

Electronic Supplementary Materials

<https://doi.org/10.1631/jzus.B2000386>

Table S1 Articles about hydrogen agronomy

No.	Article name	Year
1	Alleviation of copper toxicity in daphnia magna by hydrogen nanobubble water	2020
2	The role and proteomic analysis of ethylene in hydrogen gas-induced adventitious rooting development in cucumber (<i>Cucumis sativus</i> L.) explants	2020
3	Hydrogen gas alleviates postharvest senescence of cut rose 'Movie star' by antagonizing ethylene	2020
4	Transcriptome analysis reveals insight into molecular hydrogen-induced cadmium tolerance in alfalfa: the prominent role of sulfur and (homo)glutathione metabolism	2020
5	Calcium-dependent hydrogen peroxide mediates hydrogen-rich water-reduced cadmium uptake in plant roots	2020
6	Protective role of hydrogen gas on oxidative damage and apoptosis in Intestinal porcine epithelial cells (IPEC-J2) induced by deoxynivalenol: A preliminary study	2020
7	Hydrogen biology: It is just beginning	2019
8	Supplementation with hydrogen-producing composition confers beneficial effects on physiology and life span in drosophila	2019
9	Omics application of bio-hydrogen production through green alga <i>chlamydomonas reinhardtii</i>	2019
10	Nitrite accumulation during storage of tomato fruit as prevented by hydrogen gas	2019

11	Morphological and molecular response of small intestine to lactulose and hydrogen rich water in female piglets fed Fusarium mycotoxins contaminated diet	2019
12	hydrogen-rich saline protects against hepatic injury induced by ischemia-reperfusion and laparoscopic hepatectomy in swine	2019
13	Hydrogen gas alleviates toxic effects of cadmium in Brassica campestris seedlings through up-regulation of the antioxidant capacities: Possible involvement of nitric oxide	2019
14	Enhanced anthocyanin accumulation of immature radish microgreens by hydrogen-rich water under short wavelength light	2019
15	Endogenous hydrogen gas delays petal senescence and extends the vase life of lisianthus cut flowers	2019
16	Effects of hydrogen-rich water on the nutrient composition and antioxidative characteristics of sprouted black barley	2019
17	Corn oil supplementation enhances hydrogen use for biohydrogenation, inhibits methanogenesis, and alters fermentation pathways and the microbial community in the rumen of goats	2019
18	Molecular hydrogen, a neglected key driver of soil biogeochemical processes	2019
19	Hydrogen gas promotes the adventitious rooting in cucumber under cadmium stress	2019
20	Research progress in the botanical effects of hydrogen gas	2018
21	Transcriptome analysis of radish sprouts hypocotyls reveals the regulatory role of hydrogen-rich water in anthocyanin biosynthesis under UV-A	2018
22	Roles of hydrogen gas in plants: a review	2018
23	Increased cytosolic calcium contributes to hydrogen-rich water-promoted anthocyanin biosynthesis under UV-A irradiation in radish sprouts hypocotyls	2018

24	Hydrogen-rich water and lactulose protect against growth suppression and oxidative stress in female piglets fed fusarium toxins contaminated diets	2018
25	Hydrogen gas prolongs the shelf life of kiwifruit by decreasing ethylene biosynthesis	2018
26	Comparative proteomic analysis during the involvement of nitric oxide in hydrogen gas-improved postharvest freshness in cut lilies	2018
27	Hydrogen-induced osmotic tolerance is associated with nitric oxide-mediated proline accumulation and reestablishment of redox balance in alfalfa seedlings	2018
28	Lactulose and hydrogen-rich water protect against fusarium mycotoxin-induced intestinal injury in female piglets	2018
29	Two-year microbial adaptation during hydrogen-mediated biogas upgrading process in a serial reactor configuration	2018
30	Bioconversion of carbon dioxide to methane using hydrogen and hydrogenotrophic methanogens	2018
31	Transcriptome analysis of the responses involved in the regulation of cadmium stress by exogenous hydrogen in rice (<i>Oryza sativa</i>)	2018
32	The metabolic constituent and rooting-related enzymes responses of marigold explants to hydrogen gas during adventitious root development	2017
33	Proteomic analysis provides insights into the molecular bases of hydrogen gas-induced cadmium resistance in <i>Medicago sativa</i>	2017
34	Molecular hydrogen generated by elemental magnesium supplementation alters rumen fermentation and microbiota in goats	2017
35	Linking hydrogen-enhanced rice aluminum tolerance with the reestablishment of GA/ABA balance and miRNA-modulated gene expression: A case study on germination	2017
36	Hydrogen-rich water pretreatment alters photosynthetic gas exchange, chlorophyll fluorescence, and antioxidant activities in heat-stressed cucumber leaves	2017

37	Hydrogen-rich water alleviates the toxicities of different stresses to mycelial growth in <i>Hypsizygus marmoreus</i>	2017
38	Hydrogen Inhalation Protects against ototoxicity Induced by Intravenous cisplatin in the guinea pig	2017
39	Hydrogen gas Is involved in auxin-induced lateral root formation by modulating nitric oxide synthesis	2017
40	Effects of hydrogen-rich water treatment on defense responses of postharvest tomato fruit to <i>botrytis cinerea</i>	2017
41	Effects of hydrogen-rich water on fitness parameters of rice plants	2017
42	Effect of hydrogen-rich water on vase life and quality in cut lily and rose flowers	2017
43	Carbon monoxide is involved in hydrogen gas-induced adventitious root development in cucumber under simulated drought stress	2017
44	Hydrogen-rich water regulates effects of ROS balance on morphology, growth and secondary metabolism via glutathione peroxidase in <i>Ganoderma lucidum</i>	2016
45	Involvement of hydrogen peroxide and heme oxygenase-1 in hydrogen gas-induced osmotic stress tolerance in alfalfa	2016
46	Nitric oxide is involved in hydrogen gas-induced cell cycle activation during adventitious root formation in cucumber	2016
47	Nitric oxide is required for hydrogen gas-induced adventitious root formation in cucumber	2016
48	Effect of hydrogen-rich water concentration on rooting of <i>nepenthes</i>	2016
49	Improving cyanobacterail O ₂ -tolerance using CBS hydrogenase for hydrogen production	2016
50	Effects of different concentrations of hydrogen-rich water on physiological characteristics of sweet potato under salt stress	2016

51	Effects of hydrogen-rich water on plant growth and its application prospect in sprout seedling production	2016
52	Molecular hydrogen can take part in phytohormone signal pathways in wild rice	2016
53	Subseafloor microbial communities in hydrogen-rich vent fluids from hydrothermal systems along the mid-cayman rise	2016
54	Deletion of a gene cluster for [Ni-Fe] hydrogenase maturation in the anaerobic hyperthermophilic bacterium <i>Caldicellulosiruptor bescii</i> identifies its role in hydrogen metabolism	2016
55	Atmospheric H ₂ fuels plant–microbe interactions	2016
56	Dinitrogenase-Driven Photobiological Hydrogen Production Combats Oxidative Stress in <i>Cyanothece</i> sp. Strain ATCC 51142	2016
57	Hydrogen-rich water enhances cadmium tolerance in Chinese cabbage by reducing cadmium uptake and increasing antioxidant capacities	2015
58	Hydrogen-rich water-alleviated ultraviolet-B-triggered oxidative damage is partially associated with the manipulation of the metabolism of (iso)flavonoids and antioxidant defence in <i>Medicago sativa</i>	2015
59	Simultaneous oral and inhalational intake of molecular hydrogen additively suppresses signaling pathways in rodents	2015
60	Protective effects of hydrogen-rich water on the photosynthetic apparatus of maize seedlings (<i>Zea mays</i> L.) as a result of an increase in antioxidant enzyme activities under high light stress	2015
61	Effects of hydrogen-rich water pretreatment on vase life of carnation (<i>Dianthus caryophyllus</i>) Cut Flowers	2015
62	Beneficial biological effects and the underlying mechanisms of molecular hydrogen-comprehensive review of 321 original articles	2015
63	Shifts in metabolic hydrogen sinks in the methanogenesis-inhibited ruminal fermentation: a meta-analysis	2015
64	Biogas upgrading by injection of hydrogen in a two-stage continuous stirred-tank reactor system	2015

65	Improvement of hydrogen production by reduction of the photosynthetic oxygen in microalgae cultures of <i>chlamydomonas gloeopara</i> and <i>scenedesmus obliquus</i>	2015
66	Reactive oxygen species-dependent nitric oxide production contributes to hydrogen-promoted stomatal closure in <i>Arabidopsis</i>	2014
67	Hydrogen-rich water regulates cucumber adventitious root development in a heme oxygenase-1/carbon monoxide-dependent manner	2014
68	Hydrogen-rich water alleviates aluminum-induced inhibition of root elongation in alfalfa via decreasing nitric oxide production	2014
69	Hydrogen-rich water confers plant tolerance to mercury toxicity in alfalfa seedlings	2014
70	Hydrogen-rich water delays postharvest ripening and senescence of kiwifruit	2014
71	Hydrogen-rich water reestablishes ROS homeostasis but exerts differential effects on anthocyanin synthesis in two varieties of radish sprouts under UV-A irradiation	2014
72	Alleviation of cadmium toxicity in <i>Medicago sativa</i> by hydrogen-rich water	2013
73	Hydrogen gas acts as a novel bioactive molecule in enhancing plant tolerance to paraquat induced oxidative stress via the modulation of heme oxygenase-1 signalling system	2013
74	Molecular hydrogen is involved in phytohormone signaling and stress responses in plants	2013
75	Effect of hydrogen and carbon dioxide on carboxylic acids patterns in mixed culture fermentation	2012
76	H ₂ enhances arabidopsis salt tolerance by manipulating ZAT10/12-mediated antioxidant defence and controlling sodium exclusion	2012
