

国际数据库 (EI、CA、FSTA、IC、JST) 收录期刊 国家自然科学基金资助重点学术期刊 中国科学引文数据库收录期刊
百种中国杰出学术期刊 中国精品科技期刊 中国权威学术期刊 中文核心期刊 中国科技核心期刊 中国农业核心期刊

食品科学®

201913



中国出版政府奖期刊提名奖



ISSN1002-6630
CN11-2206/TS

FOOD SCIENCE

2019年第40卷第13期

半月刊

2019年7月15日出版



天然植物原料研究与生产供应服务商。

国家高新技术企业、博士后科研工作站、省级重点实验室。

- 通过ISO9001、ISO14001、ISO22000、FSSC22000、HACCP、BRC认证
- 通过美国及欧盟有机茶加工认证
- 通过Kosher及Halal认证
- 通过CNAS国际实验室认可



广告



ISSN 1002-6630



万方数据

产品系列：

速溶茶及浓缩液、草本提取物及浓缩液、咖啡系列、罗汉果甜甙、植物提取物、天然果蔬粉系列、五谷杂粮粉系列、茶叶系列、固体饮料、BIB系列、ODM/OEM代工服务

大闽食品（漳州）有限公司

地址：福建省漳州市蓝田开发区
电话：+86-0596-2100018
传真：+86-0596-2100019
网址：www.daminfood.com



官方微信公众号

食品科学

二〇一九年第四十卷第十三期

中国食品杂志社



目次

食品

2019年 第40卷

基础研究

- 骨架蛋白降解对冰鲜草鱼质构的影响……………贾胜男, 杨方*, 臧金红, 夏文水*, 姜启兴, 许艳顺, 于沛沛(1)
- 两种饲养方式下苏尼特羊肉中鲜味物质含量及
相关调控基因表达量……………罗玉龙, 刘畅, 李文博, 王柏辉, 窦露, 赵丽华, 杜瑞, 王政纲, 靳焯*(8)
- 不同温度处理的风干牛肉贮藏过程中脂肪变化……………李宇辉, 王俊钢*, 刘成江*, 郭安民, 韩冬印(14)
- 香芹酚对阴沟肠杆菌的抑菌作用及机理……………周祺, 袁康, 刘芳, 都立辉*(22)
- CO₂脱涩对柿果理化特性、酚类成分及
抗氧化能力的影响……………陈佳歆, 周沫, 毕金峰, 李旋, 郭崇婷, 陈芹芹, 辛广*(28)
- 不同柑橘品种全果制汁适宜性分析……………李绮丽, 孙俊杰, 单杨, 付复华*, 杨颖, 刘伟(36)
- 3种高粱品种淀粉特性和酿造黄酒的风味品质分析……………王志伟, 闫凤霞, 徐嘉良, 柳青山, 任清*(45)
- 摇青机械力对乌龙茶脂肪族类香气形成的影响……………周子维, 游芳宁, 刘彬彬, 邓婷婷, 赖钟雄, 孙云*(52)
- 纳豆菌液态发酵荞麦产物中抗氧化活性物质的分离鉴定……………赵谋明, 邹颖, 林恋竹*, 吴见(60)
- 硒化魔芋葡甘寡糖的合成及其抗氧化活性……………刘启顺, 陈玮, 巩凤芹, 谭海东, 尹恒*(68)
- 糊化温度和时间对不同直链淀粉质量分数玉米淀粉物化性质的影响……………王雨生, 尚梦珊, 陈海华*(74)

食品工程

- 电子束辐照对鲈鱼肉肌原纤维蛋白生化特性及其
构象的影响……………张晗, 高星, 宣仕芬, 徐大伦, 张进杰, 钱云霞, 杨文鸽*(81)
- 分子蒸馏对沙棘果油中8种塑化剂组分脱除及综合品质的影响……………刘玉兰, 陈莉, 张小龙, 张振山, 马宇翔(87)
- 解冻方式对鲑鱼品质的影响……………谭明堂, 谢晶, 王金锋*(94)

营养卫生

- 植物乳杆菌通过调节肠道短链脂肪酸水平
缓解代谢综合征……………朱广素, 王刚*, 王园园*, 马方励, 赵建新, 张灏, 陈卫(102)
- 苦荞茶多糖诱导人肺腺癌A549细胞凋亡的线粒体机制……………杨二万, 张敏, 杨兴斌, 杨红燕*(110)
- 酸枣自由态和结合态多酚对人主动脉平滑肌细胞
表型转化的影响……………李汉卿, 刘丰铭, 单树花, 鲁洋, 张晓莉, 李卓玉*(116)
- 凝固型苦荞酸奶对小鼠肠道菌群的调节作用……………周一鸣, 赵燊, 冯飞, 刘倩, 周小理*, 肖瀛(123)
- N-乙酰-半胱氨酸干预壬基酚对小鼠Sertoli TM4细胞的损伤作用……………刘晓珍, 聂少平, 余强, 黄丹菲, 谢明勇*(130)
- 魔芋低聚糖缓解高糖水平诱发的大鼠代谢综合征及相关机制……………焦丹, 李浩霞, 吴丹丹, 周中凯*(137)
- 长白山核桃源五肽对过氧化氢诱导PC12细胞
氧化损伤的保护作用及机理……………郭勇, 秦汉雄, 魏贞, 方丽, 闵伟红*(143)
- 铁皮枫斗多糖对小鼠急性酒精性
肝损伤的保护作用……………罗群, 沈先荣*, 侯登勇, 何颖, 蒋定文, 王庆蓉, 陈伟(150)
- 杂粮功能醋粉体内降血脂、辅助降血糖和抗氧化作用……………陈树俊, 张君梅, 李佳益, 郑婕, 邢慧雅, 吴梦月(155)
- 壳寡糖对小鼠急性酒精性肝损伤的保护作用……………丁荣荣, 姜启兴*, 王斌, 夏文水, 杨方, 许艳顺(161)

科 学

目 次



第13期 总第602期

发酵麸皮多糖对大鼠空肠组织抗氧化能力、形态结构和

紧密连接蛋白表达的影响.....王 园, 杨可心, 段元霄, 王文文, 安晓萍, 齐景伟*(166)

肉牛屠宰过程中分离出沙门氏菌的脉冲场凝胶

电泳分子溯源分析.....董鹏程, 张一敏, 毛衍伟, 梁荣蓉, 韩广星, 朱立贤*, 罗 欣*(171)

佛手皮渣果胶改性及其对镉诱导肝肾损伤的预防作用.....吴莎极, 寇兴然, 丁寅翼, 王洪新*(177)

可溶性大豆多糖改善左旋肉碱诱导的

小鼠小肠首过代谢.....李文峰, 陶 雯, 陈露红, 郑悄然, 周 凤, 谭 颀, 邢 洁(187)

家禽屠宰场微生物菌群结构及大肠杆菌耐药性评估.....王佩佩, 戴贤君, 杨 华, 肖英平*(195)

枣干和米饭-枣混合餐餐后血糖反应.....朱瑞欣, 董 洋, 范志红*, 叶 婷, 王琳琳, 林金雪娇(203)

蓝莓花色苷提取物对人脂肪干细胞增殖、分化和

脂质积累的影响.....陈晓彤, 马思思, 郑婷婷, 陈 洁, 李亚丽, 邓远乐, 何 方, 阴文娅*(208)

包装贮运

不同含氧气调包装方式对调理鸭肉制品的保鲜效果.....党亚丽, 徐思雨, 曹锦轩, 孙杨赢, 潘道东*(216)

大豆分离蛋白对鲜切桃的保鲜效果.....史轲轲, 朱树华*(222)

*Trichothecium roseum*菌丝体细胞壁提取物对苹果青霉病的

控制效果及其诱导抗病机理.....张彦东, 胡文瑾, 李永才*, 毕 阳, 张婷婷, 胡培芳(230)

紫苏水提物联合蒸煮处理对脆肉鲩鱼片冻藏

过程中品质的影响.....林婉玲, 丁 莫, 杨贤庆, 王锦旭, 李来好*, 翟红蕾, 吴燕燕, 马学军(237)

苹果多酚处理对鲜切芋艿品质的影响.....吴松霞, 郜海燕, 刘瑞玲, 韩延超, 吴伟杰, 陈杭君*(245)

低压静电场结合气调包装对凡纳滨对

虾冰温贮藏期品质的影响.....段伟文, 全沁果, 高 静, 毛伟杰, 郝记明, 刘书成, 吉宏武*(252)

冰温贮藏对新疆吊干杏保鲜效果的影响.....白国荣, 郭敏瑞, 卢 娣, 陈国刚*, 南立军*(260)

不同基材复配紫薯花青素制备智能指示膜及其应用.....蒋光阳, 肖力源, 王章英, 陈安均, 吴贺君, 张志清*(267)

聚乳酸/聚丁二酸-己二酸丁二酯可降解抗氧化薄膜对鲜切西兰花的保鲜效果.....蒋金勇, 唐海兵, 栾东磊, 李 立*(274)

专题论述

食源性天然产物中多糖干预炎症性肠病的研究进展.....陈国伟, 邱春红, 田灵敏*, 白卫滨(281)

质谱成像技术在食品科学领域的应用进展.....唐雪妹, 谢书越, 黄玉芬, 万 凯, 王富华*(288)

食源性致病菌菌株多相异质性的对微生物

风险评估的影响研究进展.....俞文英, 张昭寰, 刘海泉, Pradeep Kumar MALAKAR, 潘迎捷, 赵 勇*(296)

茉莉酸甲酯调控果蔬采后品质的机制及应用研究进展.....崔席席, 李富军, 张新华*, 郭衍银, 李晓安(304)

超高压技术对低盐肉制品降盐机制及品质改良的研究进展.....韩 格, 秦泽宇, 张 欢, 孔保华*(312)

机器视觉技术在水产食品感官检测

方面的应用研究进展.....贾志鑫, 傅玲琳, 杨信廷, 史 策, 王海燕, 周瑾茹, 王彦波*(320)

热处理在小麦储藏与加工中的应用研究进展.....刘远晓, 李萌萌, 卞 科*, 关二旗, 刘远方(326)

抗菌肽快速筛选方法的研究进展.....薛 辉, 涂勇刚, 熊春红, 李建科, 罗文翔, 赵 燕*(334)

稳定同位素及矿物元素分析在谷物产地溯源中应用的研究进展.....刘雯雯, 陈 岩, 杨 慧, 耿安静, 王富华*(340)



Basic Research

- Effect of Cytoskeletal Protein Degradation on Texture of Grass Carp (*Ctenopharyngodon idella*) during Ice Storage JIA Shengnan, YANG Fang*, ZANG Jinhong, XIA Wenshui*, JIANG Qixing, XU Yanshun, YU Peipei (1)
- Effects of Two Different Feeding Patterns on Umami Substances and Expression of Related Genes in Sunit Sheep Meat LUO Yulong, LIU Chang, LI Wenbo, WANG Bohui, DOU Lu, ZHAO Lihua, DU Rui, WANG Zhenggang, JIN Ye* (8)
- Effect of Drying Temperature on Fatty Acid Composition in Air-Dried Beef during Chilled Storage LI Yuhui, WANG Jungang*, LIU Chengjiang*, GUO Anmin, HAN Dongyin (14)
- Antimicrobial Activity and Mechanism of Carvacrol against *Enterobacter cloacae* ZHOU Qi, YUAN Kang, LIU Fang, DU Lihui* (22)
- Impact of CO₂ De-astringency on Physicochemical Properties, Phenolic Compounds and Antioxidant Capacities of Persimmon Fruit CHEN Jiaxin, ZHOU Mo, BI Jinfeng, LI Xuan, GUO Chongting, CHEN Qinpin, XIN Guang* (28)
- Suitability Evaluation of Different Citrus Varieties for Whole Fruit Juice Processing LI Qili, SUN Junjie, SHAN Yang, FU Fuhua*, YANG Ying, LIU Wei (36)
- Analysis of Starch Properties and Huangjiu Flavor from Three Sorghum Varieties WANG Zhiwei, YAN Fengxia, XU Jialiang, LIU Qingshan, REN Qing* (45)
- Effect of Mechanical Force during Turning-over on the Formation of Aliphatic Aroma in Oolong Tea ZHOU Ziwei, YOU Fangning, LIU Binbin, DENG Tingting, LAI Zhongxiong, SUN Yun* (52)
- Identification of Antioxidants Produced by *Bacillus subtilis natto* in Liquid-State Fermentation of Buckwheat ZHAO Mouming, ZOU Ying, LIN Lianzhu*, WU Jian (60)
- Synthesis and Antioxidant Activity of Selenium-Containing Konjac Oligo-glucomannan LIU Qishun, CHEN Wei, GONG Fengqin, TAN Haidong, YIN Heng* (68)
- Effect of Annealing Temperature and Time on the Physicochemical Properties of Corn Starches with Different Amylose Contents WANG Yusheng, SHANG Mengshan, CHEN Haihua* (74)

Food Engineering

- Effect of Electron Beam Irradiation on Biochemical Properties and Structure of Myofibrillar Protein from *Lateolabrax japonicus* Meat ZHANG Han, GAO Xing, XUAN Shifen, XU Dalun, ZHANG Jinjie, QIAN Yunxia, YANG Wenge* (81)
- Effect of Molecular Distillation on the Removal of 8 Phthalic Acid Esters and the Quality of Sea Buckthorn (*Hippophae rhamnoides* L.) Pulp Oil LIU Yulan, CHEN Li, ZHANG Xiaolong, ZHANG Zhenshan, MA Yuxiang (87)
- Effects of Different Thawing Methods on Quality of Squid TAN Mingtang, XIE Jing, WANG Jinfeng* (94)

Nutrition and Hygiene

- Lactobacillus plantarum* Alleviates Metabolic Syndrome by Modulating Intestinal Short-Chain Fatty Acid Levels ZHU Guangsu, WANG Gang*, WANG Yuanyuan*, MA Fangli, ZHAO Jianxin, ZHANG Hao, CHEN Wei (102)
- Tartary Buckwheat Tea Polysaccharide Induces Mitochondria-Mediated Apoptosis in A549 Human Lung Cancer Cells YANG Erwan, ZHANG Min, YANG Xingbin, YANG Hongyan* (110)
- Effects of Free and Bound Polyphenols from *Ziziphus jujuba* Mill. var. *spinosa* (Bunge) Hu ex H. F. Chow on Phenotype Transformation of Human Aortic Smooth Muscle Cells LI Hanqing, LIU Fengming, SHAN Shuhua, LU Yang, ZHANG Xiaoli, LI Zhuoyu* (116)
- Modulatory Effect of Set Yogurt with Tartary Buckwheat Juice on Intestinal Flora in Mice ZHOU Yiming, ZHAO Shen, FENG Fei, LIU Qian, ZHOU Xiaoli*, XIAO Ying (123)
- N*-Acetyl-cysteine Attenuates Nonylphenol-Induced Damage in Mouse Sertoli TM4 Cells LIU Xiaozhen, NIE Shaoping, YU Qiang, HUANG Danfei, XIE Mingyong* (130)
- Alleviatory Effect and Underlying Mechanism of Konjac Oligosaccharides on High Glucose Induced-Metabolic Syndrome in Rats JIAO Dan, LI Haoxia, WU Dandan, ZHOU Zhongkai* (137)
- Cytoprotective Effect and Underlying Mechanism of Pentapeptide Derived from Manchurian Walnut (*Juglans mandshurica* Maxim) Meal Protein on PC12 Cells against H₂O₂-Induced Damage GUO Yong, QIN Hanxiong, WEI Zhen, FANG Li, MIN Weihong* (143)
- Hepatoprotective Effect of *Dendrobium candidum* Polysaccharides on Alcohol-Induced Acute Liver Injury in Mice LUO Qun, SHEN Xianrong*, HOU Dengyong, HE Ying, JIANG Dingwen, WANG Qingrong, CHEN Wei (150)
- In Vivo* Hypolipidemic, Hypoglycemic and Antioxidant Properties of Functional Vinegar Powder Made from Minor Grains CHEN Shujun, ZHANG Junmei, LI Jiayi, ZHENG Jie, XING Huiya, WU Mengyue (155)
- Protective Effect of Chitoooligosaccharides on Acute Alcohol-Induced Liver Injury in Mice DING Rongrong, JIANG Qixing*, WANG Bin, XIA Wenshui, YANG Fang, XU Yanshun (161)



- Effects of Fermented Wheat Bran Polysaccharides on Antioxidant Capacity, Morphological Structure and Tight Junction Protein Expression in Rat Jejunum WANG Yuan, YANG Kexin, DUAN Yuanxiao, WANG Wenwen, AN Xiaoping, QI Jingwei* (166)
- Molecular Typing of *Salmonella* Species Isolated from Beef Abattoirs by Pulsed-Field Gel Electrophoresis Analysis DONG Pengcheng, ZHANG Yimin, MAO Yanwei, LIANG Rongrong, HAN Guangxing, ZHU Lixian*, LUO Xin* (171)
- Extraction and Modification of Pectin from Finger Citron Fruit and Its Preventive Effect on Cadmium-Induced Liver and Kidney Injury WU Shaji, KOU Xingran, DING Yinyi, WANG Hongxin* (177)
- Soluble Soybean Polysaccharides Ameliorate *L*-Carnitine-Induced First-Pass Metabolism in the Small Intestine of Mice LI Wenfeng, TAO Wen, CHEN Luhong, ZHENG Qiaoran, ZHOU Feng, TAN Si, XING Jie (187)
- Analysis of Microbial Community Structure in Poultry Slaughterhouses and Antibiotic Resistance Assessment of *Escherichia coli* WANG Peipei, DAI Xianjun, YANG Hua, XIAO Yingping* (195)
- Postprandial Glycemic Responses of Dried Jujubes and Jujube-Rice Meals ZHU Ruixin, DONG Yang, FAN Zhihong*, YE Ting, WANG Linlin, LIN Jinxuejiao (203)
- Effect of Blueberry Anthocyanin Extract on Proliferation, Differentiation, and Lipid Accumulation in Human Adipose-Derived Stem Cells CHEN Xiaotong, MA Sisi, ZHENG Tingting, CHEN Jie, LI Yali, DENG Yuanle, HE Fang, YIN Wenya* (208)

Packaging, Storage and Transportation

- Preservative Effect of Modified Atmosphere Packaging with Different Oxygen Concentrations on Prepared Duck Meat DANG Yali, XU Siyu, CAO Jinxuan, SUN Yangying, PAN Daodong* (216)
- Effect of Soy Protein Isolate on Storage Quality of Fresh-Cut Peaches SHI Keke, ZHU Shuhua* (222)
- Controlling Effect and Mechanism of *Trichothecium roseum* Hyphal Cell Wall Extract on Apple Blue Mold ZHANG Yandong, HU Wenjin, LI Yongcai*, BI Yang, ZHANG Tingting, HU Peifang (230)
- Effect of Steam Cooking Combined with Water Extract from *Perilla* Leaves on the Quality of Prepared Crisp Grass Carp (*Ctenopharyngodon idellus* C. et V) Fillets during Frozen Storage LIN Wanling, DING Mo, YANG Xianqing, WANG Jinxu, LI Laihao*, ZHAI Honglei, WU Yanyan, MA Xuejun (237)
- Effects of Different Concentrations of Apple Polyphenols on Quality of Fresh-Cut Taro (*Colocasia esculenta* (L.) Schott) WU Songxia, GAO Haiyan, LIU Ruiling, Han Yanchao, WU Weijie, CHEN Hangjun* (245)
- Effect of Low-Voltage Electrostatic Field Combined with Modified Atmosphere Packaging on the Quality of *Litopenaeus vannamei* during Controlled Freezing-Point Storage DUAN Weiwen, QUAN Qinguo, GAO Jing, MAO Weijie, HAO Jiming, LIU Shucheng, JI Hongwu* (252)
- Improved Postharvest Quality of Apricot (*Prunus armeniaca* L. cv. Diaogan) during Storage at Near-Freezing Temperature BAI Guorong, GUO Minrui, LU Di, CHEN Guogang*, NAN Lijun* (260)
- Development and Application of Intelligent Indicator Films Using Blended Film-Forming Solutions Combined with Purple Sweet Potato Anthocyanins JIANG Guangyang, XIAO Liyuan, WANG Zhangying, CHEN Anjun, WU Hejun, ZHANG Zhiqing* (267)
- Effect of Polylactic Acid/Poly(butylene succinate-co-adipate) Biodegradable Film Containing Different Essential Oils in Preserving Quality and Extending Shelf-life of Fresh-Cut Broccoli JIANG Jinyong, TANG Haibing, LUAN Donglei, LI Li* (274)

Reviews

- Recent Progress in Food-Derived Natural Polysaccharide Intervention in Inflammatory Bowel Disease CHEN Guowei, QIU Chunhong, TIAN Lingmin*, BAI Weibin (281)
- Recent Progress in Applications of Mass Spectrometry Imaging in Food Science TANG Xuemei, XIE Shuyue, HUANG Yufen, WAN Kai, WANG Fuhua* (288)
- Effect of Strain Heterogeneity of Food-Borne Pathogens on Microbiological Risk Assessment: A Review YU Wenying, ZHANG Zhaohuan, LIU Haiquan, Pradeep Kumar MALAKAR, PAN Yingjie, ZHAO Yong* (296)
- Recent Progress in Mechanism of Action and Application of Methyl Jasmonate in Postharvest Quality Regulation of Fruits and Vegetables CUI Xixi, LI Fujun, ZHANG Xinhua*, GUO Yanyin, LI Xiao'an (304)
- Mechanisms through Which High-Pressure Treatment Reduces the Use of Salt in Low-Salt Meat Products and Its Application in Quality Improvement: A Review HAN Ge, QIN Zeyu, ZHANG Huan, KONG Baohua* (312)
- A Review of the Application of Machine Vision Technique in Sensory Testing of Aquatic Foods JIA Zhixin, FU Linglin, YANG Xinting, SHI Ce, WANG Haiyan, ZHOU Jinru, WANG Yanbo* (320)
- Recent Progress in the Application of Heat Treatment in Wheat Storage and Processing LIU Yuanxiao, LI Mengmeng, BIAN Ke*, GUAN Erqi, LIU Yuanfang (326)
- Recent Progress in Rapid Screening Methods for Antibacterial Peptides XUE Hui, TU Yonggang, XIONG Chunhong, LI Jianke, LUO Wenxiang, ZHAO Yan* (334)
- Recent Advances in the Application of Stable Isotope and Mineral Element Analysis in Tracing the Geographical Origin of Cereal Grains LIU Wenwen, CHEN Yan, YANG Hui, GENG Anjing, WANG Fuhua* (340)