Harsh Nayyar

List of Publications by Year
in descending order

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Version: 2024-02-01

73 papers	5,132 citations	101543 36 h-index	98798 67 g-index
75 all docs	75 docs citations	75 times ranked	4544 citing authors

#	Article	IF	Citations
1	Cold stress effects on reproductive development in grain crops: An overview. Environmental and Experimental Botany, 2010, 67, 429-443.	4.2	491
2	Drought or/and Heat-Stress Effects on Seed Filling in Food Crops: Impacts on Functional Biochemistry, Seed Yields, and Nutritional Quality. Frontiers in Plant Science, 2018, 9, 1705.	3.6	371
3	Individual and combined effects of transient drought and heat stress on carbon assimilation and seed filling in chickpea. Functional Plant Biology, 2014, 41, 1148.	2.1	214
4	Effects of Drought, Heat and Their Interaction on the Growth, Yield and Photosynthetic Function of Lentil (Lens culinaris Medikus) Genotypes Varying in Heat and Drought Sensitivity. Frontiers in Plant Science, 2017, 8, 1776.	3.6	199
5	Temperature stress and redox homeostasis in agricultural crops. Frontiers in Environmental Science, 2015, 3, .	3.3	183
6	Heat-stress-induced reproductive failures in chickpea (Cicer arietinum) are associated with impaired sucrose metabolism in leaves and anthers. Functional Plant Biology, 2013, 40, 1334.	2.1	179
7	Heat-stress induced inhibition in growth and chlorosis in mungbean (Phaseolus aureus Roxb.) is partly mitigated by ascorbic acid application and is related to reduction in oxidative stress. Acta Physiologiae Plantarum, 2011, 33, 2091-2101.	2.1	158
8	Proline induces heat tolerance in chickpea (Cicer arietinum L.) plants by protecting vital enzymes of carbon and antioxidative metabolism. Physiology and Molecular Biology of Plants, 2011, 17, 203-213.	3.1	150
9	Food Legumes and Rising Temperatures: Effects, Adaptive Functional Mechanisms Specific to Reproductive Growth Stage and Strategies to Improve Heat Tolerance. Frontiers in Plant Science, 2017, 8, 1658.	3.6	146
10	Î³-Aminobutyric Acid (GABA) Imparts Partial Protection from Heat Stress Injury to Rice Seedlings by Improving Leaf Turgor and Upregulating Osmoprotectants and Antioxidants. Journal of Plant Growth Regulation, 2014, 33, 408-419.	5.1	139
11	Multiâ€walled carbon nanotubes applied through seedâ€priming influence early germination, root hair, growth and yield of bread wheat (<i>Triticum aestivum</i> L.). Journal of the Science of Food and Agriculture, 2018, 98, 3148-3160.	3.5	127
12	Effect of varying high temperatures during reproductive growth on reproductive function, oxidative stress and seed yield in chickpea genotypes differing in heat sensitivity. Archives of Agronomy and Soil Science, 2013, 59, 823-843.	2.6	126
13	Selenium in agriculture: a nutrient or contaminant for crops?. Archives of Agronomy and Soil Science, 2014, 60, 1593-1624.	2.6	123
14	Comparative response of maize and rice genotypes to heat stress: status of oxidative stress and antioxidants. Acta Physiologiae Plantarum, 2012, 34, 75-86.	2.1	122
15	Salinity and High Temperature Tolerance in Mungbean [Vigna radiata (L.) Wilczek] from a Physiological Perspective. Frontiers in Plant Science, 2016, 7, 957.	3.6	120
16	Developing Climate-Resilient Chickpea Involving Physiological and Molecular Approaches With a Focus on Temperature and Drought Stresses. Frontiers in Plant Science, 2019, 10, 1759.	3.6	107
17	Food crops face rising temperatures: An overview of responses, adaptive mechanisms, and approaches to improve heat tolerance. Cogent Food and Agriculture, 2016, 2, .	1.4	106
18	Abscisic acid induces heat tolerance in chickpea (Cicer arietinum L.) seedlings by facilitated accumulation of osmoprotectants. Acta Physiologiae Plantarum, 2012, 34, 1651-1658.	2.1	103

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19	Identification of High-Temperature Tolerant Lentil (Lens culinaris Medik.) Genotypes through Leaf and Pollen Traits. Frontiers in Plant Science, 2017, 8, 744.	3.6	101
20	Long non-coding RNAs: emerging players regulating plant abiotic stress response and adaptation. BMC Plant Biology, 2020, 20, 466.	3.6	100
21	GABA (Î³-aminobutyric acid), as a thermo-protectant, to improve the reproductive function of heat-stressed mungbean plants. Scientific Reports, 2019, 9, 7788.	3.3	93
22	Drought and heat stress-related proteins: an update about their functional relevance in imparting stress tolerance in agricultural crops. Theoretical and Applied Genetics, 2019, 132, 1607-1638.	3.6	89
23	Influence of drought and heat stress, applied independently or in combination during seed development, on qualitative and quantitative aspects of seeds of lentil (<scp><i>Lens) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50 2019, 42, 198-211.	5.7	86
24	Heat Stress at Reproductive Stage Disrupts Leaf Carbohydrate Metabolism, Impairs Reproductive Function, and Severely Reduces Seed Yield in Lentil. Journal of Crop Improvement, 2016, 30, 118-151.	1.7	79
25	Beneficial elements for agricultural crops and their functional relevance in defence against stresses. Archives of Agronomy and Soil Science, 2016, 62, 905-920.	2.6	77
26	Influence of high temperature stress on growth, phenology and yield performance of mungbean [Vigna radiata (L.) Wilczek] under managed growth conditions. Scientia Horticulturae, 2016, 213, 379-391.	3.6	73
27	Native halo-tolerant plant growth promoting rhizobacteria Enterococcus and Pantoea sp. improve seed yield of Mungbean (Vigna radiata L.) under soil salinity by reducing sodium uptake and stress injury. Physiology and Molecular Biology of Plants, 2016, 22, 445-459.	3.1	70
28	Growth and metabolic responses of contrasting chickpea (Cicer arietinum L.) genotypes to chilling stress at reproductive phase. Acta Physiologiae Plantarum, 2011, 33, 779-787.	2.1	64
29	Effects of individual and combined heat and drought stress during seed filling on the oxidative metabolism and yield of chickpea (Cicer arietinum) genotypes differing in heat and drought tolerance. Crop and Pasture Science, 2017, 68, 823.	1.5	61
30	Differential sensitivity of Desi (small-seeded) and Kabuli (large-seeded) chickpea genotypes to water stress during seed filling: effects on accumulation of seed reserves and yield. Journal of the Science of Food and Agriculture, 2006, 86, 2076-2082.	3.5	55
31	Identification and Characterization of Contrasting Genotypes/Cultivars for Developing Heat Tolerance in Agricultural Crops: Current Status and Prospects. Frontiers in Plant Science, 2020, 11, 587264.	3.6	54
32	Regulatory Networks in Pollen Development under Cold Stress. Frontiers in Plant Science, 2016, 7, 402.	3.6	52
33	Indigenous salt-tolerant rhizobacterium Pantoea dispersa (PSB3) reduces sodium uptake and mitigates the effects of salt stress on growth and yield of chickpea. Acta Physiologiae Plantarum, 2016, 38, 1.	2.1	51
34	Impact of heat stress during seed filling on seed quality and seed yield in lentil (<i>Lens culinaris</i>) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	3.5	48
35	Chilling effects during seed filling on accumulation of seed reserves and yield of chickpea. Journal of the Science of Food and Agriculture, 2005, 85, 1925-1930.	3.5	47
36	Using Plant Phenomics to Exploit the Gains of Genomics. Agronomy, 2019, 9, 126.	3.0	44

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37	Advances in â€œomicsâ€•approaches to tackle drought stress in grain legumes. Plant Breeding, 2020, 139, 1-27.	1.9	38
38	Major QTLs and Potential Candidate Genes for Heat Stress Tolerance Identified in Chickpea (Cicer) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	3.6	38
39	Plant growth-regulating molecules as thermoprotectants: functional relevance and prospects for improving heat tolerance in food crops. Journal of Experimental Botany, 2020, 71, 569-594.	4.8	35
40	Plant Nanobionic Effect of Multi-walled Carbon Nanotubes on Growth, Anatomy, Yield and Grain Composition of Rice. BioNanoScience, 2020, 10, 430-445.	3.5	34
41	Î±-Tocopherol Application Modulates the Response of Wheat (Triticum aestivum L.) Seedlings to Elevated Temperatures by Mitigation of Stress Injury and Enhancement of Antioxidants. Journal of Plant Growth Regulation, 2013, 32, 307-314.	5.1	33
42	Temperature sensitivity of food legumes: a physiological insight. Acta Physiologiae Plantarum, 2017, 39, 1.	2.1	33
43	Screening the FIGS Set of Lentil (Lens culinaris Medikus) Germplasm for Tolerance to Terminal Heat and Combined Drought-Heat Stress. Agronomy, 2020, 10, 1036.	3.0	33
44	Uptake and Distribution of Arsenic in Chickpea: Effects on Seed Yield and Seed Composition. Communications in Soil Science and Plant Analysis, 2011, 42, 1728-1738.	1.4	31
45	Low temperatureâ€•induced aberrations in male and female reproductive organ development cause flower abortion in chickpea. Plant, Cell and Environment, 2019, 42, 2075-2089.	5.7	31
46	Non-Coding RNAs in Legumes: Their Emerging Roles in Regulating Biotic/Abiotic Stress Responses and Plant Growth and Development. Cells, 2021, 10, 1674.	4.1	31
47	Tracking multi-walled carbon nanotubes inside oat (Avena sativa L.) plants and assessing their effect on growth, yield, and mammalian (human) cell viability. Applied Nanoscience (Switzerland), 2018, 8, 1399-1414.	3.1	28
48	Novel phosphate solubilizing bacteria â€˜Pantoea cypripedii PS1â€™ along with Enterobacter aerogenes PS16 and Rhizobium ciceri enhance the growth of chickpea (Cicer arietinum L.). Plant Growth Regulation, 2014, 73, 79-89.	3.4	25
49	â€˜Omicsâ€™ approaches in developing combined drought and heat tolerance in food crops. Plant Cell Reports, 2022, 41, 699-739.	5.6	25
50	Differential Sensitivity of Macrocarpa and Microcarpa Types of Chickpea (Cicer arietinum L.) to Water Stress: Association of Contrasting Stress Response with Oxidative Injury. Journal of Integrative Plant Biology, 2006, 48, 1318-1329.	8.5	24
51	Role of Phytohormones in Regulating Heat Stress Acclimation in Agricultural Crops. Journal of Plant Growth Regulation, 2022, 41, 1041-1064.	5.1	22
52	N 6 -adenine DNA methylation demystified in eukaryotic genome: From biology to pathology. Biochimie, 2018, 144, 56-62.	2.6	21
53	Securing reproductive function in mungbean grown under high temperature environment with exogenous application of proline. Plant Physiology and Biochemistry, 2019, 140, 136-150.	5.8	21
54	Peg Biology: Deciphering the Molecular Regulations Involved During Peanut Peg Development. Frontiers in Plant Science, 2019, 10, 1289.	3.6	19

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55	Molecular breeding approaches involving physiological and reproductive traits for heat tolerance in food crops. Indian Journal of Plant Physiology, 2018, 23, 697-720.	0.8	16
56	Selenium as a nutrient in biostimulation and biofortification of cereals. Indian Journal of Plant Physiology, 2017, 22, 1-15.	0.8	15
57	Differential heat sensitivity of two coolâ€season legumes, chickpea and lentil, at the reproductive stage, is associated with responses in pollen function, photosynthetic ability and oxidative damage. Journal of Agronomy and Crop Science, 2020, 206, 734-758.	3.5	14
58	Post-pollination biochemical changes in the floral organs ofRhynchostylis retusa (L.) Bl. andAerides multiflora Roxb. (Orchidaceae). Journal of Plant Biology, 2007, 50, 548-556.	2.1	11
59	Selenium supplementation to lentil (Lens culinaris Medik.) under combined heat and drought stress improves photosynthetic ability, antioxidant systems, reproductive function and yield traits. Plant and Soil, 2023, 486, 7-23.	3.7	11
60	Cross-priming accentuates key biochemical and molecular indicators of defense and improves cold tolerance in chickpea (Cicer arietinum L.). Acta Physiologiae Plantarum, 2019, 41, 1.	2.1	10
61	Nitric oxide secures reproductive efficiency in heat-stressed lentil (Lens culinaris Medik.) plants by enhancing the photosynthetic ability to improve yield traits. Physiology and Molecular Biology of Plants, 2021, 27, 2549-2566.	3.1	10
62	Response of Physiological, Reproductive Function and Yield Traits in Cultivated Chickpea (Cicer) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 46	3.6	10
63	Alternate mild drought stress (â^’0.1ÂMPa PEG) immunizes sensitive chickpea cultivar against lethal chilling by accentuating the defense mechanisms. Acta Physiologiae Plantarum, 2016, 38, 1.	2.1	9
64	Heat stress and cowpea: genetics, breeding and modern tools for improving genetic gains. Plant Physiology Reports, 2020, 25, 645-653.	1.5	9
65	Molecular approach for phytoremediation of metal-contaminated sites. Archives of Agronomy and Soil Science, 2009, 55, 451-475.	2.6	8
66	Heat Priming of Lentil (Lens culinaris Medik.) Seeds and Foliar Treatment with Î³-Aminobutyric Acid (GABA), Confers Protection to Reproductive Function and Yield Traits under High-Temperature Stress Environments. International Journal of Molecular Sciences, 2021, 22, 5825.	4.1	8
67	Cold Tolerance during the Reproductive Phase in Chickpea (Cicer arietinum L.) Is Associated with Superior Cold Acclimation Ability Involving Antioxidants and Cryoprotective Solutes in Anthers and Ovules. Antioxidants, 2021, 10, 1693.	5.1	8
68	Discerning molecular diversity and association mapping for phenological, physiological and yield traits under high temperature stress in chickpea (Cicer arietinum L.). Journal of Genetics, 2021, 100, 1.	0.7	7
69	Breeding and Genomics Interventions for Developing Ascochyta Blight Resistant Grain Legumes. International Journal of Molecular Sciences, 2022, 23, 2217.	4.1	6
70	Encapsulation of carbon nanofiber inside liposome for target drug delivery. AIP Conference Proceedings, 2019, , .	0.4	5
71	Carbon nanofibers suppress fungal inhibition of seed germination of maize (Zea mays) and barley (Hordeum vulgare L.) crop. AIP Conference Proceedings, 2015, , .	0.4	4
72	Differential DNA methylation in regulation of deacetylvindoline-4-O-acetyl transferase (DAT) gene in Catharanthus roseus. Journal of Plant Biochemistry and Biotechnology, 2021, 30, 326-335.	1.7	3

#	Article	IF	Citations
73	Improving Chickpea Genetic Gain Under Rising Drought and Heat Stress Using Breeding Approaches and Modern Technologies. , 2022, , 1-25.		2