**Additional file 5** Mean and standard deviation of predictive ability estimated with the four Training Set/Validation Set compositions

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | CV14 | CV2 | CV3 | CV4 |
| CBH(3)1 | 0.126(0.056)b2,3 | **0.136(0.057)**a | 0.089(0.069)c | 0.127(0.055)b |
| CBH(6) | 0.244(0.065)b | **0.265(0.063)**a | 0.237(0.074)c | 0.244(0.062)b |
| Height(3) | 0.185(0.06)b | **0.193(0.059)**a | 0.17(0.069)c | 0.183(0.059)b |
| Height(6) | 0.279(0.067)b | **0.297(0.064)**a | 0.27(0.076)c | 0.276(0.066)b |
| Volume(3) | 0.161(0.059)b | **0.173(0.06)**a | 0.128(0.073)c | 0.16(0.056)b |
| Volume(6) | 0.287(0.059)b | **0.308(0.057)**a | 0.286(0.073)b | 0.286(0.058)b |
| Basic density | 0.467(0.048)b | **0.487(0.046)**a | 0.435(0.068)c | 0.468(0.045)b |
| Pulp yield | **0.436(0.052)**a | 0.431(0.053)b | 0.41(0.058)c | 0.435(0.05)a |
| **Average** | 0.273(0.13)b | **0.286(0.129)**a | 0.253(0.136)c | 0.272(0.129)b |

1 Number in the parentheses represents the age of trait measurement;

2 Mean and standard deviation of each TS/VS composition were calculated by taking methods (without ABLUP) and TS/VS sizes together;

3 Different alphabetic letters indicate significant difference between TS/VS composition for each trait after one-way ANOVA and further paired t-tests, adjusted by Bonferroni correction;

4 Abbreviation: CV1, random assignment; CV2 all parents are in the TS; CV3, distant relatedness between TS and VS; CV4, close relatedness between TS and VS.