



Figure S1. GWAS showing significant P -values associated with root hair length based on the general linear model (GLM).

(a) Manhattan plots of GLM for root hair length. The horizontal dashed line represents the significance threshold $-\log_{10}(P) = 6.5$.

(b) QQ plot of GLM showing the ratio of the observed and the expected P -values for root hair length. The solid diagonal lines represent agreement between observed and expected probability distributions assuming null SNP-trait association.