**Table S1: SSR markers significantly associated with genomic regions controlling different quantitative traits and estimates of total variance explained by them based on GLM in dolichos bean.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Traits** | **GLM (Q) {P<0.05}** | | | **GLM (Q) { P<0.01}** | | | **Traits** | **GLM (Q) {P<0.05}** | | | **GLM (Q) { P<0.01}** | | |
| **SSR locus** | **P** | **R2** | **SSR locus** | **P** | **R2** | **SSR locus** | **P** | **R2** | **SSR locus** | **P** | **R2** |
| Days to  50 %  flowering | KTD200 | 0.00 | 0.23 | KTD200 | 0 | 0.23 | Fresh pods plant-1 | KTD130 | 0.01 | 0.15 | KTD130 | 0.01 | 0.15 |
| KTD268 | 0.01 | 0.10 | KTD268 | 0.01 | 0.10 | KTD235 | 0.03 | 0.08 |  |  |  |
| KTD194 | 0.01 | 0.10 | KTD194 | 0.01 | 0.10 | KTD273 | 0.04 | 0.07 |  |  |  |
| KTD228 | 0.03 | 0.07 |  |  |  | KTD271 | 0.04 | 0.06 |  |  |  |
| KTD297 | 0.04 | 0.10 |  |  |  | KTD285 | 0.05 | 0.06 |  |  |  |
| KTD241 | 0.04 | 0.07 |  |  |  | Fresh  pod yield  plant-1 (g) | KTD273 | 0.00 | 0.16 | KTD273 | 0.00 | 0.16 |
| Primary  branches plant-1 | SY 21 | 0.01 | 0.10 | SY 21 | 0.01 | 0.10 | KTD271 | 0.02 | 0.09 | KTD271 | 0.02 | 0.09 |
| KTD110 | 0.04 | 0.08 |  |  |  | KTD281 | 0.04 | 0.10 |  |  |  |
| KTD272 | 0.04 | 0.07 |  |  |  | KTD130 | 0.04 | 0.11 |  |  |  |
| KTD235 | 0.04 | 0.07 |  |  |  | KTD235 | 0.05 | 0.06 |  |  |  |
| Racemes  plant-1 | KTD160 | 0.02 | 0.09 | KTD160 | 0.02 | 0.09 | KTD255 | 0.05 | 0.07 |  |  |  |
| KTD200 | 0.03 | 0.11 |  |  |  | Fresh seed yield  plant-1 (g) | KTD273 | 0.00 | 0.13 | KTD273 | 0.00 | 0.13 |
| KTD155 | 0.05 | 0.06 |  |  |  | KTD271 | 0.01 | 0.12 | KTD271 | 0.01 | 0.12 |
| KTD268 | 0.05 | 0.06 |  |  |  | KTD255 | 0.02 | 0.09 | KTD255 | 0.02 | 0.09 |
| Raceme length (cm) | KTD155 | 0.00 | 0.15 | KTD155 | 0.00 | 0.15 | KTD281 | 0.02 | 0.13 | KTD281 | 0.02 | 0.13 |
| KTD173 | 0.01 | 0.08 | KTD173 | 0.01 | 0.08 | KTD285 | 0.03 | 0.08 |  |  |  |
| KTD285 | 0.03 | 0.07 |  |  |  | KTD130 | 0.03 | 0.12 |  |  |  |
| KTD271 | 0.04 | 0.06 |  |  |  | KTD235 | 0.04 | 0.07 |  |  |  |
| KTD 121 | 0.05 | 0.08 |  |  |  | KTD170 | 0.05 | 0.06 |  |  |  |
| KTD185 | 0.05 | 0.05 |  |  |  | KTD218 | 0.06 | 0.06 |  |  |  |
| KTD232 | 0.06 | 0.05 |  |  |  | 100 fresh seed  weight (g) | KTD194 | 0.00 | 0.21 | KTD194 | 0.00 | 0.21 |
| KTD117 | 0.06 | 0.05 |  |  |  | KTD297 | 0.00 | 0.21 | KTD297 | 0.00 | 0.21 |
| KTD161 | 0.06 | 0.05 |  |  |  | KTD235 | 0.00 | 0.16 | KTD235 | 0.00 | 0.16 |
| Nodes  raceme-1 | KTD155 | 0.00 | 0.14 | KTD155 | 0.00 | 0.14 | KTD240 | 0.00 | 0.14 | KTD240 | 0.00 | 0.14 |
| KTD271 | 0.01 | 0.10 | KTD271 | 0.01 | 0.10 | KTD276 | 0.01 | 0.10 | KTD276 | 0.01 | 0.10 |
| KTD185 | 0.02 | 0.08 | KTD185 | 0.02 | 0.08 | KTD255 | 0.02 | 0.08 |  |  |  |
| KTD197 | 0.06 | 0.08 |  |  |  | KTD239 | 0.02 | 0.08 |  |  |  |
| KTD235 | 0.06 | 0.05 |  |  |  | KTD283 | 0.03 | 0.07 |  |  |  |
| KTD 121 | 0.06 | 0.08 |  |  |  | KTD241 | 0.03 | 0.08 |  |  |  |
| KTD173 | 0.06 | 0.05 |  |  |  | KTD281 | 0.05 | 0.09 |  |  |  |
| KTD158 | 0.05 | 0.06 |  |  |  |
| KTD156 | 0.06 | 0.06 |  |  |  |

**Table S2: SSR markers significantly associated with genomic regions controlling different quantitative traits and estimates of total variance explained by them based on MLM in dolichos bean.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Traits** | **MLM (Q) {P<0.05}** | | | **MLM (Q) { P<0.01}** | | | **Traits** | **MLM (Q) {P<0.05}** | | | **MLM (Q) { P<0.01}** | | |
| **SSR locus** | **P** | **R2** | **SSR locus** | **P** | **R2** | **SSR locus** | **P** | **R2** | **SSR locus** | **P** | **R2** |
| Days to 50 % flowering | KTD200 | 0.00 | 0.17 | KTD200 | 0.00 | 0.17 | Fresh pods  plant-1 | KTD130 | 0.01 | 0.14 | KTD130 | 0.01 | 0.14 |
| KTD268 | 0.01 | 0.08 | KTD268 | 0.01 | 0.08 | KTD235 | 0.02 | 0.08 |  |  |  |
| KTD194 | 0.02 | 0.07 | KTD194 | 0.02 | 0.07 | KTD273 | 0.04 | 0.07 |  |  |  |
| KTD258 | 0.03 | 0.06 |  |  |  | KTD271 | 0.05 | 0.06 |  |  |  |
| KTD228 | 0.03 | 0.06 |  |  |  | KTD285 | 0.05 | 0.06 |  |  |  |
| Primary  branches  plant-1 | SY 21 | 0.01 | 0.08 | SY 21 | 0.01 | 0.08 | Fresh pod  yield  plant-1 (g) | KTD273 | 0.00 | 0.14 | KTD273 | 0.00 | 0.14 |
| KTD110 | 0.03 | 0.06 |  |  |  | KTD235 | 0.03 | 0.06 |  |  |  |
| KTD241 | 0.04 | 0.06 |  |  |  | KTD271 | 0.03 | 0.06 |  |  |  |
| KTD272 | 0.04 | 0.05 |  |  |  | KTD255 | 0.04 | 0.05 |  |  |  |
| KTD200 | 0.04 | 0.08 |  |  |  | KTD130 | 0.05 | 0.08 |  |  |  |
| KTD271 | 0.05 | 0.05 |  |  |  | KTD241 | 0.05 | 0.05 |  |  |  |
| KTD235 | 0.06 | 0.04 |  |  |  | KTD281 | 0.05 | 0.07 |  |  |  |
| KTD258 | 0.06 | 0.04 |  |  |  | KTD285 | 0.06 | 0.05 |  |  |  |
| Racemes  plant-1 | KTD160 | 0.02 | 0.08 | KTD160 | 0.02 | 0.08 | Fresh seed  yield plant-1 (g) | KTD273 | 0.00 | 0.12 | KTD273 | 0.00 | 0.12 |
| KTD200 | 0.03 | 0.09 |  |  |  | KTD271 | 0.01 | 0.08 | KTD271 | 0.01 | 0.08 |
| KTD155 | 0.03 | 0.06 |  |  |  | KTD235 | 0.02 | 0.07 | KTD235 | 0.02 | 0.07 |
| Raceme  length (cm) | KTD155 | 0.00 | 0.11 | KTD155 | 0.00 | 0.11 | KTD255 | 0.02 | 0.07 | KTD255 | 0.02 | 0.07 |
| KTD173 | 0.01 | 0.06 | KTD173 | 0.01 | 0.06 | KTD281 | 0.02 | 0.09 | KTD281 | 0.02 | 0.09 |
| KTD285 | 0.03 | 0.05 |  |  |  | KTD285 | 0.02 | 0.06 |  |  |  |
| KTD117 | 0.03 | 0.05 |  |  |  | KTD130 | 0.03 | 0.09 |  |  |  |
| KTD185 | 0.03 | 0.05 |  |  |  | KTD170 | 0.06 | 0.05 |  |  |  |
| KTD271 | 0.03 | 0.05 |  |  |  | 100 fresh seed  weight (g) | KTD194 | 0.00 | 0.21 | KTD194 | 0.00 | 0.21 |
| KTD 121 | 0.04 | 0.07 |  |  |  | KTD235 | 0.00 | 0.16 | KTD235 | 0.00 | 0.16 |
| KTD232 | 0.06 | 0.04 |  |  |  | KTD297 | 0.00 | 0.20 | KTD297 | 0.00 | 0.20 |
| KTD161 | 0.06 | 0.04 |  |  |  | KTD240 | 0.00 | 0.14 | KTD240 | 0.00 | 0.14 |
| Nodes  raceme-1 | KTD155 | 0.00 | 0.10 | KTD155 | 0.00 | 0.10 | KTD276 | 0.01 | 0.10 | KTD276 | 0.01 | 0.1 |
| KTD271 | 0.00 | 0.08 | KTD271 | 0.00 | 0.08 | KTD239 | 0.02 | 0.08 |  |  |  |
| KTD185 | 0.01 | 0.06 | KTD185 | 0.01 | 0.06 | KTD255 | 0.02 | 0.08 |  |  |  |
| KTD 121 | 0.03 | 0.07 |  |  |  | KTD283 | 0.03 | 0.07 |  |  |  |
| KTD117 | 0.03 | 0.05 |  |  |  | KTD241 | 0.03 | 0.08 |  |  |  |
| KTD173 | 0.04 | 0.04 |  |  |  | KTD158 | 0.05 | 0.06 |  |  |  |
| KTD235 | 0.06 | 0.04 |  |  |  | KTD281 | 0.05 | 0.09 |  |  |  |
| KTD156 | 0.06 | 0.06 |  |  |  |