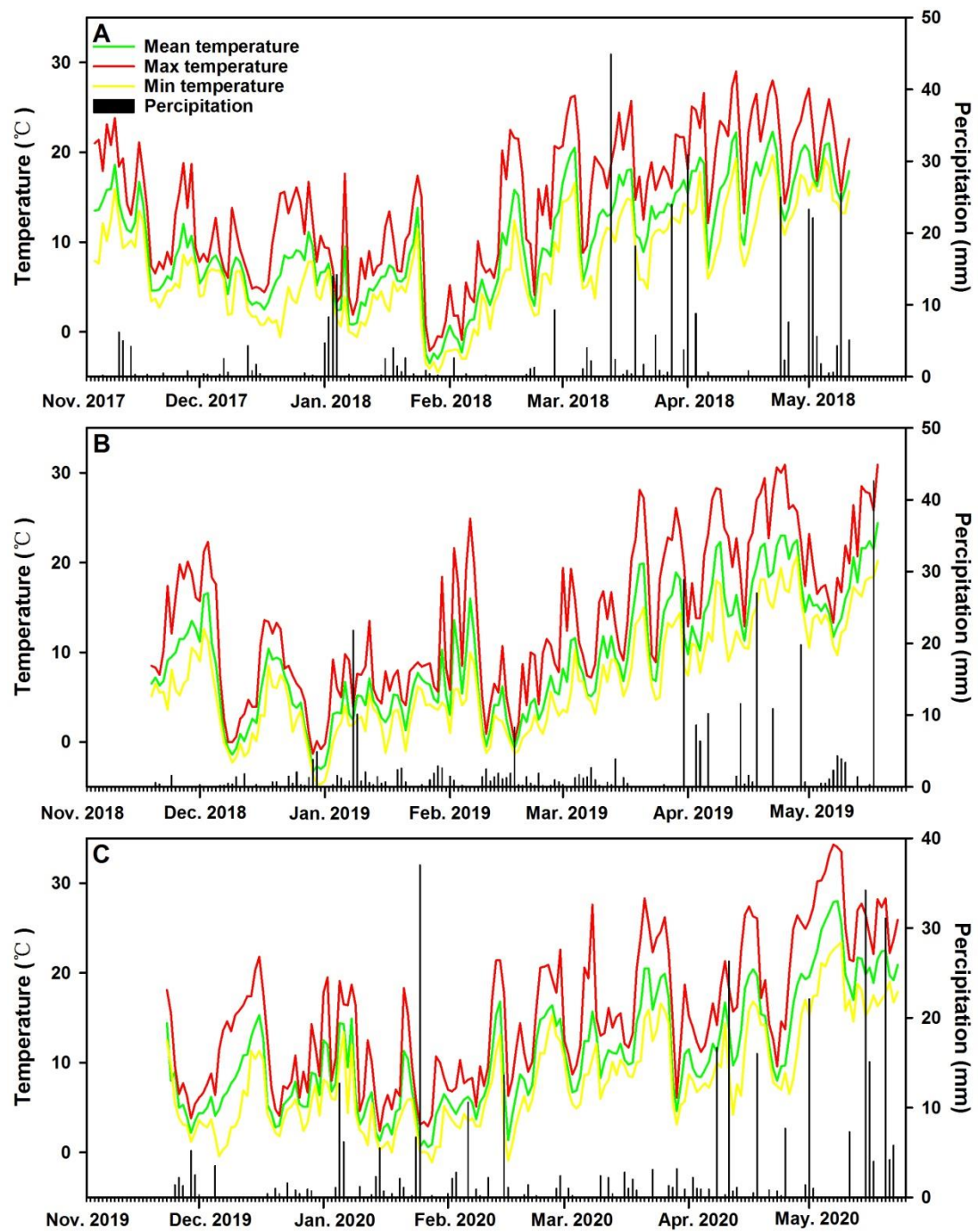
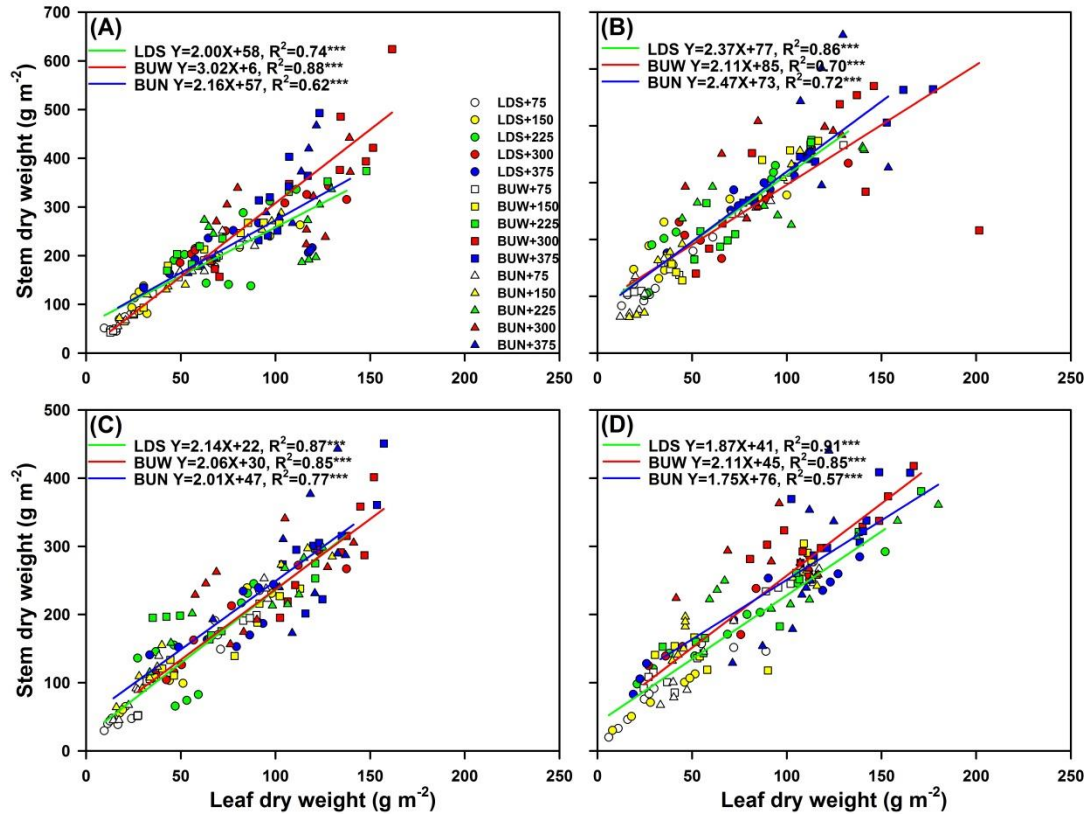


## Supplementary data



**Figure S1.** The precipitation and mean temperature changes in the field experiment during the growing season for (A) 2017–2018, (B) 2018–2019 and (C) 2019–2020



**Figure S2.** The ratio of the stem dry matter to leaf dry matter (A) Guizi 1, (B) Guizi 4, (C) Guinong 19 and (D) Guinong 30 under three sowing patterns (SP; Line and dense sowing with 33.3 cm row spacing (LDS); Belt uniform sowing with 20 cm row spacing (BUW); and Belt uniform sowing with 15 cm row spacing (BUN)) and five sowing density (SD; 75, 150, 225, 300 and 375 plants m<sup>-2</sup>) in the three consecutive growing seasons.