

Jia Haifeng



Areas of Research

Fruit development and ripening regulation, Fruit postharvest preservation and disease resistance.

Contact Information

Office location: Room B2021 Life Science Building, Nanjing Agricultural University, Weigang No1, Xuanwu, Nanjing

Office phone: 15850581806

Lab location: Room B2020 Life Science Building

Email address: jjiahaifeng@njau.edu.cn

Research Interests

Abscisic acid regulates non-climacteric fruit ripening process

My research mainly focused on abscisic acid and sucrose involved in the regulation of non-climacteric fruit development and ripening using grape and strawberry fruit as the objects. The key research results include: (1) Molecular mechanism of abscisic acid regulating non-climacteric fruit was established, and its core role in the ripening process of non-climacteric fruit was identified; (2) Positive regulatory role of abscisic acid receptor PYR1 in fruit development was identified, and PYR1 was proved to be ABA receptor in fruit; (3) ABA signal pathway components of ABA-PYR-PP2C-SnRK in fruit were revealed; (4) Sucrose could not only be used as a carbon source to improve fruit quality, but also as a signal component to regulate fruit ripening process. The regulatory effects could be divided into ABA dependent and ABA independent pathways; (5) Sucrose and abscisic acid mediated ASR to regulate fruit ripening. Jasmonic acid can promote fruit ripening by regulating cell wall and pigment metabolism. (6) The molecular mechanism of sucrose synthase regulating fruit development was revealed. A total of 25 SCI papers have been published, with a total of more than 500 citations, including 5 SCI papers published in mainstream academic journals such as Plant physiology, New physiology, Plant biotechnology journal, Journal of empirical botany, etc.

Education Background

Bachelor: Zhengzhou University of light industry

Master: Beijing University of Agriculture

Doctor: China Agricultural University

Work experience

Lecturer, Chiba University, 2016-2017

Lecturer, Nanjing Agricultural University, 2014-2016

Associate Professor, Nanjing Agricultural University, 2017-

Honors and Awards

Zhongshan Academic Rookie

Jiangsu Outstanding Youth Funding

Outstanding Class Teacher

Selected Publication

Zibo Zhang¹, Pengcheng Zhao¹, Peian Zhang, Lingyun Su, Haoran Jia, Xinke Wei, Jinggui Fang*, **Haifeng Jia*** Integrative transcriptomics and metabolomics data exploring the effect of chitosan on postharvest grape resistance to *Botrytis cinerea*. **Postharvest Biology and Technology** 167 (2020) 111248

Haoran Jia, Zibo Zhang, Saihang Zhang, Weihong Fu, Lingyun Su, Jinggui Fang,* and **Haifeng Jia*** Effect of the Methylation Level on the Grape Fruit Development Process. **J. Agric. Food Chem.** 2020, 68, 2099-2115

Zhang Peian¹, **Jia Haifeng***,¹, Gong Peijie, Ehsan Sadeghnezhad, Pang Qianqian, Dong Tianyu, Li Teng, Jin Huanchun, Fang Jinggui* Chitosan induces jasmonic acid production leading to resistance of ripened fruit against *Botrytis cinerea* infection. **Food Chemistry** 337 (2021) 127772 <https://doi.org/10.1016/j.foodchem.2020.127772>

Haifeng Jia, Songtao Jiu, Cheng Zhang, Chen Wang, Pervaiz Tariq, Zhongjie Liu, Baoju Wang, Liwen Cui, Jinggui Fang*. Abscisic acid and sucrose regulate tomato and strawberry fruit ripening through the abscisic acid-stress-ripening transcription factor. **Plant Biotechnology Journal**, 2016, 14(10): 2045–2065.

Haifeng Jia*, Cheng Zhang, Tariq Pervaiz, Pengcheng Zhao, Zhongjie Liu, Baoju Wang, Chen Wang, Lin Zhang, Jinggui Fang*, Jianpu Qian. Jasmonic acid involves in grape fruit ripening and resistant against *Botrytis cinerea*. **Functional & Integrative Genomics**, 2016, 16(1): 79–94.

Haifeng Jia, Yuanhua Wang, Mingzhu Sun, Bingbing Li, Yu Han, Yanxia Zhao, Xingliang Li, Ning Ding, Chen Li, Wenlong Ji, Wensuo Jia*. Sucrose functions as a signal involved in the regulation of strawberry fruit development and ripening. **New Phytologist**, 2013, 198(2): 453-456.

Haifeng Jia, Dong Lu, Chunli Li, Yu Xing, Yuanyue Shen*. Type 2C protein phosphatase ABI1 is a negative regulator of strawberry fruit ripening. **Journal of Experimental Botany**, 2013, 64(6): 1677-1687.

Fei Jiang[#], Jiayi Wang[#], **Haifeng Jia**[#], Wensuo Jia, Hongqing Wang*, Min Xiao. RNAi-mediated silencing of the flavanone 3-hydroxylase gene and its effect on flavonoid biosynthesis in strawberry fruit. **Journal of Plant Growth Regulation**, 2012, 32(1), 182-190.

Haifeng Jia, Yemao Chai, Chunli Li, Dong Lu, Jingjing Luo, Ling Qin, Yuanyue Shen*. Abscisic acid plays an important role in the regulation of strawberry fruit ripening. **Plant Physiology**, 2011, 157(1): 188-199.

Yemao Chai, **Haifeng Jia**, Chunli Li, Qinghua Dong, Yuanyue Shen *. FaPYR1 is involved in strawberry fruit ripening. **Journal of Experimental botany**, 2011, 62(14): 5079-5089
