Table S2 The 8216 QTLs responsible for the 9 major traits (see Table S1) in the 12 chromosomes from Gramene Rice database (<http://www.gramene.org/>).

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Chr. | Length(cM) | Yield | Vigor | Anatomy | Development | Abiotic stress | Quality | Sterility or fertility | Biotic stress | Biochemical | Total |
| 1 | 184.19 | 351a | 1.91**b**  | 310 | 1.68  | 165 | 0.90  | 86 | 0.47  | 118 | 0.64 | 71 | 0.39 | 61 | 0.33 | 61 | 0.33 | 24 | 0.13 | **1247** | **6.77**  |
| 2 | 161.49 | 198 | 1.23  | 159 | 0.98  | 128 | 0.79  | 95 | 0.59 | 92 | 0.57 | 44 | 0.27  | 28 | 0.17  | 44 | 0.27 | 19 | 0.12 | **807** | **5.00**  |
| 3 | 165.83 | 206 | 1.24  | 257 | 1.55  | 149 | 0.90  | 152 | 0.93 | 69 | 0.42  | 73 | 0.45 | 75 | 0.45 | 33 | 0.20  | 11 | 0.07  | **1025** | **6.18**  |
| 4 | 132.72 | 178 | 1.34  | 188 | 1.42  | 144 | 1.08  | 58 | 0.44  | 73 | 0.55 | 26 | 0.20  | 29 | 0.22  | 32 | 0.24  | 15 | 0.11 | **743** | **5.60**  |
| 5 | 121.24 | 166 | 1.37  | 141 | 1.16  | 87 | 0.72  | 51 | 0.43  | 57 | 0.47  | 70 | 0.5**9**  | 26 | 0.21  | 12 | 0.10  | 14 | 0.12 | **624** | **5.15**  |
| 6 | 126.56 | 213 | 1.68  | 123 | 0.97  | 138 | 1.09  | 75 | 0.61 | 43 | 0.34  | 88 | 0.71 | 43 | 0.34 | 44 | 0.36 | 10 | 0.08  | **777** | **6.14**  |
| 7 | 119.54 | 132 | 1.10  | 125 | 1.05  | 71 | 0.59  | 103 | 0.87 | 72 | 0.60 | 46 | 0.39 | 40 | 0.33 | 26 | 0.22  | 13 | 0.11 | **628** | **5.25**  |
| 8 | 122.49 | 124 | 1.01  | 118 | 0.96  | 107 | 0.87  | 90 | 0.74 | 44 | 0.36  | 45 | 0.37 | 42 | 0.34 | 30 | 0.25 | 11 | 0.09  | **611** | **4.99**  |
| 9 | 95.79 | 89 | 0.93  | 101 | 1.05  | 93 | 0.97  | 64 | 0.68 | 70 | 0.73 | 27 | 0.29  | 13 | 0.14  | 20 | 0.21  | 6 | 0.06  | **483** | **5.04**  |
| 10 | 84.56 | 98 | 1.16  | 55 | 0.65  | 66 | 0.78  | 39 | 0.47  | 27 | 0.32  | 16 | 0.19  | 58 | 0.69 | 12 | 0.14  | 5 | 0.06  | **376** | **4.45**  |
| 11 | 118.47 | 130 | 1.10  | 113 | 0.95  | 64 | 0.54  | 48 | 0.41  | 49 | 0.41  | 27 | 0.23  | 37 | 0.31 | 31 | 0.26 | 14 | 0.12 | **513** | **4.33**  |
| 12 | 104.02 | 71 | 0.68  | 77 | 0.74  | 55 | 0.53  | 40 | 0.39  | 53 | 0.51 | 22 | 0.21  | 18 | 0.17  | 33 | 0.32 | 13 | 0.12 | **382** | **3.67**  |
| Total | **1536.9** | **1956** | **1.27**  | **1767** | **1.16**  | **1267** | **0.82**  | **901** | **0.59**  | **767** | **0.50**  | **555** | **0.36**  | **470** | **0.31**  | **378** | **0.25**  | **155** | **0.10**  | **8216** | **5.35**  |

a: the number of QTLs in each chromosome. b: average number of QTLs per cM. The average QTL numbers of the chromosomes larger than (or equal to) the total average QTL number are underlined.