

## SAPROTROPHIC SURVIVAL OF *Magnaporthe oryzae* IN INFESTED WHEAT RESIDUES

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Wheat blast caused by *Magnaporthe oryzae* is a relative new disease that has caused considerable damage on wheat fields of several South American countries such as Brazil, Bolivia and Paraguay. In temperate regions, inoculum overwinter is limited by low temperatures. However, the effects of not limiting low temperature conditions on the survival of *M. oryzae* in infested wheat residue had not been fully explored. Therefore, a time course study was designed to assess sporulation of infested wheat residue exposed to ambient and predetermined treatments. The main objective of this study was to monitor the saprotrophic development of *M. oryzae* on wheat debris and to explore the relative importance of crop residues as a source of inoculum. The wheat cultivars BRS 229 and Anahuac 75, respectively, a moderate and high susceptible were grown under greenhouse. At heading stage the cultivars were inoculated with a spore suspension of 100,000 conidia ml<sup>-1</sup> using a more virulent (Py 12.1.209) and a less virulent (Py 12.1.132) isolate. The plants were incubated in a moist chamber for seven consecutive days. Immediately after, the infested plants were transferred to a greenhouse. At maturity, a portion of leaves, stems and spikes were detached from plants. A group of ten lesions were randomly selected and marked in each plant organ. The air-dried plant organs were placed separately inside bags and exposed outside. Every 14 days, the marked lesions were examined under a dissection microscope for the presence of *M. oryzae* conidiophores bearing conidia. The results showed that the number of sporulating lesions on leaves, spikes and stems diminished with time. Sporulation was no longer observed after 140 days of exposure. Estimation and group comparison of survival curves were obtained by a survival analysis. A longer survival curve was observed in the cultivar BRS 229 compared to the cultivar Anahuac 75. A shorter survival curve was observed in the spikes compared to leaves and stems. The survival curves for the isolates were similar. Although preliminar, the results presented here, make very unlikely that infested wheat residues serve as a source of wheat blast inoculum for the next wheat crop. The management of crop residues is not a key point to control the development of wheat blast. A strong emphasis should be placed on the presence of other hosts.

Keywords: wheat blast; crop residues; disease cycle