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植物生产层

IBA处理对厚叶扇子花扦插苗生根关联酶活性的影响

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摘要：

为探索厚叶扇子花（Scaevola crassifolia）生根机理，促进其无性扦插生根率，观测了厚叶扇子花扦插苗生根特性，研究了其生根过程中过氧化物酶（POD）、超氧化物歧化酶（SOD）、过氧化氢酶（CAT）、多酚氧化酶（PPO）和吲哚乙酸氧化酶（IAAO）等相关联氧化酶活性动态变化。结果表明，厚叶扇子花属于皮部生根类型，用适宜浓度的IBA处理厚叶扇子花插穗能提高其生根率和根系质量。在厚叶扇子花扦插生根过程中，相关联氧化酶活性均成规律性变化，其中POD、SOD和PPO活性在扦插后逐渐升高，在根系形成期达到高峰，然后又逐渐下降；CAT和IAAO活性表现为先降低后升高的趋势，在根系形成期达到最小值。

关键词： 厚叶扇子花；生根特性；关联酶

Effects of IBA on rooting characteristics and changes in the relevant oxidases during rooting of Scaevola crassifolia

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Abstract:

Present study investigated the effects of IBA on Scaevola crassifolia rooting and relevant oxidases. The dynamics of activity of peroxidase (POD), super oxide dismutase (SOD), catalase (CAT), polyphenol oxidase (PPO) and indole acetic acid oxidase (IAAO) during rooting were studied with random block experiment. The results showed that rooting type of S. crassifolia was the phloem. When its cutting was treated by IBA at a suitable concentration, rooting rate and the quality of root system could be significantly enhanced. Activity of related oxidative enzyme of S. crassifolia varied regularly during the cutting. The activity of POD and SOD and PPO increased gradually after cutting and reached a peak during the formation of root system and then decreased gradually. The activity of CAT and IAAO showed a trend in which it decreased firstly and then increased and reached a minimum value during the formation of root system.

Keywords: Scaevola crassifolia rooting characteristics relevant oxidases

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