



**Supplementary Figure 5.** Manhattan and QQ-plots of  $-\log p$  values estimated using 3-year seasonal data using FarmCPU algorithm for citrate, malate (MAL), malate/citrate ratio ( $MC_{ratio}$ ) and titratable acidity (TA) in the apricot accession panel. Model was adjusted for population structure ( $Q = 2$ ). Horizontal lines indicate the Bonferroni-adjusted threshold for a type one error rate of 0.05 based on the effective number of independent tests (continuous line,  $1.86E^{-06}$ ) and permutation test (dashed lines,  $1.18E^{-05}$ ). Major loci on chr 2 and 8 controlling MAL, CIT and  $MC_{ratio}$  were stably detected across seasons while those for TA were more variable.