Supplementary Table S3. Results of analysis of variance for observed traits (P values for testing significance of variation sources).

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Group of traits | Trait | Experiment 1 (Exp 1) | | | | | | Experiment 2 (Exp 2) | | | | | |
| Genotype (G) | Treatment (T) | Development point (DP) | G × T interaction | G × DP | T × DP | Genotype (G) | Treatment (T) | Development point (DP) | G × T interaction | G × DP | T × DP |
| Phenology | Tillering | 0.003 | 0.500 | - | - | - | - | 0.003 | 0.500 | - | - | - | - |
|  | Flag leaf | < 0.001 | 0.500 | - | - | - | - | < 0.001 | 0.500 | - | - | - | - |
|  | Flowering | < 0.001 | 0.500 | - | - | - | - | < 0.001 | 0.500 | - | - | - | - |
|  | Heading | 0.004 | 0.082 | - | - | - | - | 0.014 | 0.187 | - | - | - | - |
| Phenotype | Tn | 0.819 | < 0.001 | - | 0.044 | - | - | 0.242 | < 0.001 | - | < 0.001 | - | - |
|  | PTn | < 0.001 | < 0.001 | - | 0.001 | - | - | 0.418 | 0.001 | - | < 0.001 | - | - |
|  | LSm | < 0.001 | < 0.001 | - | < 0.001 | - | - | < 0.001 | 0.001 | - | 0.007 | - | - |
|  | NSSm | < 0.001 | 0.003 | - | < 0.001 | - | - | < 0.001 | 0.002 | - | 0.038 | - | - |
|  | NGSm | < 0.001 | < 0.001 | - | < 0.001 | - | - | < 0.001 | 0.015 | - | < 0.001 | - | - |
|  | WGSm | < 0.001 | < 0.001 | - | < 0.001 | - | - | < 0.001 | < 0.001 | - | < 0.001 | - | - |
|  | LSl | < 0.001 | < 0.001 | - | 0.195 | - | - | < 0.001 | 0.002 | - | 0.184 | - | - |
|  | NSSl | < 0.001 | 0.001 | - | 0.234 | - | - | < 0.001 | < 0.001 | - | < 0.001 | - | - |
|  | NGSl | 0.002 | < 0.001 | - | 0.007 | - | - | 0.480 | 0.020 | - | < 0.001 | - | - |
|  | WGSl | 0.087 | < 0.001 | - | < 0.001 | - | - | 0.049 | 0.021 | - | < 0.001 | - | - |
|  | GY | 0.514 | < 0.001 | - | < 0.001 | - | - | 0.733 | 0.001 | - | < 0.001 | - | - |
|  | TGW | 0.541 | < 0.001 | - | 0.053 | - | - | 0.016 | < 0.001 | - | < 0.001 | - | - |
|  | FSm | 0.284 | < 0.001 | - | < 0.001 | - | - | 0.013 | 0.115 | - | 0.015 | - | - |
|  | FSl | 0.224 | < 0.001 | - | 0.003 | - | - | < 0.001 | 0.041 | - | < 0.001 | - | - |
| Chlorophyll fluorescence | ABS\_RC | < 0.001 | 0.051 | < 0.001 | 0.162 | 0.879 | 0.208 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | 0.893 |
|  | TRo\_RC | < 0.001 | 0.049 | < 0.001 | 0.074 | 0.816 | 0.454 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | 0.001 | 0.974 |
|  | ETo\_RC | < 0.001 | < 0.001 | 0.004 | < 0.001 | 0.065 | 0.002 | < 0.001 | < 0.001 | < 0.001 | 0.113 | < 0.001 | 0.045 |
|  | DIo\_RC | < 0.001 | 0.051 | < 0.001 | 0.150 | 0.986 | 0.014 | 0.011 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | 0.455 |
|  | Fv\_Fm | 0.446 | 0.294 | < 0.001 | 0.034 | 0.810 | 0.036 | 0.295 | < 0.001 | < 0.001 | 0.001 | < 0.001 | 0.063 |
|  | Ψ\_o | 0.005 | < 0.001 | < 0.001 | < 0.001 | 0.335 | 0.001 | < 0.001 | < 0.001 | < 0.001 | 0.009 | < 0.001 | 0.006 |
|  | ɸ\_Eo | 0.002 | < 0.001 | < 0.001 | < 0.001 | 0.502 | 0.005 | < 0.001 | 0.001 | < 0.001 | 0.001 | 0.079 | 0.002 |
|  | ɸ\_Do | 0.026 | 0.013 | < 0.001 | 0.059 | 0.997 | < 0.001 | 0.457 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | 0.238 |
|  | Pi\_Abs | < 0.001 | < 0.001 | < 0.001 | 0.003 | 0.597 | 0.019 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | 0.260 |
| RWC |  | 0.470 | < 0.001 | - | 0.132 | - | - | 0.076 | < 0.001 | - | 0.253 | - | - |
| Anther morphology | Length | < 0.001 | < 0.001 | - | 0.1372 | - | - | 1 | < 0.001 | - | 0.4106 | - | - |
|  | Width | 1 | < 0.001 | - | < 0.001 | - | - | < 0.001 | < 0.001 | - | < 0.001 | - | - |
| Pollen grain morphology | Area | 0.682 | < 0.001 | - | < 0.001 | - | - | < 0.001 | < 0.001 | - | < 0.001 | - | - |
|  | Perimeter | 0.270 | < 0.001 | - | < 0.001 | - | - | < 0.001 | < 0.001 | - | < 0.001 | - | - |
|  | Width | 0.930 | < 0.001 | - | < 0.001 | - | - | < 0.001 | < 0.001 | - | < 0.001 | - | - |
|  | Length | 0.193 | < 0.001 | - | < 0.001 | - | - | < 0.001 | < 0.001 | - | < 0.001 | - | - |
| Pollen viability | Method 1 (Pv1) | 0.027 | < 0.001 | - | 0.001 | - | - | < 0.001 | < 0.001 | - | < 0.001 | - | - |
|  | Method 2 (Pv2) | 0.170 | < 0.001 | - | < 0.001 | - | - | 0.409 | < 0.001 | - | < 0.001 | - | - |
| *GAMYB* expression | LFE1 | 0.004 | 0.010 | - | 0.024 | - | - | 0.901 | 0.678 | - | 0.247 | - | - |
|  | LFE3 | 0.019 | 0.015 | - | <0.001 | - | - | 0.594 | 0.171 | - | 0.665 | - | - |