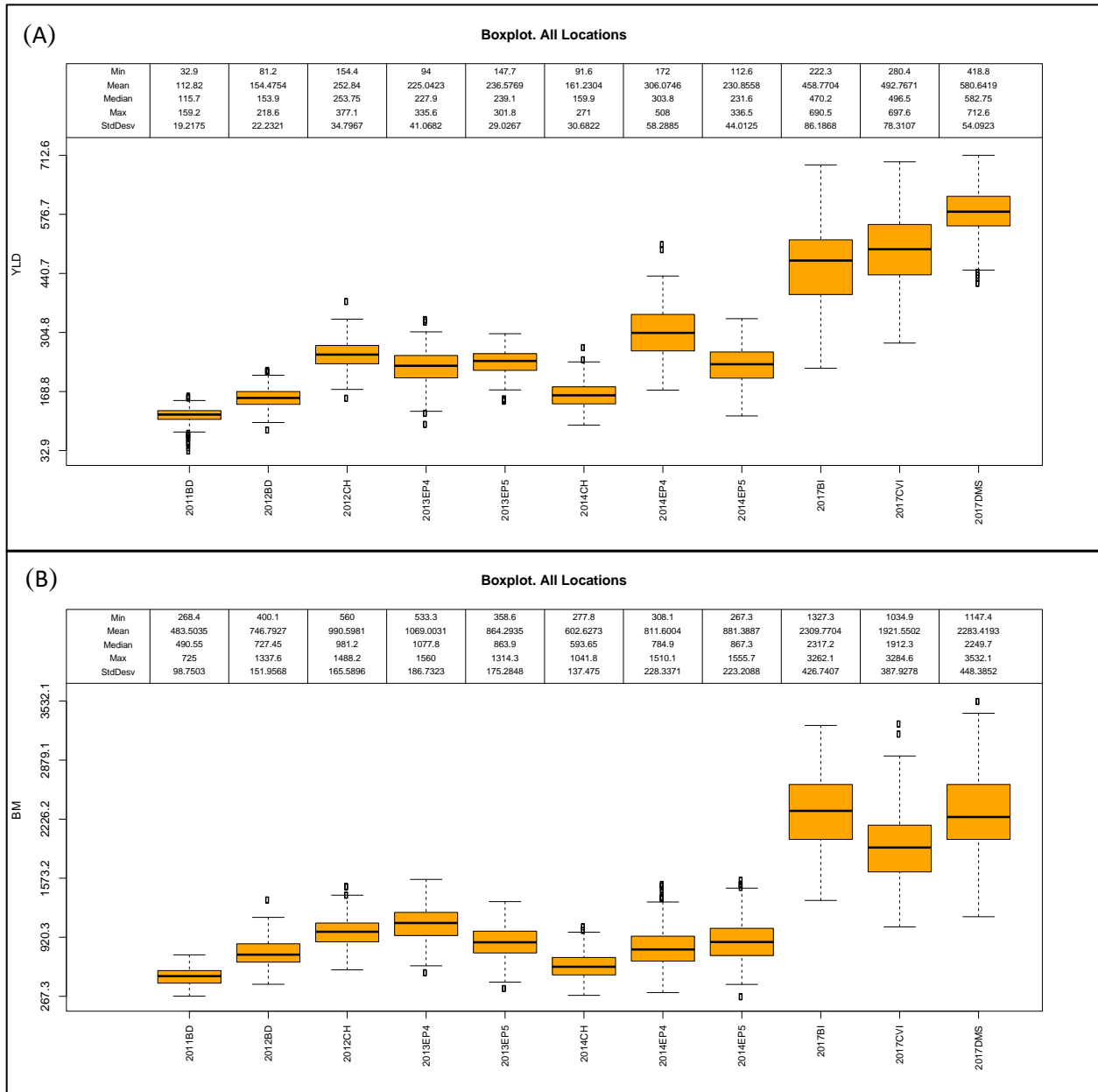
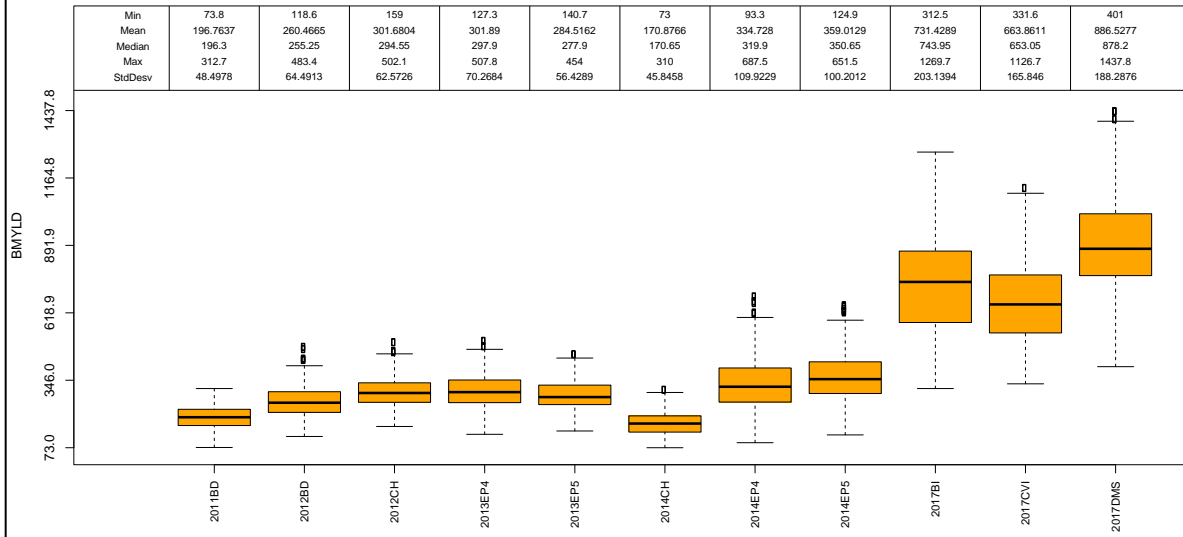


S1a Fig: Boxplot Analysis of yield and yield component traits. Environments: Texas A&M AgriLife Research stations in Bushland, TX in 2011, 2012, 2017 as dryland (11BD, 12BD, 17BD), irrigated in 2017 (17BI), Chillicothe, TX in 2012 and 2014 as dryland (12CH and 14CH), and two irrigated levels (75% and 100%) in Etter, TX in 2013 and 2014 (13EP4, 13EP5, 14EP4 and 14EP5), Clovis, NM irrigated in 2017 (17CVI). Traits A) Plot yield from combine (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⁻¹ (KPS); F) spikes m⁻² (SPM); G) thousand kernel weight (TKW).



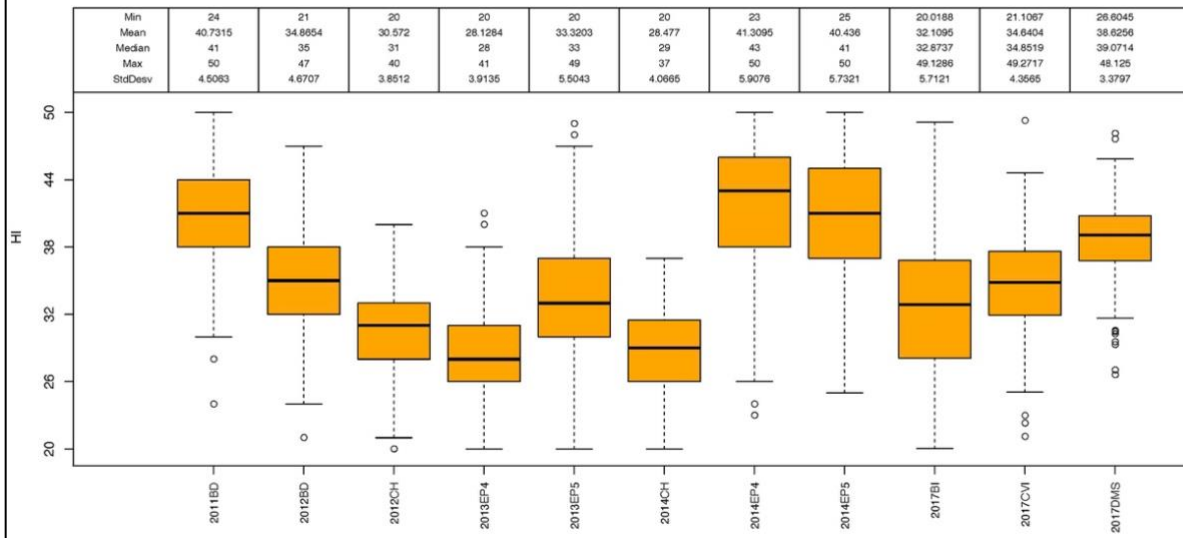
(C)

Boxplot. All Locations



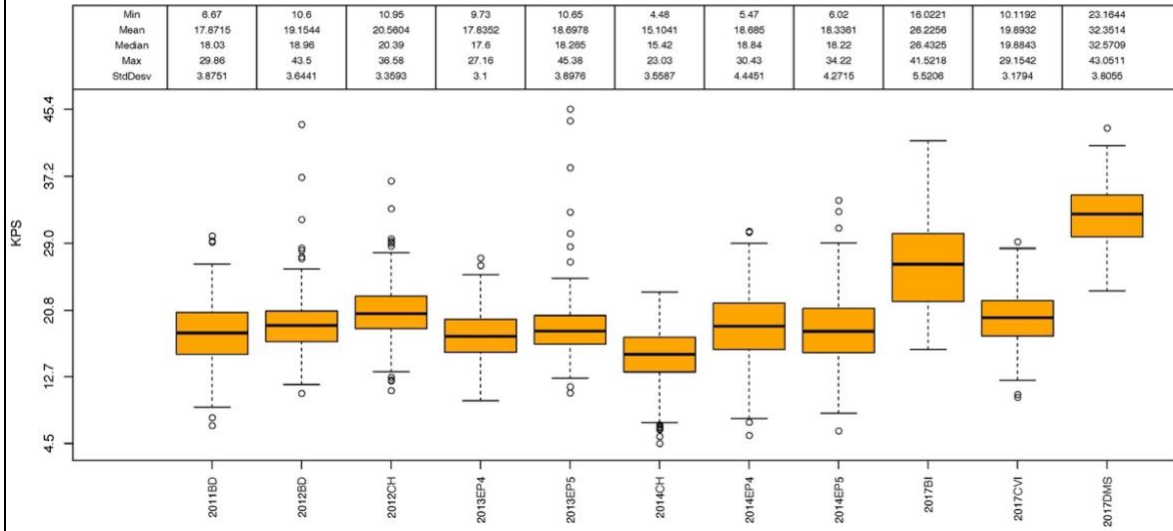
(D)

Boxplot. All Locations



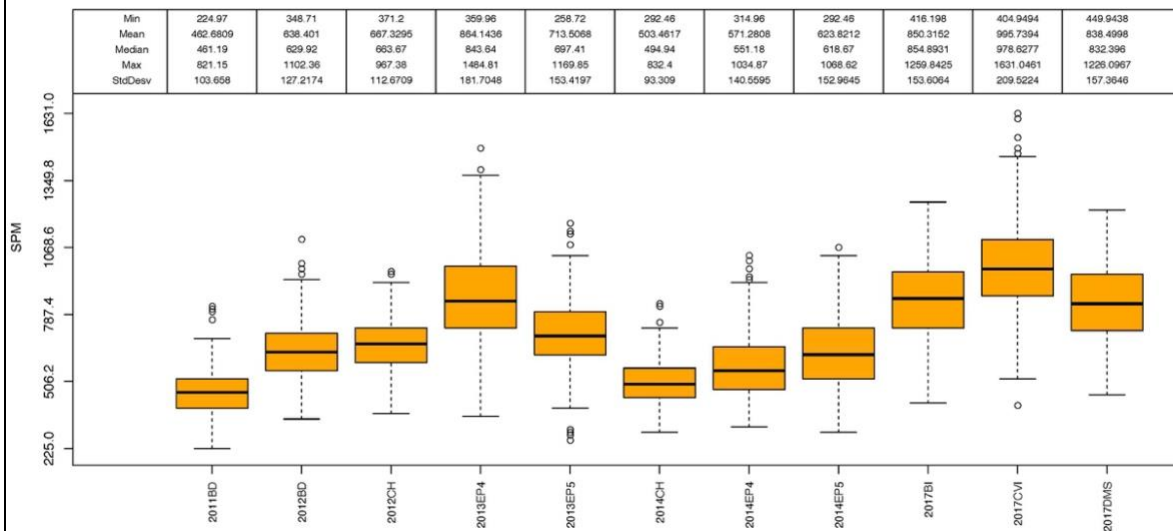
(E)

Boxplot. All Locations



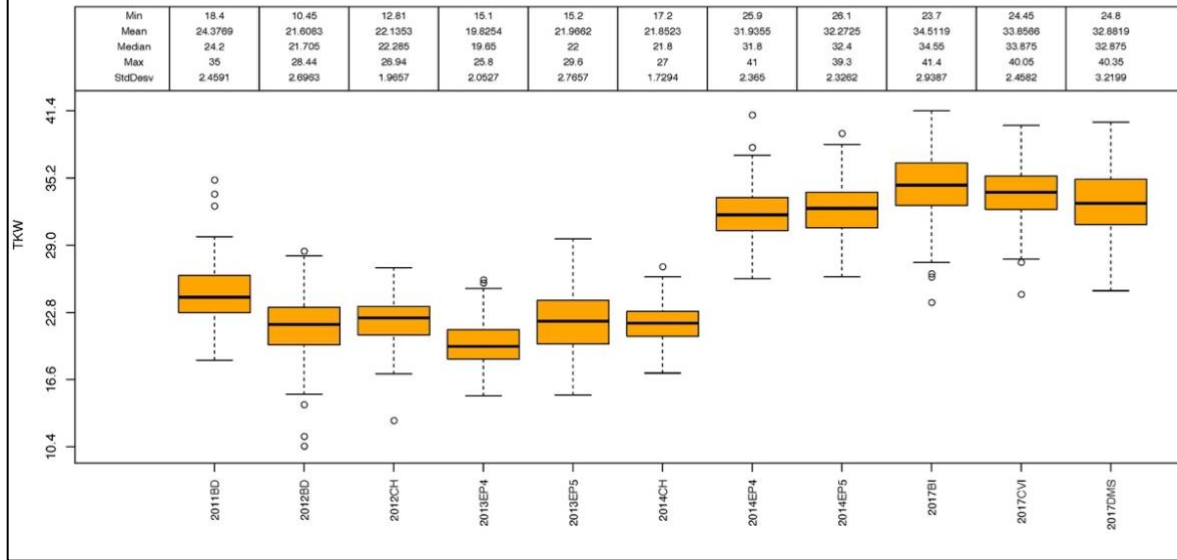
(F)

Boxplot. All Locations

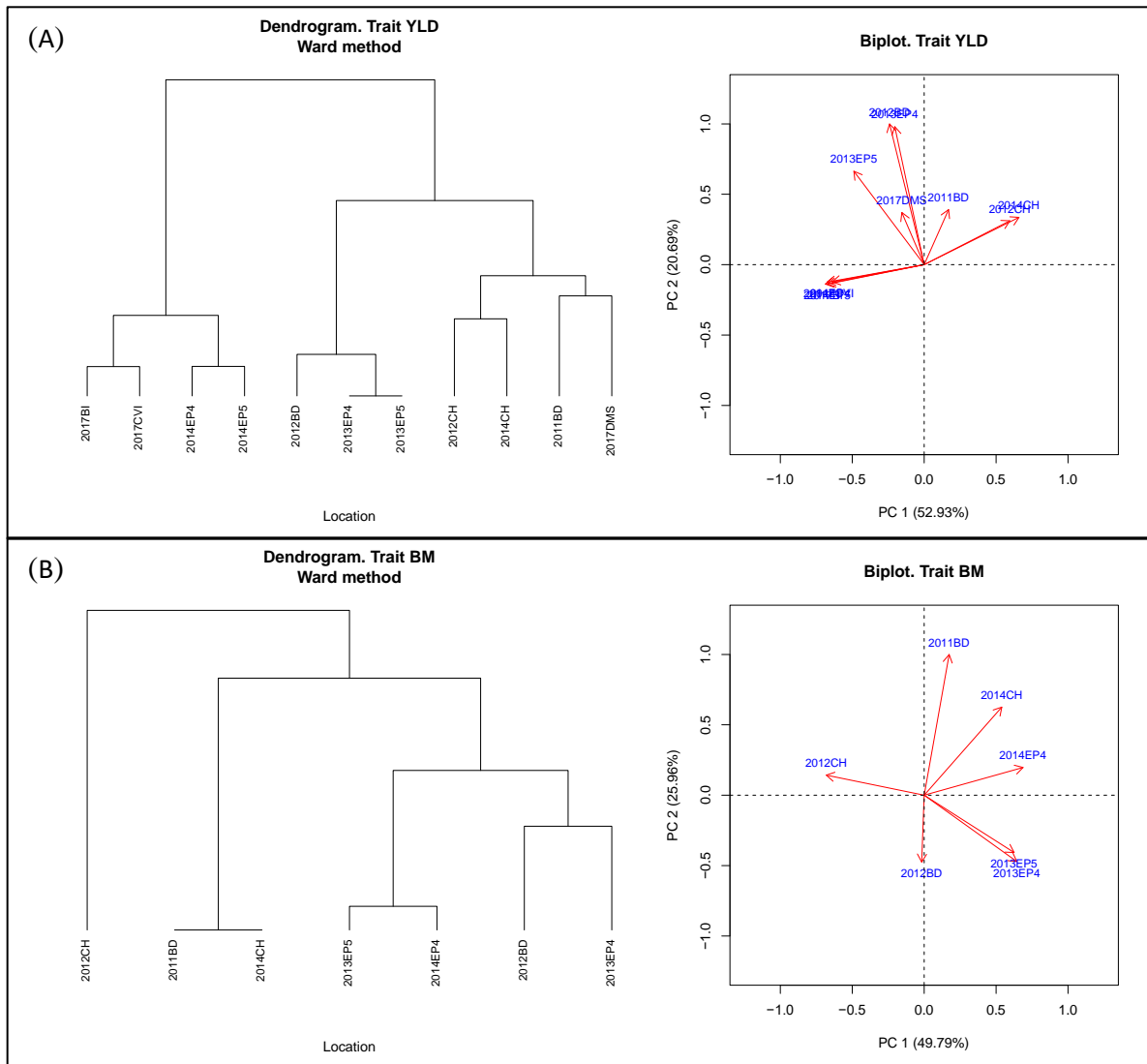


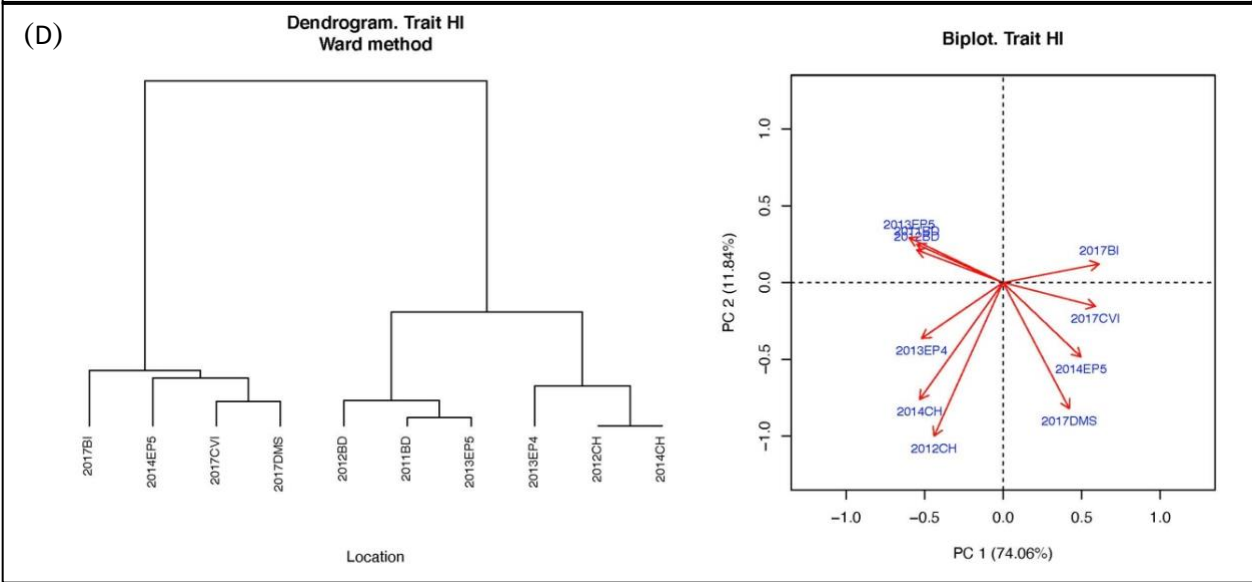
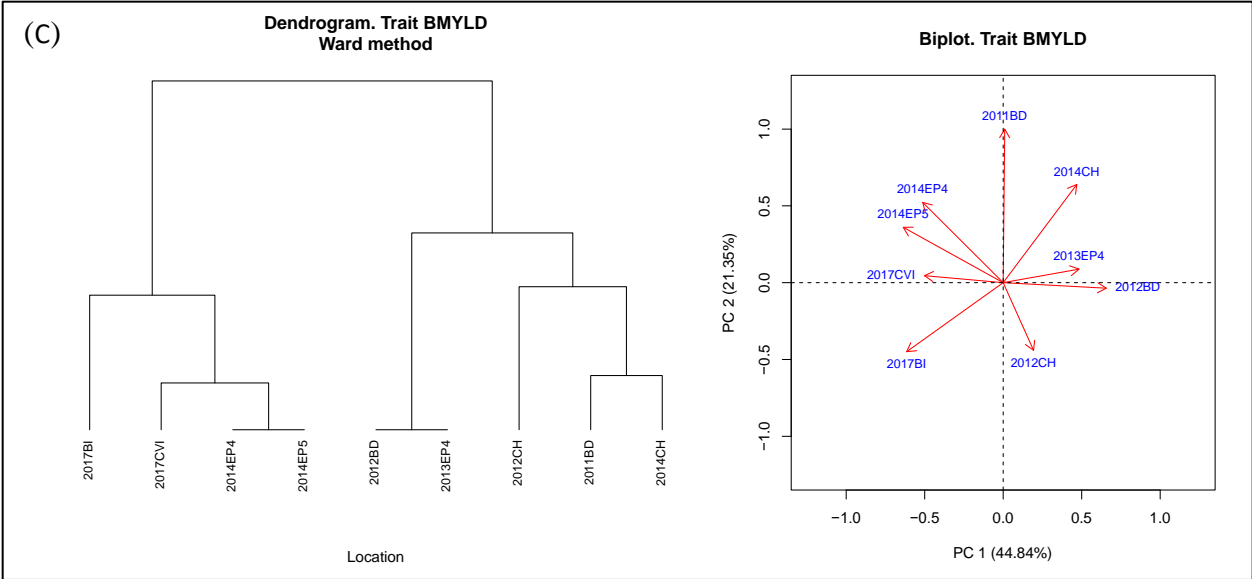
(G)

Boxplot. All Locations



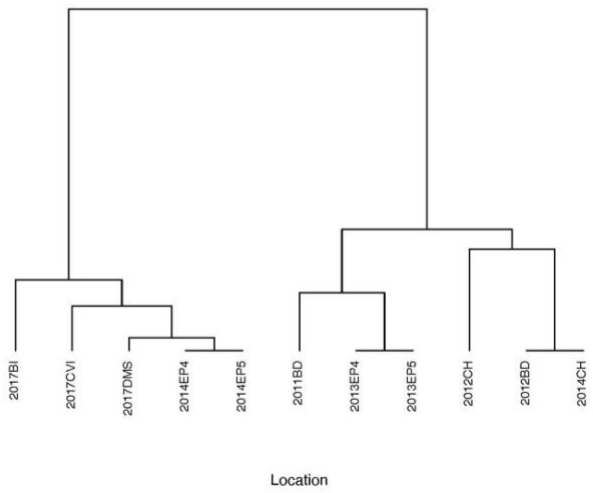
S1b Fig: Dendrogram and biplot Analysis of yield and yield component traits to classify mega-environments for each trait. Environments: Texas A&M AgriLife Research stations in Bushland, TX in 2011, 2012, 2017 as dryland (11BD, 12BD, 17BD), irrigated in 2017 (17BI), Chillicothe, TX in 2012 and 2014 as dryland (12CH and 14CH), and two irrigated levels (75% and 100%) in Etter, TX in 2013 and 2014 (13EP4, 13EP5, 14EP4 and 14EP5), Clovis, NM irrigated in 2017 (17CVI). Mega-environment (ME) MEs were as follow: YLD: ME1(17BI, 17CVI, 14EP4, 14EP5), ME2(12BD, 13EP4, 13EP5), ME3(12CH, 14CH); BM: ME1 (11BD, 14CH, 14EP4), ME2 (13EP4, 13EP5); BMYLD: ME1 (11BD, 14CH), ME2 (13EP4, 12BD, 12CH), ME3 (14EP4, 14EP5, 17CVI); HI: ME1(14EP5, 17BI, 17CVI, 17DMS), ME2(12CH, 14CH, 13EP4), ME3(12BD, 11BD, 13EP5); KPS: ME1(17CVI, 17DMS, 14EP4, 14EP5), ME2(11BD, 12BD, 13EP4, 14CH); SPM: ME1(14EP5, 14CH), ME2(12BD, 13EP4, 13EP5, 17CVI), ME3(12CH, 17DMS); TKW: ME1(11BD, 12BD, 12CH, 13EP4, 13EP5, 14CH), ME2(14EP4, 14EP5, 17BI, 17CVI, 17DMS). Traits 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⁻¹ (KPS); F) spikes m⁻² (SPM); G) thousand kernel weight (TKW).



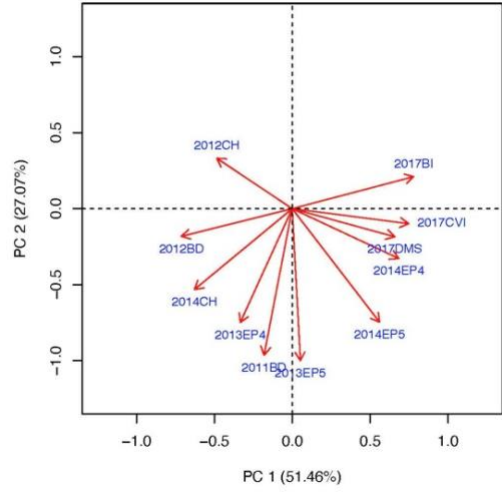


(E)

Dendrogram. Trait KPS
Ward method



Biplot. Trait KPS



(F)

Dendrogram. Trait SPM
Ward method



Biplot. Trait SPM

