**Supplementary Table S1**. Mean squares from analysis of variance (ANOVA ) of wild-crop F1 sorghum hybrids and their parents for different characters

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Source | DF§ | GERM | DTE | DTF | PHT | HL | HW | LL | LW | LN | TILL | NSPP |
| Rep. | 4(3) | 5.33 | 3.67 | 135.72\* | 3815.95\* | 34.31 | 17.40 | 11.24 | 0.37 | 2.24 | 8.33\* | 1919410 |
| Entry | 15(12) | 220.97\*\* | 2.39\* | 206.49\*\* | 10575.5\*\* | 203.64\*\* | 220.46\*\* | 108.32\*\* | 15.10\*\* | 6.32\*\* | 47.61\*\* | 45219200\*\* |
| Error | 60(36) | 14.0 | 0.91 | 30.15 | 1305.71 | 25.19 | 20.75 | 8.49 | 0.22 | 0.23 | 2.65 | 3409020 |

§ figures in parentheses indicate the degrees of freedom for GERM; \* Significantly different (p<0.05), \*\* significantly different (p<0.01); GERM = germination percent; DTE= days to emergence; DTF= days to flowering; PHT= plant height; HL= head length; HW= head width; LL= leaf length; LW= leaf width; LN= leaf number; TILL= number of tillers per plant; NSPP= number of seeds per panicle

Supplementary Table S2. Juvenile survival, growth and fertility fitness of wild-crop sorghum hybrids relative to their parents

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Genotype | Order\* | Type | Juvenile fitness | Growth fitness | Reproductive fitness |  composite fitness |
| GERM | DTE | DTF | PH | TILL | LL | LW | LN | NSPP |
| WSV 387 | 1 | cultivar  | 1 | 0.9 | 0.55 | 0.54 | 0.14 | 1 | 1 | 1 | 0.26 |   |
| 76T1#23 | 2 | cultivar  | NA | 1 | 0.83 | 0.54 | 0.13 | 1 | 1 | 1 | 0.18 |   |
| WSV 387 | 3 | cultivar  | 0.98 | 1 | 0.69 | 0.57 | 0.1 | 1 | 1 | 1 | 0.24 |   |
| 76T1#23 | 4 | cultivar  | 1 | 1 | 0.79 | 0.73 | 0.28 | 1 | 1 | 1 | 0.48 |   |
| WSV 387 | 5 | cultivar  | 0.99 | 1 | 0.57 | 0.48 | 0.15 | 1 | 1 | 1 | 0.59 |   |
| 76T1#23 | 6 | cultivar  | NA | 1 | 0.81 | 0.55 | 0.17 | 1 | 1 | 1 | 0.44 |   |
| 76T1#23 | 7 | cultivar  | 1 | 1 | 0.89 | 0.51 | 0.13 | 1 | 1 | 1 | 0.25 |   |
| Mean |   |   | 0.99 | 0.99 | 0.73 | 0.56 | 0.16 | 1 | 1 | 1 | 0.35 | 0.63 |
| H2-1 × WSV 387 | 1 | F1 | 0.95 | 1 | 1 | 1 | 0.75 | 0.83 | 0.57 | 0.61 | 1 |   |
| H2-16 × 76T1#23 | 2 | F1 | NA | 0.86 | 0.94 | 1 | 0.71 | 0.89 | 0.6 | 0.74 | 1 |   |
| T1-1 × WSV 387 | 3 | F1 | 1 | 0.93 | 1 | 1 | 0.55 | 0.8 | 0.67 | 0.63 | 1 |   |
| W5-20 × 76T1#23 | 4 | F1 | 1 | 0.92 | 0.88 | 0.94 | 0.72 | 0.96 | 0.72 | 0.79 | 1 |   |
| IS18822 × WSV 387 | 5 | F1 | 1 | 1 | 1 | 1 | 0.5 | 0.81 | 0.64 | 0.62 | 1 |   |
| IS14485 × 76T1#23 | 6 | F1 | NA | 0.91 | 0.98 | 0.96 | 0.61 | 0.87 | 0.75 | 0.85 | 1 |   |
| IS18804 × 76T1#23 | 7 | F1 | 0.99 | 0.84 | 1 | 0.97 | 0.72 | 0.95 | 0.62 | 0.77 | 1 |   |
| Mean |   |   | 0.99 | 0.92 | 0.97 | 0.98 | 0.65 | 0.87 | 0.65 | 0.72 | 1 | 0.85 |
| H2-1 | 1 | wild  | 0.96 | 0.9 | 0.92 | 0.69 | 1 | 0.74 | 0.33 | 0.53 | 0.55 |   |
| H2-16 | 2 | wild  | NA | 0.77 | 1 | 0.82 | 1 | 0.84 | 0.32 | 0.62 | 0.45 |   |
| T1-1 | 3 | wild  | 0.84 | 0.98 | 0.86 | 0.79 | 1 | 0.81 | 0.42 | 0.49 | 0.43 |   |
| W5-20 | 4 | wild  | 0.93 | 0.89 | 1 | 1 | 1 | 0.81 | 0.57 | 0.68 | 0.9 |   |
| IS18822 | 5 | wild  | 0.69 | 0.96 | 0.98 | 0.76 | 1 | 0.64 | 0.44 | 0.54 | 0.89 |   |
| IS14485 | 6 | wild  | NA | 0.86 | 1 | 1 | 1 | 0.79 | 0.53 | 0.67 | 0.8 |   |
| IS18804 | 7 | wild  | 0.76 | 0.8 | 0.95 | 1 | 1 | 0.77 | 0.41 | 0.71 | 0.38 |   |
| Mean |   |   | 0.84 | 0.88 | 0.96 | 0.87 | 1 | 0.77 | 0.43 | 0.61 | 0.63 | 0.69 |

\* Related individuals have similar numbering. E.g., H2-1 (1) × WSV387 (1) = H2-1 × WSV 387 (1)