

Occurrence of Head Blast in Barley

Maria I.P.M. Lima & Euclides Minella

Embrapa Trigo, Cx. Postal 451, CEP 99001-970, Passo Fundo, RS, e-mails: imac@cnpt.embrapa.br, eminella@cnpt.com.br

(Accepted for publication on 04/02/2003)

Corresponding author: Maria I.P.M. Lima

RESUMO

Ocorrência de brusone em espigas de cevada

Pyricularia grisea é relatado como agente causal de brusone em espigas de cevada (*Hordeum vulgare*) nos estados do

Rio Grande do Sul, de Minas Gerais e de Goiás nas safras 2001 e 2002. Este é o primeiro relato de *P. grisea* afetando espigas de cevada no Brasil.

In the 2001 and 2002 crop seasons, barley (*Hordeum vulgare* L.) spikes showing symptoms similar to wheat (*Triticum aestivum* L.) and rice (*Oryza sativa* L.) blast were collected in commercial fields in the states of Rio Grande do Sul, Minas Gerais, and Goiás, Brazil, as well as in experimental plots grown by the National Wheat Research Center (Embrapa Trigo) in the counties of Passo Fundo and Tapera, RS. The characteristic symptoms such as spike tip death (Figure 1A) and bright black spots of the rachis, were associated with pear-shaped, hyaline conidia, of up to three cells, 27.06-34.44 μm long and 9.84-12.3 μm wide, inherent characteristics of the fungus *Pyricularia grisea* (Cooke) Saccardo synonym *P. oryzae* Cavara [Tel.: *Magnaporthe grisea* (Hebert) Barr]. Attempting to confirm this etiology, an isolation was made on potato dextrose agar (PDA), with incubation at 22 ± 2 °C and 12 h under light. Microorganism sporulation was obtained according to Anjos & Charchar (Fitopatologia Brasileira 25:205. 2000). Spikes of barley BR 2 were inoculated with a spore suspension (2.5×10^5 spores ml^{-1}). Two inoculation procedures were used: sprinkling spore suspension and applying drop suspension on the rachis in two opposite spikelets. Plants were kept for 24 h in a humid chamber made from semitransparent, dark polyethylene bags, in the greenhouse. The spikes were sprayed with distilled water in the morning and in the afternoon for three consecutive days to keep them wet. Characteristic disease symptoms were recorded from the twelfth day onwards (Figure 1B). Inoculation by spraying resulted in the total death of most spikes. The microorganism isolated from inoculated spikes showed characteristics of *P. grisea*, confirming Koch's postulates. *Pyricularia grisea* affecting barley spikes in Brazil is hereby reported for the first time.



FIG. 1 - Barley (*Hordeum vulgare*) spikes affected by *Pyricularia grisea*: A) Symptoms in spikes under natural conditions; B) Symptoms observed in cv. BR 2 after inoculation.

02147