

Author:  [ADVANCED](#)Volume  Page Keyword:    
[TOP](#) > [Available Issues](#) > [Table of Contents](#) > [Abstract](#)

ONLINE ISSN : 1349-1008

PRINT ISSN : 1343-943X

**Plant Production Science**

Vol. 7 (2004) , No. 3 319-323

[\[PDF \(172K\)\]](#) [\[References\]](#)

## Identification of Random Amplified Polymorphic DNA and Simple Sequence Repeat Markers Linked to Powdery Mildew Resistance in Common Wheat Cultivar Brock

[Zhenying Wang](#)<sup>1)</sup>, [Qi Zheng](#)<sup>1)</sup>, [Yongkang Peng](#)<sup>1)</sup>, [Chaojie Xie](#)<sup>2)</sup>, [Qixin Sun](#)<sup>2)</sup> and [Zuomin Yang](#)<sup>2)</sup>

1) Department of Biology, Tianjin Normal University

2) Department of Plant Genetics and Breeding, China Agricultural University

(Received: July 31, 2003)

**Abstract:** A total of 350 rapid amplified polymorphic DNA (RAPD) primers and 100 simple sequence repeat (SSR) primer pairs were screened to identify polymorphic markers associated with powdery mildew resistance. Only primer OPP15 produced a 900bp reproducible DNA fragment (OPP15<sub>900</sub>) in the resistant parent cv. Brock and most of the resistant individuals, but this DNA fragment was absent in susceptible parent Jing411 and Line 015. The progeny, including 218 resistant and 81 susceptible lines, derived from a cross Line 015/Brock//Jing411<sup>2</sup> was used for linkage analysis. 209 resistant and 8 susceptible individuals yielded OPP15<sub>900</sub> products, but 73 susceptible and 9 resistant ones yielded no OPP15<sub>900</sub> products. One dominant RAPD molecular marker OPP15<sub>900</sub> linked to powdery mildew resistance gene was identified in Brock with a genetic distance of 6.0 cM. A SSR marker Xgwm114 was also proved to link with the powdery mildew resistance and genetic distance of 9.3 cM. These two new molecular markers are useful for facilitating selection and pyramiding the resistance genes in wheat breeding.

**Keywords:** [Powdery mildew resistance](#), [RAPD marker](#), [SSR marker](#), [Wheat](#)

[\[PDF \(172K\)\]](#) [\[References\]](#)

Download Meta of Article [\[Help\]](#)

To cite this article:

Zhenying Wang, Qi Zheng, Yongkang Peng, Chaojie Xie, Qixin Sun and Zuomin Yang:  
“Identification of Random Amplified Polymorphic DNA and Simple Sequence Repeat  
Markers Linked to Powdery Mildew Resistance in Common Wheat Cultivar Brock”. *Plant  
Production Science*, Vol. 7, pp.319-323 (2004) .

---

doi:10.1626/pps.7.319

JOI JST.JSTAGE/pps/7.319

Copyright (c) 2004 by The Crop Science Society of Japan

---



---

[Japan Science and Technology Information Aggregator, Electronic](#)

