**File S1.** Manhattan plots and QQ-plots for each of the three years of field study: 2021 - 2023
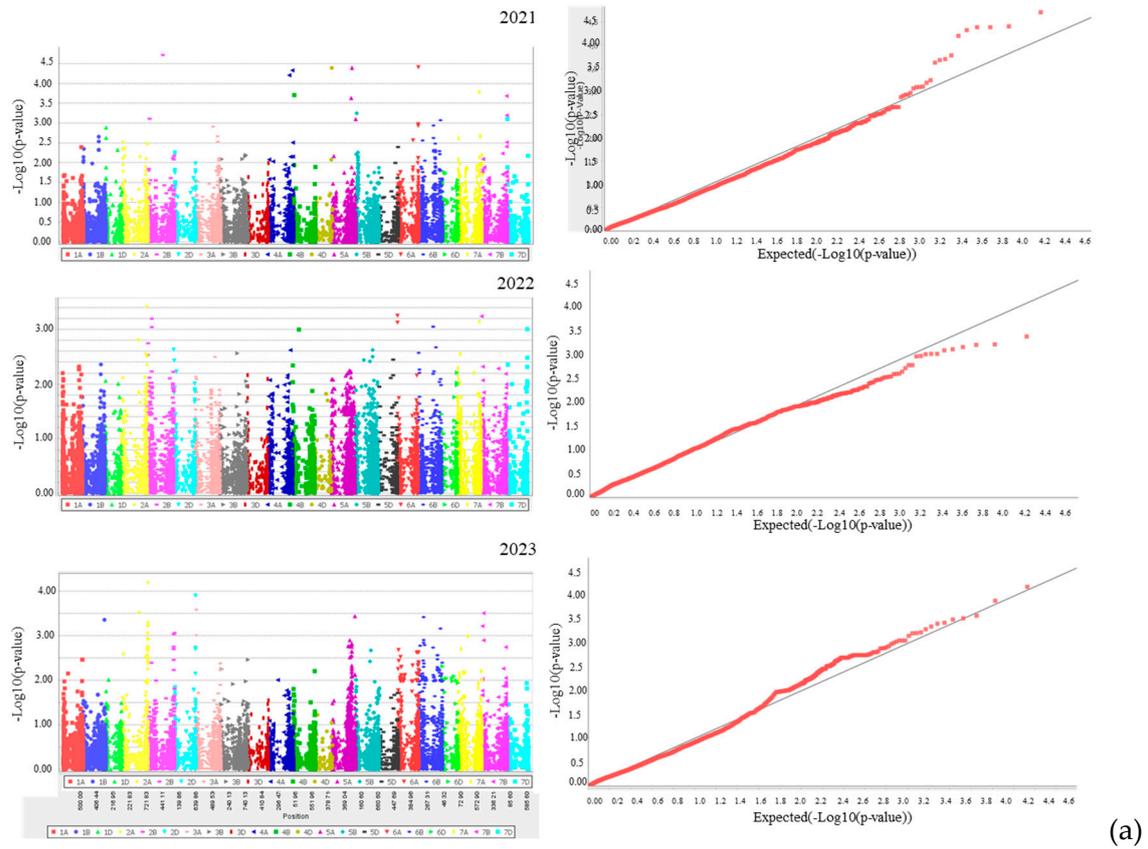


(a)
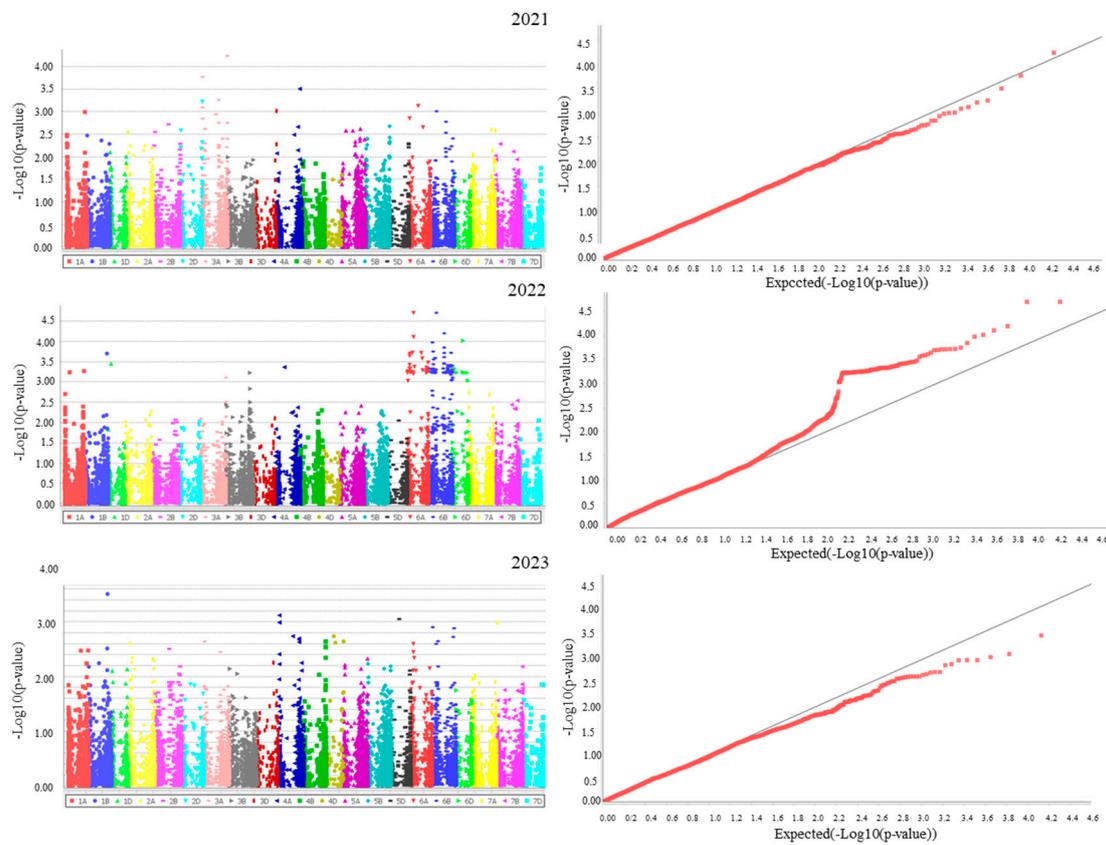


(b)
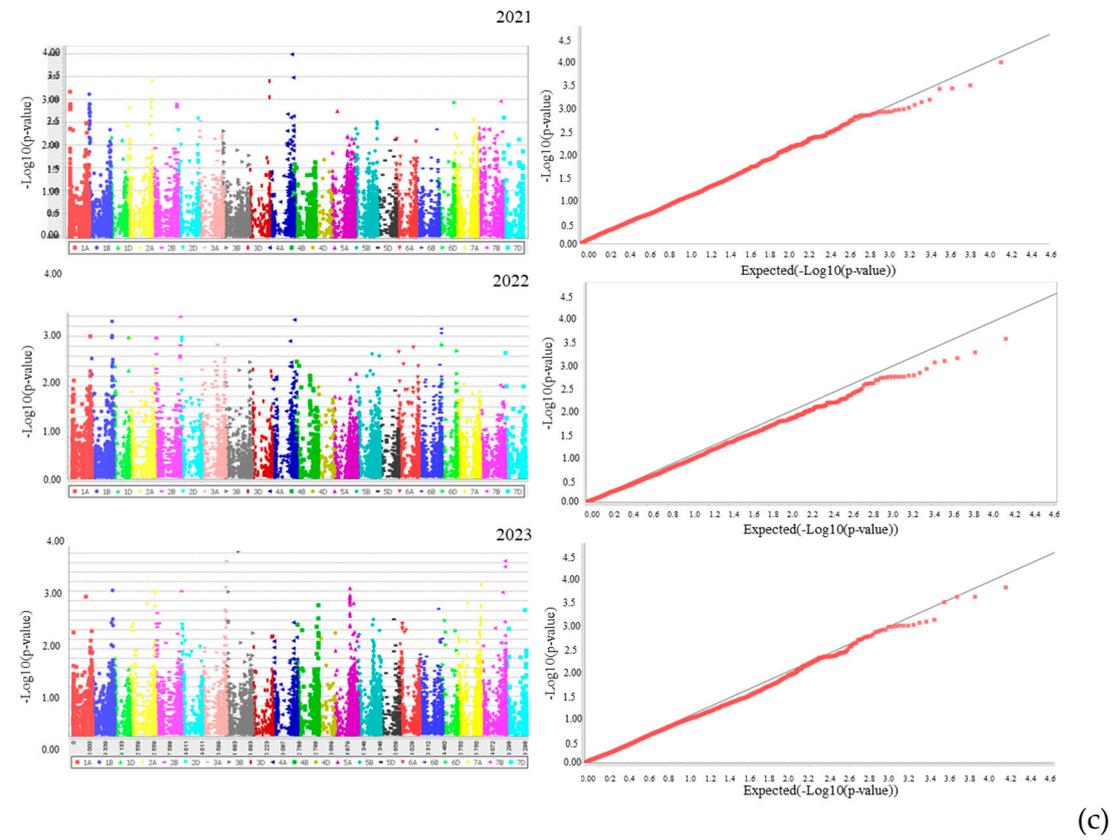
(c)
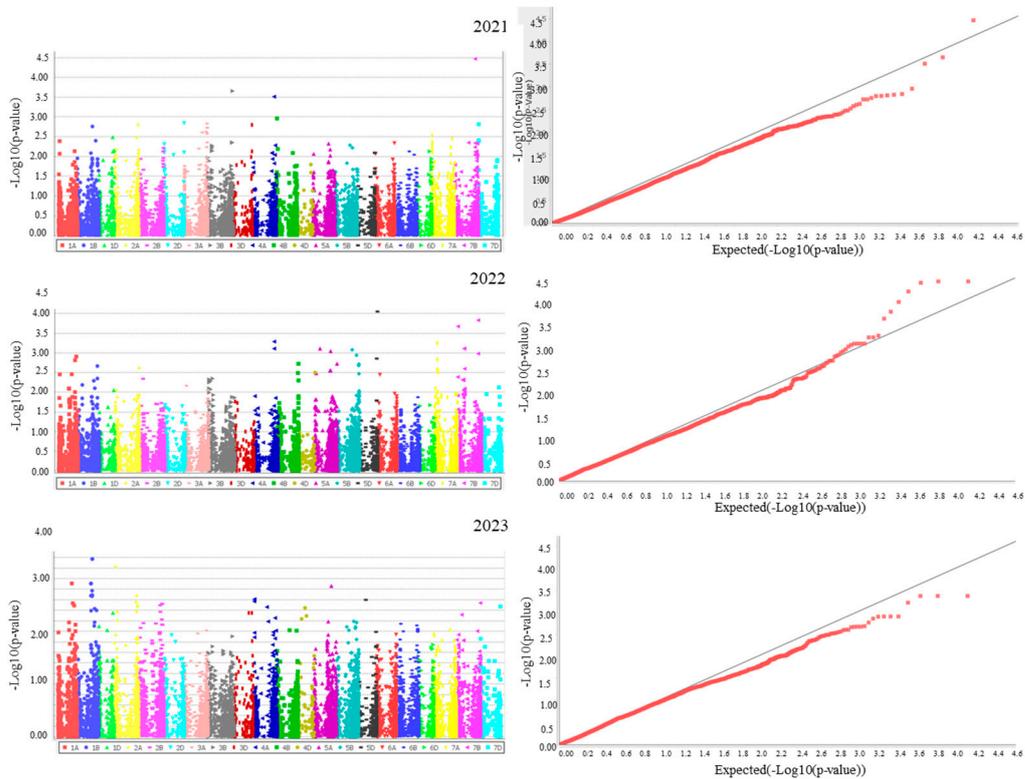


(d)

**Figure S1.** Manhattan plots and QQ-plots of 4 agronomic characters: (a) RL; (b) SL; (c) TGW; (d) SN. The red dots and gray straight lines on the QQ-plots indicate the experimental value and the expected value, respectively