

**Table S1** This table gives summary statistics of the mean squared distance (MSDs) of all GWAS methods used over all phenotypes. This data is also shown in Figure 2.

	Mean	Median	Std dev
R-LM	0.010	0.0060	0.012
R-Q	0.0040	0.0016	0.0063
EMMAX-K	0.0028	0.0017	0.0032
EMMAX-QK	0.0073	0.0040	0.0088
R-LA	0.0065	0.0024	0.0100
R-LAQ	0.0036	0.0014	0.0058
EMMAX-KLA	0.0031	0.00095	0.0067
EMMAX-KLAQ	0.015	0.010	0.014
TASSEL-K	0.0038	0.0027	0.0035
TASSEL-QK	0.0050	0.0024	0.0076