

### 不同砧木嫁接的赤霞珠葡萄对淹水的生理响应

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#### Physiological Responses of Waterlogging on Different Rootstock Combinations of Cabernet Sauvignon Grape

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**摘要** 以‘赤霞珠’ (Cabernet Sauvignon) 葡萄自根苗及其7种不同砧木组合为试材, 采用盆栽淹水法, 研究涝渍对植株生长、叶片光合特性及根系生理指标的影响, 用主成分分析法进行综合评价。结果表明: 所有供试葡萄在淹水条件下其生长均较不淹水的对照明显降低, 根系反应大于地上部, 表现为根系干物质量降低, 根冠比降低, 根系活力下降, 根相对膜透性增加, 以上指标均以自根苗变幅最大, CS/SO4、CS/101-14M 及CS/5BB 变幅较小; 同样, 地上部赤霞珠接穗品种的光合能力、荧光参数和叶绿素含量均受根系砧木类型的影响。植株的耐涝性以‘赤霞珠’自根苗最差, 不同砧木组合由强到弱的顺序为: CS/SO4、CS/101-14M、CS/5BB、CS/3309C、CS/Beta、CS/140Ru、CS/1103P。

**关键词:** 葡萄 砧木 淹水胁迫 生理响应 主成分分析

**Abstract:** Abstract: Seven rootstock graftings and Cabernet Sauvignon grape own-root seedlings were treated with pot waterlogging to study the effects of waterlogging stress on the growth, leaf photosynthetic characteristics and root physiological indexes. Based on the principle component analysis and cluster analysis, the waterlogging-tolerance of these varieties were comprehensively evaluated. The results showed that, compared with control, the plant growth and photosynthetic capacity obviously declined under waterlogging stress. The root was more seriously affected than leaf, expressed by root dry weight, root/shoot and root activity were decreased, while relative membrane permeability (RMP) in roots was increased, CS/SO4, CS/101-14M and CS/5BB were less influenced by waterlogging stress, while own-root seedlings was mostly influenced; Besides, the photosynthetic capacity, fluorescence parameters and chlorophyll contents of scion were influenced by rootstocks. Among all the treatments, Cabernet Sauvignon grape own-root seedling was the weakest in waterlogging stress, the order of resistance ability of different rootstock combinations from best to bad was CS/SO4 > CS/101-14M > CS/5BB > CS/3309C > CS/Beta > CS/140Ru > CS/1103P.

**Keywords:** [grape](#), [rootstock](#), [waterlogging stress](#), [physiological response](#), [principle component analysis](#)

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