

### **Description of Additional Supplementary Files**

**File Name: Supplementary Data 1**

**Description:** Summary of significant associations identified by GWAS using 103 *Z. tritici* isolates and quantitative pathogenicity phenotypes on wheat differential cultivars.

**File Name: Supplementary Data 2**

**Description:** Gene expression levels and differential expression analysis (log<sub>2</sub> fold change compared to the culture medium CDB) at five time points during infection on wheat.