

研究论文

加富CO₂条件下水稻叶片抗氧化能力的变化

彭长连, 林植芳, 林桂珠

中国科学院华南植物研究所, 广东广州, 510650

收稿日期 1997-5-27 修回日期 1997-9-20 网络版发布日期 接受日期

摘要 本文研究不同产地栽培稻品种(IR72-菲律宾, Amaroo-澳大利亚, 绿黄占3号-广东, 特三矮2号-广东)和广东产野生稻(药用野生稻, 普通野生稻)在加富CO₂条件下抗氧化能力的变化。结果表明在自然条件下其抗氧化酶活性因品种、产地的不同而存在一定的差异。与普通的空气CO₂浓度(350μl/L)下生长的水稻相比, 加富CO₂下(600μl/L)下供试所有水稻品种的膜脂过氧化产物MDA含量和POD活性都有不同程度下降;IR72, 特三矮和普通野生稻的SOD活性上升, 其它品种的活性下降。Amaroo和普通野生稻的CAT活性上升, 其它品种也下降。供试所有品种除野生稻外, 叶片可溶性蛋白质含量都下降。

关键词 [水稻](#) [加富CO₂](#) [抗氧化能力](#)

分类号

Changes of Antioxidative Ability in Leaves of Rice Cultivars Grown under Enriched CO₂

Peng Changlian, Lin Zhifang, Lin Guizhu

South China Institute of Botany, Academia Sinica, Guangzhou 510650

Abstract For understanding the changes of antioxidative ability in crop plants under CO₂ enrichment, six rice cultivars (*Oryza sativa* L.) were grown at two chambers located outdoors and exposed to natural sunlight during the life time. The CO₂ concentrations in these two chambers were 350μl/L (ambient) and 600μl/L (enriched), respectively, which were adjusted and controlled by a computer. The results indicated that under natural condition, the antioxidative enzyme (SOD, CAT, POD) activities in leaves of rice cultivars differed in different cultivars. In comparison to ambient CO₂ control, the content of malondialdehyde (MDA) and POD activity in leaves of Amaroo (obtained from Australia), IR72 (obtained from Philippines), Lu Huangzhan 3, Tesanai 2, *O. officinalis* and *O. spontanea* grown in the enriched CO₂ chambers decreased to different extents, but the activities of SOD and CAT in these materials showed some variation.

Key words [Rice cultivars](#) [CO₂ enrichment](#) [Antioxidative ability](#)

DOI:

通讯作者 彭长连

扩展功能	
本文信息	
▶	Supporting info
▶	PDF(830KB)
▶	[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“水稻”的相关文章
▶ 本文作者相关文章	
·	彭长连
·	林植芳
·	林桂珠