

# 微生物学通报

## (Weishengwuxue Tongbao)



1974年创刊

第50卷 第2期

2023年2月20日出版

月刊

目次

### 研究报告

#### 工业微生物学

- 441 阻断消耗途径提高毕赤酵母工程菌 S-腺苷甲硫氨酸产量  
苏慧颖, 蒙世拯, 赵欣欣, 钱江潮, 储炬, 秦秀林

#### 环境微生物学

- 454 入侵植物欧洲千里光内生固氮菌和溶磷菌多样性  
陆雪天, 赵菁, 程丹丹

#### 农业微生物学

- 471 云南省马铃薯早疫病病原及毒性特点分析  
李清, 郑周宜, 刘雨婷, 赵娅锐, 王晨晖, 邹万君, 李周, 唐唯, 李灿辉
- 486 辣椒秸秆对滇黄精及其根际微生物群落的影响  
王灿, 彭翠仙, 杨清松, 杨玉玲, 辛文锋, 陶永宏
- 503 丛枝菌根真菌繁殖体的高效扩繁  
黄玉丹, 张淑彬, 李琳, 梁斌, 高雪, 武亚芬, 李敏, 向丹
- 514 响应面设计优化莱氏绿僵菌 SZCY 固体发酵培养条件及致病力测定  
薛锐, 付玉飞, 杨光源, 彭跃进, 杜广祖, 陈斌
- 526 一株兼具秸秆腐解能力玉米促生菌的筛选、鉴定及发酵优化  
强震宇, 朱林, 朱媛媛, 张子贇, 胡占琴, 石心怡, 王鑫, 张朝春, 徐文思, 马超

#### 食品微生物学

- 541 降解嘌呤核苷乳酸菌的筛选及益生特性探索  
任宇杰, 单成俊, 王英, 张会, 刘浩男, 刘小莉, 周剑忠
- 553 宁夏贺兰山东麓葡萄酒酵母菌的筛选及应用  
周桂珍, 杨伟明, 杨建兴, 徐佳敏, 周婷, 申鹏森, 田晓菊

#### 微生物工程与药物研究

- 573 香芹酚联合头孢曲松对耐药性沙门氏菌的体外抗菌作用  
唐廷, 尹立子, 赵素梅, 杜娟, 贺常亮

#### 微生物功能基因组研究

- 584 鸡源暹罗芽孢杆菌 CML548 的益生特性及全基因组分析  
肖瑀轩, 赵舒然, 文秋, 徐畅, 封雨晴, 胡永飞
- 600 菌株 YN145 对稻瘟病菌黑色素合成的影响及全基因组分析  
郑昕威, 任佐华, 朱华璐, 周瑚, 刘二明
- 615 重寄生枝孢菌 SYC63 中 MYB 转录因子鉴定及分析  
隋文静, 梅超, 杨俊聪, 范世昌, 李明娇, 李靖

## 医学微生物学

### 632 IgA 肾病与膜性肾病患者肠道微生物菌群结构分析

赵娟, 马志刚, 黄文辉, 李莹屏, 李小丽, 齐雪婷, 钱睿

\*\*\*\*\*

## 专论与综述

### 644 植物根际促生菌促生特性研究进展

周益帆, 白寅霜, 岳童, 李庆伟, 黄艳娜, 蒋玮, 何川, 王金斌

### 667 人为源微生物气溶胶的分布特征及风险研究进展

于学政, 韩云平, 曹英楠, 王紫轩, 周子玉, 郑天龙, 刘建国, 杨晓霞

### 687 党参多糖对肠道微生态及肠道疾病作用研究进展

肖瑞瑶, 滕攀攀, 蔡世金, 胡美忠

### 697 肠道菌群与老年认知障碍的研究进展

温娜娜, 郑国华

### 709 肠道菌群在脊髓损伤后胃肠道炎症反应中的研究进展

高慧, 贾宁, 梁家兴, 刘佳, 邓智中, 杨彦玲

### 719 微生物-肠-骨轴与骨质疏松疾病的研究进展

董万涛, 张杰, 赵张凯, 王剑虹, 常茹梦, 袁鹏

### 729 肠道微生物与骨质疏松相关性的研究进展

魏晋鹏, 常峰

### 742 益生元对口腔健康促进作用和机制研究进展

王冬雪, 张倩霞, 文艺, 蒋文凯, 王胜朝

\*\*\*\*\*

## 高校教改纵横

### 754 “新工科”背景下“食品微生物学”教学改革探索与实践

巫小丹, 屠心怡, 付桂明, 彭珍, 江湖

### 766 创新能力培养背景下“微生物检验技术”及相关课程的实践教学改革

马建荣, 余永红, 刘戈飞, 宋卉, 方春生, 沈晓萌

### 777 工程教育认证下“微生物学实验”课程的研究与思考

张霞, 陈峰, 曹阳

\*\*\*\*\*

## 微生物资源专栏

### 785 微生物资源: 发掘、利用、展望与挑战

阮志勇, 彭楠, 赵述森

### 788 丛枝菌根真菌与深色有隔内生真菌对姜瘟病的防效及抗病机理初探

汪茜, 覃晓娟, 陈廷速, 周生茂, 宋娟

### 802 短乳杆菌与植物乳杆菌的发酵特性

田辉, 马卓, 陈嘉祎, 杨晖, 李云菲, 范文广, 任海伟, 王永刚, 崔丽娟

### 815 丛枝菌根真菌响应桉树茄科雷尔氏菌侵染进程基因的筛选与鉴定

黄迪, 毛健辉, 王正木, 张健朗, 霍春宇, 谢贤安, 陈祖静

### 832 未/难培养微生物可培养策略研究: 机遇与挑战

李斌斌, 吴丹妮, 聂国兴, 周宇光, 蔡曼, 李文均

### 845 三酮类除草剂微生物降解的研究进展

李情情, 马青云, 阮志勇

### 857 基于文献统计学的我国新疆特殊环境微生物新种资源挖掘概况及展望

王洁, 谭浩, 阮志勇, 张伟

### ARTICLES

#### Industrial Microbiology

- 441 Blocking consumption pathway increases production of S-adenosyl-L-methionine by *Pichia pastoris*  
SU Huiying, MENG Shizheng, ZHAO Xinxin, QIAN Jiangchao, CHU Ju, QIN Xiulin

#### Environmental Microbiology

- 454 Diversity of endophytic nitrogen-fixing and phosphate-solubilizing bacteria in the invasive *Senecio vulgaris*  
LU Xuetian, ZHAO Jing, CHENG Dandan

#### Agricultural Microbiology

- 471 Analysis of pathogens and pathogenicity characteristics of potato early blight in Yunnan Province  
LI Qing, ZHENG Zhouyi, LIU Yuting, ZHAO Yarui, WANG Chenhui, ZOU Wanjun, LI Zhou, TANG Wei, LI Canhui
- 486 Effects of hot pepper stalks on rhizosphere microflora structure of *Polygonatum kingianum*  
WANG Can, PENG Cuixian, YANG Qingsong, YANG Yuling, XIN Wenfeng, TAO Yonghong
- 503 Efficient propagation of arbuscular mycorrhizal fungal propagules  
HUANG Yudan, ZHANG Shubin, LI Lin, LIANG Bin, GAO Xue, WU Yafen, LI Min, XIANG Dan
- 514 Optimization of the solid-state fermentation conditions of *Metarhizium rileyi* SZCY by response surface methodology and determination of the virulence  
XUE Rui, FU Yufei, YANG Guangyuan, PENG Yuejin, DU Guangzu, CHEN Bin
- 526 Isolation and identification of a maize growth-promoting bacterial strain with straw-decomposing capacity and optimization of fermentation conditions  
QIANG Zhenyu, ZHU Lin, ZHU Yuanyuan, ZHANG Ziyun, HU Zhanqin, SHI Xinyi, WANG Xin, ZHANG Chaochun, XU Wensi, MA Chao

#### Food Microbiology

- 541 Screening of purine nucleoside-degrading lactic acid bacteria and exploration of its probiotic properties  
REN Yujie, SHAN Chengjun, WANG Ying, ZHANG Hui, LIU Haonan, LIU Xiaoli, ZHOU Jianzhong
- 553 Screening and application of wine yeasts at the eastern foot of Helan Mountain in Ningxia Hui Autonomous Region  
ZHOU Guizhen, YANG Weiming, YANG Jianxing, XU Jiamin, ZHOU Ting, SHEN Pengsen, TIAN Xiaojun

#### Microbial Engineering and Medicine

- 573 *In vitro* antimicrobial effects of carvacrol combined with ceftriaxone on drug-resistant *Salmonella*  
TANG Ting, YIN Lizi, ZHAO Sumei, DU Juan, HE Changliang

#### Microbial Functional Genomics

- 584 Probiotic characteristics and whole genome analysis of *Bacillus siamensis* CML548 from chicken  
XIAO Yuxuan, ZHAO Shuran, WEN Qiu, XU Chang, FENG Yuqing, HU Yongfei
- 600 *Bacillus subtilis* YN145: effect on melanin synthesis of *Magnaporthe oryzae* and genome-wide analysis  
ZHENG Xinwei, REN Zuohua, ZHU Huajun, ZHOU Hu, LIU Erming
- 615 Genome-wide identification and analysis of the MYB transcription factor family in mycoparasite *Cladosporium* SYC63 strain  
SUI Wenjing, MEI Chao, YANG Juncong, FAN Shichang, LI Mingjiao, LI Jing

#### Medical Microbiology

- 632 Intestinal microflora changes in patients with immunoglobulin A nephropathy and membranous nephropathy  
ZHAO Juan, MA Zhigang, HUANG Wenhui, LI Yingping, LI Xiaoli, QI Xueting, QIAN Rui

# Microbiology China

---

## REVIEWS

- 644 Research progress on the growth-promoting characteristics of plant growth-promoting rhizobacteria  
ZHOU Yifan, BAI Yinshuang, YUE Tong, LI Qingwei, HUANG Yanna, JIANG Wei, HE Chuan, WANG Jinbin
- 667 Progress in the distribution characteristics and risks of bioaerosols from anthropogenic sources  
YU Xuezheng, HAN Yunping, CAO Yingnan, WANG Zixuan, ZHOU Ziyu, ZHENG Tianlong,  
LIU Jianguo, YANG Xiaoxia
- 687 Research progress in the effect of *Codonopsis pilosula* polysaccharide on intestinal microecology and  
intestinal diseases  
XIAO Ruiyao, TENG Panpan, QI Shijin, HU Meizhong
- 697 Research progress on gut microbiota and cognitive impairment in the elderly  
WEN Nana, ZHENG Guohua
- 709 Gut microbiota in gastrointestinal inflammatory response after spinal cord injury: a review  
GAO Hui, JIA Ning, LIANG Jiaying, LIU Jia, DENG Zhizhong, YANG Yanling
- 719 Research progress in microbe-gut-bone axis and osteoporosis  
DONG Wantao, ZHANG Jie, ZHAO Zhangkai, WANG Jianhong, CHANG Rumeng, YUAN Peng
- 729 Advances in the relationship between gut microbiota and osteoporosis  
WEI Jinpeng, CHANG Feng
- 742 Improving effects and mechanisms of prebiotics on oral health: a review  
WANG Dongxue, ZHANG Qianxia, WEN Yi, JIANG Wenkai, WANG Shengchao

\*\*\*\*\*

## EDUCATION

- 754 Exploration and practice of teaching reform of Food Microbiology in the context of new engineering  
education  
WU Xiaodan, TU Xinyi, FU Guiming, PENG Zhen, JIANG Hu
- 766 Practical teaching reform of Microbiological Testing Technology and related courses under the  
background of cultivating innovative ability  
MA Jianrong, YU Yonghong, LIU Gefei, SONG Hui, FANG Chunsheng, SHEN Xiaomeng
- 777 Research and reflection on Microbiology Experiment course under engineering education certification  
ZHANG Xia, CHEN Feng, CAO Yang

\*\*\*\*\*

## Columns for Microbial Resources

- 785 Microbial resources: exploration, utilization, prospects and challenges  
RUAN Zhiyong, PENG Nan, ZHAO Shumiao
- 788 Preventive effects of arbuscular mycorrhizal fungi and dark septate endophytes on ginger and the  
anti-disease mechanism  
WANG Qian, QIN Xiaojuan, CHEN Tingsu, ZHOU Shengmao, SONG Juan
- 802 Fermentation characteristics of *Lactobacillus brevis* and *Lactobacillus plantarum*  
TIAN Hui, MA Zhuo, CHEN Jiayi, YANG Hui, LI Yunfei, FAN Wenguang, REN Haiwei,  
WANG Yonggang, CUI Lijuan
- 815 Screening and identification of AMF genes in *Eucalyptus grandis* during the infection course of *Ralstonia*  
*solanacearum*  
HUANG Di, MAO Jianhui, WANG Zhengmu, ZHANG Jianlang, HUO Chunyu, XIE Xian'an, CHEN Zujing
- 832 Isolation and culture techniques of uncultured microorganisms: challenges and opportunities  
LI Binbin, WU Danni, NIE Guoxing, ZHOU Yuguang, CAI Man, LI Wenjun
- 845 Research progress in microbial degradation of triketone herbicides  
LI Qingqing, MA Qingyun, RUAN Zhiyong
- 857 Overview and prospect of newly discovered microbial resources in the special environments of Xinjiang in  
China based on bibliometrics  
WANG Jie, TAN Hao, RUAN Zhiyong, ZHANG Wei