

**S3 Fig. Whole genome significance LOD(A) and LOD(AbyE) profiles of quantitative trait loci for yield and its components based on across all the environments for each trait. LOD for additive effect LOD(A) is in red, LOD scores of additive by environment LOD(AbyE) is in green; the dot line paralleled the y-axis separated the 25 linkage groups while the x-axis from left to right are the total length of cM from chromosome 1A to 7D matching the 25 linkage groups (Table S3). The additive effect above the zero line in the bottom figure means that the favorable alleles increasing the traits were from TAM 112 while those QTL below had favorable alleles from TAM 111. Traits include A) Yield from combine plots (YLD); B) dry biomass from hand harvested 0.5 m long inner row sample from crown (BM); C) grain weight from b) as hand harvested dry grain (BMYLD); D) harvest index (HI); E) kernels spike<sup>-1</sup> (KPS); F) spikes m<sup>-2</sup> (SPM); G) thousand kernel weight (TKW).**







