



ISBN 978-85-66836-16-5

BIOCHEMICAL ASPECTS OF WHEAT SPIKES RESISTANCE TO BLAST POTENTIATED BY SILICON / Aspectos bioquímicos da resistência de espigas de trigo potenciada pelo silício. M. U. P. ARAUJO<sup>1</sup>; E. T. SILVA<sup>1</sup>; J. A. RIOS<sup>1</sup>; P. R. SILVEIRA<sup>1</sup>; V. S. RIOS<sup>1</sup>; F. A. RODRIGUES<sup>1</sup>; <sup>1</sup>Viçosa Federal University, Department of Plant Pathology, Zip Code 36570-900, Viçosa, Brazil. E-mail: fabricio@ufv.br.

Blast, caused by *Pyricularia oryzae*, has become an economically important disease in Brazil. Alternative methods for blast management are demanded by the growers and silicon (Si) stands out for its potential to decrease the intensities of important diseases in several crops. This study investigated the potencial of Si to increase the resistance of wheat spikes to blast by determining the activities of the host defense enzymes  $\beta$ -1,3-glucanases (GLU), chitinases (QUI), phenylalanine ammonia-lyases (PAL) and polifenoloxidasas (PPO). Wheat plants from cultivar Guamirim were grown in hydroponic culture with either 0 or 2 mM Si and the inoculation was performed at 10 days after anthesis with a suspension of *P. oryzae* containing  $10^5$  conidia/mL. Blast severity on the spikes of plants supplied with Si was 84% lower in comparison to non-supplied plants. The increase on spike resistance to blast for plants supplied with Si was linked to greater activities of GLU, QUI, PAL and PPO.

**Key words:** Fungal disease; Host defense; Silicon; Wheat.

**Apoio:** FAPEMIG