Fang Wanping

Areas of Research

Cultivation and breeding of tea plant, resistance breeding and tree crown management of tea plant, ecological construction of tea gardens.

Contact Information

Office location: Room 203, The No.3 experimental building, Nanjing Agricultural University
Office phone： 13512504245
Lab location： Room B1027, Life Science Building, Nanjing Agricultural University
Email address： fangwp@njau.edu.cn

Research Interests

Cultivation and breeding of tea plant, resistance breeding and tree crown management of tea plant.
Ecological construction of tea gardens.

Our team has made certain achievements in three aspects and has a good influence in tea science: the molecular mechanisms of tea plant stress response and the creation of excellent tea plant germplasm, the high-efficiency cultivation system of tea tree varieties and the identification of germplasm resources and varieties.
We have established an index evaluation system for cold resistance and drought resistance of tea plant, revealed the interaction mechanism between microRNA and target genes of tea plant and the molecular mechanism of cold resistance traits, and identified 3 excellent germplasms and 5 genes.
Based on metabonomics analysis, we compared the metabolic differences of two purple tea plant varieties, Zijuan and Zichan. The results showed that there are different mechanisms for the color change of purple tea plant varieties, which provides a basis for further research on the molecular mechanism of leaf color changes of purple germplasm resources. In cooperation with the United States Department of Agriculture (USDA), a precise variety identification system for cocoa, coffee and tea was established.
We developed a special SNP molecular marker for tea plant, and conducted a preliminary study on genetic background of germplasm resources of tea plant regions in the world and main varieties in China.

Education Background

Bachelor：Tea Department, Anhui Agricultural University
Doctor：Key laboratory of tea biochemistry and biotechnology, Anhui Agricultural University

Work experience

Lecturer in Nanjing Agricultural University, 2006.06- 2008.12
Associate Professor in Nanjing Agricultural University, 2009.01-2014.12
Visiting Scholar in United States Department of Agriculture, 2013.07-2014.07
Professor in Nanjing Agricultural University, 2015.01-

Honors and Awards

The Fourth national excellent tea scientific and technological workers
Qinglan Project middle-aged and young science leaders of College and Universities
The national excellent tea scientific and technological female workers
"133 Key Talents Project" prominent teacher of Nanjing Agricultural University
The award and grants for teacher of Nanjing Agricultural University
Excellent Educational Managers of Nanjing Agricultural University

Selected Publication

Shen Jiazhi, Zou Zhongwei, Zhang Xuzhou, Zhou Lin, Wang Yuhua, Fang Wanping* (corresponding author), Zhu Xujun* (2018). Metabolic analyses reveal different mechanisms of leaf color change in two purple-leaf tea plant (Camellia sinensis L.) cultivars. Horticulture Research, 5:7.

Li Lei, Wen Bo, Zhang Xiaolei, Zhao Yue, Duan Yu, Song Xiangfei, Ren Shuang, Wang Yuhua, Fang Wanping* (corresponding author), Zhu Xujun* (2018). Geographical origin traceability of tea based on multi-element spatial distribution and the relationship with soil in district scale. Food Control, 90: 18-28.

Wen Bo, Li Lei,Duan, Yu,Zhang Yanyuan, Shen Jiazhi, Xia Min, Wang Yuhua Fang Wanping* (corresponding author), Zhu Xujun* (2018). Zn, Ni, Mn, Cr, Pb and Cu in soil-tea ecosystem: The concentrations, spatial relationship and potential control. Chemosphere, 204: 92-100.

Li Qinghui, Li Yue, Wu Xiayuan, Zhou Lin, Zhu Xujun*, Fang Wanping* (corresponding author)(2017). Metal transport protein 8 in Camellia sinensis confers superior manganese tolerance when expressed in yeast and Arabidopsis thaliana. Scientific

Reports, 7: 39915.

Yin Ying, Ma Qingping, Zhu Zixuan, Cui Qiaoyun, Chen Changsong, Chen Xuan, Fang Wanping* (corresponding author), Li Xinghui* (2016). Functional analysis of CsCBF3 transcription factor in tea plant (Camellia sinensis) under cold stress. Plant Growth Regulation, 80: 335-343.

Fang Wanping, Lynde W Meinhardt, Tan Huawei, Zhou Lin, Sue Mischke and Dapeng Zhang. Varietal identification of tea (Camellia sinensis) using nanofluidic array of single nucleotide polymorphism (SNP) markers. Horticulture Research (2014) 1, 14035; doi:10.1038/hortres.2014.35

Zhou Lin, Xu Hui, Sue Mischke, Lyndel W Meinhardt, Zhang Dapeng, Zhu Xujun, Li Xinghui and Fang Wanping * (corresponding author). Exogenous abscisic acid significantly affects proteome in tea plant (Camellia sinensis) exposed to drought stress. Horticulture Research (2014) 1, 14029; doi:10.1038/hortres.2014.29

Zhang Yue, Zhu Xujun, Chen Xuan, Song Changnian, Zou Zhongwei, Wang Yuhua, Wang Mingle, Fang Wanping* (corresponding author) and Xinghui Li. Identification and characterization of coldresponsive microRNAs in tea plant (Camellia sinensis) and their targets using high-throughput sequencing and degradome analysis. BMC Plant Biology 2014, 14:271

Fang Wanping, Lyndel W. Meinhardt, Sue Mischke, Cláudia M. Bellato, Lambert Motilal, and Zhang Dapeng. Accurate Determination of Genetic Identity for a Single Cacao Bean,Using Molecular Markers with a Nanofluidic System, Ensures Cocoa Authentication. Journal of Agricultural and Food Chemistry. 2014, 62, 481−487

Fang Wanping, Zhang Yue, Zhou Lin, Wang Weidong, Li Xinghui. Isolation and characterization of Histone1 gene and its promoter from tea plant (Camellia sinensis). Mol Biol Rep. DOI 10.1007/s11033-012-2439-5

Fang Wanping, Yang Lucheng, Zhu Xujun, Zeng Liang and Li Xinghui, Seasonal and Habitat Dependent Variations in Culturable Endophytes of Camellia sinensis, http://dx.doi.org/10.4172/2157-7471.1000169. J Plant Pathol Microb 2013, 4:3

Fang Wanping * (corresponding author), Zhang Yue, Zhou Lin, Wang Weidong, Li Xinghui. Isolation and characterization of Histone1 gene and its promoter from tea plant (*Camellia sinensis*). Mol Biol Rep,DOI 10.1007/s11033-012-2439-5, 2012

Fang Wanping, Cheng H, Duan Y S, Jiang X, Li Xinghui. Genetic diversity and relationship of clonal tea (Camellia sinensis) cultivars in China as revealed by SSR markers. Plant Syst Evol, 298: 469-483,2012

Fang Wanping, Wang Lipu, Yu Jun, Yue Pengxiang, Jiang Xin, Feng Weiying, Chen Y iqi, Li Xinghui. Studies on Optimum Conditions of Synthesizing Theaflavins by Using Bio-enzyme Method. Applied Mechanics and Materials. 138-139: 929-932,2012