Table S3. Significant GWAS results for grain yield.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Peak marker | Chr | Pos (cM) | Trait | -log10 (*P*) | PVE |
| Excalibur\_c21898\_1423 | 1B | 8.36 | GY16 | 2.59 | 0.05 |
| Kukri\_c44369\_131 | 1B | 8.36 | GY16 | 2.56 | 0.05 |
| CAP7\_c3847\_204 | 1B | 43.86 | GY16 | 2.56 | 0.05 |
| Tdurum\_contig68637\_256 | 1B | 43.86 | GYM | 2.57 | 0.05 |
| RAC875\_rep\_c72356\_51 | 1B | 64.46 | GYM | 2.52 | 0.05 |
| RAC875\_rep\_c72356\_51 | 1B | 64.46 | GY16 | 2.51 | 0.05 |
| BS00089031\_51 | 1B | 85.57 | GY16 | 2.95 | 0.06 |
| BS00089031\_51 | 1B | 85.57 | GYM | 2.53 | 0.05 |
| Kukri\_c25961\_166 | 1B | 85.57 | GY16 | 2.85 | 0.06 |
| Tdurum\_contig13117\_1316 | 1B | 86.07 | GY16 | 2.98 | 0.07 |
| Tdurum\_contig13117\_1316 | 1B | 86.07 | GYM | 2.73 | 0.06 |
| BobWhite\_c6998\_365 | 1D | 92.91 | GY17 | 4.38 | 0.11 |
| BobWhite\_c6998\_365 | 1D | 92.91 | GYM | 3.72 | 0.08 |
| BS00066188\_51 | 1D | 92.91 | GY17 | 4.18 | 0.10 |
| Excalibur\_c48317\_242 | 1D | 92.91 | GY17 | 3.61 | 0.08 |
| Excalibur\_c50856\_63 | 1D | 92.91 | GY17 | 3.61 | 0.08 |
| GENE-0315\_356 | 1D | 92.91 | GY17 | 4.22 | 0.10 |
| GENE-0315\_356 | 1D | 92.91 | GYM | 2.91 | 0.06 |
| IAAV5841 | 1D | 92.91 | GY17 | 3.77 | 0.09 |
| IAAV5841 | 1D | 92.91 | GYM | 2.53 | 0.05 |
| IAAV7473 | 1D | 92.91 | GY17 | 3.61 | 0.08 |
| RAC875\_c35846\_671 | 1D | 92.91 | GY17 | 3.61 | 0.08 |
| RAC875\_c87321\_108 | 1D | 92.91 | GY17 | 3.58 | 0.08 |
| wsnp\_Ex\_c12447\_19847242 | 1D | 92.91 | GY17 | 3.97 | 0.09 |
| wsnp\_Ex\_c18665\_27541568 | 1D | 92.91 | GY17 | 3.97 | 0.09 |
| wsnp\_Ex\_rep\_c66423\_64641115 | 1D | 92.91 | GY17 | 4.20 | 0.10 |
| wsnp\_Ex\_rep\_c66423\_64641115 | 1D | 92.91 | GYM | 2.91 | 0.06 |
| Ku\_c59581\_1412 | 2A | 104.13 | GYM | 2.71 | 0.06 |
| Kukri\_c57491\_156 | 2A | 104.13 | GY17 | 2.88 | 0.07 |
| RAC875\_c41194\_218 | 2A | 104.13 | GYM | 2.75 | 0.06 |
| wsnp\_Ex\_rep\_c66615\_64916114 | 2A | 104.13 | GYM | 2.75 | 0.06 |
| wsnp\_Ex\_rep\_c66615\_64916114 | 2A | 104.13 | GY17 | 2.51 | 0.05 |
| wsnp\_Ex\_rep\_c66615\_64916512 | 2A | 104.13 | GYM | 2.76 | 0.06 |
| BS00110128\_51 | 2A | 141.66 | GY17 | 2.81 | 0.06 |
| Tdurum\_contig50839\_279 | 2A | 151.29 | GY16 | 3.00 | 0.06 |
| BS00021937\_51 | 2A | 151.45 | GY16 | 2.72 | 0.06 |
| GENE-0559\_171 | 2B | 13.44 | GY17 | 2.73 | 0.06 |
| Excalibur\_c19499\_948 | 2B | 27.2 | GY18 | 2.66 | 0.06 |
| IAAV1743 | 2B | 99.79 | GY17 | 2.55 | 0.06 |
| Jagger\_c7212\_85 | 2B | 99.79 | GY17 | 2.88 | 0.07 |
| wsnp\_CAP12\_c1503\_764765 | 2D | 28.12 | GY17 | 2.85 | 0.06 |
| Tdurum\_contig62210\_229 | 2D | 103.33 | GY16 | 2.71 | 0.06 |
| Kukri\_rep\_c69028\_1398 | 3A | 15.52 | GY17 | 2.52 | 0.06 |
| wsnp\_Ex\_rep\_c102478\_87635370 | 3A | 82.42 | GY18 | 3.20 | 0.07 |
| Excalibur\_rep\_c103091\_266 | 3A | 84.49 | GY18 | 4.26 | 0.10 |
| IAAV4781 | 3A | 85.07 | GY18 | 4.44 | 0.10 |
| IAAV4781 | 3A | 85.07 | GYM | 2.72 | 0.06 |
| wsnp\_Ex\_c1141\_2191485 | 3A | 85.07 | GY18 | 3.52 | 0.08 |
| wsnp\_BE494474A\_Ta\_2\_2 | 3A | 88.02 | GYM | 2.50 | 0.05 |
| GENE-1549\_110 | 3A | 114.86 | GY17 | 2.63 | 0.06 |
| BS00087278\_51 | 3B | 71.34 | GY16 | 2.67 | 0.06 |
| BS00091643\_51 | 3B | 73.04 | GY16 | 2.64 | 0.05 |
| BS00062827\_51 | 3B | 73.13 | GY16 | 2.52 | 0.05 |
| CAP7\_c3667\_77 | 3B | 73.35 | GY16 | 3.02 | 0.06 |
| IAAV8554 | 3B | 80.99 | GY17 | 2.68 | 0.06 |
| RAC875\_rep\_c69171\_241 | 3D | 4.56 | GY18 | 2.50 | 0.05 |
| Kukri\_c61419\_550 | 4A | 48.98 | GY18 | 2.51 | 0.05 |
| Kukri\_c26944\_389 | 4A | 51.97 | GYM | 3.31 | 0.07 |
| Kukri\_c26944\_389 | 4A | 51.97 | GY17 | 2.59 | 0.06 |
| BS00041735\_51 | 4A | 56.39 | GYM | 3.65 | 0.08 |
| BS00041735\_51 | 4A | 56.39 | GY16 | 3.31 | 0.07 |
| BS00041735\_51 | 4A | 56.39 | GY17 | 3.16 | 0.07 |
| BobWhite\_rep\_c50869\_1676 | 4A | 58.38 | GYM | 2.87 | 0.06 |
| Tdurum\_contig7992\_605 | 4A | 127.12 | GY18 | 2.78 | 0.06 |
| wsnp\_Ex\_c6094\_10663424 | 4A | 127.12 | GY18 | 3.98 | 0.08 |
| BobWhite\_c2646\_141 | 4B | 75.65 | GY16 | 2.56 | 0.05 |
| BS00076033\_51 | 4B | 75.65 | GY16 | 3.63 | 0.08 |
| BS00076033\_51 | 4B | 75.65 | GYM | 2.63 | 0.05 |
| RAC875\_c107130\_384 | 4B | 90.9 | GY16 | 2.90 | 0.06 |
| Kukri\_c18722\_56 | 4B | 91.72 | GY16 | 2.84 | 0.06 |
| Kukri\_c21787\_283 | 4B | 104.79 | GYM | 2.71 | 0.05 |
| wsnp\_Ex\_c4148\_7494801 | 4B | 104.79 | GYM | 2.70 | 0.05 |
| wsnp\_BE403378B\_Ta\_2\_1 | 4B | 105.67 | GY17 | 2.71 | 0.06 |
| wsnp\_Ex\_c16551\_25061395 | 5A | 22.61 | GY16 | 2.93 | 0.06 |
| wsnp\_Ex\_c16551\_25061550 | 5A | 22.61 | GY16 | 2.93 | 0.06 |
| wsnp\_Ex\_c1880\_3545329 | 5A | 104.86 | GY17 | 2.99 | 0.07 |
| wsnp\_Ex\_c2615\_4862266 | 5B | 57.9 | GY17 | 3.61 | 0.08 |
| wsnp\_Ex\_c2615\_4862266 | 5B | 57.9 | GYM | 2.55 | 0.05 |
| RAC875\_c21299\_256 | 5B | 76.94 | GY18 | 3.40 | 0.07 |
| RAC875\_c21299\_256 | 5B | 76.94 | GYM | 2.66 | 0.05 |
| BobWhite\_c19443\_131 | 5B | 77.81 | GY18 | 3.27 | 0.06 |
| BobWhite\_c19443\_131 | 5B | 77.81 | GYM | 2.86 | 0.06 |
| RAC875\_c32611\_347 | 5B | 77.81 | GY18 | 3.39 | 0.07 |
| RAC875\_c32611\_347 | 5B | 77.81 | GYM | 2.73 | 0.05 |
| BS00067744\_51 | 5B | 100.64 | GY16 | 3.03 | 0.06 |
| wsnp\_Ex\_c11265\_18216936 | 5B | 116.11 | GY16 | 2.92 | 0.06 |
| Tdurum\_contig81548\_426 | 5B | 129.83 | GY16 | 2.75 | 0.06 |
| BS00029720\_51 | 5B | 176.18 | GY18 | 2.78 | 0.06 |
| BS00093036\_51 | 6A | 6.98 | GY18 | 2.74 | 0.06 |
| BobWhite\_c24848\_219 | 6A | 43.1 | GYM | 2.65 | 0.05 |
| CAP12\_c2800\_262 | 6A | 43.53 | GYM | 2.78 | 0.06 |
| CAP12\_c2800\_262 | 6A | 43.53 | GY16 | 2.61 | 0.05 |
| Kukri\_c77911\_260 | 6A | 74.24 | GYM | 3.06 | 0.06 |
| Kukri\_c77911\_260 | 6A | 74.24 | GY16 | 2.63 | 0.05 |
| BobWhite\_c20782\_697 | 6A | 77.14 | GY18 | 2.90 | 0.06 |
| wsnp\_Ex\_rep\_c102011\_87270703 | 6A | 77.14 | GY18 | 2.73 | 0.06 |
| wsnp\_Ex\_rep\_c102011\_87270703 | 6A | 77.14 | GYM | 2.54 | 0.05 |
| GENE-3659\_104 | 6A | 79.08 | GYM | 2.65 | 0.05 |
| IAAV8275 | 6A | 79.08 | GY17 | 2.79 | 0.06 |
| Tdurum\_contig51566\_427 | 6A | 127.78 | GY16 | 2.83 | 0.06 |
| wsnp\_CAP8\_rep\_c4776\_2319078 | 6B | 118.99 | GY18 | 3.74 | 0.08 |
| CAP11\_c4727\_205 | 6D | 63.58 | GY17 | 3.87 | 0.09 |
| CAP11\_c4727\_205 | 6D | 63.58 | GYM | 3.01 | 0.06 |
| Excalibur\_c44485\_362 | 7A | 58.82 | GY17 | 3.40 | 0.08 |
| Excalibur\_c44485\_362 | 7A | 58.82 | GYM | 2.66 | 0.05 |
| Excalibur\_rep\_c109881\_701 | 7A | 97.76 | GYM | 3.09 | 0.06 |
| Excalibur\_rep\_c79404\_164 | 7A | 135.54 | GY16 | 2.50 | 0.05 |
| wsnp\_Ex\_c23102\_32328851 | 7A | 140.93 | GY16 | 3.08 | 0.07 |
| wsnp\_Ex\_c23102\_32328852 | 7A | 140.93 | GY16 | 3.07 | 0.07 |
| BS00075731\_51 | 7A | 232.11 | GY16 | 3.29 | 0.07 |
| GENE-4790\_279 | 7B | 71.33 | GY18 | 2.88 | 0.06 |
| RAC875\_c8752\_1079 | 7B | 158.97 | GY16 | 3.33 | 0.07 |