

# 食品工业科技

Science and Technology of Food Industry

第37卷 半月刊

2016年11月15日

出版



食品工业科技微信公众号

ISSN 1002—0306  
CN 11-1759/TS

2016 22

ISSN 1002-0306



9 771002 030166

股票代码：300149

# 量子高科

## 全球益生元技术领导者

欧力多<sup>®</sup> 低聚果糖    高斯恩™ 低聚半乳糖

量子高科

- 开创益生元新检测方法
- 全球发布益生元六组分标准样品
- 获得欧洲国际质量管理金奖的益生元企业



量子高科(中国)生物股份有限公司  
Quantum Hi-Tech (China) Biological Co., Ltd.

广东广州越秀区东风中路268号交易广场28楼  
电话：86-20-83180677  传真：86-20-83304079  
邮箱：kf@qht.cc  网址：www.qht.cc



量子高科官方微博



我爱益生元官方微博

# CONTENTS

食品工业科技 2016年第22期，总366期

## 前瞻 *Project*

### 专家导航 Guideline

- 14 我国醋业面临跳出窗外式的理念与模式创新  
中国食品科学技术学会理事长/孟素荷

### 精英视点 Elite point of view

- 16 网络分析视角下我国食品安全监管体制研究

### 热点追踪 Focus Tracing

- 21 恒顺香醋兴国振邦 引国际专家围而论道  
——我国醋业在“扛”与“创”中实现多触角延伸
- 24 2016食品非热加工技术国际研讨会在京成功举办
- 29 共话食品安全 专注唯一健康  
——第四届中意食品安全对话在京举行 深入开展技术交流
- 30 “关爱成长 非成勿饮”理性饮酒宣传周全国范围启动
- 32 食品业数字化产品创新管理高峰论坛在京召开
- 33 我国夏威夷果市场引南非关注

## 实战 *Application*

### 法律案例 Legal Cases

- 34 新《食品安全法》实施一周年大事记（上）

## 互动 *Communication*

### 企业报道 Enterprise Report

- 38 阿法拉伐：始于“心”的精致品质  
——阿法拉伐酒、饮料设备及技术中国发布，兼具精致与创新

- 40 砥砺前行，铸“金”字招牌

### 行业广角 Industry Wide-angle

- 42 臭氧杀菌消毒机在特医食品安全质量改善中的应用

### 企业联办 Co-sponsored with Enterprise

- 44 杜邦营养与健康事业部大幅增加益生菌产能  
(杜邦营养与健康专栏)

## 信息 *Information*

- 45 资讯动态 News & Trends



天地壹号饮料股份有限公司全资子公司

**承德红源果业有限公司**

Chengde Hongyuan Fruit Industry Co.,Ltd.

**果醋酿造三宗  
伴一流饮品企业同行**

品名：水果酿造原醋

原料：精选优质的新鲜水果

技术：世界先进的低温自吸式液态深层二次发酵技术，  
获发明专利（专利号：ZL200510090829.6）

生产：年产各种优质水果原醋2万吨

服务：专业制造已历10年，专业服务成绩斐然

示范：汇源果汁、天地壹号、乐天华邦、寇老西、红  
源果宝等系列果醋饮料、六必居山楂开味醋

荣誉：省级农业产业化龙头企业、河北省著名商标企  
业，通过ISO22000食品安全质量管理体系认证

生产总部

红源热线：0314-7060558

传 真：0314-7060567

地 址：河北省承德市隆化县工业路1号

邮 编：068150

营销总部

电话：010-87205826 87275826

传 真：010-87808226

地址：北京市东城区沙子口路70号

食品工业研究所606室

邮编：100075

<http://www.hongyuan2000.com.cn>

E-mail:hongyuan@263.net.cn

# 目 次 2016年第22期，总366期

## 分析检测

- 气相色谱质谱联用法测定不同塑料包装植物油中邻苯二甲酸酯类.....牛宏亮等(49)  
固相微萃取—气相色谱—质谱分析青钱柳叶挥发性成分.....陈玮玲等(52)  
高速逆流色谱法分离纯化新疆圆柏枝叶中的黄酮类成分.....李倩等(59)  
基于HS-SPME/GC-MS对苹果白兰地不同馏分中香气物质的分析.....蔡婷等(62)  
改进的QuEChERS结合RPLC-TMS测定水产品中生物胺的研究.....蒋林蓉等(68)  
基于磁性分子印迹联用高效液相色谱—电感耦合等离子体质谱测定海产品中的三丁基锡.....杨华等(73)  
双重DPO-PCR检测副溶血弧菌和霍乱弧菌.....魏霜等(80)  
冷鲜羊肉品质的高光谱成像无损检测.....杨菊梅等(84)  
固相萃取—高效液相色谱法检测食品中吡咯素的研究.....刘慧琳等(90)  
离子交换色谱法测定10种热带水果中的葡萄糖、蔗糖和果糖.....于璐等(94)

## 研究与探讨

- 低温和超低温冷冻对糯米淀粉凝胶老化特性的影响.....贺平等(99)  
不同解冻条件对滩羊肉水分的影响.....张丽文等(103)  
 $\kappa$ -卡拉胶与刺槐豆胶复配胶的流变学特性研究.....陈璐等(108)  
维生素C荧光光谱的机理研究.....陈亚斌等(112)  
德氏乳杆菌吸附铅离子的机制研究.....于上富等(116)  
干燥方式对大米回生情况的影响.....杨珂玲等(121)  
草鱼脆化过程中肌肉挥发性成分变化.....冯静等(126)  
雅安藏茶不影响睡眠与咖啡碱含量的关系研究.....胡燕(131)  
魔芋薄层变温热风干燥特性实验研究.....罗传伟等(137)  
不同烹调方法对牛里脊营养和感官品质的影响.....徐迅等(144)  
OS- $\beta$ -CD的制备及其乳化性的研究.....胡艳娜等(150)  
脂质体在体外消化过程中的氧化稳定性.....田蒙蒙等(154)  
枸杞干制过程中褐变反应研究.....胡云峰等(159)  
不同粒径绿茶粉粉体表征与物理性质的研究.....舒阳等(164)  
曼式无针乌贼肌肉的低温相变区热特性及蛋白热稳定性研究.....李密等(168)  
马铃薯-小麦粉混粉的理化性质与消化特性研究.....闫巧珍等(173)

## 生物工程

- 基于气相色谱质谱联用的乳酸菌辅助发酵过程中腐乳组分变化的分析.....杨芹等(178)  
9种蔬菜发酵体系真核微生物群落结构的分析.....燕平梅等(185)  
传统馒头老面中醋酸菌的鉴定及产酸条件优化.....孙伟哲等(190)  
发芽糙米乳中双株复合乳酸菌的发酵特性研究.....朱力杰等(195)  
罗伊氏乳杆菌发酵液中具有降胆固醇能力蛋白的分离、纯化和鉴定.....陈臣等(200)  
双霉菌混合发酵腐乳前发酵条件优化及酶活研究.....李顺等(205)  
不同环境因子对海洋细菌*Pseudoalteromonas issachenkonii* HZ引导糖基转移酶基因表达的影响.....卢晓平等(212)  
高产酸及耐酸性干酪乳杆菌的诱变筛选.....何慧玲等(217)  
科尔沁地区传统发酵奶豆腐中乳酸菌的鉴定.....李华等(222)  
酶解对枸杞果出汁率的影响.....王娅等(227)  
亚麻种子中胰蛋白酶抑制剂的分离纯化及性质研究.....陈颖璐等(234)

# 目 次

2016年第22期，总366期

- 花椒酒固态发酵工艺研究.....董思杨等(240)  
耐受重金属铅乳酸菌的分离筛选及鉴定.....贾原博等(244)  
基于响应面法优化*Flavobacteriaceae* sp. CZ1127中岩藻糖苷酶提取参数的研究.....陈丰等(248)

## 工艺技术

- 直链淀粉/大豆卵磷脂包合物的制备及其性质研究.....王萍萍等(254)  
高密度二氧化碳技术生产苹果浆工艺的优化.....南霞等(259)  
响应面法优化灰枣中黄酮提取工艺研究.....梁鹏举等(264)  
苦水玫瑰糖浆的研制及其抗氧化与抑菌作用研究.....陈继华等(269)  
白及多糖的超声-微波协同提取工艺及其抗氧化活性研究.....蔡锦源等(274)  
魔芋胶结合高静压处理对鸡胸肉糜品质的影响.....王嘉楠等(279)  
Plackett-Burman试验结合响应面分析法优化“黑金刚”马铃薯紫红色素的提取工艺条件.....刘细霞等(285)  
清真冷鲜雪花牛肉复合保鲜剂配比优化及挥发性风味物质检测.....李俊丽等(290)  
响应面优化石花菜琼胶提取工艺.....刘施琳等(296)  
响应面法优化番石榴叶多酚的超声提取工艺.....楠极等(300)  
响应面法优化腰果蛋白提取工艺.....张晶晶等(305)  
生姜糖蛋白提取工艺优化及抗氧化活性研究.....赵文竹等(309)  
响应面法优化板栗多肽制备及其清除DPPH·能力的研究.....冯艳霞等(315)

## 包装与机械

- 几种增塑剂与乳化剂对魔芋葡甘聚糖/乙基纤维素共混膜机械性质的影响.....朱莘等(320)

## 食品添加剂

- 不同添加量的大豆分离蛋白和淀粉对烤猪肉中杂环胺形成的影响.....鄢嫣等(324)

## 贮运保鲜

- 脂肪酸消毒液对苹果杀菌效果及贮藏品质的影响.....宋汉娇等(329)

## 营养与保健

- 黑果腺肋花楸酵素的抗氧化活性研究.....黄海等(336)  
木瓜发酵液对非酒精性脂肪性肝病小鼠肝脏脂质代谢及AMPK/SIRT1通路的影响.....涂浩等(340)  
狗枣猕猴桃多酚对<sup>60</sup>Co γ射线辐射防护作用的研究.....左丽丽等(344)  
复方D-核糖对小鼠抗疲劳作用的研究.....袁保辉等(349)  
多油辣木不同部位营养成分分析及评价.....郭刚军等(354)

## 专题综述

- 微生物热稳定几丁质酶的研究进展.....胡荣康等(359)  
微凝胶在食品中的应用及研究进展.....姜帅等(365)  
超高压技术在水产品杀菌保鲜中的研究进展.....赵宏强等(369)  
食品鉴伪技术研究进展.....刘怡君等(374)  
鱼源胶原蛋白及胶原功能肽的研究进展.....蔡路昀等(384)  
活性包装释放控制的研究进展.....杨春香等(389)  
魔芋葡甘聚糖的结构、性质及其改性研究进展.....孟凡冰等(394)

# CONTENTS November, 2016(No.366)

## Analysis and Determination

- Determine the Phthalates in the different plastic packaging foods by gas chromatography-mass spectrometry.....NIU Hong-liang et al(49)  
Analysis of volatile compounds in *Cyclocarya paliurus* leaves by SPME-GC-MS.....CHEN Wei-ling et al(52)  
Separation and purification of flavonoids from *Juniperus sabina* L. by high-speed counter-current chromatography.....LI Qiao et al(59)  
Analysis of aroma components in apple brandy at different distillation stages by HS-SPME/GC-MS.....CAI Ting et al(62)  
Determination of biogenic amines in aquatic products by modified QuEChERS method and liquid chromatography-mass spectrometry.....JIANG Lin-rong et al(68)  
Determination of tributyltin in seafood based on magnetic molecularly imprinted polymers coupled with high performance liquid chromatography-inductively coupled plasma mass spectrometry.....YANG Hua et al(73)  
Multiplex DPO-PCR for the detection of *Vibrio parahaemolyticus* and *Vibrio cholerae*.....WEI Shuang et al(80)  
Nondestructive detection of quality of chilled mutton using hyperspectral imaging technique.....YANG Ju-mei et al(84)  
Determination of trace pyralline in food samples using solid-phase extraction and high performance liquid chromatography.....LIU Hui-lin et al(90)  
Determination of glucose, sucrose and fructose in 10 kinds of tropical fruits by ion chromatography.....YU Lu et al(94)

## Research and Investigation

- Effect of low and ultralow- temperature freezing on retrogradation properties of waxy rice starch gel.....HE Ping et al(99)  
Effects of different thawing conditions on the water content of Tan sheep meat.....ZHANG Li-wen et al(103)  
Study on rheological properties of the κ-carrageenan gum and locust bean gum complex.....CHEN Lu et al(108)  
Study on fluorescence spectra mechanism of vitamin C.....CHEN Ya-bin et al(112)  
Study on the mechanism of adsorption of lead ions biosorption by lactic acid bacteria.....YU Shang-fu et al(116)  
Effects of drying methods on the retrogradation of rice.....YANG Ding-ling et al(121)  
Changes in volatile components of grass carp muscle during crisping process.....FENG Jing et al(126)  
Study on relationship between Ya'an Tibetan tea does not affect people' sleep and the caffeine content.....HU Yan (131)  
Experimental study on thin layer variable temperature hot air drying of konjac.....LUO Chuan-wei et al(137)  
Influence of different cooking methods on nutritional and sensory quality of beef tenderloin.....XU Xun et al(144)  
Study on preparation and emulsification of octenyl-succinyl β-cyclodextrin.....HU Yan-na et al(150)  
Oxidative stability of liposomes during *in vitro* digestion.....TIAN Meng-meng et al(154)  
Study on browning reaction in hot air drying processing of *Lycium barbarum* L.....HU Yun-feng et al(159)  
Study on the characterization and physical property of green tea powder with different particle sizes.....SHU Yang et al(164)  
Thermal characteristics in low-temperature-phase transition and thermal stability of the protein of squid(*Sepiella aindroni de Rochebrune*) muscle.....LI Mi et al(168)  
Study on physicochemical properties and digestibility of potato and wheat flour blends.....YAN Qiao-zhen et al(173)

## Bioengineering

- A gas chromatography/mass spectrometry based metabolomics study of the fermentation of sufu.....YANG Qin et al(178)  
The community structure of eukaryotic microorganisms in nine kinds vegetable fermentation system.....YAN Ping-meи et al(185)  
Identification of acetic acid bacteria in fermenting agent of Chinese steamed breads and optimization of fermentation conditions.....SUN Wei-zhe et al(190)  
Study on characters of fermented germinated brown rice milk prepared with combination of two lactic acid bacteria.....ZHU Li-jie et al(195)  
Isolation, purification and identification of protein with cholesterol-reducing activity from the supernatant of *Lactobacillus reuteri*.....CHEN Chen et al(200)  
Study on the optimization and enzyme activity of co-fermentation sufu pr-fermentation with double moulds.....LI Shun et al(205)  
The impact of environmental factors on marine bacteria *Pseudoalteromonas issachenkonii* HZ glycosyltransferase gene expression.....LU Xiao-ping et al(212)  
Screening high acid-producing and acid-resistant *Lactobacillus casei* strains.....HE Hui-ling et al(217)  
Identification of lactic acid bacteria isolated from fermented dairy Tofu of Horqin Region.....LI Hua et al(222)  
Effect of enzymatic hydrolysis on wolfberry fruit juice yield.....WANG Ya et al(227)  
Purification and properties of the trypsin inhibitor from flax seeds.....CHEN Ying-lu et al(234)

# CONTENTS November, 2016(No.366)

- Research of solid fermentation technology of *Zanthoxylum bungeanum* liquor.....DONG Si-yang et al(240)  
Isolation, screening and identification of lactic acid bacteria tolerance to heavy metal lead.....JIA Yuan-bo et al(244)  
Optimization of the parameters for fucosidase extraction from *Flavobacteriaceae* sp.CZ1127 based on response surface methodology.....CHEN Feng et al(248)

## Processing Technology

- Preparation and properties of amylose/soy lecithin inclusion complex.....WANG Ping-ping et al(254)  
Optimization of the dense phase carbon dioxide treatments on apple puree.....NAN Xia et al(259)  
Optimization of extraction technique of flavonoids from *Zizyphus jujube* cv. Huizao by response surface methodology.....LIANG Peng-ju et al(264)  
The development of the rosa rugosa syrup and its antioxidant and bacteriostatic activity.....CHEN Ji-hua et al(269)  
Study on ultrasonic-microwave synergistic extraction of polysaccharose from *Bletilla striata* and its antioxidant activity.....CAI Jin-yuan et al(274)  
Effect of gum combination ultra high pressure treatment on the quality of chicken meat products.....WANG Jia-nan et al(279)  
Optimization of extraction conditions of purple-red pigment from "Heijingang" potato based on Plackett-Burman and response surface method.....  
.....LIU Xi-xia et al(285)  
Optimization of the complex preservatives of chilled halal snowflake beef and detection of volatile flavor compounds.....LI Jun-li et al(290)  
Optimization of extraction process of *Gelidium amansii* agar by response surface methodology.....LIU Shi-lin et al(296)  
Optimization of ultrasonic extraction of polyphenol from guava leaf using response surface methodology.....NAN Ji et al(300)  
Optimization of cashew nuts protein extraction using response surface methodology.....ZHANG Jing-jing et al(305)  
Study on the extraction and antioxidant activity of ginger glycoprotein.....ZHAO Wen-zhu et al(309)  
Optimization of extraction conditions of Chinese chestnut peptides by response surface methodology and its DPPH• scavenging abilities.....  
.....FENG Yan-xia et al(315)

## Packaging and Machinery

- Effects of plasticizers and emulsifiers on mechanical properties of konjac glucomannan/ethyl cellulose blend films.....ZHU Qian et al(320)

## Food Additives

- Effects of soy protein isolation and starch with different addition levels on the formation of heterocyclic aromatic amines in roasted pork.....YAN Yan et al(324)

## Storage and Preservation

- Effect of fatty acid disinfectant on sterilization and quality during storage of apple.....SONG Han-jiao et al(329)

## Nutrition and Healthcare

- Antioxidant activity of *Aronia melanocarpa* enzyme.....HUANG Hai et al(336)  
Effects of fermented *Chaenomeles speciosa* juice on lipid metabolism and AMPK/SIRT1 pathway in mouse with non-alcoholic fatty liver disease.....  
.....TU Hao et al(340)  
The radioprotection of *Actinidia kolomikta* polyphenols against organism damage by  $^{60}\text{Co}$   $\gamma$ -rays.....ZUO Li-li et al(344)  
Study on anti-fatigue effect of compound D-ribose on mice.....YUAN Bao-hui et al(349)  
Analysis and evaluation of nutritional components in different locations of *Moringa oleifera*.....GUO Gang-jun et al(354)

## Reviews

- Research progress on thermophilic microorganism chitinase.....HU Rong-kang et al(359)  
Research progress of polymer microgel in food emulsion.....JIANG Shuai et al(365)  
Research progress on the application of ultra high pressure for the preservation and sterilization of aquatic products.....ZHAO Hong-qiang et al(369)  
Research progress of food authentication technology.....LIU Yi-jun et al(374)  
Research progress of fish collagen and functional polypeptides from fish collagen.....CAI Lu-yun et al(384)  
Progress in controlled release for active packaging.....YANG Chun-xiang et al(389)  
Research progress of the structures, properties and modifications of Konjacglucomannan.....MENG Fan-bing et al(394)



追求美味，回味自然-江大和风！

Drive For Great Taste, Natural Profile, ADD Food!



广东江大和风香精香料有限公司  
GuangDong ADD Flavour & Fragrance CO.,LTD.

地址：广州市天河东圃珠村第六工业区A五栋 邮编：510660

NO.A5 BLDG.,LIUSHE INDUSTRIAL ZONE,ZHUCUN,TIANHE DIST.GUANGZHOU GUANGZHOU 510660 CHINA

电话：86-20 61214898

传真：86-20 61214848

网址：[www.addfood.com.cn](http://www.addfood.com.cn)

E-mail:[add-gz@163.com](mailto:add-gz@163.com)

产品咨询、购买请拨打24小时服务电话：18602000263 卢小姐



轻轻一扫，走进江大和风！