

Virulence of *Puccinia triticina* on triticale in Poland

Grzegorz Czajowski and Paweł Cz. Czembor

Department of Plant Breeding and Genetics, Plant Breeding and Acclimatization Institute - National Research Institute at Radzików, 05-870 Błonie, Poland

g.czajowski@ihar.edu.pl

Leaf rust, caused by the biotrophic fungus *Puccinia triticina* Eriks. is one of the most important fungal disease affecting triticale worldwide.. This disease can cause serious epidemics and yield losses. One hundred sixty isolates of *Puccinia triticina* was collected in the years 2014 – 2015 from triticale in four locations in Poland. These isolates were analyzed for virulence variation on thirty six near isogenic Thatcher NILs with known *Lr* resistance genes.

Population of the pathogen collected in 2014 year revealed high virulence frequency, ranged from 60 to 100%, toward the majority of *Lr* genes: *Lr2c*, *Lr10*; *Lr11*, *Lr12*, *Lr13*, *Lr14a*, *Lr14b*, *Lr18*, *Lr21*, *Lr22*, *Lr29*, *Lr30*, *Lr33* and *Lr44*. The frequencies of virulence to lines with genes *Lr1*, *Lr2a*, *Lr3*, *Lr3bg*, *Lr17*, *Lr23*, *Lr26*, *Lr38*, *LrW* and *Lr36* were low. No virulence was found to resistance genes *Lr9*, *Lr19*, *Lr25*. These resistance genes were the most effective. Pathotypes *P. triticina* were identified with the use of 15 NILs possessing resistance genes *Lr1*, *Lr2a*, *Lr2b*, *Lr2c*, *Lr3*, *Lr9*, *Lr11*, *Lr15*, *Lr17*, *Lr19*, *Lr21*, *Lr23*, *Lr24*, *Lr26* and *Lr28*. Fifty seven pathotypes from eighty isolates *P. triticina* were distinguished.

Virulence tests for population collected in the year 2015 are under way and the results will be presented during the conference.