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Czech J. Genet. Plant Breed.

...SKA A.,
Czembor P.Cz.,

Czembor J.H.:

***Lr39* + *Pm21*: a new
effective combination
of resistance genes for
leaf rust and powdery
mildew in wheat**

Czech J. Genet. Plant Breed., 49 (2013):
109-115

Two effective resistance genes were introduced, one for leaf rust (*Lr39*) and the other for powdery mildew (*Pm21*), into the susceptible German wheat cv. Lexus. Molecular selection of plant material was carried out using closely linked markers to the introduced genes (foreground selection). In addition, for the BC₁F₁ population, background selection was carried out using AFLP markers that were distributed randomly throughout the wheat genome. Moreover, resistance tests were conducted using natural pathogen populations of *Puccinia triticina*

and *Blumeria graminis*. The use of molecular markers for foreground selection in combination with pathology tests enabled 66 homozygous lines to be obtained that were simultaneously resistant to leaf rust and powdery mildew.

Keywords:

Blumeria graminis; gene pyramiding;
Puccinia triticina

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