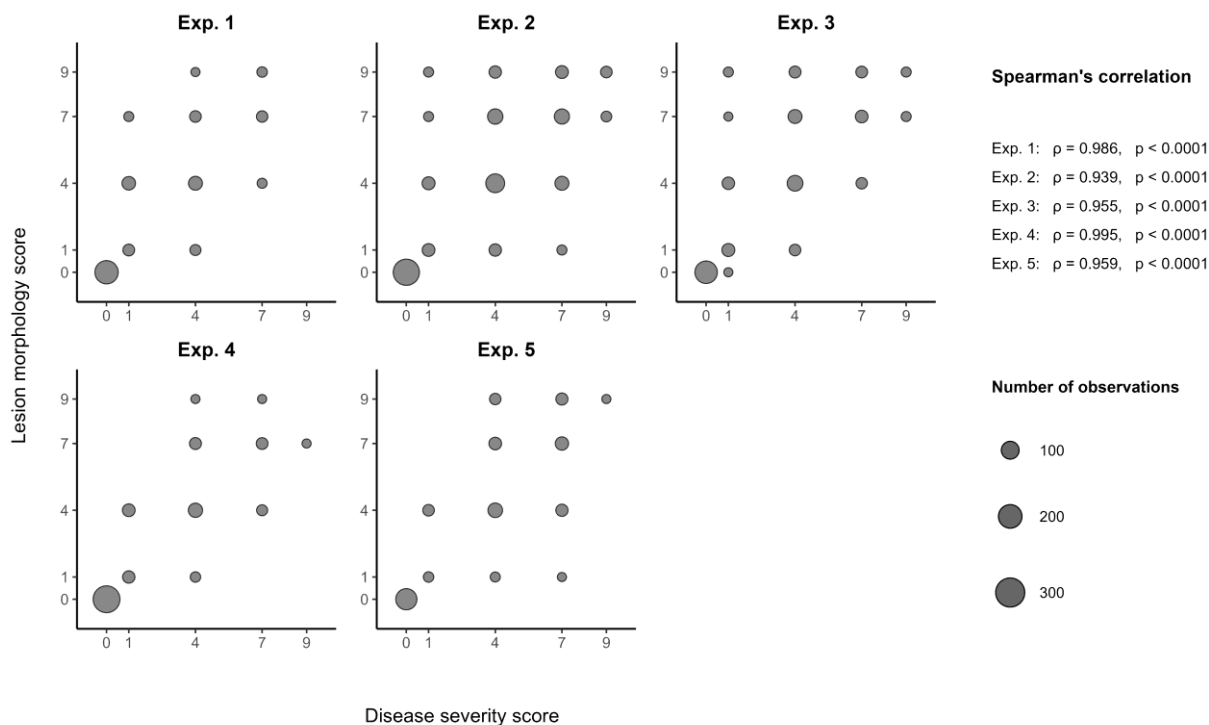
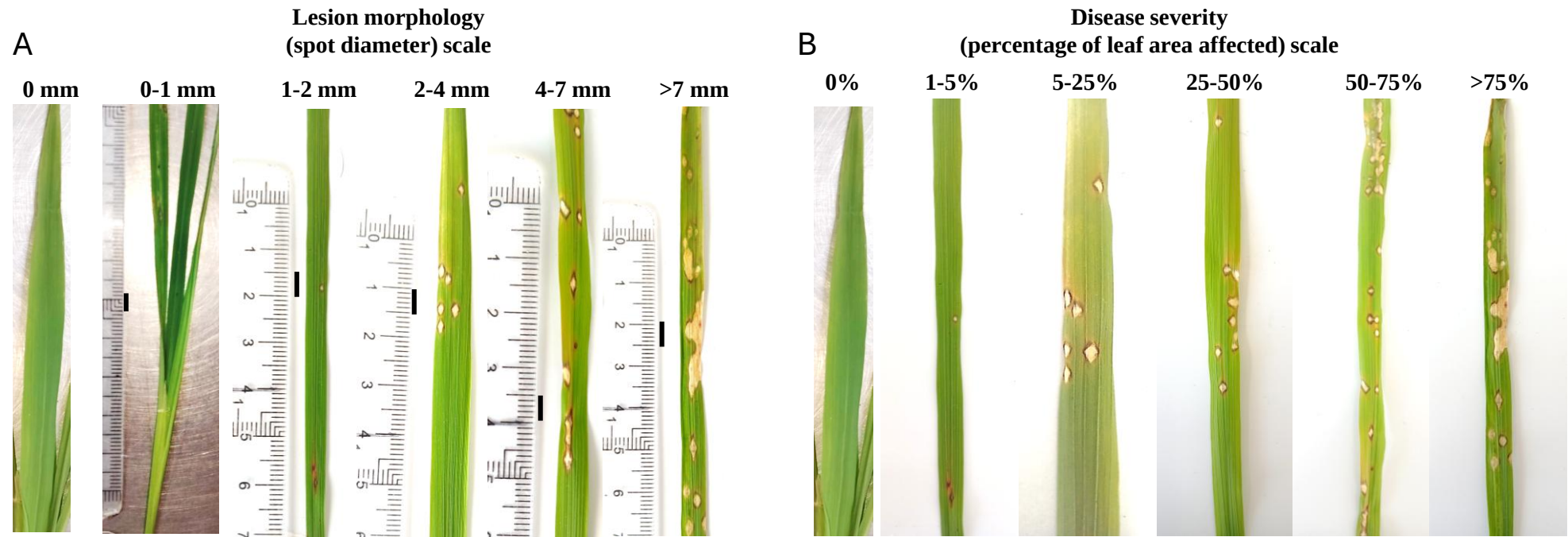


Supplementary Figure 1- Representative bright-field (left) and GFP fluorescence (right) images of *Magnaporthe oryzae* PR0009-GFP. Scale 5 μm .



Supplementary Figure 2 - Relationship between lesion morphology and disease severity during development of the rice blast disease-assessment framework. Bubble size represents the number of observations corresponding to each combination of lesion morphology and disease severity scores across five independent experiments. Spearman's rank correlation was calculated separately for each experiment and showed a strong positive association between the two assessment parameters ($\rho = 0.939\text{--}0.995$, $p < 0.0001$). These experiments used the ordinal classes applied during framework development (0, 1, 4, 7, and 9), before refinement to the final six-class scale (0, 1, 3, 5, 7, and 9) described in the Materials and Methods.

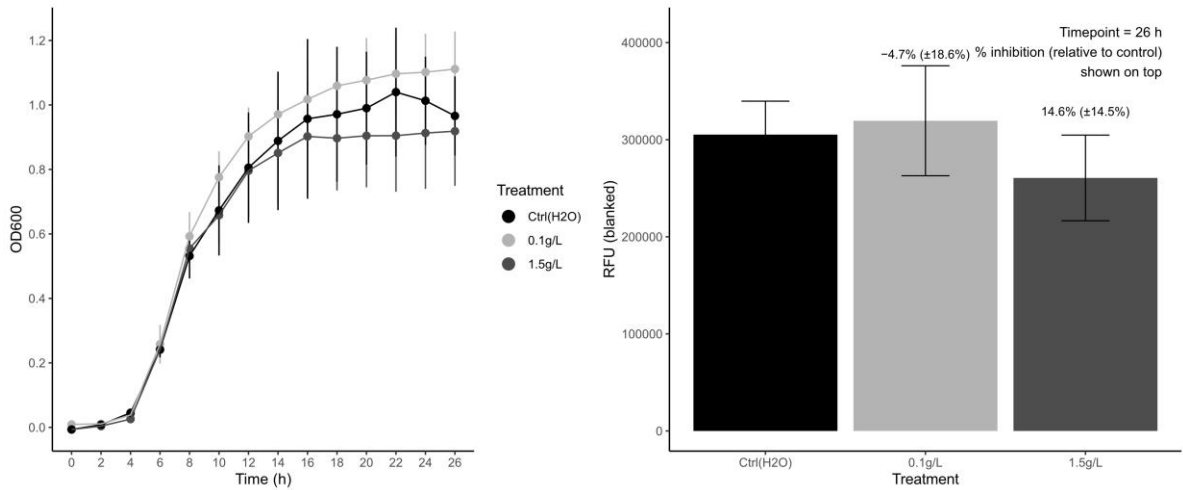


Lesion morphology (spot diameter) scale	Score
No lesions	0
Lesions with a diameter between 0-1 mm	1
Lesions with a diameter between 1-2 mm	3
Lesions with a diameter between 2-4 mm	5
Lesions with a diameter between 4-7 mm	7
Lesions with a diameter between > 7 mm	9

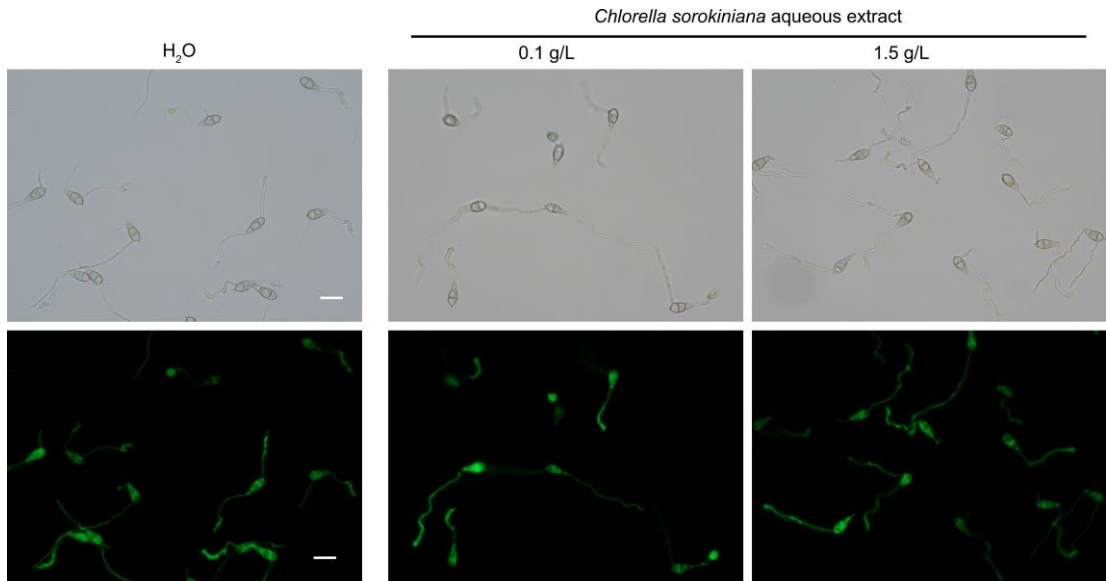
Disease severity (percentage of leaf area affected) scale	Score	Midpoints
No lesions	0	0
Leaf area affected by lesions between 1 -5 %	1	2.5
Leaf area affected by lesions between 5 - 25 %	3	15
Leaf area affected by lesions between 25 -50 %	5	37.5
Leaf area affected by lesions between 50 - 75 %	7	62.5
Leaf area affected by lesions 75 -100 %	9	87.5

Supplementary Figure 3- Disease assessment developed to evaluate rice blast severity caused by *M. oryzae*. Representative photos illustrate the two complementary assessment scales developed for disease evaluation: A) lesion morphology (spot diameter) showing the progression from healthy leaves to increasing lesion size and development (scale bar = 5 mm) and B) disease severity (percentage of diseased leaf area), illustrating increasing proportions of leaf area affected by blast symptoms. Representative photos correspond to the disease classes used for scoring. The spot diameter scale can be combined with the percentage-based severity scale to calculate disease indices, whereas the percentage-based scale was used for quantitative statistical analyses after conversion of ordinal scores to class midpoint values.

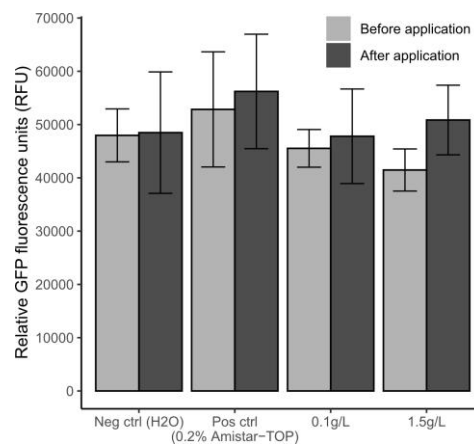
A



B



C



Supplementary Figure 4 - Validation of a high-throughput microplate assay to test *Chlorella sorokiniana* aqueous extract against *Magnaporthe oryzae*. A) Growth curves of GFP-expressing *E. coli* DH5α in a flat-bottom 96-well microplate treated with 0.1 g/L (w/v) or 1.5 g/L of *Chlorella sorokiniana* aqueous extract, measured as OD₆₀₀ (left) and GFP signal as relative fluorescence units (RFU, right) in the same microplate. No statistically significant differences in either OD₆₀₀ (at any time point during or after the exponential phase) or GFP signal as RFU at 26hpi ($p > 0.05$; one-way ANOVA followed by Tukey's multiple comparisons test; five technical replicates per group).

Supplementary Figure 4 (Cont.) - B) *In vitro* germinating conidia of *M. oryzae* PR0009-GFP in the presence of *C. sorokiniana* extract at 0.1 or 1.5 g/L final testing concentrations for 4 hours. Both brightfield (top) and corresponding GFP micrographs (below) are shown. Appressoria were present in all conditions tested. Scale = 20 μ m. C) GFP signal (as RFU) from 68-hour-old *M. oryzae* PR0009-GFP cultures grown in a black flat-bottom 96-well microplate before and right after post-treatment with 0.1 or 1.5 g/L final testing concentrations of *C. sorokiniana* aqueous extract, showing no statistically significant effect in RFU after application (one-way ANOVA and post-hoc Tukey test; Figure 4; $p > 0.05$, One-way ANOVA followed by Tukey's multiple comparisons test, four technical replicates; n.s. = non-significant difference).