

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

5  

---

2016

# 北方园艺

(1977年创刊·半月刊)

BEIFANG YUANYI

总第356期 2016年第5期 3月(上)

## 目次

### ◆试验研究◆

---

- 藏茴香不同海拔高度的叶表皮结构比较····· 韦梅琴,沈宁东,韦 静(1)
- 不同连作年限对大蒜生长及生理活性的影响····· 田春丽,王喜枝,姚丽娟,等(5)
- AM真菌和根结线虫互作对黄瓜幼苗生理变化的影响····· 李许真,姜永华,陈书霞(9)
- 库尔勒香梨全同胞家系实生苗特性差异分析····· 董胜利,李超海,张校立,等(13)
- 河南省主栽甜瓜品种苗期表型性状变异分析····· 周亚峰,许彦宾,王盼乔,等(17)
- 中微量元素在贺兰山东麓酿酒葡萄上的应用效果····· 蒋 鹏,王 锐,纪立东,等(22)

### ◆研究简报◆

---

- 环绕滴灌施肥制度对苹果产量、水分利用和品质的影响····· 王志平,周继华,刘宝文,等(27)
- 硅处理对水分胁迫下的苹果幼树生理特性的影响····· 范春丽,赵 奇(30)
- 二十个甜瓜新品种比较试验····· 程志强,闫 娜,范君龙,等(33)
- 两个果桑品种避雨栽培试验····· 肖姣娣(36)
- 低温春化对樱桃萝卜种子萌发及成花的影响····· 王凤华,李光远,李 盛,等(39)

不同施肥种类对黄瓜生长发育及产量品质的影响…………… 王继芳,曹培顺,况 川,等(43)

栽植密度与支架方式对节瓜产量的影响…………… 黄成秋,刘政国,覃海平,等(46)

## ◆设施园艺◆

---

低温寡照胁迫对设施番茄花期叶片衰老特性的影响…………… 高 冠,邹雨伽,杨再强,等(49)

灌溉方式对春大棚黄瓜产量、经济效益和灌溉水分生产效率的影响 …………… 石文学,王 军,张志国,等(56)

缩节胺对番茄穴盘幼苗生长的影响…………… 程 艳,张晓明,吴春燕,等(60)

西宁地区冬暖式日光温室越冬茬西葫芦产品比试验 …………… 张晓梅(63)

## ◆栽培技术◆

---

### ☆菜 园☆

河南新乡地区早春大棚黄瓜高效生产技术…………… 韩永平,高冠英,米国全,等(65)

轮台县加工番茄高产栽培技术…………… 孙金英,海日古丽·阿不都如苏力(67)

## ◆园林花卉◆

---

### ☆植 物☆

干旱区绿洲城市草坪草截留特征研究…………… 张 润,刘志辉,姚俊强,等(69)

遮光处理下一品红花芽分化的形态学观察…………… 宁云芬,汪勳炜,贾 蕊,等(73)

十一个北美海棠品种在山东地区的生长特性及观赏性状研究…………… 董仲国,国淑梅,张艳君,等(76)

狗牙根根系抗拉性能试验…………… 冯国建,朱维伟,杜 俊,等(80)

珍稀濒危植物膝柄木种子催芽研究…………… 钟国贵,谢绍添,苏付保,等(83)

高温胁迫对滇海水仙花生生长发育的影响…………… 邵长芬,李得发,关文灵,等(85)

滨海公园棕榈类植物抗风性调查与评价分析…………… 祖若川,罗立娜,刘 晶,等(89)

欧洲鹅耳枥高效低成本基质筛选..... 祝遵凌,余 萍,程龙霞,等(95)

## ☆景观☆

新疆城镇住区植物配置研究 ..... 韩卫民,马腾云,冶建明(99)

硬质景观材料在西班牙景观风格中的应用 ..... 罗彬杰,黄磊昌(104)

## ◆生物技术◆

---

苹果梨果皮花色素苷合成相关基因 *P<sub>y</sub>ANS* 的克隆与表达分析 ..... 王 雪,曲柏宏,鹿艳新,等(108)

小立碗蕨 *C3H* 基因敲除载体的构建及 *C3H1-npt II-C3H2* 目的片段最佳 PCR 条件筛选  
..... 崔彩云,晏国洪,姜 山(113)

白檀未成熟胚的器官发生和植株再生 ..... 杨 艳,蒋丽娟,汤玉喜,等(119)

云南栽培金盏花遗传多样性 RAPD 分析 ..... 鲁京慧(123)

菊花茎尖玻璃化法超低温保存技术研究 ..... 张艳秋,屈连伟,苏君伟,等(128)

怀牛膝悬浮细胞培养的动力学研究 ..... 李金亭,郭晓双,王召阳,等(132)

忍冬属四种不同种质农艺学性状比较及 DNA 条形码鉴定研究 ..... 李绍吉,蒋向辉(137)

## ◆植物保护◆

---

西瓜种子带菌对幼苗细菌性果斑病发生和侵染途径的影响..... 高玉红,闫生辉,邓黎黎(141)

百合鳞茎青霉病防治药剂筛选 ..... 杨迎东,冯秀丽,王伟东,等(144)

## ◆贮藏保鲜加工◆

---

没食子酸丙酯处理对薄皮甜瓜采后储藏保鲜的影响..... 曹中权,余璐璐,徐 飞(148)

超声波-微波协同酶法提取柳蒿芽黄酮 ..... 孙海涛,孙 影,朱 炎,等(153)

慕萨莱思酒及其酿造葡萄“和田红”中多酚类物质分布规律研究 ..... 王伟华,胡萧梅(156)

## ◆食用菌◆

---

- 白背毛木耳枝条种应用效果研究····· 柯丽娜(160)
- 食用菌在玉米皮渣中生长初探····· 杜娟,张春丹,郭红珍,等(163)

## ◆中草药◆

---

- 不同海拔密花香薷叶表特征比较····· 白世俊,李军乔,韦梅琴,等(167)
- 鸡血藤的扦插育苗试验····· 荣广天,何钢,倪尚格,等(171)

## ◆新品种选育◆

---

- 辣椒新品种“淮椒1108”选育····· 罗德旭,杨红,顾妍,等(175)

## ◆资源与环境◆

---

- 施肥量对不同西梅品种产量的影响····· 努尔曼·阿不拉,阿依古丽·铁木儿,沙比尔江·阿巴克(177)
- 长白山区次生林土壤有机碳空间分布特征····· 姜泽宇,傅民杰,吴凤日,等(181)
- 几种有机物料与市售草炭基质理化性状比较分析····· 周静,史向远,王保平,等(186)

## ◆产业论坛◆

---

- 新疆巴州库尔勒香梨发展分析与建议····· 马建江,张萍,薛根生(191)

## ◆专题综述◆

---

- 我国黑果枸杞研究进展····· 王琴,王建友,李勇,等(194)
- miRNAs 调控植物生长发育的研究进展····· 陈思,陈薇,庞基良(200)
- ISSR 技术在食用菌研究上的应用····· 孟虎,孙国琴,睢韡,等(207)

# NORTHERN HORTICULTURE

(Started in 1977, Half Monthly)

Total NO. 356, NO. 5(2016), The First Half of March

## Contents

### ◆ Experimentation and Research ◆

- Comparative Study About the Epidermal Structure for Leaves of *Carum carvi* L. in Different Elevation ..... WEI Meiqin, SHEN Ningdong, WEI Jing(1)
- Effect of Different Years of Continuous Cropping on Garlic Growth and Physiological Activities ..... TIAN Chunli, WANG Xizhi, YAO Lijuan, et al(5)
- Interaction Between AM Fungi and Root-knot Nematode on the Physiological Characteristics of Cucumber Seedlings  
..... LI Xuzhen, JIANG Yonghua, CHEN Shuxia(9)
- Analysis of Characteristic Differences of Seedlings From Full-sib Families of Korla Fragrant Pear ..... DONG Shengli, LI Chaohai, ZHANG Xiaoli, et al(13)
- Analysis of Variation of Seedling Traits of the Mainly Cultivated Melon Cultivars in Henan ..... ZHOU Yafeng, XU Yanbin, WANG Panqiao, et al(17)
- Study on the Application Effect of the Trace Elements on Wine Grapes in the Eastern Foot of Helan Mountain  
..... JIANG Peng, WANG Rui, JI Lidong, et al(22)

### ◆ Research Notes ◆

- Managements of Fertigation With Surround Drip Irrigation on the Influence of the Yield, Quality and WUE of Apple Trees  
..... WANG Zhiping, ZHOU Jihua, LIU Baowen, et al(27)
- Effect of Silicon on Physiological Characteristics of Apple Young Trees Under Drought Stress ..... FAN Chunli, ZHAO Qi(30)
- Comparison of Twenty New Melon Cultivars ..... CHENG Zhiqiang, YAN Na, FAN Junlong, et al(33)
- Test of Two Mulberry Varieties by Rain Shelter Cultivation ..... XIAO Jiaodi(36)
- Influence of Vernalization on Germination and Flowering of Cherry Radish ..... WANG Fenghua, LI Guangyuan, LI Sheng, et al(39)
- Effect of Quality and Yield of Different Kind of Fertilizer on Growth and Production Quality of Cucumber  
..... WANG Jifang, CAO Peishun, KUANG Chuan, et al(43)
- Effect of Planting Density and Humping Support on Yield of Chieh-qua ..... HUANG Chengqiu, LIU Zhengguo, QIN Haiping, et al(46)

### ◆ Facilities Horticulture ◆

- Effect of Low Temperature and Low Irradiation Stress on Senescence of Greenhouse Tomato During Flowering Period  
..... GAO Guan, ZOU Yujia, YANG Zaiqiang, et al(49)
- Effect of Irrigation Methods on Plastic Greenhouse Cucumber Yield, Economic Benefits and Water Use Efficiency  
..... SHI Wenxue, WANG Jun, ZHANG Zhiguo, et al(56)
- Effect of Mepiquat Chloride on the Growth of Tomato Plug Seedlings ..... CHENG Yan, ZHANG Xiaoming, WU Chunyan, et al(60)
- Variety Comparative Test of Winter-crossing Summer Squash in Winter-warming Solar in Xining Region ..... ZHANG Xiaomei(63)

### ◆ Garden Design and Garden Plants ◆

- Study on Rainfall Interception Characteristic of Turfgrass in Arid Oasis City ..... ZHANG Run, LIU Zhihui, YAO Junqiang, et al(69)
- Effect of Shade on Flower Bud Differentiation of *Euphorbia pulcherrima* ..... NING Yunfen, WANG Mengwei, JIA Rui, et al(73)
- Study on the Growth Characteristics and Ornamental Characters of 11 Varieties of North American *Begonia* in Shandong Region  
..... DONG Zhongguo, GUO Shumei, ZHANG Yanjun, et al(76)
- Study on the Tensile Performance of *Cymodon dactylon* Roots ..... FENG Guojian, ZHU Weiwei, DU Jun, et al(80)
- Study on Seed Germination of Rare and Endangered Plant *Bhesa sinensis* ..... ZHONG Guogui, XIE Shaotian, SU Fubao, et al(83)
- Effect of High Temperature Stress on Growth and Development of *Primula pseudenticulata* Pax. .... SHAO Changfen, LI Defa, GUAN Wenling, et al(85)
- Research and Assessment on the Wind Resistance Analysis of Palm Plants in the Coastal Park ..... ZU Ruochuan, LUO Lina, LIU Jing, et al(89)

- Selection of Efficient Low-cost Substrate of *Carpinus betulus* ..... ZHU Zunling, YU Ping, CHENG Longxia, et al(95)
- Study on the Plants Configuration in Xinjiang Urban Residential ..... HAN Weimin, MA Tengyun, YE Jianming(99)
- Application of Hard Landscape Materials in Landscape Style of Spain ..... LUO Binjie, HUANG Leichang(104)

#### ◆ Biotechnology ◆

- Molecular Cloning and Expression of *PyANS* in ‘Pingguoli’ During the Pigmentation ..... WANG Xue, QU Baihong, LU Yanxin, et al(108)
- The Construction of *Physcomitrella patens* C3H Gene Knock Out Vector and Optimum Condition of PCR for C3H1-*npII*-C3H2 Target Fragment  
..... CUI Caiyun, YAN Guohong, JIANG Shan(113)
- Organogenesis and Regeneration of *Symplocos paniculata* From Immature Zygotic Embryos *in vitro* ..... YANG Yan, JIANG Lijuan, TANG Yuxi, et al(119)
- RAPD Analysis of the Genetic Diversity of *Calendula officinalis* Cultivated in Yunnan Province ..... LU Jinghui(123)
- Study on Cryopreservation of Shoot Tips From *in vitro* Plants of *Chrysanthemum* by Vitrification Method  
..... ZHANG Yanqiu, QU Lianwei, SU Junwei, et al(128)
- Kinetics in Suspension Cell Culture of *Achyranthes bidentata* Bl. .... LI Jinting, GUO Xiaoshuang, WANG Zhaoyang, et al(132)
- Comparison of Agronomy Properties and DNA Barcoding Identification in Four Different Species of *Lonicera* ..... LI Shaoji, JIANG Xianghui(137)

#### ◆ Plant Protection ◆

- Effect of Watermelon Seeds Pathogen on Occurrence and Infection Pathway of Bacterial Fruit Blotch Disease  
..... GAO Yuhong, YAN Shenghui, DENG Lili(141)
- Screening of Control Agent on Lily Bulb *Penicillium* Disease ..... YANG Yingdong, FENG Xiuli, WANG Weidong, et al(144)

#### ◆ Storage and Processing ◆

- Effect of N-propyl Gallate Treatment on Postharvest Storage of Thin-skinned Melon (*Cucumis melo* L.) ..... CAO Zhongquan, YU Lulu, XU Fei(148)
- Optimization of Flavonoids Extraction Technology From *Artemisia integrifolia* L. by Ultrasound-microwave Enzyme Synergistic Method  
..... SUN Haitao, SUN Ying, ZHU Yan, et al(153)
- Study on Polyphenols Distribution in Musalais and Its Wine Grape ‘Hetianhong’ ..... WANG Weihua, HU Xiaomei(156)

#### ◆ Edible Fungi ◆

- The Applied Research of the Branch Strain in *Auricularia polytricha* (Mout) Sacc. .... KE Lina(160)
- Preliminary Study on the Growth of Edible Mushroom in Maize Bran ..... DU Juan, ZHANG Chundan, GUO Hongzhen, et al(163)

#### ◆ Chinese Traditional Medicine ◆

- Comparison of the Leaf Epidermal Characters’ in Different Altitude of *Elsholtzia densa* ..... BAI Shijun, LI Junqiao, WEI Meiqin, et al(167)
- Experiment of Cutting Seeding-raising of *Milletia reticulata* Benth ..... RONG Guangtian, HE Gang, NI Shangge, et al(171)

#### ◆ New Variety Breeding ◆

- Breeding of A New Pepper F<sub>1</sub> Hybrid-‘Huajijiao No. 1108’ ..... LUO Dexu, YANG Hong, GU Yan, et al(175)

#### ◆ Resource and Environment ◆

- Effect of Fertilizer Application Rate on Different *Prunes* Varieties Yield ..... NU’ERMAN Abula, AYIGULI Tiemu’er, SHABIERJIANG Abake(177)
- Changbai Mountain District Forest Spatial Distribution Characteristics of Soil Organic Carbon ..... JIANG Zeyu, FU Minjie, WU Fengri, et al(181)
- Comparative Analysis of Physical and Chemical Characteristics of Several Organic Materials With Market Sell Peat Substrate  
..... ZHOU Jing, SHI Xiangyuan, WANG Baoping, et al(186)

#### ◆ Industry Forum ◆

- Analysis and Suggestions for the Development of Korla Fragrant Pear in Bazhou Area of Xinjiang ..... MA Jianjiang, ZHANG Ping, XUE Gensheng(191)

#### ◆ Summarize ◆

- Research Progress on *Lycium ruthenicum* Murr. in China ..... WANG Qin, WANG Jianyou, LI Yong, et al(194)
- Research Progresses of Regulating Plant Growth and Development by miRNAs ..... CHEN Si, CHEN Wei, PANG Jiliang(200)
- The Application of ISSR in Edible Fungi Research ..... MENG Hu, SUN Guoqin, SUI Wei, et al(207)

# 《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

**主 编:** 毕洪文

**编 辑:** 王 冠 李晓晨 张海燕 李文枫  
田志革 王 超 李 想

**副 主 任:** 苗玉新 黄峰华

**责 任 编 辑:** 黄峰华

**广 告 发 行:** 白晓琳

## 《北方园艺》

BEIFANG YUANYI

(半月刊, 1977年创刊)

2016年第5期(3月上), 总第356期

## NORTHERN HORTICULTURE

(Half Monthly, Started in 1977)

No 5, 2016 (The First Half of March), Total No. 356

**主管单位** 黑龙江省农业科学院

**主办单位** 黑龙江省农业科学院  
黑龙江省园艺学会

**编辑出版** 《北方园艺》编辑部

**地 址** 哈尔滨市南岗区学府路368号

**邮政编码** 150086

**电 话** 0451-86674276

**电子信箱** bfyybjb@163.com

**网 址** www.haasep.cn

**印 刷** 天元铸成实业有限公司

**国内发行** 哈尔滨市邮局

**国外发行** 中国国际图书贸易总公司  
(北京399信箱)

**广告经营许可证号** 2301070000009

**出版日期** 每月15、30日

**Competent Authority** Heilongjiang Academy of Agricultural Sciences

**Sponsored by** Horticulture Society of Heilongjiang Province;  
Heilongjiang Academy of Agricultural Sciences

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

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

**Postalcode** 150086

**Tel** 0451-86674276

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

**Web** www.haasep.cn

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

**Domestic Distributed by** Harbin Post Office

**Domestic Distributing Code** 14-150

**Oversea Distributed by** International Book Trading Corporation P.O.  
Box 399 Beijing, P.R. of China

**Oversea Distributing Code** BM 5011

**Advertising Business Permit Number** 2301070000009

**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

