

# 植物营养与肥料学报

Zhiwu Yingyang Yu Feiliao Xuebao

第 16 卷 第 3 期

## 目 次

- 515 氮肥运筹比例对稻田套播强筋小麦子粒品质和产量的影响  
522 氮肥运筹对水稻养分吸收特性及稻米品质的影响
- 528 稻麦轮作区保护性耕作条件下氮肥对水稻生长发育和产量的调控效应  
536 氮素对玉米灌浆期叶片光合性能的影响
- 543 抵节期追氮对春播和秋播糯玉米淀粉胶凝和回生特性的影响  
552 施氮对春玉米氮素利用及农田氮素平衡的影响  
559 超高产夏玉米养分限制因子及养分吸收积累规律研究
- 567 冬小麦-夏玉米轮作体系中不同施氮水平对玉米生长及其根际土壤氮的影响  
575 超高产栽培条件下冬小麦对锰的吸收、积累和分配
- 584 铝胁迫对不同耐铝小麦品种根伸长生长影响的研究  
591 硅对水稻叶片抗氧化酶活性的影响及其与白叶枯病抗性的关系  
598 硅对水稻几丁质酶和  $\beta$ -1,3-葡聚糖酶活性的影响及其与抗纹枯病的关系
- 605 锌离子活度对水稻产量及子粒锌含量的影响及基因型差异  
612 不同玉米秸秆还田量对土壤肥力及冬小麦产量的影响  
620 旱作地区长期小麦连作和苜蓿连作土壤剖面的矿质氮研究  
626 不同施氮水平对冬小麦季化肥氮去向及土壤氮素平衡的影响  
634 湖南稻田土壤有机质组分的施磷效应、季节变化及生物有效性研究  
642 保护性耕作对土壤微团聚体碳、氮分布的影响  
650 南方酸性旱坡地桔园有机无机肥料配合施用效应研究
- 656 控释氮肥对棉花叶片光合特性及产量的影响
- 663 施氮量对杂交棉氮、磷、钾吸收利用和产量及品质的影响  
668 磷、钾营养对套作大豆钾素积累及利用效率的影响  
675 控释复合肥对冷季型草坪氮挥发和硝态氮淋洗的影响
- 681 小白菜硝酸盐积累量基因型差异机理研究  
688 生活污泥对白菜供磷和土壤磷状况的影响
- 695 接种丛枝菌根真菌对土壤水稳定性团聚体特征的影响  
701 渭北旱塬葡萄园土著 AM 真菌对赤霞珠葡萄促生效应研究
- 708 高寒地区联合固氮菌肥对青稞的促生效应研究  
714 烤烟烟碱合成及其氮素来源与移栽期和氮肥的关系研究
- 720 氮素形态对川芎生长、产量与阿魏酸和总生物碱含量的影响  
725 酒糟型生物有机肥初始酵解条件对木质纤维降解的影响

### 专题评述

- 732 作物氮、磷、钾利用相关性状的 QTL 定位研究进展  
744 不同施肥和耕作制度下土壤微生物多样性研究进展

### 研究简报

- 752 不同施肥制度对双季稻氮吸收、净光合速率及产量的影响  
758 磷水平对不同磷效率小麦叶绿素荧光参数的影响  
763 供锌水平对番茄果实抗氧化性及风味品质的影响  
768 氮素不同形态配比对菜用大豆生长、种子抗氧化酶活性及活性氧代谢的影响  
773 控释肥对夏玉米碳、氮代谢的影响

期刊基本参数: CN11-3996/S \* 1994 \* b \* A4 \* 258 \* zh \* p \* ¥ 28.00 \* 1600 \* 39 \* 2010-05

- 朱新开 郭凯泉 郭文善 龚超年 彭永欣  
潘圣刚 翟 品 曹凌贵 蔡明历 王若涵 黄胜奇  
李进山  
李朝苏 谢瑞芝 黄 钢 吴 春 李少昆 汤永禄  
李 耕 高辉远 刘 鹏 杨吉顺 董树亭 张吉旺  
王敬锋  
刘 萍 陆大雷 孙建勇 陆卫平  
叶东靖 高 强 何文天 何 萍  
王宜伦 李潮海 何 萍 金继远 韩燕来 张 许  
谭金芳  
云 鹏 高 翔 陈 磊 卢昌艾 张金涛 刘荣乐  
汪 洪 林国林  
党红凯 李瑞奇 孙亚辉 张馨文 孟 建 刘红彬  
李雁鸣  
杨 野 王 伟 刘 辉 叶志娟 赵竹青 耿明建  
薛高峰 宋阿琳 孙万春 李兆君 范分良 梁永超  
张国良 丁 原 王清清 戴其根 黄慧宇 霍中洋  
张洪程  
万吉丽 王人民 孟 杰 付力成  
张 静 温晓霞 廖允成 刘 阳  
薛晓辉 郝明德  
南雄雄 田霄鸿 张 琦 游东海 吴玉红 曹玉贤  
冯清华 张杨珠 黄运湘  
王彩霞 岳西杰 葛奎祖 黄 婷 王 勇 王旭东  
徐培智 解开治 陈建生 杨少海 张发宝 唐拴虎  
黄 旭 顾文杰  
李学刚 宋亮亮 孙学振 陈二影 张美玲 赵庆龙  
刘 峰  
李伶俐 房卫平 马宗斌 谢德意 杜远仿 张东林  
向达兵 郭 凯 杨文钰 雷 婷 张 静 罗庆明  
许俊香 谷佳林 边秀举 倪小会 杨俊刚 李会彬  
曹 兵  
赵首萍 张永志 叶雪珠 郑纪慈  
瞿丽梅 张继宗 刘宏斌 邹国元 崔希龙 桂 萌  
张素梅  
彭思利 申 鸿 郭 浩  
房玉林 张稼涵 宋士任 屈雁朋 张振文 孟江飞  
刘金串 孙 艳  
张 婷 姚 拓 张德显 辛国荣  
李进平 谢志坚 涂书新 许汝冰 陈振国 王学龙  
曹仕明 李建平 于 洋 张允政  
范巧佳 张 谷 杨世民 袁继超 郑顺林 周 虹  
马逾英 蒋桂华  
喻夜兰 刘 强 荣湘民 谢桂先 彭建伟 曾 晶  
宋海星 张玉平

林海建 张志明、张永中 高世斌 潘光堂  
樊晚刚 金 柯 李兆君 荣向农

王 卫 谢小立 谢永宏 陈惟财  
王 菲 曹翠玲  
侯雷平 吴俊华 李梅兰 李远新  
陈 磊 朱月林 杨立飞 王 聰

卫 丽 马 超 黄晓书 杜园园 王同朝

# PLANT NUTRITION AND FERTILIZER SCIENCE

Vol.16 No.3

## CONTENTS

- 515 Effects of nitrogen fertilization on grain quality and yield of strong-gluten wheat interplanted with rice ZHU Xin-kai GUO Kai-quan GUO Wen-shan  
FENG Chao-nian PENG Yong-xin
- 522 Effects of nitrogen management practices on nutrition uptake and grain qualities of rice PAN Sheng-gang ZHAI-Jing CAO Cou-gui CAI Ming-li  
WANG Ruo-han Huang Sheng-qí LI Jin-shan  
LI Chao-su XIE Rui-zhi HUANG Gang WU Chun  
LI Shao-kun TANG Yong-lu
- 528 Effects of nitrogen management on rice growth and grain yield under conservation tillage in rice-wheat cropping system LI Geng GAO Hui-yuan LIU Peng YANG Ji-shun  
DONG Shu-ting ZHANG Ji-wang WANG Jing-feng  
LIU Ping LU Da-lei SUN Jian-yong LU Wei-ping
- 536 Effects of nitrogen fertilization on photosynthetic performance in maize leaf at grain filling stage YE Dong-jing GAO Qiang HE Wen-tian HE Ping  
WANG Yi-lun LI Chao-hai HE Ping JIN Ji-yun  
HAN Yan-lai ZHANG Xu TAN Jin-fang
- 543 Effects of nitrogen top-dressing on starch gelatinization and retrogradation properties of spring and autumn waxy maize at the jointing stage YUN Peng GAO Xiang CHEN Lei LU Chang-ai  
ZHANG Jin-tao LIU Rong-le WANG Hong  
LIN Guo-lin
- 552 Effect of N application on N utilization and N balance in spring maize DANG Hong-kai LI Rui-qi SUN Ya-hui  
ZHANG Xin-wen MENG Jian LIU Hong-bin  
LI Yan-ming
- 559 Nutrient restrictive factors and accumulation of super-high-yield summer maize YANG Ye WANG Wei LIU Hui YE Zhi-juan  
ZHAO Zhu-qing GENG Ming-jian
- 567 Plant nitrogen utilization and soil nitrogen status in rhizosphere of maize as affected by various nitrogen rates in wheat-maize rotation system XUE Gao-feng SONG A-lin SUN Wan-chun LI Zhao-jun  
FAN Fen-liang LIANG Yong-chao  
ZHANG Guo-liang DING Yuan WANG Qing-qing  
DAI Qi-gen HUANG Hui-yu HUO Zhong-yan  
ZHANG Hong-cheng
- 575 Absorption, accumulation and distribution of manganese in winter wheat WAN Ji-li WANG Ren-min MENG Jie FU Li-cheng  
cultivated under super-high-yielding conditions ZHANG Jing WEN Xiao-xia LIAO Yun-cheng LIU Yang
- 584 Effects of aluminum stress on root elongation of different aluminum tolerance wheat cultivars XUE Xiao-hui HAO Ming-de
- 591 Influences of silicon on activities of antioxidant enzymes in rice leaves infected by *Xoo* strain in relation to bacterial blight resistance NAN Xiong-xiong TIAN Xiao-hong ZHANG Lin  
YOU Dong-hai WU Yu-hong CAO Yu-xian
- 598 Effects of silicon on chitinase and  $\beta$ -1,3-glucanase activities of rice infected by *Rhizoctonia solani* and its relation to resistance FENG Yue-hua ZHANG Yang-zhu HUANG Yun-xiang
- 605 Genotypic difference in rice yield and zinc partitioning in rice grain response to different  $Zn^{2+}$  activities WANG Cai-xia YUE Xi-jie GE Xi-zu HUANG Ting  
WANG Yong WANG Xu-dong
- 612 Effects of different amount of maize straw returning on soil fertility and yield of winter wheat XU Pei-zhi XIE Kai-zhi CHEN Jian-sheng  
YANG Shao-hai ZHANG Fa-bao TANG Shuan-hu  
HUANG Xu GU Wen-jie
- 620 Mineral nitrogen in soil profiles under long-term wheat cultivation and alfalfa continuous cropping in the dry farming area LI Xue-gang SONG Xian-liang SUN Xue-zhen  
CHEN Er-ying ZHANG Mei-ling ZHAO Qing-long  
LIU Feng
- 626 Decomposition characteristics of maize and wheat straw and their effects on soil carbon and nitrogen contents LI Ling-li FANG Wei-ping MA Zong-bin XIE De-yi  
DU Yuan-fang ZHANG Dong-lin
- 634 Effects of phosphatization on organic phosphorus fractions and their seasonal variations and bioavailabilities of paddy soils in Hunan Province XIANG Da-bing GUO Kai YANG Wen-yu LEI Ting  
ZHANG Jing LUO Qing-ming
- 642 Effects of conservational tillage measures on distributions of organic carbon and nitrogen in soil microaggregates XU Jun-xiang GU Jia-lin BIAN Xiu-ju NI Xiao-hui  
YANG Jun-gang LI Hui-bin CAO Bing
- 650 Effects of organic and inorganic fertilizers on sloping-land citrus orchards with acid soils in Southern China
- 656 Effects of controlled release N fertilizer on photosynthetic characteristics and yield of cotton
- 663 Effects of nitrogen fertilization on uptake and utilization of NPK and yield and quality of hybrid cotton
- 668 Effects of phosphorus and potassium fertilization on potassium accumulation and utilization efficiency of relay-cropping soybean
- 675 Effects of controlled release compound fertilizer on ammonia volatilization and nitrate leaching in cool-season turf grass system

- 681 Research on the mechanism of different nitrate accumulation in Chinese cabbage with different genotypes ZHAO Shou-ping ZHANG Yong-zhi YE Xue-zhu  
ZHENG Ji-ci
- 688 Availability and Chinese cabbage uptake of phosphorous in the soil amended with domestic sewage sludge ZHAI Li-mei ZHANG Ji-zong LIU Hong-bin  
ZOU Guo-yuan CUI Xi-long GUI Meng ZHANG Su-mei
- 695 Influence of mycorrhizal inoculation on water stable aggregates traits PENG Si-li SHEN Hong GUO Tao
- 701 Promotion effects of native AM fungi on Cabernet Sauvignon grapevines in vineyards of Weibei Tableland FANG Yu-lin ZHANG Jia-han SONG Shi-ren  
QU Yan-peng ZHANG Zhen-wen MENG Jiang-fei  
LIU Jin-chuan SUN Yan  
ZHANG Kun YAO Tuo ZHANG De-gang XIN Guo-rong
- 708 Effects of associative nitrogen-fixing biofertilizer on growth of *Hordeum vulgare* in alpine region LI Jin-ping XIE Zhi-jian TU Shu-xin XU Ru-bing  
CHEN Zhen-guo WANG Xue-long CAO Shi-ming
- 714 Nicotine synthesis and nicotine-N source in flue-cured tobacco influenced by transplanting date and N fertilizer LI Jian-ping YU Yang ZHANG Yun-zheng  
FAN Qiao-jia ZHANG Yi YANG Shi-min YUAN Ji-chao  
ZHENG Shun-lin ZHOU Hong MA Yu-ying  
JIANG Gui-hua
- 720 Effect of nitrogen forms on the growth, yield, content of ferulic acid and total alkaloids of *Ligusticum chuanxiong* YU Ye-lan LIU Qiang RONG Xiang-ming XIE Gui-xian  
PENG Jian-wei ZENG Jing SONG Hai-xing  
ZHANG Yu-ping
- 725 Effects of initial composting conditions on lignocellulosic degradation of brewer's spent grains-based bio-organic fertilizer LIN Hai-yan ZHANG Zhi-ming ZHANG Yong-zhong  
GAO Shi-bin PAN Guang-tang  
FAN Xiao-gang JIN Ke LI Zhao-jun RONG Xiang-nong

#### Comment on special topic

- 732 Advancement of QTL analysis for traits associated to N, P and K utilization LIN Hai-yan ZHANG Zhi-ming ZHANG Yong-zhong  
GAO Shi-bin PAN Guang-tang
- 744 Soil microbial diversity under different fertilization and tillage practices: A review FAN Xiao-gang JIN Ke LI Zhao-jun RONG Xiang-nong

#### Short communications

- 752 Effects of different fertilization on nitrogen uptake, net photosynthesis rate and yield of rice WANG Wei XIE Xiao-li XIE Yong-hong CHEN Wei-cai
- 758 Effects of phosphorus levels on chlorophyll fluorescence parameters of wheat (*Triticum aestivum* L.) with different phosphorus efficiencies WANG Fei CAO Cui-ling
- 763 Effects of Zn fertilization on antioxidative capacity and flavor quality of tomato fruit HOU Lei-ping WU Jun-hua LI Mei-lan LI Yuan-xin
- 768 Effects of nitrogen forms and ratios on plant growth, seed antioxidant enzyme activities and reactive oxygen metabolism of vegetable soybean CHEN Lei ZHU Yue-lin YANG Li-fei WANG Cong
- 773 Effects of controlled-release nitrogen fertilizer on carbon and nitrogen metabolism of summer maize WEI Li MA Chao HUANG Xiao-shu DU Yuan-yuan  
WANG Tong-chao