use Efficiency and Carbon Isotope Discrimination in Peanut under Water Deficit Conditions. *Crop Science*, **1994**, 34, 92-97	2.4	211
231	Seasonal variation in δ13C and δ18O of cellulose from growth rings of Pinus radiata. *Plant, Cell and Environment*, **2002**, 25, 1483-1499	8.4	209
230	Models of photosynthesis. *Plant Physiology*, **2001**, 125, 42-5	6.6	209
229	The effect of exogenous abscisic acid on stomatal development, stomatal mechanics, and leaf gas exchange in Tradescantia virginiana. *Plant Physiology*, **2001**, 125, 935-42	6.6	206
228	Selection for Reduced Carbon Isotope Discrimination Increases Aerial Biomass and Grain Yield of Rainfed Bread Wheat. *Crop Science*, **2002**, 42, 739	2.4	198
227	Xylem-tapping mistletoes: water or nutrient parasites?. *Science*, **1985**, 227, 1479-81	33.3	185
226	Stable isotopes in leaf water of terrestrial plants. *Plant, Cell and Environment*, **2016**, 39, 1087-102	8.4	182
225	Environmental and physiological controls over oxygen and carbon isotope composition of Tasmanian blue gum, Eucalyptus globulus. *Tree Physiology*, **2005**, 25, 129-46	4.2	177
224	Leaf Conductance in Relation to Assimilation in Eucalyptus pauciflora Sieb. ex Spreng: Influence of Irradiance and Partial Pressure of Carbon Dioxide. *Plant Physiology*, **1978**, 62, 670-4	6.6	172
223	Photosynthetic Fractionation of Carbon Isotopes. *Advances in Photosynthesis and Respiration*, **2000**, 399-434	1.7	169
222	Atmospheric science. Pinatubo, diffuse light, and the carbon cycle. *Science*, **2003**, 299, 1997-8	33.3	161
221	Water-Use Efficiency and Carbon Isotope Discrimination in Wheat. *Crop Science*, **1991**, 31, 1282-1288	2.4	161
220	The influence of N metabolism and organic acid synthesis on the natural abundance of isotopes of carbon in plants. *New Phytologist*, **1990**, 116, 505-529	9.8	158
219	A relationship between humidity response, growth form and photosynthetic operating point in C3 plants. *Plant, Cell and Environment*, **1999**, 22, 1337-1349	8.4	157
218	Haying-off, the negative grain yield response of dryland wheat to nitrogen fertiliser II.Carbohydrate and protein dynamics. *Australian Journal of Agricultural Research*, **1998**, 49, 1083		155
217	A general framework for understanding the response of the water cycle to global warming over land and ocean. *Hydrology and Earth System Sciences*, **2014**, 18, 1575-1589	5.5	147
216	Next generation of elevated [CO2] experiments with crops: a critical investment for feeding the future world. *Plant, Cell and Environment*, **2008**, 31, 1317-24	8.4	145

215	Changes in Australian pan evaporation from 1970 to 2002. *International Journal of Climatology*, **2004**, 24, 1077-1090	3.5	141
214	Quantitative trait loci for carbon isotope discrimination are repeatable across environments and wheat mapping populations. *Theoretical and Applied Genetics*, **2008**, 118, 123-37	6	140
213	On the assessment of aridity with changes in atmospheric CO2. *Water Resources Research*, **2015**, 51, 5450-5463	3.4	137
212	Diurnal variation in the stable isotope composition of water and dry matter in fruiting Lupinus angustifolius under field conditions. *Plant, Cell and Environment*, **2002**, 25, 893-907	8.4	137
211	Pan Evaporation Trends and the Terrestrial Water Balance. II. Energy Balance and Interpretation. *Geography Compass*, **2009**, 3, 761-780	2.4	135
210	A simple new equation for the reversible temperature dependence of photosynthetic electron transport: a study on soybean leaf. *Functional Plant Biology*, **2004**, 31, 275-283	2.7	134
209	Leaf Conductance in Relation to Rate of CO(2) Assimilation: III. Influences of Water Stress and Photoinhibition. *Plant Physiology*, **1985**, 78, 830-4	6.6	133
208	A rapid on-line technique for determination of oxygen isotope composition of nitrogen-containing organic matter and water. *Rapid Communications in Mass Spectrometry*, **1997**, 11, 1554-1560	2.2	129
207	Variation in the oxygen isotope ratio of phloem sap sucrose from castor bean. Evidence in support of the Pﾅlet effect. *Plant Physiology*, **2000**, 123, 671-80	6.6	129
206	Investigation of the CO(2) Dependence of Quantum Yield and Respiration in Eucalyptus pauciflora. *Plant Physiology*, **1987**, 83, 1032-6	6.6	128
205	Photosynthetic and Stomatal Responses of the Grey Mangrove, Avicennia marina, to Transient Salinity Conditions. *Plant Physiology*, **1984**, 74, 7-11	6.6	127
204	Theoretical considerations about carbon isotope distribution in glucose of C plants. *Functional Plant Biology*, **2004**, 31, 857-877	2.7	126
203	Quantifying impacts of enhancing photosynthesis on crop yield. *Nature Plants*, **2019**, 5, 380-388	11.5	125
202	Genomic regions for canopy temperature and their genetic association with stomatal conductance and grain yield in wheat. *Functional Plant Biology*, **2012**, 40, 14-33	2.7	125
201	Analysis of respiratory chain regulation in roots of soybean seedlings. *Plant Physiology*, **1998**, 117, 1083-93	6.6	125
200	Effects of water status and soil fertility on the C-isotope signature in Pinus radiata. *Tree Physiology*, **1999**, 19, 551-562	4.2	123
199	Ternary effects on the gas exchange of isotopologues of carbon dioxide. *Plant, Cell and Environment*, **2012**, 35, 1221-31	8.4	122
198	Models describing the kinetics of ribulose biphosphate carboxylase-oxygenase. *Archives of Biochemistry and Biophysics*, **1979**, 193, 456-68	4.1	119

197	Experimental evidence for diel variations of the carbon isotope composition in leaf, stem and phloem sap organic matter in Ricinus communis. *Plant, Cell and Environment*, **2008**, 31, 941-53	8.4	118
196	Changes in New Zealand pan evaporation since the 1970s. *International Journal of Climatology*, **2005**, 25, 2031-2039	3.5	116
195	Seed and Seedling Characteristics Contributing to Variation in Early Vigor among Temperate Cereals. *Crop Science*, **1996**, 36, 1257-1266	2.4	116
194	Contributions of woody and herbaceous vegetation to tropical savanna ecosystem productivity: a quasi-global estimate. *Tree Physiology*, **2008**, 28, 451-68	4.2	115
193	Optimal stomatal control in relation to leaf area and nitrogen content. *Silva Fennica*, **2002**, 36,	1.9	113
192	On the metabolic origin of the carbon isotope composition of CO2 evolved from darkened light-acclimated leaves in Ricinus communis. *New Phytologist*, **2009**, 181, 374-386	9.8	112
191	Pan Evaporation Trends and the Terrestrial Water Balance. I. Principles and Observations. *Geography Compass*, **2009**, 3, 746-760	2.4	111
190	Have Australian rainfall and cloudiness increased due to the remote effects of Asian anthropogenic aerosols?. *Journal of Geophysical Research*, **2007**, 112,		111
189	CLIMATE CHANGE: Carbon Dioxide and Vegetation. *Science*, **1997**, 278, 1411-1411	33.3	109
188	The apparent feedforward response of stomata to air vapour pressure deficit: information revealed by different experimental procedures with two rainforest trees. *Plant, Cell and Environment*, **1997**, 20, 142-145	8.4	108
187	Variability in mesophyll conductance between barley genotypes, and effects on transpiration efficiency and carbon isotope discrimination. *Plant, Cell and Environment*, **2010**, 33, 1176-85	8.4	107
186	□ of organic matter transported from the leaves to the roots in Eucalyptus delegatensis: short-term variations and relation to respired CO. *Functional Plant Biology*, **2007**, 34, 692-706	2.7	106
185	Gain of the feedback loop involving carbon dioxide and stomata: theory and measurement. *Plant Physiology*, **1978**, 62, 406-12	6.6	106
184	Modelling advection and diffusion of water isotopologues in leaves. *Plant, Cell and Environment*, **2007**, 30, 892-909	8.4	105
183	Revisiting the parameterization of potential evaporation as a driver of long-term water balance trends. *Geophysical Research Letters*, **2008**, 35, n/a-n/a	4.9	104
182	Carbon isotope discrimination by a sequence of Eucalyptus species along a subcontinental rainfall gradient in Australia. *Functional Ecology*, **2001**, 15, 222-232	5.6	103
181	Effect of abscisic Acid on the gain of the feedback loop involving carbon dioxide and stomata. *Plant Physiology*, **1978**, 62, 413-7	6.6	103
180	A study of stomatal mechanics using the cell pressure probe. *Plant, Cell and Environment*, **1998**, 21, 94-108	8.4	102

179	Photosynthetically relevant foliar traits correlating better on a mass vs an area basis: of ecophysiological relevance or just a case of mathematical imperatives and statistical quicksand?. *New Phytologist*, **2013**, 199, 311-321	9.8	100
178	Effects of elevated [CO(2)] and nitrogen nutrition on cytokinins in the xylem sap and leaves of cotton. *Plant Physiology*, **2000**, 124, 767-80	6.6	100
177	Water relations link carbon and oxygen isotope discrimination to phloem sap sugar concentration in Eucalyptus globulus. *Plant Physiology*, **2003**, 131, 1544-54	6.6	99
176	Plants increase CO uptake by assimilating nitrogen via the photorespiratory pathway. *Nature Plants* , **2018**, 4, 46-54	11.5	97
175	A simple pan-evaporation model for analysis of climate simulations: Evaluation over Australia. *Geophysical Research Letters*, **2006**, 33,	4.9	96
174	A controlled test of the dual-isotope approach for the interpretation of stable carbon and oxygen isotope ratio variation in tree rings. *Tree Physiology*, **2012**, 32, 490-503	4.2	95
173	Integrating the evidence for a terrestrial carbon sink caused by increasing atmospheric CO. *New Phytologist*, **2021**, 229, 2413-2445	9.8	94
172	A comment on the quantitative significance of aerobic methane release by plants. *Functional Plant Biology*, **2006**, 33, 521-530	2.7	93
171	Leaf day respiration: low CO flux but high significance for metabolism and carbon balance. *New Phytologist*, **2017**, 216, 986-1001	9.8	91
170	A Direct Confirmation of the Standard Method of Estimating Intercellular Partial Pressure of CO(2). *Plant Physiology*, **1982**, 69, 657-9	6.6	88
169	On the Resistance to Transpiration of the Sites of Evaporation within the Leaf. *Plant Physiology*, **1978**, 61, 1000-5	6.6	88
168	Mean annual GPP of Europe derived from its water balance. *Geophysical Research Letters*, **2007**, 34,	4.9	85
167	Dependence of plastoquinol diffusion on the shape, size, and density of integral thylakoid proteins. *Biochimica Et Biophysica Acta - Bioenergetics*, **2003**, 1607, 97-109	4.6	84
166	Terrestrial carbon storage at the LGM. *Nature*, **1994**, 371, 566-566	50.4	83
165	Short-term changes in leaf carbon isotope discrimination in salt- and water-stressed c(4) grasses. *Plant Physiology*, **1989**, 90, 162-6	6.6	83
164	Leaf Conductance in Relation to Rate of CO(2) Assimilation: II. Effects of Short-Term Exposures to Different Photon Flux Densities. *Plant Physiology*, **1985**, 78, 826-9	6.6	83
163	Nitrogen in cell walls of sclerophyllous leaves accounts for little of the variation in photosynthetic nitrogen-use efficiency. *Plant, Cell and Environment*, **2009**, 32, 259-70	8.4	82
162	Ammonia volatilization from senescing leaves of maize. *Science*, **1979**, 203, 1257-8	33.3	82

161	Reduction of Ribulose-1,5-Bisphosphate Carboxylase/Oxygenase by Antisense RNA in the C4 Plant Flaveria bidentis Leads to Reduced Assimilation Rates and Increased Carbon Isotope Discrimination. *Plant Physiology*, **1997**, 113, 469-477	6.6	81
160	Oxygen isotope composition of phloem sap in relation to leaf water in Ricinus communis. *Functional Plant Biology*, **2003**, 30, 1059-1070	2.7	81
159	(18)O spatial patterns of vein xylem water, leaf water, and dry matter in cotton leaves. *Plant Physiology*, **2002**, 130, 1008-21	6.6	81
158	The relationship between the Rubisco reaction mechanism and models of photosynthesis*. *Plant, Cell and Environment*, **1990**, 13, 219-225	8.4	81
157	Qualitative effects of patchy stomatal conductance distribution features on gas-exchange calculations. *Plant, Cell and Environment*, **1997**, 20, 867-880	8.4	80
156	Effects of soil strength on the relation of water-use efficiency and growth to carbon isotope discrimination in wheat seedlings. *Plant Physiology*, **1988**, 86, 32-8	6.6	80
155	Gas Exchange, Stomatal Behavior, and deltaC Values of the flacca Tomato Mutant in Relation to Abscisic Acid. *Plant Physiology*, **1983**, 72, 245-50	6.6	80
154	Hydroclimatic projections for the Murray-Darling Basin based on an ensemble derived from Intergovernmental Panel on Climate Change AR4 climate models. *Water Resources Research*, **2011**, 47,	5.4	77
153	Carbon isotope discrimination and oxygen isotope composition in clones of the F(1) hybrid between slash pine and Caribbean pine in relation to tree growth, water-use efficiency and foliar nutrient concentration. *Tree Physiology*, **2000**, 20, 1209-1217	4.2	76
152	Transpiration rate relates to within- and across-species variations in effective path length in a leaf water model of oxygen isotope enrichment. *Plant, Cell and Environment*, **2013**, 36, 1338-51	8.4	74
151	What does optimization theory actually predict about crown profiles of photosynthetic capacity when models incorporate greater realism?. *Plant, Cell and Environment*, **2013**, 36, 1547-63	8.4	73
150	Do pathways of water movement and leaf anatomical dimensions allow development of gradients in H218O between veins and the sites of evaporation within leaves?. *Plant, Cell and Environment*, **2004**, 27, 107-121	8.4	72
149	Gradients of Intercellular CO(2) Levels Across the Leaf Mesophyll. *Plant Physiology*, **1988**, 86, 1032-7	6.6	72
148	Determinants of maximum tree height in Eucalyptus species along a rainfall gradient in Victoria, Australia. *Ecology*, **2014**, 95, 2991-3007	4.6	71
147	Viewpoint: Carbon isotope effect predictions for enzymes involved in the primary carbon metabolism of plant leaves. *Functional Plant Biology*, **2005**, 32, 277-291	2.7	71
146	On the progressive enrichment of the oxygen isotopic composition of water along a leaf. *Plant, Cell and Environment*, **2003**, 26, 1579-1597	8.4	70
145	A theoretical approach to linking the composition and morphology with the function of leaves. *Functional Ecology*, **1999**, 13, 683-695	5.6	70
144	Growth responses of the mangrove Avicennia marina to salinity: development and function of shoot hydraulic systems require saline conditions. *Annals of Botany*, **2015**, 115, 397-407	4.1	69

143	Changes in the variability of global land precipitation. *Geophysical Research Letters*, **2012**, 39, n/a-n/a	4.9	69
142	Differences in carbon isotope discrimination of three variants of D-ribulose-1,5-bisphosphate carboxylase/oxygenase reflect differences in their catalytic mechanisms. *Journal of Biological Chemistry*, **2007**, 282, 36068-76	5.4	69
141	The oxygen isotope enrichment of leaf-exported assimilates--does it always reflect lamina leaf water enrichment?. *New Phytologist*, **2013**, 200, 144-157	9.8	68
140	Variation in the carbon and oxygen isotope composition of plant biomass and its relationship to water-use efficiency at the leaf- and ecosystem-scales in a northern Great Plains grassland. *Plant, Cell and Environment*, **2014**, 37, 425-38	8.4	67
139	Optimal plant water economy. *Plant, Cell and Environment*, **2017**, 40, 881-896	8.4	65
138	Variation in the degree of coupling between delta13C of phloem sap and ecosystem respiration in two mature Nothofagus forests. *New Phytologist*, **2005**, 166, 497-512	9.8	65
137	The mathematics of linked optimisation for water and nitrogen use in a canopy. *Silva Fennica*, **2002**, 36,	1.9	65
136	Three-dimensional microscale modelling of CO2 transport and light propagation in tomato leaves enlightens photosynthesis. *Plant, Cell and Environment*, **2016**, 39, 50-61	8.4	64
135	Temperature-dependent feedback inhibition of photosynthesis in peanut. *Planta*, **1988**, 175, 348-54	4.7	63
134	Measurement and interpretation of the oxygen isotope composition of carbon dioxide respired by leaves in the dark. *Plant Physiology*, **2004**, 136, 3350-63	6.6	61
133	Influence of clouds and diffuse radiation on ecosystem-atmosphere CO2 and CO18O exchanges. *Journal of Geophysical Research*, **2009**, 114,		59
132	Nocturnal stomatal conductance and implications for modelling Δ of leaf-respired CO in temperate tree species. *Functional Plant Biology*, **2006**, 32, 1107-1121	2.7	59
131	Evaluation of models of leaf water 18O enrichment using measurements of spatial patterns of vein xylem water, leaf water and dry matter in maize leaves. *Plant, Cell and Environment*, **2003**, 26, 1479-1495	8.4	58
130	Foliar stage in wheat correlates better to photothermal time than to thermal time. *Plant, Cell and Environment*, **1989**, 12, 235-247	8.4	58
129	On the extent of genetic variation for transpiration efficiency in sorghum. *Australian Journal of Agricultural Research*, **1997**, 48, 649		56
128	Haying-off, the negative grain yield response of dryland wheat to nitrogen fertiliser III. The influence of water deficit and heat shock. *Australian Journal of Agricultural Research*, **1998**, 49, 1095		56
127	Inheritance of Carbon Isotope Discrimination in Bread Wheat (Triticum Aestivum L.). *Euphytica*, **2006**, 150, 97-106	2.1	55
126	Oscillations in stomatal conductance: the influence of environmental gain. *Plant Physiology*, **1974**, 54, 769-72	6.6	55

125	Temperature effect on leaf water deuterium enrichment and isotopic fractionation during leaf lipid biosynthesis: results from controlled growth of C3 and C4 land plants. *Phytochemistry*, **2011**, 72, 207-13	4	54
124	Biosynthetic origin of the saw-toothed profile in delta(13)C and delta(2)H of n-alkanes and systematic isotopic differences between n-, iso- and anteiso-alkanes in leaf waxes of land plants. *Phytochemistry*, **2010**, 71, 388-403	4	54
123	Oxygen isotope enrichment of organic matter in Ricinus communis during the diel course and as affected by assimilate transport. *New Phytologist*, **2007**, 174, 600-613	9.8	54
122	Guard cell pressure/aperture characteristics measured with the pressure probe. *Plant, Cell and Environment*, **1995**, 18, 795-800	8.4	54
121	Rubisco is not really so bad. *Plant, Cell and Environment*, **2018**, 41, 705-716	8.4	53
120	Stomatal responses to changes in vapour pressure difference between leaf and air. *Plant, Cell and Environment*, **1997**, 20, 1213-1216	8.4	51
119	Mistletoes: a hypothesis concerning morphological and chemical avoidance of herbivory. *Oecologia*, **1986**, 70, 234-237	2.9	51
118	Biochemical Model of C3 Photosynthesis. *Advances in Photosynthesis and Respiration*, **2009**, 209-230	1.7	51
117	Oxygen isotope ratio of leaf and grain material correlates with stomatal conductance and grain yield in irrigated wheat. *Functional Plant Biology*, **2000**, 27, 625	2.7	50
116	Environmental effects on oxygen isotope enrichment of leaf water in cotton leaves. *Plant Physiology*, **2008**, 146, 729-36	6.6	48
115	Carbon fixation in eucalypts in the field : Analysis of diurnal variations in photosynthetic capacity. *Oecologia*, **1986**, 70, 273-282	2.9	48
114	Rainfall statistics, stationarity, and climate change. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, 2305-2310	11.5	47
113	Correlations between oxygen isotope ratios of wood constituents of Quercus and Pinus samples from around the world. *Functional Plant Biology*, **2001**, 28, 335	2.7	47
112	Oxygen and carbon isotope composition of parasitic plants and their hosts in southwestern Australia. *Oecologia*, **2004**, 139, 199-213	2.9	45
111	Climate and soils together regulate photosynthetic carbon isotope discrimination within C3 plants worldwide. *Global Ecology and Biogeography*, **2018**, 27, 1056-1067	6.1	45
110	Genotypic and Drought-Induced Differences in Carbon Isotope Discrimination and Gas Exchange of Cowpea. *Crop Science*, **1992**, 32, 1-6	2.4	44
109	Measurements of transpiration isotopologues and leaf water to assess enrichment models in cotton. *New Phytologist*, **2015**, 206, 637-46	9.8	43
108	Biosynthetic and environmental effects on the stable carbon isotopic compositions of anteiso- (3-methyl) and iso- (2-methyl) alkanes in tobacco leaves. *Phytochemistry*, **2008**, 69, 2807-14	4	43

107	Higher than expected CO fertilization inferred from leaf to global observations. *Global Change Biology*, **2020**, 26, 2390	11.4	43
106	Gaseous nitrogen losses from plants **1983**, 159-180		43
105	Effects of temperature, oxygen concentration, leaf age and seasonal variations on the CO2 compensation point of Lolium perenne L. : Comparison with a mathematical model including non-photorespiratory CO2 production in the light. *Planta*, **1981**, 152, 497-504	4.7	42
104	Variation in mesophyll conductance among Australian wheat genotypes. *Functional Plant Biology*, **2014**, 41, 568-580	2.7	41
103	Advances in measurements and models of photosynthetic carbon isotope discrimination in C3 plants. *Plant, Cell and Environment*, **2014**, 37, 1494-8	8.4	40
102	Unsaturation of vapour pressure inside leaves of two conifer species. *Scientific Reports*, **2018**, 8, 7667	4.9	40
101	Changes in the chloroplastic CO concentration explain much of the observed Kok effect: a model. *New Phytologist*, **2017**, 214, 570-584	9.8	39
100	Eucalypts forming a canopy functional type in dry sclerophyll forests respond differentially to environment. *Australian Journal of Botany*, **2000**, 48, 759	1.2	39
99	Crop growth, water-use efficiency and carbon isotope discrimination in groundnut (Arachis hypogaea L.) genotypes under end-of season drought conditions*. *Annals of Applied Biology*, **1993**, 122, 357-367	2.6	39
98	Carbon isotope discrimination varies genetically in c(4) species. *Plant Physiology*, **1990**, 92, 534-7	6.6	39
97	The use of natural abundance stable isotopic ratios to indicate the presence of oxygen-containing chemical linkages between cellulose and lignin in plant cell walls. *Phytochemistry*, **2010**, 71, 982-93	4	38
96	Photosynthesis-nitrogen relationships in tropical forest tree species as affected by soil phosphorus availability: a controlled environment study. *Functional Plant Biology*, **2014**, 41, 820-832	2.7	37
95	Turnover time of the non-structural carbohydrate pool influences δ18O of leaf cellulose. *Plant, Cell and Environment*, **2014**, 37, 2500-7	8.4	37
94	Determining RuBisCO activation kinetics and other rate and equilibrium constants by simultaneous multiple non-linear regression of a kinetic model. *Journal of Experimental Botany*, **2006**, 57, 3883-900	7	37
93	Viewpoint: Isotopic fractionation by plant nitrate reductase, twenty years later. *Functional Plant Biology*, **2006**, 33, 531-537	2.7	37
92	Gene action for leaf conductance in three wheat crosses. *Australian Journal of Agricultural Research*, **2003**, 54, 381		36
91	Variation in branchlet delta13C in relation to branchlet nitrogen concentration and growth in 8-year-old hoop pine families (Araucaria cunninghamii) in subtropical Australia. *Tree Physiology*, **2000**, 20, 1049-55	4.2	36
90	Drought response of mesophyll conductance in forest understory species--impacts on water-use efficiency and interactions with leaf water movement. *Physiologia Plantarum*, **2014**, 152, 98-114	4.6	35

89	Hydraulically based stomatal oscillations and stomatal patchiness in Gossypium hirsutum. *Functional Plant Biology*, **2006**, 33, 1103-1113	2.7	35
88	A new measurement technique reveals temporal variation in delta18O of leaf-respired CO2. *Plant, Cell and Environment*, **2007**, 30, 456-68	8.4	34
87	Dynamics of stomatal water relations following leaf excision. *Plant, Cell and Environment*, **2006**, 29, 981-92	8.4	34
86	Revisiting carbon isotope discrimination in C plants shows respiration rules when photosynthesis is low. *Nature Plants*, **2020**, 6, 245-258	11.5	33
85	Carbon-water balance and patchy stomatal conductance. *Oecologia*, **1999**, 118, 132-143	2.9	33
84	Plant water-use strategy mediates stomatal effects on the light induction of photosynthesis. *New Phytologist*, **2019**, 222, 382-395	9.8	33
83	Measurement of (carbon) kinetic isotope effect by Rayleigh fractionation using membrane inlet mass spectrometry for CO-consuming reactions. *Functional Plant Biology*, **2006**, 33, 1115-1128	2.7	32
82	Relationship between stomatal conductance and light intensity in leaves of Zea mays L., derived from experiments using the mesophyll as shade. *Planta*, **1978**, 139, 73-7	4.7	32
81	Embracing 3D Complexity in Leaf Carbon-Water Exchange. *Trends in Plant Science*, **2019**, 24, 15-24	13.1	32
80	Simulating daily field crop canopy photosynthesis: an integrated software package. *Functional Plant Biology*, **2018**, 45, 362-377	2.7	31
79	Leaf vein fraction influences the Péclet effect and O enrichment in leaf water. *Plant, Cell and Environment*, **2016**, 39, 2414-2427	8.4	30
78	On the progressive enrichment of the oxygen isotopic composition of water along a leaf. *Plant, Cell and Environment*, **2003**, 26, 801-819	8.4	30
77	Modeling the Temperature Dependence of C3 Photosynthesis. *Advances in Photosynthesis and Respiration*, **2009**, 231-246	1.7	27
76	Development of a stable isotope index to assess decadal-scale vegetation change and application to woodlands of the Burdekin catchment, Australia. *Global Change Biology*, **2007**, 13, 1455-1468	11.4	26
75	Genetic and Environmental Variation in Transpiration Efficiency and Its Correlation with Carbon Isotope Discrimination and Specific Leaf Area in Peanut **1993**, 247-267		26
74	The energy balance of a US Class A evaporation pan. *Agricultural and Forest Meteorology*, **2013**, 182-183, 314-331	5.8	25
73	Partitioning the variance between space and time. *Geophysical Research Letters*, **2010**, 37, n/a-n/a	4.9	25
72	A new analytical model for whole-leaf potential electron transport rate. *Plant, Cell and Environment* , **2004**, 27, 1487-1502	8.4	25

71	On the progressive enrichment of the oxygen isotopic composition of water along a leaf. *Plant, Cell and Environment*, **2003**, 26, 801-819	8.4	25
70	Critical review: incorporating the arrangement of mitochondria and chloroplasts into models of photosynthesis and carbon isotope discrimination. *Photosynthesis Research*, **2019**, 141, 5-31	3.7	23
69	Genetic Variation in the Relationship between Photosynthetic CO2 Assimilation Rate and Stomatal Conductance to Water Loss **1987**, 209-212		23
68	Estimating stomatal and biochemical limitations during photosynthetic induction. *Plant, Cell and Environment*, **2019**, 42, 3227-3240	8.4	22
67	Maximum entropy production, cloud feedback, and climate change. *Geophysical Research Letters*, **2007**, 34,	4.9	22
66	Tracking the origins of the Kok effect, 70 years after its discovery. *New Phytologist*, **2017**, 214, 506-510	9.8	21
65	The impact of bushfires on water yield from south-east Australian ash forests. *Water Resources Research*, **2013**, 49, 4493-4505	5.4	21
64	D2O solvent isotope effects suggest uniform energy barriers in ribulose-1,5-bisphosphate carboxylase/oxygenase catalysis. *Biochemistry*, **2013**, 52, 869-77	3.2	21
63	Soil and canopy CO2, 13CO2, H2O and sensible heat flux partitions in a forest canopy inferred from concentration measurements. *Tellus, Series B: Chemical and Physical Meteorology*, **2002**, 54, 655-676	3.3	21
62	Canopy carbon and oxygen isotope composition of 9-year-old hoop pine families in relation to seedling carbon isotope composition, growth, field growth performance, and canopy nitrogen concentration. *Canadian Journal of Forest Research*, **2001**, 31, 673-681	1.9	21
61	Carbon Isotope Discrimination during C4 Photosynthesis: Insights from Transgenic Plants. *Functional Plant Biology*, **1997**, 24, 487	2.7	21
60	Hydrogen isotopic differences between C and C land plant lipids: consequences of compartmentation in C photosynthetic chemistry and C photorespiration. *Plant, Cell and Environment*, **2016**, 39, 2676-2690	8.4	20
59	The aerodynamics of pan evaporation. *Agricultural and Forest Meteorology*, **2012**, 152, 31-43	5.8	20
58	Terrestrial carbon-storage from the last glacial maximum to the present. *Chemosphere*, **1996**, 33, 1675-1685	8.4	20
57	Rhizobium-induced elevation in xylem cytokinin delivery in pigeonpea induces changes in shoot development and leaf physiology. *Functional Plant Biology*, **2014**, 41, 1323-1335	2.7	19
56	Effects of root restriction on growth and associated cytokinin levels in cotton (Gossypium hirsutum). *Functional Plant Biology*, **2010**, 37, 974	2.7	18
55	The influence of protein-protein interactions on the organization of proteins within thylakoid membranes. *Biophysical Journal*, **2005**, 88, 2650-60	2.9	18
54	"Rolled-upness": phenotyping leaf rolling in cereals using computer vision and functional data analysis approaches. *Plant Methods*, **2015**, 11, 52	5.8	17

53	Canopy carbon and oxygen isotope composition of 9-year-old hoop pine families in relation to seedling carbon isotope composition, growth, field growth performance, and canopy nitrogen concentration. *Canadian Journal of Forest Research*, **2001**, 31, 673-681	1.9	17
52	Optimization can provide the fundamental link between leaf photosynthesis, gas exchange and water relations. *Nature Plants*, **2020**, 6, 1116-1125	11.5	17
51	A leaf-level biochemical model simulating the introduction of C and C photosynthesis in C rice: gains, losses and metabolite fluxes. *New Phytologist*, **2019**, 223, 150-166	9.8	16
50	Using Stable Carbon Isotopes to Study C and C Photosynthesis: Models and Calculations. *Methods in Molecular Biology*, **2018**, 1770, 155-196	1.4	16
49	Do slow-growing species and nutrient-stressed plants consistently respond less to elevated CO2? A clarification of some issues raised by Poorter 1998). *Global Change Biology*, **2000**, 6, 871-876	11.4	16
48	Promotion of shoot development and tuberisation in potato by expression of a chimaeric cytokinin synthesis gene at normal and elevated CO2 levels. *Functional Plant Biology*, **2010**, 37, 43	2.7	15
47	Analysis of Restriction Fragment Length Polymorphisms Associated with Variation of Carbon Isotope Discrimination among Ecotypes of Arabidopsis thaliana **1993**, 371-386		15
46	Allocate carbon for a reason: priorities are reflected in the □□C/□□C ratios of plant lipids synthesized via three independent biosynthetic pathways. *Phytochemistry*, **2015**, 111, 14-20	4	14
45	Leaf water stable isotopes and water transport outside the xylem. *Plant, Cell and Environment*, **2017**, 40, 914-920	8.4	14
44	Contrasting photosynthetic characteristics of forest vs. savanna species (Far North Queensland, Australia). *Biogeosciences*, **2014**, 11, 7331-7347	4.6	14
43	Does C Photosynthesis Occur in Wheat Seeds?. *Plant Physiology*, **2017**, 174, 1992-1995	6.6	12
42	Tropical rainforest canopies and climate change. *Austral Ecology*, **2007**, 32, 105-112	1.5	12
41	An innovative molybdenum column liner for oxygen and hydrogen stable isotope analysis by pyrolysis. *Rapid Communications in Mass Spectrometry*, **2008**, 22, 1117-26	2.2	12
40	Co-Evolution of Climate, Soil and Vegetation **2005**,		12
39	Calculation of the oxygen isotope discrimination factor for studying plant respiration. *Functional Plant Biology*, **1999**, 26, 773	2.7	12
38	Prescreening in large populations as a tool for identifying elevated CO-responsive genotypes in plants. *Functional Plant Biology*, **2018**, 46, 1-14	2.7	12
37	Using Stomatal Aperture-Related Traits to Select for High Yield Potential in Bread Wheat **2007**, 617-624		11
36	A mathematical model of pan evaporation under steady state conditions. *Journal of Hydrology*, **2016**, 540, 641-658	6	10

35	Water cycle varies over land and sea. *Science*, **2012**, 336, 1230-1	33.3	10
34	Zea mays rhizosphere respiration, but not soil organic matter decomposition was stable across a temperature gradient. *Soil Biology and Biochemistry*, **2010**, 42, 2030-2033	7.5	10
33	Ribulose 1,5-bisphosphate carboxylase/oxygenase activates O by electron transfer. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 24234-24242	11.5	10
32	Two-Source Method to Validate the COO-Photosynthetic Discrimination Model: Implications for Mesophyll Conductance. *Plant Physiology*, **2019**, 181, 1175-1190	6.6	10
31	On the contributions of photorespiration and compartmentation to the contrasting intramolecular H profiles of C and C plant sugars. *Phytochemistry*, **2018**, 145, 197-206	4	10
30	Commentary: Directions for Optimization of Photosynthetic Carbon Fixation: RuBisCOR Efficiency May Not Be So Constrained After All. *Frontiers in Plant Science*, **2018**, 9, 929	6.2	9
29	Modeling Canopy Photosynthesis from the Biochemistry of the C3 Chloroplast. *CSSA Special Publication - Crop Science Society of America*, **2015**, 1-15		9
28	Stomatal conductance responses to evaporative demand conferred by rice drought-yield quantitative trait locus qDTY. *Functional Plant Biology*, **2019**, 46, 660-669	2.7	7
27	Directional change in leaf dry matter 13C during leaf development is widespread in C3 plants. *Annals of Botany*, **2020**, 126, 981-990	4.1	7
26	Poor Evidence for C4 Photosynthesis in the Wheat Grain. *Plant Physiology*, **2016**, 172, 1357	6.6	7
25	Focus on Water. *Plant Physiology*, **2014**, 164, 1553-1555	6.6	7
24	On the O/O isotope effect associated with photosynthetic O production. *Functional Plant Biology*, **2007**, 34, 1049-1052	2.7	7
23	An improved theory for calculating leaf gas exchange more precisely accounting for small fluxes. *Nature Plants*, **2021**, 7, 317-326	11.5	7
22	A rapid on-line technique for determination of oxygen isotope composition of nitrogen-containing organic matter and water **1997**, 11, 1554		7
21	Carbon Isotope Discrimination and Plant Breeding81-113		7
20	Control analysis of photosynthetic CO2 fixation. *Photosynthesis Research*, **1990**, 24, 151-65	3.7	5
19	On the effect of heavy water (DO) on carbon isotope fractionation in photosynthesis. *Functional Plant Biology*, **2008**, 35, 201-212	2.7	4
18	Soil and canopy CO2, 13CO2, H2O and sensible heat flux partitions in a forest canopy inferred from concentration measurements. *Tellus, Series B: Chemical and Physical Meteorology*, **2002**, 54, 655-676	3.3	4

17	Cuticular conductance of adaxial and abaxial leaf surfaces and its relation to minimum leaf surface conductance. *New Phytologist*, **2022**, 233, 156-168	9.8	4
16	Photosynthesis and Carbon Assimilation. *Assa, Cssa and Sssa*, **2015**, 187-210	0.3	3
15	Interactions in the Atmosphere of the Biogeochemical Cycles of Carbon, Nitrogen and Sulfur **1982**, 1-9		3
14	Genetic and physiological bases for variation in water use efficiency in canola. *Food and Energy Security*, **2020**, 9, e237	4.1	3
13	Can hydraulic design explain patterns of leaf water isotopic enrichment in C plants?. *Plant, Cell and Environment*, **2021**, 44, 432-444	8.4	3
12	Macromolecular crowding and its influence on possible reaction mechanisms in photosynthetic electron flow. *Biochimica Et Biophysica Acta - Bioenergetics*, **2007**, 1767, 353-61	4.6	2
11	Transpiration-linked Short-circuit Currents in the Xylem of a Liana. *Journal of Experimental Botany*, **1971**, 22, 818-829	7	2
10	Oxygen Isotope Analysis of Plant Water Without Extraction Procedure **2004**, 473-481		2
9	Contrasting photosynthetic characteristics of forest vs. savanna species (far North Queensland, Australia)		1
8	A general framework for understanding the response of the water cycle to global warming over land and ocean		1
7	Rubisco catalytic adaptation is mostly driven by photosynthetic conditions - Not by phylogenetic constraints. *Journal of Plant Physiology*, **2021**, 267, 153554	3.6	1
6	Genetic variation for leaf carbon isotope discrimination and its association with transpiration efficiency in canola (Brassica napus). *Functional Plant Biology*, **2020**, 47, 355-367	2.7	1
5	The effects on isotopic composition of leaf water and transpiration of adding a gas-exchange cuvette. *Plant, Cell and Environment*, **2021**, 44, 2844-2857	8.4	1
4	Dynamics of moisture diffusion and adsorption in plant cuticles including the role of cellulose. *Nature Communications*, **2021**, 12, 5042	17.4	1
3	Ralph Owen Slatyer 1929–2012. *Historical Records of Australian Science*, **2020**, 31, 54	0.2	0
2	The Greater 13C Natural Abundance in Nitrate-Grown than in Ammonium-Grown Ricinus Communis is Mainly a Function of the Lower Ratio of CO2-Transport Limitation to Biochemical Limitation of Photosynthesis in Nitrate-Grown Plants, with their Higher Organic Anion Content as a Less Significant Factor **1990**, 121-123		
1	Early-growth results within a Eucalyptus globulus breeding population suggest limited scope for selection focused on CO2 responsiveness. *Tree Genetics and Genomes*, **2022**, 18, 1	2.1	