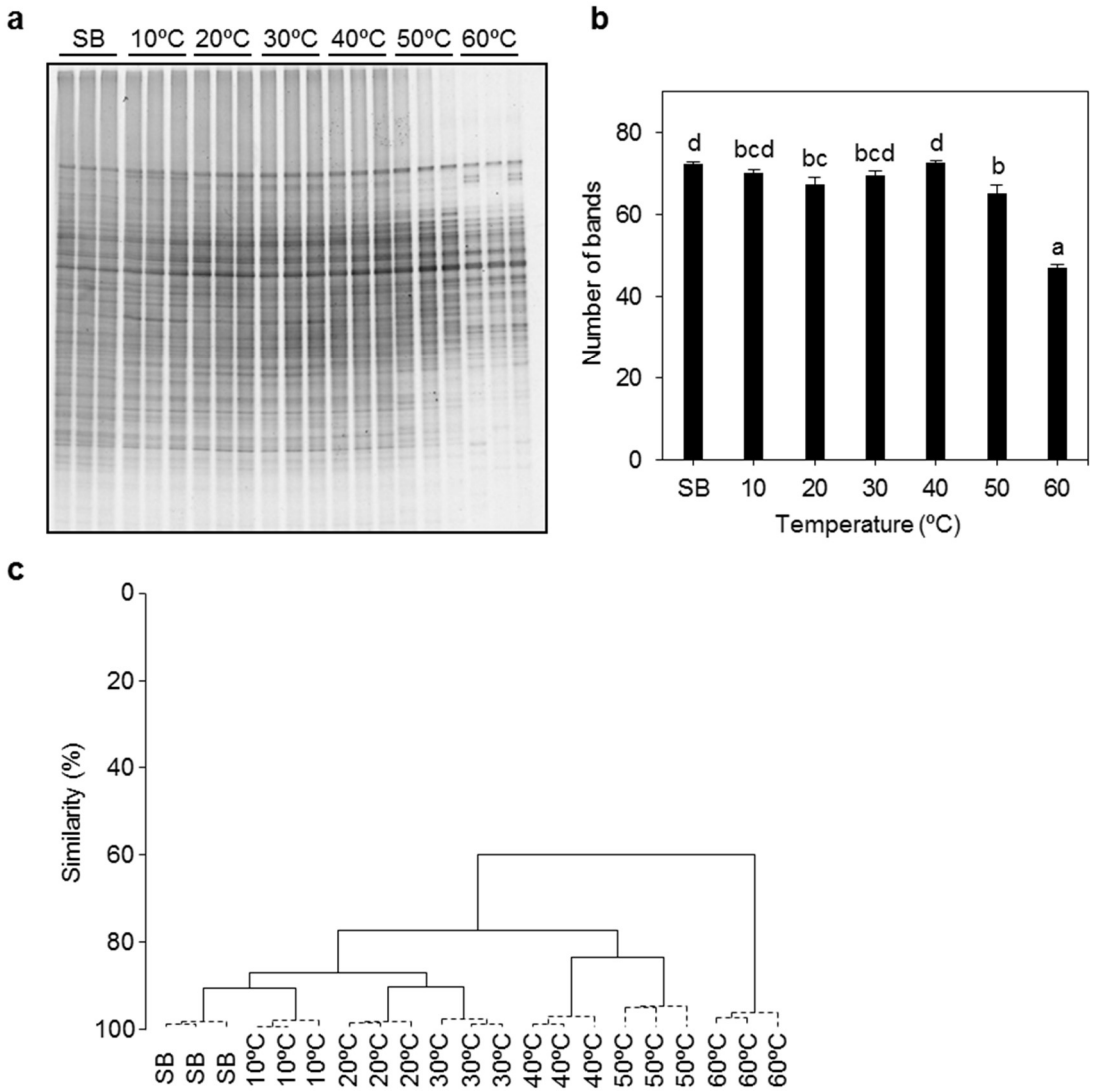

Fig. S1 The effect of different temperatures on the bacterial community on day 28 in Experiment 1. **a,** DGGE fingerprint; **b**, the number of DGGE bands (mean with standard deviation of three replicates); **c**, cluster analysis of DGGE fingerprints. SB, soil before incubation The numbers of DGGE bands with the different letters on the top of the columns are significantly different ($p < 0.05$). Dashed lines connecting samples in cluster analysis do not significantly differ (SIMPROF, $p > 0.05$).

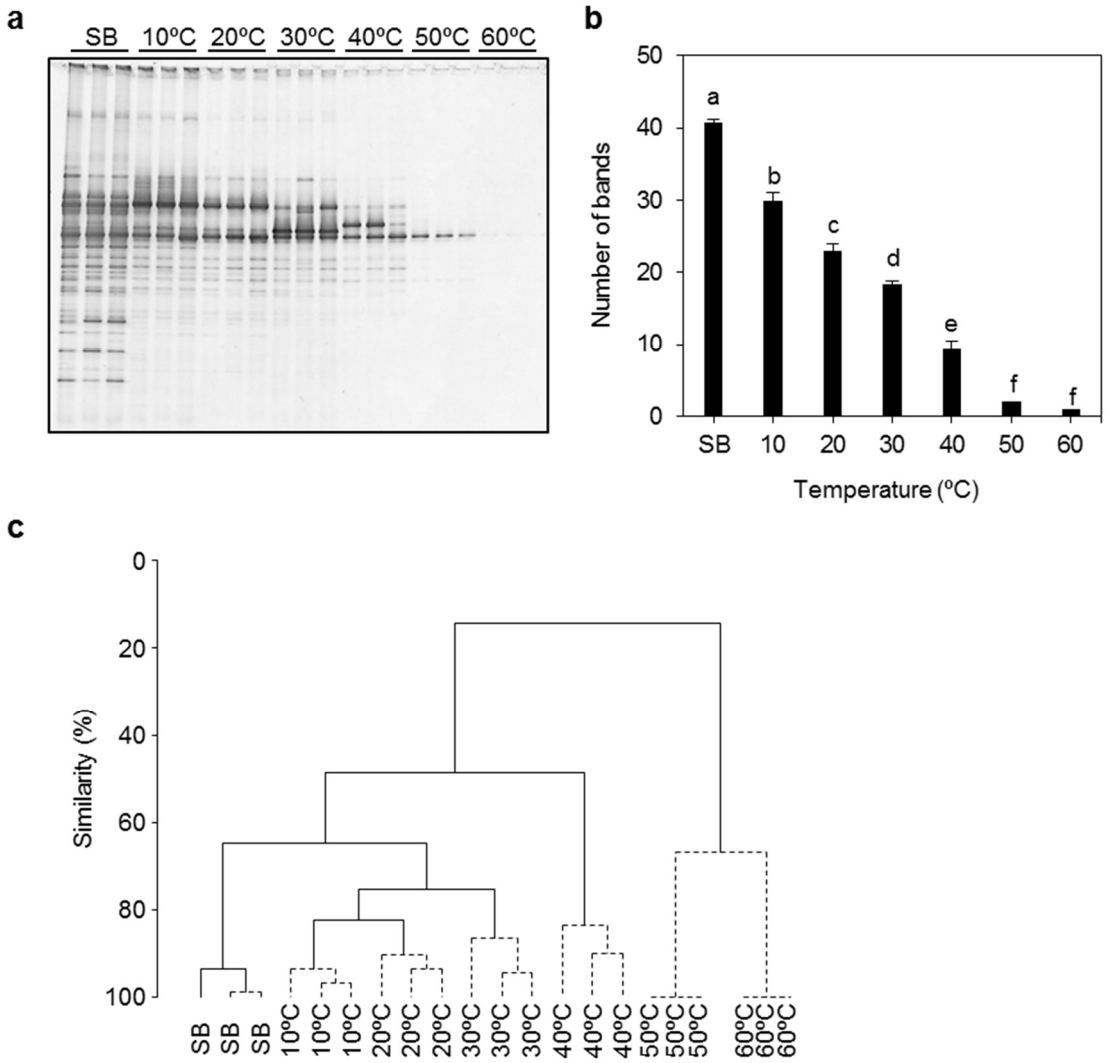

Fig. S2 The effect of different temperatures on the fungal community on day 28 in Experiment 1. **a,** DGGE fingerprint; **b**, the number of DGGE bands (mean with standard deviation of three replicates); **c**, cluster analysis of DGGE fingerprints. SB, soil before incubation The numbers of DGGE bands with the different letters on the top of the columns are significantly different ($p < 0.05$). Dashed lines connecting samples in the cluster analysis do not significantly differ (SIMPROF, $p > 0.05$).

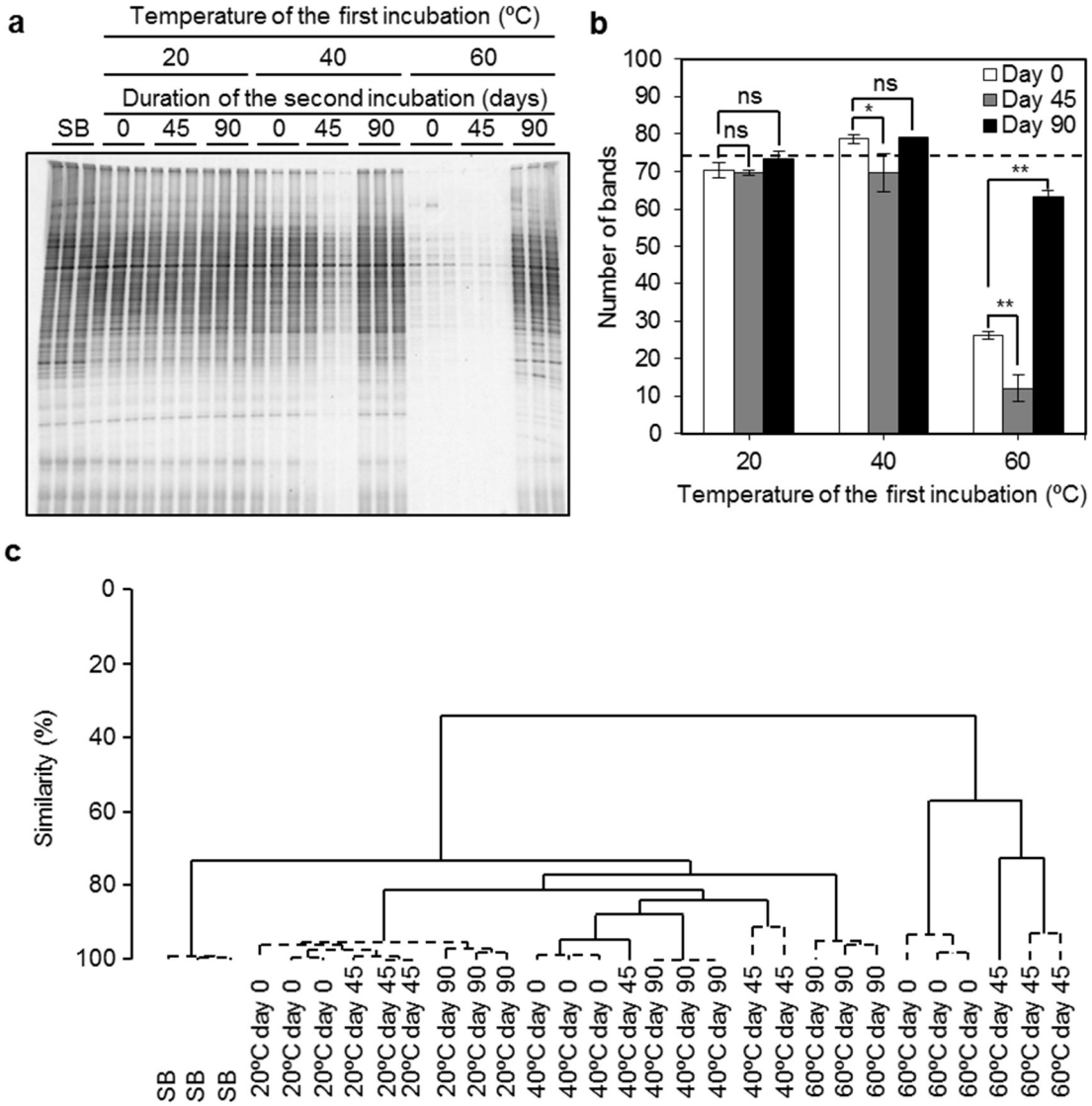

Fig. S3 The effect of the heat treatments at different temperatures on the recovery of the bacterial community followed by subsequent incubation at 20°C (Experiment 2). **a**, DGGE fingerprint; **b**, the number of DGGE bands; **c**, cluster analysis of DGGE fingerprints. SB, soil before the heat treatment. The numbers of DGGE bands are the means with the standard deviations of three replicates with the number before incubation indicated by a dashed line, where * and ** indicate that values are significantly different ($p < 0.05$ and 0.01, respectively), and ns indicates that samples do not significantly differ ($p > 0.05$). Dashed lines connecting samples in the cluster analysis do not significantly differ (SIMPROF, $p > 0.05$).

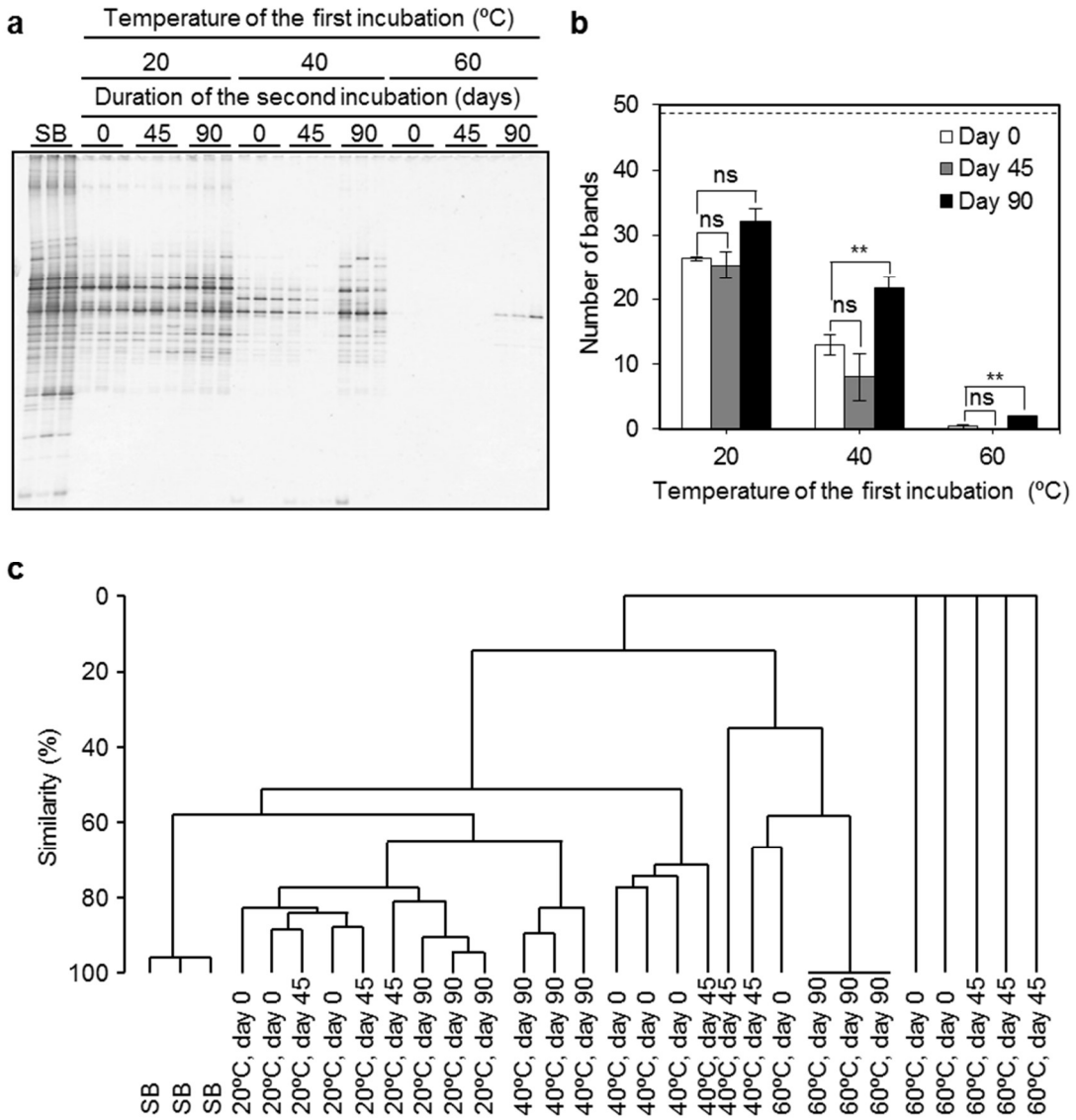

Fig. S4 The effect of the heat treatments at different temperatures on the recovery of the fungal community followed by subsequent incubation at 20°C (Experiment 2). **a**, DGGE fingerprint; **b**, the number of DGGE bands; **c**, cluster analysis of DGGE fingerprints. SB, soil before the heat treatment. The numbers of DGGE bands are the means with the standard deviations of three replicates with the number before incubation indicated by a dashed line, where * and ** indicate that values are significantly different ($p < 0.05$ and 0.01, respectively), and ns indicates that samples do not significantly differ ($p > 0.05$). Dashed lines connecting samples in the cluster analysis do not significantly differ (SIMPROF, $p > 0.05$).