**Table S1:** Summary statistics of phenotypic least squares means within Miscanthus sinensis and Miscanthus sacchariflorus diversity panels and the 09F2 breeding population.

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| --- | --- | --- | --- |
|  | ***M. sinensis*** | ***M. sacchariflorus*** | **09F2** |
| **Trait** | **Range** | **Mean+/-SD** | **Range** | **Mean**+/-**SD** | **Range** | **Mean**+/-**SD** |
| Bcirc (cm) | 7.12-24.99 | 14.76+/-2.14 | 15.43-30.09 | 23.20+/-2.08 | 6.46-19.40 | 13.21+/-2.51 |
| Ccirc (cm) | 3.25-16.26 | 8.78+/-1.56 | -0.63-20.78 | 9.95+/-2.80 | 3.84-13.31 | 9.02+/-2.02 |
| CmL (cm) | 134.99-746.56 | 487.57+/-100.39 | 109.68-1253.90 | 457.87+/-162.24 | 23.36-631.60 | 321.82+/-132.25 |
| DBI (mm) | 0.95-2.91 | 2.13+/-0.28 | 0.78-4.30 | 1.87+/-0.64 | 0.18-2.49 | 1.74+/-0.36 |
| HD1 (days) | 170.93-278.42 | 229.57+/-22.08 | 170.56-305.56 | 228.37+/-34.91 | 199.03-310.53 | 249.89+/-14.96 |
| Yld (g/plant) | -1.06-40.23 | 21.29+/-5.94 | 2.97-43.26 | 22.51+/-6.33 | 1.02-39.98 | 17.87+/-8.02 |

Basal circumference (Bcirc) in centimeters, Compressed circumference (Ccirc) in centimeters, Culm length (CmL) in centimeters, Diameter of basal internode (DBI) in millimeters, Heading date (HD1) in days, Yield (Yld) in g/plant, Mean, and Standard deviation (Mean+/-SD)