

# 农业环境科学学报

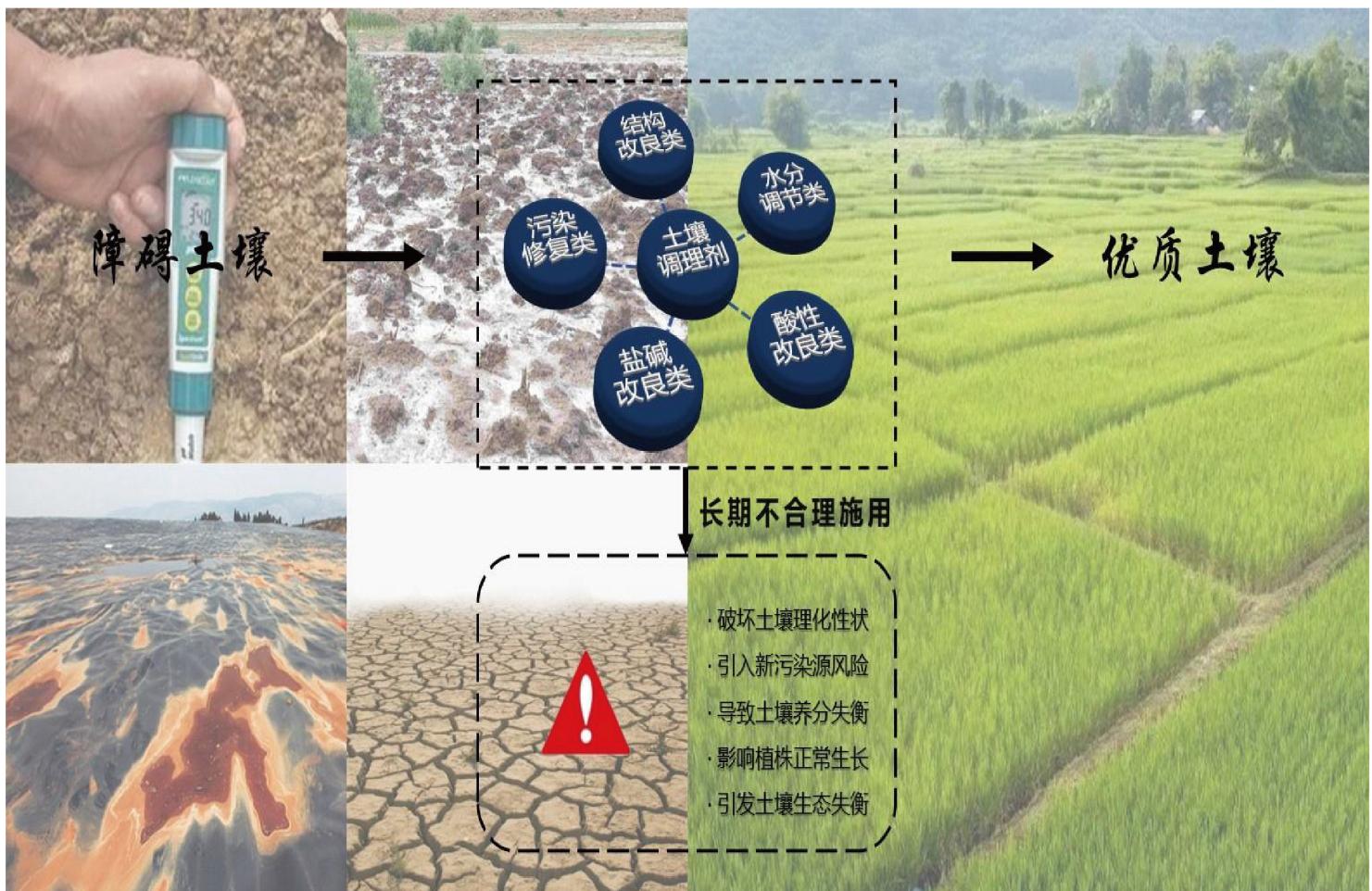
JOURNAL OF AGRO-ENVIRONMENT SCIENCE

中文核心期刊  
CODEN NHKXA7

## 封面文章

### 土壤调理剂应用现状及施用风险研究

索琳娜, 马杰, 刘宝存, 孙向阳, 陈广锋



2021年6月

第40卷 第6期  
Vol.40 No.6



主办: 农业农村部环境保护科研监测所  
中国农业生态环境保护协会

**专论与综述**

土壤调理剂应用现状及施用风险研究 ..... 索琳娜 马杰 刘宝存 孙向阳 陈广锋(1141)

**环境健康与农产品安全(农业农村部产地环境污染防治重点实验室协办)**

- 秸秆还田配施石灰对水稻镉吸收累积的影响 ..... 杨定清 李霞 周娅 罗丽卉 谢永红 王棚 李旭毅(1150)  
外源钙对模拟酸雨胁迫下水稻质膜组分和钙形态的调节 ..... 马永佳 梁婵娟(1159)  
氧化石墨烯对玉米幼苗生长及生理特征的影响 ..... 赵琳 宋瑞瑞 吴琦 吴希 云振宇(1167)  
ZnO NPs对四种豆科种子发芽及幼苗生长的影响 ..... 彭晴晴 杨静雅 钟民正 邢洋洋 李紫燕 毛晖 周莉娜(1174)  
铜对背角无齿蚌幼蚌的组织损伤效应研究 ..... 刘凯 陈修报 刘洪波 姜涛 杨健(1183)  
Cu-Pb-Zn复合污染对宿根花卉植物Sn富集特性的影响 ..... 刘雨霞 徐玮丽 黄盼盼 程思雯 张强斌 周启星(1190)  
钒胁迫对紫花苜蓿生长及钒积累与转移的影响 ..... 武振中 杨金燕 张有贤(1198)

**土壤环境(中国土壤学会土壤环境专业委员会协办)**

- 不同形态硫对水稻吸收积累镉的影响 ..... 刘颖 苏广权 郭湘 杨燕花 姚爱军 仇荣亮 汤叶涛(1208)  
基于土壤质量的改良剂修复镉污染稻田综合效果评价

- ..... 李义纯 王艳红 陈勇 唐明灯 李奇 李林峰 林晓扬 尹贻龙 艾绍英(1219)  
改良剂对镉污染土壤上小白菜镉积累转运及生理特性的影响 ..... 李松 孙向阳 李素艳 马其雪 刘源鑫 周文洁(1229)  
施用玉米秸秆生物炭对镉生物有效性及其胁迫下生菜生长的影响

- ..... 李明 王磊 范婷婷 石佳奇 高尚 季韬 万金忠 龙涛 袁旭音(1236)  
前期灌溉养殖废水和再生水对土壤吸附镉能力的影响 ..... 李宝贵 刘源 陶甄 赵志娟 樊涛 李中阳(1244)  
撒拉溪石漠化治理示范区土壤-作物系统中重金属含量特征

- ..... 姚成斌 周明忠 熊康宁 杨桦 张迪 杨连升 王贵云(1256)  
蚯蚓对金霉素污染土壤酶活性和微生物群落的影响

- ..... 杨思德 常兴平 潘政 李明堂 翁莉萍 李永涛 赵丽霞(1268)  
红壤性水稻土-上覆水系统毒死蜱消解的室内模拟实验 ..... 姚莹雷 唐翔宇 耿春女 关卓任 美(1281)

**水体环境**

- 镉抗性细菌的筛选及其生物矿化硫化镉去除溶液中的镉离子 ..... 徐韶足 张美丽 秦俊梅 曹晓霞 刘奋武(1289)  
外加电压对人工湿地处理生活污水效果的影响 ..... 罗昕怡 叶延超 石玉翠 游少鸿(1297)

## 洱海流域不同施肥模式对稻田氮磷径流流失的影响

姜海斌 沈仕洲 谷艳茹 于 双 邹洪涛 Arif Husain 张 磊 张克强(1305)

## 废弃物处理及资源化利用

养殖业污染防控技术研究态势的文献计量分析 李红娜 姜凯阳 徐海圣 常志州 吴华山 朱昌雄(1314)

## 农业与全球变化

田间老化生物质炭对潮土氨挥发的影响 廖 霞 刘德燕 陈增明 何铁虎 牛玉慧 丁维新(1326)

氮肥品种对露地蔬菜 NH<sub>3</sub> 挥发及经济效益的影响 李晓明 居 静 夏永秋 钱晓晴 颜晓元 周 伟(1337)

作物-鱼共作对淡水养殖系统 N<sub>2</sub>O 排放的影响 鮑 婷 王梦杰 吴俊男 刘耀斌 李凤博 冯金飞 方福平(1344)

厢作免耕下生态种养对稻田 CH<sub>4</sub> 和 N<sub>2</sub>O 排放的影响 陈 璐 陈 灿 黄 璞 任 劲 王 忍 梁玉刚 周 晶(1354)

水氮耦合对设施土壤 N<sub>2</sub>O 和 NO 排放的影响 吕金东 张丽媛 虞 娜 邹洪涛 张玉玲 张玉龙(1366)

## 环境信息

本期推介文章作者团队： 北京市农林科学院 刘宝存(1141) 山西农业大学 刘奋武 环境材料与农村水土环境治理研究团队  
(封二) 土壤与农业可持续发展国家重点实验室(中国科学院南京土壤研究所)丁维新课题组(封三)

# CONTENTS

(Monthly•Started in 1982)

JOURNAL OF AGRO-ENVIRONMENT SCIENCE

Vol.40 No.6 Jun. 20, 2021

Soil conditioner application status and application of risk research

..... SUO Lin-na, MA Jie, LIU Bao-cun, SUN Xiang-yang, CHEN Guang-feng(1141)

Effects of straw returning with different lime dosages on Cd accumulation in rice

..... YANG Ding-qing, LI Xia, ZHOU Ya, LUO Li-hui, XIE Yong-hong, WANG Peng, LI Xu-ji(1150)

Regulation of exogenous calcium on plasma membrane compositions and calcium forms of rice roots under simulated acid rain stress

..... MA Yong-jia, LIANG Chan-juan(1159)

Effect of graphene oxide on seedling growth and physiological characteristics of maize

..... ZHAO Lin, SONG Rui-rui, WU Qi, WU Xi, YUN Zhen-yu(1167)

Effects of ZnO nanoparticles on the germination and seedling growth of four legume seeds

..... PENG Qing-qing, YANG Jing-ya, ZHONG Min-zheng, XING Yang-yang, LI Zi-yan, MAO Hui, ZHOU Li-na(1174)

Effects of copper on tissues of juvenile *Anodonta woodiana*

..... LIU Kai, CHEN Xiu-bao, LIU Hong-bo, JIANG Tao, YANG Jian(1183)

Effects of combined Cu-Pb-Zn contaminants on Sn tolerance and accumulation in perennial flowers

..... LIU Yu-xia, XU Wei-li, HUANG Pan-pan, CHENG Si-wen, ZHANG Qiang-bin, ZHOU Qi-xing(1190)

Effects of vanadium stress on growth, vanadium accumulation, and translocation in alfalfa

..... WU Zhen-zhong, YANG Jin-yan, ZHANG You-xian(1198)

Effects of different sulfur forms on cadmium uptake and accumulation in paddy rice

..... LIU Ying, SU Guang-quan, GUO Xiang, YANG Yan-hua, YAO Ai-jun, QIU Rong-liang, TANG Ye-tao(1208)

A comprehensive evaluation of remediation effects on cadmium contamination in paddy fields based on soil quality

..... LI Yi-chun, WANG Yan-hong,

..... CHEN Yong, TANG Ming-deng, LI Qi, LI Lin-feng, LIN Xiao-yan, YIN Yi-long, AI Shao-ying(1219)

Effects of amendments on cadmium accumulation and transport and the physiological characteristics of pakchoi cabbage in

cadmium-contaminated soil ..... LI Song, SUN Xiang-yang, LI Su-yan, MA Qi-xue, LIU Yuan-xin, ZHOU Wen-jie(1229)

Effects of biochar derived from corn-straw on cadmium bioavailability, and lettuce growth under cadmium stress

..... LI Ming, WANG Lei, FAN Ting-ting, SHI Jia-qi, GAO Shang, JI Tao, WAN Jin-zhong, LONG Tao, YUAN Xu-yin(1236)

Effects of irrigation using antecedent reclaimed water and livestock wastewater on the cadmium adsorption capacity of soils

..... LI Bao-gui, LIU Yuan, TAO Zhen, ZHAO Zhi-juan, FAN Tao, LI Zhong-yang(1244)

Characteristics analysis of heavy metal content in the soil-crop system in the rocky desertification control demonstration area in

Salaxi, Guizhou Province, China

.... YAO Cheng-bin, ZHOU Ming-zhong, XIONG Kang-ning, YANG Hua, ZHANG Di, YANG Lian-sheng, WANG Gui-yun(1256)

Effects of earthworms on soil enzyme activities and microbial communities of chlortetracycline-contaminated soils

..... YANG Si-de, CHANG Xing-ping, PAN Zheng, LI Ming-tang, WENG Li-ping, LI Yong-tao, ZHAO Li-xia(1268)

Chlorpyrifos dissipation in a red soil-developed paddy soil's soil-overlying water system: A laboratory incubation experiment

..... YAO Ying-lei, TANG Xiang-yu, GENG Chun-nü, GUAN Zhuo, REN Mei(1281)

Screening of Cd( II )-resistant bacteria and its biomineralization of cadmium sulfide to remove cadmium ions in solution

..... XU Shao-zu, ZHANG Mei-li, QIN Jun-mei, CAO Xiao-xia, LIU Fen-wu(1289)

Effects of voltage on the efficacy of domestic sewage treatment by constructed wetlands

..... LUO Xin-yi, YE Yan-chao, SHI Yu-cui, YOU Shao-hong(1297)

Effects of different fertilization treatments on runoff losses of nitrogen and phosphorus in paddy fields in Erhai Lake basin, China

... JIANG Hai-bin, SHEN Shi-zhou, GU Yan-ru, YU Shuang, ZOU Hong-tao, Arif Husain, ZHANG Lei, ZHANG Ke-qiang(1305)

Bibliometric analysis of pollution prevention and control technologies for animal breeding industries

..... LI Hong-na, JIANG Kai-yang, XU Hai-sheng, CHANG Zhi-zhou, WU Hua-shan, ZHU Chang-xiong(1314)

Effects of field-aged biochar on NH<sub>3</sub> emissions under wheat-maize rotation

..... LIAO Xia, LIU De-yan, CHEN Zeng-ming, HE Tie-hu, NIU Yu-hui, DING Wei-xin(1326)

Effects of different nitrogen fertilizer types on NH<sub>3</sub> volatilization from open-air vegetable fields

..... LI Xiao-ming, JU Jing, XIA Yong-qiu, QIAN Xiao-qing, YAN Xiao-yuan, ZHOU Wei(1337)

Impacts of different crop-fish co-culture systems on N<sub>2</sub>O emission from freshwater aquaculture systems

..... BAO Ting, WANG Meng-jie, WU Jun-nan, LIU Yao-bin, LI Feng-bo, FENG Jin-fei, FANG Fu-ping(1344)

Effects of ecological planting symbiosis on CH<sub>4</sub> and N<sub>2</sub>O emissions from rice fields under wide ridge cultivation with no-tillage

..... CHEN Lu, CHEN Can, HUANG Huang, REN Bo, WANG Ren, LIANG Yu-gang, ZHOU Jing(1354)

Interactive effects of irrigation and nitrogen on N<sub>2</sub>O and NO emissions from greenhouse soil

..... LÜ Jin-dong, ZHANG Li-yuan, YU Na, ZOU Hong-tao, ZHANG Yu-ling, ZHANG Yu-long(1366)