



Figure 8. Phenotypic characterization of the rice *perox4* knockout lines.

(A) Blast resistance of two independent *perox4* knockout lines compared with the parental Zhonghua11 (ZH11) plants. Three representative leaves collected at 3 d postinoculation of the blast isolate Guy11 are shown. (B) Lesion numbers per cm² on the rice leaves (mean \pm SD, $n > 10$ leaves) after inoculation with blast fungus as in (A). (C) Expression of defense marker genes (*PR2*, and *PR5*) in *perox4* and ZH11 at the indicated times after infection of Guy11 measured by qRT-PCR. The y-axis represents the relative expression value (\log_2 – transformed, mean \pm SD, $n = 3$) normalized to *Osactin* (*Os03g0718100*). *, Statistical significance ($P < 0.01$) determined by the Student's *t*-test; ns, no significant difference. (D) Photograph of 10 seeds each for ZH11 and the *perox4* mutant lines. Scale bars, 0.5 cm. (E) and (F) Grain width and thousand-grain weight of the ZH11 and *perox4* mutant. Error bars indicate the mean \pm SD ($n=3$ biological replicates, each replicate contains 10 seeds for G and 1000 seeds for H), *, statistical significance ($P < 0.01$) determined by the Student's *t*-test.