

中文核心期刊  
中国农业核心期刊  
美国化学文摘社 (CAS) 收录期刊

全国优秀农业期刊  
中国北方优秀期刊  
黑龙江省优秀期刊

ISSN 1001-0009  
CN 23-1247/S

# 北方园艺

NORTHERN HORTICULTURE

黑龙江省农业科学院  
黑龙江省园艺学会 主办

1  

---

2016

# 北方园艺

(1977年创刊·半月刊)

BEIFANG YUANYI

总第352期 2016年第1期 1月(上)

## 目 次

### ◆ 试验研究 ◆

---

- 限根节水对苹果叶片荧光特性和产量、品质的影响····· 曹 慧,徐文娟,邹岩梅,等(1)
- 低温弱光对不同辣椒品系生长发育及光合特性的影响····· 高晶霞,颜秀娟,李 宁,等(6)
- 外源蔗糖对  $\text{NO}_3^-$  胁迫下叶用莴苣碳氮代谢的影响····· 常丽丽,廖宗文,陈日远,等(10)
- 胡颓子属五种落叶植物开花结果物候观测与分析····· 曹展波,雷小林,龚 春,等(15)

### ◆ 研究简报 ◆

---

- 苹果园几种鸟雀驱避技术效果研究····· 李 莉,王春良,李晓龙,等(19)
- 套袋对“美帅”桃果实品质的影响····· 秦素洁,郭伟珍,靳爱荣,等(23)
- 内蒙古地区十六种常见野菜叶片营养成分分析····· 郑清岭,郝丽珍,张凤兰,等(26)
- 不同品系加工番茄主要品质性状动态变化研究····· 李 英,吕国华,薛 琳,等(30)

### ◆ 设施园艺 ◆

---

- 水肥耦合对日光温室厚皮甜瓜光合速率及产量的影响····· 叶 林,赵 霞,纳学伟,等(34)

不同基因型番茄幼苗耐弱光指标的筛选 ..... 郑倩,毛秀杰,叶景学(38)

## ◆栽培技术◆

---

### ☆菜圃☆

加工番茄育苗移栽高效水肥管理技术 ..... 李荣霞,张爱萍,刘伟(41)

苏北沿海滩涂马齿苋高效栽培技术 ..... 刘冲,洪立洲,丁海荣,等(42)

## ◆园林花卉◆

---

### ☆植物☆

荒漠草原油蒿(*Artemisia ordosica*)种群的空间分布格局特征 ..... 樊瑞霞,李学斌,陈林,等(45)

雪菊育苗基质配比的研究 ..... 江虹,秦勇,帕尔沙提·团结(51)

梭梭种子萌发对干旱和盐分胁迫的响应 ..... 吕朝燕,张希明,吕薇,等(55)

两种百合核型及光合作用的比较 ..... 钟程,田鑫,李性苑(61)

植物生长调节剂对绿萝水培生长的影响 ..... 章志红,季节(66)

### ☆景观☆

青岛新天地景观长廊色彩设计分析 ..... 刘宁(68)

## ◆生物技术◆

---

番茄 PG 基因启动子的序列分析 ..... 周丽英,卜璐璐,杨春雷,等(72)

小花吊兰染色体制片优化与核型分析 ..... 李磊,沈吉焚,何梦玲,等(76)

铁线莲园艺品种 ISSR-PCR 反应体系优化与引物筛选 ..... 王楠,王锦,李宗艳,等(80)

利用流式细胞仪鉴定山楂种质资源的倍性 ..... 崔金鑫,李月梅,张蕊婧,等(84)

网纹草丛芽诱导与组培快繁体系的建立 ..... 赵欢,张黎(87)

十七份中美枸杞材料的 SSR 遗传多样性 ..... 胡秉芬,张宝琳,蔡国军,等(90)

## ◆植物保护◆

---

- 微生物菌剂防治茄子黄萎病田间药效试验····· 张冬梅,高振江,高 娃,等(95)
- 黄河沿岸高海拔循化红线辣椒疫病的发病条件分析····· 韩生录(98)
- 新疆石河子及新湖籽用西葫芦病毒病分子检测····· 任琛荣,郝小军,都业娟,等(102)

## ◆贮藏保鲜加工◆

---

- 热水处理对鲜切石榴籽粒贮藏品质、抗氧化能力及微生物变化的影响····· 王 琼,初丽君,王 敏,等(106)
- CPPU 处理对采后猕猴桃品质及耐冷性的影响····· 王 玮,靳蜜静,饶景萍(111)
- 粉果番茄贮藏期间主要性状变化规律研究····· 齐景凯,曹 霞,张晓雷(117)

## ◆食用菌◆

---

- 梵净山地木耳营养成分分析····· 李刚凤,霍 蓓,高健强,等(121)
- 北京地区耐低温平菇菌株比较试验····· 张玉铎,郭永杰,张东雷,等(123)
- 基于 ITS 区序列的疑似野生“南华”草菇菌株的分子鉴定····· 刘 主,蔡爱群,刘静华,等(126)
- 食用菌同工酶遗传多样性研究····· 刘 娜,张 敏,李 超,等(131)

## ◆中 草 药◆

---

- 黄芩总黄酮含量的累积规律研究····· 姜明亮,王景然,全雪丽,等(134)
- 吉林省不同产地人参中人参皂苷含量测定····· 张 影,王云华,薛晓丽(137)
- 不同微生物菌剂和生物有机肥对黄芪地下生长量及根腐病的影响····· 张会会,史 娟,王 俊,等(140)

## ◆新品种选育◆

---

- 牛角椒新品种“赤研 21 号”选育····· 崔聪聪,王秀芝,曲宝茹,等(144)

山野菜新品种“翠绿水芹菜”选育 ..... 郑毅,李玉环,李哲,等(145)

## ◆土壤与肥料◆

---

生态有机肥对日光温室西葫芦产量、品质及经济效益的影响 ..... 司东霞,吕福堂,戴保国,等(147)

大蒜秸秆还田对温室番茄连作土壤理化性质及其根系的影响 ..... 徐金强,刘庆涛,刘素慧,等(152)

设施条件下减量施氮对土壤硝态氮含量时空变化的影响 ..... 韩瑛祚,娄春荣,董环,等(157)

沈阳地区“寒富”苹果栽培新区土壤管理及养分现状 ..... 郎冬梅,秦嗣军,吕德国(161)

## ◆产业论坛◆

---

新疆农业产业集群现状及发展对策研究 ..... 龚新蜀,达月霞(169)

吉林省葡萄酒产业存在问题及发展对策研究 ..... 王银龙,钟大辉(173)

河北省水果产业发展现状及对策研究 ..... 刘春雁,田利琪(176)

## ◆专题综述◆

---

矮牵牛花香生物合成及其调控研究进展 ..... 刘璐,肖志娜,刘菲,等(181)

阿拉伯半乳糖蛋白在高等植物中的分布及功能 ..... 包晗,郑国琦(185)

炭基肥料在低碳农业种植中的技术应用 ..... 许允定,侯平,黄勇,等(192)

设施草莓组培快繁研究现状分析 ..... 吴鹏飞,王丽娟,切岩祥和,等(195)

长期大量施肥对保护地土壤质量的影响及防治对策 ..... 司鹏飞,王建中,王忠武(200)

## ◆农业经纬◆

---

气候变化对中国苹果主产区生产布局变迁的影响分析 ..... 白秀广,李小盼(204)

## ◆经验交流◆

---

“星童”半无籽西瓜温室早春吊蔓栽培技术 ..... 郎德山(209)

# NORTHERN HORTICULTURE

(Started in 1977, Half Monthly)

Total NO. 352, NO. 1(2016), The First Half of January

## Contents

### ◆ Experimentation and Research ◆

- Effect of Water-saving and Root-limiting Treatments on Leaves Fluorescence Characteristics and Yield and Quality of Apple ..... CAO Hui, XU Wenjuan, ZOU Yanmei, et al(1)
- Effect of Low Temperature and Weak Light on Growth and Photosynthetic Characters of Different Pepper Strains ..... GAO Jingxia, YAN Xiujuan, LI Ning, et al(6)
- Effect of Exogenous Sucrose on Nitrogen and Carbon Metabolism of Lettuce Under  $\text{NO}_3^-$  Stress ..... CHANG Lili, LIAO Zongwen, CHEN Riyuan, et al(10)
- Observation and Analysis of Flowering and Fruiting Phenologies of Five Deciduous Species of *Elaeagnus* Linn. .... CAO Zhanbo, LEI Xiaolin, GONG Chun, et al(15)

### ◆ Research Notes ◆

- Study on Several Bird Scaring Technologies' s Effect in Apple Orchards ..... LI Li, WANG Chunliang, LI Xiaolong, et al(19)
- Effect of Bagging on Fruit Quality of Peach Cultivar 'Meishuai' ..... QIN Sujie, GUO Weizhen, JIN Airong, et al(23)
- Nutritional Analysis of Sixteen Kinds of Wild Vegetables in Inner Mongolia ..... ZHENG Qingling, HAO Lizhen, ZHANG Fenglan, et al(26)
- Study on Dynamic Changes of Main Quality Traits of Different Processing Tomato Strains ..... LI Ying, LYU Guohua, XUE Lin, et al(30)

### ◆ Facilities Horticulture ◆

- Effect of Water-Fertilizer Coupling on Muskmelon Photosynthesis and Yield in Greenhouse ..... YE Lin, ZHAO Xia, NA Xuewei, et al(34)
- Selection of Weak Light Tolerance Indicators on Different Genotype Tomatoes Seedlings ..... ZHENG Qian, MAO Xiujie, YE Jingxue(38)

### ◆ Cultivation Technique ◆

- The Cultivation Technique of *Portulaca oleracea* L. in Salt Soil of Subei Coastal Mudflat ..... LIU Chong, HONG Lizhou, DING Hairong, et al(42)

### ◆ Garden Design and Garden Plants ◆

- Spatial Distribution Pattern of *Artemisia ordosica* Population Under Enclosure Condition in Desert Steppe ..... FAN Ruixia, LI Xuebin, CHEN Lin, et al(45)
- Research on *Coreopsis tinctoria* Seedling Substrate Compositions ..... JIANG Hong, QIN Yong, PAERSHATI • Tuanjie(51)
- Seed Germination Responses of *Haloxyylon ammodendron* to Drought and Salt Stress ..... LYU Chaoyan, ZHANG Ximing, LYU Wei, et al(55)
- Comparison of Two Lily's Karyotype and Photosynthesis ..... ZHONG Cheng, TIAN Xin, LI Xingyuan(61)
- Effect of Plant Growth Regulators on the Growth of Hydroponics *Epipremnum aureum* ..... ZHANG Zhihong, JI Jie(66)
- Analysis About Color Design of Sightseeing Corridor in Qingdao New Horizons Landscape ..... LIU Ning(68)

### ◆ Biotechnology ◆

- Cloning and Sequence Analysis of Polygalac-turonase (PG) Promoters in Tomato ..... ZHOU Liying, BU Lulu, YANG Chunlei, et al(72)
- Optimization of Chromosome Mounting Technique and Karyotype Analysis of *Chlorophytum laxum* R. Br ..... LI Lei, SHEN Jifen, HE Mengling, et al(76)
- Optimization of ISSR-PCR System and Selection of Primers for Horticultural Varieties of *Clematis* ..... WANG Nan, WANG Jin, LI Zongyan, et al(80)
- Measuring the Ploidy of Hawthorn Germplasm Resources by Flow Cytometry ..... CUI Jinxin, LI Yuemei, ZHANG Ruijing, et al(84)
- Establishment of the System of Rapid Propagation and Bud Induction of *Fittonia* ..... ZHAO Huan, ZHANG Li(87)
- Genetic Diversity by SSR Markers in Seventeen Chinese and American *Lycium barbarum* L. .... HU Bingfen, ZHANG Baolin, CAI Guojun, et al(90)

### ◆ Plant Protection ◆

- Field Efficiency Trials of Microbial Fertilizer Against *Verticillium dahliae* Kled. of Eggplant ..... ZHANG Dongmei, GAO Zhenjiang, GAO Wa, et al(95)

- Occurrence Conditions Analysis of Xunhua Line Chilli Phytophthora on High Altitude Area Along the Yellow River ..... HAN Shenglu(98)
- Molecular Detection of Seed Zucchini Virus Diseases in Shihezi and Xinhu Region in Xinjiang ..... REN Chenrong,HAO Xiaojun,DU Yejuan,et al(102)

### ◆ Storage and Processing ◆

- Effect of Heating Treatment on Ready-to-eat Pomegranate Arils Processed After Long-term Storage ..... WANG Qiong,CHU Lijun,WANG Min,et al(106)
- Effect of CPPU Treatment on Postharvest Fruit Quality and Chilling Resistance in Kiwifruit ..... WANG Wei,JIN Mijing,RAO Jingping(111)
- Study on Variation of Main Characters During Storage Period of Tomato Fruit ..... QI Jingkai,CAO Xia,ZHANG Xiaolei(117)

### ◆ Edible Fungi ◆

- Study on Nutrition Components of *Nostoc commune* Vauch From Mount Fanjing ..... LI Gangfeng,HUO Bei,GAO Jianqiang,et al(121)
- The Variety Test of Seven Low Temperature Resistant Strains of *Pleurotus ostreatus* in Beijing Area  
..... ZHANG Yuduo,GUO Yongjie,ZHANG Donglei,et al(123)
- Molecular Identification of Suspected Wild 'Nanhua' *Volvariella volvacea* Strain Based on Internal Transcribed Spacer Sequence  
..... LIU Zhu,CAI Aiqun,LIU Jinghua,et al(126)
- Study on Genetic Diversity of Esterase Isozyme of Edible Mushroom ..... LIU Na,ZHANG Min,LI Chao,et al(131)

### ◆ Chinese Traditional Medicine ◆

- Study on Accumulation Rule of Total Flavonoids Content of *Scutellaria baicalensis* ..... JIANG Mingliang,WANG Jingran,QUAN Xueli,et al(134)
- Contents Determination of Ginsenoside in *Panax ginseng* From Different Regions in Jilin Province ..... ZHANG Ying,WANG Yunhua,XUE Xiaoli(137)
- Effect of Different Microbial Agents and Biological Organic Fertilizer on Root Growth and Root Rot Underground of *Astragalus*  
..... ZHANG Huihui,SHI Juan,WANG Jun,et al(140)

### ◆ New Variety Breeding ◆

- Breeding of a New Variety F<sub>1</sub> Hybrid-'Chiyan No. 21' of Ox-horn Pepper ..... CUI Congcong,WANG Xiuzhi,QU Baoru,et al(144)
- Breeding of a New Variety of Wild Vegetable 'Cuilyu Water Dropwort' ..... ZHENG Yi,LI Yuhuan,LI Zhe,et al(145)

### ◆ Soil and Fertilizer ◆

- Effect of Eco-organic Fertilizer Application on Yield,Quality and Economic Return of Pumpkin (*Cucurbita pepo* L.) in Solar Greenhouse  
..... SI Dongxia,LYU Futang,DAI Baoguo,et al(147)
- Effect of Garlic Straw on Physical and Chemical Characteristics of Continuous Cropping Soil and Root Activity of Tomato in Solar Greenhouse  
..... XU Jinqiang,LIU Qingtao,LIU Suhui,et al(152)
- Effect of Reducing Nitrogen Fertilizer on Temporal and Spatial Variation of Soil Nitrate in Greenhouse  
..... HAN Yingzuo,LOU Chunrong,DONG Huan,et al(157)
- The Status of Managements and Soil Nutrients of New Cultivation Area 'Hanfu' Apple in Shenyang Area ... LANG Dongmei,QIN Sijun,LYU Deguo(161)

### ◆ Industry Forum ◆

- Present Situations and Countermeasures for Agricultural Industrialized Clustering in Xinjiang ..... GONG Xinsu,DA Yuexia(169)
- Study on the Problems and Development Countermeasure of Wine Industry in Jilin Province ..... WANG Yinlong,ZHONG Dahui(173)
- Research on the Fruit Industry Development and Countermeasures in Hebei Province ..... LIU Chunyan,TIAN Liqi(176)

### ◆ Summarize ◆

- Floral Scent Biosynthesis and Its Regulation in *Petunia* ..... LIU Lu,XIAO Zhina,LIU Fei,et al(181)
- Distribution and Function of Arabinogalactan-proteins in Higher Plant ..... BAO Han,ZHENG Guoqi(185)
- Application of Carbon-based Fertilizers in Low-carbon Farming ..... XU Yunding,HOU Ping,HUANG Yong,et al(192)
- Analysis of Research Status of Tissue Culture for Protected Strawberry ..... WU Pengfei,WANG Lijuan,KIRRIWA Yoshikazu,et al(195)
- Influence of a Large Number of Fertilization for Long Time on Soil Quality and Its Countermeasures  
..... SI Pengfei,WANG Jianzhong,WANG Zhongwu(200)

### ◆ Agricultural Relavant Issues ◆

- Impact of Climate Change on the Layout of Apple Production in China ..... BAI Xiuguang,LI Xiaopan(204)

# 《北方园艺》第五届编委会

**主任委员:** 李文华

**副主任委员:** 李景富 秦智伟 李天来 陈青云 杨文月 陶可全 刘 德 耿月伟 闫文义  
**委 员:** (以姓氏笔画为序)

于泽源 王秀峰 王清章 王傲雪 车代弟 冯国军 巩振辉 毕洪文 朱延明  
刘 德 刘延杰 刘洪章 齐红岩 闫文义 许 勇 许修宏 李 敏 李文华  
李天来 李玉花 李景富 杨文月 吴凤芝 邹志荣 陈立新 陈青云 陈宗礼  
赵尊练 秦智伟 耿月伟 徐启江 栾非时 高庆玉 高智谋 陶可全 黄家风  
崔继哲 韩贵清

## 编辑出版中心

**主 任:** 毕洪文

**副 主 任:** 苗玉新 黄峰华

**主 编:** 毕洪文

**责 任 编 辑:** 黄峰华

**编 辑:** 王 冠 李晓晨 张海燕 李文枫

**广 告 发 行:** 白晓琳

田志革 王 超 李 想

## 《北方园艺》

BEIFANG YUANYI

(半月刊, 1977年创刊)

2016年第1期(1月上), 总第352期

## NORTHERN HORTICULTURE

(Half Monthly, Started in 1977)

No. 1, 2016 (The First Half of January), Total No. 352

**主管单位** 黑龙江省农业科学院

**Competent Authority** Heilongjiang Academy of Agricultural Sciences

**主办单位** 黑龙江省农业科学院

**Sponsored by** Horticulture Society of Heilongjiang Province;

黑龙江省园艺学会

Heilongjiang Academy of Agricultural Sciences

**编辑出版** 《北方园艺》编辑部

**Edited and Published by** Editorial Department of Northern Horticulture

**地 址** 哈尔滨市南岗区学府路368号

**Address** 368 Xuefu Road, Nangang District, Harbin, P.R. of China

**邮政编码** 150086

**Postalcode** 150086

**电 话** 0451-86674276

**Tel** 0451-86674276

**电子信箱** bfybjb@163.com

**E-mail** bfybjb@163.com

**网 址** www.haasep.cn

**Web** www.haasep.cn

**印 刷** 天元铸成实业有限公司

**Printed by** Tianyuan Zhucheng Industrial Co. Ltd.

**国内发行** 哈尔滨市邮局

**Domestic Distributed by** Harbin Post Office

**国外发行** 中国国际图书贸易总公司

**Domestic Distributing Code** 14-150

(北京399信箱)

**Oversea Distributed by** International Book Trading Corporation P.O.

Box 399 Beijing, P.R. of China

**Oversea Distributing Code** BM 5011

**广告经营许可证号** 2301070000009

**Advertising Business Permit Number** 2301070000009

**出版日期** 每月15、30日

**Publishing Date** Monthly 15th, 30th

**Price** RBM 15 yuan

国内邮发代号:14-150

国内统一连续出版物号:CN 23-1247/S

国外邮发代号:BM 5011

定 价:15.00元

ISSN 1001-0009



9 771001 000160