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植物生产层

外源NO对干旱胁迫下板蓝根叶片氧化损伤的保护作用

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摘要:

采用10%的聚乙二醇6 000对板蓝根(*Strobilanthes cusia*)叶片进行干旱胁迫处理8 d, 并添加不同浓度的一氧化氮(NO)供体硝普钠(SNP), 研究外源NO处理对干旱胁迫下板蓝根叶片氧化损伤的影响。结果表明, 随着干旱胁迫的加强, 外源NO处理促进干旱胁迫下板蓝根叶片脯氨酸(Pro)积累和可溶性糖含量的提高, 且低浓度的NO能提高SOD酶和POD酶的活性, 而高浓度的NO则抑制这两种酶的活性。相同处理下丙二醛(MDA)含量的变化都呈现下降趋势, 而低浓度的SNP使MDA含量下降的更大。表明外源NO处理提高了板蓝根的抗旱性。

关键词: 一氧化氮; 板蓝根; 干旱胁迫

Effects of exogenous nitric oxide on lipid peroxidation antioxidase fluorescence of *Isatis indigotica* leaves under drought stress

MAO Ya bin, WEI Xiao hong

Abstract:

Combination of adding the exogenous NO donor sodium nitroprusside (SNP) with different concentrations, *Isatis indigotica* leaves were treated with 10% PEG 6 000 solution for 8 days to determine the effect of exogenous nitric oxide on oxidative damage fluorescence under drought stress. This study showed that exogenous NO treatment increased the accumulation of Proline and soluble sugar content of *Isatis Indigotica* leaves with the strengthening drought stress, and that the low concentrations of NO increased SOD and POD enzyme activity, while the high concentrations of NO restrained the activity of these two kinds of enzymes. This study also indicated that the variation of MDA contents of *Isatis Indigotica* leaves in same treatment showed a decreasing trend while low concentrations of NO made greater decreased in MDA content. The results of this study suggested that exogenous NO treatment increased the drought resistance of *Isatis Indigotica*.

Keywords: nitric oxide *Isatis indigotica* drought stress

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