



Q K 2 1 5 0 8 9 8

# 土壤通報

CHINESE JOURNAL OF SOIL SCIENCE

第 52 卷 第 6 期 Vol. 52 No.6

2021



中国土壤学会 主办  
科学出版社 出版

# 土壤通报

(Turang Tongbao)

第 52 卷 第 6 期 2021 年 12 月

## 目 次

### 研究报告

- 基于不同模型的区域尺度耕地表层土壤有机质空间分布预测 ..... 马重阳, 孙越琦, 巫振富, 张靖一, 牛银霞, 侯占领, 陈杰 (1261)
- 基于深度神经网络与热红外成像高光谱数据的黑土土壤全磷含量预测研究 ..... 李明, 朱玲, 杨越超, 秦凯, 张东辉, 赵英俊 (1273)
- 城中村宅基地低效利用成因研究
- 以广州X区为例 ..... 查理思, 周为吉, 朱孟珏, 张瀚文, 袁定欢 (1281)
- 深翻—旋耕轮耕与有机肥配施对黑土农田土壤物理性质的影响 ..... 杨佳宇, 谷思玉, 李宇航, 何婉莹, 汤玉, 翟成, 都琳 (1290)
- 不同管理模式对废弃宅基地复垦杨树林地土壤的粒径分形特征的影响 ..... 孟婷婷, 刘泽鑫, 刘峰, 刘金宝, 张国剑, 吉亚飞 (1299)
- 喀斯特石漠化地区土地利用方式对土壤团聚体稳定性及其有机碳分布特征的影响 ..... 张艳, 刘彦伶, 李渝, 蒋太明, 白怡婧, 张萌, 张雅蓉, 黄兴成, 张文安 (1308)
- 旅游干扰对太原万柏林生态园土壤团聚体稳定性及有机碳分布的影响 ..... 田云国 (1316)
- 新疆主要草地土壤容重与有机碳含量关系模型构建 ..... 狄晓双, 武红旗, 贾宏涛, 张文太, 谷海斌, 邵明轩, 盛建东 (1323)
- 生物炭固定解鸟氨酸拉乌尔菌对紫色土磷钾有效性的影响 ..... 魏巍, 李婷, 张廷锐, 金玮, 缪利, 李昌骏 (1330)
- 秸秆和紫云英协同覆盖对西南旱地土壤养分、酶活性及小麦产量的影响 ..... 戴伊莎, 成欣, 刘帮艳, 何鲜, 胡梦阳, 杨武魁, 王龙昌, 武海燕, 李茜, 吴进红 (1339)
- 基于最小数据集的洞庭湖流域南部耕地土壤肥力综合评价 ..... 陈方正, 任健, 刘思涵, 胡克林 (1348)
- 广安区柑橘土壤养分状况及综合肥力评价 ..... 王杰, 张春燕, 卢加文, 陈书, 王棋 (1360)
- 外源氮添加对不同种植年限设施菜田土壤固定态铵含量的影响 ..... 潘飞飞, 唐蛟, 张伟豪, 陈碧华, 王广印, 李新峰 (1368)
- 有机肥与控释复合肥配施对茶叶产量、品质和土壤化学性质的影响 ..... 孔晓君, 尚晓阳, 李玉胜, 刘泉汝, 滕怀泽, 郑海涛 (1377)
- 生物炭用量对东北黑土理化性质和溶解有机质特性的影响 ..... 张海晶, 王少杰, 田春杰, 罗莎莎 (1384)
- 有机无机肥与生物炭配施对烤烟生长发育和烟叶质量的影响 ..... 李青山, 王德权, 杜传印, 王毅, 高凯, 王刚, 王慎强 (1393)

- 不同土壤调理剂对土壤性质和烟叶产量、质量的影响 ..... 李亚飞, 张翔, 常栋, 毛家伟, 李亮, 程培军, 司贤宗, 索炎炎, 邱岭军, 李琦 (1402)
- 水煤浆气化渣对毛乌素沙地土壤改良与菊芋生长的促进效应研究 ..... 尹春艳, 赵举, 刘虎, 李彬, 戚迎龙, 朱波, 张宇, 门果桃 (1411)
- 基于二分类 Logistic 回归模型土壤 Cu 污染风险预测 ..... 张子健, 李湘凌, 卢新哲, 徐景烨, 魏迎春 (1418)
- 不同原料生物质炭复配对土壤镉的赋存形态及小白菜镉吸收的影响 ..... 康亚鑫, 陈敬龙, 周怡, 罗梓维, 田丰华, 陈山国, 李恋卿, 潘根兴 (1427)

## 专题综述

- 基于知识图谱的黑土地研究领域发展态势分析 ..... 袁洁, 赵晏强 (1436)
- 电阻率层析成像法在土壤水文学中的应用  
——基于 CiteSpace 的计量分析 ..... 段国秀, 贾小旭, 白晓, 魏孝荣 (1447)
- 外源氮添加对土壤微生物残体积累动态的影响—基于 Meta 分析 ..... 陈奇, 丁雪丽, 张彬 (1460)
- <sup>15</sup>N-氨基糖探针技术新用法: 区分和量化土壤真菌和细菌固持无机氮速率 ..... 李晓波, 张旭东, 马倩倩, 何红波 (1473)
- 微塑料污染对土壤环境质量和微生物生态学特性的影响研究进展 ..... 胡晓婧, 刘俊杰, 王浩, 王光华 (1479)
- 土壤腐殖质组型: 土壤生物学和生态学研究的新视角 ..... 朱永恒, 白钰鹏 (1486)
- 稻麦轮作系统无机氮肥高效利用研究进展 ..... 马尚宇, 侯君佑, 王艳艳, 黄正来, 张文静, 樊永惠, 马元山 (1496)
- 基于 Tessier 法的土壤中不同形态镉的转化及其影响因素研究进展 ..... 李娜, 夏瑜, 何绪文, 苑莲花, 李维嘉, 赫昶钧, 夏凯玉 (1505)

# CHINESE JOURNAL OF SOIL SCIENCE

Vol.52 No.6 Dec., 2021

## CONTENTS

### Research Articles

- Spatial Prediction of Topsoil Organic Matter of Arable Land by Different Models at the Regional Scale ..... MA Chong-ying, SUN Yue-qi, WU Zhen-fu, ZHANG Jing-yi, NIU Yin-xia, HOU Zhan-ling, CHEN Jie (1261)
- Prediction of Total Phosphorus Content Using Deep Neural Network and Thermal Infrared Imaging Hyperspectral Data in Black Soil ..... LI Ming, ZHU Ling, YANG Yue-chao, QIN Kai, ZHANG Dong-Hui, ZHAO Ying-Jun (1273)
- Causes of Low Efficiency of Homestead Utilization and Its Reform Intention in Urban Villages--A Case Study of X District in Guangzhou ..... ZHA LI-Si, ZHOU Wei-ji, ZHU Meng-Jue, ZHANG Han-wen, YUAN Ding-huan (1281)
- Effects of Deep Ploughing-rotary Tillage Combined with Organic Fertilizer on Black Soil Physical Properties ..... YANG Jia-yu, GU Si-yu, LI Yu-hang, HE Wan-ying, TANG Yu, ZHAI Cheng, DU Lin (1290)
- The Influence of Different Management Modes on the Fractal Characteristics of Soil Particle Size of Reclaimed Poplar Forest Land in Abandoned Homestead ..... MENG Ting-ting, LIU Ze-xin, LIU Feng, LIU Jin-bao, ZHANG Guo-jian, JI Ya-fei (1299)
- Effects of Land Use Patterns on Soil Aggregate Stability and Organic Carbon Distribution in the Karst Rocky Desertification Area ..... ZHANG Yan, LIU Yan-ling, LI Yu, JIANG Tai-ming, BAI Yi-jing, ZHANG Meng, ZHANG Ya-rong, HUANG Xing-cheng, ZHANG Wen-an (1308)
- Effects of Tourism Disturbance on Soil Aggregate Stability and Organic Carbon Content in Wanbailin Ecological Forestry Park of Taiyuan ..... TIAN Yun-guo (1316)
- Construction of Relationship Model between Soil Bulk Density and Soil Organic Carbon Content of Main Grasslands in Xinjiang ..... DI Xiao-shuang, WU Hong-qi, JIA Hong-tao, ZHANG Wen-tai, GU Hai-bin, SHAO Ming-xuan, SHENG Jian-dong (1323)
- Effect of Biochar Immobilized *Raoultella Ornithinolytica* on the Availability of Phosphorus and Potassium in Purplish Soil ..... WEI Wei, LI Ting, ZHANG Ting-rui, JIN Wei, MIAO Li, LI Chang-jun (1330)
- Impacts of Synergistic Mulching of Straw and Milk Vetch on Soil Nutrients, Enzyme Activities and Wheat Yield in Upland of Southwest China ..... DAI Yi-sha, CHENG Xin, LIU Bang-yan, HE Xian, HU Meng-yang, YANG Wu-kui, WANG Long-chang, WU Hai-yan, LI Qian, WU Jin-hong (1339)
- Comprehensive Assessment of Soil Fertility of Cultivated Land in Southern Dongting Lake Basin Based on Minimum Data Set ..... CHEN Fang-zheng, REN Jian, LIU Si-han, HU Ke-lin (1348)
- Nutrient Status and Comprehensive Fertility Evaluation of the Citrus Soil in Guang'an District ..... WANG Jie, ZHANG Chu-yan, LU Jia-wen, CHEN Shu, WANG Qi (1360)
- Effects of Exogenous Nitrogen Additions on Soil Fixed Ammonium Content in Protected Vegetable Fields with Different Planting Years ..... PAN Fei-fei, TANG Jiao, ZHANG Wei-hao, CHEN Bi-hua, WANG Guang-yin, LI Xin-zheng (1368)
- Effects of Combined Application of Organic Fertilizer and Controlled-Release Compound Fertilizer on Yield and Quality of Tea, and Soil Chemistry Properties ..... KONG Xiao-jun, SHANG Xiao-yang, LI Yu-sheng, LIU Quan-ru, TENG Huai-ze, ZHENG Hai-tao (1377)

Biochar Amounts Effect on Soil Physicochemical Properties and Dissolved Organic Matter Characteristics of Black Soil in Northeastern China .....	ZHANG Hai-jing, WANG Shao-jie, TIAN Chun-jie, LUO Sha-sha (1384)
Effect of Combined Application of Organic and Inorganic Fertilizers and Biochar on the Growth and Development of Flue-Cured Tobacco and Leaf Quality .....	LI Qing-shan, WANG De-quan, DU Chuan-yin, WANG Yi, CAO Kai, WANG Gang, WANG Shen-qiang (1393)
Effects of Different Soil Conditioners on Soil Properties and Flue-Cured Tobacco Yield and Quality .....	LI Ya-fei, ZHANG Xiang, CHANG Dong, MAO Jia-wei, LI Liang, CHENG Pei-jun, SI Xian-zong, SUO Yan-yan, QIU Ling-jun, LI Qi (1402)
Effects of Coal Water Slurry Gasification Slag on Soil Improvement and Jerusalem Artichoke Growth in Mu Us Sandy Land .....	YIN Chun-yan, ZHAO Ju, LIU Hu, LI Bin, QI Ying-long, ZHU Bo, ZHANG Yu, MEN Guo-tao (1411)
Predicting the Pollution Risk of Cu in Soil Using Binary Logistic Regression .....	ZHANG Zi-jian, LI Xiang-ling, LU Xin-zhe, XU Jing-ye, WEI Ying-chun (1418)
Effects of Biochar Complexes from Different Raw Materials on Speciation and Cadmium Uptake of Chinese Cabbage in Contaminated Soil .....	KANG Ya-xin, CHEN Jing-long, ZHOU Yi, LUO Zi-wei, TIAN Feng-hua, CHEN Shan-guo, LI Lian-qing, PAN Gen-xing (1427)

## Reviews and Comments

Development Trend of Black Soil Research Based on the Knowledge Map .....	YUAN Jie, ZHAO Yan-qiang (1436)
Application and Progress of Electrical Resistivity Tomography in Pedohydrology–Citespace–based Quantitative Analysis .....	DUAN Guo-xiu, JIA Xiao-xu, BAI Xiao, WEI Xiao-rong (1447)
A meta-analysis of the responses of soil microbial residues to exogenous nitrogen addition .....	CHEN Qi, DING Xue-li, ZHANG Bin (1460)
Disentangling Immobilization of Inorganic Nitrogen by Fungi and Bacteria in Soil with Adapting a Novel Amino Sugar-based Stable Isotope Probing Approach .....	LI Xiao-bo, ZHANG Xu-dong, MA Qian-qian, HE Hong-bo (1473)
Impacts of Microplastics on Soil Environmental Quality and Microbial Ecological Characteristics: A Review .....	HU Xiao-jing, LIU Jun-jie, WANG Hao, WANG Guang-hua (1479)
Humus Forms: a New Perspective on Soil Biology and Ecology Research .....	ZHU Yong-heng, BAI Yu-peng (1486)
Research Progress on Efficient Utilization of Inorganic Nitrogen in Rice and Wheat Rotation System .....	MA Shang-yu, HOU Jun-you, WANG Yan-yan, HUANG Zheng-lai, ZHANG Wen-jing, FAN Yong-hui, MA Yuan-shan (1496)
Research Progress of Cd Form Transformation and the Effective Environmental Factors in Soil Based on Tessier Analysis .....	LI Na, XIA Yu, HE Xu-wen, YUAN Lian-hua, LI Wei-jia, HE Chang-jun, XIA Kai-yu (1505)

中文核心期刊  
中国科学引文数据库（CSCD）来源期刊  
中国学术期刊综合评价数据库（CAJCED）统计源期刊  
中国期刊全文数据库（CJFD）全文收录期刊  
《中国期刊网》、《中国学术期刊（光盘版）》全文收录期刊  
《中国核心期刊（遴选）数据库》收录期刊  
中国科技论文统计源期刊（中国科技核心期刊）  
《中国生物学文摘》和生物学文献数据库收录期刊  
RCCSE 中国权威学术期刊  
CA 化学文摘(美) 收录期刊  
JST 日本科学技术振兴机构数据库(日) 收录期刊  
《CAJ-CD 规范》执行优秀奖  
辽宁省一级期刊

土壤通报  
Turang Tongbao

(双月刊 1957 年创刊)

第 52 卷 第 6 期(总第 315 期) 2021 年 12 月

CHINESE JOURNAL  
OF SOIL SCIENCE  
(Bimonthly, Started in 1957)

Vol.52 No.6 Dec., 2021

主管单位 中国科学技术协会

Administered by China Association for Science and Technology

主办单位 中国土壤学会

Sponsored by Soil Science Society of China

承办单位 沈阳农业大学

Undertaken by Shenyang Agricultural University

编 辑 《土壤通报》编辑部

Edited by Editorial Department of Chinese Journal of Soil Science

地址: 沈阳市沈河区东陵路120号

Add: No.120 Dongling Road, Shenyang,

邮编: 110866

Liaoning 110866, China

电话: 024-88487213

Tel: 024-88487213

电子邮箱: trtb@163.com; trtbbjb@126.com

E-mail: trtb@163.com; trtbbjb@126.com

网址: www.trtb.cbpt.cnki.net; www.trtb.net

Website: www.trtb.cbpt.cnki.net; www.trtb.net

主 编 汪景宽

Editor in Chief WANG Jing-kuan

出 版 科学出版社

Published by Science Press

地址: 北京市东皇城根北街16号

Add: No.16 Donghuangchenggen North Street,

邮编: 100717

Beijing 100717, China

印 刷 沈阳中科印刷有限责任公司

Printed by Shenyang Zhongke Printing Co.Ltd.

总 发 行 辽宁省邮政公司报刊发行公司

Released by Post Company in Liaoning Province Newspaper Distribution Companies

国内发行 全国各地邮局

Domestic Issue by All Local Post Offices in China

国外发行 中国国际图书贸易总公司

Oversea Issue by China International Book Trading Corporation

地址: 北京399信箱, 邮编: 100048

P.O.Box 399, Beijing 100048, China

刊号: ISSN 0564-3945  
CN 21-1172/S

国内邮发代号: 8-15  
国外发行代号: BM8088

2021年12月6日出版 定价: 50.00元



ISSN 0564-3945



12>

9 770564 394211