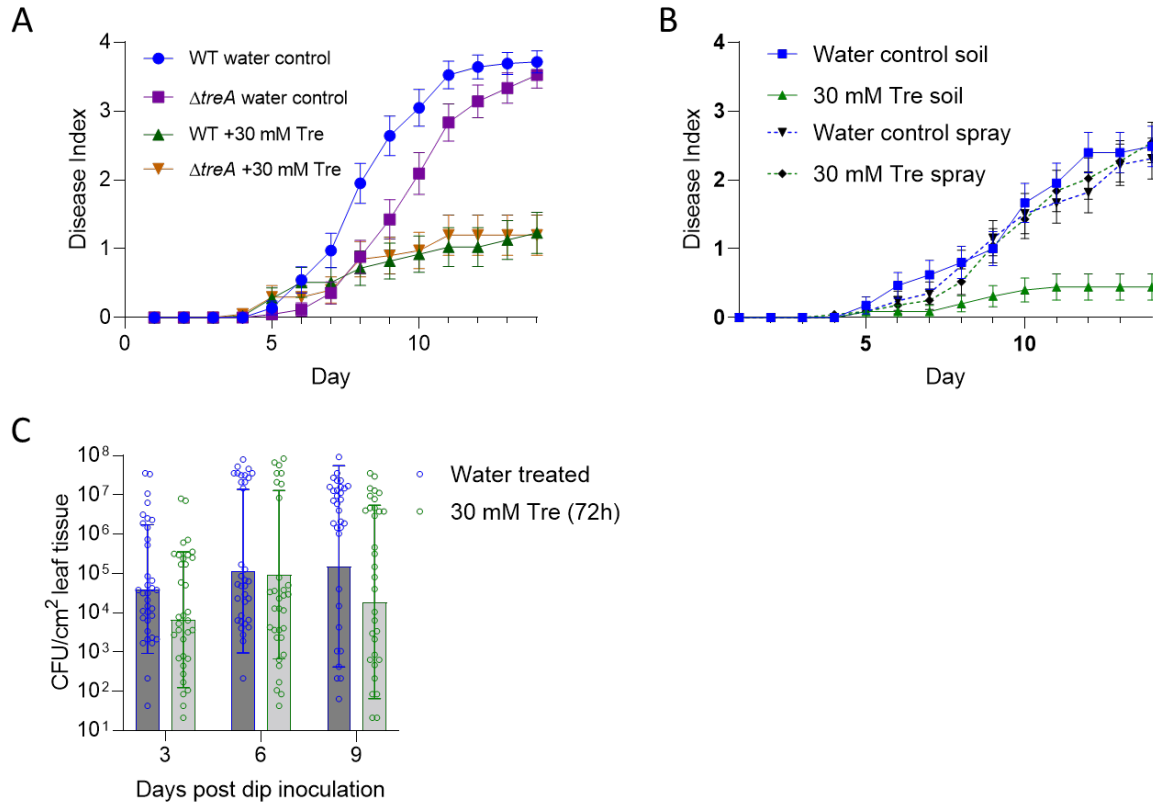MacIntyre et al **Trehalose increases tomato drought tolerance, induces defenses, and increases resistance to bacterial wilt disease**

Supplemental Figure 3

Supplemental Figure 3. Trehalose treatment does not nutritionally enrich the soil environment for *R. solanacearum*, and its protection is limited to root application. A) Disease progress curve of plants treated with trehalose or water, then infected with either wild-type *Rs* or a Δ*treA* mutant unable to catabolize trehalose (one-way ANOVA of areas under the curve, WT H$_2$0 vs. WT tre, *P*=.0008, Δ*treA* H$_2$0 vs. Δ*treA* tre, *P*=.017). The data represent three bioreps each containing 13-15 plants per treatment. The bars represent the standard error. **B)** Disease development in plants sprayed once with 30 mM trehalose or water, and then soil-soak inoculated with *Rs* 48 h later (ANOVA of AUC, Fisher's LSD multiple comparisons to H$_2$0 soil, H$_2$0 spray, *P*=.67; tre spray, *P*=.63; tre soil, *P*=.63). The data represent three biological replicates each containing fifteen plants per treatment. The bars represent the standard error. **C)** Colonization of tomato leaves by the bacterial leaf spot pathogen *Xanthomonas gardneri*; plants were dip-inoculated with *X. gardneri* 72 h after root treatment with water or 30 mM trehalose (Mann-Whitney, day 3, *P*=.06; day 6, *P*=.61; day 9, *P*=08)*.* The data represent three biological replicates with

twelve plants/treatment/timepoint. The graph displays the geometric means; bars indicate the

geometric standard deviation of the data.