Supplementary Table 5  Significant marker-trait association identified from GLM approach in different environments

| Trait   | Locus       | p value | R²  | Trait   | Locus       | p value | R²  | Trait   | Locus       | p value | R²  |
|---------|-------------|---------|-----|---------|-------------|---------|-----|---------|-------------|---------|-----|
| DM      | DMSSR001    | 0.00034 | 19.22 | NP      | BMd12      | 1.32E-05 | 32.42 | NP      | BMd12      | 3E-06   | 36.05 |
| DM      | BM212       | 0.000426 | 18.78 | SW      | VR021      | 3.2E-06 | 27.57 | PH      | CP1038     | 0.0001   | 23.34 |
| NP      | BMd12       | 1.58E-07 | 41.55 | SW      | BMd35      | 2.82E-05 | 27.80 | PH      | BMd23      | 0.0004   | 18.90 |
| PH      | CP1038      | 0.000156 | 19.46 | SW      | BMd12      | 6.14E-05 | 29.46 | PL      | CEDG97     | 0.0005   | 18.90 |
| PH      | DMSSR043    | 0.000284 | 14.50 | DF      | AF35050    | 0.0005   | 15.99 | SW      | VR021      | 4E-06   | 26.93 |
| PH      | BMd23       | 0.00005  | 15.66 | DM      | BM146      | 9.23E-05 | 20.97 | SW      | BMd35      | 3E-06   | 27.29 |
| PL      | CEDG97      | 0.00017  | 21.08 | PH      | CEDG97     | 3.18E-05 | 26.79 | SW      | BMd12      | 9E-05   | 28.50 |
| PL      | DMSSR001    | 0.000302 | 19.95 | PH      | CEDGAT009  | 0.000272 | 24.81 | YMD     | BMd12      | 0.0005  | 22.73 |
| SW      | VR021       | 9.31E-06 | 25.19 | PH      | CP10667    | 0.000356 | 21.72 | PL      | BMd35      | 0.0002  | 17.64 |
| SW      | BMd35       | 9.55E-06 | 25.14 | PL      | BMd35      | 4.24E-05 | 21.18 | PL      | CEDG24     | 0.0002  | 14.45 |
| SW      | BMd12       | 0.000245 | 26.17 | PL      | CEDG24     | 0.000142 | 15.69 | YMD     | CP1038     | 4E-05   | 25.52 |
| YMD     | BMd12       | 0.000174 | 24.66 | PL      | VR021      | 0.000305 | 17.47 | NS      | CP5096     | 0.0003  | 15.06 |
| YMD     | CP5096      | 0.000176 | 14.79 | YMD     | CP1038     | 4.71E-06 | 30.42 | Kharif and Summer-Pooled |
| YMD     | BM146       | 0.000441 | 24.73 | YMD     | CP1038     | 8.78E-06 | 26.71 | SW      | BMd35      | 0.0002  | 18.76 |
| YMD     | BMd12       | 5.45E-06 | 29.72 | YMD     | CP1038     | 8.78E-06 | 26.71 | SW      | BMd35      | 0.0002  | 18.76 |
| YMD     | CP5096      | 0.000173 | 14.27 | YMD     | CP1038     | 8.78E-06 | 26.71 | SW      | BMd35      | 0.0002  | 18.76 |
| PL      | BMd35       | 5.5E-09  | 36.86 | YMD     | CP1038     | 0.000101 | 24.81 | YMD     | CP5096     | 0.0003  | 12.81 |
| PL      | CEDG24      | 1.96E-08 | 34.94 | YMD     | CP1038     | 0.000314 | 13.27 | PL      | BMd35      | 5E-05   | 20.70 |
| YMD     | CP1038      | 8.92E-06 | 26.95 | PL      | BMd35      | 2.21E-05 | 22.9  | PL      | CEDG24     | 0.0005  | 13.16 |
| NP      | DQ9393      | 0.000108 | 17.19 | PL      | VR021      | 3.68E-05 | 21.95 | PL      | VR021      | 0.0002  | 17.87 |
| PL      | BMd12       | 7.04E-07 | 36.41 | YMD     | CP1038     | 1.04E-06 | 30.44 | YMD     | CP1038     | 2E-06   | 28.74 |
| SY      | CEDG220     | 0.000379 | 25.32 | YMD     | BM26       | 0.000207 | 17    | NP      | DQ9393     | 0.0003  | 15.24 |
| YMD     | BM26        | 0.000496 | 15.38 | NS      | CEDG97     | 0.000235 | 20.74 | SY      | CP1038     | 0.0005  | 20.97 |

DF: days to flowering, DM: days to maturity, PH: plant height (cm), PL: pod length, SW: 100-seed weight (g), YMD: Yellow mosaic disease, NB: number of branches per plant, NP: number of pods per plant, NS: number of seeds per pod, SY: seed yield per plant (g). p-value-corrected p-value based on Benjamini Hochberg 1995 where n is 89 and alpha is 0.05.)