

耐低钾切花菊品种筛选及其苗期耐性生理研究

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Screening Cut Chrysanthemum Varieties in Low Potassium Tolerant and Patience Physiology in Seedling

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摘要 对23个切花菊品种进行苗期耐低钾指标的筛选研究,结果表明,植物干质量、钾含量、钾积累量在不同钾浓度处理和不同品种之间均存在显著差异,可以作为切花菊耐低钾能力的评价指标。依据耐低钾指标,筛选出耐低钾品种‘南农银山’和‘南农菲紫’,不耐低钾品种‘南农红枫’。通过水培试验研究了不同耐性切花菊品种幼苗对低钾胁迫的生物响应。结果表明:低钾胁迫下耐性弱的‘南农红枫’叶绿素含量显著降低,SOD及POD活性均明显降低,耐性品种‘南农银山’和‘南农菲紫’没有显著性变化。此外,低钾条件下耐性品种的可溶性糖含量显著降低,淀粉含量没有显著性差异,而耐性弱的品种可溶性糖含量没有显著差异,淀粉含量显著下降。

关键词: 切花菊 耐低钾指标 保护酶 可溶性糖 淀粉

Abstract: Twenty-three cut chrysanthemum varieties were hydroponically cultured to screen hypokalemia indicators in seedling and the results showed that in different potassium, plant dry weight, the amount of potassium and potassium accumulation are significant different between different varieties. These may be the evaluation indicators of cut chrysanthemum resistance hypokalemia ability. Based on potassium indicators screened tolerance varieties ‘Nannong Yinshan’ and ‘Nannong Feizi’, intolerance variety ‘Nannong Hongfeng’. Different patience cut chrysanthemum varieties seedlings were hydroponically cultured to study the biological response under low potassium stress and the results showed that under low potassium stress the ‘Nannong Hongfeng’ chlorophyll content was significantly reduced, SOD and POD activity were significantly reduced. ‘Nannong Yinshan’ and ‘Nannong Feizi’ haven’t significantly change. Furthermore, soluble sugar content of tolerant varieties were significantly lower and amyllum content have no significant difference. Soluble sugar content of patience weak varieties have no significant difference, but amyllum content decreased significant.

Keywords: cut chrysanthemum, low potassium tolerant indicator, protective enzyme, soluble sugar, amyllum

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- [1] 于文胜¹, 姜伟¹, 龚雪琴², 罗珍珍¹, 解晓旭¹, 由翠琴²,*.仙客来体细胞胚发生和发育过程中淀粉粒的变化[J]. 园艺学报, 2013,40(8): 1527-1534
- [2] 郑蓓蓓, 谢宗周, 郭文武.脐橙与粗柠檬体细胞杂种果实类胡萝卜素、糖酸遗传的亲本偏向性[J]. 园艺学报, 2013,40(7): 1262-1268
- [3] 彭辉, 陈发棣, 房伟民, 蒋甲福, 陈素梅, 管志勇, 廖园.切花小菊分枝性状杂种优势表现与遗传分析[J]. 园艺学报, 2013,40(7): 1327-1336

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- [4] 管志勇, 王江民, 陈发棣, 房伟民, 陈素梅, 陈春全, 俞吉钰. 基于 DUS 测试性状的切花菊品种亲缘关系研究[J]. 园艺学报, 2013,40(7): 1399-1406
- [5] 李 丽, 关玥, 刘克信, 李春杰, 曾海鹏, 欧阳琳, 洪波, 高俊平. 切花菊远距离运输中水势变化及预处理研发[J]. 园艺学报, 2013,40(11): 2213-2221
- [6] 孙红梅*, 周兰娟, 王文娟, 袁思施, 王春夏. 百合鳞茎淀粉磷酸化酶分离纯化及酶学性质研究[J]. 园艺学报, 2012,39(8): 1521-
- [7] 李海云, 宋晓妍, 张秀省, 张玉忠. 拟康宁木霉 SMF2 防治大白菜软腐病机理研究[J]. 园艺学报, 2012,39(7): 1373-
- [8] 于静, 董丽丽, 郗琳, 赵瑞艳, 马男, 赵梁军. 切花菊‘神马’细胞分裂素合成酶基因 *DgIPT3* 参与侧枝发育的功能分析[J]. 园艺学报, 2012,39(4): 721-728
- [9] 宋会兴, 刘光立, 高素萍, 陈其兵. 四川牡丹种子浸提液内源抑制物活性初探[J]. 园艺学报, 2012,39(2): 370-374
- [10] 谢鹏, 郭素娟, 熊欢, 李广会, 吕文君. 板栗果实糖和淀粉积累及相关酶活性关系的研究[J]. 园艺学报, 2012,39(12): 2369-2376
- [11] 卢彩玉; 郑小艳; 贾惠娟; 卢如国; 滕元文; 根域限制对‘巨玫瑰’葡萄果实可溶性糖含量及相关代谢酶活性的影响 [J]. 园艺学报, 2011,38(5): 825-832
- [12] 柴叶茂; 贾海锋; 李春丽; 秦 岭; 沈元月 . 草莓果实发育过程中糖代谢相关基因的表达分析 [J]. 园艺学报, 2011,38(4): 637-643
- [13] 龙雯虹; 郭华春;; 肖关丽; 王 琼 . 山药珠芽生长过程中激素和糖类物质含量的变化 [J]. 园艺学报, 2011,38(4): 753-760
- [14] 许 锋; 张威威; 孙楠楠; 李琳玲; 程水源; 王 燕. 矮壮素对银杏叶片光合作用与萜内酯生物合成的影响[J]. 园艺学报, 2011,38(12): 2253-2260
- [15] 陆 彦; 王 莉; 潘 烨; 陈 鹏; 王 岷; 谢 燕; 金鑫鑫. 银杏雌配子体发育过程中淀粉和蛋白质的积累与代谢[J]. 园艺学报, 2011,38(1): 15-24