Randall J Weselake

List of Publications by Year
in descending order

131 papers	5,535 citations	81900 39 h-index	91884 69 g-index
133 all docs	133 docs citations	133 times ranked	4383 citing authors

#	Article	IF	Citations
1	Biotechnological approaches for the production of polyhydroxyalkanoates in microorganisms and plants â€" A review. Biotechnology Advances, 2007, 25, 148-175.	11.7	383
2	Diacylglycerol acyltransferase: A key mediator of plant triacylglycerol synthesis. Lipids, 2006, 41, 1073-1088.	1.7	290
3	Acyl-CoA:diacylglycerol acyltransferase: Molecular biology, biochemistry and biotechnology. Progress in Lipid Research, 2012, 51, 350-377.	11.6	288
4	Increasing the flow of carbon into seed oil. Biotechnology Advances, 2009, 27, 866-878.	11.7	256
5	Metabolic control analysis is helpful for informed genetic manipulation of oilseed rape (Brassica) Tj ETQq1 1 0.784314 rgBT /Overlock 1	4.8	171
6	Metabolic Interactions between the Lands Cycle and the Kennedy Pathway of Glycerolipid Synthesis in <i>Arabidopsis</i> Developing Seeds. Plant Cell, 2012, 24, 4652-4669.	6.6	139
7	Molecular modification of triacylglycerol accumulation by over-expression of<i>DGAT1</i>to produce canola with increased seed oil content under field conditionsThis paper is one of a selection of papers published in a Special Issue from the National Research Council of Canada â€" Plant Biotechnology Institute.. Botany, 2009, 87, 533-543.	1.0	126
8	An Endogenous Î±-Amylase Inhibitor in Barley Kernels. Plant Physiology, 1983, 72, 809-812.	4.8	117
9	Fatty Acid Composition of Developing Sea Buckthorn (Hippophae rhamnoides L.) Berry and the Transcriptome of the Mature Seed. PLoS ONE, 2012, 7, e34099.	2.5	117
10	Plant Acyl-CoA:Lysophosphatidylcholine Acyltransferases (LPCATs) Have Different Specificities in Their Forward and Reverse Reactions. Journal of Biological Chemistry, 2013, 288, 36902-36914.	3.4	114
11	Site saturation mutagenesis: Methods and applications in protein engineering. Biocatalysis and Agricultural Biotechnology, 2012, 1, 181-189.	3.1	101
12	Abiotic factors influence plant storage lipid accumulation and composition. Plant Science, 2016, 243, 1-9.	3.6	99
13	Identification of a Pair of Phospholipid:Diacylglycerol Acyltransferases from Developing Flax (Linum) Tj ETQq1 1 0.784314 rgBT /Overl Chemistry, 2013, 288, 24173-24188.	3.4	97
14	Relationship of fatty acid composition to intramuscular fat content in beef from crossbred Wagyu cattle.. Journal of Animal Science, 1999, 77, 1717.	0.5	96
15	Arabidopsis GPAT9 contributes to synthesis of intracellular glycerolipids but not surface lipids. Journal of Experimental Botany, 2016, 67, 4627-4638.	4.8	89
16	<i>sn</i>-Glycerol-3-phosphate acyltransferases in plants. Plant Signaling and Behavior, 2011, 6, 1695-1699.	2.4	87
17	A survey of quantitative real-time polymerase chain reaction internal reference genes for expression studies in Brassica napus. Analytical Biochemistry, 2010, 405, 138-140.	2.4	85
18	Characterization of cDNAs encoding diacylglycerol acyltransferase from cultures of Brassica napus and sucrose-mediated induction of enzyme biosynthesis. Biochimica Et Biophysica Acta - Molecular and Cell Biology of Lipids, 2002, 1580, 95-109.	2.4	82

#	Article	IF	Citations
19	A 10â€kDa acylâ€CoAâ€binding protein (ACBP) from <i>Brassica napus</i> enhances acyl exchange between acylâ€CoA and phosphatidylcholine. Plant Biotechnology Journal, 2009, 7, 602-610.	8.3	82
20	Functional and Topological Analysis of Yeast Acyl-CoA:Diacylglycerol Acyltransferase 2, an Endoplasmic Reticulum Enzyme Essential for Triacylglycerol Biosynthesis. Journal of Biological Chemistry, 2011, 286, 13115-13126.	3.4	82
21	Conjugated linoleic acidâ€"enriched beef production. American Journal of Clinical Nutrition, 2004, 79, 1207S-1211S.	4.7	80
22	Biology and Biochemistry of Plant Phospholipases. Critical Reviews in Plant Sciences, 2011, 30, 239-258.	5.7	78
23	Gene coexpression clusters and putative regulatory elements underlying seed storage reserve accumulation in Arabidopsis. BMC Genomics, 2011, 12, 286.	2.8	73
24	Properties and Biotechnological Applications of Acylâ€CoA:diacylglycerol Acyltransferase and Phospholipid:diacylglycerol Acyltransferase from Terrestrial Plants and Microalgae. Lipids, 2018, 53, 663-688.	1.7	72
25	Purification and Characteristics of an Endogenous Î±-Amylase Inhibitor from Barley Kernels. Plant Physiology, 1983, 73, 1008-1012.	4.8	69
26	Simple Methods to Detect Triacylglycerol Biosynthesis in a Yeastâ€Based Recombinant System. Lipids, 2009, 44, 963-73.	1.7	66
27	Acyltransferase action in the modification of seed oil biosynthesis. New Biotechnology, 2009, 26, 11-16.	4.4	59
28	Phosphatidate phosphatases of mammals, yeast, and higher plants. Lipids, 1996, 31, 785-802.	1.7	56
29	Three Homologous Genes Encoding<i>sn</i>-Glycerol-3-Phosphate Acyltransferase 4 Exhibit Different Expression Patterns and Functional Divergence in<i>Brassica napus</i>Â Â Â Â. Plant Physiology, 2011, 155, 851-865.	4.8	55
30	Triacylglycerol Bioassembly in Microspore-Derived Embryos of Brassica napus L. cv Reston. Plant Physiology, 1991, 97, 65-79.	4.8	54
31	Directed evolution of acyl-CoA:diacylglycerol acyltransferase: Development and characterization of Brassica napus DGAT1 mutagenized libraries. Plant Physiology and Biochemistry, 2009, 47, 456-461.	5.8	53
32	Acyl-CoA-binding and self-associating properties of a recombinant 13.3 kDa N-terminal fragment of diacylglycerol acyltransferase-1 from oilseed rape. BMC Biochemistry, 2006, 7, 24.	4.4	52
33	Acylâ€Trafficking During Plant Oil Accumulation. Lipids, 2015, 50, 1057-1068.	1.7	52
34	Flax (Linum usitatissimum L.). , 2016, , 157-194.		52
35	Engineering increased triacylglycerol accumulation in Saccharomyces cerevisiae using a modified type 1 plant diacylglycerol acyltransferase. Applied Microbiology and Biotechnology, 2015, 99, 2243-2253.	3.6	50
36	A Small Phospholipase A2-Î± from Castor Catalyzes the Removal of Hydroxy Fatty Acids from Phosphatidylcholine in Transgenic Arabidopsis Seeds Â. Plant Physiology, 2015, 167, 1259-1270.	4.8	50

#	ARTICLE	IF	CITATIONS
37	Antisense suppression of type 1 diacylglycerol acyltransferase adversely affects plant development in <i>Brassica napus</i>. Physiologia Plantarum, 2009, 137, 61-71.	5.2	44
38	Properties of diacylglycerol acyltransferase from microspore-derived embryos ofBrassica napus. Phytochemistry, 1991, 30, 3533-3538.	2.9	43
39	Lipins from plants are phosphatidate phosphatases that restore lipid synthesis in a <i>pah1Î”</i> mutant strain of <i>Saccharomyces cerevisiae</i>. FEBS Journal, 2011, 278, 764-775.	4.7	43
40	Diacylglycerol Acyltransferase 1 Is Regulated by Its N-Terminal Domain in Response to Allosteric Effectors. Plant Physiology, 2017, 175, 667-680.	4.8	43
41	Genome-wide identification and analysis of the B3 superfamily of transcription factors in Brassicaceae and major crop plants. Theoretical and Applied Genetics, 2013, 126, 1305-1319.	3.6	42
42	Production of a <i>Brassica napus</i> Low-Molecular Mass Acyl-Coenzyme A-Binding Protein in Arabidopsis Alters the Acyl-Coenzyme A Pool and Acyl Composition of Oil in Seeds Â Â Â. Plant Physiology, 2014, 165, 550-560.	4.8	42
43	Storage lipid accumulation and acyltransferase action in developing flaxseed. Lipids, 2005, 40, 1043-1049.	1.7	41
44	Plant phospholipase A: advances in molecular biology, biochemistry, and cellular function. Biomolecular Concepts, 2013, 4, 527-532.	2.2	39
45	Heterologous expression of flax PHOSPHOLIPID:DIACYLGLYCEROL CHOLINEPHOSPHOTRANSFERASE (PDCT) increases polyunsaturated fatty acid content in yeast and Arabidopsis seeds. BMC Biotechnology, 2015, 15, 63.	3.3	39
46	Genome-Wide Analysis of<i>PHOSPHOLIPID</i>:<i>DIACYLGLYCEROL ACYLTRANSFERASE</i>(<i>PDAT</i>) Genes in Plants Reveals the Eudicot-Wide<i>PDAT</i>Gene Expansion and Altered Selective Pressures Acting on the Core Eudicot<i>PDAT</i>Paralogs Â. Plant Physiology, 2015, 167, 887-904.	4.8	39
47	<i>Transparent Testa16</i>Plays Multiple Roles in Plant Development and Is Involved in Lipid Synthesis and Embryo Development in Canola Â Â. Plant Physiology, 2012, 160, 978-989.	4.8	38
48	Substrate preferences of long-chain acyl-CoA synthetase and diacylglycerol acyltransferase contribute to enrichment of flax seed oil with Î±-linolenic acid. Biochemical Journal, 2018, 475, 1473-1489.	3.7	36
49	Purification of human copper, zinc superoxide dismutase by copper chelate affinity chromatography. Analytical Biochemistry, 1986, 155, 193-197.	2.4	35
50	Increasing seed oil content in Brassica species through breeding and biotechnology. Lipid Technology, 2013, 25, 182-185.	0.3	35
51	Highâ€performance variants of plant diacylglycerol acyltransferase 1 generated by directed evolution provide insights into structure function. Plant Journal, 2017, 92, 167-177.	5.7	35
52	An N-terminal fragment of mouse DGAT1 binds different acyl-CoAs with varying affinity. Biochemical and Biophysical Research Communications, 2008, 373, 350-354.	2.1	34
53	In Vivo and in Vitro Evidence for Biochemical Coupling of Reactions Catalyzed by Lysophosphatidylcholine Acyltransferase and Diacylglycerol Acyltransferase. Journal of Biological Chemistry, 2015, 290, 18068-18078.	3.4	34
54	Involvement of low molecular mass soluble acyl-CoA-binding protein in seed oil biosynthesis. New Biotechnology, 2011, 28, 97-109.	4.4	32

#	Article	IF	Citations
55	Combined transgenic expression of Punica granatum conjugase (FADX) and FAD2 desaturase in high linoleic acid Arabidopsis thaliana mutant leads to increased accumulation of punicic acid. Planta, 2014, 240, 575-583.	3.2	32
56	Bioactivity and biotechnological production of punicic acid. Applied Microbiology and Biotechnology, 2018, 102, 3537-3549.	3.6	32
57	Regulation and enhancement of lipid accumulation in oil crops: The use of metabolic control analysis for informed genetic manipulation. European Journal of Lipid Science and Technology, 2013, 115, 1239-1246.	1.5	30
58	<i><scp>B</scp>rassica napus </i><scp><i>TT16</i></scp> homologs with different genomic origins and expression levels encode proteins that regulate a broad range of endotheliumâ€associated genes at the transcriptional level. Plant Journal, 2013, 74, 663-677.	5.7	29
59	Diacylglycerol acyltransferase 1 is activated by phosphatidate and inhibited by SnRK1â€catalyzed phosphorylation. Plant Journal, 2018, 96, 287-299.	5.7	29
60	Hormone-sensitive lipase activity in relation to fat content of muscle in Wagyu hybrid cattle. Livestock Science, 2003, 79, 87-96.	1.2	28
61	Characterization of microsomal diacylglycerol acyltransferase activity from bovine adipose and muscle tissue. Comparative Biochemistry and Physiology - B Biochemistry and Molecular Biology, 2001, 130, 105-115.	1.6	27
62	Acyl-CoA:diacylglycerol acyltransferase: Properties, physiological roles, metabolic engineering and intentional control. Progress in Lipid Research, 2022, 88, 101181.	11.6	27
63	Factors enhancing diacylglycerol acyltransferase activity in microsomes from cell-suspension cultures of oilseed rape. Lipids, 1999, 34, 1143-1149.	1.7	25
64	Genetically Engineered Flax: Potential Benefits, Risks, Regulations, and Mitigation of Transgene Movement. Crop Science, 2009, 49, 1943-1954.	1.8	25
65	Plant <i>sn</i>â€Glycerolâ€3â€Phosphate Acyltransferases: Biocatalysts Involved in the Biosynthesis of Intracellular and Extracellular Lipids. Lipids, 2018, 53, 469-480.	1.7	25
66	Triacylglycerol biosynthesis and gene expression in microspore-derived cell suspension cultures of oilseed rape. Journal of Experimental Botany, 1998, 49, 33-39.	4.8	24
67	Cycloheptaamylose as an affinity ligand of cereal alpha amylase. Characteristics and a possible mechanism of the interaction. Carbohydrate Research, 1982, 108, 153-161.	2.3	23
68	Effect of CLA and Other C18 Unsaturated Fatty Acids on DGAT in Bovine Milk Fat Biosynthetic Systems. Lipids, 2008, 43, 903-912.	1.7	23
69	Purification and properties of recombinant <i>Brassica napus</i> diacylglycerol acyltransferase 1. FEBS Letters, 2015, 589, 773-778.	2.8	22
70	Multiple mechanisms contribute to increased neutral lipid accumulation in yeast producing recombinant variants of plant diacylglycerol acyltransferase 1. Journal of Biological Chemistry, 2017, 292, 17819-17831.	3.4	22
71	Glycerol-3-phosphate acyltransferase 4 is essential for the normal development of reproductive organs and the embryo in Brassica napus. Journal of Experimental Botany, 2014, 65, 4201-4215.	4.8	21
72	Positional distribution of CLA in TAG of lamb tissues. Lipids, 2002, 37, 605-611.	1.7	20

#	Article	IF	Citations
73	A transferase interactome that may facilitate channeling of polyunsaturated fatty acid moieties from phosphatidylcholine to triacylglycerol. Journal of Biological Chemistry, 2019, 294, 14838-14844.	3.4	20
74	Properties of lysophosphatidylcholine acyltransferase from Brassica napus cultures. Lipids, 2003, 38, 651-656.	1.7	19
75	Role of Cysteine Residues in Thiol Modification of Acyl-CoA:Diacylglycerol Acyltransferase 2 from Yeast. Biochemistry, 2010, 49, 3237-3245.	2.5	18
76	Identification and characterization of an LCATâ€like <i>Arabidopsis thaliana</i> gene encoding a novel phospholipase A. FEBS Letters, 2012, 586, 373-377.	2.8	18
77	Phosphatidate phosphatase from developing seeds and microspore-derived cultures of Brassica napus. Phytochemistry, 1996, 41, 353-363.	2.9	17
78	Engineering Oil Accumulation in Vegetative Tissue. , 2016, , 413-434.		17
79	Effect of endogenous barley Î±-amylase inhibitor on hydrolysis of starch under various conditions. Journal of Cereal Science, 1985, 3, 249-259.	3.7	16
80	Identification of N-ethylmaleimide-sensitive and -insensitive phosphatidate phosphatase activity in microspore-derived cultures of oilseed rape. Plant Science, 1998, 131, 139-147.	3.6	15
81	Brassica spp. Oils. , 2016, , 113-156.		15
82	Development and characterization of low Î±-linolenic acid Brassica oleracea lines bearing a novel mutation in a â€˜class aâ€™ FATTY ACID DESATURASE 3gene. BMC Genetics, 2014, 15, 94.	2.7	14
83	Modification of Oil Crops to Produce Fatty Acids for Industrial Applications. , 2017, , 187-236.		14
84	Punicic acid production in Brassica napus. Metabolic Engineering, 2020, 62, 20-29.	7.0	14
85	Development of low-linolenic acid Brassica oleracea lines through seed mutagenesis and molecular characterization of mutants. Theoretical and Applied Genetics, 2013, 126, 1587-1598.	3.6	13
86	Metabolic engineering of Schizosaccharomyces pombe to produce punicic acid, a conjugated fatty acid with nutraceutic properties. Applied Microbiology and Biotechnology, 2017, 101, 7913-7922.	3.6	13
87	Engineering Arabidopsis long-chain acyl-CoA synthetase 9 variants with enhanced enzyme activity. Biochemical Journal, 2019, 476, 151-164.	3.7	13
88	Sucrose-induced changes in the transcriptome of cell suspension cultures of oilseed rape reveal genes associated with lipid biosynthesis. Plant Physiology and Biochemistry, 2002, 40, 719-725.	5.8	12
89	Castor patatin-like phospholipase A IIIÎ² facilitates removal of hydroxy fatty acids from phosphatidylcholine in transgenic Arabidopsis seeds. Plant Molecular Biology, 2019, 101, 521-536.	3.9	12
90	Fractionation of Jerusalem artichoke phenolase by immobilized copper affinity chromatography. Phytochemistry, 1987, 26, 2905-2907.	2.9	11

#	Article	IF	Citations
91	Lipid biosynthesis in cultures of oilseed rape. In Vitro Cellular and Developmental Biology - Plant, 2000, 36, 338-348.	2.1	11
92	Fatty acid composition of muscle fat and enzymes of storage lipid synthesis in whole muscle from beef cattle. Lipids, 2006, 41, 1049-1057.	1.7	11
93	Human acylation stimulating protein enhances triacylglycerol biosynthesis in plant microsomes. FEBS Letters, 2000, 481, 189-192.	2.8	10
94	Microspore-derived cell suspension cultures of oilseed rape as a system for studying gene expression. Plant Cell, Tissue and Organ Culture, 2008, 92, 131-139.	2.3	10
95	A Novel Assay of DGAT Activity Based on High Temperature GC/MS of Triacylglycerol. Lipids, 2014, 49, 831-838.	1.7	10
96	Engineering production of C18 conjugated fatty acids in developing seeds of oil crops. Biocatalysis and Agricultural Biotechnology, 2014, 3, 44-48.	3.1	10
97	Intrinsic disorder in the regulatory N-terminal domain of diacylglycerol acyltransferase 1 from Brassica napus. Scientific Reports, 2018, 8, 16665.	3.3	10
98	Triacylglycerol biosynthesis and gene expression in microspore-derived cell suspension cultures of oilseed rape. Journal of Experimental Botany, 1998, 49, 33-39.	4.8	10
99	Properties of Solubilized Microsomal Lipase from Germinating Brassica napus. Plant Physiology, 1989, 91, 1303-1307.	4.8	9
100	Bypassing the Î”6-desaturase enzyme and directly providing n-3 and n-6 PUFA pathway intermediates reduces the survival of two human breast cancer cell lines. European Journal of Lipid Science and Technology, 2015, 117, 1378-1390.	1.5	9
101	Functional Characterization of Lysophosphatidylcholine: Acyl-CoA Acyltransferase Genes From Sunflower (Helianthus annuus L.). Frontiers in Plant Science, 2020, 11, 403.	3.6	9
102	The linin promoter is highly effective in enhancing punicic acid production in Arabidopsis. Plant Cell Reports, 2017, 36, 447-457.	5.6	8
103	Molecular Enhancement of Alfalfa: Improving Quality Traits for Superior Livestock Performance and Reduced Environmental Impact. Crop Science, 2018, 58, 55-71.	1.8	8
104	A simple procedure for the preparation of [3H]cyloheptaamylose. Carbohydrate Research, 1982, 104, 334-337.	2.3	7
105	Emergence and Persistence of Volunteer Flax in Western Canadian Cropping Systems. Agronomy Journal, 2010, 102, 1321-1328.	1.8	7
106	Harvest Loss and Seed Bank Longevity of Flax (<i>Linum usitatissimum</i>) Implications for Seed-Mediated Gene Flow. Weed Science, 2011, 59, 61-67.	1.5	7
107	Two Clades of Typeâ€1 <i>Brassica napus</i> Diacylglycerol Acyltransferase Exhibit Differences in Acylâ€CoA Preference. Lipids, 2016, 51, 781-786.	1.7	7
108	Enhancement of total lipid production in vegetative tissues of alfalfa and sainfoin using chemical mutagenesis. Crop Science, 2020, 60, 2990-3003.	1.8	7

#	Article	IF	Citations
109	Quantification and Mitigation of Adventitious Presence of Volunteer Flax (<i>Linum) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50 74	1.5	6
110	A Rapid Nile Red Fluorescenceâ€Based Method for Triacylglycerol Content in Microsporeâ€Derived Cell Suspension Cultures of <i>Brassica napus</i>. Lipids, 2014, 49, 1161-1168.	1.7	6
111	The Bsister MADS-box proteins have multiple regulatory functions in plant development. Biocatalysis and Agricultural Biotechnology, 2012, 1, 203-206.	3.1	5
112	Tailoring lipid synthesis in oil crops. Inform, 2015, 26, 78-83.	0.1	5
113	Production of Other Bioproducts from Plant Oils. , 2018, , 59-85.		4
114	Evaluation of virus-induced gene silencing methods for forage legumes including alfalfa, sainfoin, and fenugreek. Canadian Journal of Plant Science, 2019, 99, 917-926.	0.9	4
115	Seed-specific down-regulation of Arabidopsis CELLULOSE SYNTHASE 1 or 9 reduces seed cellulose content and differentially affects carbon partitioning. Plant Cell Reports, 2020, 39, 953-969.	5.6	4
116	<i>Physaria fendleri</i> and <i>Ricinus communis</i> lecithin:cholesterol acyltransferaseâ€like phospholipases selectively cleave hydroxy acyl chains from phosphatidylcholine. Plant Journal, 2021, 105, 182-196.	5.7	4
117	The effect of AINTEGUMENTA-LIKE 7 over-expression on seed fatty acid biosynthesis, storage oil accumulation and the transcriptome in Arabidopsis thaliana. Plant Cell Reports, 2021, 40, 1647-1663.	5.6	4
118	Genetic Engineering of Lipid Biosynthesis in Seeds. , 2013, , 111-149.		4
119	Hormonal control of lipase activity in oilseed rape germinants. Physiologia Plantarum, 1993, 89, 476-482.	5.2	3
120	IMMUNOHISTOCHEMICAL LOCALIZATION OF PREADIPOCYTE FACTOR-1: POTENTIAL MARKER OF PREADIPOCYTES IN BOVINE MUSCLE TISSUE. Journal of Muscle Foods, 2005, 16, 155-176.	0.5	3
121	Possible allostery and oligomerization of recombinant plastidial sn-glycerol-3-phosphate acyltransferase. Archives of Biochemistry and Biophysics, 2014, 554, 55-64.	3.0	3
122	Downregulation of key genes involved in carbon metabolism inMedicago truncatularesults in increased lipid accumulation in vegetative tissue. Crop Science, 2020, 60, 1798-1808.	1.8	3
123	Interaction of Photoreactive Substrate Analogs with Diacylglycerol Acyltransferase from Microspore-Derived Embryos of Oilseed Rape. , 1995, , 518-520.		3
124	Introduction to Industrial Oil Crops. , 2016, , 1-13.		3
125	Strategies in the purification of plant proteins. Physiologia Plantarum, 1992, 84, 301-309.	5.2	2
126	Stability of diacylglycerol acyltransferase in dehydrated bovine muscle tissue. Analytical Biochemistry, 2003, 318, 254-259.	2.4	1

#	Article	IF	Citations
127	Down regulation of the IND gene causes male sterility in canola (Brassica napus L.). Biocatalysis and Agricultural Biotechnology, 2016, 6, 9-18.	3.1	1
128	Production of Biodiesel from Plant Oils. , 2018, , 41-58.		1
129	Genetic Engineering Approaches for Trait Development in Brassica Oilseed Species. , 2011, , 57-91.		1
130	Molecular Strategies for Increasing Seed Oil Content. , 2009, , 3-17.		1
131	High-throughput approaches to investigate neutral lipid biosynthesis. International Journal of High Throughput Screening, 2010, , 29.	0.5	0