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研究方向：果实品质形成遗传与分子机制

主要业绩

I. 教学工作

参讲本科生《园艺作物育种学》、《园艺学实验》，研究生《园艺专业英语》。

II. 科研工作

科研项目

- 国家自然科学基金委员会，面上项目，31772319，番茄果形调控基因fs8.1的图位克隆与功能分析，2018-01至2021-12，55万元，主持。
- 北京市自然科学基金委员会，面上项目，6182026，脱落酸调控番茄果实中番茄红素代谢的机理及其与乙烯互作的研究，2018-01 至2020-12，20万元，主持。
- 中华人民共和国科学技术部，国家重点研发计划，2017YFD0101903，优质多抗适应性强辣椒新品种培育，2017-07至2021-06，81万元，参加。

论文及著作

[1] Xiao, Kai; Chen, Jie; He, Qixiumei; Wang, Yixin; Shen, Huolin; Sun, Liang, DNA Methylation Involved in Pepper (*Capsicum annuum* L.) Fruit Ripening Regulation and Interacts with Phytohormones., *Journal of Experimental Botany*, 2020. 71(6): 1928-1942.

[2] Liu, Jinqiu; Ai, Xiyin; Wang, Yihao; Lu, Qiaohua; Li, Ting; Wu, Lang; Sun, Liang; Shen, Huolin, Fine mapping of the Ca3GTgene controlling anthocyanin biosynthesis in mature unripe fruit of *Capsicum annuum*L., *Theoretical and Applied Genetics*, 2020, 133(9): 2729-2742.

[3] Wu, Lang; Wang, Peng; Wang, Yihao; Cheng, Qing; Lu, Qiaohua; Liu, Jinqiu; Li, Ting; Ai, Yixin; Yang, Wencai; Sun, Liang; Shen, Huolin, Genome-Wide Correlation of 36 Agronomic Traits in the 287 Pepper (*Capsicum*) Accessions Obtained from the SLAF-seq-Based GWAS, *International Journal of Molecular Sciences*, 2019, 20(22): 5675.

[4] Cheng, Qing; Li, Ting; Ai, Yixin; Lu, Qiaohua; Wang, Yihao; Sun, Liang; Shen, Huolin, Complementary Transcriptomic and Proteomic Analysis Reveals a Complex Network Regulating Pollen Abortion in GMS (msc-1) Pepper (*Capsicum annuum* L.), *International Journal of Molecular Sciences*, 2019, 20(7): 1789.

[5] Wang Yanping; Clevenger Josh P; Illa Berenguer Eudald; Meulia Tea; van der Knaap Esther; Sun Liang, A Comparison of sun, ovate, fs8.1 and Auxin Application on Tomato Fruit Shape and Gene Expression., *Plant and Cell Physiology*, 2019. 60(5):1067-1081.

[6] Cheng Qing; Wang Peng; Liu Jinqiu; Wu Lang; Zhang Zongpeng; Li Tiantian; Gao Wenjiao; Yang Wencai; Sun Liang; Shen Huolin, Identification of candidate genes underlying genic male-sterile msc-1 locus via genome resequencing in *Capsicum annuum* L., *Theoretical and Applied Genetics*, 2018, 131(9): 1861-1872.

[7] Sun, Liang; Rodriguez, Gustavo R; Clevenger, Josh P; Illa-Berenguer, Eudald; Lin, Jinshan; Blakeslee, Joshua J; Liu, Wenli; Fei, Zhangjun; Wijeratne, Asela; Meulia, Tea; van der Knaap, Esther, Candidate gene selection and detailed morphological evaluations of fs8.1, a quantitative trait locus controlling tomato fruit shape., *Journal of Experimental Botany*, 2015, 66(20): 6471-6482.

[8] Sun, Liang; Sun, Yufei; Zhang, Mei; Wang, Ling; Ren, Jie; Cui, Mengmeng; Wang, Yanping; Ji, Kai; Li, Ping; Li, Qian; Chen, Pei; Dai, Shengjie; Duan, Chaorui; Wu, Yan; Leng, Ping, Suppression of 9-cis-epoxycarotenoid dioxygenase, which encodes a key enzyme in abscisic acid biosynthesis, alters fruit texture in transgenic tomato., *Plant Physiology*, 2012, 158(1): 283-298.

授权专利

[1]孙亮；陈婕；肖凯；何齐秀美.一种鉴定番茄果形的方法及其专用引物对. 发明专利，授权时间：2021年04月02日，专利号：ZL201810875931.4.

III. 奖励情况

冷平；任杰；孙亮；纪凯；李倩；孙宇飞；王艳萍；戴圣杰；陈佩；段朝瑞，植物激素脱落酸调控果实成熟的分子基础，中华人民共和国教育部，自然科学，省部二等奖，2014.

