**Table S1: Joint linkage QTL for flowering time and plant height**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Trait1** | **SNP2** | **Effect2** | **Known gene (or locus)** | **Distance to gene (locus)** |
| Height CH/SA | S7\_55156401 | 45.19 | (qHT7.1) | (Colocalized) |
| Height CH/SA | S7\_58487616 | 43.45 | Dw3 | 70 |
| Height CH/SA | S9\_57069231 | 38.36 | Dw1 | 28 |
| Height CH/SA | S6\_42726152 | 24.27 | (Dw2) | (Colocalized) |
| Height CH | S5\_59380917 | 18.76 |  |  |
| Height CH | S2\_33698052 | 17.49 |  |  |
| Height CH | S5\_1450001 | 14.81 |  |  |
| Height CH | S9\_45490823 | 13.75 |  |  |
| Height CH | S4\_61088979 | 13.31 |  |  |
| Height CH | S4\_48330648 | 11.59 |  |  |
| Height CH | S4\_7314013 | 10.35 |  |  |
| Height CH | S6\_8245968 | 9.80 |  |  |
| Height CH | S2\_59585117 | 8.30 |  |  |
| Height CH | S2\_67813119 | 7.30 |  |  |
| Height CH | S6\_51809222 | 7.10 |  |  |
| Height CH | S1\_9723354 | 6.95 |  |  |
| Height SA | S5\_52851428 | 6.74 |  |  |
| Height CH | S10\_60070002 | 6.62 |  |  |
| Height CH/SA | S9\_48220391 | 6.57 |  |  |
| Height SA | S1\_55760105 | 6.33 |  |  |
| Height SA | S4\_49121762 | 5.60 |  |  |
| Height CH/SA | S3\_69728543 | 5.53 |  |  |
| Height SA | S2\_184254 | 4.96 |  |  |
| Flowering time | S6\_41417540 | 20.64 |  |  |
|  | S6\_38361618 | 7.54 |  |  |
|  | S6\_758162 | 6.88 | Ma6 | 84 |
|  | S3\_62707083 | 5.22 | SbCN12 | 64 |
|  | S6\_40204294 | 4.43 | Ma1 | 63 |
|  | S10\_12485175 | 3.47 | SbCO | 199 |
|  | S3\_55337873 | 2.87 |  |  |
|  | S9\_58743830 | 2.65 | (SbFL9.1) | (Colocalized) |
|  | S3\_73262074 | 2.48 |  |  |
|  | S7\_63424491 | 1.67 |  |  |
|  | S7\_64151910 | 1.55 |  |  |
|  | S4\_64611885 | 1.40 |  |  |
|  | S8\_52244337 | 1.37 |  |  |
|  | S6\_9786706 | 1.33 |  |  |
|  | S5\_5055262 | 1.15 |  |  |
|  | S9\_3912094 | 1.14 |  |  |
|  | S4\_8739831 | 1.01 |  |  |
|  | S1\_4408231 | 0.89 |  |  |
| 1 Height QTL in continental humid (CH) or semi-arid (SA) environments or both 2 Top SNP and QTL effect using the Joint-linkage model in TASSEL. If the QTL was discovered in both environments the SNP and effect size is given from the CH environment | | | | |