

小麦遗传背景对黑麦抗叶锈基因Lr26的抗性表达的影响*

任正隆

四川农业大学农学系 四川雅安 625014

收稿日期 修回日期 网络版发布日期 接受日期

摘要 利用1套从小麦纯系和黑麦自交培育出的1R附加系、代换系和易位系，研究了1RS上的抗叶锈基因Lr26在小麦中的表达。结果发现，1R二体附加系和纯合1RS/1BL易位系高抗小麦叶锈病；而其小麦亲本、1R(1B)代换系和1BS/1RL易位系重感叶锈病。这一结果指出了黑麦染色体臂1RS上的抗小麦叶锈病基因Lr26在小麦中的表达受小麦染色体臂1BL上的基因的强烈影响，指出了外源基因在小麦中的表达可受染色体臂或基因水平上的相互作用的制约。文中讨论了外源基因与小麦遗传背景相互作用在小麦育种中的意义。

关键词 [抗性遗传,小麦叶锈病,染色体1R附加系,1R 1B代换系,1RS/1BL 易位系](#)

分类号

Effect of Wheat Genetic Background on the Expression of the Rye Gene Lr26 for Resistance to Leaf Rust in Wheat

Ren Zhenglong

Department of Agronomy, Sichuan Agricultural University, Yaan 625014

Abstract

The gene Lr26 on rye chromosome arm 1RS was defined as a gene resistant to leaf rust in wheat. The expression of this gene in wheat was investigated by using a set of rye 1R addition, 1R/1B substitution and translocation lines developed from a rye inbred line R15 and a wheat pure line SP3WW, which were highly susceptible to leaf rust. In this study it was found that the 1R addition line (2n=44 =21"W+1"R) and 1RS/1BL translocation line (2n=42=20"W+1"1RS/1BL) showed a strong resistance to leaf rust, whereas the substitution line (2n=42=20"W+1"1R) and 1BS/1RL translocation line (2n=42=20"W+1"1BS/1RL) were infected seriously with Puccinia recondita f. sp. tritici. The results indicate that a gene on wheat chromosome arm 1BL would have a strong influence upon the expression of the gene Lr26 on rye chromosome arm 1RS in wheat. The interaction of alien genes with the genetic background of the wheat genome in relation to breeding of wheat is discussed in this paper.

Key words [Inheritance of resistance](#) [Leaf rust of wheat](#) [1R Addition](#) [1R\(1B\) Substitution](#) [1RS/1BL translocation](#)

DOI:

通讯作者

扩展功能

本文信息

- ▶ [Supporting info](#)
- ▶ [PDF\(1448KB\)](#)
- ▶ [\[HTML全文\]\(0KB\)](#)
- ▶ [参考文献](#)

服务与反馈

- ▶ [把本文推荐给朋友](#)
- ▶ [加入我的书架](#)
- ▶ [加入引用管理器](#)
- ▶ [复制索引](#)
- ▶ [Email Alert](#)
- ▶ [文章反馈](#)
- ▶ [浏览反馈信息](#)

相关信息

- ▶ [本刊中 包含“抗性遗传,小麦叶锈病,染色体1R附加系,1R 1B代换系,1RS/1BL 易位系 ” 的相关文章](#)
- ▶ [本文作者相关文章](#)
- [任正隆](#)