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WHEAT BLAST EXPRESSION BY NITROGEN FERTILIZATION

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Blast, caused by *Pyricularia grisea*, is one of the most important wheat diseases. Nitrogen (N) is a nutrient furnished to the plants in large amounts. Conditions such as the source of the N and the application timing can influence the increment or decrease of diseases. The objective of this work was to evaluate the effect of nitrogen fertilization in the expression of the wheat blast in the field during the 2015 cropping season. The expression of the wheat blast was compared in two wheat cultivars, BRS Galha-Azul (susceptible) and BRS Gaivota (moderately resistant). The cultivars received 60 kg/ha of N applied as topdressing utilizing three N sources, [calcium nitrate (N-NO₃), ammonium sulphate (N-NH₄), and ammonium nitrate (N-NO₃NH₄)] in three stages of application (booting, flowering and in both stages). The experiment was carried on in block design, with three replications, in the factorial 2x3x3 scheme. Blast intensity was evaluated by the destructive method, collecting spikes (n>60) from a linear meter selected at random inside each plot. Statistical analysis ($p<0.05$) of the incidence and severity of the disease was performed by utilizing the Student's least significant difference (LSD) test. Significant difference was observed only between the wheat cultivars. Lower severity (14%) of blast was observed in the BRS Gaivota and higher severity (24%) occurred in the wheat cultivar Galha-Azul. The blast incidence (64%) was similar in both cultivars. There was no observed significant difference of the N source and in the application timing, which showed severity and incidence levels lower than 19% and 64% respectively. Possible explanations could be the fact of the blast expression to nitrogen fertilization is mediated by higher levels of N as well by the interaction with other nutrients, like potassium. Therefore, this work needs to be replicated again in order to confirm the obtained results. The nitrogen fertilization effect in the wheat blast expression could have implications in the breeding process, increasing the intensity differences between resistant and susceptible lines.

Keywords: *Pyricularia grisea*; mineral nutrition; *Magnaporthe oryzae*