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番茄疮痂病抗性遗传研究和基因定位最新进展

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Recent Advances on Genetics and Mapping of Resistance to Bacterial Spot in Tomato

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摘要 由黄单胞杆菌（Xanthomonas）引起的番茄疮痂病是严重影响番茄生产的一种细菌性病害。近年来，该病害病原菌小种的快速变化，特别是X. gardneri 的扩散，加速了人们对抗性遗传、基因定位和分子标记辅助育种的研究工作。迄今已经定位了3 个抗T3 小种的基因、5 个抗T3 小种的QTL 和3 个抗T4 小种的QTL，并对部分基因或QTL 进行了精细定位，建立了标记辅助选择体系，育成了抗T4 小种的品种。本文将就这些最新的研究进展进行总结，对现存问题进行分析，并对番茄疮痂病抗性遗传研究和育种应用前景进行探讨，以期为抗番茄疮痂病育种提供参考。

关键词： 番茄疮痂病 抗性 基因 QTL 定位

Abstract: Bacterial spot caused by Xanthomonas is a bacterial disease that severely affects tomato production. In recent years, the rapid changes of the races in the pathogen of the disease, particularly the spread of X. gardneri, facilitated the work on genetics of resistance, mapping of genes, and marker-assisted breeding for resistance to the disease in tomato. To date, three genes and five QTLs conferring resistance to race T3 as well as three QTLs for resistance to race T4 have been mapped, some of them have been finely mapped, marker-assisted selection system has been established, and varieties with resistance to race T4 have been developed. This paper will summarize these newest progresses, analyze the existing issues, and discuss the promise of investigating the genetics of resistance to bacterial spot and its application to tomato breeding. This will provide some information for breeding of resistance to bacterial spot in tomato.

Keywords: tomato bacterial spot, resistance, gene, QTL, mapping

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