

研究报告

土壤不同浓度铜对小飞蓬毒害及耐受性研究

丁佳红; 刘登义; 李征; 王广林

安徽师范大学生物多样性研究中心, 芜湖 241000

收稿日期 2004-9-2 修回日期 2004-11-15 网络版发布日期 接受日期

摘要

通过对高Cu污染区(I)、低Cu污染区(II)和非污染区(III)小飞蓬盆栽实验及生理生化指标分析,结果表明,生态型I、II、III电导率均随着Cu浓度增加而增大,并且两者之间呈极显著正相关;叶绿素(a+b)含量随着Cu浓度增加呈极显著负相关;生态型I的蛋白质和脯氨酸含量随着Cu浓度增加均先有所升高,然后又降低,而生态型II、III则一直呈现降低趋势.3种生态型小飞蓬体内SOD、POD、CAT酶活性在Cu胁迫下均有所提高,与对照相比,当Cu浓度为1 200 mg·kg⁻¹时,生态型I的SOD、POD、CAT活性分别为194.1%、206.2%、118.6%;II的SOD、POD、CAT活性分别为170.1%、182.9%、111.3%;III的SOD、POD、CAT的活性分别为115.1%、155.4%、107.3%.对3种生态型小飞蓬的生理生化指标及酶活性分析表明,高Cu污染区小飞蓬的耐受性要强于低Cu污染区,两者又均强于非污染区小飞蓬,这3种生态型小飞蓬的耐受性呈现出了明显的种间差异.

关键词 [小飞蓬](#); [耐受性](#); [重金属](#)

分类号

Responses of *Conyza canadensis* to different concentrations of copper in soil

DING Jiahong, LIU Dengyi, LI Zheng, WANG Guanglin

Biodiversity Research Centre, Anhui Normal University, Wuhu 241000, China

Abstract

Through pot experiment and physiological-biochemical analysis, the study showed that the electric conductivities of *Conyza canadensis* collected from heavy Cu pollution (I), light Cu pollution (II) and control (III) sites were enhanced, while the chlorophyll (a+b) contents were reduced with increasing Cu concentration. The protein and proline contents in I were increased at first and then reduced, but those in II and III were reduced with increasing Cu concentration. The activities of SOD, POD and CAT were intensified under Cu stresses. When the Cu concentration was 1 200 mg·kg⁻¹, their activities in I, II and III were increased 194.1%, 206.2% and 118.6%, 170.1%, 182.9% and 111.3%, and 115.1%, 155.4% and 107.3%, respectively, in comparing with the control, which illustrated that the tolerance of *Conyza canadensis* was in order of heavy Cu pollution site > light Cu pollution site > control site, and the three ecotypes showed distinct differences in tolerance.

Key words [Conyza canadensis](#) [Tolerance](#) [Heavy metal](#)

DOI:

通讯作者

扩展功能

本文信息

▶ [Supporting info](#)

▶ [PDF\(423KB\)](#)

▶ [\[HTML全文\]\(0KB\)](#)

▶ [参考文献](#)

服务与反馈

▶ [把本文推荐给朋友](#)

▶ [加入我的书架](#)

▶ [加入引用管理器](#)

▶ [复制索引](#)

▶ [Email Alert](#)

▶ [文章反馈](#)

▶ [浏览反馈信息](#)

相关信息

▶ [本刊中 包含 “小飞蓬; 耐受性; 重金属 ” 的相关文章](#)

▶ 本文作者相关文章

· [丁佳红](#)

· [刘登义](#)

· [李征](#)

· [王广林](#)