Frederik C Botha

List of Publications by Year
in descending order

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96 papers	3,488 citations	126708 33 h-index	161609 54 g-index
110 all docs	110 docs citations	110 times ranked	2927 citing authors

#	Article	IF	Citations
1	Field study reveals core plant microbiota and relative importance of their drivers. Environmental Microbiology, 2018, 20, 124-140.	1.8	255
2	A survey of the complex transcriptome from the highly polyploid sugarcane genome using full-length isoform sequencing and de novo assembly from short read sequencing. BMC Genomics, 2017, 18, 395.	1.2	180
3	Metabolic engineering of sugars and simple sugar derivatives in plants. Plant Biotechnology Journal, 2013, 11, 142-156.	4.1	177
4	Carbon Partitioning during Sucrose Accumulation in Sugarcane Internodal Tissue. Plant Physiology, 1997, 115, 1651-1659.	2.3	144
5	Analysis of sucrose accumulation in the sugar cane culm on the basis of in vitro kinetic data. Biochemical Journal, 2001, 358, 437-445.	1.7	132
6	Potential for Genetic Improvement of Sugarcane as a Source of Biomass for Biofuels. Frontiers in Bioengineering and Biotechnology, 2015, 3, 182.	2.0	109
7	Kinetic model of sucrose accumulation in maturing sugarcane culm tissue. Phytochemistry, 2007, 68, 2375-2392.	1.4	103
8	Respiratory metabolism and gene expression during seed germination. Plant Growth Regulation, 1992, 11, 211-224.	1.8	102
9	Transcriptome analysis highlights key differentially expressed genes involved in cellulose and lignin biosynthesis of sugarcane genotypes varying in fiber content. Scientific Reports, 2018, 8, 11612.	1.6	91
10	Analysis of sucrose accumulation in the sugar cane culm on the basis of in vitro kinetic data. Biochemical Journal, 2001, 358, 437.	1.7	89
11	Genes expressed in sugarcane maturing internodal tissue. Plant Cell Reports, 2002, 20, 1075-1081.	2.8	83
12	Down-regulation of pyrophosphate: fructose 6-phosphate 1-phosphotransferase (PFP) activity in sugarcane enhances sucrose accumulation in immature internodes. Transgenic Research, 2008, 17, 85-92.	1.3	77
13	Regulation of Carbon Partitioning to Respiration during Dark Ammonium Assimilation by the Green Alga Selenastrum minutum. Plant Physiology, 1990, 93, 166-175.	2.3	74
14	Pearl millet transformation system using the positive selectable marker gene phosphomannose isomerase. Plant Cell Reports, 2004, 22, 684-690.	2.8	74
15	Preliminary Analysis of Expressed Sequence Tags for Sugarcane. Crop Science, 2000, 40, 1769-1779.	0.8	66
16	Routes of pyruvate synthesis in phosphorusâ€deficient lupin roots and nodules. New Phytologist, 2006, 169, 399-408.	3.5	59
17	Increasing the utility of genomics in unravelling sucrose accumulation. Field Crops Research, 2005, 92, 149-158.	2.3	55
18	Partial purification and characterisation of sugarcane neutral invertase. Phytochemistry, 1998, 49, 651-655.	1.4	53

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19	Downregulation of pyrophosphate: d-fructose-6-phosphate 1-phosphotransferase activity in sugarcane culms enhances sucrose accumulation due to elevated hexose-phosphate levels. Planta, 2010, 231, 595-608.	1.6	52
20	Sugarcane ESTs differentially expressed in immature and maturing internodal tissue. Plant Science, 2002, 162, 289-300.	1.7	51
21	Distribution patterns of neutral invertase and sugar contentin sugarcane internodal tissues. Plant Physiology and Biochemistry, 2000, 38, 819-824.	2.8	50
22	Sucrose phosphate synthase and sucrose synthase activity during maturation of internodal tissue in sugarcane. Functional Plant Biology, 2000, 27, 81.	1.1	47
23	Downregulation of neutral invertase activity in sugarcane cell suspension cultures leads to a reduction in respiration and growth and an increase in sucrose accumulation. Functional Plant Biology, 2007, 34, 490.	1.1	47
24	Use of PCR-based methodologies for the determination of DNA diversity between Saccharum varieties. Euphytica, 1996, 89, 257-265.	0.6	44
25	Sugarcane Internodal Invertases and Tissue Maturity. Journal of Plant Physiology, 1999, 155, 470-476.	1.6	42
26	Purification and kinetic properties of UDP-glucose dehydrogenase from sugarcane. Archives of Biochemistry and Biophysics, 2002, 407, 209-216.	1.4	42
27	High-Throughput Profiling of the Fiber and Sugar Composition of Sugarcane Biomass. Bioenergy Research, 2017, 10, 400-416.	2.2	42
28	Association of variation in the sugarcane transcriptome with sugar content. BMC Genomics, 2017, 18, 909.	1.2	41
29	Reduced neutral invertase activity in the culm tissues of transgenic sugarcane plants results in a decrease in respiration and sucrose cycling and an increase in the sucrose to hexose ratio. Functional Plant Biology, 2010, 37, 22.	1.1	40
30	Carbon allocation to the insoluble fraction, respiration and triose-phosphate cycling in the sugarcane culm. Physiologia Plantarum, 2002, 116, 12-19.	2.6	39
31	Comparison of the Activities and Some Properties of Pyrophosphate and ATP Dependent Fructose-6-Phosphate 1-Phosphotransferases of Phaseolus vulgaris Seeds. Plant Physiology, 1987, 83, 772-777.	2.3	37
32	Anoxic Seed Germination ofErythrina caffra: Ethanol Fermentation and Response to Metabolic Inhibitors. Journal of Experimental Botany, 1989, 40, 375-381.	2.4	37
33	Analysis of the diversity and tissue specificity of sucrose synthase genes in the long read transcriptome of sugarcane. BMC Plant Biology, 2019, 19, 160.	1.6	36
34	Protein-level expression and localization of sucrose synthase in the sugarcane culm. Physiologia Plantarum, 2004, 121, 187-195.	2.6	33
35	Expression of neutral invertase in sugarcane. Plant Science, 2004, 166, 1125-1133.	1.7	31
36	Expression of a Î²-1,3-glucanase from a biocontrol fungus in transgenic pearl millet. South African Journal of Botany, 2011, 77, 335-345.	1.2	30

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37	Isozymes of phosphoglyceromutase from the developing endosperm of Ricinus communis: Isolation and kinetic properties. Archives of Biochemistry and Biophysics, 1986, 245, 96-103.	1.4	29
38	Pyrophosphate Dependent Phosphofructokinase of Citrullus lanatus: Molecular Forms and Expression of Subunits. Plant Physiology, 1991, 96, 1185-1192.	2.3	27
39	Pyrophosphate:d-fructose-6-phosphate 1-phosphotransferase activity patterns in relation to sucrose storage across sugarcane varieties. Physiologia Plantarum, 1999, 107, 379-386.	2.6	27
40	Partial purification and characterisation of sucrose synthase in sugarcane. Journal of Plant Physiology, 2005, 162, 11-20.	1.6	27
41	Association of gene expression with biomass content and composition in sugarcane. PLoS ONE, 2017, 12, e0183417.	1.1	26
42	Stability and potential use of RAPD markers in a sugarcane genealogy. Euphytica, 1995, 86, 117-125.	0.6	24
43	Establishment of embryogenic callus and transient gene expression in selected sugarcane varieties. South African Journal of Botany, 1996, 62, 151-154.	1.2	23
44	Promoter analysis and transcription profiling: Integration of genetic data enhances understanding of gene expression. Physiologia Plantarum, 2004, 120, 74-83.	2.6	23
45	Isolation and Characterization of Pyrophosphate:D-Fructose-6-phosphate 1-Phosphotransferase from Cucumber Seeds. Plant and Cell Physiology, 1986, 27, 1285-1295.	1.5	22
46	Molecular, Kinetic, and Immunological Properties of the 6-Phosphofructokinase from the Green Alga Selenastrum minutum. Plant Physiology, 1990, 93, 871-879.	2.3	22
47	A kinetic study of sugarcane sucrose synthase. FEBS Journal, 2004, 271, 3971-3977.	0.2	22
48	Synthetic Promoter Engineering. , 2010, , 393-414.		22
49	Effect of Water Stress on the Carbohydrate Metabolism of Citrullus lanatus Seeds during Germination. Plant Physiology, 1985, 77, 79-82.	2.3	21
50	Sequence analysis and transcriptional profiling of two vacuolar H+-pyrophosphatase isoforms in Vitis vinifera. Journal of Plant Research, 2006, 119, 469-478.	1.2	21
51	Differential gene expression in sugarcane leaf and internodal tissues of varying maturity. South African Journal of Botany, 2002, 68, 434-442.	1.2	19
52	Phosphoglyceromutase activity and concentration in the endosperm of developing and germinating Ricinus communis seeds. Canadian Journal of Botany, 1987, 65, 1908-1912.	1.2	17
53	Carbohydrate utilisation by cell suspension cultures of Phaseolus vulgaris. Physiologia Plantarum, 1998, 102, 429-436.	2.6	16
54	Title is missing!. Plant Growth Regulation, 2002, 37, 157-166.	1.8	16

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55	Purification and characterisation of fructokinase from the culm of sugarcane. Plant Science, 2004, 167, 645-654.	1.7	16
56	Metabolic Changes Associated with the Sink-Source Transition During Sprouting of the Axillary Buds on the Sugarcane Culm. Tropical Plant Biology, 2016, 9, 1-11.	1.0	16
57	Properties of the Phosphofructokinase Isoenzymes from Germinating Cucumber Seeds. Journal of Plant Physiology, 1988, 132, 204-209.	1.6	14
58	Expression of fructokinase isoforms in the sugarcane culm. Plant Physiology and Biochemistry, 2003, 41, 741-747.	2.8	14
59	Effect of sugar feedback regulation on major genes and proteins of photosynthesis in sugarcane leaves. Plant Physiology and Biochemistry, 2021, 158, 321-333.	2.8	14
60	Control of ribulose 1,5-bisphosphate carboxylase synthesis in the cotyledons of Citrullus lanatus. Plant Science, 1987, 53, 121-129.	1.7	12
61	Control of Pyrophosphated-Fructose-6-Phosphate 1-Phosphotransferase Activity in the Cotyledons of Citrullus lanatus. Plant Physiology, 1990, 93, 683-688.	2.3	12
62	Improved regeneration efficiency of a pearl millet (Pennisetum glaucum [L.] R.Br.) breeding line. South African Journal of Botany, 2004, 70, 502-508.	1.2	12
63	De novo assembly and characterizing of the culm-derived meta-transcriptome from the polyploid sugarcane genome based on coding transcripts. Heliyon, 2018, 4, e00583.	1.4	12
64	Metabolic changes in the developing sugarcane culm associated with high yield and early high sugar content. Plant Direct, 2020, 4, e00276.	0.8	12
65	Vegetative and reproductive phenology of Ziziphus mucronata subsp. mucronata (Rhamnaceae). South African Journal of Botany, 1989, 55, 564-573.	1.2	11
66	The introduction of an inverted repeat to the 5â€² untranslated leader sequence of a transgene strongly inhibits gene expression. Plant Cell Reports, 2000, 19, 1098-1101.	2.8	11
67	Characterisation of the gene encoding the Merlot ripening-induced protein 1 (mrip1): evidence that this putative protein is a distinct member of the plant proline-rich protein family. Plant Science, 2004, 167, 1075-1089.	1.7	11
68	Changes in photosynthesis and carbohydrate metabolism in sugarcane during the development of Yellow Canopy Syndrome. Functional Plant Biology, 2016, 43, 523.	1.1	11
69	Variation in sugarcane biomass composition and enzymatic saccharification of leaves, internodes and roots. Biotechnology for Biofuels, 2020, 13, 201.	6.2	11
70	Characterization of the Cytosolic Aldolase from Germinating Phaseolus vulgaris Seeds. Journal of Plant Physiology, 1989, 135, 433-438.	1.6	10
71	The effect of water stress on the germination of Citrullus lanatus seeds. South African Journal of Botany, 1984, 3, 111-114.	1.2	9
72	Evidence for an Ethylene Requirement to Reduce Soaking Injury in Bean Seeds and the Beneficial Effect of Heavy Metals. Journal of Experimental Botany, 1991, 42, 277-280.	2.4	9

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73	Induction of Pyrophosphate-Dependent Phosphofructokinase in Watermelon (Citrullus lanatus) Cotyledons Coincides with Insufficient Cytosolic D-Fructose-1,6-Bisphosphate 1-Phosphohydrolase to Sustain Gluconeogenesis. Plant Physiology, 1993, 101, 1385-1390.	2.3	9
74	Characterization and functional investigation of an Arabidopsis cDNA encoding a homologue to the d-PGMase superfamily. Journal of Experimental Botany, 2005, 56, 1129-1142.	2.4	8
75	Midrib Sucrose Accumulation and Sugar Transporter Gene Expression in YCS-Affected Sugarcane Leaves. Tropical Plant Biology, 2019, 12, 186-205.	1.0	8
76	The Impact of cDNA Normalization on Long-Read Sequencing of a Complex Transcriptome. Frontiers in Genetics, 2019, 10, 654.	1.1	8
77	Association of gene expression with syringyl to guaiacyl ratio in sugarcane lignin. Plant Molecular Biology, 2021, 106, 173-192.	2.0	8
78	Limited allele-specific gene expression in highly polyploid sugarcane. Genome Research, 2022, 32, 297-308.	2.4	8
79	Fructose 1,6-Bisphosphatase in the Green Alga Selenastrum minutum. Plant Physiology, 1990, 93, 1460-1465.	2.3	7
80	Effect of the Russian Wheat Aphid on the Composition and Synthesis of Water Soluble Proteins in Resistant and Susceptible Wheat. Journal of Agronomy and Crop Science, 1993, 170, 322-326.	1.7	7
81	Tissue discs as an experimental system for metabolic flux analysis in the sugarcane culm. South African Journal of Botany, 2001, 67, 244-249.	1.2	7
82	Yellow Canopy Syndrome (YCS) in Sugarcane is Associated with Altered Carbon Partitioning in the Leaf. Sugar Tech, 2017, 19, 647-655.	0.9	7
83	Seed germination of Ziziphus mucronata subsp. mucronata. South African Journal of Botany, 1987, 53, 341-344.	1.2	6
84	The Germination Response of the Negatively Photoblastic Seeds of Citrullus lanatus to Light of Different Spectral Compositions. Journal of Plant Physiology, 1988, 132, 750-753.	1.6	6
85	Molecular and kinetic characterisation of sugarcane pyrophosphate: fructose-6-phosphate 1-phosphotransferase and its possible role in the sucrose accumulation phenotype. Functional Plant Biology, 2007, 34, 517.	1.1	6
86	Cloning of a specific ripening-related gene from the multiple of ripening-related genes identified from a single band excised from a cDNA-AFLP gel. Plant Molecular Biology Reporter, 2004, 22, 225-236.	1.0	5
87	Characterisation of pyrophosphate dependent phosphofructokinase from germinating bean seeds. Plant Science, 1987, 51, 151-157.	1.7	4
88	Kinetic Properties of the ATP-Dependent Phosphofructokinase Isoenzymes from Cucumber Seeds. Plant and Cell Physiology, 0, , .	1.5	4
89	The effect of submergence on germination and some aspects of the respiratory metabolism of Cucumis sativus L. seeds. Plant Science, 1989, 63, 7-13.	1.7	4
90	Alcohol dehydrogenase in the desert species Acacia erioloba: ontogeny during germination and induction in seedling roots. South African Journal of Botany, 1990, 56, 403-408.	1.2	4

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91	Grapevine promoter directs gene expression in the nectaries of transgenic tobacco. Physiologia Plantarum, 2006, 126, 418-434.	2.6	2
92	Comparison of the root, leaf and internode transcriptomes in sugarcane (Saccharum spp. hybrids). Current Research in Biotechnology, 2022, 4, 167-178.	1.9	2
93	Seed germination in Citrullus lanatus. Part 3. The possibility of light as an inhibitory factor for germination of seeds within the fruits based on light measurement studies. South African Journal of Botany, 1982, 1, 134-138.	1.2	1
94	The effect of cyanide, SHAM and azide on the germination and respiration of Citrullus lanatus seeds. South African Journal of Botany, 1986, 52, 77-80.	1.2	1
95	Transcriptome changes in the developing sugarcane culm associated with high yield and early-season high sugar content. Theoretical and Applied Genetics, 2022, 135, 1619-1636.	1.8	1
96	The differential display technique using short primers is not suited for the routine isolation of differentially expressed sequences in sugarcane. South African Journal of Botany, 1999, 65, 398-403.	1.2	0