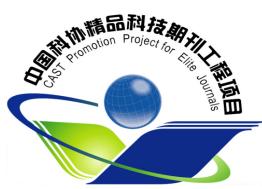


# 植物营养与肥料



7





**植物营养与肥料学报**  
**Zhiwu Yingyang Yu Feiliao Xuebao**  
**第 27 卷 第 7 期**  
**目 次**

- 1113 不同来源生物质废弃物热解炭化农业应用潜力分析: 柯贤林 恽壮志 刘铭龙 刘晓雨 卞荣军  
生物质炭产率、性质及促生效应 李恋卿 潘根兴
- 1129 煤矿区复垦土壤中秸秆和生物炭的分解特征 李然 徐明岗 邬磊 申华平 孙楠  
蔡岸冬 王斌 艾天成 靳东升 张强  
洪坚平
- 1141 秸秆深度粉碎均匀抛洒还田降低秸秆焚烧率并提高养分归还量 李超 程凯凯 廖育林 郭立君 周峻宇  
罗先富 文丽 唐海明 汤文光 汪柯  
肖小平
- 1151 传统耕作结合秸秆地膜双元覆盖是提高渭北旱塬春玉米产量和养分吸收的有效措施 赵晶 刘萌 付威 牛育华 郝明德
- 1164 绿洲灌区春小麦产量和氮素利用率对绿肥还田量的响应 王国瑾 张松茂 胡发龙 殷文 樊志龙  
范虹 于爱忠 赵财 柴强
- 1173 施磷水平对玉米大豆间作系统氮素吸收与分配的影响 覃潇敏 潘浩男 肖靖秀 汤利 郑毅
- 1185 海藻肥对菜心抗旱性的影响及其机理探究 崔丹丹 杨锦 耿银银 陈文康 沈宏
- 1198 应用多酚-叶绿素仪监测棉花氮素营养状况研究 殷星 侯振安 冶军 闵伟 刘凯  
王方斌 廖欢 甘浩天 刘少华 孙嘉璘
- 1213 葡萄叶片组织结构高光谱响应特征及相关性分析 胡钰炜 卢艳丽 杨俐萍 杨国顺 刘昆玉  
王磊
- 1222 模拟凋落物添加与氮磷沉降对红松凋落物生态化学计量特征的影响 郭绮雯 段文标 陈立新 刘玉萍 李常准  
于颖颖 李少然 李亦菲
- 1234 杉木紫色酸性磷酸酶基因 *CIPAPI8b* 的克隆及表达分析 周梦岩 赵铭臻 李亚超 裴志阳 张健  
马祥庆 李明
- 1247 氮素敏感时期水稻分蘖芽的转录分析 黄星瑜 刘小红 匡志明 骆乐 徐国华

#### 专题综述

- 1258 机理 I 植物铁营养的吸收转运及信号调控机制研究 张琳琳 刘星星 祝亚昕 金崇伟  
进展
- 1273 根系对酸胁迫的应激反应及硼调控耐酸机制的研究 程锦 闫磊 曾钰 曾紫君 侯佳玉  
进展 张雅茹 姜存仓

#### 研究简报

- 1282 秸秆还田下寒地水稻实现高产高氮肥利用率的氮肥运筹模式 孔丽丽 侯云鹏 尹彩侠 李前 张磊  
赵胤凯 徐新朋
- 1294 我国苹果园施肥现状、土壤剖面氮磷分布特征及减肥增效技术 刘占军 祝慧 张振兴 赵家锐 侯立耀  
翟丙年 徐新朋 雷秋良 朱元骏
- 《增值肥料概论》书评 许秀成

期刊基本参数: CN11-3996/S\*1994\*M\*A4\*192\*Zh\*P\*40.00\*800\*16\*2021-07

# JOURNAL OF PLANT NUTRITION AND FERTILIZERS

Vol. 27 No. 7

## CONTENTS

- 1113 Potential of pyrolysis for agricultural application of different biowastes: Biochar yield, properties and crop growth effects  
KE Xian-lin YUN Zhuang-zhi  
LIU Ming-long LIU Xiao-yu  
BIAN Rong-jun LI Lian-qing  
PAN Gen-xing
- 1129 Decomposition characteristics of straw and biochar in a reclaimed soil from coal mining area  
LI Ran XU Ming-gang WU Lei  
SHEN Hua-ping SUN Nan CAI An-dong  
WANG Bin AI Tian-cheng JIN Dong-shen  
ZHANG Qiang HONG Jian-ping
- 1141 Deep smashing and uniform incorporation of straw prevent straw burning and improve the return of nutrients to soil  
LI Chao CHENG Kai-kai LIAO Yu-lin  
GUO Li-jun ZHOU Jun-yu LUO Xian-fu  
WEN Li TANG Hai-ming  
TANG Wen-guang WANG Ke  
XIAO Xiao-ping
- 1151 Conventional tillage and dual mulching of straw and plastic film has stable effects on spring maize yield and nutrient absorption in Weibei dryland  
ZHAO Jing LIU Meng FU Wei NIU Yu-hua  
HAO Ming-de
- 1164 Response of grain yield and nitrogen utilization efficiency of spring wheat to green manure incorporation amount in oasis irrigation district  
WANG Guo-cui ZHANG Song-mao  
HU Fa-long YIN Wen FAN Zhi-long  
FAN Hong YU Ai-zhong ZHAO Cai  
CHAI Qiang
- 1173 Effects of phosphorus application rate on N uptake and distribution in maize and soybean intercropping system  
QIN Xiao-min PAN Hao-nan XIAO Jing-xiu  
TANG Li ZHENG Yi
- 1185 Effect and mechanism of seaweed fertilizer increasing the drought stress resistance of flowering Chinese cabbage  
CUI Dan-dan YANG Jin GENG Yin-yin  
CHEN Wen-kang SHEN Hong
- 1198 Application of polyphenol-chlorophyll meter to monitor cotton N nutrition status  
YIN Xing HOU Zhen-an YE Jun MIN Wei  
LIU Kai WANG Fang-bin LIAO Huan  
GAN Hao-tian LIU Shao-hua SUN Jia-lin
- 1213 Hyperspectral response characteristics and correlation analysis of grape leaf tissue structure  
HU Yu-wei LU Yan-li YANG Li-ping  
YANG Guo-shun LIU Kun-yu WANG Lei
- 1222 Effects of simulated litter addition, and nitrogen and phosphorus deposition on ecological stoichiometry of *Pinus koraiensis* litter  
GUO Qi-wen DUAN Wen-biao  
CHEN Li-xin LIU Yu-ping LI Chang-zhun  
YU Ying-ying LI Shao-ran LI Yi-fei
- 1234 Cloning and expression analysis of *Cunninghamia lanceolata* purple acid phosphatase gene *CIPAP18b*  
ZHOU Meng-yan ZHAO Ming-zhen  
LI Ya-chao PEI Zhi-yang ZHANG Jian  
MA Xiang-qing LI Ming

1247 Transcriptional analysis of rice tiller buds at nitrogen sensitive stage

HUANG Xing-yu LIU Xiao-hong  
KUANG Zhi-ming LUO Le XU Guo-hua

### Comment on special topic

1258 Research progresses on iron uptake, translocation and their signaling pathways in strategy I plants

ZHANG Lin-lin LIU Xing-xing ZHU Ya-xin  
JIN Chong-wei

1273 Root response to acid stress and the mechanism of acid tolerance regulated by boron

CHENG Jin YAN Lei ZENG Yu  
ZENG Zi-jun HOU Jia-yu ZHANG Ya-ru  
JIANG Cun-cang

### Short communication

1282 Nitrogen fertilizer management for high nitrogen utilization efficiency and rice yield under straw incorporation in a cold region

KONG Li-li HOU Yun-peng YIN Cai-xia  
LI Qian ZHANG Lei ZHAO Yin-kai  
XU Xin-peng

1294 Current status of fertilization, distribution of N and P in soil profiles and techniques for reducing fertilizer application and improving efficiency in China's apple orchards

LIU Zhan-jun ZHU Hui ZHANG Zhen-xing  
ZHAO Jia-rui HOU Li-yao ZHAI Bing-nian  
XU Xin-peng LEI Qiu-liang ZHU Yuan-jun