

# 水生态学杂志

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淹水胁迫对石菖蒲抗氧化酶系统的影响

## Effect of Flooding Stress on Antioxidant Enzyme System of Grassleaf Sweetflag Rhizome

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中文摘要:

本文以石菖蒲为供试材料,研究了淹水环境对植物抗氧化酶系统(SOD、POD、CAT)及丙二醛(MDA)含量的影响。试验结果表明,半淹处理植株在试验初期SOD略有降低,淹水7天后先上升后下降;CAT、MDA先上升后下降,POD持续上升。全淹处理植株SOD活性与半淹处理植株变化趋势相近,但是试验后期SOD活性未降低,而POD、CAT活性以及MDA含量持续升高,并显著高于对照处理。这说明,在淹水条件下,石菖蒲可通过抗氧化系统调节抗逆能力,尤其是在半淹环境表现出较强的抗淹能力。故在湿地中可种植挺水植物,以增强湿地系统的抗淹能力

英文摘要:

Grassleaf sweetflag rhizome was used to study the effect of flooding stress on plant antioxidant enzyme system(SOD,POD,CAT) and malondialdehyde (MDA).The experimental result showed that in the initial stage, half-submerged plants SOD reduced.7 days later, SOD ascended first and then descended. CAT and MDA showed ascending first and then descending. POD kept elevating all the time. All submerged plants SOD showed similar trends to half-submerged plants, but SOD activity didn't descend in the late stage, POD, CAT and MDA kept elevating and significantly higher than control.It presented that under flooding condition, grassleaf sweetflag rhizome could regulate its stress resistance through antioxidant enzyme system, and it showed stronger anti-submergence ability under half-submerged environment. So, emerged plants can be cultivated in wetland to enhance its anti-submergence ability

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