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博士，研究员，博士生导师

海南省“领军人才”



教育经历

2006.9-2011.6 西北农林科技大学 果树学 农学博士

2003.9-2006.6 甘肃农业大学 果树学 农学硕士

1997.9-2001.7 甘肃农业大学 食品科学与工程 工学学士

工作及访学经历

2015.4-今 海南大学食品科学与工程学院

2011.7-2015.3 中国热带农业科学院环境与植物保护研究所

2012.8-2017.9 中国科学院华南植物园生物学博士后流动站 博士后

2007.9-2010.3 佛罗里达大学园艺科学系 联合培养博士生

研究领域及方向

热带果蔬采后生物学与贮运保鲜技术

主要讲授课程

《农产品贮运技术》、《果蔬采后生物学》、《食品工程进展》等

主持科研项目

目前承担的科研项目：

1. β -氨基丁酸诱导芒果果实抗采后炭疽病的priming机制研究，国家自然科学基金，主持
2. 苹果多酚对采后荔枝霜疫霉菌的抑制作用机理研究，国家自然科学基金，主持
3. BABA 诱导芒果果实抗病的机制研究，海南大学科研启动基金项目，主持
4. 荔枝冷藏保鲜技术的优化与应用，天津大学-海南大学协同创新基金联合项目，主持

近 5 年代表性研究论文 (*代表通讯作者)

- Wang, T., Hu, M.J., Yuan, D.B., Yun, Z., Gao, Z.Y., Su, Z.H., **Zhang, Z.K***., 2020. Melatonin alleviates pericarp browning in litchi fruit by regulating membrane lipid and energy metabolisms. *Postharvest Biology and Technology* 160, 111066.
- Su, Z.H., Hu, M.J., Gao, Z.Y., Li, M., Yun, Z., Pan, Y., **Zhang, Z.K***., Jiang, Y.M., 2019. Apple polyphenols delay senescence and maintain edible quality in litchi fruit during storage. *Postharvest Biology and Technology* 157, 110976.
- Hu, M.J., Zhu, Y.Y., Liu, G.S., Gao, Z.Y., Li, M., Su, Z.H., **Zhang, Z.K***., 2019. Inhibition on anthracnose and induction of defense response by nitric oxide in papaya fruit. *Scientia Horticulturae*, 245, 224-230.
- Li, T.T., Fan, P., Yun, Z., Jiang, G.X., **Zhang, Z.K***., Jiang, Y.M., 2019. β -Aminobutyric acid priming acquisition and defense response of mango fruit to *Colletotrichum gloeosporioides* infection based on quantitative proteomics. *Cells-Basel* 8, 1029.
- Pan, Y.G., Zhang, S.Y., Yuan, M.Q., Song, H.L., Wang, T., Zhang, W.M., **Zhang, Z.K***., 2019. Effect of glycine betaine on chilling injury in relation to energy metabolism in papaya fruit during cold storage. *Food Science and Nutrition* 7, 1123-1130.
- Li T.T., Yun Z., Wu Q.Q., **Zhang Z.K***., Liu S.M., Shi X.Q., Duan X.W., Jiang Y.M., 2018. Proteomic profiling of 24-epibrassinolide-induced chilling tolerance in harvested banana fruit. *Journal of Proteomics* 187, 1-12.
- Zhang Y.Y., Huber D.J., Hu M.J., Jiang G.X., Gao Z.Y., Xu X.B., Jiang Y.M., **Zhang Z.K***., 2018. Delay of postharvest browning in litchi fruit by melatonin via the enhancing of antioxidative processes and

<p>oxidation repair. <i>Journal of Agricultural and Food Chemistry</i> 66, 7475-7484.</p> <p>Fan P.H., Huber D.J., Su Z.H., Hu M.J., Gao Z.Y., Li M., Shi X.Q., Zhang Z.K*. 2018. Effect of postharvest spray of apple polyphenols on the quality of fresh-cut red pitaya fruit during shelf life. <i>Food Chemistry</i> 243, 19-25.</p> <p>Zhang Z.K., Hu M.J., Yun Z., Wang J.B., Feng G., Gao Z.Y*, Shi X.Q*, Jiang Y.M. 2017. Effect of tea seed oil treatment on browning of litchi fruit in relation to energy status and metabolism <i>Postharvest Biology and Technology</i> 132, 97-104.</p> <p>Zhang Z.K., Zhu Q.G., Hu M.J., Gao Z.Y., An F., Li M*, Jiang Y., 2017. Low-temperature conditioning induces chilling tolerance in stored mango fruit. <i>Food Chemistry</i> 219, 76-84.</p> <p>Zhang Z.K., Huber D.J., Qu H.X., Yun Z., Wang H., Huang Z.H., Huang H., Jiang Y.M*. 2015. Enzymatic browning and antioxidant activities in harvested litchi fruit as influenced by apple polyphenols. <i>Food Chemistry</i> 171, 191-199.</p> <p>Deng J., Bi Y*, Zhang Z.K*, Xie D.F., Ge Y.H., Li W.H., Wang J.J., Wang Y., 2015. Postharvest oxalic acid treatment induces resistance against pink rot by priming in muskmelon (<i>Cucumis melo</i> L.) fruit. <i>Postharvest Biology and Technology</i> 106, 53-61.</p>
<h3>申请专利</h3>
<p>屈红霞，蒋跃明，云泽，张正科，黄梓辉，王慧，李月标，张丹丹. 一种用表没食子儿茶素没食子酸酯保鲜荔枝的方法</p> <p>胡美姣，张正科，高兆银，李敏. 一种水果保鲜用双层包装纸袋</p> <p>胡美姣，张正科，高兆银，李敏. 一种自立式缓释气调水果保鲜袋</p>
<h3>出版专著</h3>
<p>张正科. 农产品加工贮藏技术研究. 长春：吉林大学出版社，2017</p> <p>高兆银，胡美姣，李敏，张正科. 芒果采后生物学与贮运保鲜技术. 北京：中国农业出版社，2014.</p>
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