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肉苁蓉花粉活力与柱头可授性研究

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中文摘要:目的: 明确肉苁蓉*Cistanche deserticola*的花粉活力和寿命以及柱头的可授期,为肉苁蓉种子生产和良种选育提供理论依据。 方法 :比较不同生理测定方法对肉苁蓉花粉活力与柱头可授性测定的有效性和适用性,并与田间人工授粉结实率和荧光显微观察结果相比较;应用适宜方法测定不同条件下肉苁蓉的花粉和柱头的活力变化。 结果 :确定肉苁蓉花粉活力和柱头可授性的最佳测定方法分别为MTT法和联苯胺-过氧化氢法,测得肉苁蓉开花3 h后的花粉活力和柱头可授性均为最高水平,此时花粉在柱头的萌发率高达95%以上,活性可保持4~5 d,而低温保存的花粉寿命可保持10 d以上。 结论 :肉苁蓉花粉与柱头的生理特征具有良好的生态适应性,适宜大面积田间栽培。

中文关键词:肉苁蓉 花粉生活力 柱头可授性 生态适应性

Pollen viability and stigma receptivity of *Cistanche deserticola*

Abstract: Objective : To study the characteristics of pollen viability and stigma receptivity of *C. deserticola* and provide theory basis for seed production and breeding of *C. deserticola*. Method : Different physiological measurement methods were applied to evaluate pollen viability and stigma receptivity. The results of different methods were compared with the seed setting percentage of the cross-pollination in the field test and pollen germination percentage by fluoroscope observation methods. The changes of pollen vitality and stigma receptivity in different conditions were tested using proper methods. Result : The optimum methods on pollen viability and stigma receptivity detection were MTT-test and Benzidine-Hydrogen Peroxide method respectively. Results showed that the mean pollen viability and stigma receptivity were both the highest in inchoate anthesis with pollen germination percentage up to 95%, and can maintain viable for 4-5 d, but at the lower temperature of 4 ℃, the pollen can be stored up to 10 days. Conclusion : The physiological characteristics of pollen and stigma of *C. deserticola* displayed good ecological adaptation, which are much more adaptive to the large area of cultivation condition.

keywords:*Cistanche deserticola* pollen viability stigma receptivity ecological adaptation

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