**Table S8** Favorable allele frequencies and statistical test results of historical lines.

| **SNPID**1 | **Frq1**2 | **Frq22** | **Frq3**2 | **Qvalue1**3 | **Qvalue2**3 | **Qvalue3**3 |
| --- | --- | --- | --- | --- | --- | --- |
| 10\_135043790 | 1 | 0.875 | 0.952 | 1 | 1 | 1 |
| 10\_137881930 | 0.929 | 0.882 | 0.902 | 1 | 1 | 1 |
| 10\_137903044 | 0.125 | 0.429 | 0.286 | 0.526 | 0.883 | 1 |
| 10\_137943511 | 0.933 | 0.952 | 0.759 | 1 | 0.693 | 1 |
| 10\_137951908\* | 0.167 | 0.909 | 0.76 | 0.004 | 0.008 | 1 |
| 10\_137955409 | 0.375 | 0.889 | 0.745 | 0.165 | 0.196 | 1 |
| 10\_137989336 | 0.067 | 0.391 | 0.226 | 0.512 | 0.78 | 1 |
| 10\_137998831 | 0.889 | 0.955 | 0.824 | 1 | 1 | 1 |
| 10\_138019385 | 0 | 0 | 0.133 | 1 | 0.883 | 1 |
| 10\_141509779 | 1 | 0.778 | 0.75 | 0.681 | 0.384 | 1 |
| 10\_141509800 | 0.857 | 0.765 | 0.769 | 1 | 1 | 1 |
| 10\_54742641 | 1 | 0.875 | 0.917 | 1 | 1 | 1 |
| 10\_9360960 | 1 | 0.95 | 0.93 | 1 | 1 | 1 |
| 10\_9362813 | 0.067 | 0.13 | 0.259 | 1 | 0.693 | 1 |
| 1\_15518012 | 0 | 0.043 | 0.053 | 1 | 1 | 1 |
| 1\_185874440 | 0.6 | 0.4 | 0.227 | 1 | 0.679 | 1 |
| 1\_203086382 | 0.375 | 0.2 | 0.222 | 1 | 0.924 | 1 |
| 1\_209034237 | 0 | 0.05 | 0.048 | 1 | 1 | 1 |
| 1\_22688691 | 0.667 | 0.222 | 0.478 | 0.299 | 0.883 | 1 |
| 1\_25401487 | 0.273 | 0.111 | 0.125 | 1 | 0.883 | 1 |
| 1\_25422726 | 0.2 | 0 | 0.111 | 1 | 1 | 1 |
| 1\_25439265\* | 0.286 | 0.739 | 0.824 | 0.294 | 0.008 | 1 |
| 1\_27193154 | 0.5 | 0.35 | 0.184 | 1 | 0.215 | 1 |
| 1\_27193157 | 0.533 | 0.333 | 0.184 | 1 | 0.202 | 1 |
| 1\_27193158 | 0.533 | 0.35 | 0.167 | 1 | 0.196 | 1 |
| 1\_27193272 | 0.5 | 0.286 | 0.241 | 1 | 0.579 | 1 |
| 1\_27193273 | 0.467 | 0.381 | 0.273 | 1 | 0.693 | 1 |
| 1\_27193281 | 0.5 | 0.333 | 0.255 | 1 | 0.579 | 1 |
| 1\_27205707 | 0 | 0.25 | 0.154 | 1 | 1 | 1 |
| 1\_293806450 | 0.875 | 0.909 | 0.912 | 1 | 1 | 1 |
| 1\_298329099 | 1 | 0.923 | 0.833 | 1 | 1 | 1 |
| 1\_300008663 | 0.929 | 0.933 | 0.894 | 1 | 1 | 1 |
| 1\_34263565 | 1 | 0.955 | 0.863 | 1 | 0.883 | 1 |
| 1\_3740636 | 0.5 | 0.214 | 0.151 | 0.999 | 0.225 | 1 |
| 1\_3746867 | 0.941 | 0.85 | 0.87 | 1 | 1 | 1 |
| 1\_68182349 | 0.75 | 1 | 0.903 | 0.662 | 0.78 | 1 |
| 1\_68182367 | 0.75 | 1 | 0.903 | 0.696 | 0.78 | 1 |
| 2\_17574448 | 0.846 | 0.5 | 0.426 | 0.681 | 0.188 | 1 |
| 2\_179828557 | 0.875 | 0.933 | 0.824 | 1 | 1 | 1 |
| 2\_18360174 | 0.688 | 0.824 | 0.659 | 1 | 1 | 1 |
| 2\_18389066 | 1 | 1 | 0.94 | 1 | 1 | 1 |
| 2\_18420414 | 0.833 | 1 | 0.767 | 1 | 1 | 1 |
| 2\_214659117 | 1 | 1 | 0.927 | 1 | 1 | 1 |
| 2\_229528586 | 0 | 0 | 0.056 | 1 | 1 | 1 |
| 2\_52724067 | 0.5 | 0.636 | 0.804 | 1 | 0.27 | 1 |
| 2\_52747025 | 0.6 | 0.737 | 0.793 | 1 | 0.693 | 1 |
| 2\_52833051\* | 0.25 | 0.571 | 0.75 | 0.656 | 0.017 | 1 |
| 3\_133293491 | 1 | 1 | 0.912 | 1 | 1 | 1 |
| 3\_166034352 | 0.769 | 0.667 | 0.889 | 1 | 0.91 | 1 |
| 3\_166808666 | 0.75 | 1 | 0.844 | 1 | 1 | 1 |
| 3\_169044562 | 0.933 | 0.455 | 0.45 | 0.165 | 0.02 | 1 |
| 3\_190442492 | 1 | 1 | 0.938 | 1 | 1 | 1 |
| 3\_201331174 | 1 | 0.737 | 0.681 | 0.517 | 0.225 | 1 |
| 3\_20591776 | 0.867 | 0.938 | 0.926 | 1 | 1 | 1 |
| 3\_20592157 | 0.875 | 0.9 | 0.943 | 1 | 0.883 | 1 |
| 3\_212606824 | 0.467 | 0.636 | 0.642 | 1 | 0.763 | 1 |
| 3\_212612168 | 0.938 | 0.75 | 0.822 | 0.999 | 0.95 | 1 |
| 3\_217234748 | 0.25 | 0.273 | 0.4 | 1 | 1 | 1 |
| 3\_217237484 | 0.118 | 0.182 | 0.2 | 1 | 1 | 1 |
| 3\_217650733 | 1 | 1 | 0.621 | 1 | 0.5 | 1 |
| 3\_217896087 | 0.588 | 0.391 | 0.517 | 1 | 1 | 1 |
| 3\_219175933 | 1 | 0.923 | 0.913 | 1 | 1 | 1 |
| 3\_219188285 | 0.875 | 0.696 | 0.7 | 1 | 0.693 | 1 |
| 3\_226487911 | 0.5 | 0.571 | 0.5 | 1 | 1 | 1 |
| 3\_227131072 | 0.769 | 0.842 | 0.929 | 1 | 0.629 | 1 |
| 3\_2384984 | 0.273 | 0.706 | 0.681 | 0.494 | 0.202 | 1 |
| 3\_5989888 | 0.286 | 0.059 | 0.071 | 0.999 | 0.693 | 1 |
| 3\_5989897 | 0.25 | 0.059 | 0.068 | 1 | 0.693 | 1 |
| 4\_1223785 | 0.056 | 0.381 | 0.2 | 0.299 | 0.78 | 1 |
| 4\_1223829 | 0.412 | 0.391 | 0.226 | 1 | 0.693 | 1 |
| 4\_179606232 | 0.867 | 0.944 | 0.943 | 1 | 1 | 1 |
| 4\_179761734 | 0.938 | 0.762 | 0.857 | 0.999 | 1 | 1 |
| 4\_179790632 | 0.909 | 0.769 | 0.765 | 1 | 0.95 | 1 |
| 4\_179790733 | 0.917 | 0.769 | 0.795 | 1 | 1 | 1 |
| 4\_198426700 | 0 | 0.318 | 0.175 | 0.294 | 0.579 | 1 |
| 4\_198471018 | 0.75 | 0.9 | 0.84 | 1 | 1 | 1 |
| 4\_198490330 | 0.882 | 0.783 | 0.849 | 1 | 1 | 1 |
| 4\_199078546 | 0.2 | 0.563 | 0.264 | 0.517 | 1 | 1 |
| 4\_200186670 | 0.133 | 0.13 | 0.093 | 1 | 1 | 1 |
| 4\_200188840 | 0 | 0.13 | 0.13 | 1 | 0.693 | 1 |
| 4\_200191570 | 0.667 | 0.833 | 0.577 | 1 | 1 | 1 |
| 4\_200203564 | 0.571 | 0.652 | 0.554 | 1 | 1 | 1 |
| 4\_228653398 | 1 | 0.333 | 0.625 | 1 | 1 | 1 |
| 4\_228848859 | 0.588 | 0.714 | 0.768 | 1 | 0.693 | 1 |
| 4\_229000838 | 0.727 | 0.889 | 0.909 | 1 | 0.693 | 1 |
| 4\_229029859 | 0 | 0.143 | 0.259 | 1 | 0.5 | 1 |
| 4\_229031964 | 0 | 0.043 | 0.054 | 1 | 1 | 1 |
| 4\_229034519 | 0 | 0.087 | 0.067 | 1 | 1 | 1 |
| 4\_232926192 | 0 | 0.087 | 0.089 | 1 | 1 | 1 |
| 4\_235604701 | 0.727 | 0.75 | 0.763 | 1 | 1 | 1 |
| 4\_236080691\* | 0.067 | 0.471 | 0.652 | 0.294 | 0.004 | 1 |
| 4\_236091061 | 0 | 0.091 | 0.222 | 1 | 0.579 | 1 |
| 4\_236097278 | 0.846 | 0.929 | 0.881 | 1 | 1 | 1 |
| 4\_236097864 | 0.75 | 0.727 | 0.677 | 1 | 1 | 1 |
| 4\_236387000 | 0.133 | 0.286 | 0.44 | 1 | 0.27 | 1 |
| 4\_5976338 | 0.875 | 1 | 0.943 | 1 | 0.997 | 1 |
| 4\_7480416 | 0.667 | 0.591 | 0.857 | 1 | 0.693 | 0.807 |
| 4\_7488177 | 0.647 | 0.714 | 0.836 | 1 | 0.693 | 1 |
| 5\_149155149 | 0.667 | 0.917 | 0.71 | 1 | 1 | 1 |
| 5\_16418530 | 0.714 | 0.864 | 0.717 | 1 | 1 | 1 |
| 5\_166858167 | 0.818 | 0.773 | 0.804 | 1 | 1 | 1 |
| 5\_166892345 | 1 | 0.429 | 0.722 | 0.999 | 1 | 1 |
| 5\_167659027 | 1 | 0.923 | 0.95 | 1 | 1 | 1 |
| 5\_167671178\* | 0.2 | 0.6 | 0.889 | 0.408 | 0 | 0.807 |
| 5\_18628601 | 0.938 | 1 | 0.893 | 1 | 1 | 1 |
| 5\_19131028 | 1 | 0.87 | 0.932 | 1 | 1 | 1 |
| 5\_19198790 | 0.667 | 1 | 0.88 | 1 | 0.924 | 1 |
| 5\_19237019 | 1 | 1 | 0.909 | 1 | 1 | 1 |
| 5\_206887599 | 0.813 | 0.833 | 0.808 | 1 | 1 | 1 |
| 5\_207729685 | 0.667 | 0.636 | 0.756 | 1 | 1 | 1 |
| 5\_207732263 | 0.938 | 0.591 | 0.627 | 0.299 | 0.225 | 1 |
| 5\_212351905 | 0 | 0 | 0.06 | 1 | 1 | 1 |
| 5\_212352078 | 0 | 0.136 | 0.125 | 1 | 0.693 | 1 |
| 5\_23184913 | 0.889 | 0.929 | 0.895 | 1 | 1 | 1 |
| 5\_50086739 | 0.125 | 0.045 | 0.102 | 1 | 1 | 1 |
| 5\_50088075 | 0.188 | 0.095 | 0.107 | 1 | 0.95 | 1 |
| 5\_50088542 | 0.111 | 0.048 | 0.109 | 1 | 1 | 1 |
| 5\_50122418 | 0.6 | 0.667 | 0.632 | 1 | 1 | 1 |
| 5\_57250790\* | 0.467 | 1 | 0.889 | 0.016 | 0.023 | 1 |
| 6\_154785052 | 0.636 | 0.833 | 0.765 | 1 | 0.974 | 1 |
| 6\_158863400 | 0.154 | 0.231 | 0.204 | 1 | 1 | 1 |
| 7\_118228658 | 0 | 0 | 0.054 | 1 | 1 | 1 |
| 7\_138758449 | 0.308 | 0.2 | 0.394 | 1 | 1 | 1 |
| 7\_162950288 | 0.714 | 0.75 | 0.36 | 1 | 0.254 | 0.807 |
| 7\_162960897 | 1 | 0.95 | 0.903 | 1 | 1 | 1 |
| 7\_162981507 | 0.857 | 1 | 0.65 | 1 | 1 | 1 |
| 7\_17695966 | 0.833 | 0.286 | 0.405 | 0.246 | 0.202 | 1 |
| 7\_17696158 | 0.429 | 0.1 | 0.304 | 0.437 | 1 | 1 |
| 7\_21199251 | 0 | 0 | 0.05 | 1 | 1 | 1 |
| 8\_124937344 | 0.533 | 0.905 | 0.745 | 0.294 | 0.693 | 1 |
| 8\_151255307 | 0.786 | 1 | 0.896 | 0.517 | 0.91 | 1 |
| 8\_154993136\* | 0.2 | 0.706 | 0.918 | 0.294 | 0.001 | 1 |
| 8\_165180453 | 0 | 0.105 | 0.125 | 1 | 1 | 1 |
| 8\_167613440 | 0.167 | 0.167 | 0.227 | 1 | 1 | 1 |
| 8\_167756476 | 1 | 0.917 | 0.793 | 1 | 1 | 1 |
| 8\_167758219 | 0.4 | 0.333 | 0.261 | 1 | 1 | 1 |
| 8\_168023686 | 0.938 | 0.909 | 0.833 | 1 | 0.95 | 1 |
| 8\_173171425 | 0 | 0.083 | 0.051 | 1 | 1 | 1 |
| 8\_173176795 | 0.067 | 0.056 | 0.189 | 1 | 0.95 | 1 |
| 8\_19657455 | 0.25 | 0.125 | 0.192 | 1 | 1 | 1 |
| 8\_19673483 | 0 | 0 | 0.108 | 1 | 1 | 1 |
| 8\_26275 | 1 | 0.889 | 0.917 | 1 | 1 | 1 |
| 8\_36684547 | 0.857 | 0.773 | 0.796 | 1 | 1 | 1 |
| 9\_148646606 | 0.063 | 0.105 | 0 | 1 | 0.703 | 1 |
| 9\_154100781 | 0.583 | 0.526 | 0.561 | 1 | 1 | 1 |
| 9\_154100783 | 0.636 | 0.571 | 0.581 | 1 | 1 | 1 |
| 9\_5028060 | 1 | 0.769 | 0.895 | 1 | 1 | 1 |
| 9\_5028491 | 0.333 | 0.5 | 0.7 | 1 | 0.693 | 1 |
| 9\_5028525 | 0.4 | 0.438 | 0.556 | 1 | 1 | 1 |
| 9\_53605430 | 0.9 | 1 | 0.961 | 1 | 0.95 | 1 |
| 9\_99293471 | 0.75 | 0.2 | 0.409 | 0.662 | 0.693 | 1 |
| 9\_99358245 | 1 | 1 | 0.895 | 1 | 1 | 1 |

1 Stars (\*) indicated the significant KAVs after the statistical tests.

2 “Frq1”, “Frq2” and “Frq3” are the favorable allele frequencies in teosinte, landrace and improved lines, respectively.

3 “Qvalue1”, “Qvalue2” and “Qvalue3” are FDR adjusted Chi-square *P* values for the comparisons between teosinte vs. landrace, teosinte vs. improved lines and landrace vs. improved lines, respectively.