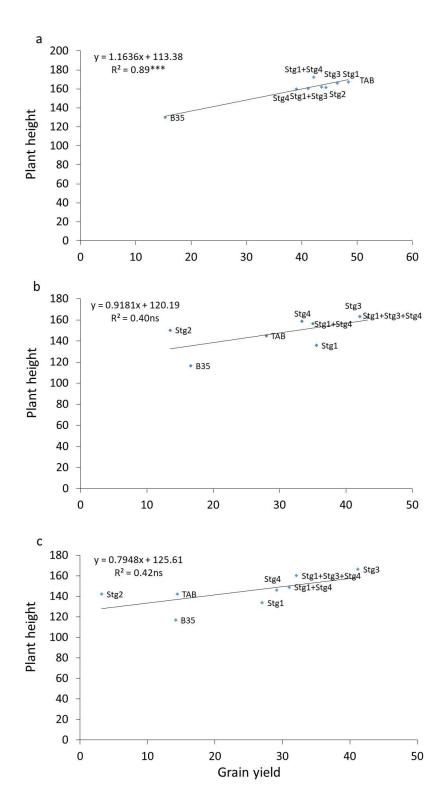
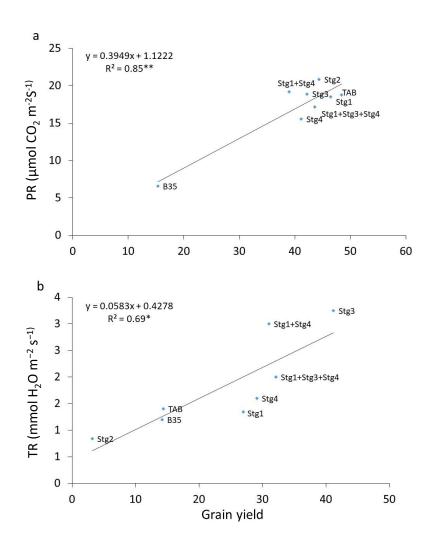


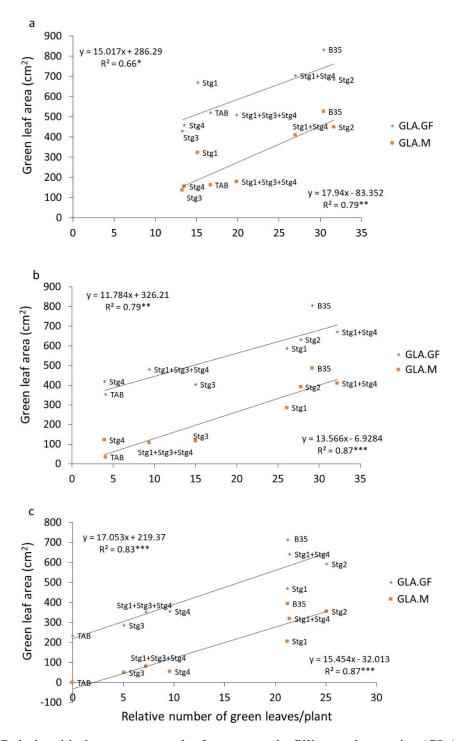
**Figure S1** Relationship between grain yield (GY) and harvest index (HI) for six stay-green introgression lines and their parents evaluated under  $W_{100}$  (a),  $W_{75}$  (b) and  $W_{50}$  (c) of soil field capacity. \* denote significant differences at  $P \le 0.05$ .



**Figure S2** Relationship between grain yield (GY) and plant height (PH) for six stay-green introgression lines and their parents evaluated under  $W_{100}$  (a),  $W_{75}$  (b) and  $W_{50}$  (c) of soil field capacity. \*\*\* denote significant differences at  $P \le 0.001$ , ns denote not significant.



**Figure S3** Relationship between photosynthesis rate (PR) at grain filling and grain yield (GY) under W<sub>100</sub> (a), transpiration rate (TR) at grain filling and grain yield (GY) under W<sub>50</sub> (b) for six stay-green introgression lines and their parents. \*, \*\* denote significant differences at  $P \le 0.05$  and  $P \le 0.01$ , respectively.



**Figure S4** Relationship between green leaf area at grain filling and maturity (GLA.GF and GLA.M, respectively) and relative number of green leaves/plant under W<sub>100</sub> (a), W<sub>75</sub> (b) and W<sub>50</sub> (c) for six stay-green introgression lines and their parents. \*, \*\*, \*\*\* denote significant differences at  $P \le 0.05$ ,  $P \le 0.01$ ,  $P \le 0.001$ , respectively.