**Supplementary Table 9 |** Correlations between the number of harbored favorable quantitative trait loci (QTL) and hybrid performance for 10 traits in Chang7-2 × RIL (TC) and Mo17 × RIL (TM) population, respectively

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Population | Traits | *r*1 | *r*2 | *r*3 |
| TC | PH | 0.29\*\* | 0.44\*\* | 0.51\*\* |
|  | EH | 0.49\*\* | 0.13\* | 0.48\*\* |
|  | RNPE | 0.20\*\* | 0.45\*\* | 0.48\*\* |
|  | KNPR | 0.26\*\* | / | 0.26\*\* |
|  | KT | 0.25\*\* | 0.43\*\* | 0.47\*\* |
|  | KW | 0.35\*\* | 0.23\*\* | 0.40\*\* |
|  | KL | 0.30\*\* | 0.30\*\* | 0.41\*\* |
|  | VW | 0.37\*\* | 0.26\*\* | 0.45\*\* |
|  | HGW | 0.19\*\* | 0.49\*\* | 0.52\*\* |
|  | GY | 0.16\*\* | 0.43\*\* | 0.41\*\* |
| TM | PH | 0.33\*\* | 0.24\*\* | 0.39\*\* |
|  | EH | 0.32\*\* | 0.35\*\* | 0.48\*\* |
|  | RNPE | 0.35\*\* | 0.21\*\* | 0.36\*\* |
|  | KNPR | 0.20\*\* | 0.24\*\* | 0.30\*\* |
|  | KT | 0.30\*\* | 0.46\*\* | 0.51\*\* |
|  | KW | 0.36\*\* | / | 0.36\*\* |
|  | KL | 0.38\*\* | 0.13\* | 0.37\*\* |
|  | VW | / | 0.33\*\* | 0.33\*\* |
|  | HGW | 0.46\*\* | 0.40\*\* | 0.54\*\* |
|  | GY | 0.42\*\* | 0.25\*\* | 0.47\*\* |

*r1*, the correlation between the number of favorable homozygous QTL and hybrid performance in TC and TM;

*r2*, the correlation between the number of favorable heterozygous QTL in TM and hybrid performance;

*r3*, the correlation between the number of all favorable QTL in TM and hybrid performance.

\*, significant at the 0.05 level; \*\*, significant at 0.01 level; /, the correlations could not be calculated because the corresponding QTL could not be found. PH, plant height; EH, ear height; RNPE, row number per ear; KNPR, kernel number per row; KT, kernel thickness; KW, kernel width; KL, kernel length; VW, volume weight; HGW, hundred grain weight; GY, grain yield per plant.