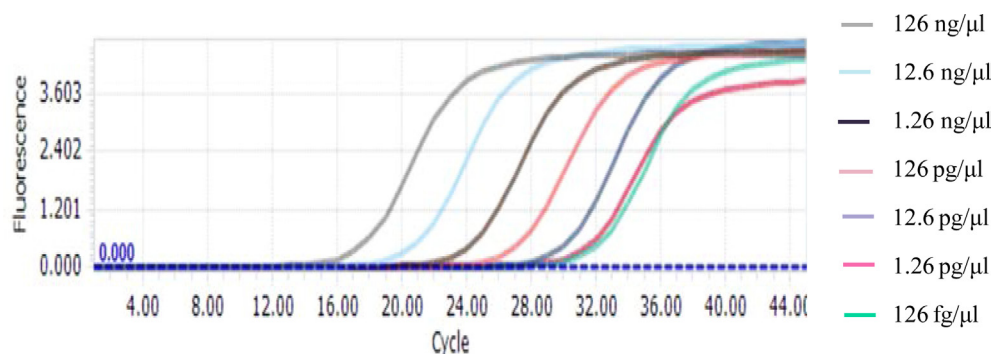


Supplementary Table 1. Reproducibility assay of the real-time PCR

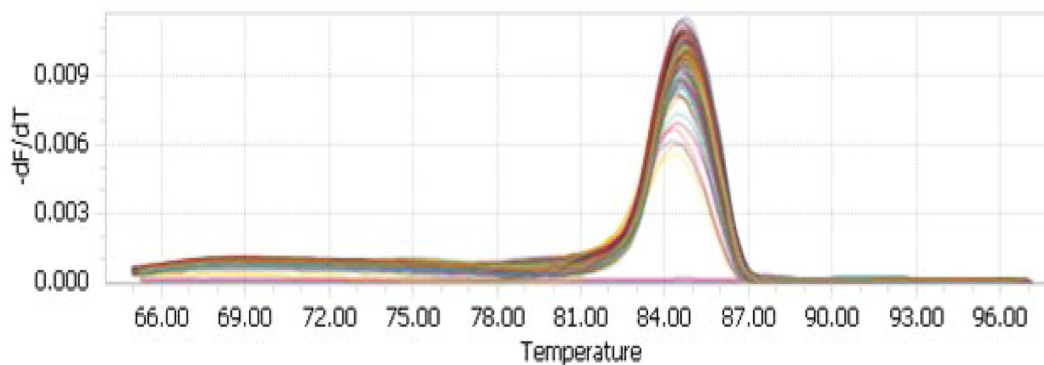
<i>Fon</i> concentration (12.6 ng/ μ l)	Reproducibility of intra-assay			Reproducibility of inter-assay		
	Mean Ct value	SD	CV (%)	Mean Ct value	SD	CV (%)
10^{-1}	19.54	0.12	0.61	19.54	0.11	0.55
10^{-2}	22.87	0.11	0.50	22.87	0.03	0.11
10^{-3}	26.52	0.08	0.29	26.52	0.06	0.23
10^{-4}	30.12	0.20	0.66	30.12	0.33	1.13
10^{-5}	32.58	0.13	0.39	32.58	0.29	0.97

Ct represents the fractional PCR cycle at which the target is quantified in a given sample. Mean and SD of Ct obtained from real-time PCR detection of DNA extractions from three biological and technical replicates.

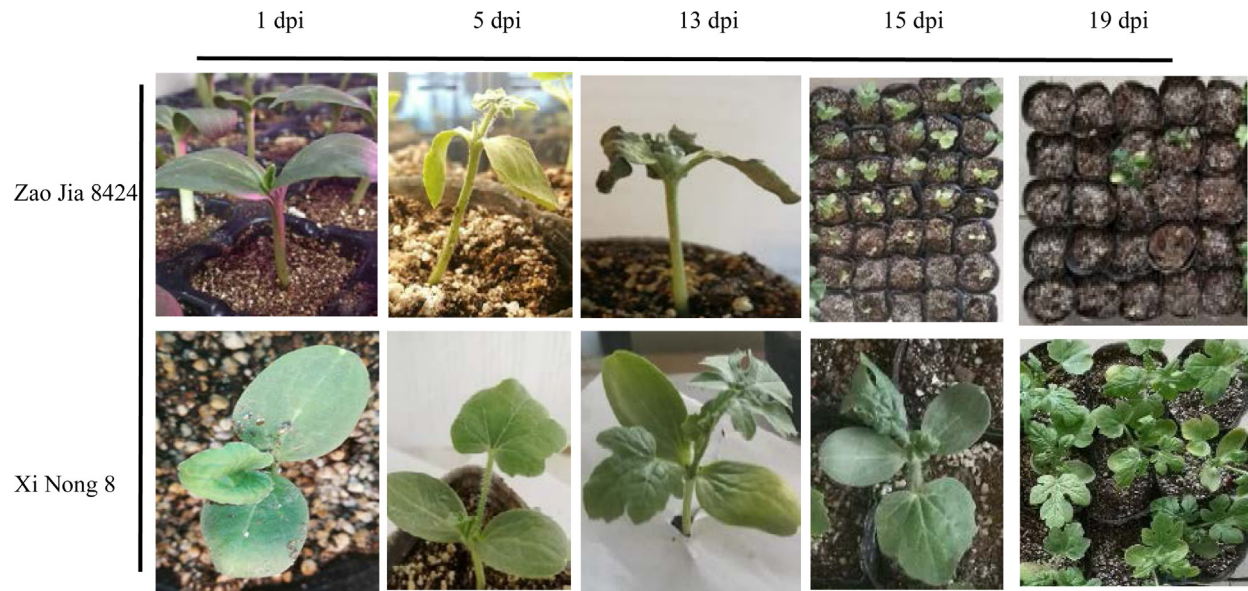
PCR, polymerase chain reaction; *Fon*, *Fusarium oxysporum* f. sp. *niveum*; SD, standard deviation.



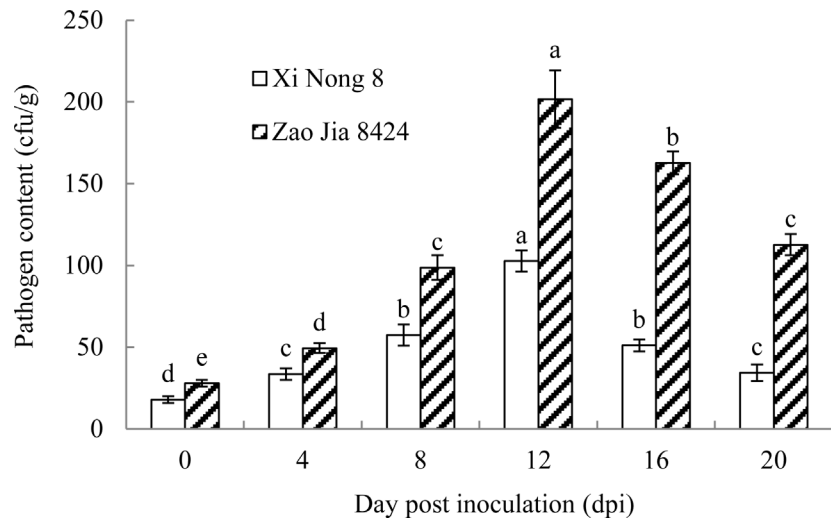
Supplementary Fig. 1. Sensitivity test of real-time polymerase chain reaction assay using serial 10-fold dilutions of *Fusarium oxysporum* f. sp. *niveum* genomic DNA ranging from 126 ng/ μ l to 1.26 fg/ μ l. All the samples were tested in three biological and technical replicates.



Supplementary Fig. 2. Melting curve profile for real-time polymerase chain reaction amplification of *Fusarium oxysporum* f. sp. *niveum* pure genomic DNA. The negative derivative of fluorescence with respect to temperature is plotted as dF/dT versus temperature to obtain a graphical representation of the melting peaks. Genomic DNA samples range from 126 ng/ μ l to 1.26 fg/ μ l using serial 10-fold dilutions. All the samples were tested in three biological and technical replicates.



Supplementary Fig. 3. Disease symptoms on watermelon ‘Zao Jia 8424’ (susceptible to *Fon* race 1) and ‘Xi Nong 8’ (resistant to *Fon* race 1) inoculated with *Fusarium oxysporum* f. sp. *niveum* race 1. The experiments were performed in three biological replicates.



Supplementary Fig. 4. The number of colony-forming units on the 5×10^5 cfu/g soil inoculated with *Fusarium oxysporum* f. sp. *niveum* race 1 by the plate dilution method from five replicates. The watermelon cultivars ‘Zao Jia 8424’ and ‘Xi Nong 8’ were grown in the soil. Different lowercase letters in each column shape indicate significant difference at $P < 0.05$ by Tukey's test.