

# Rachel A Burton

## List of Publications by Citations

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119  
papers

5,816  
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38  
h-index

74  
g-index

123  
ext. papers

6,905  
ext. citations

6.6  
avg, IF

5.61  
L-index

#	Paper	IF	Citations
119	Heterogeneity in the chemistry, structure and function of plant cell walls. <i>Nature Chemical Biology</i> , <b>2010</b> , 6, 724-32	11.7	398
118	An Arabidopsis Callose Synthase, GSL5, Is Required for Wound and Papillary Callose Formation. <i>Plant Cell</i> , <b>2003</b> , 15, 2503-13	11.6	365
117	Cellulose synthase-like CslF genes mediate the synthesis of cell wall (1,3;1,4)-beta-D-glucans. <i>Science</i> , <b>2006</b> , 311, 1940-2	33.3	346
116	The CesA gene family of barley. Quantitative analysis of transcripts reveals two groups of co-expressed genes. <i>Plant Physiology</i> , <b>2004</b> , 134, 224-36	6.6	248
115	Virus-induced silencing of a plant cellulose synthase gene. <i>Plant Cell</i> , <b>2000</b> , 12, 691-706	11.6	215
114	A barley cellulose synthase-like CSLH gene mediates (1,3;1,4)-beta-D-glucan synthesis in transgenic Arabidopsis. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2009</b> , 106, 5996-6001	11.5	203
113	Starch granule initiation and growth are altered in barley mutants that lack isoamylase activity. <i>Plant Journal</i> , <b>2002</b> , 31, 97-112	6.9	193
112	Cell-specific vacuolar calcium storage mediated by CAX1 regulates apoplastic calcium concentration, gas exchange, and plant productivity in Arabidopsis. <i>Plant Cell</i> , <b>2011</b> , 23, 240-57	11.6	184
111	The genetics and transcriptional profiles of the cellulose synthase-like HvCslF gene family in barley. <i>Plant Physiology</i> , <b>2008</b> , 146, 1821-33	6.6	177
110	Plant cell wall biosynthesis: genetic, biochemical and functional genomics approaches to the identification of key genes. <i>Plant Biotechnology Journal</i> , <b>2006</b> , 4, 145-67	11.6	158
109	Fruit Calcium: Transport and Physiology. <i>Frontiers in Plant Science</i> , <b>2016</b> , 7, 569	6.2	153
108	Starch branching enzymes belonging to distinct enzyme families are differentially expressed during pea embryo development. <i>Plant Journal</i> , <b>1995</b> , 7, 3-15	6.9	144
107	Bifunctional family 3 glycoside hydrolases from barley with alpha -L-arabinofuranosidase and beta -D-xylosidase activity. Characterization, primary structures, and COOH-terminal processing. <i>Journal of Biological Chemistry</i> , <b>2003</b> , 278, 5377-87	5.4	142
106	(1,3;1,4)-beta-D-glucans in cell walls of the poaceae, lower plants, and fungi: a tale of two linkages. <i>Molecular Plant</i> , <b>2009</b> , 2, 873-82	14.4	132
105	Over-expression of specific HvCslF cellulose synthase-like genes in transgenic barley increases the levels of cell wall (1,3;1,4)-beta-D-glucans and alters their fine structure. <i>Plant Biotechnology Journal</i> , <b>2011</b> , 9, 117-35	11.6	131
104	REVIEW: Variability in Fine Structures of Noncellulosic Cell Wall Polysaccharides from Cereal Grains: Potential Importance in Human Health and Nutrition. <i>Cereal Chemistry</i> , <b>2010</b> , 87, 272-282	2.4	125
103	Temporal and spatial appearance of wall polysaccharides during cellularization of barley ( <i>Hordeum vulgare</i> ) endosperm. <i>Planta</i> , <b>2006</b> , 224, 655-67	4.7	117

102	Characterization of the genes encoding the cytosolic and plastidial forms of ADP-glucose pyrophosphorylase in wheat endosperm. <i>Plant Physiology</i> , <b>2002</b> , 130, 1464-75	6.6	94
101	Evolution and development of cell walls in cereal grains. <i>Frontiers in Plant Science</i> , <b>2014</b> , 5, 456	6.2	88
100	Root cell wall solutions for crop plants in saline soils. <i>Plant Science</i> , <b>2018</b> , 269, 47-55	5.3	87
99	Differential accumulation of callose, arabinoxylan and cellulose in nonpenetrated versus penetrated papillae on leaves of barley infected with <i>Blumeria graminis</i> f. sp. <i>hordei</i> . <i>New Phytologist</i> , <b>2014</b> , 204, 650-660	9.8	82
98	Grape marc as a source of carbohydrates for bioethanol: Chemical composition, pre-treatment and saccharification. <i>Bioresource Technology</i> , <b>2015</b> , 193, 76-83	11	76
97	Barley arabinoxylan arabinofuranohydrolases: purification, characterization and determination of primary structures from cDNA clones. <i>Biochemical Journal</i> , <b>2001</b> , 356, 181-189	3.8	72
96	A single limit dextrinase gene is expressed both in the developing endosperm and in germinated grains of barley. <i>Plant Physiology</i> , <b>1999</b> , 119, 859-71	6.6	65
95	Revised Phylogeny of the Gene Superfamily: Insights into Cell Wall Evolution. <i>Plant Physiology</i> , <b>2018</b> , 177, 1124-1141	6.6	64
94	Discovery of cyclotide-like protein sequences in graminaceous crop plants: ancestral precursors of circular proteins?. <i>Plant Cell</i> , <b>2006</b> , 18, 2134-44	11.6	62
93	Current challenges in cell wall biology in the cereals and grasses. <i>Frontiers in Plant Science</i> , <b>2012</b> , 3, 130	6.2	59
92	Molecular cloning of a cDNA encoding a (1 $\rightarrow$ 4)-beta-mannan endohydrolase from the seeds of germinated tomato ( <i>Lycopersicon esculentum</i> ). <i>Planta</i> , <b>1997</b> , 203, 454-9	4.7	57
91	Biochemical evidence linking a putative callose synthase gene with (1 $\rightarrow$ 3)-beta-D-glucan biosynthesis in barley. <i>Plant Molecular Biology</i> , <b>2003</b> , 53, 213-25	4.6	57
90	Barley arabinoxylan arabinofuranohydrolases: purification, characterization and determination of primary structures from cDNA clones. <i>Biochemical Journal</i> , <b>2001</b> , 356, 181-9	3.8	53
89	Prospecting for Energy-Rich Renewable Raw Materials: Agave Leaf Case Study. <i>PLoS ONE</i> , <b>2015</b> , 10, e0135382	3.7	51
88	Plant cell wall engineering: applications in biofuel production and improved human health. <i>Current Opinion in Biotechnology</i> , <b>2014</b> , 26, 79-84	11.4	50
87	A genome wide association scan for (1,3;1,4)-Eglucan content in the grain of contemporary 2-row Spring and Winter barleys. <i>BMC Genomics</i> , <b>2014</b> , 15, 907	4.5	42
86	Hydrolysis of (1,4)-beta-D-mannans in barley ( <i>Hordeum vulgare</i> L.) is mediated by the concerted action of (1,4)-beta-D-mannan endohydrolase and beta-D-mannosidase. <i>Biochemical Journal</i> , <b>2006</b> , 399, 77-90	3.8	42
85	Quantitative structural organisation model for wheat endosperm cell walls: Cellulose as an important constituent. <i>Carbohydrate Polymers</i> , <b>2018</b> , 196, 199-208	10.3	41

84	Grain development in Brachypodium and other grasses: possible interactions between cell expansion, starch deposition, and cell-wall synthesis. <i>Journal of Experimental Botany</i> , <b>2013</b> , 64, 5033-47	7	40
83	The barley ( <i>Hordeum vulgare</i> ) cellulose synthase-like D2 gene (HvCslD2) mediates penetration resistance to host-adapted and nonhost isolates of the powdery mildew fungus. <i>New Phytologist</i> , <b>2016</b> , 212, 421-33	9.8	39
82	Spatial gradients in cell wall composition and transcriptional profiles along elongating maize internodes. <i>BMC Plant Biology</i> , <b>2014</b> , 14, 27	5.3	39
81	Pattern of deposition of cell wall polysaccharides and transcript abundance of related cell wall synthesis genes during differentiation in barley endosperm. <i>Plant Physiology</i> , <b>2012</b> , 159, 655-70	6.6	38
80	Evolutionary Dynamics of the Cellulose Synthase Gene Superfamily in Grasses. <i>Plant Physiology</i> , <b>2015</b> , 168, 968-83	6.6	35
79	Structural Variation and Content of Arabinoxylans in Endosperm and Bran of Durum Wheat ( <i>Triticum turgidum</i> L.). <i>Journal of Agricultural and Food Chemistry</i> , <b>2016</b> , 64, 2883-92	5.7	35
78	Protocol: a fast and simple in situ PCR method for localising gene expression in plant tissue. <i>Plant Methods</i> , <b>2014</b> , 10, 29	5.8	34
77	Genome Wide Association Mapping for Arabinoxylan Content in a Collection of Tetraploid Wheats. <i>PLoS ONE</i> , <b>2015</b> , 10, e0132787	3.7	34
76	Loss of LOFSEP Transcription Factor Function Converts Spikelet to Leaf-Like Structures in Rice. <i>Plant Physiology</i> , <b>2018</b> , 176, 1646-1664	6.6	33
75	The CELLULOSE-SYNTHASE LIKE C (CSLC) family of barley includes members that are integral membrane proteins targeted to the plasma membrane. <i>Molecular Plant</i> , <b>2009</b> , 2, 1025-39	14.4	32
74	The dynamics of cereal cyst nematode infection differ between susceptible and resistant barley cultivars and lead to changes in (1,3;1,4)- $\beta$ -glucan levels and HvCslF gene transcript abundance. <i>New Phytologist</i> , <b>2015</b> , 207, 135-147	9.8	31
73	Genetic Diversity and Genome Wide Association Study of $\beta$ -Glucan Content in Tetraploid Wheat Grains. <i>PLoS ONE</i> , <b>2016</b> , 11, e0152590	3.7	30
72	The barley genome sequence assembly reveals three additional members of the CslF (1,3;1,4)- $\beta$ -glucan synthase gene family. <i>PLoS ONE</i> , <b>2014</b> , 9, e90888	3.7	29
71	A customized gene expression microarray reveals that the brittle stem phenotype fs2 of barley is attributable to a retroelement in the HvCesA4 cellulose synthase gene. <i>Plant Physiology</i> , <b>2010</b> , 153, 1716-28	6.6	28
70	Expression of vacuolar H <sup>+</sup> -pyrophosphatase (OVP3) is under control of an anoxia-inducible promoter in rice. <i>Plant Molecular Biology</i> , <b>2010</b> , 72, 47-60	4.6	28
69	Powerful regulatory systems and post-transcriptional gene silencing resist increases in cellulose content in cell walls of barley. <i>BMC Plant Biology</i> , <b>2015</b> , 15, 62	5.3	27
68	Endo-(1,4)- $\beta$ -glucanase gene families in the grasses: temporal and spatial co-transcription of orthologous genes. <i>BMC Plant Biology</i> , <b>2012</b> , 12, 235	5.3	27
67	Down-regulation of the glucan synthase-like 6 gene (HvGsl6) in barley leads to decreased callose accumulation and increased cell wall penetration by <i>Blumeria graminis</i> f. sp. hordei. <i>New Phytologist</i> , <b>2016</b> , 212, 434-43	9.8	25

66	(1,3;1,4)- $\beta$ -Glucan Biosynthesis by the CSLF6 Enzyme: Position and Flexibility of Catalytic Residues Influence Product Fine Structure. <i>Biochemistry</i> , <b>2016</b> , 55, 2054-61	3.2	25
65	Differences in glycosyltransferase family 61 accompany variation in seed coat mucilage composition in <i>Plantago</i> spp. <i>Journal of Experimental Botany</i> , <b>2016</b> , 67, 6481-6495	7	24
64	The Dynamics of Transcript Abundance during Cellularization of Developing Barley Endosperm. <i>Plant Physiology</i> , <b>2016</b> , 170, 1549-65	6.6	23
63	Consumer and health-related traits of seed from selected commercial and breeding lines of industrial hemp, <i>Cannabis sativa</i> L.. <i>Journal of Agriculture and Food Research</i> , <b>2020</b> , 2, 100025	2.6	22
62	Distribution, structure and biosynthetic gene families of (1,3;1,4)- $\beta$ -Glucan in <i>Sorghum bicolor</i> . <i>Journal of Integrative Plant Biology</i> , <b>2015</b> , 57, 429-45	8.3	22
61	Isolation and structural elucidation by 2D NMR of planteose, a major oligosaccharide in the mucilage of chia ( <i>Salvia hispanica</i> L.) seeds. <i>Carbohydrate Polymers</i> , <b>2017</b> , 175, 231-240	10.3	21
60	Functional Specialization of Cellulose Synthase Isoforms in a Moss Shows Parallels with Seed Plants. <i>Plant Physiology</i> , <b>2017</b> , 175, 210-222	6.6	21
59	Accumulation of volatile phenol glycoconjugates in grapes following grapevine exposure to smoke and potential mitigation of smoke taint by foliar application of kaolin. <i>Planta</i> , <b>2019</b> , 249, 941-952	4.7	21
58	Genetic and environmental factors contribute to variation in cell wall composition in mature desi chickpea ( <i>Cicer arietinum</i> L.) cotyledons. <i>Plant, Cell and Environment</i> , <b>2018</b> , 41, 2195-2208	8.4	18
57	Analysis of the (1,3)- $\beta$ -D-glucan synthase gene family of barley. <i>Phytochemistry</i> , <b>2009</b> , 70, 713-20	4	18
56	Isolation of tissues and preservation of RNA from intact, germinated barley grain. <i>Plant Journal</i> , <b>2017</b> , 91, 754-765	6.9	17
55	Differences in hydrolytic enzyme activity accompany natural variation in mature aleurone morphology in barley ( <i>Hordeum vulgare</i> L.). <i>Scientific Reports</i> , <b>2018</b> , 8, 11025	4.9	17
54	Morphology, Carbohydrate Distribution, Gene Expression, and Enzymatic Activities Related to Cell Wall Hydrolysis in Four Barley Varieties during Simulated Malting. <i>Frontiers in Plant Science</i> , <b>2017</b> , 8, 1872	6.2	17
53	Heterologous and cell free protein expression systems. <i>Methods in Molecular Biology</i> , <b>2009</b> , 513, 175-98	1.4	16
52	Genetic analysis of grain and malt quality in an elite barley population. <i>Molecular Breeding</i> , <b>2016</b> , 36, 1	3.4	16
51	Altered Expression of Genes Implicated in Xylan Biosynthesis Affects Penetration Resistance against Powdery Mildew. <i>Frontiers in Plant Science</i> , <b>2017</b> , 8, 445	6.2	15
50	A Genome-Wide Association Study for Culm Cellulose Content in Barley Reveals Candidate Genes Co-Expressed with Members of the CELLULOSE SYNTHASE A Gene Family. <i>PLoS ONE</i> , <b>2015</b> , 10, e0130890	2.7	15
49	A Novel (1,4)- $\beta$ -Linked Glucoxytan Is Synthesized by Members of the Gene Family in Land Plants. <i>ACS Central Science</i> , <b>2019</b> , 5, 73-84	16.8	15

48	Plant cell wall polysaccharide biosynthesis: real progress in the identification of participating genes. <i>Planta</i> , <b>2005</b> , 221, 309-12	4.7	14
47	A Genome Wide Association Study of arabinoxylan content in 2-row spring barley grain. <i>PLoS ONE</i> , <b>2017</b> , 12, e0182537	3.7	14
46	Differential expression of the gene late in grain development may explain quantitative differences in (1,3;1,4)- $\beta$ -glucan concentration in barley. <i>Molecular Breeding</i> , <b>2015</b> , 35, 20	3.4	13
45	Dissecting the Genetic Basis for Seed Coat Mucilage Heteroxylan Biosynthesis in Using Gamma Irradiation and Infrared Spectroscopy. <i>Frontiers in Plant Science</i> , <b>2017</b> , 8, 326	6.2	13
44	The genetics, transcriptional profiles, and catalytic properties of UDP-alpha-D-xylose 4-epimerases from barley. <i>Plant Physiology</i> , <b>2010</b> , 153, 555-68	6.6	13
43	Cell wall modifications in maize pulvini in response to gravitational stress. <i>Plant Physiology</i> , <b>2011</b> , 156, 2155-71	6.6	13
42	Functional Characterization of a Glycosyltransferase from the Moss Involved in the Biosynthesis of a Novel Cell Wall Arabinoglucan. <i>Plant Cell</i> , <b>2018</b> , 30, 1293-1308	11.6	12
41	Biochemical Compositional Analysis and Kinetic Modeling of Hydrothermal Carbonization of Australian Saltbush. <i>Energy &amp; Fuels</i> , <b>2019</b> , 33, 12469-12479	4.1	12
40	Agave: A promising feedstock for biofuels in the water-energy-food-environment (WEFE) nexus. <i>Journal of Cleaner Production</i> , <b>2020</b> , 261, 121283	10.3	11
39	Genetics and physiology of cell wall polysaccharides in the model C4 grass, <i>Setaria viridis</i> spp. <i>BMC Plant Biology</i> , <b>2015</b> , 15, 236	5.3	11
38	Combining transcriptional datasets using the generalized singular value decomposition. <i>BMC Bioinformatics</i> , <b>2008</b> , 9, 335	3.6	11
37	Transcriptional and biochemical analyses of gibberellin expression and content in germinated barley grain. <i>Journal of Experimental Botany</i> , <b>2020</b> , 71, 1870-1884	7	11
36	Targeted mutation of barley (1,3;1,4)- $\beta$ -glucan synthases reveals complex relationships between the storage and cell wall polysaccharide content. <i>Plant Journal</i> , <b>2020</b> , 104, 1009-1022	6.9	11
35	Analysis of the arabinoxylan arabinofuranohydrolase gene family in barley does not support their involvement in the remodelling of endosperm cell walls during development. <i>Journal of Experimental Botany</i> , <b>2012</b> , 63, 3031-45	7	10
34	Gene structure and a possible cytoplasmic location for (1 $\rightarrow$ 3)- $\beta$ -glucanase isoenzyme GI from barley ( <i>Hordeum vulgare</i> ). <i>Plant Science</i> , <b>1998</b> , 135, 39-47	5.3	10
33	Overexpression of HvCslF6 in barley grain alters carbohydrate partitioning plus transfer tissue and endosperm development. <i>Journal of Experimental Botany</i> , <b>2020</b> , 71, 138-153	7	10
32	Genetics, Transcriptional Profiles, and Catalytic Properties of the UDP-Arabinose Mutase Family from Barley. <i>Biochemistry</i> , <b>2016</b> , 55, 322-34	3.2	9
31	Method for hull-less barley transformation and manipulation of grain mixed-linkage beta-glucan. <i>Journal of Integrative Plant Biology</i> , <b>2018</b> , 60, 382-396	8.3	8

30	Barley grain (1,3;1,4)-D-glucan content: effects of transcript and sequence variation in genes encoding the corresponding synthase and endohydrolase enzymes. <i>Scientific Reports</i> , <b>2019</b> , 9, 17250	4.9	8
29	Low-Input Fermentations of Agave tequilana Leaf Juice Generate High Returns on Ethanol Yields. <i>Bioenergy Research</i> , <b>2016</b> , 9, 1142-1154	3.1	7
28	Water uptake in barley grain: Physiology; genetics and industrial applications. <i>Plant Science</i> , <b>2016</b> , 242, 260-269	5.3	7
27	MADS1 maintains barley spike morphology at high ambient temperatures. <i>Nature Plants</i> , <b>2021</b> , 7, 1093-1107	11.3	7
26	New Insights into the Composition and Structure of Seed Mucilage <b>2018</b> , 63-104		7
25	The effect of zinc fertilisation and arbuscular mycorrhizal fungi on grain quality and yield of contrasting barley cultivars. <i>Functional Plant Biology</i> , <b>2020</b> , 47, 122-133	2.7	6
24	Natural Variation in Ovule Morphology Is Influenced by Multiple Tissues and Impacts Downstream Grain Development in Barley ( L.). <i>Frontiers in Plant Science</i> , <b>2019</b> , 10, 1374	6.2	6
23	Hydrothermal Carbonization of Australian Saltbush. <i>Energy &amp; Fuels</i> , <b>2019</b> , 33, 1157-1166	4.1	6
22	Effect of Processing on Viscosity and Molecular Weight of (1,3)(1,4)-D-glucan in Western Australian Oat Cultivars. <i>Cereal Chemistry</i> , <b>2017</b> , 94, 625-632	2.4	5
21	Variation in barley (1 $\rightarrow$ 3, 1 $\rightarrow$ 4)-D-glucan endohydrolases reveals novel allozymes with increased thermostability. <i>Theoretical and Applied Genetics</i> , <b>2017</b> , 130, 1053-1063	6	5
20	A small-scale fractionation pipeline for rapid analysis of seed mucilage characteristics. <i>Plant Methods</i> , <b>2020</b> , 16, 20	5.8	5
19	Biosynthesis of Plant Cell Wall and Related Polysaccharides by Enzymes of the GT2 and GT48 Families <b>2010</b> , 109-165		5
18	Prospecting for Energy-Rich Renewable Raw Materials: Sorghum Stem Case Study. <i>PLoS ONE</i> , <b>2016</b> , 11, e0156638	3.7	5
17	Genome-wide association study reveals the genetic complexity of fructan accumulation patterns in barley grain. <i>Journal of Experimental Botany</i> , <b>2021</b> , 72, 2383-2402	7	5
16	The novel features of Plantago ovata seed mucilage accumulation, storage and release. <i>Scientific Reports</i> , <b>2020</b> , 10, 11766	4.9	4
15	Elucidating the degradation reaction pathways for the hydrothermal carbonisation of hemp via biochemical compositional analysis. <i>Fuel</i> , <b>2021</b> , 294, 120450	7.1	4
14	Non-cellulosic cell wall polysaccharides are subject to genotype $\times$ environment effects in sorghum (Sorghum bicolor) grain. <i>Journal of Cereal Science</i> , <b>2015</b> , 63, 64-71	3.8	3
13	Virus-Induced Silencing of a Plant Cellulose Synthase Gene. <i>Plant Cell</i> , <b>2000</b> , 12, 691	11.6	3

12	Role, Importance and Biosynthesis of Cell Wall-Bound Phenolic Acids in Cereals <b>2018</b> , 737-766		3
11	Biosynthesis of Plant Cell Wall and Related Polysaccharides by Enzymes of the GT2 and GT48 Families <b>2018</b> , 109-165		3
10	The goo-d stuff: Plantago as a myxospermous model with modern utility. <i>New Phytologist</i> , <b>2021</b> , 229, 1917-1923	9.8	2
9	Deconstructing plant biomass: cell wall structure and novel manipulation strategies. <b>2013</b> , 135-150		1
8	GWAS reveals the genetic complexity of fructan accumulation patterns in barley grain		1
7	The composition of Australian Plantago seeds highlights their potential as nutritionally-rich functional food ingredients. <i>Scientific Reports</i> , <b>2021</b> , 11, 12692	4.9	1
6	Transcript Profiling of MIKCC MADS-Box Genes Reveals Conserved and Novel Roles in Barley Inflorescence Development. <i>Frontiers in Plant Science</i> , <b>2021</b> , 12, 705286	6.2	1
5	Novel Barley (1->3,1->4)-EGlucan Endohydrolase Alleles Confer Increased Enzyme Thermostability. <i>Journal of Agricultural and Food Chemistry</i> , <b>2017</b> , 65, 421-428	5.7	0
4	Nutritional properties of selected superfood extracts and their potential health benefits.. <i>PeerJ</i> , <b>2021</b> , 9, e12525	3.1	0
3	Analysis of Genetic Diversity in the Traditional Chinese Medicine Plant (Ait.). <i>Frontiers in Plant Science</i> , <b>2021</b> , 12, 704201	6.2	0
2	Functional Analysis of Polysaccharide Synthases Responsible for Cell Wall Synthesis in Higher Plants. <i>Progress in Biotechnology</i> , <b>2001</b> , 18, 77-84		
1	The Mechanism and Control of Tam3 Transposition <b>1991</b> , 317-332		