

Table S4 Main effects and environmental interactions detected for plant height in RIL and RILV populations by inclusive composite interval mapping

| Stage | Chr. | Position (cM) | Flanking markers | | LOD | V(A) | V(AE) | A | AE1 | AE2 |
|-----------------|------|------------------|------------------|----------|-------|-------|-------|-------|-------|-------|
| RIL population | | | | | | | | | | |
| <i>t1</i> | 2 | 14 | SWU12025 | SWU11889 | 2.62 | 1.89 | 0.69 | -0.51 | -0.31 | 0.31 |
| | 5 | 115 | TMB1296 | HAU1603 | 5.62 | 4.52 | 3.34 | 0.78 | 0.67 | -0.67 |
| | 10 | 42 | SWU20260 | Gh144 | 2.97 | 2.04 | 0.10 | -0.52 | -0.12 | 0.12 |
| | 11 | 95 | CGR5421 | ICR08245 | 2.72 | 0.03 | 1.72 | 0.07 | 0.48 | -0.48 |
| | 11 | 201 | NAU1014 | ICR10344 | 3.25 | 1.62 | 0.02 | 0.47 | -0.06 | 0.06 |
| | 16 | 79 | C2_0011B | DC20124 | 2.90 | 1.57 | 0.01 | 0.46 | -0.03 | 0.03 |
| | 19 | 6 | NAU5330 | Gh72 | 26.61 | 18.08 | 0.06 | 1.57 | -0.09 | 0.09 |
| | 20 | 132 | SWU20035 | DPL0319 | 4.75 | 2.96 | 3.22 | 0.63 | 0.66 | -0.66 |
| | 31 | 36 | SWU16753 | SWU16780 | 3.90 | 1.19 | 0.38 | -0.40 | 0.23 | -0.23 |
| <i>t2</i> | 10 | 42 | SWU20260 | Gh144 | 3.34 | 2.53 | 0.09 | -0.90 | -0.17 | 0.17 |
| | 11 | 201 | NAU1014 | ICR10344 | 3.88 | 2.64 | 0.00 | 0.92 | -0.01 | 0.01 |
| | 19 | 6 | NAU5330 | Gh72 | 24.88 | 20.95 | 0.01 | 2.60 | 0.04 | -0.04 |
| | 20 | 132 | SWU20035 | DPL0319 | 4.05 | 2.27 | 2.53 | 0.85 | 0.90 | -0.90 |
| <i>t3</i> | 10 | 42 | SWU20260 | Gh144 | 5.11 | 4.33 | 0.02 | -1.51 | 0.10 | -0.10 |
| | 11 | 201 | NAU1014 | ICR10344 | 4.53 | 4.00 | 0.13 | 1.45 | 0.26 | -0.26 |
| | 19 | 6 | NAU5330 | Gh72 | 14.15 | 13.13 | 0.20 | 2.64 | -0.32 | 0.32 |
| | 20 | 129 | SWU20035 | DPL0319 | 2.99 | 1.51 | 1.30 | 0.89 | 0.82 | -0.82 |
| | 24 | 3 | Gh298 | SWU13133 | 2.91 | 2.48 | 0.12 | -1.14 | -0.26 | 0.26 |
| | 25 | 131 | Gh220 | SWU19434 | 2.92 | 2.39 | 0.29 | 1.12 | 0.39 | -0.39 |
| <i>t4</i> | 5 | 115 | TMB1296 | HAU1603 | 3.09 | 1.26 | 1.34 | 0.90 | -0.93 | 0.93 |
| | 10 | 42 | SWU20260 | Gh144 | 5.70 | 4.90 | 0.20 | -1.77 | 0.36 | -0.36 |
| | 11 | 201 | NAU1014 | ICR10344 | 5.90 | 5.42 | 0.04 | 1.86 | -0.16 | 0.16 |
| | 19 | 7 | Gh616 | CIR139 | 6.02 | 5.51 | 0.09 | 1.90 | -0.24 | 0.24 |
| | 20 | 129 | SWU20035 | DPL0319 | 3.34 | 1.71 | 1.85 | 1.04 | 1.09 | -1.09 |
| | 25 | 128 | SWU19144 | Gh220 | 2.75 | 2.67 | 0.01 | 1.30 | 0.09 | -0.09 |
| <i>t5</i> | 4 | 0 | SWU18881 | NAU2701 | 2.55 | 2.62 | 0.00 | 1.42 | 0.05 | -0.05 |
| | 10 | 42 | SWU20260 | Gh144 | 3.53 | 3.47 | 0.01 | -1.64 | 0.07 | -0.07 |
| | 11 | 201 | NAU1014 | ICR10344 | 6.93 | 7.20 | 0.08 | 2.35 | -0.25 | 0.25 |
| | 19 | 9 | Gh616 | CIR139 | 2.92 | 3.00 | 0.02 | 1.56 | -0.12 | 0.12 |
| | 24 | 67 | BNL1521 | HAU2504 | 3.07 | 2.25 | 0.80 | 1.31 | -0.78 | 0.78 |
| | 25 | 126 | SWU19144 | Gh220 | 3.61 | 3.67 | 0.02 | 1.68 | 0.12 | -0.12 |
| RILV population | | | | | | | | | | |
| <i>t1</i> | 1 | 183 | HAU2489 | DPL0790 | 4.65 | 3.23 | 1.60 | 0.46 | 0.33 | -0.33 |
| | 14 | 1 | HAU0883 | CIR228 | 4.05 | 3.43 | 0.25 | 0.47 | 0.13 | -0.13 |

| Stage | Chr. | Position (cM) | Flanking markers | | LOD | V(A) | V(AE) | A | AE1 | AE2 |
|-----------|------|------------------|------------------|----------|-------|------|-------|-------|-------|-------|
| | 16 | 61 | C2_0011B | SWU10211 | 3.39 | 2.33 | 0.21 | 0.39 | -0.12 | 0.12 |
| | 19 | 18 | HAU3069 | SWU17789 | 3.16 | 2.58 | 0.05 | 0.41 | 0.06 | -0.06 |
| | 23 | 0 | CGR5158 | HAU1758 | 5.57 | 1.66 | 4.12 | -0.34 | -0.54 | 0.54 |
| | 23 | 202 | DC40286 | PGML1434 | 14.29 | 0.20 | 12.34 | -0.12 | -0.90 | 0.90 |
| | 29 | 12 | SHIN0830 | Gh111 | 3.62 | 3.07 | 0.26 | 0.45 | 0.13 | -0.13 |
| | 30 | 18 | TMB1638 | CGR6812 | 3.52 | 2.25 | 0.33 | -0.38 | 0.15 | -0.15 |
| <i>t2</i> | 13 | 33 | NAU3398 | CGR5331 | 3.16 | 2.44 | 0.87 | -0.61 | -0.36 | 0.36 |
| | 23 | 0 | CGR5158 | HAU1758 | 6.48 | 1.67 | 5.50 | -0.52 | -0.94 | 0.94 |
| | 23 | 202 | DC40286 | PGML1434 | 7.89 | 1.47 | 6.81 | -0.47 | -1.02 | 1.02 |
| | 32 | 2 | TMB0071 | HAU1000 | 3.29 | 2.89 | 0.38 | -0.66 | 0.24 | -0.24 |
| <i>t3</i> | 13 | 33 | NAU3398 | CGR5331 | 4.16 | 2.78 | 1.36 | -1.04 | -0.72 | 0.72 |
| | 23 | 0 | CGR5158 | HAU1758 | 8.87 | 3.46 | 6.09 | -1.20 | -1.59 | 1.59 |
| | 23 | 200 | NAU2140 | DC40286 | 8.42 | 0.58 | 7.69 | -0.48 | -1.73 | 1.73 |
| | 29 | 12 | SHIN0830 | Gh111 | 2.82 | 2.56 | 0.17 | 1.00 | -0.26 | 0.26 |
| | 32 | 4 | HAU1000 | TMB1931 | 3.06 | 2.95 | 0.01 | -1.07 | 0.05 | -0.05 |
| <i>t4</i> | 13 | 17 | SWU13032 | HAU2850 | 3.35 | 1.98 | 0.98 | -0.98 | 0.69 | -0.69 |
| | 13 | 33 | NAU3398 | CGR5331 | 5.68 | 3.52 | 1.46 | -1.30 | -0.84 | 0.84 |
| | 16 | 61 | C2_0011B | SWU10211 | 3.89 | 2.56 | 1.14 | 1.11 | -0.74 | 0.74 |
| | 23 | 0 | CGR5158 | HAU1758 | 8.03 | 2.62 | 4.73 | -1.16 | -1.56 | 1.56 |
| | 23 | 202 | DC40286 | PGML1434 | 9.37 | 3.37 | 5.10 | -1.28 | -1.57 | 1.57 |
| | 32 | 3 | TMB0071 | HAU1000 | 4.00 | 3.16 | 0.57 | -1.23 | 0.52 | -0.52 |
| <i>t5</i> | 13 | 33 | NAU3398 | CGR5331 | 6.50 | 5.29 | 0.37 | -1.68 | -0.45 | 0.45 |
| | 16 | 61 | C2_0011B | SWU10211 | 3.10 | 2.69 | 0.71 | 1.20 | -0.62 | 0.62 |
| | 23 | 0 | CGR5158 | HAU1758 | 8.44 | 2.17 | 5.08 | -1.12 | -1.71 | 1.71 |
| | 23 | 61 | SHIN1076 | BNL3482 | 2.54 | 1.83 | 0.23 | 1.02 | 0.36 | -0.36 |
| | 23 | 202 | DC40286 | PGML1434 | 11.48 | 2.74 | 7.21 | -1.22 | -1.97 | 1.97 |
| | 29 | 12 | SHIN0830 | Gh111 | 2.70 | 2.31 | 0.43 | 1.11 | -0.48 | 0.48 |

Chr represents the linkage group number of the loci being tested in the analysis.

V(A): Phenotypic variation explained by additive effect at the current scanning position.

V(AE): Phenotypic variation explained by additive by environment effect at the current scanning position.

A, the additive effect.