

**Table S3a.** The effect of *Arabidopsis thaliana* genotypic diversity and *Hyaloperonospora arabidopsidis* on the initial disease score at six days after infection in a pair-wise interaction experiment. Disease was scored as the proportion of leaves showing sporulation. A linear mixed model was used to analyse each factor and all interactions between them. Fixed effects included experimental repeat, genotype and cultivation (2-way mixture/monoculture). Non-significant terms were eliminated from the model. *F* and *P* values refer to ANOVA tests of each factor separately and the interactions between them. N=1600.

<b>Fixed term</b>	<b>F</b>	<b>n.d.f.</b>	<b>d.d.f.</b>	<b>P</b>
Experiment	38.41	1	334.8	<0.001
Genotype	1.79	1	362.5	0.2
Cultivation	664.52	3	634.3	<0.001
Experimental. Genotype	35.43	3	634.0	<0.001

**Table S3b.** The effect of *Arabidopsis thaliana* genotypic diversity and *Hyaloperonospora arabidopsidis* on the second disease score at ten days after infection in a pair-wise interaction experiment. Disease was scored on a scale of 0-4, with 0=no disease and 4=over 67% of leaf area covered in spores. A linear mixed model was used to analyse each factor and all interactions between them. Fixed effects included experimental repeat, genotype and cultivation (2-way mixture/monoculture). Non-significant terms were eliminated from the model. *F* and *P* values refer to ANOVA tests of each factor separately and the interactions between them. N=1600.

<b>Fixed term</b>	<b>F</b>	<b>n.d.f.</b>	<b>d.d.f.</b>	<b>P</b>
Experiment	0.85	1	349.2	0.4
Genotype	0.15	1	394.1	0.7
Cultivation	1155.94	3	631.2	<0.001
Experimental. Genotype	4.94	3	631.1	0.002