

**Effect on wheat genotype (*Triticum aestivum* L.)**

**The net impact of individual and combined stress on plant growth**

Stress 1: Nitrogen  
 Stress 2: *Magnaporthe oryzae*  
 Stage of plant: Tillering

The table shows the impact of individual and combined treatment of nutrient nitrogen and fungus *M. oryzae* on following wheat genotypes

Genotype	Treatment	Response under combined stress (Type A parameters*)
		Grain yield (kg/ha)
S1	Nitrogen (120 kg/ha) + <i>M. oryzae</i> (natural infection) (Sequential stress)	43.66
	<i>M. oryzae</i> (natural infection) only	2598.25
S2	Nitrogen (120 kg/ha) + <i>M. oryzae</i> (natural infection) (Sequential stress)	87.33
	<i>M. oryzae</i> (natural infection) only	1550.22
MR1	Nitrogen (120 kg/ha) + <i>M. oryzae</i> (natural infection) (Sequential stress)	2052.4
	<i>M. oryzae</i> (natural infection) only	2663.76
MR2	Nitrogen (120 kg/ha) + <i>M. oryzae</i> (natural infection) (Sequential stress)	87.33
	<i>M. oryzae</i> (natural infection) only	1419.21
MS1	Nitrogen (120 kg/ha) + <i>M. oryzae</i> (natural infection) (Sequential stress)	1484.72
	<i>M. oryzae</i> (natural infection) only	2816.59
MS2	Nitrogen (120 kg/ha) + <i>M. oryzae</i> (natural infection) (Sequential stress)	545.85
	<i>M. oryzae</i> (natural infection) only	2096.07

**Note:** Values are presented as it is from the source article without subjecting to the calculation.



‘\*’- For more information on parameters classification, please refer to ‘methodology’ tab

## B. The interaction between the nutrient and fungus under the combined stress treatment at the plant interface

The table shows the interaction between the nitrogen and *M. oryzae* causing blast severity on following wheat genotypes

Genotype	Treatment	Response under combined stress (Type B parameters*)
		Blast severity (%)
S1	Nitrogen (120 kg/ha) + <i>M. oryzae</i> (natural infection) (Sequential stress)	94.20
	<i>M. oryzae</i> (natural infection) only	24.15
S2	Nitrogen (120 kg/ha) + <i>M. oryzae</i> (natural infection) (Sequential stress)	93.23
	<i>M. oryzae</i> (natural infection) only	48.30
MR1	Nitrogen (120 kg/ha) + <i>M. oryzae</i> (natural infection) (Sequential stress)	13.04
	<i>M. oryzae</i> (natural infection) only	13.04
MR2	Nitrogen (120 kg/ha) + <i>M. oryzae</i> (natural infection) (Sequential stress)	90.33
	<i>M. oryzae</i> (natural infection) only	59.42
MS1	Nitrogen (120 kg/ha) + <i>M. oryzae</i> (natural infection) (Sequential stress)	46.85
	<i>M. oryzae</i> (natural infection) only	10.14
MS2	Nitrogen (120 kg/ha) + <i>M. oryzae</i> (natural infection) (Sequential stress)	70.04
	<i>M. oryzae</i> (natural infection) only	27.05

**Reference**– Silva SR, Custódio AAP, Foloni JSS, Betioli-Junior E, Bassoi MC (2019) Nitrogen fertilization effects on wheat blast epidemics under varying field environmental conditions. *Trop. Plant Pathol.* **44**:258-267

**Note:** Values are presented as it is from the source article without subjecting to the calculation.

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**Inference from the study:** Silva *et al.*, 2019 studied the effect of nitrogen on pathogen *M. oryzae* on six wheat genotypes in field condition. The combined treatment of nitrogen and *M. oryzae* reduced the grain yield highest in genotype S1 followed by in sequence genotypes S2, MR2, MS2, MS1 and blast resistant genotype MR1. Even so, all the genotypes treated with combined nitrogen and pathogen *M. oryzae* observed a less grain yield production per hectare in comparison to plants treated with *M. oryzae* only. The percentage of blast severity is higher in all genotypes treated with combined nitrogen and *M. oryzae* except the blast resistant genotype MR1.