

IN VIVO SENSITIVITY OF WHEAT *Magnaporthe oryzae* TO FUNGICIDES

Pizolotto CA^{1,2}, Maciel JLN², Fernandes JMC², Boller W¹

¹ Universidade de Passo Fundo, RS, Brazil; ² Embrapa Trigo, Brazil

carlos.pizolotto@yahoo.com.br

Wheat blast, caused by the fungus *Magnaporthe oryzae*, represents a threat to wheat production in Brazil and other South American countries. The pathogen was first reported in Brazil infecting naturally wheat plants during the mid-1980s. In some years and locations, control of wheat blast has been difficult due to highly favorable weather conditions and the lack of adequate genetic resistance to the disease. Currently, application of foliar fungicides is one of the main measures of the integrated control of wheat blast. The objective of this study was to verify the *in vivo* sensitivity of wheat *M. oryzae* isolates to fungicides. The wheat cultivars BRS 229 and BRS 220 (moderately resistant and susceptible to wheat blast, respectively) and *M. oryzae* isolates, selected previously according their *in vitro* sensitivity to fungicides (Py 12.1.132, high sensitivity; Py 12.1.209, low sensitivity), were used in the study. Trifloxystrobin + prothioconazole and prothioconazole were sprayed on wheat plants at three-four leaf stage. After 24 h, the plants were inoculated with a spore suspension of 100,000 conidia ml⁻¹. Immediately after inoculation, the plants were transferred to moist chamber kept at the temperature of 25 C. After 96 h, the plants were transferred to a greenhouse and the number of lesions on individual leaves recorded. The data was fitted to a generalized linear model with a Poisson distribution. The results revealed a significant interaction for all factors. The cultivar BRS 229, in combination with the fungicide trifloxystrobin + prothioconazole, and the isolate Py 12.1.209 showed the lower number of lesions per leaf. The differences between the two *M. oryzae* isolates used in this study in relation to fungicide sensitivity were not as clear as those observed in the experiments conducted previously in culture medium (*in vitro*). Nevertheless, despite the effect of interaction with the cultivar and fungicide factors, the lower number of lesions observed on the leaves infected by the isolate Py 12.1.209 is an important indication that wheat *M. oryzae* in Brazil differ for sensitivity to fungicides when is infecting the plants. This situation may be one of the main factors that contribute to the inefficiency of the chemical control of wheat blast in the fields, observed mainly in the spraying of strobilurin fungicides.

Keywords: chemical control; wheat; wheat blast