Fucang Zhang

List of Publications by Year
in descending order

103 papers	5,189 citations	94433 37 h-index	98798 67 g-index
104 all docs	104 docs citations	104 times ranked	3048 citing authors

#	Article	IF	Citations
1	Comparison of Support Vector Machine and Extreme Gradient Boosting for predicting daily global solar radiation using temperature and precipitation in humid subtropical climates: A case study in China. Energy Conversion and Management, 2018, 164, 102-111.	9.2	396
2	Evaluation of SVM, ELM and four tree-based ensemble models for predicting daily reference evapotranspiration using limited meteorological data in different climates of China. Agricultural and Forest Meteorology, 2018, 263, 225-241.	4.8	327
3	Empirical and machine learning models for predicting daily global solar radiation from sunshine duration: A review and case study in China. Renewable and Sustainable Energy Reviews, 2019, 100, 186-212.	16.4	207
4	The Effects of Mulch and Nitrogen Fertilizer on the Soil Environment of Crop Plants. Advances in Agronomy, 2019, , 121-173.	5.2	168
5	Light Gradient Boosting Machine: An efficient soft computing model for estimating daily reference evapotranspiration with local and external meteorological data. Agricultural Water Management, 2019, 225, 105758.	5.6	160
6	Coupling effects of water and fertilizer on yield, water and fertilizer use efficiency of drip-fertigated cotton in northern Xinjiang, China. Field Crops Research, 2018, 219, 169-179.	5.1	157
7	Climate change effects on reference crop evapotranspiration across different climatic zones of China during 1956–2015. Journal of Hydrology, 2016, 542, 923-937.	5.4	143
8	Hybrid support vector machines with heuristic algorithms for prediction of daily diffuse solar radiation in air-polluted regions. Renewable Energy, 2020, 145, 2034-2045.	8.9	129
9	Evaluation and development of empirical models for estimating daily and monthly mean daily diffuse horizontal solar radiation for different climatic regions of China. Renewable and Sustainable Energy Reviews, 2019, 105, 168-186.	16.4	119
10	New combined models for estimating daily global solar radiation based on sunshine duration in humid regions: A case study in South China. Energy Conversion and Management, 2018, 156, 618-625.	9.2	116
11	Evaluation and development of temperature-based empirical models for estimating daily global solar radiation in humid regions. Energy, 2018, 144, 903-914.	8.8	115
12	Optimization of drip irrigation and fertilization regimes for high grain yield, crop water productivity and economic benefits of spring maize in Northwest China. Agricultural Water Management, 2020, 230, 105986.	5.6	102
13	Estimation of daily maize transpiration using support vector machines, extreme gradient boosting, artificial and deep neural networks models. Agricultural Water Management, 2021, 245, 106547.	5.6	100
14	Daily reference evapotranspiration prediction based on hybridized extreme learning machine model with bio-inspired optimization algorithms: Application in contrasting climates of China. Journal of Hydrology, 2019, 577, 123960.	5.4	99
15	Potential of kernel-based nonlinear extension of Arps decline model and gradient boosting with categorical features support for predicting daily global solar radiation in humid regions. Energy Conversion and Management, 2019, 183, 280-295.	9.2	95
16	Rainfall partitioning into throughfall, stemflow and interception loss by maize canopy on the semi-arid Loess Plateau of China. Agricultural Water Management, 2018, 195, 25-36.	5.6	91
17	Daily pan evaporation modeling from local and cross-station data using three tree-based machine learning models. Journal of Hydrology, 2018, 566, 668-684.	5.4	86
18	Multi-objective optimization of water and fertilizer management for potato production in sandy areas of northern China based on TOPSIS. Field Crops Research, 2019, 240, 55-68.	5.1	85

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19	Evaluating the effect of air pollution on global and diffuse solar radiation prediction using support vector machine modeling based on sunshine duration and air temperature. Renewable and Sustainable Energy Reviews, 2018, 94, 732-747.	16.4	83
20	Effects of water and fertilizer management on grain filling characteristics, grain weight and productivity of drip-fertigated winter wheat. Agricultural Water Management, 2019, 213, 983-995.	5.6	79
21	Optimizing biochar application to improve soil physical and hydraulic properties in saline-alkali soils. Science of the Total Environment, 2021, 771, 144802.	8.0	76
22	Determining irrigation amount and fertilization rate to simultaneously optimize grain yield, grain nitrogen accumulation and economic benefit of drip-fertigated spring maize in northwest China. Agricultural Water Management, 2021, 243, 106440.	5.6	74
23	Optimal drip fertigation management improves yield, quality, water and nitrogen use efficiency of greenhouse cucumber. Scientia Horticulturae, 2019, 243, 357-366.	3.6	73
24	Nitrogen fertilizer management effects on soil nitrate leaching, grain yield and economic benefit of summer maize in Northwest China. Agricultural Water Management, 2021, 247, 106739.	5.6	72
25	Benefits of CO_2 enrichment on crop plants are modified by soil water status. Plant and Soil, 2002, 238, 69-77.	3.7	68
26	Effects of plastic mulch and nitrogen fertilizer on the soil microbial community, enzymatic activity and yield performance in a dryland maize cropping system. European Journal of Soil Science, 2021, 72, 400-412.	3.9	67
27	Interactive effects of mulching practice and nitrogen rate on grain yield, water productivity, fertilizer use efficiency and greenhouse gas emissions of rainfed summer maize in northwest China. Agricultural Water Management, 2021, 248, 106778.	5.6	65
28	Mulching mode and planting density affect canopy interception loss of rainfall and water use efficiency of dryland maize on the Loess Plateau of China. Journal of Arid Land, 2018, 10, 794-808.	2.3	59
29	Predicting daily diffuse horizontal solar radiation in various climatic regions of China using support vector machine and tree-based soft computing models with local and extrinsic climatic data. Journal of Cleaner Production, 2020, 248, 119264.	9.3	57
30	Blending urea and slow-release nitrogen fertilizer increases dryland maize yield and nitrogen use efficiency while mitigating ammonia volatilization. Science of the Total Environment, 2021, 790, 148058.	8.0	54
31	Responses of growth, fruit yield, quality and water productivity of greenhouse tomato to deficit drip irrigation. Scientia Horticulturae, 2021, 275, 109710.	3.6	53
32	Water-use efficiency and physiological responses of maize under partial root-zone irrigation. Agricultural Water Management, 2010, 97, 1156-1164.	5.6	52
33	Simulation of cotton growth and soil water content under film-mulched drip irrigation using modified CSM-CROPGRO-cotton model. Agricultural Water Management, 2019, 218, 124-138.	5.6	52
34	Effects of alternate partial root-zone irrigation on soil microorganism and maize growth. Plant and Soil, 2008, 302, 45-52.	3.7	49
35	Evapotranspiration partitioning and water productivity of rainfed maize under contrasting mulching conditions in Northwest China. Agricultural Water Management, 2021, 243, 106473.	5.6	49
36	Throughfall and stemflow heterogeneity under the maize canopy and its effect on soil water distribution at the row scale. Science of the Total Environment, 2019, 660, 1367-1382.	8.0	44

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37	Maize yield, rainwater and nitrogen use efficiency as affected by maize genotypes and nitrogen rates on the Loess Plateau of China. Agricultural Water Management, 2019, 213, 996-1003.	5.6	40
38	Dynamic change and accumulation of grain macronutrient (N, P and K) concentrations in winter wheat under different drip fertigation regimes. Field Crops Research, 2020, 250, 107767.	5.1	40
39	Wheat straw mulching with nitrification inhibitor application improves grain yield and economic benefit while mitigating gaseous emissions from a dryland maize field in northwest China. Field Crops Research, 2021, 265, 108125.	5.1	40
40	Optimization of water and fertilizer management improves yield, water, nitrogen, phosphorus and potassium uptake and use efficiency of cotton under drip fertigation. Agricultural Water Management, 2021, 245, 106662.	5.6	38
41	Grain yield and greenhouse gas emissions from maize and wheat fields under plastic film and straw mulching: A meta-analysis. Field Crops Research, 2021, 270, 108210.	5.1	38
42	A simulation model of water dynamics in winter wheat field and its application in a semiarid region. Agricultural Water Management, 2001, 49, 115-129.	5.6	35
43	A global meta-analysis of yield and water use efficiency of crops, vegetables and fruits under full, deficit and alternate partial root-zone irrigation. Agricultural Water Management, 2021, 248, 106771.	5.6	35
44	Crop yield and water productivity under salty water irrigation: A global meta-analysis. Agricultural Water Management, 2021, 256, 107105.	5.6	35
45	Optimization of irrigation amount and fertilization rate of drip-fertigated potato based on Analytic Hierarchy Process and Fuzzy Comprehensive Evaluation methods. Agricultural Water Management, 2021, 256, 107130.	5.6	34
46	Effects of plant density, nitrogen rate and supplemental irrigation on photosynthesis, root growth, seed yield and water-nitrogen use efficiency of soybean under ridge-furrow plastic mulching. Agricultural Water Management, 2022, 268, 107688.	5.6	34
47	Effect of different drip irrigation methods and fertilization on growth, physiology and water use of young apple tree. Scientia Horticulturae, 2011, 129, 119-126.	3.6	33
48	Evaluation of Drip Fertigation Uniformity Affected by Injector Type, Pressure Difference and Lateral Layout. Irrigation and Drainage, 2017, 66, 520-529.	1.7	33
49	Effects of nitrogen supply on tomato yield, water use efficiency and fruit quality: A global meta-analysis. Scientia Horticulturae, 2021, 290, 110553.	3.6	33
50	Ridge-furrow plastic mulching with a suitable planting density enhances rainwater productivity, grain yield and economic benefit of rainfed maize. Journal of Arid Land, 2020, 12, 181-198.	2.3	32
51	Effects of Soil Water Deficit at Different Growth Stages on Maize Growth, Yield, and Water Use Efficiency under Alternate Partial Root-Zone Irrigation. Water (Switzerland), 2021, 13, 148.	2.7	32
52	Combined effects of irrigation level and fertilization practice on yield, economic benefit and water-nitrogen use efficiency of drip-irrigated greenhouse tomato. Agricultural Water Management, 2022, 262, 107401.	5.6	31
53	Yield and water productivity of crops, vegetables and fruits under subsurface drip irrigation: A global meta-analysis. Agricultural Water Management, 2022, 269, 107645.	5.6	31
54	Effects of farming practices on yield and crop water productivity of wheat, maize and potato in China: A meta-analysis. Agricultural Water Management, 2021, 243, 106444.	5.6	30

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55	Water productivity and seed cotton yield in response to deficit irrigation: A global meta-analysis. Agricultural Water Management, 2021, 255, 107027.	5.6	30
56	A sustainable strategy of managing irrigation based on water productivity and residual soil nitrate in a no-tillage maize system. Journal of Cleaner Production, 2020, 262, 121279.	9.3	29
57	Optimal irrigation amount and nitrogen rate improved seed cotton yield while maintaining fiber quality of drip-fertigated cotton in northwest China. Industrial Crops and Products, 2021, 170, 113710.	5.2	29
58	Hydraulic conductivity and water-use efficiency of young pear tree under alternate drip irrigation. Agricultural Water Management, 2013, 119, 80-88.	5.6	28
59	Responses of yield, quality and water-nitrogen use efficiency of greenhouse sweet pepper to different drip fertigation regimes in Northwest China. Agricultural Water Management, 2022, 260, 107279.	5.6	28
60	Optimizing irrigation amount and potassium rate to simultaneously improve tuber yield, water productivity and plant potassium accumulation of drip-fertigated potato in northwest China. Agricultural Water Management, 2022, 264, 107493.	5.6	28
61	Nitrogen Fertilization on Uptake of Soil Inorganic Phosphorus Fractions in the Wheat Root Zone. Soil Science Society of America Journal, 2004, 68, 1890-1895.	2.2	26
62	Medium-range forecasting of daily reference evapotranspiration across China using numerical weather prediction outputs downscaled by extreme gradient boosting. Journal of Hydrology, 2021, 601, 126664.	5.4	26
63	Effects of shallow water table on capillary contribution, evapotranspiration, and crop coefficient of maize and winter wheat in a semi-arid region. Australian Journal of Agricultural Research, 2001, 52, 317.	1.5	25
64	Estimation of rainfed maize transpiration under various mulching methods using modified Jarvis-Stewart model and hybrid support vector machine model with whale optimization algorithm. Agricultural Water Management, 2021, 249, 106799.	5.6	25
65	Evaluation of cotton N nutrition status based on critical N dilution curve, N uptake and residual under different drip fertigation regimes in Southern Xinjiang of China. Agricultural Water Management, 2021, 256, 107134.	5.6	24
66	Optimizing irrigation amount and fertilization rate of drip-fertigated spring maize in northwest China based on multi-level fuzzy comprehensive evaluation model. Agricultural Water Management, 2021, 257, 107157.	5.6	24
67	Response of yield, yield components and water-nitrogen use efficiency of winter wheat to different drip fertigation regimes in Northwest China. Agricultural Water Management, 2021, 255, 107034.	5.6	23
68	Spatiotemporal trends of temperature and precipitation extremes across contrasting climatic zones of China during 1956–2015. Theoretical and Applied Climatology, 2019, 138, 1877-1897.	2.8	22
69	Determining water use and crop coefficients of drip-irrigated cotton in south Xinjiang of China under various irrigation amounts. Industrial Crops and Products, 2022, 176, 114376.	5.2	21
70	Coupling effects of irrigation amount and nitrogen fertilizer type on grain yield, water productivity and nitrogen use efficiency of drip-irrigated maize. Agricultural Water Management, 2022, 261, 107389.	5.6	21
71	Ridge-furrow plastic film mulching enhances grain yield and yield stability of rainfed maize by improving resources capture and use efficiency in a semi-humid drought-prone region. Agricultural Water Management, 2022, 269, 107654.	5.6	21
72	Estimating Temperature Effects on Water Flow in Variably Saturated Soils using Activation Energy. Soil Science Society of America Journal, 2003, 67, 1327-1333.	2.2	17

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73	Maize leaf functional responses to blending urea and slow-release nitrogen fertilizer under various drip irrigation regimes. Agricultural Water Management, 2022, 262, 107396.	5.6	16
74	Interactive effects of plant density and nitrogen rate on grain yield, economic benefit, water productivity and nitrogen use efficiency of drip-fertigated maize in northwest China. Agricultural Water Management, 2022, 263, 107453.	5.6	16
75	Optimization of drip irrigation and fertilization regimes to enhance winter wheat grain yield by improving post-anthesis dry matter accumulation and translocation in northwest China. Agricultural Water Management, 2022, 271, 107782.	5.6	16
76	Combined effects of urea type and placement depth on grain yield, water productivity and nitrogen use efficiency of rain-fed spring maize in northern China. Agricultural Water Management, 2022, 262, 107442.	5.6	15
77	Spatial distribution and variability of soil salinity in film-mulched cotton fields under various drip irrigation regimes in southern Xinjiang of China. Soil and Tillage Research, 2022, 223, 105470.	5.6	15
78	Interactive Effects of Water and Fertilizer on Yield, Soil Water and Nitrate Dynamics of Young Apple Tree in Semiarid Region of Northwest China. Agronomy, 2019, 9, 360.	3.0	13
79	Effect of Irrigation Level and Irrigation Frequency on the Growth of Mini Chinese Cabbage and Residual Soil Nitrate Nitrogen. Sustainability, 2019, 11, 111.	3.2	13
80	Modification of CSM-CROPGRO-Cotton model for simulating cotton growth and yield under various deficit irrigation strategies. Computers and Electronics in Agriculture, 2020, 179, 105843.	7.7	13
81	Optimization of irrigation and nitrogen fertilization increases ash salt accumulation and ions absorption of drip-fertigated sugar beet in saline-alkali soils. Field Crops Research, 2021, 271, 108247.	5.1	13
82	Combined effects of ridgeâ€"furrow ratio and urea type on grain yield and water productivity of rainfed winter wheat on the Loess Plateau of China. Agricultural Water Management, 2022, 261, 107340.	5.6	13
83	Combined application of soluble organic and chemical fertilizers in drip fertigation improves nitrogen use efficiency and enhances tomato yield and quality. Journal of the Science of Food and Agriculture, 2020, 100, 5422-5433.	3.5	12
84	Alternate Application of Osmotic and Nitrogen Stresses to Partial Root System: Effects on Root Growth and Nitrogen Use Efficiency. Journal of Plant Nutrition, 2006, 29, 2079-2092.	1.9	11
85	Interactive effects of irrigation frequency and nitrogen addition on growth and water use of Jatropha curcas. Biomass and Bioenergy, 2013, 59, 234-242.	5.7	11
86	Salt Leaching with Brackish Water during Growing Season Improves Cotton Growth and Productivity, Water Use Efficiency and Soil Sustainability in Southern Xinjiang. Water (Switzerland), 2021, 13, 2602.	2.7	9
87	Sustainable high grain yield, nitrogen use efficiency and water productivity can be achieved in wheat-maize rotation system by changing irrigation and fertilization strategy. Agricultural Water Management, 2021, 258, 107177.	5.6	9
88	Source-sink relationship and yield stability of two maize cultivars in response to water and fertilizer inputs in northwest China. Agricultural Water Management, 2022, 262, 107332.	5.6	9
89	Deep placement of mixed controlled-release and conventional urea improves grain yield, nitrogen use efficiency of rainfed spring maize. Archives of Agronomy and Soil Science, 2020, , 1-11.	2.6	8
90	Response Mechanism of Cotton Growth to Water and Nutrients under Drip Irrigation with Plastic Mulch in Southern Xinjiang. Journal of Sensors, 2020, 2020, 1-16.	1.1	8

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91	Quantifying grain yield, protein, nutrient uptake and utilization of winter wheat under various drip fertigation regimes. Agricultural Water Management, 2022, 261, 107380.	5.6	8
92	Quantifying source-sink relationships of drip-fertigated potato under various water and potassium supplies. Field Crops Research, 2022, 285, 108604.	5.1	8
93	Severity and duration of osmotic stress on partial root system: effects on root hydraulic conductance and root growth. Plant Growth Regulation, 2016, 79, 177-186.	3.4	7
94	The root nitrogen uptake response to partial nitrogen stress is related to previous nutritional status. Plant Growth Regulation, 2019, 87, 55-67.	3.4	7
95	Nitrogen application affects grain yield by altering the soil moisture and nitrateâ€N of maize/wheat cropping system in dryland areas of northwest China*. Irrigation and Drainage, 2021, 70, 16-26.	1.7	7
96	Effects of nitrogen type on rainfed maize nutrient uptake and grain yield. Agronomy Journal, 2021, 113, 5454-5471.	1.8	7
97	Quantifying nutrient stoichiometry and radiation use efficiency of two maize cultivars under various water and fertilizer management practices in northwest China. Agricultural Water Management, 2022, 271, 107772.	5.6	7
98	Growth, grain yield, water and nitrogen use efficiency of rainfed maize in response to straw mulching and urea blended with slow-release nitrogen fertilizer: A two-year field study. Archives of Agronomy and Soil Science, 2022, 68, 1554-1567.	2.6	6
99	Splitting and Length of Years for Improving Tree-Based Models to Predict Reference Crop Evapotranspiration in the Humid Regions of China. Water (Switzerland), 2021, 13, 3478.	2.7	5
100	Effects of Soil Water Regulation on the Cotton Yield, Fiber Quality and Soil Salt Accumulation under Mulched Drip Irrigation in Southern Xinjiang, China. Agronomy, 2022, 12, 1246.	3.0	5
101	Optimization of Controlled Water and Nitrogen Fertigation on Greenhouse Culture of *Capsicum annuum*. Scientific World Journal, The, 2018, 2018, 1-11.	2.1	4
102	Synchronizing nitrogen supply and uptake by rainfed maize using mixed urea and slow-release nitrogen fertilizer. Nutrient Cycling in Agroecosystems, 2022, 122, 157-171.	2.2	4
103	Ridge-furrow plastic mulching with a suitable planting density enhances rainwater productivity, grain yield and economic benefit of rainfed maize. Journal of Arid Land, 2019, , 1.	2.3	2