

**Figure S1:** Decay of  $r^2$  as a function of genetic distance between SNP markers estimated for 2111 spring wheat collection from different geographic regions.

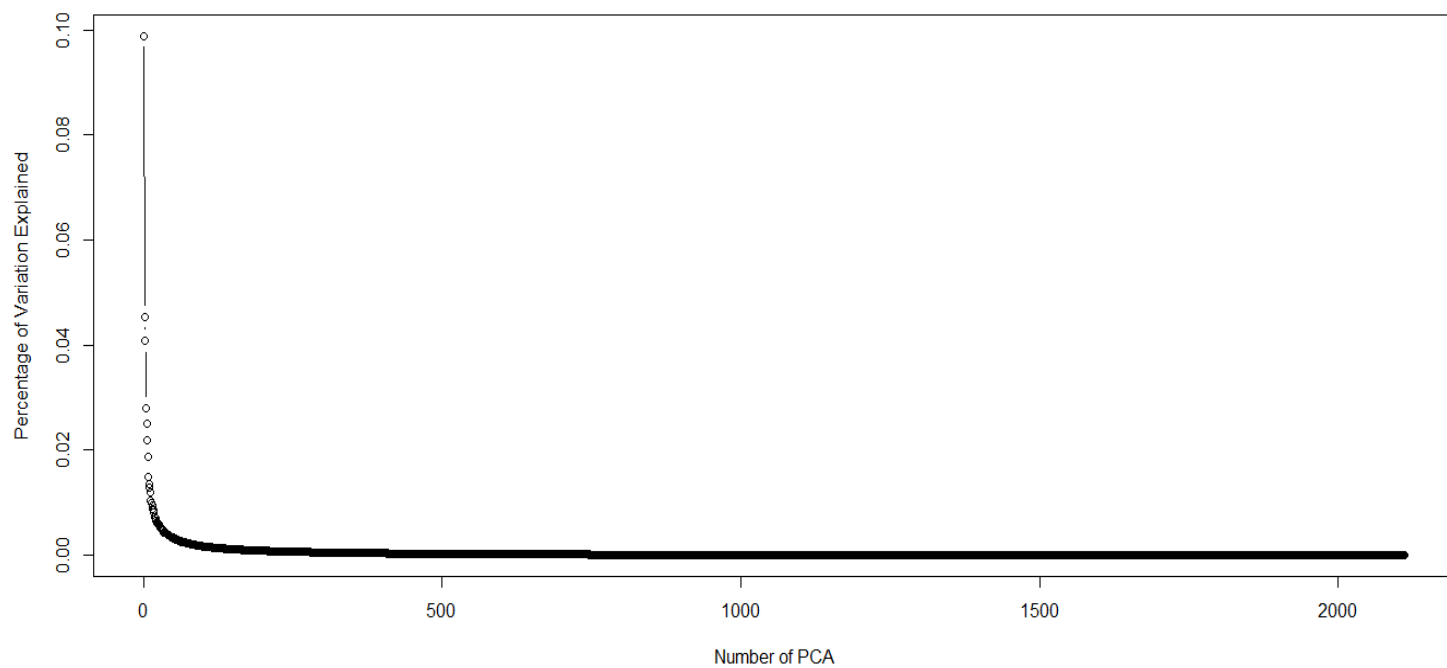
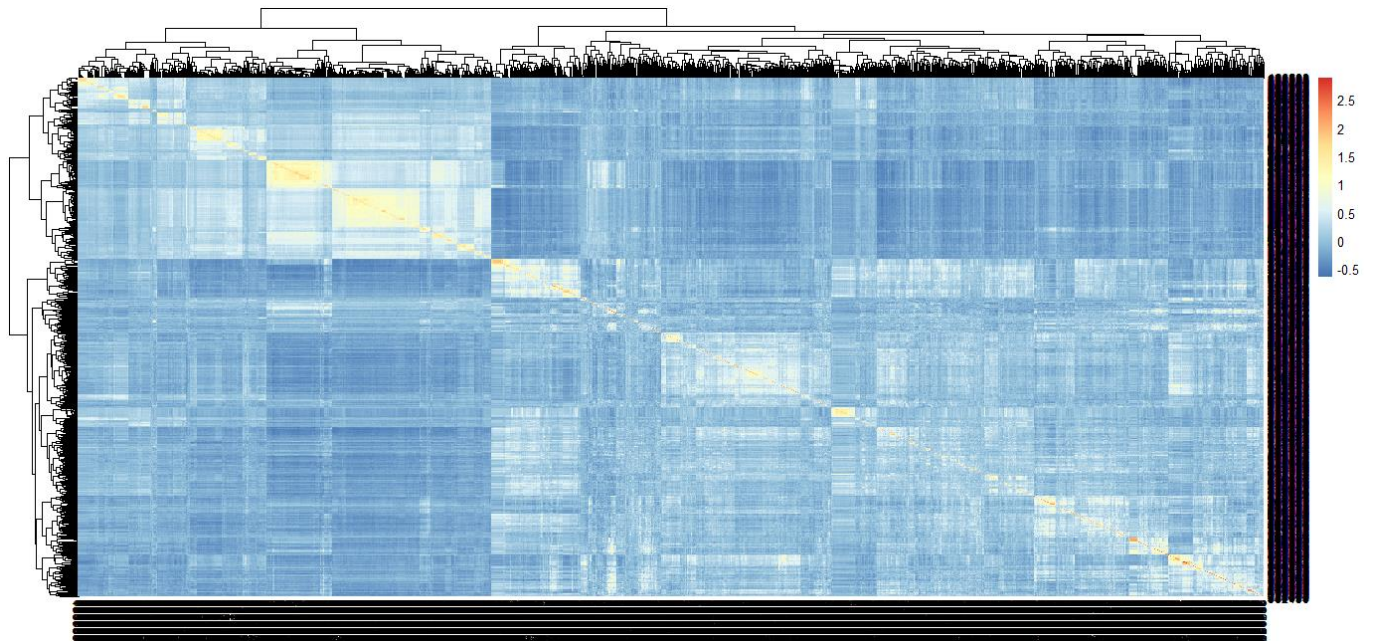


Figure S<sub>2</sub>: The percentage of variance explained by principal components ( PCA)



**Figure S<sub>3</sub>:** Heatmap and dendrogram of a kinship matrix estimated using the A.mat function (rrBLUP package) based on 5090 SNPs among 2111 wheat accessions