

农学—研究报告

小麦条锈病影响种子生活力的研究

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摘要:

小麦条锈病 (*Puccinia striiformis* f.sp.tritici) 是中国乃至世界范围小麦上的最重要病害之一。随着施肥水平的提高及农业耕作制度的变化, 小麦条锈病的危害日趋严重, 已成为中国小麦生产中重要的灾害性病害。小麦条锈病不仅对小麦的产量有严重影响而且会导致种子生活力指标的下降。以感病品种‘绵阳11’与抗病品系‘R212’以及‘绵阳11’与抗病品系‘582-584’杂交组合的F2:3家系的种子的生活力进行比较分析。结果发现: 在‘绵阳11’与‘R212’杂交子代中小麦条锈病对种子生活力的影响极为显著; 而在‘绵阳11’与‘582-584’的杂交组合中不显著。研究表明小麦条锈病会降低种子的生活力, 同时它的影响程度可能与遗传背景以及小麦生长发育的阶段有关。由此为小麦条锈病抗病品种的衰退趋势及抗病育种提供相关的参考。

关键词: 衰退

Study of Wheat Strip Rust Affects on the Seed Physiological Character

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Abstract:

Wheat strip rust, caused by *Puccinia striiformis* f.sp.tritici, is one of the most important diseases in China as well as in the world. It is becoming more and more severe, due to the overuse of water and fertilization as well as the change of agriculture cultivation system. Strip rust not only had the serious influence on wheat yield, but also seed biological character such as viability. In this study, susceptible cultivar ‘MY11’ was crossed with resistant wheat line ‘R212’ and ‘582-584’, respectively. Two F2:3 family lines, produced from above two cross combinations, which were used to investigate the biological character such as viability. The results indicated that the viability of seeds of susceptible plant was significant lower than that of resistant plants in the cross combination ‘MY11’ / ‘R212’ while the difference was not obvious in ‘MY11’ / ‘582-584’. Comparing analysis suggested that wheat stripe rust would reduce the seed ability to grow and the degree of reduction would depend on the background of various genetic. This article affords primary evidences to further study of the degeneration of wheat resistance to stripe rust and wheat resistance breeding.

Keywords: degeneration

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小麦新种质YU24、YU25抗条锈新基因高密度遗传图谱的构建及相关EST克隆的分离; 来源于中间偃麦草的小麦条锈病抗性新基因的染色体定位及相关EST克隆的分离

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