



ISBN 978-85-66836-16-5

DMI + QoI PREMIX FOR THE CONTROL OF FUSARIUM HEAD BLIGHT IN WHEAT: ARE THEY WORTH THE ADDITIONAL COST?<sup>1</sup> / Misturas de triazol e estrobilurina no controle de giberela no trigo: o custo adicional se paga? A. R. FONSECA<sup>2</sup>, F. J. MACHADO<sup>2</sup>, E. M. DEL PONTE<sup>2</sup>. <sup>2</sup>Departamento de Fitopatologia, Universidade Federal de Viçosa, 36570-900, Viçosa, MG, Brasil. E-mail: [andressa.fonseca@ufv.br](mailto:andressa.fonseca@ufv.br)

Fusarium head blight (FHB) (*Fusarium graminearum* sensu lato) is a major wheat disease for southern Brazil. Fungicides, mainly DMIs (triazoles), have been recommended around flowering. Recently, premix of DMIs and QoIs (strobilurins) has been incorporated in FHB management in Brazil to extend protection for foliar diseases. However, results are inconsistent and yield gain and economics have not been fully explored. A systematic review identified 29 publications reporting FHB index and yield data affected by a range of fungicides in Brazil. After data scrutiny, the selected premix were: azoxistrobin + tebuconazole (AZOX + TEBU), piraclostrobin + metconazole (PIRA + METC), and trifloxistrobin + TEBU (TFLX + TEBU), which were compared with TEBU alone. Only treatments of two sprays (at mid flowering and 7-10 days later) were used. For these, there were 44 and 53 trials reporting FH index and yield data, respectively. Different combinations of the selected fungicides were found in selected trials, and thus a network model was used to take the correlations into account. The model was fitted to the log of the means of FHB index (%) and to the non-transformed mean yield (kg/ha) for each fungicide treatment and the control. The efficacy provided by the premix ranged from 56.6% (AZOX + TEBU and TFLX + TEBU) to 65.6% (PIRA + METC), not differing from TEBU (60.2%). The mean yield gain was higher for the premix compared to TEBU (438 kg/ha); it was highest for PIRA+METC (506 kg/ha), followed by AZOX+TEBU (453 kg/ha), TFLX+TEBU (453 kg/ha). The probability of not offsetting fungicide and application costs of two sprays ( $P_{loss}$ ) (\$36 and \$80 U.S./ha, for DMI and premix, respectively) was estimated for an average wheat price of \$215 U.S./MT.  $P_{loss}$  was lowest for TEBU (41%), likely because of its lower cost than the mixtures, for which the  $P_{loss}$  ranged from 45 to 47%. We will further investigate  $P_{loss}$  for a range of scenarios (costs and wheat prices) to define the conditions at which premix are worth the investment.

Key words: Chemical control; Triazol; *Fusarium graminearum*; *Triticum aestivum*.