

植物生产层

新疆高葶韭雄蕊开花动态特征与花粉育性研究

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摘要:

为进一步研究国内仅分布于新疆的高葶韭 (*Allium obliquum*) 花粉发育、传粉生物学以及为高葶韭人工有性繁殖提供理论依据和试验方法, 定株观察了花期高葶韭雄蕊的开花进程以及形态变化特征, 并采用6种方法测定了高葶韭花粉育性。结果显示, 高葶韭单花开放经过5个形态变化至花药脱落和花被片完全闭合。高葶韭内轮花丝先于外轮花丝伸长, 内轮花药先伸出花被片, 随后外轮花药陆续伸出花被片。雄蕊开放至6枚花药全部脱落4~5 d。单枚花药从散粉到完全散粉一般需要1.5~2.0 h。散粉后高葶韭花粉活力(萌发率) 0~10 h内超过50%。0.5%氯化三苯基四氮唑、四甲基偶氮唑、联苯胺和离体萌发法可以用来检验高葶韭花粉活力和花粉萌发率, 而醋酸洋红和碘 碘化钾不适合高葶韭花粉育性的测定。高葶韭具有雌雄异熟、雄蕊先熟于雌蕊的花部特征, 花粉可育且寿命短。

关键词: 高葶韭 雄蕊 开花动态 花粉育性

Stamen dynamics and pollen fertility of *Allium obliquum* in Xinjiang Province, China

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Abstract:

*Allium obliquum* only distributes in the Xinjiang Province, China. The marked plants were used to observe stamen morphological characteristics to analyze the floral dynamics of stamen and test pollen fertility of *A.obliquum* by 6 methods. This study showed that five morphological phases were found during flowering period. The inner filaments earlier expanded than the outer ones, and the inner anthers firstly expanded from perianth. It was about 4-5 d for all 6 anthers from open to fall. The individual anther released pollen about 1.5- 2.0 h from the beginning dispersion to the end. Pollen viability kept about 0-10 h above 50% after anther dehiscence. The triphenyl tetrazolium chloride, diphenyl tetrazolium bromide, benzidine, and the in vitro germination test were used to test pollen fertility and the acetocarmine and iodine potassium iodide test was not suitable for *A.obliquum* pollen testing. *A.obliquum* was dichogamy and protandry with fertility, short longevity pollen, which would provide basic theory and method for pollen development, pollination biology and artificial sexual reproduction by and six methods were used to test pollen fertility.

Keywords: *Allium obliquum* stamen floral dynamics pollen viability

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