Iain S Donnison

List of Publications by Year
in descending order

126 papers	7,134 citations	47006 47 h-index	62596 80 g-index
132 all docs	132 docs citations	132 times ranked	7621 citing authors

#	Article	IF	Citations
1	The effect of lignin and inorganic species in biomass on pyrolysis oil yields, quality and stability. Fuel, 2008, 87, 1230-1240.	6.4	477
2	The effect of alkali metals on combustion and pyrolysis of Lolium and Festuca grasses, switchgrass and willow. Fuel, 2007, 86, 1560-1569.	6.4	337
3	Fermentation study on Saccharina latissima for bioethanol production considering variable pre-treatments. Journal of Applied Phycology, 2009, 21, 569-574.	2.8	325
4	Seasonal variation in the chemical composition of the bioenergy feedstock Laminaria digitata for thermochemical conversion. Bioresource Technology, 2011, 102, 226-234.	9.6	204
5	Seasonal variation in Laminaria digitata and its impact on biochemical conversion routes to biofuels. Bioresource Technology, 2011, 102, 9976-9984.	9.6	194
6	Influence of particle size on the analytical and chemical properties of two energy crops. Fuel, 2007, 86, 60-72.	6.4	192
7	Environmental costs and benefits of growing <i>Miscanthus</i> for bioenergy in the <scp>UK</scp>. GCB Bioenergy, 2017, 9, 489-507.	5.6	183
8	Cross-Species Identification of Mendel's I Locus. Science, 2007, 315, 73-73.	12.6	168
9	Molecular cloning, functional expression and characterisation of RCC reductase involved in chlorophyll catabolism. Plant Journal, 2000, 21, 189-198.	5.7	160
10	Progress on Optimizing Miscanthus Biomass Production for the European Bioeconomy: Results of the EU FP7 Project OPTIMISC. Frontiers in Plant Science, 2016, 7, 1620.	3.6	160
11	Progress in upscaling <i>Miscanthus</i> biomass production for the European bioâ€economy with seedâ€based hybrids. GCB Bioenergy, 2017, 9, 6-17.	5.6	156
12	Variation in Miscanthus chemical composition and implications for conversion by pyrolysis and thermo-chemical bio-refining for fuels and chemicals. Bioresource Technology, 2011, 102, 3411-3418.	9.6	142
13	Red clover (Trifolium pratense L.) draft genome provides a platform for trait improvement. Scientific Reports, 2015, 5, 17394.	3.3	136
14	Breeding progress and preparedness for massâ€scale deployment of perennial lignocellulosic biomass crops switchgrass, miscanthus, willow and poplar. GCB Bioenergy, 2019, 11, 118-151.	5.6	116
15	New opportunities for the exploitation of energy crops by thermochemical conversion in Northern Europe and the UK. Progress in Energy and Combustion Science, 2012, 38, 138-155.	31.2	114
16	Alignment of the Genomes of<i>Brachypodium distachyon</i>and Temperate Cereals and Grasses Using Bacterial Artificial Chromosome Landing With Fluorescence<i>in Situ</i>Hybridization. Genetics, 2006, 173, 349-362.	2.9	108
17	Identification of genes involved in cell wall biogenesis in grasses by differential gene expression profiling of elongating and non-elongating maize internodes. Journal of Experimental Botany, 2011, 62, 3545-3561.	4.8	107
18	Characterisation of Nature-Based Solutions for the Built Environment. Sustainability, 2017, 9, 149.	3.2	106

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19	Synteny between a major heading-date QTL in perennial ryegrass (Lolium perenne L.) and the Hd3 heading-date locus in rice. Theoretical and Applied Genetics, 2004, 108, 822-828.	3.6	104
20	Genotypic and environmentally derived variation in the cell wall composition of Miscanthus in relation to its use as a biomass feedstock. Biomass and Bioenergy, 2010, 34, 652-660.	5.7	103
21	High Resolution Genetic Mapping by Genome Sequencing Reveals Genome Duplication and Tetraploid Genetic Structure of the Diploid Miscanthus sinensis. PLoS ONE, 2012, 7, e33821.	2.5	103
22	Endophytic bacteria in Miscanthus seed: implications for germination, vertical inheritance of endophytes, plant evolution and breeding. GCB Bioenergy, 2017, 9, 57-77.	5.6	99
23	From crop to model to crop: identifying the genetic basis of the staygreen mutation in the Lolium / Festuca forage and amenity grasses. New Phytologist, 2006, 172, 592-597.	7.3	98
24	The control of chlorophyll catabolism and the status of yellowing as a biomarker of leaf senescence. Plant Biology, 2008, 10, 4-14.	3.8	96
25	Genomeâ€wide association studies and prediction of 17 traits related to phenology, biomass and cell wall composition in the energy grass <i>Miscanthus sinensis</i>. New Phytologist, 2014, 201, 1227-1239.	7.3	96
26	Prediction of Klason lignin and lignin thermal degradation products by Pyâ€"GC/MS in a collection of Lolium and Festuca grasses. Journal of Analytical and Applied Pyrolysis, 2007, 80, 16-23.	5.5	92
27	What stayâ€green mutants tell us about nitrogen remobilization in leaf senescence. Journal of Experimental Botany, 2002, 53, 801-808.	4.8	90
28	Leaf senescence is delayed in maize expressing the Agrobacterium IPT gene under the control of a novel maize senescence-enhanced promoter. Plant Biotechnology Journal, 2004, 2, 101-112.	8.3	90
29	Molecular cytogenetics and DNA sequence analysis of an apomixis-linked BAC in Paspalum simplex reveal a non pericentromere location and partial microcolinearity with rice. Theoretical and Applied Genetics, 2006, 112, 1179-1191.	3.6	90
30	Miscanthus as a feedstock for fast-pyrolysis: Does agronomic treatment affect quality?. Bioresource Technology, 2010, 101, 6185-6191.	9.6	89
31	Isolation of <i>Y</i> Chromosome-Specific Sequences From <i>Silene latifolia</i> and Mapping of Male Sex-Determining Genes Using Representational Difference Analysis. Genetics, 1996, 144, 1893-1901.	2.9	87
32	Consensus, uncertainties and challenges for perennial bioenergy crops and land use. GCB Bioenergy, 2018, 10, 150-164.	5.6	80
33	Characterization of flowering time diversity in Miscanthus species. GCB Bioenergy, 2011, 3, 387-400.	5.6	76
34	Genotypic variation in cell wall composition in a diverse set of 244 accessions of Miscanthus. Biomass and Bioenergy, 2011, 35, 4740-4747.	5.7	74
35	Nitrogen management and senescence in two maize hybrids differing in the persistence of leaf greenness: agronomic, physiological and molecular aspects. New Phytologist, 2005, 167, 483-492.	7.3	67
36	Genome biology of the paleotetraploid perennial biomass crop Miscanthus. Nature Communications, 2020, 11, 5442.	12.8	67

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37	Accelerating the domestication of a bioenergy crop: identifying and modelling morphological targets for sustainable yield increase in Miscanthus. Journal of Experimental Botany, 2013, 64, 4143-4155.	4.8	66
38	Isolation, identification and quantitation of hydroxycinnamic acid conjugates, potential platform chemicals, in the leaves and stems of MiscanthusÃ—giganteus using LCâ€“ESI-MS. Phytochemistry, 2011, 72, 2376-2384.	2.9	65
39	Phenotypic Variation in Senescence in Miscanthus: Towards Optimising Biomass Quality and Quantity. Bioenergy Research, 2012, 5, 95-105.	3.9	63
40	Measurement of key compositional parameters in two species of energy grass by Fourier transform infrared spectroscopy. Bioresource Technology, 2009, 100, 6428-6433.	9.6	55
41	Chlorophyll breakdown in Chlorella protothecoides: characterization of degreening and cloning of degreening-related genes. Plant Molecular Biology, 2000, 42, 439-450.	3.9	53
42	Construction and screening of BAC libraries made from Brachypodium genomic DNA. Nature Protocols, 2007, 2, 1661-1674.	12.0	53
43	Quantification of hydroxycinnamic acids and lignin in perennial forage and energy grasses by Fourier-transform infrared spectroscopy and partial least squares regression. Bioresource Technology, 2009, 100, 1252-1261.	9.6	53
44	Life cycle assessment of the integrated generation of solid fuel and biogas from biomass (IFBB) in comparison to different energy recovery, animal-based and non-refining management systems. Bioresource Technology, 2012, 111, 230-239.	9.6	53
45	Chlorophyll catabolism and gene expression in the peel of ripening banana fruits. Physiologia Plantarum, 1999, 107, 32-38.	5.2	50
46	Single pollen typing combined with laserâ€mediated manipulation. Plant Journal, 1999, 20, 371-378.	5.7	50
47	Introgression, tagging and expression of a leaf senescence gene in <i>Festulolium</i>. New Phytologist, 1997, 137, 29-34.	7.3	49
48	Modification of senescence in ryegrass transformed with IPT under the control of a monocot senescence-enhanced promoter. Plant Cell Reports, 2004, 22, 816-821.	5.6	49
49	Effect of nitrogen fertiliser application on cell wall composition in switchgrass and reed canary grass. Biomass and Bioenergy, 2012, 40, 19-26.	5.7	49
50	Flowering induction in the bioenergy grass Miscanthus sacchariflorus is a quantitative short-day response, whilst delayed flowering under long days increases biomass accumulation. Journal of Experimental Botany, 2013, 64, 541-552.	4.8	48
51	Direct fermentation of fodder maize, chicory fructans and perennial ryegrass to hydrogen using mixed microflora. Bioresource Technology, 2008, 99, 8833-8839.	9.6	46
52	Identification of perennial ryegrass (Lolium perenne (L.)) and meadow fescue (Festuca pratensis) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 1 through comparative mapping and microsynteny. New Phytologist, 2005, 167, 239-247.	7.3	44
53	Modification of nitrogen remobilization, grain fill and leaf senescence in maize (Zea mays) by transposon insertional mutagenesis in a protease gene. New Phytologist, 2007, 173, 481-494.	7.3	42
54	Characterization of chilling-shock responses in four genotypes of Miscanthus reveals the superior tolerance of M. Ã— giganteus compared with M. sinensis and M. sacchariflorus. Annals of Botany, 2013, 111, 999-1013.	2.9	40

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55	Mineral concentrations in solid fuels from European semi-natural grasslands after hydrothermal conditioning and subsequent mechanical dehydration. Bioresource Technology, 2012, 118, 332-342.	9.6	39
56	Expanding the biomass resource: sustainable oil production via fast pyrolysis of low input high diversity biomass and the potential integration of thermochemical and biological conversion routes. Applied Energy, 2016, 177, 852-862.	10.1	39
57	Phenomics analysis of drought responses in <i>Miscanthus</i> collected from different geographical locations. GCB Bioenergy, 2017, 9, 78-91.	5.6	39
58	Seasonal Carbohydrate Dynamics and Climatic Regulation of Senescence in the Perennial Grass, Miscanthus. Bioenergy Research, 2015, 8, 28-41.	3.9	38
59	Expression, purification and use of the soluble domain of Lactobacillus paracasei Î²-fructosidase to optimise production of bioethanol from grass fructans. Bioresource Technology, 2010, 101, 4395-4402.	9.6	37
60	Impact of Miscanthus x giganteus senescence times on fast pyrolysis bio-oil quality. Bioresource Technology, 2013, 129, 335-342.	9.6	36
61	Variation in canopy duration in the perennial biofuel crop Miscanthus reveals complex associations with yield. Journal of Experimental Botany, 2013, 64, 2373-2383.	4.8	36
62	Characterisation of a cysteine protease cDNA from Lolium multiflorum leaves and its expression during senescence and cytokinin treatment. Biochimica Et Biophysica Acta Gene Regulatory Mechanisms, 2000, 1492, 233-236.	2.4	33
63	Identification of coincident QTL for days to heading, spike length and spikelets per spike in Lolium perenne L.. Euphytica, 2009, 166, 61-70.	1.2	33
64	Thermal requirements for seed germination in Miscanthus compared with Switchgrass (Panicum) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 3	5.6	33
65	Molecular tagging of a senescence gene by introgression mapping of a stayâ€green mutation from Festuca pratensis. New Phytologist, 2005, 165, 801-806.	7.3	31
66	Identification of an extensive gene cluster among a family of PPOs in Trifolium pratense L. (red clover) using a large insert BAC library. BMC Plant Biology, 2009, 9, 94.	3.6	31
67	Comparative Analyses Between Lolium/Festuca Introgression Lines and Rice Reveal the Major Fraction of Functionally Annotated Gene Models Is Located in Recombination-Poor/Very Recombination-Poor Regions of the Genome. Genetics, 2007, 177, 597-606.	2.9	30
68	Radiation capture and conversion efficiencies of <i>Miscanthus sacchariflorus</i>,<i> M.Âsinensis</i> and their naturally occurring hybrid <i>M</i>.ÂÃ—Â<i>giganteus</i>. GCB Bioenergy, 2017, 9, 385-399.	5.6	29
69	Contrasting geographic patterns of genetic variation for molecular markers vs. phenotypic traits in the energy grass<i>Miscanthus sinensis</i>. GCB Bioenergy, 2013, 5, 562-571.	5.6	28
70	Breeding Strategies to Improve Miscanthus as a Sustainable Source of Biomass for Bioenergy and Biorenewable Products. Agronomy, 2019, 9, 673.	3.0	28
71	Partial isolation of the genomic region linked with apomixis in Paspalum simplex. Molecular Breeding, 2011, 28, 265-276.	2.1	27
72	Can the optimisation of pop-up agriculture in remote communities help feed the world?. Global Food Security, 2018, 18, 35-43.	8.1	26

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73	Towards <i>Miscanthus</i> combustion quality improvement: the role of flowering and senescence. GCB Bioenergy, 2017, 9, 891-908.	5.6	25
74	Exploring design principles of biological and living building envelopes: what can we learn from plant cell walls?. Intelligent Buildings International, 2018, 10, 78-102.	2.3	24
75	Breeding for Bio-ethanol Production in Lolium perenne L.: Association of Allelic Variation with High Water-Soluble Carbohydrate Content. Bioenergy Research, 2012, 5, 149-157.	3.9	23
76	Energetic conversion of European semi-natural grassland silages through the integrated generation of solid fuel and biogas from biomass: Energy yields and the fate of organic compounds. Bioresource Technology, 2014, 154, 192-200.	9.6	23
77	Review: Improving the Impact of Plant Science on Urban Planning and Design. Buildings, 2016, 6, 48.	3.1	22
78	Construction of a Festuca pratensis BAC library for map-based cloning in Festulolium substitution lines. Theoretical and Applied Genetics, 2005, 110, 846-851.	3.6	21
79	Construction of two Lolium perenne BAC libraries and identification of BACs containing candidate genes for disease resistance and forage quality. Molecular Breeding, 2006, 19, 15-23.	2.1	21
80	Co-production of ethanol and squalene using a Saccharomyces cerevisiae ERG1 (squalene epoxidase) mutant and agro-industrial feedstock. Biotechnology for Biofuels, 2014, 7, 133.	6.2	21
81	An interyear comparison of <scp>CO</scp>₂ flux and carbon budget at a commercialâ€scale landâ€use transition from semiâ€improved grassland to <i>Miscanthus x giganteus</i>. GCB Bioenergy, 2017, 9, 229-245.	5.6	21
82	Introgression mapping in the grasses. Chromosome Research, 2007, 15, 105-113.	2.2	20
83	Potential sources of high value chemicals from leaves, stems and flowers of Miscanthus sinensis â€˜Goliathâ€™ and Miscanthus sacchariflorus. Phytochemistry, 2013, 92, 160-167.	2.9	20
84	Morphological and Physiological Traits that Explain Yield Response to Drought Stress in Miscanthus. Agronomy, 2020, 10, 1194.	3.0	18
85	Non-structural carbohydrate profiles and ratios between soluble sugars and starch serve as indicators of productivity for a bioenergy grass. AoB PLANTS, 2015, 7, plv032-plv032.	2.3	17
86	Diversification and use of bioenergy to maintain future grasslands. Food and Energy Security, 2016, 5, 67-75.	4.3	17
87	Predicting future biomass yield in <i>Miscanthus</i> using the carbohydrate metabolic profile as a biomarker. GCB Bioenergy, 2017, 9, 1264-1278.	5.6	17
88	The Effect of Red & Blue Rich LEDs vs Fluorescent Light on Lollo Rosso Lettuce Morphology and Physiology. Frontiers in Plant Science, 2021, 12, 603411.	3.6	17
89	Producing Enhanced Yield and Nutritional Pigmentation in Lollo Rosso Through Manipulating the Irradiance, Duration, and Periodicity of LEDs in the Visible Region of Light. Frontiers in Plant Science, 2020, 11, 598082.	3.6	16
90	Plants and architecture: the role of biology and biomimetics in materials development for buildings. Intelligent Buildings International, 2019, 11, 178-211.	2.3	15

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91	Co-production of 11Î±-hydroxyprogesterone and ethanol using recombinant yeast expressing fungal steroid hydroxylases. Biotechnology for Biofuels, 2017, 10, 226.	6.2	14
92	Expression of bacterial levanase in yeast enables simultaneous saccharification and fermentation of grass juice to bioethanol. Bioresource Technology, 2011, 102, 1503-1508.	9.6	13
93	Bioenergy as a biodiversity management tool and the potential of a mixed species feedstock for bioenergy production in Wales. Bioresource Technology, 2013, 129, 142-149.	9.6	13
94	Genetic relationships between spring emergence, canopy phenology, and biomass yield increase the accuracy of genomic prediction in Miscanthus. Journal of Experimental Botany, 2017, 68, 5093-5102.	4.8	13
95	Soil nitrous oxide flux following landâ€use reversion from Miscanthus and SRC willow to perennial ryegrass. GCB Bioenergy, 2018, 10, 914-929.	5.6	13
96	Collecting wild Miscanthus germplasm in Asia for crop improvement and conservation in Europe whilst adhering to the guidelines of the United Nationsâ€™ Convention on Biological Diversity. Annals of Botany, 2019, 124, 591-604.	2.9	13
97	Measured and modelled effect of landâ€use change from temperate grassland to Miscanthus on soil carbon stocks after 12 years. GCB Bioenergy, 2019, 11, 1173-1186.	5.6	13
98	Scanning Electron Microscopy and Fermentation Studies on Selected Known Maize Starch Mutants Using STARGENâ„¢ Enzyme Blends. Bioenergy Research, 2012, 5, 330-340.	3.9	12
99	Co-production of bioethanol and probiotic yeast biomass from agricultural feedstock: application of the rural biorefinery concept. AMB Express, 2014, 4, 64.	3.0	12
100	Designing Biomass Crops with Improved Calorific Content and Attributes for Burning: a UK Perspective. Biotechnology in Agriculture and Forestry, 2010, , 25-55.	0.2	11
101	Could <i>Miscanthus</i> replace maize as the preferred substrate for anaerobic digestion in the United Kingdom? Future breeding strategies. GCB Bioenergy, 2017, 9, 1122-1139.	5.6	10
102	Genomic index selection provides a pragmatic framework for setting and refining multi-objective breeding targets in Miscanthus. Annals of Botany, 2019, 124, 521-529.	2.9	10
103	Biomass gasification of hybrid seed Miscanthus in Glasgowâ€™s downdraft gasifier testbed system. Energy Procedia, 2019, 158, 1174-1181.	1.8	9
104	Soil N₂O emissions with different reduced tillage methods during the establishment of <i>Miscanthus</i> in temperate grassland. GCB Bioenergy, 2019, 11, 539-549.	5.6	9
105	Screening for potential co-products in a Miscanthus sinensis mapping family by liquid chromatography with mass spectrometry detection. Phytochemistry, 2014, 105, 186-196.	2.9	8
106	Linkage mapping evidence for a syntenic QTL associated with flowering time in perennial C 4 rhizomatous grasses Miscanthus and switchgrass. GCB Bioenergy, 2021, 13, 98-111.	5.6	8
107	Evolutionary hierarchies of conserved blocks in 5'-noncoding sequences of dicot rbcS genes. BMC Evolutionary Biology, 2007, 7, 51.	3.2	7
108	Developing<i>Miscanthus</i>for Bioenergy. RSC Energy and Environment Series, 2010, , 301-321.	0.5	7

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109	Research Spotlight: The ELUM project: Ecosystem Land-Use Modeling and Soil Carbon GHG Flux Trial. Biofuels, 2014, 5, 111-116.	2.4	7
110	Evapotranspiration model comparison and an estimate of field scale <i>Miscanthus</i> canopy precipitation interception. GCB Bioenergy, 2018, 10, 353-366.	5.6	7
111	Press fluid pre-treatment optimisation of the integrated generation of solid fuel and biogas from biomass (IFBB) process approach. Bioresource Technology, 2014, 169, 537-542.	9.6	6
112	Soil & Water Assessment Tool (SWAT) simulated hydrological impacts of land use change from temperate grassland to energy crops: A case study in western UK. GCB Bioenergy, 2019, 11, 1298-1317.	5.6	5
113	Partitioning of ecosystem respiration of <scp>CO</scp>₂ released during landâ€use transition from temperate agricultural grassland to <i>Miscanthus</i> Ã— <i>giganteus</i>. GCB Bioenergy, 2017, 9, 710-724.	5.6	4
114	Draft genome assembly of the biofuel grass crop Miscanthus sacchariflorus. F1000Research, 2021, 10, 29.	1.6	4
115	Functional Genomics of Forage and Bioenergy Quality Traits in the Grasses. , 2009, , 111-124.		4
116	Models of floral pattern in detached flowers of Silene coeli-rosa (L) Godr. (Caryophyllaceae). Botanical Journal of the Linnean Society, 2002, 140, 229-235.	1.6	3
117	Stem growth characteristics of high yielding <i>Miscanthus</i> correlate with yield, development and intraspecific competition within plots. GCB Bioenergy, 2019, 11, 1075-1085.	5.6	3
118	Mechanical stimulation in wheat triggers age- and dose-dependent alterations in growth, development and grain characteristics. Annals of Botany, 2021, 128, 589-603.	2.9	3
119	Bioenergy technologyâ€”balancing energy output with environmental benefits. Comparative Biochemistry and Physiology Part A, Molecular & Integrative Physiology, 2008, 150, S174-S175.	1.8	2
120	Identification of genes involved in the floral transition at the shoot apical meristem of Lolium perenne L. by use of suppression subtractive hybridisation. Plant Growth Regulation, 2009, 59, 215-225.	3.4	2
121	Design, instrumentation, and operation of a standard downdraft, laboratory-scale gasification testbed utilising novel seed-propagated hybrid Miscanthus pellets. Applied Energy, 2022, 315, 118864.	10.1	2
122	The Genetic Control of Senescence Revealed By Mapping Quantitative Trait Loci. , 0, , 171-201.		1
123	Manipulation of plant architecture for increased biomass in Miscanthus. Comparative Biochemistry and Physiology Part A, Molecular & Integrative Physiology, 2008, 150, S181.	1.8	0
124	A flexible quantitative methodology for the analysis of gene-flow between conventionally bred maize populations using microsatellite markers. Theoretical and Applied Genetics, 2011, 122, 819-829.	3.6	0
125	Determination of floral organ type in cultured Silene shoot apices. Physiologia Plantarum, 1993, 89, 315-322.	5.2	0
126	Experimental control of floral reversion in isolated shoot apices of the long-day plant Silene coeli-rosa. Physiologia Plantarum, 1994, 92, 329-335.	5.2	0